

UNDERSTANDING THE NUCLEAR ENERGY DEBATE IN TURKEY:
INTERNAL AND EXTERNAL CONTEXTS

A Ph.D. Dissertation

by
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June 2010

To My Sister

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The Institute of Economics and Social Sciences
of
Bilkent University

by

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in

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BİLKENT UNIVERSITY
ANKARA

June 2010

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ABSTRACT

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Udum, Şebnem

Ph. D., Department of International Relations

Supervisor: Prof. Dr. Ali L. Karaosmanoğlu

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Nuclear energy generation in Turkey has sparked debates on its relevance and necessity for energy security policy. As a developing country, Turkey chose nuclear energy to address both to sustainability and development needs. The decision is challenged on the basis of “threats” to life, environment and security. The arguments and prescriptions of the contending sides render two meanings for nuclear energy: “asset” and “threat.” This dissertation looks into the construction of these two meanings that prescribe nuclear energy either as the appropriate policy choice or an imminent threat to human life and environment. The respective arguments are shaped by the international norms on nuclear nonproliferation, environmentalism and anti-nuclearism. This study analyzes the contending discourses in order to find how the opposing meanings of nuclear energy are produced and sustained. It finds that the former meaning and policy prescription is formed with reference to the Realist conception of state power and security. It is Critical Theory, Marxism and Green Political Theory which account for the second meaning of nuclear energy. The “conflict” is not only at the practical but also at the theoretical level. The dissertation argues that this conflict can be addressed through a critical engagement of the parties concerned. It seeks to find common grounds on which the parties can talk. The analysis of the discourses reveals these common grounds where the two sides can find points of reconciliation and formulate a sound energy security policy.

Key words: Turkey, nuclear energy, energy security, environmentalism

ÖZET

TÜRKİYE’DEKİ NÜKLEER ENERJİ TARTIŞMASINI ANLAMAK: İÇ VE DIŞ KOŞULLAR

Udum, Şebnem

Doktora, Uluslararası İlişkiler

Tez Danışmanı: Prof. Dr. Ali L. Karaosmanoğlu

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Türkiye’de nükleer enerji üretme projeleri enerji güvenliği politikası için gerekliliği ve uygunluğu açısından tartışma yaratmıştır. Gelişmekte olan bir ülke olarak, Türkiye nükleer enerjiyi hem sürdürülebilirlik hem de kalkınma hedefleri için seçmiştir. Bu karara yaşam, çevre ve güvenliğe “tehdit” oluşturduğu gerekçeleriyle karşı çıkmıştır. İki tarafın argümanları ve önerileri nükleer enerjiye iki farklı anlam yüklemektedir: “Değer” ve “tehdit.” Bu tez nükleer enerjiyi ya uygun bir siyaset seçimi ya da insan hayatına ve çevreye ciddi bir tehdit olarak sunan bu iki anlamın inşa edilmesine bakmaktadır. Tarafların tezleri uluslararası nükleer silahların yayılmasının önlenmesi, çevrecilik ve nükleer karşıtlığı normlarıyla şekillenmiştir. Bu çalışma nükleer enerjinin zıt anlamlarının nasıl üretildiğini ve sürdürüldüğünü bulmak için karşıt söylemleri analiz etmektedir. Birinci anlam ve siyaset önerisi Realizmin öngördüğü devlet gücü ve güvenliği çerçevesinde oluşturulmuştur. Eleştirel Teori, Marksizm ve Yeşil Siyaset Teorileri de ikinci anlamın nasıl oluşturulduğunu açıklamaktadır. Bu “çatışma” sadece pratikte değil aynı zamanda teorik düzlemde de bulunmaktadır. Bu tez, tarafların bir araya gelerek tezlerini tartışmalarıyla çatışmanın çözülebileceğini savunmaktadır. Bu anlamda çatışan tarafların konuşabileceği ortak düzlemlerin bulunmasını önermektedir. Söylemlerin analizi iki tarafın uzlaşma noktaları bulabileceği ve sağlam bir enerji güvenliği siyaseti oluşturabileceği ortak düzlemleri açığa çıkarmaktadır.

Anahtar Kelimeler: Türkiye, nükleer enerji, enerji güvenliği, çevrecilik.

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GLOSSARY

AECL	Atomic Energy of Canada Limited
AEK	Atom Enerjisi Komisyonu
ANAEM	Ankara Nuclear Research and Training Center
ANAVATAN	Motherland
AKP	Justice and Development Party
ASO	Ankara Chamber of Industry
ATO	Ankara Chamber of Commerce
BDP	Peace and Democracy Party
BWR	Boiling Water Reactor
BOT	Build-Operate-Transfer
CANDU	Canadian Deuterium-Uranium
CHP	Republican People's Party
ÇMO	Environmental Engineers' Chamber
ÇNAEM	Çekmece Nuclear Research and Training Center
DİSK	Confederation of Progressive Trade Unions of Turkey
DPRK	Democratic People's Republic of Korea
DPT	State Planning Organization
DSP	Democratic Left Party
DYP	True Path Party
EIA	Environmental Impact Assessment
EİEİ	Electricity Works Studies Department
EİGM	The General Directorate of Energy Affairs
EMO	Electrical Engineers' Chamber
EPDK	Energy Market Regulation Authority
ETKB	Ministry of Energy and Natural Resources
EÜAŞ	Electricity Generation Company

FBR	Fast Neutron Reactor
FP	Virtue Party
GE	General Electric
GNEP	Global Nuclear Energy Principles
HEPP	Hydroelectrical Power Plants
HLW	High Level Waste
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IPPNW	International Physicians for the Prevention of Nuclear War
İMO	Civil Engineers' Chamber
İÇH	Account for De-Operationalization
İÜ	Istanbul University
İTÜ	Istanbul Technical University
İTÜ-NEE	Nuclear Energy Institute in Istanbul Technical University
JMO	Geological Engineers' Chamber
KAERI	Korea Atomic Energy Research Institute
KESK	The Confederation of the Public Servants Trade Unions
KWU	Siemens-Kraft Werk Union
LNG	Liquified natural gas
MHP	Nationalist Action Party
MP	Member of Parliament
MTA	Mineral Exploration and Research Directorate
MÜSİAD	Private Industrialists and Businessmen's Association
MWe	Mega watt electric
NGD	Nükleer Güvenlik Dairesi
NGO	Non-governmental Organization
NKP/ANP	Nükleer Karşıtı Platform/anti-nuclear platform
NNWS	Non-nuclear-weapon States
NWS	Nuclear-weapon States
NPT	Treaty on the Non-proliferation of Nuclear Weapons
NPI	Nuclear Power International
NPP	Nuclear Power Plant
NÜKTE	The Nuclear Technology Information Platform
ÖDP	The Freedom and Solidarity Party

PWR	Pressurized Water Reactor
RBMK	Light Water Graphite Reactor
RP	Welfare Party
TAEK	Turkish Atomic Energy Agency
TAF	Turkish Armed Forces
TBMM/TGNA	Turkish Grand National Assembly/Türkiye Büyük Millet Meclisi
TEAŞ	The Turkish Electricity Generation-Transmission Corporation
TEDAŞ	The Turkish Electricity Distribution Company
TEİAŞ	Turkish Electricity Transmission Company
TEMA	The Turkish Foundation for Combating Erosion, Reforestation and the Protection of Natural Habitats
TEK	Turkish Electrical Authority
TETAŞ	Turkish Electricity Wholesale Company
TMMOB	The Union of Chambers of Turkish Engineers and Architects
TOBB	The Union of Chambers and Commodity Exchanges of Turkey
TTB	Turkish Medicals' Association
TÜBİTAK	The Scientific and Technological Research Council of Turkey
TÜSİAD	The Turkish Industrialists and Businessmen's Association
UN	The United Nations
UNCED	United Nations Conference on Environment and Development
URAH	National Radioactive Waste Fund
WMD	Weapons of mass destruction
WANO	World Association of Nuclear Operators
WWF	World Wildlife Fund

CHAPTER I

INTRODUCTION

Nuclear power¹ projects, unlike other energy projects, involve an international security dimension and are related to a country's international relations. Nuclear technology has critical components which can be used for civilian and military purposes. Peaceful nuclear power is inextricably linked to the norms of international nuclear nonproliferation regime: States party to the Treaty on the Non-proliferation of Nuclear Weapons (NPT) as non-nuclear-weapon states have the right to pursue peaceful nuclear power and they commit not to divert this technology to military use.

Turkey sought to generate nuclear energy since the 1960s, but it could not materialize its plans for four decades. The energy estimates and increasing dependency on natural gas in 1990s and particularly in the 2000s brought nuclear energy back on the agenda as part of energy security policy. The first steps to generate nuclear energy were taken in the 1950s, and Ankara re-tabled the plans after

¹ "Nuclear power" is used interchangeably with "nuclear energy" where it is appropriate. Throughout this study, "nuclear power" or "peaceful nuclear power" refers to "nuclear energy." When it concerns nuclear weapons, the Term, itself, "nuclear capability" or "nuclear option" could be used. Only in the usage "country X is a nuclear power," would refer to "weapons capability."

successive failures in 1970s, 1980s and 2000. They were halted mainly due to financial problems, unfavorable political developments or insufficient legislation. There were proliferation concerns during the 1980s and 2000s, and public dissent was not negligible in the 1990s. Since 1992, when Greenpeace visited Turkey for the first time, Ankara's decisions to pursue nuclear energy stimulated public debates on its relevance for Turkey's energy needs.

Nuclear power generation is not just a technical or economic issue, but has become a political issue as a result of international environmentalist and anti-nuclear movements which protest nuclear weapons and nuclear industry, because of the fear from radiation and proliferation risk. International and domestic groups also protested Turkey's decisions to utilize nuclear energy on the grounds that it was dangerous for the environment and human life.

The opponents argue that nuclear power plants are dangerous for humans and the environment, and disadvantageous for the economy. Environmentalist and anti-nuclear groups could muster support from not only local peoples, chambers, unions and political parties, but also regional countries. They formed public opinion through protest campaigns, and platforms where they shared and disseminated information against nuclear energy. They also tried to dissuade providing companies, their governments and publics against nuclear energy projects.

The Turkish government is determined to carry on with the project which intensifies the conflict between the two positions. The arguments of the government and the supporters of nuclear energy are based on the necessity for a type of energy that would ensure diversification, produce sufficient amounts of energy for the country's needs and observe environmental sustainability. Considering the "pressing" energy needs of the country and to reduce dependency on other resources,

the government singled out nuclear energy as the best choice, and put forward that it is a necessity for economic growth, development and scientific progress.

The competing arguments of each side assign nuclear energy two meanings in opposition that challenges policymaking. Each side is resourceful to convince the uninformed audience that nuclear energy is an “asset” or a “threat,” because they tell a narrative that construct the “reality” of nuclear power. The dissertation aims at answering the following questions:

How is it possible that nuclear energy could have two meanings in conflict?

The accompanying research questions are:

How were subjects, objects and meanings constructed to make possible for Ankara to take the decision?

How does the opposition construct subjects, objects and meaning to make it possible that nuclear power is not the rational policy choice?

The competing discourses reflect the conflict between two groups, and the dissertation also seeks to answer:

What are the common grounds to mitigate the conflict and produce a sustainable decision for energy security?

The positivist methodology does not provide the relevant tools to understand how the process of the construction of reality takes place. Instead of “why,” the research question is a “how-possible.” “Why” questions analyze the link between variables and neglect the processes and socio-historical contexts shaping the behavior of policymaker(s). They take subjects as given, and do not allow analysis of how subjects (and objects) are constituted by power. How-questions expose how “power” works to constitute particular modes of subjectivity and interpretive outlooks. It is the kind of power that produces meanings, subject identities and their

relationships.² Looking at how policy decisions are made broadens the understanding of what policy makers are doing-rather than assuming that they are choosing among various policy options. This type of research allows the researcher to see how they construct “realities,” meanings and concepts, constitute subjects and objects and their identities, and thereby arrive at the definition of “the issue,” “policy options” and “the rational choice.”

The positivist tradition takes a case and tests it against a theory without looking at the inner meaning of statements or behavior. The subjectivity involved in a course of action is ignored, or are taken as intervening variables. In the interpretive tradition,³ the researcher tries to understand how meaning is created, and sustained by subjects. Belief systems/ideologies or fear affect the rationality of actors and their decisions. Put differently, the subject chooses the best one from among the options, and his rationality is not defined by a neutral “national interest,” but ideology/belief systems, fear or interest.⁴ Therefore, the epistemological position of the former is explaining, and that of the latter is understanding.⁵

Interpretive social science is related to hermeneutics, which emphasizes a detailed reading of a text to discover the meaning embedded in the text. In this sense, the statements of the contenders in the debate will be analyzed by using the methodology of discursive practices approach. Through the textual mechanisms of *presupposition, predication and subject positioning*, this method would help derive the concepts, categories and meanings that actors create. The definition of the

² Roxanne Lynn Doty, “Foreign Policy as Social Construction: A Post-positivist Analysis of US Counterinsurgency Policy in the Philippines,” *International Studies Quarterly*, Vol. 37, No. 3, 1993, p. 299.

³ Max Weber, *Economy and Society*, New York: Bedminster Press, 1968.

⁴ Martin Hollis and Steve Smith, *Explaining and Understanding International Relations*, Oxford: Clarendon Press, 1990, pp. 71-77.

⁵ Ibid; Keith Krause, “Critical Theory and Security Studies: The Research Program of ‘Critical Security Studies,’” *Cooperation and Conflict*, Vol. 33, No. 3, 1998, p. 317; Jeffrey T. Checkel, “Social Constructivism in Global and European Politics: a Review Essay,” *Review of International Studies*, Vol. 30, No. 2, 2004, pp. 229-244.

concepts, positioning of self and “the other,” and granting meanings to these concepts produce the “reality.”⁶

The discourse of the first group stands on the theoretical basis of Realism with respect to its “reality” of nuclear energy that refers to state power, security and survival. Its conceptualization of international trade and environmental protection are within the framework of Realism. The second group is influenced by Marxism, neo-Marxism and “Green” political theories. Not only at the practical level, but also at the theoretical level, they are not reconcilable.

Mitigation of this conflict is necessary. For constructivists, conflict is not a clash between forces or entities (such as between states in Realism), but is formed due to a disagreement, dispute, misunderstanding or lack of communication between conscious agents. The conflict in the minds and wills of the parties bear the conflict. An inquiry of the discourses is required to correctly understand conflicts. Discourse analysis would reveal the sources and depth of the dispute, its intellectual obstacles, as well as the possibilities for resolution. It would disclose the sentiments, beliefs and ideas by which the conflict is organized and expressed.⁷ The dissertation hypothesizes that the two positions on nuclear power can be reconciled on the basis of common grounds and with talks that can advance on common points. The discursive practices approach will also clarify these commonalities for the two sides to “critically engage” and contain the “conflict.”

The dissertation will make textual analysis of the data from primary sources, such as official statements by government agencies, state officials, political parties, unions, chambers, environmental organizations... etcetera. It will make extensive use of the Turkish Grand National Assembly General Board minutes. Second, it relies on

⁶ Doty, “Foreign Policy as Social Construction...,” 1993, pp. 297-320.

⁷ Robert Jackson and Georg Sørensen, *Introduction to International Relations: Theories and Approaches*, Oxford: Oxford University Press, 2003, pp. 256-257.

interviews in the debate, such as academics, retired military officers and energy experts. The data is also gathered from secondary sources like newspaper reports, but if it quotes statements, they are confirmed with the bearers. Books and articles are also used particularly on the history of nuclear energy, anti-nuclearism and environmentalism. The dissertation will not focus particularly on the military use of nuclear technology, that is to say, the diversion of the technology to manufacture nuclear weapons. The debate in Turkey on nuclear energy includes arguments that either supports or despises the possibility of a latent nuclear weapons capability. The dissertation, however, will not directly examine that issue. Nor will it discuss or make predictions about Turkey's security policy in relation to the transfer of nuclear technology.

The dissertation is structured as follows: The Chapter II will provide the analytical framework, and introduce the theories and tools for analysis. Chapter III will review the literature on the topic. Chapter IV will tackle power relations on the development of nuclear power and will examine the international belief systems and norms that influence the arguments in the domestic debate. To that end, the chapter will first look at the power relations at the international and national level regarding nuclear power. It will make use of international documents to display the hierarchy in the pursuit of peaceful nuclear power. Second, it will focus on the norms of nuclear nonproliferation, peaceful nuclear power, and energy security. Turkey's official documents will reveal the existence (or non-existence) of these norms. Similarly, it will look at the belief systems of anti-nuclearism and environmentalism. Chapter V will provide the history of Turkey's attempts to generate nuclear energy in parallel with the history of anti-nuclear protests. Chapter VI will give a sketch of the arguments by introducing the parties who put them forward. Chapter VII will analyze

the arguments by de-constructing them to reveal the meaning, concepts, categories and power relations regarding pursuit of nuclear energy. This chapter is pivotal to find out whether the contenders can critically engage and find some common ground for reconciliation. Actors construct meanings through constitutive stories where they pick some data and ignore others. Discursive practices may also distort or misrepresent scientific and technical details. Thus, Chapter VIII aims at filling in such gaps in the arguments, and revealing technical distortions or misrepresentations that render a certain meaning for nuclear energy. Chapters VII and VIII will provide the bullet points of the talks between the two sides and the course of the process for a possible reconciliation and the making of a sound energy policy.

CHAPTER II

ANALYTICAL FRAMEWORK

The question “how is it possible that nuclear energy could have two meanings in conflict?” requires the analysis of the competing discourses on nuclear energy in Turkey. How-questions expose how meanings, subject identities and their relationships are produced.⁸ This type of research allows seeing how policymakers construct “realities,” meanings and concepts, constitute subjects and objects and their identities, and thereby arrive at the definition of “the issue,” “policy options” and “the rational choice.”

The accompanying research questions are “how were subjects, objects and meanings constructed to make possible Ankara to take the decision?”, and “how does the opposition construct subjects, objects and meaning to make it possible that nuclear power is not the rational policy choice?” The competing discourses are indicative of conflict, and the dissertation also seeks to answer “what are the common grounds to mitigate power relations/conflict and help reconciliation

⁸ Doty, “Foreign Policy as Social Construction...,” 1993, p. 299.

between the government and the civil society?" The dissertation will use discourse analysis as methodology.

2.1.Theoretical Background

The dissertation will not test a case against a theory, but make use of the theoretical insights of Realism, Liberalism, Critical Theory and Constructivism in analyzing the public debate on nuclear power and in making projections for its possible solution. Pursuit of peaceful nuclear power and energy security are concerned with the maintenance of state power, hence belong to the Realist domain. On the other hand, the opposition is concerned with the protection of environment, health and human rights. Political Ecology/Green Politics and particularly anti-nuclearism are considered as social movements that are in a struggle against the prevailing political and economic systems. They are critical of materialism, hierarchy and impoverishment of life under capitalism.⁹ Anti-nuclearism is one of the means of such movements that aim at a fundamental re-structuring of power relations in society.¹⁰ The insights of Liberalism, Marxism and Critical Theory will provide the background in the analysis of the environmentalist and anti-nuclear arguments. At its face-value, the rivalry of power between the parties on the establishment of nuclear power plants seems not to yield reconciliation neither at theoretical nor practical

⁹ Claus Offe, "New Social Movements: Challenging the Boundaries of Institutional Politics," *Social Research* No. 52, Winter 1985, pp. 817-868; Claus Offe, *Contradictions of the Welfare State*, London: Hutchinson, 1984; Klaus Eder, "The 'New Social Movements:' Moral Crusades, Political Pressure Groups, or Social Movements?" *Social Research*, No. 52, Winter 1985, pp. 869-890; Jean Cohen, "Strategy or Identity: New Theoretical Paradigms and Contemporary Social Movements," *Social Research*, No. 52, Winter 1985, pp. 663-716; Jürgen Habermas, "New Social Movements," *Telos*, No. 49, Fall 1981, pp. 33-37.

¹⁰ Thomas R. Rochon and David S. Meyer eds., *Coalitions and Political Movements, The Lessons of the Nuclear Freeze*, London: Boulder, 1997, p.15.

level. The dissertation will make use of the insights of Constructivism which has more to say to mitigate power relations, and inquire the common grounds of the two sides for a possible reconciliation.

According to Realism, international system is anarchic, that is, there is no central government; but government exists within the units of the system, which are states claiming sovereignty. A system of sovereign states would, by definition, be politically structured as anarchy, because the claim of sovereignty would inevitably deny the recognition of any higher political authority. In case of a conflict, the absence of higher authority to resolve conflicts among sovereign states renders the international system as one of self-help. Therefore, the defining characteristic of international politics is insecurity, and it determines state behavior. Security underlies everything that states or societies might wish to practice.¹¹

The key variable in political behavior is power. Realists conceive power as the capacity to do physical harm to others, while they define insecurity as being vulnerable to being seriously harmed by others' deliberate use of force. They begin assessing power by looking at military capabilities. Therefore, the most powerful actors are those with the greatest military strength. States are the key actors in the realist world, because they embody concentrations of power, especially by having the greatest capacity to use military force to do harm. This breeds insecurity, because states often come into conflict and they could inflict severe damage on each other. As a result, they become constantly preoccupied by security concerns.

T. Hobbes talks about a pre-civil condition as the "state of nature" where there is a constant risk to life. To escape from it, humans created a sovereign state, which would protect them from both internal and external threats. However, that

¹¹ See Classical Realist scholars: Thucydides, *Thucydides: History of the Peloponnesian War*, Rex Warner tr., Baltimore, MD: Penguin Classics, 1972; Niccolo Machiavelli, *The Prince*, trans. Peter Bondanella and Mark Musa, New York: Oxford University Press, 1984.

created another state of nature between states, that is, the security dilemma, where an increase in the power of one would create insecurity for the other.¹² International affairs is a zero-sum game. Under these conditions, cooperation is unlikely, and if it takes place, it is based on interest, and short-lived. It may put the state at a disadvantage, that is, result in a loss of power vis-à-vis its rival. The characteristics of international relations are the same for all times, and would not change. Similarly, economic relations between states are perceived as a zero-sum game: The realist conception of international trade is based on absolute gains and upholds economic independence in order to sustain state power.¹³ Industrial Revolution made the pursuit of energy and securing its supply an inalienable part of maintaining state power. In addition to military and economic security, the state seeks to have energy security: Accordingly, the energy resource should be cheap, reliable, ample and continuous. More importantly, it should not render the state dependent on one type or a single supplier.

While Realists are convinced that the features of international system are valid for all times, Liberalism is more optimistic about human nature and change: Liberal theorists believe that modern civil society and capitalist economy can bring progress if the state guarantees individual freedoms. It has a conviction in human rationality and is hopeful for a better life. The state is also central to Liberalism, but in the sense of preserving the liberty of the individual from harm by other individuals or states. The state should serve collective will under the guarantee of democratic

¹² Thomas Hobbes, *Leviathan*, Harmondsworth: Penguin, 1985.

¹³ This view of international trade has its roots in mercantilism, which focuses on increasing state power and a positive balance of trade (that is to say exports exceeding imports). See Victor di Riqueti Marquis de Mirabeau and François Quesnay, *Philosophie Rurale ou Économie Générale et Politique de l'agriculture*, The Haige: Libraire Associés, 1763. The philosophy was then advanced by Adam Smith. See Adam Smith, *Wealth of Nations*, London: Penguin, 1979 (originally published in 1776).

institutions.¹⁴ Liberalism was developed by political philosophers and political economists, and flourished in the 17th century, after the scientific revolution and the establishment of the sovereign state in Europe. The Enlightenment period affected the liberal thought in terms of its optimism in human reason, and their capacity to improve their life. According to the liberal thought, the individual can attain a better life through reason and in many cases by technology. Democratization and market capitalism can expand individual freedoms.¹⁵

Liberalism influenced environmentalism in its belief that environmental problems can be addressed by technical solutions, and with more protective legislation as a result of a change in state policies.¹⁶ The dominant view of environmentalism, particularly in Western societies, is the acceptance of the system and the role of the state as the regulator and as the agent to pass legislation to protect the environment, which is understood in “service of humans.” Also, they understand that the process of modernization is effected by the scientific revolution and the liberal intellectual revolution,¹⁷ which are on the same platform with liberal thought: human progress for a better life.

The dissertation hypothesizes that the debate is marked by arguments in favor of development (in the Turkish context it means power, economic growth, modernization, westernization) and environmental protection in terms of energy

¹⁴ John Baylis and Steve Smith eds., *The Globalization of World Politics: An Introduction to International Relations*, New York: Oxford University Press, 2001, p. 165.

¹⁵ The first variant of Liberalism is *laissez-faire*, which argued that the state should be constrained for the proper functioning of the market. See John Locke, *Second Treatise on Government*, Indianapolis: Hackett, 1980. According to this idea, liberal regimes would allow the improvement of the material and moral conditions of people, principally because of the free economic and other activities of the private sector. Jeremy Bentham’s famous phrase, “the greatest happiness for the greatest number,” refers to the benefit that the political and economic system of the modern liberal state will bring. See Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, Oxford: Clarendon Press, 1907 (first published in 1789).

¹⁶ Dimitrios I. Roussopoulos, *Political Ecology*, Montreal, New York: Black Rose Books, 1993, p. 73.

¹⁷ David Pepper, *The Roots of Modern Environmentalism*, London and New York: Routledge, 1990, pp. 37-54.

security, that is, what type of resource to choose: the proponents' arguments fall into to the Realist domain, and those of the contenders are in the critical domain, but that there are common points at the theoretical and practical level, that is, the gray areas. These gray areas contain the liberal conviction in modernization and the relevance of the state for better environmental regulations. It promises to be the ground for reconciliation, which can begin with the "critical engagement" of the decisionmakers and the civil society.

Political Ecology/Green political theory is critical of Environmentalism's preference for "sustainable development" over the argument of "limits to growth."¹⁸ Environmentalism accepts and operates within the framework of the existing political, social, economic and normative structures of world politics, and seeks to address environmental problems within those structures. Greens believe that the environmental crisis originate because of those structures, therefore contend that they need to be challenged and transcended. The environmentalist position is closer to the liberal institutionalist position,¹⁹ while Green political thought has overlapping arguments with Marxism and Critical Theory. For scholars of the Green Political thought, the states system, and other structures of world politics are unable to provide an effective response to environmental problems. Ecocentrism, decentralization and "limits to growth" are the main themes that define the characteristics of Green Politics. Robyn Eckersley argues that moral value should not be placed only on human beings, but on ecosystems and all living things.²⁰ Green Politics view that global problems can best be addressed at the local level. So, instead of global power

¹⁸ Matthew Paterson, "Green Politics," in Scott Burchill and Andrew Linklater eds., *Theories of International Relations*, New York: St. Martin's Press, 1995, p. 264.

¹⁹ Robert O. Keohane, *International Institutions and State Power: Essays in International Relations Theory*, Boulder: Westview, 1989, cited in Paterson, "Green Politics," 1995, p. 253.

²⁰ See Robyn Eckersley, *Environmentalism and Political Theory: Towards an Ecocentric Approach*, London: UCL Press, 1992.

structures, it is local action by small-scale political communities and self-reliant economies that should respond to environmental problems.²¹

T. O’Riordian finds that environmentalism represents a search for mediation between individual freedoms versus common good, minority versus majority rights, protection of the rights of the present generation versus those of future generations.²² He differentiates between ecological environmentalism and technological environmentalism, which he refers to as “ecocentrism” and “technocentrism” respectively. Ecocentrism upholds equality among humans and nature in the sense that nature deserves respect for its own sake, and not because it is useful to humans.²³ Limits, self-reliance, self-sufficiency, zero population and economic growth are the key words of ecocentrism.²⁴ David Pepper finds that the roots of this view go back to 19th century romanticism and to the views of Thomas Malthus and Charles Darwin. Romanticism was a reaction to the material changes in the society as a result of industrialization. Mass production changed social relations and degraded the environment. Romanticism was critical of science, logic, order and authority. For romantics, nature had integrity of its own, and it could survive without humans-but not vice versa.²⁵ Therefore, humans need to have responsibility towards the nature. Ecological environmentalism was also influenced by the views of Malthus, particularly with respect to the “limits to growth” debate which represents the concern about a conflict between population growth and subsistence. In the *Essay on the Principle of Population*, Malthus argued that unless population growth rate is checked, it will surpass the increase in the level of food supply, hence end in a

²¹ John S. Dryzek, *Rational Ecology: Environment and Political Economy*, Oxford: Basil Blackwell, 1987.

²² Timothy O’Riordian, *Environmentalism*, London: Pion, 1981, cited in Pepper, *The Roots of Modern Environmentalism*, 1990, p. 14.

²³ O’Riordian, *Environmentalism*, 1981.

²⁴ Pepper, *The Roots of Modern Environmentalism*, 1990, p. 28.

²⁵ *Ibid*, pp. 76-79.

crisis.²⁶ Darwin endorses a systems view of nature in *The Origin of Species*, and influenced the ecosystems idea that everything is interconnected and interdependent. These systems are weather/climate, water, landforms, soils and biota.²⁷

Technocentrism, on the other hand, differs in its approach to environmental problems: It has a rational, scientific approach to manage the environment.²⁸ According to it, the nature can be utilized for human needs. Through appropriation of nature, humans achieve high technology and material consumption, which are regarded as the indicators of progress. In addition, when it comes to decision-making about the environment, the authorities are the objective scientific experts, because the public is relatively ignorant. The roots of this view lie in scientific revolution of the 16th and 18th centuries in parallel with the growth of capitalism.²⁹ Technocentrism upholds human progress and accepts the prevailing economic system, and in this sense is close to the liberal view of environmentalism.

Political ecology/Green Politics diverges from environmentalism in its belief that science is not apolitical, and that action should come from local and regional levels instead of the state.³⁰ Robyn Eckersley detects three major themes of political ecology: participation, survival and emancipation. In the 1960s, environmental problems were perceived as a “crisis of participation” in which the environmental impacts of urbanization and industrialization were not considered equally with their causes. Environmental concerns were seen within the context of participatory and distributional issues.³¹ In the 1960s and 1970s, the New Left movement revealed the

²⁶ Thomas Malthus, *An Essay on the Principle of Population*, 7th ed., London: Dent, 1872, cited in Pepper, *The Roots of Modern Environmentalism*, 1990, p. 93.

²⁷ Lorne H. Russwurm, “A Systems Approach to the Natural Environment,” in Lorne H. Russwurm and Edward Sommerville, *Man’s Natural Environment: A Systems Approach*, Massachusetts: Duxbury Press, 1974.

²⁸ Pepper, *The Roots of Modern Environmentalism*, 1990, p. 29.

²⁹ *Ibid.*, p. 37.

³⁰ Roussopoulos, *Political Ecology*, 1993, pp. 86,87.

³¹ Eckersley, *Environmentalism and Political Theory: Towards an Ecocentric Approach*, 1992, p. 9.

problems of industrial society, and aimed at decentralization and self-management of power and resources.³²

In the early 1970s, the *Limits to Growth* and the *Blueprint for Survival* brought forward the theme of the crisis of survival.³³ They found out that the environmental crisis was threatening the survival of humanity. Therefore population growth rate should be checked, and there should be a minimally acceptable lifestyle rather than the pursuit of “good life.”³⁴ Donella Meadows et al. in the *Limits to Growth*, argued that exponential economic and population growth produced series of crises because resources were depleted rapidly as demand rose for food and raw material for continued industrial growth. At the same time, the environment fell short of assimilating waste products because its absorptive capacity was exceeded.³⁵ Greens conclude that exponential growth is impossible in a finite system, and diverge from environmentalists regarding “sustainable development,”³⁶ which assumes that economic growth is compatible with responding to environmental problems. On the other hand, for Greens, sustainability requires decrease in production and the use of energy.³⁷ E. F. Schumacher, in *Small is Beautiful*, stressed that values shaped economics: There is the possibility of an alternative economic system which would improve the quality of life, instead of just focusing on improving the quality of

³² George Katsiaticas, *The Imagination of the New Left: A Global Analysis of 1968*, Boston, Mass: South End, 1987.

³³ Donella H. Meadows, Dennis L. Meadows, Jorgen Randers and William W. Behrens III., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, New York: Universe, 1972; Edward Goldsmith, Edward Goldsmith, Robert Allen, Michael Allaby, John Davoll, Same Lawrence eds., *Blueprint for Survival*, Boston: Houghton Mifflin, 1972.

³⁴ See Garrett Hardin, “Tragedy of the Commons,” *Science*, Vol. 162, No. 3859, December 13, 1968, pp. 1243-1248.

³⁵ Meadows et al., *Limits to Growth*, 1972.

³⁶ It was originally used in the World Conservation Strategy by the International Union for the Conservation of Nature (*World Conservation Strategy, Living Resource Conservation for Sustainable Development*, Switzerland: IUCN, 1980) and then by the Brundtland Commission, (*Our Common Future*, Report of the World Commission on Environment and Development, annexed to UN Document A/RES/42/187, December 11, 1987.)

³⁷ Keekok Lee, “To De-Industrialize-Is it so Irrational?” in Alan Dobson and Paul Lucardie eds., *The Politics of Nature: Explorations in Green Political Theory*, London: Routledge, 1993, pp. 105-117.

work.³⁸ He foresaw global networks of small-scale, self-reliant communities, which are libertarian, egalitarian and participatory. In this sense, for the Greens, the state is both unnecessary and undesirable.³⁹

Others argued that the environmental crisis was beyond a crisis of participation or survival, and questioned the notion of material progress, which they believed had social and psychological costs. They saw that ecological critique of industrialism had the potential to emancipate the human from the industrial type of society.⁴⁰ This emancipatory ecopolitical theory sought to find to overcome the “logic of destruction” inherent in capital accumulation and consumer society, and in general, all systems of domination.⁴¹ With their criticisms of the systems of domination, Marxism and Critical Theory deserve attention.

The Marxist perspective on the environment underlines the importance of conflict between vested class interests. According to this view, environmental concerns represent the clash of interests between the owners of resources and those who demand access to them. They represent the capital-owning classes and the proletariat respectively. These conflicts are borne out of the inherent contradictions within the capitalist economic system, and they can only be resolved by its total overthrow. They also argue that the ruling classes hold the power and the means to distort the arguments of the minority, constrain their influence, and hide information from majority about the alternative options available. Therefore, Marxists argue that it does not make sense to have faith in the power of the argument or the availability of “the facts” on the abuse of nature in order to stop this abuse. People would be

³⁸ Ernst F. Schumacher, *Small is Beautiful: Economics as if People Mattered*, London: Harper and Row, 1973 cited in Pepper, *The Roots of Modern Environmentalism*, 1990, pp. 25-6

³⁹ Paterson, “Green Politics,” 1995, 258.

⁴⁰ See William Leiss, *The Limits to Satisfaction: On Needs and Commodities*, London: Marion Boyar, 1978; John Rodman, “Paradigm Change in Political Science: An Ecological Perspective,” *American Behavioral Scientist*, Vol. 24, No. 1, pp. 49-78, cited in Eckersley, *Environmentalism and Political Theory...*, 1992, p. 18.

⁴¹ Eckersley, *Environmentalism and Political Theory...*, 1992, p. 21.

selective to the arguments they favor such as in the nuclear debate: Both sides would claim objectivity and assert that their arguments are superior to those of the other side. To the Marxist interpretation, this situation represents the defense of each side's own vested economic interests.⁴²

Marxists argue that man-nature relationship depends on the stages of development: Through interaction with nature, humans produce objects not merely to satisfy basic human needs, but for esthetic purposes. Therefore, new needs are created. Burgess argues that this constant interaction makes them more human over time.⁴³ In this context, the definition of "need" and "natural resource" is dependent on time and on historical stages of development.⁴⁴ Marxists argue that environmentalists fail to recognize the social and historical nature of resources and ecological problems, and ignore the importance of the mode of production in conditioning the perception of nature and society.⁴⁵

Eckersley divides the Marxist solution to the environmental crisis into humanist and orthodox. According to the Orthodox eco-Marxist perspective, environmental problems are caused by the exploitative dynamics of capitalism, therefore relations of production should change, and the nature can benefit all, not just the capitalist class.⁴⁶ What does not change is the "mastery of nature" however. Green political theorists were inspired by Orthodox eco-Marxism as a starting point, but it is not an example of Green political theory.⁴⁷ The other strand is humanist eco-

⁴² Pepper, *The Roots of Modern Environmentalism*, 1990, pp. 32, 34.

⁴³ Rod Burgess, "The Concept of Nature in Geography and Marxism," *Antipode*, Vol. 10, No. 2, 1978, pp.1-11.

⁴⁴ Pepper, *The Roots of Modern Environmentalism*, 1990, p. 163.

⁴⁵ *Ibid.*, p. 173.

⁴⁶ Charles Tolman, "Karl Marx, Alienation and the Mastery of Nature," *Environmental Ethics*, Vol 3. Spring 1981, pp. 63-74; Howard Parsons, *Marx and Engels on Ecology*, Westport, Conn.: Greenwood, 1978 cited in Eckersley, *Environmentalism and Political Theory...*, 1992, p. 82.

⁴⁷ Eckersley, *Environmentalism and Political Theory...*, 1992, p. 77.

Marxism which demands a reassessment of the belief in material progress.⁴⁸ Humanist eco-Marxists argue that even if the possessors of capital change, the technology would still be of domination and will not end the ecological crisis. They sought to resolve the ecological contradictions of capitalism and to find the type of human being in a society not characterized by domination.⁴⁹

Critical Theory/Frankfurt School is a subset of humanist Marxist thought, but it revised the humanist Marxist thought to address the emancipatory concerns of ecocentrics. They showed the other dimensions and levels of domination and exploitation beyond the economic sphere.⁵⁰ Frankfurt School criticized the Orthodox Marxist view about the progressive march of history, which emphasized “mastery over nature” for more freedom. Instead, they sought a reconciliation with nature. Adorno, Horkheimer and Marcuse provided theoretical insights for ecocentrism with their critique of technological civilization. According to Horkheimer and Adorno, the Age of Enlightenment brought forward reason, but it inflated the importance of human over nature. Marcuse argued that social relations should be reordered in order to free nature from mastery.⁵¹ Jürgen Habermas tried to show that political decision-making served to capitalist and bureaucratic system, while colonizing daily social activity.⁵² The overriding concern of Marcuse and Habermas is to open up improved channels of political communication to reach democratic consensus that would facilitate the development and use of technology toward the liberation of human.

⁴⁸ Andre Gorz, *Ecology as Politics*, tr. Patsy Vigderman and Jonathan Cloud, London: Pluto, 1980; Hans Magnus Enzensberger, “A Change of Political Ecology,” *New Left Review*, Vol. 84, 1974, pp. 3-31, cited in Eckersley, *Environmentalism and Political Theory...*, 1992, p.87.

⁴⁹ Herbert Marcuse, *One Dimensional Man*, London: Routledge and Kegan Paul, 1964, cited in Eckersley, *Environmentalism and Political Theory...*, 1992, p. 87.

⁵⁰ Eckersley, *Environmentalism and Political Theory...*, 1992, p. 97.

⁵¹ *Ibid.*, pp. 101-105.

⁵² Anthony Giddens, “Reason Without Revolution? Habermas’ *Theories des kommunikativen Handelns*,” in *Habermas and Modernity*, Richard J. Bernstein ed., Cambridge: Polity, 1985.

Critical Theory takes human as the referent, and its opposition to the domination of nature is because it leads to the domination of people.⁵³

Ulrich Beck, a critical sociologist, analyzed the contemporary stages of development, and introduced the concepts of ecological enlightenment⁵⁴ and reflexive modernity.⁵⁵ Beck sees that the industrial and capitalist society emerged in the phase of simple modernity, where classes emerged, along with the accumulation of wealth and rapid scientific progress. However, the industrial society has arrived at the phase of “reflexive modernity” where its main concern is no longer harnessing or controlling the nature for the benefit of humankind, but the suffering from the problems as a result of techno-economic development. Therefore, Beck calls this “reflexive modernity” which refers to modernity as a problem in itself.⁵⁶ Beck is concerned about uncontrolled risks produced by capitalism. The risks of advanced technologies may escape from bureaucratic and political control and threaten the existence of human beings.⁵⁷

The concept of “risk society” emerged as a result of developments in the Western European societies, which started feeling insecure and uncertain because of the heightened awareness of risks. They attributed different meanings to work, family life and identity with this transition from industrial to risk society. As a result, they started questioning scientific and technological institutions and their

⁵³ Eckersley, *Environmentalism and Political Theory...*, 1992, p.11; Eckersley acknowledges that these themes had a significant impact in shaping “...the Green critique of industrialism, modern technology, and bureaucracy, and the Green commitment to grassroots democracy,” but adds that Critical Theory didn’t have a major direct impact on the theory and practice of the Green movement. Eckersley, *Environmentalism and Political Theory...*, 1992, pp. 98,101-105.

⁵⁴ Stephen Hobden and Richard Wyn Jones, “Marxist Theories of International Relations” in Baylis and Smith eds., *Globalization of World Politics*, 2001, pp.214-215; See Ulrich Beck, *Ecological Enlightenment: Essays on the Politics of the Risk Society*, Armherst, New York: Prometheus, 1991.

⁵⁵ See Ulrich Beck, “The Reinvention of Politics: Towards a Theory of Reflexive Modernization,” in Ulrich Beck, Anthony Giddens and Scott Lash eds., *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*, Cambridge: Polity Press, 1994, pp. 1-55.

⁵⁶ Beck et al., *Reflexive Modernization ...*, 1994, p. 8.

⁵⁷ Ulrich Beck, *The Reinvention of Politics: Rethinking Modernity in the Global Social Order*, Cambridge: Polity Press, 1997.

regulators.⁵⁸ Beck's concept of "risk society" is based on the concern that dangers and hazards may become predictable but unpreventable, especially within the ecological context. This is perfectly applicable to nuclear technologies when Beck argues that "the injured of Chernobyl... are not born yet."⁵⁹ The difference of industrial society from risk society is that social conflict does not arise from the distribution of goods. To the contrary, increased production worsens the distribution problem, because due to the risks involved in the production process, the goods become "bads."⁶⁰ Issues like investment decisions and plant management, which were not discussed previously, provide room for social movements. As a result, the operation of parliamentary democracy and official bureaucracies are challenged, because they are not capable of controlling ecological risks.⁶¹

Environmentalists agreed to "ecological modernization" and "sustainable development" as compromise solutions. Ecological modernization argues that economic growth and the resolution of ecological problems can be reconciled, in principle.⁶² To "modernize modernity,"⁶³ Mol explains that the harnessing of nature by capitalism can be corrected to the benefit of nature by two processes: the ecologization of economy and the economization of ecology.⁶⁴ The first refers to the de-linking of economic growth from negative environment impact as much as possible by recent technological innovations. The second aims to increase the "cost"

⁵⁸ Alan Irwin, *Sociology and the Environment*, Cambridge: Polity Press, 2001, cited in Murat Arsel, "Reflexive Developmentalism? Toward and Environmental Critique of Modernization," in Fikret Adaman and Murat Arsel eds., *Environmentalism in Turkey, Between Democracy and Development?* Aldershot, Burlington: Ashgate, 2005, p. 25.

⁵⁹ Ulrich Beck, "Risk Society and Provident State," in Scott Lash, Bronislaw Szerszynski and Bryant Wynne eds., *Risk, Environment and Modernity: Towards a New Ecology*, London: Sage, 1996, pp. 31.

⁶⁰ Arsel, "Reflexive Developmentalism?..." 2005, p. 26.

⁶¹ Ulrich Beck, *Risk Society: Towards a New Modernity*, London: Sage, 1992, p. 90.

⁶² Maarten A. Hajer, *The Politics of Environmental Discourse; Ecological Modernization and The Policy Process*, Oxford: Clarendon, 1994.

⁶³ Arthur P. J. Mol, *The Refinement of Production. Ecological Modernization Theory and the Chemical Industry*, Utrecht: Jan van Arkel/International Books, 1995, p.37.

⁶⁴ Gert Spaargaren and Arthur P. J. Mol, "Sociology, Environment and Modernity: Ecological Modernization as a Theory of Social Change," *Society and Natural Resources*, Vol. 5, No. 4, 1992, p. 335.

of environmental impact in economic accounts, because the nature has been counted as “free” and “abundant” by modern theories of economics.⁶⁵ Both risk society and ecological modernization agree that there is an ecological crisis emanating from the structural problems of modern capitalism. They have hope for the positive contribution of new technologies for the ecology to be less affected by economic processes,⁶⁶ that is, sustainable development.

The dissertation hypothesizes not only about the nature of the conflict, but also argues that it can be addressed. The debate on nuclear energy in Turkey is a theme in the conflict between goals of development and environmental protection in terms of what type of resource to choose for energy security. The dissertation will make use of Constructivism which offers insights to manage differences and to mitigate the conflict. Constructivism is accepted not as theory of International Relations, but an approach which considers international relations as a social construction, thus it challenges rationalist assumptions.⁶⁷ N. Onuf introduced the term Constructivism to the study of international relations,⁶⁸ but it is A. Wendt who particularly advanced the approach.⁶⁹ Other Constructivists differentiate between “systemic” and “holistic” Constructivisms,⁷⁰ where the former is represented by Wendt and the latter is endorsed by M. Finnemore, who integrates domestic and

⁶⁵ Udo E. Simonis, “Ecological Modernization of Industrial Society: Three Strategic Elements,” *International Social Science Journal*, Vol. 41, No. 3, 1989, pp. 347-361.

⁶⁶ Arsel, “Reflexive Developmentalism?...” 2005, p. 29.

⁶⁷ James Fearon and Alexander Wendt, “Rationalism v. Constructivism: A Skeptical View,” in Walter Carlsnaes, Thomas Risse, Bath A. Simmons eds., *Handbook of International Relations*, London: Sage Publications, 2002, pp. 52-72.

⁶⁸ Nicholas Onuf, *World of Our Making*, Columbia, SC: University of South Carolina Press, 1989.

⁶⁹ Alexander Wendt, “Anarchy is What States Make of it: The Social Construction of Power Politics,” *International Organization*, Vol. 46, No. 2, 1992, pp. 391-425; Alexander Wendt, *Social Theory of International Politics*, Cambridge, Cambridge University Press, 1999.

⁷⁰ Price and Reus-Smit, “Dangerous Liaisons? Critical International Theory and Constructivism,” 1998, pp. 259-294.

international structures.⁷¹ The effects of culture, norms and identity on national security were also studied.⁷²

There are ongoing debates in Constructivism,⁷³ but the main Constructivist assumptions are that there is no external or objective social reality; instead social and political world is a creation of human consciousness and institutions, such as anarchy. They are created through interaction between states, and are subject to change. Therefore, “international relations” does not exist as a physical entity, but as a set of ideas, thoughts and norms which were arranged by people. Accordingly, if these thoughts, ideas and norms change, then will the system.⁷⁴ In this sense, Constructivism is a potential challenge to the status quo, because it is capable of understanding the relationship between power and knowledge,⁷⁵ that is, what people count as “common sense.”

For constructivists, conflict is not a clash between forces or entities (such as between states in Realism), but is formed due to a disagreement, dispute, misunderstanding or lack of communication between conscious agents. The conflict in the minds and wills of the parties bear this conflict. Constructivism prescribes an inquiry of discourses to correctly understand such conflict, because discourse is a critical mechanism that creates, shapes, alters and replaces structures of collective meaning.⁷⁶ Discourse analysis would reveal the sources and depth of the dispute, its intellectual obstacles, as well as the possibilities for resolution. It would disclose the

⁷¹ Martha Finnemore, *National Interests in International Society*, Ithaca: Cornell University Press, 1996.

⁷² Peter Katzenstein ed., *The Culture of National Security: Norms and Identity in World Politics*, New York: Columbia University Press, 1996.

⁷³ For an analysis, See Christian Reus-Smit, “Imagining Society: Constructivism and the English school,” *British Journal of Politics and International Relations*, Vol. 4, No. 3, October 2002, p. 494-495.

⁷⁴ Jackson and Sørensen, *Introduction to International Relations...*, 2003, p. 253.

⁷⁵ Stefan Guzzini, “The Concept of Power: A Constructivist Analysis,” *Millenium Journal of International Studies*, Vol. 33, No. 3, pp. 495-521.

⁷⁶ Sarah Williams, “Arguments in Favor of a Constructivist Peace Process,” Paper presented at the 48th ISA Conference, March 3, 2007, p. 13.

sentiments, beliefs and ideas by which the conflict is organized and expressed.⁷⁷ The focus of constructivists is not only on the differences and the regulation of these differences by people, but also on the ways of creating and sustaining social, economic and political relations despite their differences. Joint arrangements like sovereignty and international organizations are expressions or applications of common ideas or beliefs of different peoples, and show that they could relate to and deal with each other.⁷⁸

The dissertation argues that mitigation of this conflict is necessary so as not to end up with “absolute war-” in Clausewitz’s terms. In absolute war, the scope of the conflict is unlimited, which includes all available resources at hand. For each side in the war, there is the tendency toward the extreme until when the enemy is rendered powerless. According to Clausewitz, this is a condition of contradiction, and compels the parties to move away from the extreme. At this point, he defines war as “commerce” because the parties to the conflict enter into a process of barter: They reduce the tendency toward the extreme by engaging into interaction in order to reach the political object of war.⁷⁹

M. Foucault refers to this Clausewitzian logic of war in trying to explain modern sovereignty and the formation of social relations under the power of the modern state. For him, this logic of war is a feature of the power relations between

⁷⁷ Jackson and Sørensen, *Introduction to International Relations...*, 2003, pp. 256-257. Also See: Emmanuel Adler, “Seizing the Middle Ground: Constructivism in World Politics,” *European Journal of International Relations*, Vol. 3, No. 3, 1997, pp. 319-363. To see a discussion of how an agreement can be reached that meets the basic concerns of the conflicting parties, see Herbert C. Kelman, “The Political Psychology of the Israeli-Palestinian Conflict: How Can We Overcome the Barriers to a Negotiated Solution?” *Political Psychology*, Vol. 8, No.2, pp. 162-186. For an analysis of the competing validity claims and the relevance of discourse, see Friedrich Kratochwil, “Politics, Norms and Peaceful Change,” *Review of International Studies*, Vol. 24, No. 5, pp. 192-218.

⁷⁸ The productive power of discourse and how it shifts preference from conflict to common norms is studied by Michael Barnett and Raymond Duvall, “Power and International Politics,” *International Organization*, Vol. 59, No. 1, pp. 39-75.

⁷⁹ Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret, Princeton: Princeton University Press, 1976, p. 149.

and/or within states. When two forces collide, the tendency toward the extreme is replaced by the experience of fear. For Foucault, the mitigation of war relations as a result of fear is crucial: It indicates the preference for the preservation of life. Accordingly, he argues that the modern state prefers to use its power for the production rather than the disabling of life.

According to Foucault, power relations are extensive within the society. Power is not necessarily peculiar to the government or the state; it is exerted in a web that covers all the strata of the society.⁸⁰ He understands that the power relations in the society could be in the form of either war or politics.⁸¹ Power relations need resistance; it is indeed part of power relations.⁸² When power is exerted, it faces resistance, hence power relations begin. The state does not unilaterally exert power. To the contrary, it will consistently face resistance, and therefore will need to renew or revise power relations.⁸³

For Foucault, the Clausewitzian war, that is power relations, explains the strategy of the modern sovereign state. This strategy refers to the use of state power and of power relations in the society to produce new political orders. Hence, the modern state acquires new forms of governance. It finds the opportunity to accommodate itself to new circumstances. It uses its power to facilitate the management of differences within the society. Put differently, state sovereignty prevails in a renewed manner.⁸⁴ In this context, conflicts within societies are also mitigated by the experience of fear. The sovereign reinforces its power with the

⁸⁰ Michel Foucault, *The History of Sexuality I: The Will to Knowledge*, London: Penguin, 1990, pp. 92, 94.

⁸¹ Ibid, p. 93. Also See Michel Foucault, *Security, Territory, Population: Lectures at the College de France, 1977-1978*, London: Pelgrave, 2007, pp. 90, 305, 306.

⁸² Foucault, *The History of Sexuality I*, 1990, p. 95.

⁸³ Sara Mills, *Michel Foucault*, Abingdon, Oxon: Routledge, 2004, pp. 33-35, 48-52.

⁸⁴ Ali L. Karaosmanoğlu, "Yirmibirinci Yüzyılda Savaşı Tartışmak: Clausewitz Yeniden (Discussing War in the Twenty First Century: Clausewitz Again)," 2010, Unpublished Paper, p. 17.

governance of difference, that is, it aims at reducing differences.⁸⁵ Fear from the escalation of conflict will lead the sovereign to bring the parties in conflict together and interact. The dissertation refers to “critical engagement,” in which the contending parties come to understand that the qualities of each party are necessary to address social problems. For negotiation, common grounds are necessary, and they will be derived by discourse analysis.

2.2. Methodology

The dissertation will make use of discourse analysis to see how actors attribute meanings to nuclear energy, which suits to their belief systems, ideologies or interests. Discursive Practices Approach-through *presupposition, predication and subject positioning*-, would help derive the concepts, categories and meanings that actors create. The definition of the concepts, positioning of self and “the other”, and granting meanings to these concepts arrive in a certain “truth.”

In the analysis of each argument, one government and two non-governmental texts will be presented and analyzed. The findings out of discourse analysis will reveal common concepts, categories and meanings which will provide ground for parties to mitigate power relations between them. The nuclear energy debate is not independent from the international belief system and norms. That is to say, the national discourses are in interaction with international norms. This interaction will be presented by looking at international and national texts on three main areas:

⁸⁵ Julian Reid, “Re-appropriating Clausewitz: The Neglected Dimensions of Counter-Strategic Thought,” in Beatle Jahn ed., *Classical Theory in International Relations*, Cambridge: Cambridge University Press, 2006, pp. 288-291.

nuclear nonproliferation and the pursuit of nuclear energy, energy security and anti-nuclearism/environmentalism.

2.2.1. Discourse Analysis

Although discourse analysis has increasingly been used in analyzing international relations,⁸⁶ there is no consensus on how to study discourse in. J. Milliken points to three theoretical commitments as tools to study the discourses: Discourse constructs social realities through systems of *signification*, *produce* and reproduce things within the discourse by creating a “regime of truth”, and maintain the discourse through *play of practice*. In the first one, she refers to Saussure’s model of signification (or representation), which includes a signifier (word), signified (concept) and significatum (referent). The emphasis in this model is given to the relationships where things are placed in a sign system.⁸⁷ There are also binary relationships⁸⁸ which are not neutral, that is, one element in the binary is privileged with the establishment of a relation of power. Thus, using sign systems (languages), people construct the meaning of things. This strand is influenced by the constructivist understanding of meaning. Second, discourses may create a “regime of truth,” by defining *subjects* authorized to speak and act (experts, officials), *practices* to

⁸⁶ David Campbell, *Writing Security: United States Foreign Policy and the Politics of Identity*, Minneapolis, MN: University of Minnesota Press, 1992; Gearóid Ó Tuathail and John Agnew, “Geopolitics and Discourse: Practical Geopolitical Reasoning in American Foreign Policy,” *Political Geography*, Vol. 11, No. 2, 1992, pp.190-204; Ronald Bleiker, “A Rogue is a Rogue is a Rogue: US Foreign Policy and the Korean Nuclear Crisis,” *International Affairs*, Vol. 79, No. 4, 2003, pp. 719-737; Jutta Weldes and Diana Saco, “Making State Action Possible: The United States and the Discursive Construction of ‘The Cuban Problem’ 1960-1994,” *Millenium: Journal of International Studies*, Vol. 25, No. 2, 1996, pp. 361-395.

⁸⁷ Jennifer Milliken, “The Study of Discourse in International Relations: A Critique of Research and Methods,” *European Journal of International Relations*, Vol. 5, No. 2, 1999, p. 229.

⁸⁸ See Jacques Derrida, *Positions*, Chicago: University of Chicago Press, 1981.

logically or properly intervene on people or objects, and produce *publics* and their *common sense*, to determine how officials should act for them and in their name. Thereby, discourses define and enable authorities and experts, silence and exclude “others,” accept a certain “common sense,” and render other modes of thinking meaningless, inadequate, immoral, etcetera...⁸⁹

Milliken suggests that the analysis should be based on a set of texts by different people who are the authorized speakers or writers of a dominant discourse, or who think and act within alternative discourses:

An analysis can be said to be complete (validated) when upon adding new texts and comparing their object spaces, the researcher finds consistently that the theoretical categories s/he generated work for those texts...⁹⁰ [It should be explained] ...how a discourse produces this world-how it selectively constitutes some and not others as “privileged storytellers... to whom narrative authority... is granted.”⁹¹

Considering that policymaking involves a continuous struggle over the definition of an “issue” or a “threat” and their interpretation, that is, “politics of representation,”⁹² one can see that regarding policymaking, politics of representation is related with how policymakers make sense of crises/issues, “how they construct stories to explain [them] and how they develop strategies for handling these crises as political challenges, and how they conceptualize ‘solutions’ to these crises.”⁹³

Actors define and constitute “issues,” objects, subjects and “dangers” through discursive practices.⁹⁴ Weldes and Saco show that state officials engage in interpretive practices to constitute particular objects as “threats” and formulate

⁸⁹ Milliken, “The Study of Discourse in International Relations...,” 1999, p. 233.

⁹⁰ Ibid, p. 234.

⁹¹ David Campbell, *Politics without Principles: Sovereignty, Ethics and the Narratives of the Gulf War*, Boulder: Lynne Rienner Publishers, 1993, p. 7, quoted in Milliken, “The Study of Discourse in International Relations...,” 1999, p. 236.

⁹² Frank Fischer and John Forrester, “Editors’ Introduction,” in Frank Fischer and John Forrester, eds., *The Argumentative Turn in Policy Analysis and Planning*, London: Duke University Press, 1993, p. 2.

⁹³ Gearóid Ó Tuathail, “Theorizing Practical Geopolitical Reasoning: The Case of the United States’ Response to the War in Bosnia,” *Political Geography*, Vol. 21, No. 5, 2002, pp. 605.

⁹⁴ Ó Tuathail and Agnew, “Geopolitics and Discourse...,” 1992, p. 194, cited in Weldes and Saco, “Making State Action Possible...,” 1996, p. 374.

policies to deal with them. The actors engaging in discursive practices are mainly state officials who define threats, adopt policies and implement them. They produce “realities” that help the practice of statecraft and enhance state power. They privilege the state over domestic actors, including the public, in the making of (for instance, energy) policy. Arguments of the state can construct a “single identity” for itself (and its supporters) and exclude the “other.” This identity provides guarantees for action.⁹⁵ Discourse can construct the other as a threat to the identity of the self. It can decrease the legitimacy of the “other:” The discursive construction of antagonism between the state and the people who appeal to them provides guarantees for action to the opponent.

An approach that focuses on discursive practices as a unit of analysis can get at how “reality” is produced and maintained and how it makes various practices possible. The analytic question addressed is not why particular decisions are made; the policy decision itself becomes a secondary concern. What is central is the discourse(s) which construct a particular “reality.”⁹⁶ A discourse provides discursive spaces, that is, concepts, categories, metaphors, and analogies by which meanings are created.⁹⁷ Discourses create various kinds of subjects and simultaneously position these subjects vis-à-vis another.⁹⁸

R. L. Doty uses the textual mechanisms of *presupposition*, *predication* and *subject positioning* that provide analytic categories to find “...how discursive practices constitute subjects and objects and organize them into a “grid of intelligibility.”⁹⁹ *Presupposition* creates background knowledge and constructs a

⁹⁵ Weldes and Saco, “Making State Action Possible...”, 1996, p. 375, 377, 383.

⁹⁶ Doty, “Foreign Policy as Social Construction,” 1993, p. 303.

⁹⁷ Ibid, p. 302.

⁹⁸ Michael Shapiro, *The Politics of Representation-Writing Practices in Biography, Photography and Political Analysis*, Madison: University of Wisconsin Press, 1988, pp. 100, 116.

⁹⁹ Doty, “Foreign Policy as a Social Construction...,” 1993, p. 306.

particular kind of world in which certain things are recognized as true. *Predication* is another way to see how texts construct the world by attaching various labels to subjects. Predication reveals how texts link certain qualities to particular subjects through predicates, adverbs and adjectives. They attach attributes to subjects, construct their identities, and express what subjects can do. They also create “reality” by linking particular subjects and objects, and they produce subjects and objects vis-à-vis others (such as Great powers as the legitimate possessors of nuclear weapons, and North Korea as a ‘rogue state’ due to its aspiration to acquire nuclear weapons.). Presupposition and predication establish various kinds of relationships between subjects and between subjects and objects, which Doty calls *subject positioning*. These relationships that position subjects could be in the form of opposition, identity, similarity and complementarity. These relationships can be located by deconstructing the texts.¹⁰⁰ Deconstruction can be done by identifying the oppositional structuring in a text which results in the hierarchization of one term in relation to another.¹⁰¹ In this sense there is a dominant term and a subordinate term which underlines the former. The subordinate term is deemed the “other”, the deviant, or the inferior to the first term. These three tools of discursive practices show how a “world” is produced by exposing the positions of various kinds of subjects and their endowments with particular attributes. They work together and simultaneously.¹⁰² The dissertation will use these tools of discursive practices approach to see how discourses in the nuclear energy debate create different meanings.

The second theoretical commitment of discourse is discourse productivity. Discourse produces truths, common sense and authorities/experts. States take decisions for particular issues, and these are legitimized to elites and the broader

¹⁰⁰ Ibid.

¹⁰¹ Jonathan Culler, *On Deconstruction*, Ithaca: Cornell University Press, 1982, p. 86, cited in Ibid.

¹⁰² Doty, “Foreign Policy as a Social Construction...,” 1993, pp. 306, 307.

public by being presented as “scientific truth”, and these “truths” help reproduce a “common sense.” Latham contests the realist assumption that state action is driven by objective interests or by a unitary and rational actor, and argues that it is actually a form of social practice: According to mainstream theories, self-interested states pursue policies to maximize interests and minimize risks to these interests, where “national interest” is taken as “objective” and “self-evident.” Constructivists argue that it is the product of interpretive processes. As Jutta Weldes puts it:

In contrast to the realist conception of “national interests” as objects that have merely to be observed or discovered, then, my argument is that national interests are social constructions created as meaningful objects out of the intersubjective and culturally established meanings with which the world, particularly the international system and the place of the state in it, is understood.¹⁰³

She argues that interests are not obvious correlates or derivatives of the concrete “realities” of the international system, but are products of the “ubiquitous and unavoidable process of representation through which meaning is created.”¹⁰⁴ Departing from this point, Latham contends that understanding state action requires an understanding of the processes of representation and interpretation through which national interest is produced. He argues that people, in order to know the world and their position in it, construct “ontological narratives,” which then produce the meanings that structure social action:

...such an understanding requires a recognition that the representational process is inherently *storied* and that the constitutive representations that govern social life are profoundly narrative in form...the meanings that structure social action are produced through the pervasive and inescapable practice of knowing the world and one’s place in it through the construction of *ontological narratives*. These narratives are the stories that actors construct out of available cultural and linguistic resources to create meaning out of the disorder of lived experience...ontological narratives are *constitutive* stories – that is, they actually produce (rather than simply attempt to reflect) social facts. They do this by generating the specific forms of knowledge,

¹⁰³ Jutta Weldes, “Constructing National Interests,” *European Journal of International Relations*, Vol. 2, No. 3, 1996, p. 280.

¹⁰⁴ *Ibid*, p. 283.

consciousness, “common sense,” practice and identity that allow people to understand – and thus act in – the world.¹⁰⁵

Ontological narratives assume that there are multiple actors in the world with different identities, and are assigned a specific role to perform through these narratives. They also constitute interests following from specific identities of the objects. More broadly, as constructivists have argued, interests are social constructions out of identities and cultural material that social actors have at hand. Ontological narratives necessarily involve a selective appropriation of “relevant” facts from a “potentially limitless array of social experiences deriving from social contact with events, institutions and people.”¹⁰⁶ A story line organizes actions or events with varying degrees of significance, and then arranges “significant” events into meaningful chains of causality and relationality, thereby “creates” the world within which social actors exist and act.¹⁰⁷

As the stories of the debating actors select “facts,” they ignore or miss others. Thus, in addition to studying the debate, it is also important to display what is excluded from it. Ronald Bleiker, in his assessment of the United States’ construction of North Korea as a rogue state,¹⁰⁸ points at the language of defense analysts which became the most accepted, the most credible and rational way of assessing issues of security. Experts on military technologies were instrumental in constructing North Korea as a threat, and the political debate was articulated in highly technical terms. Non-experts were without technical expertise to verify their claims, which were used to legitimize important political decisions. “As a result, the techno-strategic language of defense analysis has managed to place many important

¹⁰⁵ Andrew Latham, *Global Cultural Change and the Transnational Campaign to Ban Antipersonnel Landmines: A Research Agenda*, YCISS Occasional Paper, No. 62, October 2000, p. 14.

¹⁰⁶ Margaret R. Somers and Gloria D. Gibson, “Reclaiming the Epistemological ‘Other:’ Narrative and the Social Construction of Identity,” in Craig Calhoun, ed., *Social Theory and the Politics of Identity*, Oxford: Blackwell Publishers, 1994, p. 60.

¹⁰⁷ Latham, *Global Cultural Change...*, 2000, pp. 14, 15.

¹⁰⁸ Bleiker, “A Rogue is a Rogue is a Rogue...,” 2003.

security issues beyond the reach of political and moral discussions.”¹⁰⁹ Similarly, technical language may obscure facts or misrepresent them, thereby affecting policy or public opinion. In both discourses, the dissertation will explore the distorted or misrepresented technical facts which helped sustain the discourse. It will be done in the last chapter.

Chapter VII will play a pivotal role for the dissertation. It will make a textual analysis of the statements of the proponents and dissenters to reveal the meanings ascribed to concepts, the links established between the concepts and the construction of identities. The texts will be selected from the statements of the authorized representatives in the two groups, such as the governmental institutions, bureaucrats, heads of associations, unions, energy firms, energy professionals, civil society organizations, journalists and academics. The diversity of the choices will also address the problem of selection bias, since the views of the groups or individuals are not uniform. The below example demonstrates how the analysis will be done:

If Turkey aspires to develop viable solutions for the future in its national energy policy, it should place its energy basket over five pillars, that is, renewables, coal, hydro, nuclear and natural gas.¹¹⁰ ...[N]uclear energy is not a choice but a necessity in order to meet the country's energy shortage...the resources at disposal will fall short for a continuous flow of electricity for basic loads and peak hours, thus, nuclear energy is a must and the only way out.¹¹¹ ...We are determined [to establish nuclear power plants which will] decrease the dependency [and] to pay less for the energy bill compared to oil and gas whose prices are on rise, and to inflict less pollution to the environment...¹¹² ...If you [the opposition] want us to be environment-friendly, to produce cheap, sustainable and continuous electricity without polluting the environment, we should do it...¹¹³

¹⁰⁹ Ibid, p. 734.

¹¹⁰ Hilmi Güler's Remarks, Turkish Grand National Assembly (TGNA) General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, April 20, 2006.

¹¹¹ "Nükleerde Son Perde (The Last "Stage" in Nuclear [Plans])," *CNBC-E Business*, July 2007, p. 34.

¹¹² Hilmi Güler's Remarks, TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 38th Session, December 20, 2006.

¹¹³ Hilmi Güler's Remarks, TGNA General Board Minutes, 22nd Term, 5th Legislative Year 103rd Session, May 8, 2007.

Presupposition: Turkey will have an energy shortage in the future. Nuclear energy and nuclear power plants are cheap, environment-friendly, and will decrease dependency on foreign sources.

Predication: Nuclear energy is predicated as “a necessity to meet the country’s energy shortage”, “must” and “the only way out.” These predicates constitute nuclear energy as the “life buoy” from “a situation that needs urgent response.”

Subject Positioning: Local resources, particularly water, oil and gas are put in an inferior position vis-à-vis nuclear energy: There are not enough domestic and renewable resources, the resources at disposal will pollute the environment, and oil and gas will be costly. “We” is the identity of policymakers, the government, Energy Ministry, energy bureaucracy, etcetera... “We” constitutes them as subjects, and grants the identity of the “powerful, mighty.” Since “We” are working for the best interests of the country, “We” are entitled to determine the best resource.

The following chapter will review the literature on the contending views on nuclear power.

CHAPTER III

LITERATURE REVIEW

The literature on the contending views on nuclear energy is quite limited. Since the use of nuclear technology for peaceful purposes is part of the nuclear proliferation puzzle, initially the literature on the civilian use of nuclear technology was formed in relation with nuclear proliferation. In *Nuclear Power and Nonproliferation*, William C. Potter presents an interdisciplinary analysis of relationship between nuclear power and nuclear proliferation, and describes the historical, technical, economic and political components of the nuclear power-nuclear proliferation dilemma.¹¹⁴ Stephen M. Meyer, in *The Dynamics of Nuclear Proliferation*, focuses on the factors for nuclear proliferation, which he analyzes in two main categories, namely technological determinism and political-military factors. The subscribers of the first view argue that the acquisition of nuclear technology will inevitably compel the country to take the proliferation decision.¹¹⁵

Richard Kokoski sees that the spread of nuclear technology is a challenge to the nonproliferation regime, particularly after the end of the Cold War. In

¹¹⁴ William C. Potter, *Nuclear Power and Nonproliferation*, Cambridge, MA: Oelgeschlager, Gunn and Hain, 1982.

¹¹⁵ Stephen M. Meyer, *The Dynamics of Nuclear Proliferation*, Chicago: University of Chicago Press, 1986.

Technology and the Proliferation of Nuclear Weapons, he explains the technologies crucial for developing nuclear weapons, looks at the impacts of their existence, spread and further development on the nuclear nonproliferation regime.¹¹⁶ In *The Politics and Technology of Nuclear Proliferation*, Robert F. Mozley focuses on the technology used in manufacturing nuclear weapons. He also looks at the efforts to prevent the spread of the technology and the degree of success and possible consequences of failure.¹¹⁷

At the international level, there are several studies that put forward contending views on nuclear power, but they did not go beyond presenting the arguments and making projections for the future of nuclear energy. Neal Bernards and Joanne Buggiey, In *Nuclear Power: Examining Cause and Effect Relationship*,¹¹⁸ provide the opposing views on nuclear power, and focus particularly on public concerns regarding safety. It assesses whether nuclear energy is desired or seen as a “necessity.” *Nuclear Power*,¹¹⁹ edited by Tom and Gena Metcalf looks at the history of the use of nuclear technology, and explores the advantages and disadvantages of nuclear power. Ewan McLeish, in *The Pros and Cons of Nuclear Power*,¹²⁰ discusses the supporting and opposing views on nuclear energy. He also provides basic information on the technology, costs, history and environmental impacts. Gwyneth Cravens, a former nuclear skeptic, studies American nuclear facilities and fuel cycle, and compares them with those of the rest of the world. In *Power to Save the World:*

¹¹⁶ Richard Kokoski, *Technology and the Proliferation of Nuclear Weapons*, New York: Oxford University Press, 1995.

¹¹⁷ Robert F. Mozley, *The Politics and Technology of Nuclear Proliferation*, Seattle and London: University of Washington Press, 1998.

¹¹⁸ Neal Bernards and Joanne Buggiey, *Nuclear Power: Examining Cause and Effect Relationship*, San Diego, CA: Greenhaven Press, 1990.

¹¹⁹ Tom and Gena Metcalf, eds., *Nuclear Power*, Detroit: Greenhaven Press, 2007.

¹²⁰ Ewan McLeish, *The Pros and Cons of Nuclear Power*, New York: Rosen Central, 2008.

The Truth About Nuclear Energy,¹²¹ she looks at safety issues, proliferation and economics. She convinces the reader that nuclear energy should play a larger role in power generation, and should replace coal to avoid pressure on the climate.

In the edited volume of Harald Müller, *How Western European Nuclear Policy is Made*, country cases were studied, including Belgium, Germany, France, Italy, Ireland, the Netherlands, Spain, Sweden, Switzerland and the UK.¹²² The domestic debate in France centered on technical issues and safety, but the public opinion was ineffective in affecting policy on nuclear issues.¹²³ British citizens had a greater range of possibilities where they could make their voices heard, such as the requirement to hold public inquiries into the nuclear planning proposals. Therefore, public opinion was more effective on policy compared to the French case.¹²⁴ Nuclear opposition in West Germany began in the 1970s and spread to the rest of the country. Nuclear power plant projects were accompanied by street-fighting and law suits. The opposition was not equally interested in proliferation issues, however.¹²⁵ The Swedish voted against the further use of nuclear energy in a 1980 referendum. However, the energy demand and lack of supply keeps the advocates of nuclear energy in the industrial sector.¹²⁶

As far as the developing countries are concerned, development and the accompanying energy demand elevated nuclear power as a suitable option. However, safety -particularly with respect to accident risk and waste disposal- was the primary

¹²¹ Gwyneth Cravens, *Power to Save the World: The Truth About Nuclear Energy*, New York: Knopf, 2007.

¹²² Harald Müller ed., *How Western European Nuclear Policy is Made*, London: MacMillan, 1991.

¹²³ Philippe Richard, "The Nuclear Decision-making Process: The French Case," in *Ibid*, pp. 43, 44.

¹²⁴ John Simpson, "Nuclear Decision-making in Britain," in Harald Müller ed., *How Western European Nuclear Policy is Made*, London: MacMillan, 1991, pp. 65, 66.

¹²⁵ Harald Müller and Christian Schlupp, "Nuclear Decision-making in the Federal Republic of Germany," in Harald Müller ed., *How Western European Nuclear Policy is Made*, London: MacMillan, 1991, pp. 74-77.

¹²⁶ Peter Lomas, "Sweden," in Harald Müller ed., *How Western European Nuclear Policy is Made*, London: MacMillan, 1991, p. 202.

concern for their publics: In Ghana, the perception of risk was that nuclear power plants could explode like atomic bombs.¹²⁷ The language of the media was quite effective in creating or reinforcing public fear. The Lithuanian public was affected by local and international news on the lack of nuclear safety in Lithuanian power plants.¹²⁸ Having experienced Chernobyl, the Ukrainian public grew strongly against nuclear energy projects. Therefore, it also becomes problematic to engage in an active dialogue with the opposition. The most important demands from the public are staff reliability, trust to administrative institutions and the guarantee that no Chernobyl-like accidents are going to happen.¹²⁹

The views of the opposition were shaped mainly by the anti-nuclear theses. The history of the anti-nuclear movement was studied by Ruth Brandon in her *Burning Question: The anti-nuclear movement since 1945*.¹³⁰ She provided a history of the anti-nuclear movement beginning from the reservations and concerns of scientists working the Manhattan project, and their effort to prevent the use of nuclear technology as an enormously powerful explosive. Afterwards civil society activities and movements followed.

Bernard L. Cohen analyzed the perception of the society on nuclear energy, in *Before It's Too Late, A Scientist's Case for Nuclear Energy*.¹³¹ He found that fear of radiation and waste, and failure in understanding and describing the risk are the main

¹²⁷ Jonathan J. Fletcher and Isaac Ennison, "Ghana and the Nuclear Power Option," in *Nuclear Power in Developing Countries: Its Potential Role and Strategies for its Deployment*, Vienna: IAEA, 2000, p. 259.

¹²⁸ Vytautas Bieliauskas, "Dealing With Local and International Media-Experience of Lithuania," in *Nuclear Power in Developing Countries: Its Potential Role and Strategies for its Deployment*, Vienna: IAEA, 2000, p. 313.

¹²⁹ I. V. Kokhan and V. Jerry Zeniuk, "Current Status and Perspective of Atomic Energy Development in Ukraine," in *Nuclear Power in Developing Countries: Its Potential Role and Strategies for its Deployment*, Vienna: IAEA, 2000, pp. 287, 288.

¹³⁰ Ruth Brandon, *Burning Question: The anti-nuclear movement since 1945*, London: Heinemann, 1987.

¹³¹ Bernard L. Cohen, *Çok Geç Olmadan, Bir Bilimadamı Gözüyle Nükleer Enerji (Before It's Too Late, A Scientist's Case for Nuclear Energy)*, Ankara: TÜBİTAK, 1995.

problems that led to misperceptions about nuclear energy. He looked at the role of the media which exaggerated the fears and directed attention towards anti-nuclear protests and the detainment of protesters. He made the distinction between scientists and environmentalists that the latter based its case on political philosophy while for the former, it was science.

The political history of nuclear energy was provided by Bertrand Goldschmidt, in his *The Atomic Complex, A Worldwide Political History of Nuclear Energy*. He covered the developments until 1982 which missed Chernobyl- the landmark event that had effects on the development of nuclear power. The book includes a history of both the military and the civilian aspect. The fear from radiation and radioactive waste excited the public to demand impossible guarantees, which formed the psychological barrier against nuclear power, and which lies under the anti-nuclear movement.

He explains how anti-nuclearism turned into an emotional conflict on the pursuit of nuclear power:

In the early development of this situation, lack of understanding progressively grew on either side of the argument, until a substantial gap appeared which then continued to widen. Questions that should have involved no more than technical differences over the accurate evaluation of the risks of the new technology, or discussions of the criteria for determining an acceptable level of risk for the populations concerned, gradually degenerated in several Western countries into a profound emotional conflict, the issue at stake being whether to accept or to reject the production of electricity by nuclear means.¹³²

Goldschmidt saw that the public fear of radiation provided “a fertile breeding ground” for the anti-nuclear protest movement. Its political aspect was against the industrial type society, the technical aspect involved doubts over risks, and the philosophical aspect was nostalgia for a world “close to nature” which should not be

¹³² Bertrand Goldschmidt, *The Atomic Complex, A Worldwide Political History of Nuclear Energy*, La Grange Park: Illinois, American Nuclear Society, 1982, p. 432.

distorted by industry or commerce.¹³³ He also looked at the arguments of the proponents and opponents. Nuclear power was promoted because there was no better alternative to Middle Eastern oil. It posed no environmental risk- an advantage for preventing climate change. The proponents regarded waste as manageable. The media exaggerated local action, and anti-nuclearism became a matter of political competition within parties, groups, trade unions, etcetera...

Del Sesto studied the major elements of pro and anti-nuclear ideologies: He detected that the supporters first emphasize the promise of peaceful applications such as the positive impact on the standard of living, economic growth, fiscal well-being, energy generation, energy security and nonproliferation. They believe that science and technology would solve all political and practical problems associated with nuclear power. The opposition misrepresents and distorts facts, exaggerates and stimulates fears, and are unconvincing. The anti-nuclear ideology focuses on the legacy to future generations, and argues that nuclear power is morally indefensible, it is disadvantageous for democracy, nonproliferation efforts and peace. Science and technology are insufficient to solve the problems created of nuclear power. Since the use of nuclear power reinforces centralization in decision-making, regulations should be more responsive to civil society, and de-centralized, low-technology alternatives like renewable energy are preferable. Much like the supporters, the anti-nuclear groups also impeach the opposition by arguing that facts are misrepresented and distorted and that they lack credibility.¹³⁴

The International Politics of Nuclear Waste defines waste as the Achilles heel of nuclear technology, because perceptions of risk and public anxiety is a

¹³³ Ibid.

¹³⁴ Steven L. Del Sesto, "Conflicting Ideologies of Nuclear Power: Congressional Testimony on Nuclear Reactor Safety," *Public Policy*, Vol. 28, No. 1, 1980, pp. 39-70, cited in Pepper, *The Roots of Modern Environmentalism*, 1990, p. 33.

phenomenon that governments and industries committed to nuclear energy have to deal with. It provides the history and background of the “waste issue,” and looks at how the conflict on waste disposal methods and choice of sites were waged in the United States and in Europe. The book finds that disputes over nuclear waste disposal and siting became political issues in mid to late 1980s.¹³⁵ It gives attention also to the pro-nuclear arguments, and finds common grounds on which they base their arguments:

Each side in the conflict over nuclear wastes represents a variety of interests-professional advancement, electricity sales, energy security, public health and safety, environmental protection, economic development, and so on. Each side is intent on securing political clout and public acceptance of its arguments.

According to the new social movements perspective, the anti-nuclear movement is one of the issues in the broader critique of political and economic systems. New social movements aim at a revolution in the principles of democratic capitalist systems, because they are critical of materialism, hierarchy and impoverishment of life under capitalism.¹³⁶ New social movements are in a struggle against prevailing political and economic systems which try to “colonize the life world.”¹³⁷ These movements aim at a fundamental restructuring of power relations in society, and anti-nuclearism is one of the means.¹³⁸

The existing literature does not contain any work that carried out a critical study of the competing discourses. At the national level, studies on the politics of nuclear power in Turkey are few: Mustafa Kibaroglu’s article titled “Turkey’s Quest for Peaceful Nuclear Energy” provides detailed analysis of the attempts for generating nuclear energy since the 1960s. The dissertation made an extensive use of

¹³⁵ Andrew Blowers, David Lowry and Barry D. Solomon eds., *The International Politics of Nuclear Waste*, London: Mac Millan, 1991, p.13-28.

¹³⁶ Offe, “New Social Movements...,” 1985; Offe, *Contradictions of the Welfare State*, 1984; Eder, “The ‘New Social Movements...’” 1985; Cohen, “Strategy or Identity...,” 1985.

¹³⁷ Habermas, “New Social Movements,” 1981, pp. 33-37.

¹³⁸ Rochon and Meyer, *Coalitions and Political Movements...*, 1997, p. 15.

the basis on the history of Turkey's nuclear energy plans. An earlier work is Ernur Erden's master thesis written in 1983, titled "Environmental Impacts of the Planned Nuclear Power Plant in Turkey"¹³⁹. The main focus is on the choice of the nuclear plant site, and the probable environmental impacts. Gökçe Berberoğlu, in *Contending Approaches to Nuclear Energy* studies the contending arguments on nuclear power, by tackling the debate on an issue basis. However, the thesis does not analyze the arguments. Gülçin Kaya looks at Turkey's road to nuclear energy and France as a model in her master's thesis.¹⁴⁰ She introduces the French model as a viable one for a country that will generate nuclear power for the first time. She compares Turkey with France from political and economic aspects, and particularly in terms of legislation which would provide the basis for legal infrastructure.

Apart from academic works, there are a few books that represent the views of the contending parties. The late Ahmed Yüksel Özemre, former Chairman of TAEK, wrote his memoirs on Turkey's plans for nuclear energy. In *Turkey's Chernobyl Conundrum*, he took the Chernobyl accident and its impacts on Turkey's pursuit of nuclear power. The public became aware of accident risk, and "radiation" was given a meaning of "lethal" regardless of scientific levels for lethality. In this sense, he drew attention to the "radiation paranoia." In *What I Suffered From the Atom!* He focused on the history of Turkey's attempts for nuclear power, and presented a critique of the anti-nuclear movement. Ali Külebi, in *Turkey's Energy Issues and the Necessity of Nuclear Power*, singles out nuclear energy as the answer to the outstanding energy issues of Turkey, and goes further to assert that it will also be

¹³⁹ Ernur Erden, *Çevre Sorunları Açısından Nükleer Enerji (Nuclear Power with respect to Environmental Problems)*, Master's Thesis, Türkiye ve Orta Doğu Amme İdaresi Enstitüsü (Turkey and the Middle East Public Administration Institute), Ankara, 1983.

¹⁴⁰ Gülçin Kaya, *Nécessité de L'exploitation Civile de L'énergie Nucléaire en Turquie, et Mise en Avant des Lacunes de Son Infrastructure Juridique (The Need for the Civilian Use of Nuclear Energy in Turkey and Highlighting the Shortcomings of Its Legal Infrastructure)*, Master's Thesis, Université Paris, Paris, 2009.

conducive for a nuclear option. The edited volume by Atilla Sandıklı and Aslı Hüseyinoğlu focuses on the relevance of nuclear energy for sustainable development.¹⁴¹ On the side of the opposition, Arif Künar's *Anti-Nuclear Stories, Don Quichottes against Akkuyu*, provides a history of the anti-nuclear movement in Turkey. In *Why No to Nuclear Power Plants?*,¹⁴² he provides the reasons behind the opposition against nuclear power. The outstanding issues are radiation and waste management, which are seen as intolerable threats to human life and the sustainability of the environment.

There is limited literature on the analysis of the opposing viewpoints on Turkey's nuclear power plans. *Environmentalism in Turkey, Between Democracy and Development?* edited by Fikret Adaman and Murat Arsel includes articles that study environmentalism and anti-nuclearism. Kamil Kaygusuz and Murat Arsel point out to two discourses on energy: Environmentalists (Greens) and Developmentalists. They find conceptual categories where these two discourses favor different policy outcomes. They are regulation, technology and political outlook. Regulation includes frameworks on energy and the goal of policy, such as state involvement and economic growth. The category of technology also has two variables: the relationship between technology and risk (such as risk avoidance versus scientific optimism), and the nature of technology implementation (such as alternative and small scale projects versus conventional and megaprojects). Political outlook includes ideology (for example human rights versus nationalism and sovereignty) and gains in international relations (win-win or zero-sum).

Accordingly, Environmentalists favor environmental protection, small-scale energy projects in order to avoid risks to the environment. They uphold

¹⁴¹ Atilla Sandıklı and Aslı Hüseyinoğlu eds., *Sürdürülebilir Kalkınma için Nükleer Enerjinin Önemi (The Significance of Nuclear Energy for Sustainable Development)*, İstanbul: TASAM, 2006.

¹⁴² Arif Künar, *Neden Nükleer Santrallere Hayır?* Ankara: EMO, 2006.

multiculturalism and universal human rights, and believe that energy politics should be based on international cooperation with an increasing role for non-state actors. Developmentalists, on the other hand, prefer market-based mechanisms for regulation, and uphold economic growth. They believe that development is based on technological and scientific progress, thus they are more willing to take risks than Environmentalists. At the ideational level, megaprojects, such as hydroelectrical power plants and nuclear power plants symbolize the power of the state.¹⁴³

The dissertation also notices that the proponents favor development, and the opponents take the environment as their priority. However, discursive analysis of the arguments provides findings that have a larger explanatory power on how the two sides attain different policy prescriptions. The analysis also reveals a further difference within the opposition, namely between Environmentalist and Anti-nuclearists, as opposed to Kaygusuz and Arsel's depiction of a single standpoint on the part of the opposition.

Çiğdem Adem, in "Non-State Actors and Environmentalism," looks at the environmental movements in the historical timeline, and identifies four stages in the post-1980 period as: organization and institution building, social movements, professionalization and institutionalization, and internationalization and project based work.¹⁴⁴ Zülküf Aydın, in "The State, Civil Society, and Environmentalism" states that environmental activism in Turkey is on rise with the growing awareness of the environmental and social repercussions of economic policies based on growth, and the involvement of local communities in leading environmental movements, like

¹⁴³ Kamil Kaygusuz and Murat Arsel, "Energy Politics and Policy," in Fikret Adaman and Murat Arsel eds., *Environmentalism in Turkey, Between Democracy and Development?*, Aldershot and Burlington: Ashgate, 2005, pp. 159, 160.

¹⁴⁴ Çiğdem Adem, "Non-State Actors and Environmentalism" in Fikret Adaman and Murat Arsel eds. *Environmentalism in Turkey, Between Democracy and Development?*, Aldershot and Burlington: Ashgate, 2005, pp. 73, 74.

Akkuyu and Bergama. These movements put forward the demand from the state to change its policy because the development activities jeopardized the communities and the environment. Although local demands for changes in state policies received little support from the public, they have been successful to challenge the legitimacy of the states.¹⁴⁵

Aydın proposes that the state and the civil society “critically engage.” He refers to a process where they would come together and listen to each other although they may not agree on everything. The dissertation also proposes a process of dialogue to avert “absolute war.” It will fill in this process of “critical engagement” by finding the common grounds and points on which the two sides can talk on.

Gül Göktepe studied the public opinion and behavior regarding nuclear power plants in her articles “Nükleer Santrallara Karşı Kamuoyu Davranışlarının İncelenmesi (The Analysis of the Public Behavior against Nuclear Power Plants),” and “2000 yılı Amerika’da Nükleer Rönesans Dönemi, Bizde Nükleer Santral İstemezük! (The year 2000 is that of Nuclear Renaissance in the United States, [we say] ‘we do not want nuclear power plants’).” She focused on the similarities of anti-nuclear movements in Europe, the United States and Turkey, and proposed methods to cope with disinformation and misinformation.¹⁴⁶

¹⁴⁵ Zülküf Aydın, “The State, Civil Society, and Environmentalism,” in Fikret Adaman and Murat Arsel eds. *Environmentalism in Turkey, Between Democracy and Development?* Aldershot: Ashgate, 2005, p. 65.

¹⁴⁶ See Gül Göktepe, “Nükleer Santrallara Karşı Kamuoyu Davranışlarının İncelenmesi (Analysis of the Public Behavior against Nuclear Power Plants),” *The 8th Turkish Energy Congress, Presentations*, Vol. 2, Ankara, May 8-12, 2000, pp.185-197; “2000 yılı Amerikada Nükleer Rönesans Dönemi, Bizde Nükleer Santral İstemezük! (The year 2000 is that of Nuclear Renaissance in the United States, [we say] ‘we do not want nuclear power plants’),” *Dünya Enerji Konseyi Türk Milli Komitesi Enerji Dergisi (World Energy Council Turkish National Committee Journal of Energy)*, No: 33-34, February 2000, pp. 45-50.

The international bearings of the arguments will be provided in the next chapter which will provide norms and belief systems on the pursuit of peaceful nuclear power, energy security, environmentalism and anti-nuclearism.

CHAPTER IV

POWER RELATIONS AND BELIEF SYSTEMS THAT SHAPE ARGUMENTS

The conflict on the meanings of nuclear energy is an indication of power relations. This chapter aims at revealing the power relations at the international and domestic level regarding the pursuit of peaceful nuclear power. The arguments of the parties in the nuclear energy debate are in interaction with international norms of nuclear nonproliferation, the pursuit of peaceful nuclear power and energy security on the hand, and anti-nuclearism and environmentalism on the other. In this context, the chapter will also look at belief systems in terms of nuclear nonproliferation and energy security. At the international level, the nuclear nonproliferation regime legally established two categories of states as nuclear haves and nuclear have-nots. At the national level, beginning from the Republican era, development and economic growth has been seen as the main dynamics behind augmenting state power in Turkey. As a result the state is cautious to demands from the society that could slow down or prevent development projects, such as environmental protection. Universal norms on energy security are yet to be developed, because the definition of energy security is different by the main actors of the international system. The chapter will

identify power relations in terms of nuclear energy in international and national levels, then the international belief systems that affect the arguments at the domestic level.

4.1. Power Relations on Nuclear Energy

4.1.1. International level

An important feature of nuclear nonproliferation regime is the distinction between nuclear haves and have-nots. This section will find out the power relations regarding nuclear nonproliferation and the pursuit of nuclear power as to who can possess nuclear weapons, pursue nuclear energy and how they can do it.

The “truth” about nuclear weapons is that they increase the danger of nuclear war, which has catastrophic consequences. “Nuclear-weapon States” (NWS) are the legal possessors of these weapons, with the ability and the will to share the technology with “non-nuclear-weapon States.” Thus, they are positioned superior to the latter in terms of the experience and the definition of nuclear weapons in their military doctrines, that is, for defense rather than offense, and to prevent a nuclear catastrophe. The NPT strictly forbids horizontal proliferation, that is, the acquisition of nuclear weapons by non-nuclear-weapon States.

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war...Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to the Treaty, whether nuclear-weapon or non-nuclear-weapon States,...

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control

over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transfer or whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices.

Article IX

3...a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.¹⁴⁷

The drafters of the Treaty assume that “Nuclear-weapon States” are legal possessors of nuclear weapons and they hold the right to develop nuclear explosive devices, while “non-nuclear-weapon States” do not. Peaceful uses of nuclear technology should be promoted, and military uses should be prevented. By acceding to the Treaty, the latter voluntarily accept not to produce nuclear weapons. They are under the obligation to prevent diversion of nuclear technology to military purposes. Nuclear-weapon States are superior to non-nuclear-weapon States, and peaceful uses of nuclear technology are positioned superior to military use.

The International Atomic Energy Agency (IAEA) calls itself the “Atoms for peace” Agency,¹⁴⁸ referring to the US President Eisenhower’s 1953 “Atoms for Peace” speech to promote the peaceful uses of the atom. The objectives of the IAEA are stated in Article II of its Statute:

The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is

¹⁴⁷ Treaty on the Non-Proliferation of Nuclear Weapons, (Entry into force: May 5, 1970), available at: <<http://www.un.org/events/npt2005/npptreaty.html>>. (Date accessed: June 6, 2009)

¹⁴⁸ David Fischer, *History of the International Atomic Energy Agency, The First Forty Years*, Vienna: The Agency, 1997, p. 9, <http://www-pub.iaea.org/MTCD/publications/PDF/Pub1032_web.pdf>.

able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose.¹⁴⁹

Peace, health and prosperity are global needs, and atomic energy contributes to their enhancement. The IAEA is the institution to provide assistance for the development of nuclear energy, to supervise and control its use. Nuclear technology should be used for civilian purposes and not for military, because it will engender peace while diversion will lead to conflict. The Agency establishes itself as the Institution that has the authority to promote the peaceful uses, and its “public” is the “world” which will obtain peace, health and prosperity through atomic energy. It serves as the intermediary to work towards “peace” and to prevent “conflict.”

The fact that the nuclear-weapon States are also the permanent members of the UN Security Council, with veto power, institutes their status as “great powers”, and reinforces the status of “lesser powers.” “Great power” status reproduces the power of these states as they can keep control of “threats” to their national security and can allow decisions that would increase their power. The decision-making process in the UN Security Council is explained as follows:

Decisions on substantive matters require nine votes, including the concurring votes of all five permanent members. This is the rule of “great Power unanimity”, often referred to as the “veto” power. Under the Charter, all Members of the United Nations agree to accept and carry out the decisions of the Security Council. While other organs of the United Nations make recommendations to Governments, the Council alone has the power to take decisions which Member States are obligated under the Charter to carry out.¹⁵⁰

It is taken for granted that “Great Powers” have the right to veto any decision in the Security Council that does not conform with their interests, but “lesser powers” have to abide by their decision even if it is not consistent with their national interests. Great powers are equal among themselves, but superior to others. The

¹⁴⁹ “The IAEA Statute,” *IAEA*, <http://www.iaea.org/About/statute_text.html#A1.12>. (no date available at the website)

¹⁵⁰ “About the Council,” *The United Nations Official Website*, <<http://www.un.org/sc/members.asp>>, (Date accessed: November 10, 2009)

Security Council is superior to national governments and the other organs of the United Nations.

States not party to the NPT, but which possess nuclear weapons are India, Israel and Pakistan. North Korea withdrew from the Treaty in 2003 and carried out a nuclear test in 2006. The international community is also concerned about Iran's uranium enrichment program. The international discourse categorizes these states by calling on the first group to accede to the Treaty while acknowledging the reasons behind their possession of nuclear weapons. On the other hand, Iran and North Korea are referred to as "rogue states" or "states of concern," seeking nuclear weapons capability, hence threatening international peace and security. The following excerpts are chosen from the UN and IAEA, and Non-governmental organizations (NGOs) focusing on nuclear nonproliferation and disarmament.

India regards its nuclear and long-range power projection programs as instruments for maintaining strategic stability in the Asia-Pacific region. These capabilities support New Delhi's claims to great power status, while also demonstrating that India's technical prowess is equal to that of developed countries'. Meanwhile, India continues to reject the existing nuclear nonproliferation regime on the grounds that it perpetuates an unjust distinction between a small group of states that are allowed nuclear weapons, and the rest of the world's states that are denied this right. India has also been highly critical of the nuclear weapon states' failure to meet their nuclear disarmament commitments.¹⁵¹

It is assumed that stability in the Asia-Pacific is necessary. India's nuclear capabilities are "legitimate" because it gives India the capability to "project power," in order to maintain stability in the region. These "power projection programs" are nuclear weapons and long-range missiles, and they provide prestige and reinforce India's status. It is recognized that the NPT legalizes inequality between states, and India falls at a disadvantage because it did not acquire its capability before 1967 although it could be presumed as a great power. While India maintains nuclear

¹⁵¹ "India Profile," *Nuclear Threat Initiative*, February 2010, <http://www.nti.org/e_research/profiles/India/index.html>.

capability, they are for defensive purposes and New Delhi supports the disarmament goal of the regime. India's nuclear weapons and long-range missiles are predicated as "instruments for maintaining strategic stability," which "support its claims for great power status," and equate its technological development level with those of the developed countries.

This agreement is an important step towards satisfying India's growing need for energy, including nuclear technology and fuel, as an engine for development. It would also bring India closer as an important partner in the non-proliferation regime... It would be a milestone, timely for ongoing efforts to consolidate the non-proliferation regime, combat nuclear terrorism and strengthen nuclear safety... The agreement would assure India of reliable access to nuclear technology and nuclear fuel. It would also be a step forward towards universalization of the international safeguards regime... This agreement would serve the interests of both India and the international community.¹⁵²

The agreement between the United States and India was seen as a double-standard, because India as a country possessing nuclear weapons but not a party to the NPT receives nuclear technology and fuel from the United States, the leader of the nuclear nonproliferation efforts. Baradei assumes that the rationale of technological cooperation with India is to promote nuclear power, which he predicates as "engine for development." An India out of the regime is more dangerous, and cooperation will help the international community to keep control of the country and the technology. Thus, he constitutes the agreement "beneficial" and "in accordance" with nuclear nonproliferation goals.

Pakistan embarked on a nuclear weapon program in the early 1970s after its defeat and break up in the Indo-Bangladesh war of 1971. Islamabad regards nuclear weapons as essential to safeguard the South Asian balance of power and offset its conventional inferiority and lack of strategic depth against India. The technological complexity associated with nuclear weapons and their systems of delivery is also closely tied to Pakistan's post-colonial identity as the first Muslim nation to have acquired such a capability.¹⁵³

¹⁵² "IAEA Director General Welcomes U.S. and India nuclear deal," Press Release 2006/05, *IAEA*, March 2, 2006, <<http://www.iaea.org/NewsCenter/PressReleases/2006/prn200605.html>>.

¹⁵³ Pakistan Profile, *Nuclear Threat Initiative*, February 2010, <http://www.nti.org/e_research/profiles/Pakistan/index.html>.

It is necessary to maintain the balance of power in South Asia, where Pakistan's acquisition of nuclear weapons came as a response to India. Pakistan was a former colony and is a Muslim nation, which are regarded as secondary in status. Therefore, nuclear capability increased its status. In this context, nuclear weapons became the element of security and stability rather than threat.

Whether and to what extent Pakistan's current expansion of its nuclear weapons-related facilities is a response to the 2008 U.S.-India nuclear cooperation agreement is unclear. Islamabad does not have a public, detailed nuclear doctrine, but its "minimum credible deterrent" is widely regarded as primarily a deterrent to Indian military action.¹⁵⁴

It is assumed that Pakistan's expansion of facilities related to the development of nuclear weapons is acceptable. It could be a reaction to the relative increase in India's power. Pakistan's nuclear capability is acceptable because it is regarded as a deterrent to India's capability, and maintains stability.

Situated in a high conflict region, Israel possesses advanced conventional military forces, including offensive and defensive missile capabilities. Israel is widely understood to possess nuclear weapons. Unconfirmed allegations, mostly by neighboring states, suggest that Israel may possess chemical and/or biological weapons.¹⁵⁵

It is presumed that Israel is already under intense security threat which necessitated the development of advanced military capabilities as well as those for offensive purposes to ensure its security. However, Israel has not declared its nuclear weapons possession. Neighboring states to Israel do not acknowledge Israel's security and threat perceptions. The former are positioned inferior to Israel, because they make allegations against Israel without tangible proof.

As we face the future, other strategies must be found to enlist Pakistan and Israel as partners in nuclear arms control and nonproliferation. Whatever form those

¹⁵⁴ Paul K. Kerr and Mary Beth Nikitin, *Pakistan's Nuclear Weapons: Proliferation and Security Issues*, CRS Report for Congress, December 9, 2009, <<http://fas.org/sgp/crs/nuke/RL34248.pdf>>.

¹⁵⁵ "Israel Profile," *Nuclear Threat Initiative*, January 2010, <http://www.nti.org/e_research/profiles/Israel/index.html>.

solutions take, they will need to address not only nuclear weapons but also the much broader range of security concerns facing each country.¹⁵⁶

El Baradei takes it for granted that Pakistan and Israel had to develop nuclear capabilities as a consequence of the security issues in their region, and they do not pose a threat to international peace and security. To the contrary, they should be included in arms control and nonproliferation efforts, through strategies in various forms, which aim at addressing regional security issues in order to start de-nuclearization.

Iran has been a non-nuclear weapon state party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) since 1970, and has possessed a nuclear program for more than fifty years, ostensibly for peaceful purposes. The nuclear program has advanced significantly in the past decade with Iran's decision to enrich its own uranium. Tehran's refusal to halt uranium enrichment and its insistence on developing all aspects of the nuclear fuel cycle has invited intensified international pressure and led many states to worry that Iran's true intention is to acquire nuclear weapons.¹⁵⁷

Iran agreed on a work plan to address all outstanding issues, with a defined timeline, which was an important step in the right direction... The earlier we move from confrontation and distrust, to dialogue and confidence-building, the better for Iran and for the international community.¹⁵⁸

Iran's nuclear program has long been understood to be peaceful. The decision to have an independent uranium enrichment program is doubtful. It is presumed that when the international community expressed concern, Iran should have halted the program. Iran cannot and must not acquire nuclear weapons, because it is a NNWS Party to the NPT. "Insistence" on the development of a full nuclear fuel cycle constitutes Iran as a dissenter within the community, because once a country becomes self-sufficient in critical nuclear technology, what it takes is the political decision to go nuclear. The "insistence" is equated with a malign "intention" to

¹⁵⁶ Mohamed El Baradei, "Rethinking Nuclear Safeguards," *The Washington Post*, June 14, 2006, <<http://www.washingtonpost.com/wp-dyn/content/article/2006/06/13/AR2006061301498.html>>.

¹⁵⁷ "Iran Profile," *Nuclear Threat Initiative*, March 2010, <http://www.nti.org/e_research/profiles/Iran/index.html>.

¹⁵⁸ "Board of Governors Consider Safeguards Implementation in Iran," Staff Report, *IAEA*, September 12, 2007, <<http://www.iaea.org/NewsCenter/News/2007/bog121007.html>>.

pursue a nuclear weapons capability. The IAEA Chairman's remarks presume that it is the international community and the IAEA which is above individual states, and the latter should follow the directions determined by the community. Iran and the international community have been in confrontation, and the right way to move forward is Iran's agreeing to discuss halting the uranium enrichment program along with confidence-building measures. Iran's forgoing of its enrichment program is beneficial for the international community. The international community and the IAEA are positioned superior to Iran and its will. "We" denotes the IAEA which reinforces its position as the mechanism to verify states' compliance with the Treaty, and serving as the forum for negotiation.

North Korea has tested a nuclear explosive device and has deployed short-range and medium-range ballistic missiles. The Democratic People's Republic of Korea (DPRK), the official name of the North Korean regime, conducted cruise missile tests in 1994, 1997, 2003, and 2007 and medium and intermediate-range ballistic missile tests in 1993, 1998, 2006 and 2009. North Korea's 2006 test of the long-range Taepodong 2 (also referred to as the Paektusan-2) failed less than a minute after its launch. In what was seen as defiance of UN resolutions passed after the 2006 missile test, on 5 April 2009, North Korea once again tested a long-range missile, claiming it was a satellite launch. Launch of the three-stage rocket was seen as a technical failure with the first stage splashing down in the water between the Korean peninsula and Japan and the remaining stages, along with payload, falling into the Pacific Ocean. ... concerns remain over the DPRK's ambition for an intercontinental ballistic missile, particularly due to its nuclear aspirations and its role as a leading exporter of ballistic missile technology. (...) North Korea [tested] a nuclear device..on 9 October 2006...after Pyongyang withdrew from the Treaty on the Nonproliferation of Nuclear Weapons (NPT) in January of 2003. Six-Party Talks between North Korea, South Korea, Japan, China, Russia, and the United States began in 2003 to quell North Korea's nuclear ambitions.¹⁵⁹

The word "regime" indicates the assumption that the state in North Korea is failed or undemocratic, which tries to sustain the status quo. Despite the several tests, its long-range missile program was a failure. "Less than a minute," "splashing down in the water," and "falling into Pacific Ocean" emphasize technological failure. States in "defiance" of the decisions taken by international community are not

¹⁵⁹ "North Korea Profile," *Nuclear Threat Initiative*, March 2010, <http://www.nti.org/e_research/profiles/NK/index.html>.

acceptable. This phrase constructs DPRK as the “other.” Its nuclear ambitions should be repressed, but even the leading states of nonproliferation regime could not convince DPRK. Thus, it is a “rogue state.”

[The DPRK’s test] create[s] tension in the region [and] will also pose serious implications to peace and security on the regional and global level...[It is in] flagrant violation of the Security Council Resolution 1718 which demanded that the country] not conduct any further nuclear test or launch of a ballistic missile. (...)All these experiences, and my direct involvement, made me feel much more frustrated by the lack of control as to the denuclearization process, as had been agreed in the Six-Party joint statement.¹⁶⁰

The UN Secretary General, Ban Ki-Moon, assumes that nuclear proliferation is a serious threat to international and regional peace and security, and the Security Council resolutions override national policies. He constitutes the DPRK as a country which is out of control and which does not abide by the decisions of the Security Council. So, its nuclear test is a demonstration of its defiance to the international community and to international and regional actors that were involved in Six-Party talks.

The above analysis suggests that there is a hierarchy not only between nuclear-weapon states and non-nuclear-weapon states, but also among “nuclear-haves” (the P-5 and non-NPT nuclear weapon possessors). There is a further hierarchy between non-NPT states: While the nuclear capability of Israel, India and Pakistan are legitimized through various reasons, Iran and North Korea are presented as “out of the community” mainly due to “irrational leadership.” What determines the “rationality” of a government on the meaning and use of nuclear weapons is basically domestic politics, type of state, and so on... Accordingly, autocratic regimes will be more inclined to use force, because decision-making processes will

¹⁶⁰ “DPR Korea’s nuclear test threatens global disarmament efforts, Ban warns,” *UN News Service*, May 27, 2009, <<http://www.un.org/apps/news/story.asp?NewsID=30930&Cr=dprk&Cr1>>.

miss checks and balances against “irrational” individual or bureaucratic decision-making.

While the nuclear nonproliferation norm stresses that nuclear proliferation is a threat to peace and security, it acknowledges the existence of nuclear weapons at the hands of nuclear-weapon states as an element of security and stability, because they sustain the balance between great powers. The nonproliferation bargain involves the commitment of nuclear-weapon states for the total elimination of nuclear weapons. The assumption is that the threat is “horizontal proliferation” which refers to the acquisition of nuclear weapons by a state that did not have these capabilities before. Similarly, the increase in the quantity and quality of nuclear weapons, that is, “vertical proliferation” poses a challenge to the regime. In fact, increasing doubts on the nonproliferation bargain led non-nuclear-weapon states to adopt a resolution in 2008 for a “renewed determination towards the total elimination of nuclear weapons.”¹⁶¹

The General Assembly...

Stresses the necessity of a diminishing role for nuclear weapons in security policies to minimize the risk that these weapons will ever be used and to facilitate the process of their total elimination, in a way that promotes international stability and based on the principle of undiminished security for all;...

Non-nuclear-weapon states express their discomfort with the increasing role of nuclear weapons and the utility assigned to them in the security doctrines. Small powers view nuclear programs in the context of scientific and technological development:

The General Assembly... (...)

5. Considers the Israeli act of aggression to be a violation and a denial of the inalienable sovereign right of States to scientific and technological progress for

¹⁶¹ “Renewed determination towards the total elimination of nuclear weapons,” United Nations General Assembly Resolution (adopted on the report of the First Committee A/63/389) 63/73, December 2, 2008, <<http://ods-dds-ny.un.org/doc/UNDOC/GEN/N08/475/17/PDF/N0847517.pdf?OpenElement>>.

achieving social and economic development and raising the standards of peoples and the dignity of the human person, as well as a violation and denial of inalienable human rights and the sovereign right of States to scientific and technological development.¹⁶²

Having in mind the increasing significance of nuclear energy for economic development, and in particular, its important role in accelerating the development of the developing countries,...¹⁶³

Reaffirms its strong support for the indispensable role of the Agency in encouraging and assisting the development and practical application of atomic energy for peaceful uses, in technology transfer to developing countries and in nuclear safety, verification and security...¹⁶⁴

4.1.1.1. Turkey: A NNWS with nuclear power plans

Turkey's nuclear energy plans are evaluated within the international framework, as its neighbor, Iran, is under scrutiny because it "insists" on not ratifying the IAEA Additional Protocol. Turkey's security concerns and the extent to which it motivates the country to revise its decision are assessed together with the timing of the nuclear energy program. Although domestic politics in Turkey have less in common with Iran than with Europe, the history of the country and the issues with its democracy induce caution on the part of international actors.

Any measures designed to enhance the credibility of NATO, the United States, and the European Union as reliable underwriters of Turkish national security will work to diminish the risk of a Turkish decision to acquire nuclear weapons...if Iran were to acquire nuclear weapons capability, the impact on Turkey would be powerful.¹⁶⁵

...Turkey's [non-nuclear-weapon-state] status was contemplated as an asset rather than a deficiency...if the international community would sink into acquiescence

¹⁶² "Armed Israeli aggression against the Iraqi nuclear installations and its grave consequences for the established international system concerning the peaceful uses of nuclear energy, the non-proliferation of nuclear weapons and international peace and security," United Nations General Assembly decision 37/18, November 16, 1982, available at: <www.un.org/documents/ga/res/37/a37r018.htm>.

¹⁶³ "Peaceful use of nuclear energy for economic and social development," General Assembly decision 34/63,

82nd Plenary meeting, November 29, 1979, <www.un.org/documents/ga/res/34/ares34.htm>.

¹⁶⁴ "Report of the International Atomic Energy Agency," General Assembly Resolution 63/6, 32nd Plenary Meeting, October 27, 2008, <<http://www.undemocracy.com/A-RES-63-6.pdf>>.

¹⁶⁵ Leon Fuerth, "Turkey: Nuclear Choices amongst Dangerous Neighbors", in Kurt M. Campbell, Robert J. Einhorn and Mitchell Reiss eds., *The Nuclear Tipping Point, Why States Reconsider Their Nuclear Choices*, Washington, D.C.: Brookings Institution Press, 2004, p. 167.

after the acquisition of nuclear weapons [by Iran], and the withdrawal from the Treaty [by North Korea], that would affect the norms of the regime: Possession of nuclear weapons would be considered as an act that could go with impunity, and non-possession as a security deficiency.¹⁶⁶

In 1981, the United States expressed concerns about a Turkish- Pakistani alliance on the grounds of alleged shipments from Turkey to Pakistan of strategic material with potential nuclear weapons implications. The United States feared that Turkey's help would enable Pakistan go ahead with its quest for uranium enrichment technology.¹⁶⁷ Western countries feared that Turkey would do what Pakistan did—modify the technology to gain the capability to build an atomic bomb.¹⁶⁸

It is inferred that Turkey's nuclear motivations will be the result of a number of factors, but mainly that of the perception that its current status has become a security deficit. When other factors, such as NATO, the US commitment and the EU membership prospect erode, the utility of nuclear weapons will increase as tools to boost power or to make up the power gap; that is, to address the security dilemma due to Iran and the changing balances in the region. The risk of nuclear proliferation was perceived with regard to the connections with Pakistan, and the involvement of Turkish entities in proliferation-related trade.¹⁶⁹

The international community does not view proliferation by a country on an individual basis but with the regional consequences as it triggers security dilemma. The concern is a domino effect in a region, where states would engage in a re-assessment of their position. What is at stake would be international nonproliferation regime. Put differently, if the ideational power provided by the “non-nuclear-weapon State status” and by the commitment to the regime –which guarantee the “acceptability” of the state within the “community,” and contribute to its security-, crumbles, this status would cease to be a constraint to proliferate, and would rather

¹⁶⁶ Şebnem Udum, “Turkey’s Non-Nuclear-Weapon-State Status: A Theoretical Assessment,” *ISYP Journal on Science and World Affairs*, Vol. 3, No. 2, 2007, pp. 53, 56.

¹⁶⁷ Mustafa Kibaroglu, “Turkey’s Quest for Peaceful Nuclear Power,” *The Nonproliferation Review*, Vol. 4, No. 3, Spring/Summer 1997, , p. 35.

¹⁶⁸ “Canadian Firm Drops Bid to Build Nuclear Plant,” *Nuclear Developments*, February 25, 1988, p. 39, cited in Kibaroglu, “Turkey’s Quest...,” 1997, p. 36.

¹⁶⁹ Kibaroglu, “Turkey’s Quest...,” 1997, pp. 34, 35.

become a motivation to go nuclear, hence diminish the security of the “great powers.”

The (in)security dilemma is used widely in the discourses of those who favor Turkey’s acquisition of nuclear weapons: They construct Turkey as a country “under threat” or a “second-tier” country, because it is a “Muslim country” which is kept “second-tier” on purpose. Nuclear weapons capability would make up the “security gap” and meet two goals, that is, enhancing the material power of the state vis-à-vis its neighbors, and ideational power by making Turkey a “first-tier” country. It will be studied in detail in the following chapters.

4.1.2. Power relations at the national level

This section will look at the power relations at the national level in terms of environmental protection and the ensuing opposition to nuclear power. Political parties, trade unions and chambers which are mainly located at the left of the political spectrum, subscribed to environmentalist and anti-nuclear arguments, and criticized the policies of the governments regarding their choice of nuclear energy. The opposition to nuclear power widened to include several civil society groups as a result of the activities and protests of the environmental organizations, and particularly after the arrival of Greenpeace in Turkey. Thus, this section will focus on state-civil society relations to see the latter’s effectiveness in policymaking.

4.1.2.1. The significance of development and economic growth for the state

Capitalism, Westernization and environmentalism are the three major forces that shape environmental politics in Turkey.¹⁷⁰ The Turkish state applied economic models based on capitalism since its inception, and it dictates economic growth-which is also the basis of “development” as a national goal. Westernization demands social and cultural modernization. Inevitably, it requires openness to outside influences, and reform when necessary. Environmentalism does not reject development, but upholds “weak sustainable development” where natural capital should be substituted substantially by human-made capital.¹⁷¹

Development and economic growth in Turkey, are national aspirations: At the ideational level, it legitimizes the state. At the practical level, it is equated with catching up with “contemporary civilization,” which is the cornerstone of national identity. This understanding assumes that it is the state that applies tasks for development for the society, and they are in cooperation.¹⁷² The state has been ineffective to balance the aims of economic development with the environmental problems it engenders, due to the treatment of the environment as a resource to be exploited. Since the Republican period, modern Turkey sought to promote industry and accumulation of capital, and until the 1980s, “Developmentalism” was the

¹⁷⁰ Fikret Adaman and Murat Arsel, “Development and Democratization in an Era of Environmental Crisis,” in Fikret Adaman and Murat Arsel eds., *Environmentalism in Turkey, Between Democracy and Development?* Aldershot: Ashgate, 2005, p. 295.

¹⁷¹ Ibid, pp. 295, 296.

¹⁷² Adaman and Arsel, “Development and Democratization in an Era of Environmental Crisis,” 2005, p. 293.

preferred mode of capital accumulation and industrialization. Development was equated with economic growth at any expense.¹⁷³

Economic growth, integration with the European security system and alliances were the main aims of the newly established Turkish state. Integration with the European security system has been pursued since the Ottoman period, and was almost interchangeably referred to as Westernization, Europeanization and modernization. The aim was not limited to merely catching up with the West in military and economic terms, but aligning with the political and social system to the level of “contemporary civilization.” It was perceived that as long as the new country and the new nation remained “backward,” it could not preserve its unity and integrity within its borders, or ensure external security. Therefore, Westernization was perceived as a security strategy to guarantee the survival of the state.¹⁷⁴

Regarding energy policy, the dominant discourse has been “energy independence,” that is to say, increased domestic production.¹⁷⁵ This strategy is based on Realpolitik view of international trade, which assumes dependency as a “security problem.” According to this view, energy is part of the geostrategic competition, and it is a zero-sum game. Therefore, control of energy resources gives the exporting country strategic advantage. In the post-Cold War period, the transportation of energy resources from the Middle East and Central Asia through

¹⁷³ Zülküf Aydın, “The State, Civil Society, and Environmentalism,” 2005, pp. 61, 64, 67.

¹⁷⁴ See Ali L. Karaosmanoğlu, “The Evolution of the National Security Culture and the Military in Turkey,” *Journal of International Affairs*, Vol. 54, No. 1, 2000, pp. 199-217; Mustafa Aydın, “The Determinants of Turkish Foreign Policy, and Turkey's European Vocation,” *Review of International Affairs*, Vol. 3, No. 2, 2003, pp. 306-331.

¹⁷⁵ “Enerji (Energy)/ AKP Parti Programı (The Party Program of the AKP),” *AKP*, <http://www.akparti.org.tr/3-10-enerji-_79.html?pID=23>, (Date accessed: January 20, 2010); *Çağdaş Türkiye için Değişim (Change for a Modern Turkey), CHP Parti Programı (CHP Party Program)*, 2008, p. 195, 196, available at: <<http://www.chp.org.tr/Files/chpprogram.indd.pdf>>; “Değişen Dünya ve Türkiye, DSP'nin Güncellenen Programı (Turkey and the Changing World, The Updated Party Program of the DSP),” *DSP*, 2003, <<http://www.dsp.org.tr/dsp/Tarihçe/PartiProgramı/GüncellenenPartiProgramı/tabid/81/Default.aspx>>; *MHP Parti Programı (The MHP Party Program)*, November 8, 2009, p. 78, available at: <http://www.mhp.org.tr/kitaplar/mhp_parti_programi_2009_opt.pdf>.

interconnected pipelines highlighted the need for integrating market mechanisms with energy production. This new policy direction has not totally replaced the “energy independence” approach, but it involves the logic of “energy interdependence.”¹⁷⁶ Energy policies in line with sustainable development is not likely to create antagonism between state and the society, which are indispensable for environmental politics; however, the challenge lies in integrating the commitment to development with an emphasis on environmental protection.¹⁷⁷

As Turkey prioritized industrialization and capital accumulation over environmental problems, it curtailed its ability to address environmental issues and implement environmental laws, rules and regulations. The state could not adopt effective monitoring and enforcement measures despite the enactment of legislation as a result of increasing environmental problems and international pressures. Environmental issues were tackled independently from development until the late 1980s and early 1990s. However, after 1990s, both environmental NGOs and the state considered environment and development issues together, particularly as a result of the “sustainable development” concerns of international organizations.¹⁷⁸

The concept of “sustainable development” was internationally recognized for the first time in 1992 United Nations Conference on Environment and Development (UNCED) in Rio, Brazil. The concept refers to the use of resources for economic development in such a way that these resources and the environment will be protected for the benefit of future generations:

In simple terms, sustainable development means integrating the economic, social and environmental objectives of society, in order to maximize human well-being in the present without compromising the ability of future generations to meet their needs. This requires seeking mutually supportive approaches whenever possible,

¹⁷⁶ Kaygusuz and Arsel, “Energy Politics and Policy,” 2005, pp. 149-150.

¹⁷⁷ Adaman and Arsel, “Development and Democratization in an Era of Environmental Crisis,” 2005, pp. 293-297.

¹⁷⁸ Aydın, “The State, Civil Society, and Environmentalism,” 2005, pp. 61, 64.

and making trade-offs where necessary. For developing countries, and for development co-operation, reducing poverty and meeting the International Development Goals are imperatives — within the broad context of sustainable development — for this generation.¹⁷⁹

However, Türkel Minibaş observed that the targets of sustainable development could not compete with the priorities of the market economy and the capabilities of transnational capital, such as the use of cheap raw material and resources overseas, and the diminished effectiveness of the state to control investments. Therefore, the meaning of sustainable development was transformed into “the sustainability of resources for maximum profit.”¹⁸⁰ Greenpeace, one of the leading environmental organizations, foresaw this transformation when they expressed their dissatisfaction with the Rio Conference by saying that the planet was “sold out” to vested interests, and that the measures would not change the system.¹⁸¹

Environmental movements in Turkey are newly developing.¹⁸² The limited development of the civil society was attributed to the “strong state” tradition inherited from the Ottoman past.¹⁸³ The centralized bureaucratic élite have prevented activities which are outside the domain of the state, but which could exert pressure on the state. However, Z. Aydın argues that this view only provides a partial explanation to the failure of the civil society to reach full maturity in Turkey. He argues that after the establishment of the Turkish Republic, the state has not had a

¹⁷⁹ *The DAC Guidelines: Strategies for Sustainable Development: Guidance for Development Cooperation*, Paris: OECD, 2001, p. 11, <<http://www.oecd.org/dataoecd/34/10/2669958.pdf>>.

¹⁸⁰ Türkel Minibaş, “Sürdürülebilir Kalkınma ve Etkileri (Sustainable Development and its Effects),” December 14, 2002, Annexed to *Çevre ve Sürdürülebilir Kalkınma Tematik Paneli, Vizyon ve Öngörü Raporu*, (*Environment and Sustainable Development Thematic Panel, Vision and Prospects Report*), 2003, <http://www.tubitak.gov.tr/tubitak_content_files/vizyon2023/csk/EK-15.pdf>.

¹⁸¹ “The Lessons of History: Stalled on the Road from Rio to Johannesburg,” *Greenpeace*, January 2002, <<http://archive.greenpeace.org/earthsummit/docs/forward.pdf>>.

¹⁸² Zülküf Aydın, “The State, Civil Society, and Environmentalism,” 2005, p. 65.

¹⁸³ Metin Hepar, “The Strong State as a Problem for the Consolidation of Democracy, Turkey and Germany Compared,” *Comparative Political Studies*, Vol. 25, No. 2, 1992, pp. 169-194; Ergun Özbudun, “The Ottoman Legacy and the Middle East State Tradition,” in L. Carl Brown ed., *Imperial Legacy: The Ottoman Imprint on the Balkans and the Middle East*, New York: Columbia University Press, 1996, pp. 137-157; Binnaz Toprak, “Civil Society in Turkey,” in A. Richard Norton ed., *Civil Society in the Middle East*, Leiden: E.J. Brill, 1996, pp. 87-118.

rigid position toward the civil society. Instead, the degree of its flexibility depended on political, economic and social factors in different periods. The import substitution period (1950s-1970s), military interventions and the state principle of preserving the unitary state prevented the development of civil society organizations based on class, ethnicity or religion.¹⁸⁴

Turkey's integration with the global economy changed the nature of the Turkish bourgeoisie and the pattern of capital accumulation since 1980. The outward-looking economic system engendered a new bourgeoisie which started to endorse a liberal perspective on the role of the state. Consequently the pluralistic language of liberalism paved the way for freedom of expression and organization, and strengthened civil society in Turkey:¹⁸⁵

The neo-liberal view of the state gained ascendancy in the post-1990. According to this view, without personal and associational freedoms, and without the curtailment of state interference in economic life, development could not be possible. Turkey's severe economic problems, its dependence on continued foreign aid and finance, and the declaration that membership of the EU would be a savior from the economic and political ills by the Turkish bourgeoisie, persuaded the nationalist and *étatist* elements within the state to ease their grip on civil rights.¹⁸⁶

Integration with the world economy and Turkey's EU membership prospect required the retreat of the state from economic and social affairs. In this sense, the bourgeoisie upheld liberalization of economic, social and political life through which they saw better prospect for everyone concerned. Aydın calls it the bourgeoisie's new modernization project.¹⁸⁷ One can conclude that, the state will tend to be more flexible towards demands if they would contribute to the "modernization" of Turkey, because eventually, it would result in development.

¹⁸⁴ Zülküf Aydın, "The State, Civil Society, and Environmentalism," 2005, pp. 57-58.

¹⁸⁵ Ibid, p. 58.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid, p. 59.

“Modernization” is a key term for development and economic growth. Adaman and Arsel derive from this link that the nation is assumed to be “backward,” and the modernization process is not merely that of catching up with a developmental target, but one that is expected to clear the vagueness of the country’s geography and that would render it authentically “European.”¹⁸⁸ The transition from the Ottoman Empire to the Turkish Republic placed Westernization at its core, not to become “western” but to maintain the survival and strength of the state.¹⁸⁹ Modernization was defined by the application of modern science and technology to economic processes, through which Europe achieved progress and advanced industries. In this sense, modernization policies in Turkey upheld the type of economic development which subjugated nature in the name of national progress.¹⁹⁰

The understanding that development would come with rapid economic growth which is essential for progress was not challenged by different ideologies except environmentalism, which problematized the implicit link between economic growth, societal development and national progress.¹⁹¹ The more powerful the environmental civil society challenges the legitimacy of the state, the more the state will take notice of their demands. Aydın evaluates that the state includes environmental issues in the agenda as a public relations exercise, or to maintain its image as a country that cares about environmental issues in international agencies or conferences.¹⁹²

¹⁸⁸ Fikret Adaman and Murat Arsel, “Globalization, Development, and Environmental Policies in Turkey”, in T. Çetin and F. Yılmaz eds., *Understanding the Process of Institutional Change in Turkey: A Political Economy Approach*, New York: Nova, forthcoming.

¹⁸⁹ See Şerif Mardin, *The Genesis of Young Ottoman Thought*, Princeton: Princeton University Press, 1962.

¹⁹⁰ Arsel, “Reflexive Developmentalism? ...,” 2005, pp. 16, 17.

¹⁹¹ Ibid, pp. 21, 22.

¹⁹² Aydın, “The State, Civil Society, and Environmentalism,” 2005, p. 68.

4.1.2.2. Environmentalism

Between the early 1970s and late 1990s, international development agencies, like the World Bank, promoted the ideology of “small is beautiful,” and it coincided with the trend to increase the level of productivity with small-scale farming instead of giant projects for development. Environmental activism in Turkey gained pace with the growing awareness on the environmental and social repercussions of economic policies based on growth, and the involvement of local communities in leading environmental movements, like Akkuyu and Bergama. These movements expressed the demand for policy change, because the development activities jeopardized the communities and the environment. Although local demands received little support from the public, they have been successful to challenge the legitimacy of states.¹⁹³

In the pre-1980 period, environmental movements were in their embryonic stage. Çiğdem Adem identifies four stages in the post-1980 period, as: organization and institution building, social movements, professionalization and institutionalization, and internationalization and project based work.¹⁹⁴ Notable in the organization and institution building phase are the activities of the Green Party, established in 1988. Its existence encouraged activities against Akkuyu nuclear power plant and the Aliağa thermal power plant.¹⁹⁵ This period witnessed the development of institutional and legislative bases of environmental protection: The 1982 Constitution enshrined articles on the preservation of the environment. Most notably, Article 56 provided everyone the right to live in a healthy and sustainable

¹⁹³ Ibid, pp. 62, 65.

¹⁹⁴ Adem, “Non-State Actors and Environmentalism,” 2005, pp. 73, 74.

¹⁹⁵ Melih Ergen, *Yeşiller Partisinin Olmayan Tarihi (The Nonexistent History of the Green Party)*, İzmir: Ege Yayıncılık, 1994.

environment, and stipulated that environmental duties and obligations apply to the State and the citizens alike.¹⁹⁶

In the social movements stage, the dominant theme of environmental action was energy-related issues. These energy debates helped politicize environmental movements, which marked a significant shift from the apolitical environmentalist and nature-conserving approach in the 1970s and early 1980s. This feature attracted people interested in politics and conscious of their environment as well as organizations without environmental expertise, like labor unions and chambers. The anti-nuclear platform (ANP) was formed in this period, in 1993, and consisted of labor unions, professional organizations including national and local NGOs.¹⁹⁷ The ANP became the Platform for Anti-Nuclear Cooperation in 2000, and functioned until the tender for nuclear power plant was postponed in July 2000.¹⁹⁸ In the professionalization and institutionalization phase, environmental activism was taken by the media, management consultants and policy experts financed by organizations like Greenpeace and World Wildlife Fund (WWF).¹⁹⁹ The revival of plans for the establishment of the Akkuyu nuclear power plant during the Erdoğan government, which presented a more vigorous project for nuclear energy, suggests that the anti-nuclear coalition has not been effective to revert the policy decision.

Civil society organizations emerging after 1980s expanded the space for mobilization and civil initiative, some of which were linked to transnational

¹⁹⁶ The Constitution of the Republic of Turkey, 1982, Part III, Article 56, available at: <<http://www.tbmm.gov.tr/anayasa.htm>>.

¹⁹⁷ Arif Künar, *Akkuyu Nükleer Santral Projesi, Sorular ve Cevaplar (Akkuyu Nuclear Power Plant Project, Questions and Answers)*, Special Report, EMO, December 1999.

¹⁹⁸ Adem, "Non-State Actors and Environmentalism," 2005, pp.76-77.

¹⁹⁹ Andrew Jamison, "The Shaping of the Global Environmental Agenda: The role of non-governmental organizations," in Scott Lash, Bronislaw Szerszynski and Bryant Wynne eds., *Risk, Environment and Modernity*, London, California: Sage Publications, 1996, pp. 224-245, cited in Adem, "Non-State Actors and Environmentalism," 2005, p. 78.

networks and NGOs.²⁰⁰ The Turkish environmental groups recognized, as their transnational counterparts, that environmental problems were not national but global in scale. Thus they could not be tackled by the nation state, and should be addressed at local, national and international levels.²⁰¹ They cooperated with them, and used similar pressure methods to be effective on governments.²⁰²

Transnational networks could be founded by economic actors and businesses, scientists who want to affect policy making, or by activists who seek to make their voices heard on a specific issue.²⁰³ Transnational networks are useful in providing information, and supporting their members with well-defined goals. What they use is “information politics,” that is, activists make use of the information networks, become a powerful actor vis-à-vis their contenders. The networks can increase their effectiveness with the help of the activists who defend their interests against their opponents.²⁰⁴

Transnational environmentalist organizations, like Greenpeace, seek to raise awareness at the individual level to challenge policies at the national level, which are deemed harmful to the environment. It was not until the arrival of the Greenpeace in 1992 that the first systematic anti-nuclear transnational network was established in Turkey. Scientists, activists, and artists principally from Germany, Canada, Sweden and Australia formed the other external links of the movement. They made use of the experiences of the Chernobyl nuclear accident and the atomic bombs dropped on Japan during World War II, to support their arguments that nuclear reactors are lethal for humans and environment. The most popular groups in the network are

²⁰⁰ Zeynep Kadirbeyoğlu, “Assessing the Efficacy of Transnational Advocacy Networks,” in Fikret Adaman and Murat Arsel eds., *Environmentalism in Turkey, Between Democracy and Development?* Aldershot: Ashgate, 2005, p. 101.

²⁰¹ Aydın, “The State, Civil Society, and Environmentalism,” 2005, pp. 66-67.

²⁰² Kadirbeyoğlu, “Assessing the Efficacy of Transnational Advocacy Networks,” 2005, p. 101.

²⁰³ Margaret E. Keck and Kathryn Sikkink, “Transnational Advocacy Networks in International and Regional Politics,” *International Social Science Journal*, Vol. 51, No. 1, p. 89.

²⁰⁴ Kadirbeyoğlu, “Assessing the Efficacy of Transnational Advocacy Networks,” 2005, p. 102.

Greenpeace, the Nuclear Awareness Project from Canada and the International Physicians for the Prevention of Nuclear War. The transnational network to ANP in Turkey provided technical and scientific information about nuclear issues.²⁰⁵

These movements put the receiving and providing countries, as well as their publics and companies under intense pressure. The developmental view of the state was challenged by the transnational network which provided necessary information to the civil initiative critical of state policies and the opportunity for their expansion. The transnational network played a significant role to widen the space of environmentally concerned civil society to face up to the state. Information about the potential problems of nuclear waste and accidents were used in order to sensitize the public opinion to the nuclear energy project. The government could not apply repression because the involvement of Greenpeace meant that any such action would be immediately visible, which could lead to the condemnation of Turkey's performance in respecting human rights.²⁰⁶

4.1.2.3. Managing the conflict

The state and the civil society tried to manage the conflict over developmental and environmental priorities through a new process of political accommodation which shows the first signs of "critical engagement." Critical engagement refers to the mutual recognition by the state and NGOs of the other's capabilities, and the understanding that the qualities of each party are necessary to

²⁰⁵ Arif Künar, *"Don Kişotlar" Akkuyu'ya Karşı, Anti-Nükleer Hikayeler, ("Don Quichottes" against Akkuyu, Anti-Nuclear Stories)*, Ankara: Elektrik Mühendisleri Odası, 2002, p. 180.

²⁰⁶ Kadirbeyoğlu, "Assessing the Efficacy of Transnational Advocacy Networks," 2005, p. 108.

address social and environmental problems.²⁰⁷ Power relations between the state and the civil society are unequal, so critical engagement involves cooperation and conflict when they discuss social and environmental issues. The aim is to prevent the conflict to get out of hand:

If NGOs openly condemn state policies, they would risk their power to exert pressure on the state. On the other hand, if the state completely ignores the views of NGOs on environmental issues, it may lose legitimacy. Critical engagement would help environmental organizations to influence policy-making, and to contribute to the process of democratization. Also, the state, by engaging with the NGOs would show the public that it is receptive to their views and priorities.²⁰⁸

Environmental activism was not perceived as a challenge as long as it did not focus on issues that could impede economic growth. The priorities of the state and dominant classes regarding development prevent them to receive the demands of environmental civil society organizations, as well as similar international movements with which the former forms alliances.²⁰⁹ The primary concern of the state regarding “critical engagement” with the NGOs and other civil society organizations was the consequences of dialogue with NGOs on development, and whether it would allow further demands that might jeopardize the state’s preferred development strategy.

²⁰⁷ John Clark, “The State, Participation and the Voluntary Sector,” *World Development*, Vol. 23, No. 4, April 1995, pp. 593-601; Raymond L. Bryant and Sinead Bailey, *Third World Political Ecology*, London: Routledge, 1997; Julie Fisher, *Nongovernments*, West Hartford: Kumarian Press, 1998.

²⁰⁸ Aydın, “The State, Civil Society, and Environmentalism,” 2005, p. 60.

²⁰⁹ *Ibid*, pp. 61, 66, 67.

4.2. International Belief Systems and Norms Shaping the Arguments:

4.2.1. International norms of pursuing peaceful nuclear power and Turkey's policies on nuclear nonproliferation and nuclear power

International norms of pursuing peaceful nuclear power sprung from those on nuclear nonproliferation, because military use preceded civilian uses, and the transfer of nuclear technology forms an important part of the problematique of nuclear proliferation. Articles III and IV of NPT regulate the transfer of nuclear technology for peaceful purposes. NNWS have the right to use nuclear technology for peaceful purposes and their facilities will be under the safeguards of the IAEA to verify that they are in compliance with the Treaty. In return, nuclear-weapon states gave the commitment to non-nuclear-weapon states for complete disarmament, and agreed to share nuclear technology with them for civilian uses. Articles II, III, IV and VI express this “nonproliferation bargain”:

... all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes, ...

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transfer or whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency ... for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices.

Article IV

Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.²¹⁰

After the Soviet Union attained nuclear capability in 1949, the nuclear arms race began. Following the United States and the Soviet Union, the United Kingdom (1952), France (1960) and China (1964) acquired nuclear weapons. Apart from its enormous power of destruction and significance in the military arsenal, nuclear weapons granted prestige and status to their possessors. The Cuban missile crisis in 1961 demonstrated that the world could not live on the threat of a nuclear exchange between superpowers, and further nuclear proliferation should be prevented. That resulted in a draft text for a treaty on nuclear nonproliferation. States started to consider nuclear weapons not “as another weapon” but those of deterrence. New lines of contact were set up between Washington, D.C. and Moscow in order to prevent misunderstanding. Arms control talks also began in this period (1969-1972, Strategic Arms Limitation Talks I).

The context of the Cold War contained conflicts and motivations for proliferation, but the determining factor to decrease the utility of nuclear weapons for state power was the end of the Cold War. Several states having nuclear weapons or nuclear programs acceded to the NPT and strengthened the norm of non-nuclear-weapon state. South Africa possessed nuclear weapons and ballistic missiles, but abandoned them in the early 1990s. Pretoria acceded to the NPT in 1991, and became active in nuclear nonproliferation efforts: It joined the Zangger Committee

²¹⁰ Treaty on the Non-Proliferation of Nuclear Weapons, 1970.

and Nuclear Suppliers' Group for the control of nuclear materials trade, and was influential in the 1995 NPT Review and Extension Conference. It also led the "New Agenda Coalition" which was effective in the landmark decisions taken in the 2000 NPT Review Conference.

After the dissolution of the Soviet Union, Belarus, Kazakhstan and Ukraine- which had nuclear capabilities on their territories- acceded to the NPT in 1992 as non-nuclear-weapon states. They agreed to free their territory of nuclear weapons in return for international recognition.

In accordance with the letter and spirit of the Declaration on the State Sovereignty of the Republic of Belarus, which has been given constitutional status, Belarus will take all the measures to achieve the status of a non-nuclear state.²¹¹

Argentina and Brazil pursued ambitious nuclear power and missile programs beginning from 1960s, but by 1990s, they put their facilities under bilateral inspections to verify that they are used for peaceful purposes. They became party to the NPT in 1995.

The peaceful use of nuclear technology is an important part of the nonproliferation bargain. The limits on the uses of nuclear technology and IAEA's role are openly stated in the IAEA Statute:

The Agency ... shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose.²¹²

To establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities, and information made available by the Agency or at its request or under its supervision or control are not used in such a way as to further any military purpose ...²¹³

²¹¹ The letter of S. Shushkevich, Chairman of the Supreme Soviet of the Republic of Belarus, annexed to the Lisbon Protocol (Protocol to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms), May 20, 1992, p. 4, available at: <<http://www.state.gov/documents/organization/27389.pdf>>.

²¹² Statute of the IAEA, Article II, *IAEA*, <http://www.iaea.org/About/statute_text.html#A1.2>. (Date accessed: December 13, 2009).

²¹³ *Ibid*, Article III, paragraph 5.

Before approving a project under this article, the Board of Governors shall give due consideration to: (...) 4. Include undertakings by the member or group of members submitting the project: (a) that the assistance provided shall not be used in such a way as to further any military purpose...²¹⁴

In addition to the IAEA, the Zangger Committee and the Nuclear Suppliers' Group have guidelines to prevent nuclear proliferation:

Our Committee ... was formed ... to serve as the "faithful interpreter" of ... [the] Article III, paragraph 2 [of the NPT], to harmonize the interpretation of nuclear export control policies for NPT Parties. The Committee has been focusing on what is meant in Article III.2 of the Treaty by "especially designed or prepared equipment or material for the processing, use or production of special fissionable material." The Zangger Committee maintains a Trigger List (triggering safeguards as a condition of supply) of nuclear-related strategic goods to assist NPT Parties in identifying equipment and materials subject to export controls.²¹⁵

The NSG Guidelines aim to ensure that nuclear trade for peaceful purposes does not contribute to the proliferation of nuclear weapons or other nuclear explosive devices which would not hinder international trade and cooperation in the nuclear field. The NSG Guidelines facilitate the development of trade in this area by providing the means whereby obligations to facilitate peaceful nuclear cooperation can be implemented in a manner consistent with international nuclear non-proliferation norms.²¹⁶

Turkey acceded to the NPT as a non-nuclear-weapon state in 1980 (signed in 1969, ratified in 1980). Ankara endorses the norms of international nonproliferation regimes, and upholds cooperation in order to achieve arms control and disarmament goals. Following are some official statements demonstrating Ankara's commitment:

Turkey attaches particular importance to arms control and disarmament issues. An active participation in international efforts in these areas, adherence to the relevant international agreements and observance of their full implementation, as well as maintaining the coordination among relevant institutions are important elements of Turkey's national security policy. As a result of the momentous changes that took place in the European security architecture over the last decade, the general aspiration for a new security system based on cooperation has given a fresh impetus to arms control and disarmament endeavors, which was welcomed by Turkey.²¹⁷

Ankara understands that nonproliferation goals are attainable by cooperation, that is to say, multilateral efforts rather than unilateral initiatives or bilateral

²¹⁴ Ibid, Article XI, paragraph E.

²¹⁵ Zangger Committee, January 13, 2010, <<http://www.zanggercommittee.org/Seiten/default.aspx>>.

²¹⁶ "Aim of the NSG Guidelines," *Nuclear Suppliers Group*, (Date accessed: January 15, 2010), <<http://www.nuclearsuppliersgroup.org/Leng/02-guide.htm>>.

²¹⁷ "Turkey's Approach to Arms Control and Disarmament," *Republic of Turkey, Ministry of Foreign Affairs*, <<http://www.mfa.gov.tr/arms-control-and-disarmament.en.mfa>>.

agreements are effective to prevent the spread of weapons of mass destruction. International institutions and regimes ensure mutual trust among states, which are expected to contribute to arms control and disarmament efforts. These, most of the time, require steps that are counter to the “rational choices” of states operating in terms of *Realpolitik*. Ankara also welcomes the emphasis on cooperation in the European security zone, because thereby the institutions of European security will facilitate the endeavors and substantiate nonproliferation norms. Ankara gave the following commitments with the Safeguards agreement:

Article I

According to Article III, paragraph 1 of the Treaty, in accordance with its provisions, Turkey commits itself to accept safeguards inspections for verifying that sources or fissile material used in all peaceful nuclear activities in any place within the country, -under its authority and control- are not diverted into nuclear weapons or other nuclear explosive devices.

Article 28

The purpose of the safeguards inspections... is to timely detect the diversion of significant amount of nuclear material from peaceful nuclear activities to nuclear weapons or other nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or other nuclear explosive devices, or for an unknown purpose, and to deter such diversion with the risk of early warning.²¹⁸

Turkey, as a non-nuclear-weapon state party to the NPT, signed a safeguards agreement with the IAEA, and accepted IAEA inspections for the verification of compliance with the Treaty. This commitment is integral for the transfer of civilian nuclear technology to NNWS. After the 1991 Gulf War and the ensuing UN inspections in Iraq, it was seen that safeguards regime was insufficient to prevent Iraq to pursue a nuclear weapons program. Thus, efforts began in 1993 to draft an Additional Protocol to strengthen and expand the existing IAEA safeguards in order to ensure an effective safeguards regime. Signing the Additional Protocol acquired a further meaning than a mere political act: It demonstrates a country’s commitment to the international nuclear nonproliferation regime, and its transparency about nuclear

²¹⁸ The Agreement with the IAEA on the Implementation of Safeguards Inspections, *Official Gazzette*, No. 17490, October 20, 1981, (Entry into force: September 1, 1981).

facilities under its control. Therefore, it keeps the country as “part of the community.” The following text is an excerpt from the Additional Protocol to the Safeguards agreement signed between Turkey and the IAEA:

Departing from the fact that the Government of the Republic of Turkey..., and the International Atomic Energy Agency..., are parties to the Implementation of the Safeguards Agreement as part of the Treaty on the Non-Proliferation of Nuclear Weapons,

Aware of the international community’s desire to widen nuclear nonproliferation through strengthening and augmenting the effectiveness of the safeguards inspections system of the Agency (...)

Article I

The provisions of the Safeguards Agreement will be applied to this Protocol in the case that they are related and consistent with this Protocol. In the case that there is an inconsistency with the provisions of the Safeguards Agreement and those of this Protocol, the provisions of this Protocol will be implemented.²¹⁹

The Additional Protocol is superior to the previously existing safeguards agreements, because its provisions ensure a more effective inspections system. Signatory states accept sacrifice from their sovereignty in order to strengthen the system.

Regarding nuclear power generation, TAEK cooperates with international institutions, and works on national and international law in the nuclear field.²²⁰ It provided a technical assessment that technology for commercial nuclear reactors was insufficient to equip non-nuclear-weapon states with the means to acquire nuclear weapons.

Nuclear power plants established to generate energy do not have anything to do with the manufacture of nuclear weapons. States signatory to the “Treaty on the Non-Proliferation of Nuclear Weapons”-of which Turkey is a party-are subject to international inspections. In order to prevent nuclear proliferation, ... the International Atomic Energy Agency is involved in continuous inspection activities.

²¹⁹ Nükleer Silahların Yayılmasının Önlenmesi Andlaşmasına İlişkin Olarak Güvenlik Denetiminin Uygulanmasına Dair Türkiye Cumhuriyeti Hükümeti İle Uluslararası Atom Enerjisi Ajansı Arasındaki Anlaşmaya Ek Protokol (The Additional Protocol to the Agreement between the Government of the Republic of Turkey and the IAEA regarding the Implementation of Safeguards Inspections in the context of the Treaty on the Non-Proliferation of Nuclear Weapons), 6 July, 2000 (Entry into force: 12 July 2001).

²²⁰ “TAEK’in Görevleri (TAEK’s Duties),” *TAEK*, (Date accessed: March 23, 2009), <<http://www.taek.gov.tr/tr/hakimizda/gorevlerimiz.html>>.

In addition, the existence of nuclear power plants in a country is not sufficient by itself to manufacture nuclear weapons. For such an endeavor, other facilities should be established.²²¹

TAEK, as the sole authority on atomic energy, decouples the existence of nuclear power plants from the manufacture of nuclear weapons, implicitly referring to the absence of fuel cycle and critical technologies. Nuclear power generation is considered beneficial, and in order to prevent diversion, IAEA is in charge. TAEK underlines Turkey's commitment to the regime and the absence of critical facilities is put forward as the indicator for a technological gap and Turkey's sincerity.

4.2.2. International views on Energy Security

A core element for the development and maintenance of state power is the possession of, or reliable access to, strategic natural resources.²²² The Industrial Revolution established an inextricable link between energy and power: In order to maintain its military, political and economic power, a state needs affordable, reliable, diverse, ample²²³ and continuous supplies of energy resources.²²⁴ The field of security was confined to Strategic Studies during the Cold War, but new sectors of security emerged in the post-Cold War period, including economic, societal, and

²²¹ "Nükleer Santralların Yaygınlaşması Dünyada Nükleer Silahların Artışına Neden Olur mu? (Would the Spread of Nuclear Power Plants in the World Lead to Nuclear Weapons Proliferation?)" TAEK, (Date accessed: April 18, 2010), <<http://www.taek.gov.tr/tr/sss/121-nukleer/338-nukleer-santralların-yaygınlaşması-dünyada-nukleer-silahların-artışına-neden-olur-mu-.html>>.

²²² Terry Terriff, Stuart Croft, Lucy James and Patrick M. Morgan, *Security Studies Today*, Malden: Blackwell, 1999, p. 117.

²²³ Jan H. Kalicki and David L. Goldwyn, *Energy and Security: Toward a New Foreign Policy Strategy*, Washington, D.C.: Woodrow Wilson Center Press, 2005, p.9.

²²⁴ The Term, basically covers the commodities that are used to generate electricity or those that are used in internal combustion engines, which are integral for transportation, agriculture, economy, industry, military, communications and household use. These may include, *inter alia*, coal, oil, natural gas, nuclear, renewables (hydro, wind, solar), and biomass.

environmental.²²⁵ The dependency of the economic and military sectors of state power on the security of the energy supply has become increasingly visible after the 1990s. Environmental sector defines the criteria for the type of energy that would provide sustainability, that is to say environmental protection. It was included after the 1990s as awareness increased regarding environmental problems, and when states incurred threat to their security from environmental degradation and resource scarcity.

Demand for fossil fuels -coal, oil and natural gas- shifted in the post-Cold War period. Petroleum became too valuable for heating purposes, and coal would not meet the sustainability criteria. The use of natural gas increased as reserves in the ex-Soviet space became available for international markets. Its use for heating and power generation increased the demand and the competition for supply, particularly in the late 1990s. Resource-poor and energy-hungry states needed to diversify resources and multiply their providers in order to decrease dependency. However, there is not a single global set of energy security criteria. There are three principal views championed by the West (United States and Europe), Russia and China. Turkey's understanding of energy security is in accordance with that of the American and European views.

The International Energy Agency defines its priorities as “Energy Security, Growth and Sustainability through cooperation and outreach.”

The International Energy Agency (IEA) is an intergovernmental organization which acts as energy policy advisor to 28 member countries in their effort to ensure reliable, affordable and clean energy for their citizens. (...) Its mandate has broadened to incorporate the “Three E’s” of balanced energy policy making: energy security, economic development and environmental protection. Current work focuses on climate change policies, market reform, energy technology collaboration

²²⁵ See Barry Buzan, *People, States and Fear: An Agenda for International Security Studies in the Post-Cold War Era*, Second Edition, London: Harvester Wheatsheaf, 1991.

and outreach to the rest of the world, especially major consumers and producers of energy like China, India, Russia and the OPEC countries.²²⁶

It defines energy security as ensuring reliable, affordable and clean energy.

The change in energy markets included two new dimensions to its tasks, that is to say, economic development and environmental protection. Those correspond to the twin goals of developing countries which seek resources for sustainable development.

The American view on energy security is revealed by the Department of Energy's definition of its mission:

The Department of Energy's overarching mission is to advance the national, economic, and energy security of the United States; to promote scientific and technological innovation in support of that mission... [p]romoting America's energy security through reliable, clean, and affordable energy, (...) [s]trengthening U.S. scientific discovery, economic competitiveness, and improving quality of life through innovations in science and technology, [and] [p]rotecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.²²⁷

The criteria of energy security largely overlap with that of the IEA. Science and technology rest at the basis of promoting economic and energy security, which is at the top of the strategic priorities of the United States.

The European continent is poor in energy resources and is dependent on foreign markets for energy. Security and sustainability of the energy supply are top priorities for the EU. Dependency on Russian natural gas increases the uncertainty of supply and creates vulnerability. The solution to this problem rests, for Europe, with diversification of transportation routes and suppliers.

A European Energy Policy will firmly commit the European Union (EU) to a low consumption economy based on more secure, more competitive and more sustainable energy. Priority energy objectives involve ensuring the smooth functioning of the internal market in energy, security of strategic supply, concrete

²²⁶ "About the IEA," *International Energy Agency*, (Date accessed: January 21, 2010), <<http://www.iea.org/about/index.asp>>.

²²⁷ "About DOE," *The US Department of Energy*, (Date accessed: January 21, 2010), <<http://www.energy.gov/about/index.htm>>.

reductions in greenhouse gas emissions caused by the production or consumption of energy and the EU's ability to speak with a single voice on the international stage. (...) Minimizing the EU's vulnerability concerning imports, shortfalls in supply, possible energy crises and uncertainty with respect to future supply is a clear priority. This uncertainty is all the more problematic for Member States dependent on one single gas supplier. The new energy policy emphasizes the importance of measures which ensure solidarity between Member States and of the diversification of supply sources and transportation routes. Measures supporting strategic oil stocks must be reinforced and the possibilities for improving the security of gas supply must be explored. Increased security of electricity supply, which remains crucial, must also be guaranteed.²²⁸

Russia's view of energy security is expressed in its Energy Strategy paper as follows:

It is foreseen that by the end of the first phase (2009-2010) the initial phase of energy sector reforming will be completed resulting in a creation of a basis for its progressive development with different scenarios of social and economic development in Russia, including: (...)

-realization of the export potential of oil and gas complex and attainment of stable positions of energy companies at the internal and external fuel and energy markets... (...) The State energy policy must be directed on the change from the role of supplier of raw resources to the role of substantive member of the world energy market. The strengthening of Russian positions on the world oil markets and on the gas markets is a strategically important task nowadays. (...) The new factor for the period up to 2020 will be the participation of Russia, as a large supplier of energy resources, in securing of the world energy safety. Forming of the common energy and transport infrastructure in the regions of Europe and Asia, development of the international energy and transport systems, providing of the undiscriminatory transit of energy answer the strategic interests of Russia. In order to reach these aims, the state will foster the participation of Russian joint-stock companies in development and realization of the great international projects of transport of gas, oil and energy both in western and eastern lines... Russia has all the necessary premises for being provided with energy resources, their effective export and receiving of a good income from its transit functions.²²⁹

Instead of the basis to sustain the power base, energy is basically seen as an instrument of foreign and security policy from the Russian perspective. That is to say, control of supply and transportation routes determines the country's status not only in the energy market, but also in the world. Thus, Russia aspires to retain its advantageous position as one of the main suppliers of energy, and as the country in control of transportation routes. Securing its energy basis underlies its national security.

²²⁸ "An Energy Policy for Europe," *EUROPA*, November 20, 2007,

<http://europa.eu/legislation_summaries/energy/european_energy_policy/127067_en.htm>.

²²⁹ *The Summary of the Energy Strategy of Russia for the Period of up to 2020*, Ministry of Energy of the Russian Federation (approved by the Decree No. 1234-p of 28 August, 2003), 2003, pp. 3, 12, available at: <http://ec.europa.eu/energy/russia/events/doc/2003_strategy_2020_en.pdf>.

China enjoyed its supply of natural resources, however, with industrial development and increasing demand for energy, it also imports oil. It pursues a policy of securing energy supply with long-term contracts with foreign companies, instead of relying on spot trading of crude oil, particularly because of the instability in oil prices. The official position is explained as follows:

China's energy development is based on the principle of relying on domestic resources and the basic state policy of opening to the outside world. The country is striving to ensure a stable supply of energy with a steady increase in domestic energy production and promote the ... development of energy around the world. (...) For a fairly long time to come, international energy trade will remain a major way by which China utilizes foreign energy resources. China will actively expand international energy trade, ...and change the current situation of relying too heavily on spot trading of crude oil, encourage the signing of long-term supply contracts with foreign companies, and promote the diversification of trading channels. China supports direct overseas investment by domestic qualified enterprises to engage in transnational operation, and encourage such enterprises to participate in international energy cooperation and in the construction of overseas energy infrastructure, and steadily expand cooperation in energy engineering technology and services in accordance with international practice and the rules of the market economy. Energy security is a global issue. Every country has the right to rationally utilize energy resources for its own development, and the overwhelming majority of countries could not enjoy energy security without international cooperation.²³⁰

China's view, like Russia, is based on a *Realpolitik* conception of energy security. Cooperation and trade, for China, means bilateral contracts with resource-rich countries and their companies. To overcome dependency on fossil fuels, China prefers to locate and reserve resources in these countries, and promotes direct investment in the form of constructing the energy infrastructure. Thereby, it creates new fields that it can explore for decades.

Turkey's energy strategy has more overlapping points with Europe and the United States than the Russian and Chinese views of energy security:

Turkey's energy policy principally aims at: providing safe, green, cost-efficient and sustainable energy for our country, securing a strong position for our country in regional and global trade of energy, [and] increasing energy efficiency.²³¹ The limits

²³⁰ *China's Energy Conditions and Policies*, Information Office of the State Council of the People's Republic of China, December 2007, pp.11, 41, 42, available at: <http://en.ndrc.gov.cn/policyrelease/P020071227502260511798.pdf>.

²³¹ "Energy," *Republic of Turkey, Ministry of Energy and Natural Resources*, (Updated May 20, 2009),

of Turkey's domestic energy sources in light of its growing energy demand have resulted in dependency on energy imports, primarily of oil and gas. (...)Turkey attaches utmost priority to further diversification of imports in both type and origin. (...) Turkey attaches great importance to more efficient and rational functioning of the energy sector for promoting the competitiveness of the national economy. Substantial progress has been achieved in restructuring and liberalizing the Turkish electricity and gas markets in pursuance with the EU Directives for the purpose of integration with the EU Internal Energy Market...²³²

Energy security policy is determined predominantly in accordance with the EU criteria. In addition, the criteria for the choice of resources overlap with the European and American definition.

4.2.3. International belief system of anti-nuclearism and environmentalism

The domestic opposition was overwhelmingly affected by international movements of anti-nuclearism and environmentalism. What lies behind the anti-nuclear and environmental movements is the questioning of modernity and industrial production for development due to their adverse effects on the environment and human health.²³³

Widespread environmental degradation began as a result of the industrial revolution, and public concern followed. With scientific progress and the dissemination of information, the public became increasingly aware of the adverse impacts of industrialization. Concerns on environmental problems increased after World War II, and environmentalism became a social movement by the 1960s. Several organizations on conservation were founded under the United Nations. The

<http://www.enerji.gov.tr/index.php?dil=en&sf=webpages&b=enerji_EN&bn=215&hn=&nm=40717&id=40717>.

²³² *Turkey's Energy Strategy*, Republic of Turkey, Ministry of Foreign Affairs, Deputy Directorate General for Energy, Water and Environment, January 2009, available at: <[http://www.mfa.gov.tr/data/DISPOLITIKA/EnerjiPolitikasi/Turkey's%20Energy%20Strategy%20\(Ocak%202009\).pdf](http://www.mfa.gov.tr/data/DISPOLITIKA/EnerjiPolitikasi/Turkey's%20Energy%20Strategy%20(Ocak%202009).pdf)>.

²³³ Kamil Kaygusuz and Murat Arsel, "Energy Politics and Policy," 2005, p. 157.

environmentalist literature accumulated with *Our Synthetic Environment* which examined the harmful environmental impacts of industrial production,²³⁴ *Limits to Growth*, which argued that the exponential growth will result in an environmental crisis,²³⁵ and *The Blueprint for Survival*, which shared the same idea and argued that population growth and environmental degradation required changes in human practices.²³⁶ *Small is Beautiful* stressed that values shaped economics, and the possibility of an alternative economic system which would improve the quality of life, instead of just focusing on improving the quality of work. Limits, self-reliance, self-sufficiency, zero population and economic growth are the key words of ecological environmentalism.²³⁷ It upholds equality among humans and the nature in the sense that the nature deserves respect for its own sake, and not because it is useful to humans.²³⁸

These ideas had a significant influence on the UN Conferences on environment. The 1972 UN Conference in Stockholm recognized that environmental problems should be tackled by the state. The Earth Summit in Rio in 1992 ended with the Rio Declaration, which enshrined “sustainable development.”²³⁹ The end of the Cold War spared room for other issues than military security in the agenda, and environmental security was one of them.

In addition to such environmental approaches that adopt a liberal view, that is, the protection of the environment within the norms of the prevailing system, there are others which demand change in favor of ecology. Organizations like

²³⁴ Murray Bookchin, *Our Synthetic Environment*, New York: Harper and Row, 1974.

²³⁵ Meadows, et al., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, 1972.

²³⁶ Edward Goldsmith et al., *Blueprint for Survival*, 1972.

²³⁷ Pepper, *The Roots of Modern Environmentalism*, 1990, p. 28.

²³⁸ O'Riordan, *Environmentalism*, 1981.

²³⁹ Roussopoulos, *Political Ecology*, 1993, pp. 19-48.

Worldwatch, International Panel on Climate Change and the Institute for Environmental Security adopt the first approach:

Worldwatch Institute delivers the insights and ideas that empower decision makers to create an environmentally sustainable society that meets human needs. Worldwatch focuses on the 21st-century challenges of climate change, resource degradation, population growth, and poverty by developing and disseminating solid data and innovative strategies for achieving a sustainable society. (...)Worldwatch seeks innovative solutions to intractable problems, emphasizing a blend of government leadership, private sector enterprise, and citizen action that can make a sustainable future a reality.²⁴⁰

The assumption is that the environment should be preserved for the sake of human needs instead of an ecocentric approach. The focus is on the sustainability of the environment regarding the challenges of the new era. The inclusion of the government, private sector and citizens suggest cooperation at all levels to meet these challenges.

The Intergovernmental Panel of Climate Change is the leading body for the assessment of climate change, ... to provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences. (...) Because of its scientific and intergovernmental nature, the IPCC embodies a unique opportunity to provide rigorous and balanced scientific information to decision makers. By endorsing the IPCC reports, governments acknowledge the authority of their scientific content. The work of the organization is therefore policy-relevant and yet policy-neutral, never policy-prescriptive.²⁴¹

The Panel assumes that climate change will have serious impacts on not only the environment, but also the economy and the society. It takes governments, thereby, states as the main actors to deal with the issue, and acknowledge their authority by emphasizing that their proposals will be relevant for state-level policies.

To the extent humankind neglects to maintain the globe's life-supporting ecosystems generating water, food, medicine, and clean air, current and future generations will be confronted with increasingly severe instances of environmentally induced changes. Such events will test our traditional concepts, boundaries, and understandings of national security and alliance politics and, if taken for granted, may lead to conflict, including violent conflict, from the global to the regional, national, local or human level. Environmental security, broadly

²⁴⁰ "About World Watch," *World Watch*, (Date accessed: January 21, 2010), 2010)<<http://www.worldwatch.org/About>>.

²⁴¹ "Organization," *Intergovernmental Panel on Climate Change*, (Date accessed January 22, 2010), <<http://www.ipcc.ch/organization/organization.htm>>.

defined, affects humankind and its institutions and organizations anywhere and at anytime.²⁴²

The Institute also assumes human life as the referent. Therefore the environment should be preserved to sustain life. Furthermore, environmental degradation is constituted as a threat to the international system, institutions and organizations, because it has the potential to trigger conflict.

Organizations like Greenpeace, Friends of the Earth and World Wildlife Fund take up a “Green” approach that prefers a change in the system to the benefit of the ecology. They assume that the current political system and consumption patterns challenge the sustainability of the environment and wildlife.

Greenpeace is an independent global campaigning organization that acts to change attitudes and behavior, to protect and conserve the environment and to promote peace by catalyzing an energy revolution to address the number one threat facing our planet: climate change. (...) ... by challenging wasteful and destructive fishing, and creating a global network of marine reserves... [and] by tackling the causes of conflict and calling for the elimination of all nuclear weapons.²⁴³

Greenpeace is critical of the existing modes of behavior, which it assumes are threatening the environment. They favor the use of alternative energy resources, particularly to address climate change, which is deemed as the primary threat. The environment is the main referent that needs to be guarded from activities that seek economic gain. They also uphold peace and assume that existing nuclear weapons pose a grave threat to peace.

We want a healthy planet and a good life for everyone on it.²⁴⁴ We stand for three big ideas: (...) We need to use the planet like there is a tomorrow. This means living within the limits of the natural world. (...) Everyone, everywhere, now and tomorrow, deserves to have a good life. (...) We need to change the rules so that the economy works for people and the environment, not pit one against the other.²⁴⁵

²⁴² “What is Environmental Security?,” *Institute for Environmental Security*, (Date accessed: January 22, 2010), <http://www.envirosecurity.org/activities/What_is_Environmental_Security.pdf>.

²⁴³ “About Greenpeace,” *Greenpeace*, (Date accessed January 22, 2010), <<http://www.greenpeace.org/international/about>>.

²⁴⁴ “The Big Picture,” *Friends of the Earth*, (Date accessed: January 22, 2010), <http://www.foe.co.uk/about_us/friends_earth_big_picture.html>.

²⁴⁵ “What We Stand For,” *Friends of the Earth*, (Date accessed: January 22, 2010), <http://www.foe.co.uk/about_us/friends_earth_values_beliefs.html>.

Friends of the Earth is critical of short-term economic considerations, because they assume that the environment is being harnessed for “today” without considering that it should be sustained for “tomorrow.” They also assume that global income is unfairly distributed leaving some to live a life below basic needs. The emphasis on change suggests a critical view of the prevailing political and economic system that sacrifices the environment for the people.

WWF's mission is the conservation of nature. We are committed to reversing the degradation of our planet's natural environment and to building a future in which human needs are met in harmony with nature. We recognize the critical relevance of human numbers, poverty and consumption patterns to meeting these goals.²⁴⁶

The WWF considers human needs and the preservation of the environment equal in importance, and favors measures that will reverse the degradation of the environment. It stresses that these measures should focus on reducing population growth rate, poverty and consumption patterns, which are the main challenges to the environment. Therefore, it envisions a different system from the current one.

Anti-nuclearism started as a movement against nuclear weapons, and then included opposition to nuclear power particularly in response to “radiation risk” and radioactive waste disposal issues. The seeds of the anti-nuclear movement were planted following the reservations of scientists working in the Manhattan Project to prevent the use of technology for an atomic bomb. Afterwards, civil society activities and the “nuclear freeze” movement followed.²⁴⁷ The opposition to nuclear energy has its roots in the United States. Ralph Nader, a lawyer who worried about operational safety and the nuclear waste issue, established a civil society group, called “Critical Mass Energy Project,” referring to the “critical” number of people

²⁴⁶ “About WWF,” *The World Wildlife Fund*, (Date accessed: January 22, 2010), <<http://www.worldwildlife.org/who/index.html?linklocation=topnavdropdownmenu>>.

²⁴⁷ Brandon, *Burning Question...*, 1987.

who will gather to oppose the establishment of a nuclear power plant. He organized the first national anti-nuclear gathering in 1974, which was a conference to bring together diverse groups and to inform them on how to put the “safe energy movement” into action. The movement supported the activists financially. Anti-nuclear rallies that took place in New York City and Washington, D.C., attracted many people and drew media attention. The accidents in Three-Mile Island and Chernobyl increased public fear.²⁴⁸

Fear of radiation provided a “fertile breeding ground” for anti-nuclearism, which then spread to Europe (mainly Western Europe). It was composed of minority protest groups and ecological movements taking advantage of the public fear of radiation. They had doubts about the organization of the modern society and its link to industrial production. Politically, it was a protest against the industrial type of society, technically, it involved doubts about risks, and philosophically, it foresaw a lifestyle close to nature which should not be distorted by industrial production.²⁴⁹ Bertrand Goldschmidt also shows that the opposition to nuclear power was supported by US nonproliferation policies in order to prevent the production of fissile material through the establishment of commercial breeder reactors:

In general, the opposition chose to concentrate its activities on proposals for new nuclear power plants, although in the most advanced countries, it was also especially concerned with problems of wastes, reprocessing plants and breeder reactors—all facilities where large quantities of plutonium would be involved. This opposition drew much strength and inspiration from US nonproliferation policies; a report presented in 1978 to Congress on the subject of antinuclear protest in Europe removes any doubts as to the link. Without going so far as to welcome the development of the protest movement in Europe, the report emphasized the importance for American nonproliferation policies of an effective opposition to the commercialization of breeder reactors and to the use of plutonium as nuclear fuel. The opposition therefore carried out its campaign on three fronts: on the local level, over the choice of sites; on the national level; and on the level of advanced techniques and waste disposal problems.²⁵⁰

²⁴⁸ Nancy Bowen, *Ralph Nader, Man with a Mission*, Brookfield, Connecticut: Twenty-First Century Books, 2002, pp.76-79.

²⁴⁹ Goldschmidt, *The Atomic Complex...*, 1982, p. 432.

²⁵⁰ *Ibid*, p. 441.

According to the new social movements perspective, the anti-nuclear movement is one of the issues in the broader critique of political and economic systems. New social movements aim at a revolution in the principles of democratic capitalist systems, because they are critical of materialism, hierarchy and impoverishment of life under capitalism.²⁵¹ New social movements are in a struggle against prevailing political and economic systems which try to “colonize the life world.”²⁵² These movements aim at a fundamental restructuring of power relations in society, and anti-nuclearism is one of the means.²⁵³

The **Greenpeace** movement started with protests against nuclear testing in the Bering Sea. The protesters used a ship named “Greenpeace” with the aim of preserving the environment and peace at the same time. They considered humankind and environment interdependent, thus they named their manifesto as the “Declaration of Interdependence:”

With nuclear reactors proliferating and over 900 species on the endangered list, there can be no further delay or our children will be denied their future. The Greenpeace Foundation hopes to stimulate practical, intelligent actions to stem the tide of planetary destruction. (...) [E]cology teaches us that mankind is not the centre of life on this planet. (...) Ecology has taught us that the entire Earth is part of our 'body' and that we must learn to respect it as much as we respect ourselves. (...) Ecology has provided us with ... three “Laws of ...:” ... All forms of life are interdependent, (...) the stability (unity, security, harmony, togetherness) of ecosystems is dependant on diversity (complexity), (...) [and] all resources (food, water, air, minerals, energy) are finite and there are limits to the growth of all living systems. (...) If we ignore the logical implications of these Laws of Ecology, we will continue to be guilty of crimes against the earth. (...) The destruction of the Earth will lead, inevitably, to the destruction of ourselves. So let us work together to put an end to the destruction of the Earth by the forces of human greed and ignorance. Through an understanding of the principles of ecology, we must find new directions for the evolution of human values and human institutions. Short-term economics must be replaced with actions based on the need for conservation and preservation of the entire global ecosystem.²⁵⁴

²⁵¹ Offe, “New Social Movements...,” 1985; Offe, *Contradictions of the Welfare State*, 1984; Eder, “The ‘New Social Movements:’” 1985; Cohen, “Strategy or Identity...,” 1985.

²⁵² Habermas, “New Social Movements,” 1981, pp. 33-37.

²⁵³ Rochon and Meyer, *Coalitions and Political Movements...*, 1997, p.15.

²⁵⁴ “Deep Green: The Greenpeace Manifesto,” *Greenpeace*, September 10, 2009, <<http://www.greenpeace.org/international/about/deep-green/deep-green-special-1>>.

The declaration assumes that nuclear power plants are dangerous, and further establishment of nuclear reactors will be disastrous, thus they should be stopped. Otherwise, the world will cease to be a place to live. Ecology should be the top priority of humanity, because it is what sustains life for all living things on Earth. What destroys the world is human greed and ignorance, which sacrifices the environment for short-term economic gains. Earth is personified, and is taken as the referent with phrases like “crimes against the Earth.” These crimes are committed by short-term economic gains, that is, the environment has been sacrificed, whereas it is indispensable for humans. The “cause,” that is, protection of ecology gives Greenpeace the “mandate” to stimulate action against any “crime” committed against the environment.

Among other items, disarmament is one of the priorities of Greenpeace for “peace.” They are openly against nuclear weapons and nuclear power, and the first action of Greenpeace was against nuclear testing. In the Greenpeace international website, Turkey is one of the few countries included in the list of polls carried out to see public opinion towards nuclear weapons.²⁵⁵

Greenpeace has been shouting about nuclear dangers for over 30 years, ... when a group of North American peace activists ... sailed from Vancouver towards the US nuclear testing zone near Amchitka, Alaska. The Greenpeace ship and crew were arrested by the US coastguard, but the press reports about the expedition put pressure on the US government. Four months later, the US canceled the test series. Since then we have campaigned against both nuclear weapons and nuclear power. Bearing witness in test zones, supplying scientific data and measurements on human and environmental impacts and by conducting direct non-violent actions to call attention to the problem. (...) Since then, we have tracked plutonium and nuclear waste shipments around the globe, highlighted the dangers of reprocessing, protested against nuclear-powered and nuclear-armed warships or submarines and confronted the nuclear weapons states about their weapons programs. And people are with us: the majority of people and states want disarmament now! We can stop the nuclear threat with the voice of the second superpower: public opinion. And that voice is getting louder and louder. Public opinion polls conducted in nuclear and non-nuclear weapon states show large majorities favoring the abolition of nuclear weapons: (...) In 2004, an Infakto poll, commissioned by Greenpeace, found that 72% of Turkish people supported the idea of making Turkey a nuclear-

²⁵⁵ “Demand Peace and Disarmament,” *Greenpeace*, (Date accessed: November 12, 2009), <<http://www.greenpeace.org/international/campaigns/peace>>.

free zone and 75% would support Turkey leading an international campaign for international nuclear disarmament.²⁵⁶

Greenpeace experienced the power of media attention on the governments. The arrest of “activists for peace” forced them to revise their policies on nuclear weapons and nuclear power. Thus, for activists, public opinion is the object that should be manipulated through media in order to apply pressure on decision-makers. Anti-nuclear activism is something that should be pursued for the benefit of humanity. Greenpeace aims at disarmament of nuclear weapons, and they could create the fear from radioactive waste.

IPPNW (International Physicians for the Prevention of Nuclear War) is specifically established to prevent nuclear war and work towards the elimination of nuclear weapons.

IPPNW is the only international medical organization dedicated to preventing nuclear war and abolishing nuclear weapons. We recognize that the catastrophic health and environmental consequences of a nuclear war are at the extreme end of a continuum of armed violence that undermines health and security. IPPNW is committed to ending war and advancing understanding of the causes of armed conflict from a public health perspective.²⁵⁷ IPPNW was founded in 1980 by physicians from the United States and the former Soviet Union who shared a common commitment to the prevention of nuclear war ... Citing the first principle of the medical profession -that doctors have an obligation to prevent what they cannot treat- a global federation of physician experts came together to explain the medical and scientific facts about nuclear war to policy makers and to the public, and to advocate for the elimination of nuclear weapons from the world’s arsenals.²⁵⁸

Public health is the referent of the activities of IPPNW, which assumes that policymakers are not cognizant about the probable effects of nuclear war on the environment and human health. Their reasoning is that disarmament will prevent nuclear war, hence the survival of people. Preventing nuclear proliferation

²⁵⁶ Ibid.

²⁵⁷ International Physicians for the Prevention of Nuclear War (IPPNW), (Date accessed: January 26, 2010), <<http://www.ippnw.org/>>.

²⁵⁸ “About IPPNW,” *IPPNW*, (Date accessed: January 26, 2010), <<http://www.ippnw.org/About/index.html>>.

engendered the position that civil applications of nuclear technology are risky.²⁵⁹

The Bulletin of Atomic Scientists was established in 1945 by scientists who worked in the Manhattan Project. They aim at informing the public about the possible dangers of nuclear weapons:

[The Bulletin] warned about two major sources of potential catastrophe: the perils of 27,000 nuclear weapons in the world, 2,000 of them ready to launch in minutes, and the destruction of human habitats from climate change. (...)The Bulletin publishes information from leading scientists and security experts who explore the potential for terrible damage to societies from human-made technologies. We focus as well on ways to prevent catastrophe from the malign or accidental use of nuclear, carbon-based, and biology-based technologies. After all, these technologies are ones that we create; it is in our power to channel them solely for benign purposes.²⁶⁰

4.2.3.1. Domestic anti-nuclear groups

The government's decision to pursue nuclear power united the groups which are against the establishment of nuclear power plants and the generation of nuclear energy. The "not-in-my-backyard" syndrome in Mersin (by the Mediterranean) and Sinop (by the Black Sea) -the two regions where nuclear power plants will be established- created a public which is concerned about and essentially against the projects. The Sinop anti-nuclear platform (Sinop Nükleer Karşıtı Platform/NKP) is one of the ardent voices within the anti-nuclear platform-the umbrella organization. The history of the Akkuyu power plant is rather long compared to that of Sinop, and the residents by the Mediterranean are somewhat used to the cancellation of projects. In addition, the memories of Chernobyl nuclear plant accident are still fresh in the minds of the residents by the Black Sea region. Put together, the residents of the

²⁵⁹ As a matter of fact, The German IIPNW prepared a poster against the development of nuclear power, which is available in several languages, including Turkish.

²⁶⁰ "About Us," The Bulletin of Atomic Scientists, (Date accessed: January 26, 2010), <<http://www.thebulletin.org/content/about-us/purpose>>.

Black Sea are more sensitive to the establishment of a nuclear power plant than those of Mersin.

Other local organizations²⁶¹ join the Sinop NKP to create public awareness. The Mersin NKP demands from the government that the infrastructure for renewable energies and energy efficiency be developed instead of nuclear energy. In the regulations of the Mersin and Sinop anti-nuclear platforms, being anti-nuclear is the condition for membership, and promoting alternative resources is the top priority:

The platform is composed of political parties, democratic civil society organizations, trade unions, chambers and associations that are against the establishment of nuclear power plants in the world, in Turkey, or only in Sinop, and which are sensitive to environmental problems. Protection of the environment and being anti-nuclear rest at the top [of the criteria for membership].²⁶²

We, demand from the government, to develop the infrastructure that will open the way for the generation of energy from renewable resources and the efficient use of existing energy.²⁶³

Turkish anti-nuclear groups are harbored under the roof of the Anti-Nuclear Platform. They include, *inter alia*, the Electrical Engineers' Chamber (EMO), Environmental Engineers' Chamber (ÇMO), Geological Engineers' Chamber (JMO), Civil Engineers' Chamber (İMO), The Confederation of the Public Servants Trade Unions (KESK), Confederation of Progressive Trade Unions of Turkey (DİSK), Turkish Medicals' Association (TTB), Greenpeace Mediterranean, European Renewable Energy Association Turkey Chapter (EUROSOLAR Turkey), Greens, The Ecology Collective, the Freedom and Solidarity Party (ÖDP), and environmental associations from Eastern Mediterranean and Black Sea regions.²⁶⁴

²⁶¹ Some of them are Sinopbizim (Sinop is ours), Sinopluyuz and Sinop-portal websites.

²⁶² "The Aims, Activities and the Working Methods of the Platform," The Statute of the Sinop Anti-Nuclear Platform, Article II.

²⁶³ "Biz Kimiz (Who are we?)," *Mersin Anti-Nuclear Platform*, <<http://www.mersinnkp.com/biz.asp>>. (Date accessed: December 23, 2009).

²⁶⁴ "Nükleer Karşıtı Platform (The Anti-Nuclear Platform) Press Release," *Jeoloji Mühendisleri Odası, (The Geological Engineers' Chamber)*, February 5, 2005, <http://www.jmo.org.tr/genel/bizden_detay.php?kod=7&tipi=3&sube=0>.

CHAPTER V

THE HISTORY OF TURKEY’S PLANS FOR PEACEFUL NUCLEAR POWER AND THE ANTI-NUCLEAR CHALLENGE

This chapter will provide a sketch of Ankara’s energy policy and its attempts to generate nuclear power. It starts with an introduction of key concepts: “Energy,” “energy security,” and “nuclear power.” It will then present the administrative structures related to energy, and the evolution of Turkey’s energy policies since the Republican times, including its current status. Turkey’s attempts to build nuclear power plants for electricity generation date back to late 1950s, to meet energy shortages in the future. The history of nuclear power plans along with the anti-nuclear protests is provided in terms of decades.

5.1. Nuclear Power in Turkey's Energy Strategy

5.1.1. What is energy and nuclear power?

The term “energy” tends to be used interchangeably with “fuel.” D. Elliot explains the terms of energy production as follows:

Energy is a concept rather than an actual thing... Energy is never created or consumed; it is converted from one form to another. The term power is used to describe the conversion capacity of any specific device, that is, the rate at which it can convert energy from one form to another, and the unit most commonly used is the watt. Strictly, it is a measure of the “capacity to do work.”... The amount of energy converted or more accurately, the actual “work” done, is defined by the power of the device multiplied by the time for which it is used (that is, Watts*hours). It is usually measured in kilowatt hours or (kWh)... The total amount of energy used is often measured in terms of primary energy consumption; that is the amount of energy in the basic fuels used by energy conversion devices, whether for electricity production, heating or transport.²⁶⁵

Until the Industrial Revolution, human effort, like the use of slaves, animals, or wind provided the power to operate simple machines. For heating, cooking and processing materials, natural fuels like wood were used along with windmills and watermills as new energy sources in the Middle Ages. It was coal which boosted the Industrial Revolution in the mid-18th century. It was used in factories, to operate steam engines of trains and ships. Thus, it facilitated the transportation of raw materials and finished products between sites, factories and markets. Coal was rivaled by petrol (petroleum spirit extracted from oil) that operated vehicles with internal combustion engine by the beginning of the 20th century. Between the two Wars, oil and gas (produced from coal) became more important than electricity which was used in several sectors of the economy.²⁶⁶

Following World War II, oil became increasingly significant in the economies of the advanced industrial countries. The first oil crisis of 1973-74 proved

²⁶⁵ David Elliott, *Energy, Society and Environment: Technology for a Sustainable Future*, London, New York: Routledge, 1997, pp. 17, 18.

²⁶⁶ *Ibid*, pp. 22-3.

how reliant these countries were on imported oil. Apart from technical, political and military efforts to secure the supply of Middle Eastern oil, in order to diversify resources, alternative sources like the renewables (such as wind and solar energy) were explored. Natural gas took over the use of gas produced from coal. In addition, developed countries started using nuclear technology for energy generation.²⁶⁷ Extensive fossil fuel use during the Industrial Revolution resulted in environmental degradation. Since they are hydrocarbons, fossil fuels emit CO₂ when burnt. Although there was enthusiasm for nuclear power plants as they emitted water vapor,²⁶⁸ public opposition, mainly based on safety concerns made them hard to support. The accidents at Three Mile Island and Chernobyl substantiated these concerns.²⁶⁹

Nuclear technology is a product of the scientific research on the connection between mass and energy. The atomic fission occurs when a fissile isotope splits and leads to a chain reaction. It yields large amounts of heat by boiling water and producing steam that can be used to generate energy in a power plant. However, along with the heat, nuclear fission yields nuclear radiation and a range of radioactive fragments that are detrimental to living organisms if safety measures are not observed. The nuclear materials that sustain the chain reaction are called fissile materials (that go into fission-split of atoms), and they are obtained from the uranium element.²⁷⁰ Nuclear reactors could be water-cooled, or gas-cooled, but most of the

²⁶⁷ Ibid, pp. 23-4.

²⁶⁸ Although the most notable greenhouse gases are carbon emissions, environmental organizations also cite water vapor as an important factor for greenhouse effect. Source: "Water vapor rules the greenhouse system," *Geocraft.com*, (Date accessed: March 15, 2010), <http://www.geocraft.com/WVFossils/greenhouse_data.html>, "Water Vapor Confirmed as Major Player in Climate Change," *NASA*, November 17, 2008, <http://www.nasa.gov/topics/earth/features/vapor_warming.html>.

²⁶⁹ Elliott, *Energy, Society and Environment...*, 1997, p. 29.

²⁷⁰ Uranium-235 is a fissile isotope, which is found in meager amounts in the uranium ore. Plutonium is also fissile, and it can be obtained from the spent fuel in conventional reactors through a chemical separation process.

reactors are of the first type, based on the Pressurized Water Reactor (PWR).²⁷¹ Another method of generating vast amounts of energy is through fusion reaction, whereby the atoms of hydrogen element are induced to fuse at very high temperatures to form helium. Scientific research is in progress for controlling the reaction. While it is theoretically possible to sustain the reaction and to have a fusion reactor, it is still commercially unfeasible.²⁷²

5.1.2. Current energy security model

The link between energy and state power became inextricable with the Industrial Revolution: For the continued development of national power, a state needs to have the ability to access energy resources. Specifically, in order to maintain its military, political and economic power, a state needs affordable, reliable, diverse, ample²⁷³ and continuous supplies of energy resources.²⁷⁴ Therefore, energy and the need to secure its supply have become a vital state interest; and these criteria form the basis of energy security. Kalicki and Goldwyn define energy security as “...the assurance of the ability to access the energy resources required for the continued development of national power.”²⁷⁵ The goal of energy security policy is to provide affordable, reliable, diverse and ample supplies of key resources and establishing a sufficient infrastructure to deliver them to the market.²⁷⁶

²⁷¹ Elliott, *Energy, Society and Environment*, 1997, p.66

²⁷² Ibid, pp.74, 75.

²⁷³ Kalicki and Goldwyn, *Energy and Security...*, 2005, p.9.

²⁷⁴ The Term, basically covers the commodities that are used to generate electricity or those that are used in internal combustion engines, which are integral for transportation, agriculture, economy, industry, military, communications and household use. These may include, *inter alia*, coal, oil, natural gas, nuclear, renewables (hydro, wind, solar), and biomass.

²⁷⁵ Kalicki and Goldwyn, *Energy and Security*, 2005, p.9.

²⁷⁶ Ibid.

In this definition, “affordable energy” refers to stable and reasonable prices, because price volatility in prices shocks and destabilizes the global economy. Predictability and minimum vulnerability are the key terms for defining a “reliable energy supply.” After the end of the Cold War, such stability is disrupted increasingly from domestic level developments, such as revolutions, civil unrest, economic failure and terrorism, which cannot be addressed by traditional Cold War strategies, but by conflict prevention and diplomacy. “Access to diverse and ample supplies” is about ensuring that states possessing energy resources (basically strategic ones) produce them for the global market.²⁷⁷

The current energy security model was shaped as a result of the 1973 oil shock. In this sense, energy policy is based on criteria, which seek resources that are cheap, easily accessible and reliable with unabated flow and more recently environment-friendly.²⁷⁸ States seek to diversify their resources in order not to be dependent on a certain source of energy, or its supplier(s). Thus, energy policies are devised on the basis of not only technical and economic criteria, but also political criteria. The 1973 oil shock made diversification of energy resources a strategy to maintain power or to avoid falling at a disadvantage. The oil shock showed that oil producers would not refrain from using it for political ends. Thus, it became necessary to find substitutes—at least for some of the uses of oil in order to respond to the challenge by national resources to avoid dependency on foreign sources. In this context, nuclear energy became relevant in the energy portfolio to decrease dependency on oil and to generate electricity from a “national” (meaning controllable

²⁷⁷ Ibid, p.10.

²⁷⁸ The environmental sector has been recently included in the study of security. For a detailed discussion of Security Studies in the post-Cold War, see Buzan, *People, States and Fear...*, 1991.

rather than domestic) resource.²⁷⁹ Disruption of fuel would not result in dramatic consequences as in oil, and vast amounts of energy could be generated compared to thermal power plants operated by coal, oil or natural gas. Renewable energy resources (hydro, wind, solar) and biomass are included in the category of “alternative resources,” -meaning that they can be complementary and not the primary resources in the energy strategy.

The demand for nuclear energy remained high until the 1970s. The number of plants continued to grow until 1985, but starting from the mid-1970s, the demand declined sharply due to several reasons: They include lower than expected economic growth with a parallel decrease in the demand for electricity, rise in the price of nuclear energy, inefficiency of the industry and accidents in nuclear power plants.²⁸⁰ During the 1990s, there was little interest in nuclear energy in the West. However, with the new century, the United States, China and India showed renewed interest in nuclear power. It was deemed by some as a “renaissance,” particularly considering the expected increase in the global primary energy demand.²⁸¹

According to 2009 figures, there are 436 commercial nuclear reactors with a total capacity of 372,000 MWe in 30 countries, providing around 16% of the world’s electricity.²⁸² As of May 2009, some 45 power plants are under construction and 112

²⁷⁹ The use of nuclear technology for electricity generation is only one of its peaceful applications. The need to add “peaceful” emanated from the fact that the initial application of nuclear technology was for military purposes, and that not until 1953, peaceful use was proposed. Nuclear technology is used in various fields including agriculture, medicine and electricity generation. In fact, the Nuclear Nonproliferation Treaty (NPT) of 1968 (Entry into force: 1970) promoted nuclear technology for peaceful purposes in return for the commitment not to produce, manufacture or transfer nuclear weapons or related material. The IAEA was assigned the task of verifying states’ compliance with the Treaty, that is, under the safeguards agreement with states having nuclear reactors, the IAEA would verify that the technology is not diverted to misuse.

²⁸⁰ “Outline History of Nuclear Energy,” *World Nuclear Association*, October 2009, <<http://www.world-nuclear.org/info/inf54.html>>.

²⁸¹ “World Energy Outlook 2007,” *OECD/IEA*, 2007, available at: <http://www.iea.org/textbase/nppdf/free/2007/weo_2007.pdf>.

²⁸² “Nuclear Power in the World Today,” *World Nuclear Association*, March 2009, <<http://www.world-nuclear.org/info/inf01.html>>.

are planned.²⁸³ Despite the renewed interest in nuclear energy, the following factors are likely to determine its future: Economic competitiveness, concern for climate change, safety and security issues related to nuclear technology, public perception about the energy source and the quest for energy security.²⁸⁴ It is safety and proliferation risks which set nuclear energy apart from other sources (economic competitiveness, global warming concerns, public perceptions and energy security considerations are common to other sources). The following section looks at Turkey's energy security policy and policymaking structures related to energy issues.

5.1.3. Overview of Turkey's energy policies: Energy policymaking structures and nuclear energy as an option in Turkey's resource portfolio

Turkey is a developing country with a vibrant economic sector and its energy needs go in tandem with the pace of development as well as rising living standards. Energy is integral for the industry, agriculture, transportation and household consumption: Electricity can be generated from hydrocarbon resources such as oil, natural gas and coal, or non-hydrocarbon resources, such as water, wind or solar energy. Transportation and heating involves demand for oil, natural gas or coal. The historical account of electricity generation that follows will provide the objectives and principles of Turkey's energy policies.

During the period between 1923 and 1930, the Izmir Economy Congress was instrumental in trying to set up the principles. The bulk of the installed capacity was constituted by thermal power plants. Between 1930 and 1950, to boost the

²⁸³ "World Nuclear Power Reactors 2007-2009 and Uranium Requirement," *World Nuclear Association*, May 3, 2010, <<http://www.world-nuclear.org/info/reactors.html>>.

²⁸⁴ Moeed Yusuf, *Does Nuclear Energy Have a Future?*, Pardee Papers, No. 3, November 2008, p. 4.

industrialization process, Turkey engaged in an effort to increase electricity production, and to decrease dependency on imported goods (mainly interim goods). The sources were diversified as coal, hydro and diesel. In the period between 1950 and 1960, the mixed economic policies were promoted with private sector and foreign investors along with the public sector. However, the latter developed faster. In this period, new thermal and hydro power plants were constructed in parallel with the growing economy.²⁸⁵

The following period lasted until 1980, which can be called as the planned economic system.²⁸⁶ Resources could not be fully utilized, dependency on imported electricity rose to 50%. The disequilibrium between energy consumption and production resulted in energy shortage. This led Turkey to harness other sources such as dung, lignite, petroleum, natural gas and asphaltite, in addition to hydro power and coal. The two petroleum crises of 1973 and 1977 caused economic distress, and Ankara decided for the construction of lignite-fired power plants.²⁸⁷

After 1980, liberal economy replaced state-controlled economy, particularly as an initiative of the late Prime Minister Özal. Thus, the share of the public sector was decreased, hence energy investments. The Constitutional Court defined electricity production and distribution works as strategic and fundamental public services, and foresaw their privatization. However, privatization efforts did not produce the desired result: The aim was to move away from state funding and/or participation in the economy, but the investments needed by the electricity sector required that the state continue financing them. Therefore, the government

²⁸⁵ A. Osman Yılmaz and Tuncay Uslu, "Energy Policies of Turkey During the Period 1923-2003," *Energy Policy*, Vol. 35, No. 1, 2007, pp. 259-261.

²⁸⁶ See Salih Öztürk and Deniz Yakışır, "Türkiye Ekonomisinde 1980 Sonrası Yaşanan Yapısal Dönüşümlerin GSMH, Dış Ticaret ve Dış Borçlar Bağlamında Teorik bir Değerlendirmesi (A Theoretical Assessment of the Structural Transformations in the Turkish Economy after 1980 in terms of GNP, International Trade and Foreign Debt)," *Mevzuat Dergisi (The Legislation Journal)*, Vol. 8, No. 94, October 2005, <<http://www.mevzuatdergisi.com/2005/10a/01.htm>>.

²⁸⁷ Yılmaz and Uslu, "Energy Policies of Turkey...", 2007, p. 261.

introduced new models for new investments by the private sector, such as “build-operate” or “build-operate-transfer.”²⁸⁸

Economic growth and rising living standards stimulated the demand for electricity. In late 1980s, there was an increasing tendency in Turkey to meet the energy demand from imported resources. Thermal power plants had a primary share of 57% in total installed capacity, and hydroelectric and other power plants had a share of 43%. After 1998, there was a significant increase in the share of thermal power plants.²⁸⁹ As a result of the economic crisis in 2001, the demand for natural gas declined in the industrial sector, and excess supply was channeled for electricity generation. Thus, it paved the way for the highest share of natural gas in total electricity generation. By 2003, the ratio of natural gas in the production of electricity increased to 60%. Although in 2003, almost the entire country was connected to the grid, the demand could not be met completely, and Turkey became heavily dependent on other countries for energy.²⁹⁰

Energy strategy and policymaking is carried out by the Ministry of Energy and Natural Resources (Enerji ve Tabii Kaynaklar Bakanlığı-ETKB with Turkish acronyms) with inputs from the State Planning Organization (Devlet Planlama Teşkilatı- DPT with Turkish acronyms), and by regulations from the Energy Market Regulation Authority (Enerji Piyasası Denetleme Kurulu- EPDK with Turkish acronyms). In addition, the Ministry of Environment, Turkish Atomic Energy Agency (along with their other tasks), TÜBİTAK (The Scientific and Technological Research Council of Turkey), the Supreme Council for Science and Technology

²⁸⁸ Nazif Hulagu Sohtaoğlu, “Analysis of Created Value Added in the Electrical Power Sector: A Case Study of Turkey,” *Energy Policy*, Vol. 27, No. 4, 1999, pp.195-202, cited in Yılmaz and Uslu, “Energy Policies of Turkey...,” 2007, p. 263.

²⁸⁹ Yılmaz and Uslu, “Energy Policies of Turkey ...,” pp. 263, 264.

²⁹⁰ Ibid.

(Bilim ve Teknoloji Üst Kurulu, the highest body for science and technology policy making) and universities contribute to research and development.

The DPT prepares a development plan every five years. According to the Eighth Five-Year Development Plan for the period 2001-2005, the energy policy objectives are in accordance with the energy security model: First and foremost, Turkey's objectives in its energy policy is to "ensure sufficient, reliable and economic energy supplies in order to support economic and social development,"²⁹¹ followed by maintaining the security of energy supply. To that end, the aim is to encourage investments to meet the growing energy demand. The Development Plan listed other objectives, such as focusing on energy security to address increasing demand and import dependence, taking environmental concerns into account for sustainable development, strengthening research and development in energy technologies, and "[r]eforming and liberalizing the energy sector to increase productivity and efficiency and to enhance transparency."²⁹²

Some of the main principles of Turkey's energy policy and strategy the ETKB specified are as follows:

- Enhancement in oil and gas (the strategic resources) storage capacity,
- Resource and (supplier) country diversification,
- Prioritization of domestic resource utilization and development,
- Making the best of the country potential to become an energy hub,
- Participation in the transportation of the Middle Eastern and Caspian oil and gas to world markets,

²⁹¹ "Uzun Vadeli Strateji ve Sekizinci Beş Yıllık Kalkınma Planı 2001-2005, (Long-Term, Strategy and the Eighth Five-Year Development Plan 2001-2005)," *DPT*, 2000, p. 27, available at: <http://ekutup.dpt.gov.tr/plan/plan8.pdf>.

²⁹² *Ibid*, pp. 27, 28.

- Structuring the energy sector as a functioning transparent and competitive market,
- Participation and integration to regional cooperation projects, and
- Considering environmental impacts at all levels (production, distribution, etcetera...).²⁹³

Based on these principles, Turkey's energy policies aim at the liberalization of the energy sector and creating a competitive structure in order to increase productivity and to enhance transparency; diversification of resources to decrease dependency and to ensure energy security; transportation of resources in the East-West energy corridor through Turkey; and last but not least, advancement of studies on new energy technologies, including nuclear power.²⁹⁴

The considerable increase in net energy imports and the concomitant rise in import dependency since the early 1990s created energy security concerns. In order to reduce the risk of supply security, the government assigned a high priority to the use of domestic energy resources and to diversification in the type and origin of the imported energy resources. Since the share of natural gas has increased the most (by 16 Mtoe), the government aimed at increasing the share of renewables and domestic coal (lignite).²⁹⁵

A longer-term option is the use of nuclear power to address the dependency issue. It is expected to contribute 6.6% to electricity generation in 2020.²⁹⁶ Indeed, the DPT, in its 9th Five-Year Development Plan for 2007-2013, included nuclear

²⁹³ "The 2006 Performance Report of the Energy Ministry," *Republic of Turkey, Ministry of Energy and Natural Resources*, 2006, p. 1, available at: <http://www.enerji.gov.tr/yayinlar_raporlar/2006_faaliyet_raporu.pdf>.

²⁹⁴ *Turkey's Energy Strategy*, Republic of Turkey, Ministry of Foreign Affairs, Deputy Directorate for Energy, Water and Environment, January 2009, available at: <[http://www.mfa.gov.tr/data/DISPOLITIKA/EnerjiPolitikasi/Turkey's%20Energy%20Strategy%20\(Ocak%202009\).pdf](http://www.mfa.gov.tr/data/DISPOLITIKA/EnerjiPolitikasi/Turkey's%20Energy%20Strategy%20(Ocak%202009).pdf)>.

²⁹⁵ See *Energy Policies of IEA Countries-Turkey, 2005 Review*, International Energy Agency, 2005, p. 28, available at: <<http://www.iea.org/textbase/nppdf/free/2005/turkey2005.pdf>>.

²⁹⁶ *Ibid*, p. 135.

power among electricity generation resources in order to achieve diversification of the electricity supply. It was deemed integral to keep environmental impacts minimal, and to use energy efficiently and effectively from the production of energy until its final use. Second, in order to increase supply security, in terms of primary energy resources, the policy should be a balanced diversification of resource and supplier country. Increasing the share of domestic and renewable energy resources in the production system should be the target. Before the establishment of nuclear power plants, the plan foresaw detailed plans regarding waste disposal and storage as well as public relations.²⁹⁷

5.1.3.1. Energy Policy Administration

The main agencies involved in energy policymaking are, the ETKB and the DPT, along with the Ministry of Environment, TÜBİTAK, TAEK and universities as the institutions involved in the definition of research and development priorities. The Supreme Council for Science and Technology is the highest body for science and technology policymaking. The Supreme Council proposed nuclear power for Turkey's science and technology policy in 2005.²⁹⁸

Regarding the legislative process, the process in Turkey works as follows: Draft laws prepared by the government are submitted to the Speaker's Office with signatures of all ministers and accompanied with their legal bases. The President of

²⁹⁷ "The Ninth Development Plan, 2007-2013," *Official Gazette*, No. 26215, June 1, 2006, p. 69, available at: <ekutup.dpt.gov.tr/plan/plan9.pdf>; Also See the Board of Ministers Decision, No. 2006/10399, May 13, 2006/26167, where the aims of the Development Plan were endorsed.

²⁹⁸ "Bilim ve Teknoloji Yüksek Kurulu Onbirinci Toplantısı, Gelişmelere İlişkin Değerlendirmeler ve Kararlar (Science and Technology Supreme Council Eleventh Meeting, Assessments on Developments and Decisions)," *TÜBİTAK*, March 10, 2005, p. 50, available at: <http://www.tubitak.gov.tr/tubitak_content_files/BTYPD/btyk/11/11btyk_karar.pdf>.

the Parliament passes on these drafts directly to the relevant Parliamentary Commissions.²⁹⁹ Proposals for laws submitted by MPs may have one or more signatures, and they too are transferred to Commissions directly by the Speaker's Office.³⁰⁰ Draft laws are first discussed in the relevant Parliamentary commission and are submitted to Parliamentary vote, and if accepted, they are sent to the President for final approval. The President of the Republic, after reviewing them, may approve, disapprove or send them back to the Parliament for review. There are sixteen commissions in the Turkish Grand National Assembly (TBMM with Turkish acronyms), and the commission that tackles energy issues is the commission on "Industry, Trade, Energy, Natural Resources, Science and Technology". Since energy also pertains to a country's security, energy policies and/or strategies, it may be discussed in the National Security Council to conform to the country's security interests.

The Energy Ministry formulates and implements energy policies, makes plans and programs in co-ordination with dependent and related institutions and other public and private entities. In addition to these, it is charged with preparing and/or supervising programs in conformity with energy policy, ensuring the implementation of the programs, and supervising and controlling all exploration, development, production and distribution activities for energy and natural resources.³⁰¹ Research, Planning and Coordination Board (Araştırma Planlama ve Koordinasyon-APK), coordinates the activities of the dependent and related institutions and implements energy policy, and supports these tasks by conducting long-term energy planning and

²⁹⁹ Parliamentary Regulation, No: 14506, , Chapter IV, Article 73, (Entry into force: 13 April, 1973), available at: <<http://www.tbmm.gov.tr/ictuzuk/ictuzuk.htm> >

³⁰⁰ Parliamentary Regulation, 1973, Chapter IV, Article 74.

³⁰¹ "The Ministry," *Republic of Turkey, Ministry of Energy and Natural Resources*, (Date accessed: January 21, 2010),

<<http://www.enerji.gov.tr/index.php?dil=tr&sf=webpages&b=bakanlik&bn=200&hn=236&nm=378&id=378>>.

developing different policy scenarios. The main policy-making body of the Ministry is the General Directorate of Energy Affairs (Enerji İşleri Genel Müdürlüğü-EİGM). The EİGM coordinates the natural gas and electricity sector reform programs, carries out studies on energy and environmental policies, renewable resources and energy efficiency.³⁰² The DPT is an advisory body for the Prime Minister and helps the government in determining economic and social objectives and the policies to be adopted. Its tasks related to the energy sector are preparation of the five-year development plans with the Energy Ministry and the industrial sector, and preparing demand projections.³⁰³

Regarding electricity generation, in 1993, the Turkish Electrical Authority (TEK) with Turkish acronyms) was split into two state-owned companies, the Turkish Electricity Generation-Transmission Corporation (TEAŞ), and the Turkish Electricity Distribution Company (TEDAŞ). With the Electricity Market Law, no. 4628, issued in February 2001, TEAŞ was also divided into three companies, as Electricity Generation Company (EÜAŞ), Turkish Electricity Transmission Company (TEİAŞ) and Turkish Electricity Wholesale Company (TETAŞ). According to the same law, distribution companies should prepare their demand forecasts and submit them to TEİAŞ, which will prepare its transmission planning based on these forecasts and will submit it to the regulator for approval.³⁰⁴ The same law established the Energy Market Regulatory Authority as the independent regulatory authority for electricity. EPDK was also assigned other tasks in natural

³⁰² Law No. 3154, “Enerji Bakanlığının Teşkilat ve Görevleri Hakkında Kanun (The Law on the Organization and Duties of the Ministry of Energy),” 1985, Articles 10 and 14, <<http://www.mevzuat.adalet.gov.tr/html/706.html>>.

³⁰³ “1960 Sonrası Dönemde Planma (Planning after 1960),” *The Prime Ministry, Undersecretariat of State Planning Organization*, (Date accessed: January 21, 2010), <<http://www.dpt.gov.tr/PortalDesign/PortalControls/WebContentGosterim.aspx?Enc=51C9D1B02086EAFB4003A78664FD4F22296B175036E4346D5F63EE52CE5DE04A29A17579D6022DF4>>.

³⁰⁴ Elektrik Piyasası Kanunu (The Electricity Market Law), 20 February, 2001, <http://www.epdk.org.tr/mevzuat/kanun/elektrik/elektrik_piyasalari_kanunu.pdf>

gas and oil sectors after the enactment of the Natural Gas Market Law (May 2001) and the Petroleum Market Law (December 2003).³⁰⁵

5.1.3.2. The Turkish Atomic Energy Agency (TAEK)

The institution that is responsible with determining the framework of the country's policy on nuclear energy and the peaceful uses of the atom is the Turkish Atomic Energy Authority (TAEK). It was established in 1956, by the Law No. 6821, as the General Secretariat of Atomic Energy Commission as part of the Prime Ministry. In 1982, it was restructured with the Law No. 2690 as the Turkish Atomic Energy Agency (TAEK), and is under the auspices of the Prime Minister.³⁰⁶

TAEK is primarily assigned with determining the main elements of the national policy for the use of atomic energy for peaceful purposes, and submit them to the approval of the Prime Minister. Under the TAEK statute, duties, responsibilities and powers of the Agency include research and development, analysis and study for making use of atomic energy for the country's scientific, technical and economic development, and promoting and coordinating the studies carried out to that end.³⁰⁷ It is also assigned the authority to give approval, license and permits regarding site selection, construction, management and environmental safety for nuclear power and research reactors and fuel cycle facilities; and to

³⁰⁵ Doğal Gaz Piyasası Kanunu (The Natural Gas Market Law), No. 4646, 2 May 2001, <<http://www.epdk.org.tr/mevzuat/kanun/dogalgaz/dogalgazkanunu1.html>> ; Petrol Piyasası Kanunu (The Oil Market Law), No. 50154, December 2003, <<http://www.epdk.org.tr/mevzuat/kanun/petrol/Petrol.html>>.

³⁰⁶ "TAEK's History," *TAEK*, (Date accessed: November 25, 2009), <<http://www.taek.gov.tr/tr/hakkimizda/tarihce.html>>.

³⁰⁷ The TAEK Law, No. 2690 (Entry into force: 13 June 1982), Part II, Article 4, paragraph a, <http://www.taek.gov.tr/tr/belgeler-formlar/download/11/chk,9fe4df8f305b5afcbd15d0da0b589aa9/no_html,1/>.

regulate nuclear and radiological activities regarding nuclear safety and security, radiation safety, waste and transport safety and safeguard.³⁰⁸ In addition, TAEK is also charged with ensuring the safety of the public, of workers and of the environment from radiation's hazardous effects, determining the defense strategy against nuclear hazards and threats, raising personnel, cooperating with international institutions on nuclear field, working, and informing the public regarding nuclear issues.³⁰⁹ It also performs inspections for special nuclear materials, radioactive materials and nuclear facilities. Concerning research, it engages in experimental and theoretical studies at research centers in cooperation with universities and other related institutions, such as the Çekmece Nuclear Research and Training Center (ÇNAEM), which particularly carries out research and development programs addressing the issues for nuclear reactor and fuel technology.³¹⁰

The Atomic Energy Commission (Atom Enerjisi Komisyonu-AEK) prepares draft laws or regulations on nuclear issues, and submits them to the Prime Ministry.³¹¹ The Nuclear Safety Department (Nükleer Güvenlik Dairesi-NGD) carries out the duties regarding nuclear safety, site selection for nuclear facilities, construction, system engineering, hiring, management, physical prevention and prevention from radiation, nuclear material safety and control, and environmental safety services.³¹² Turkey is a party to the International Atomic Energy Agency Convention on Nuclear Safety but it has not signed or ratified the Joint Convention on the Safety of Spent Fuel Management or the Joint Convention of Radioactive Waste Management. The NGD also evaluates licensing applications for nuclear installations under the coordination and supervision of the TAEK Vice President in

³⁰⁸ TAEK Law, Part II, Article 4, paragraph e and f.

³⁰⁹ TAEK Law, Part II, Article 4, paragraph i.

³¹⁰ TAEK Law, Part II, Article 4, paragraph d.

³¹¹ The TAEK Law, Part III, Article 6/b paragraph 2.

³¹² The TAEK Law, Part III, Article 7, paragraph a.

charge of nuclear power and safety. The application requirements and procedures of licensing activities for all nuclear installations are regulated by the “Decree Pertaining to Issue License for Nuclear Installations.”

Regarding research and exploration of resources, including thorium and uranium, it is the Mineral Exploration and Research Directorate (Maden Tetkik ve Arama-MTA), which is tasked with systematic investigation and research. In addition, the related departments of some universities in Turkey are engaged in research and development activities in nuclear technology, such as the Nuclear Energy Engineering Department of Hacettepe University in Ankara. TAEK also has programs for the education of personnel in the nuclear field at its research and training centers, laboratories, test facilities, pilot plants (without energy producing purposes), and it also cooperates with universities. Nuclear research and development (R&D) in Turkey comprises reactor technologies, fuel cycle technologies and technologies for agricultural, industrial and medical applications.³¹³ The pilot fuel plant (ÇNAEM) facilitates R&D on the front-end of the nuclear fuel cycle, such as uranium purification and pellet production. Other activities include radioisotope production, neutron activation analysis, material testing, and training. Turkey has a nuclear research reactor in operation since 1962.³¹⁴

³¹³ The TAEK Law, Part II, Article 4, paragraph c.

³¹⁴ “Çekmece Nükleer Araştırma ve Eğitim Merkezi (ÇNAEM),” *TAEK*, (Date accessed: November 25, 2009), <<http://www.taek.gov.tr/tr/birimler/bagli-kuruluslar/99-cnaem.html>>.

5.2. The History of Turkey’s Plans for Peaceful Nuclear Technology Transfer

Turkey’s plans to build nuclear reactors for energy generation date back to the 50s, but the decades that followed were marked by a series of unsuccessful attempts. This section will provide an historical account of these attempts by looking at the decades they were made³¹⁵.

5.2.1. The 50s and 60s: Initial attempts

With the “Atoms for Peace” proposal of the US President D.D. Eisenhower in 1953, the United States promoted the peaceful uses of the atom. In the Geneva Conference of 1955, some secrets were revealed for the use nuclear energy for peaceful purposes.³¹⁶ Following these developments, Turkey decided to step into the “nuclear age,” and signed an agreement with the United States on “cooperation on the civilian use of the atomic energy” on 10 June 1955. The agreement stimulated both the state and the academia to take the initiative to establish the necessary base for skilled personnel, and scientific and technical infrastructure. In 1956, Istanbul University (İÜ) and Istanbul Technical University (İTÜ) came together in a joint committee- the “İÜ-İTÜ Reactor Committee- in order to build a joint nuclear research center (ÇNAEM) and a research reactor.³¹⁷ ÇNAEM was opened in 1961. Meanwhile the TR-1, a 1 MWe research reactor was installed between 1959 and

³¹⁵ The categorization is borrowed from Mustafa Kibaroglu, “Turkey’s Quest for Peaceful Nuclear Power,” 1997.

³¹⁶ Ibid, p. 34.

³¹⁷ Ahmed Yüksel Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, İstanbul: Pınar, 2002, p.135.

1962. In February 1962, the TR-1 reactor went critical³¹⁸, and the center was officially inaugurated in 27 May 1962. Physics, chemistry, radiobiology departments, and supporting technical departments, like, mechanical workshop, electronics and reactor management, were established in this center. In addition, in 1967, the Ankara Nuclear Research and Training Center (ANAEM) was launched.³¹⁹

The TR-1 reactor was used for 15 years to produce radioisotopes, and several neutronic experiments. To meet the gradually rising demand for radioisotopes, it was shut down in September 1977 and a new reactor with a 5 MWe power, the TR-2, was designed and launched just for isotope production, and it went critical in December 1981. Furthermore, the Triga Mark II reactor with 250 kW power started functioning in Istanbul Technical University-Nuclear Energy Institute in March 1979. It was used particularly for research, and partly for isotope production.³²⁰

On August 27, 1956, the Law on the Atomic Energy Commission, No. 6821, entered into force. It led to the establishment of an institution under the auspices of the Prime Ministry, which would administer all nuclear activities, such as the processes to build nuclear research and training centers, and issuing licenses for nuclear power plants.³²¹ In 1957, with the Law No. 7015, it was agreed that Turkey would become a member of the IAEA. In 1958, the İÜ-İTÜ Reactor Committee was abolished and its duties were transferred to the Atomic Energy Commission. In 1959, the Law No. 7091, established the legal framework for isotope production. With new laws passed between 1959 and 1961, new regulations were made regarding the

³¹⁸ There is a minimum amount of fuel needed in the core of the reactor to start a self-sustaining chain reaction. The Term, “to go critical” is used when the reactor starts up.

³¹⁹ “TAEK’s history,” 2009.

³²⁰ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, pp. 136, 137.

³²¹ “TAEK’s history,” 2009.

applications of nuclear technology. With the Law No. 2690, the Turkish Atomic Energy Agency was established in 1982.³²²

Although courses on nuclear physics were taught by the beginning of the 1950s, particularly in the İÜ Faculty of Science and Ankara University's Faculty of Science, the systematic education on nuclear energy started in 1961 with the establishment of the Nuclear Energy Institute in Istanbul Technical University (İTÜ-NEE with Turkish acronym). In 1982, the department of nuclear engineering was opened in Hacettepe University in Ankara. Besides, between 1960 and 1980, in the Aegean (Izmir) and Bosphorus Universities (Istanbul), nuclear energy institutes were established, and in the Middle East Technical University's Mechanical Engineering Department, a nuclear engineering track was launched.³²³

As a result of these efforts for education, between 1957 and 1987, some 1000 nuclear engineers, nuclear experts, nuclear physicists, nuclear technicians were educated at home and abroad, and formed the technical personnel infrastructure. However, because of the interruptions in the tender processes, and the abolishment of some institutions, these personnel were employed either in TAEK or in universities. Few of them were employed on site, some of them were retired, and some were lost in brain drain.³²⁴

The idea that Turkey should have a nuclear power plant was first proposed openly in the first Atomic Energy Commission. However, the first studies on the plants were carried out by a working group under the Electricity Works Studies Department (Elektrik İşleri Etüd İdaresi- EİEİ) beginning from 1965. A consortium composed of an American, a Swiss and a Spanish firm advised the EİEİ. In their final report in 1969, they recommended that the first nuclear power plant be 400 MW

³²² Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, pp. 135, 136.

³²³ Ibid, p. 136.

³²⁴ Ibid, p. 139.

pressurized heavy water reactor operating with natural uranium. The then government planned to start construction in 1970. However, domestic political developments in early 1970s and changes resulted in a decision that all electrical works be re-structured under Turkish Electrical Authority. Interest waned on nuclear power, and the lack of a strong political commitment failed to generate a decision to start construction.³²⁵

5.2.2. 1970s: Proposal for a nuclear plant in Akkuyu, Ecevit-Erbakan government.

In 1972, the Nuclear Power Plants Department was established in Turkish Electrical Authority (TEK). It was agreed in 1974 that a nuclear power plant would be established. Comprehensive feasibility, site selection and bid specification studies were initiated between 1972 and 1974 for a 600 MWe nuclear power plant.³²⁶ As a result of these studies, the Akkuyu region along the Mediterranean sea, situated 80 km west of Silifke-Mersin, was found suitable for a nuclear power plant site.³²⁷

TAEK licensed Akkuyu in 1976 by looking at the results of seismic studies, soil mechanics research, meteorological and oceanographic evaluation and research. TEK decided on Akkuyu with reference to the criteria of electricity consumption, convenience for transportation, closeness to the sea, seismic tests, and population rate.³²⁸

³²⁵ Ibid, p. 137.

³²⁶ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, pp. 137-138; Kenan Ünlü, "Turks Take Steps to Revive Their Nuclear Program," *Nuclear Engineering International*, January 1995, pp. 16-7.

³²⁷ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, p. 138

³²⁸ See Erdoğan Demirtaşlı, *Mersin'in Gülnar ilçesinde Akkuyu mevkiinde kurulacak olan nükleer santral yeri ile ilgili yerel jeolojik araştırma raporu (The local geological research report on the site of the nuclear power plant to be constructed in the Akkuyu province of Mersin's Gülnar district)*, The

Apart from all these criteria, regarding the risks, and spread of radioactive elements to the nature and people, Akkuyu was chosen. Around such plants, a circular area with a 1.2 km-diameter is left uninhabited, and the area with 18 km in diameter following that circle is chosen according to the sparse population.³²⁹ The studies on Akkuyu went on with the help of some 40 domestic and foreign scientific institutions until 1982. Later on, TAEK invited an expert group from the IAEA, which reviewed these studies and prepared a report until 1983 verifying that the studies carried so far were accurate, and the selection of Akkuyu for a nuclear power plant was appropriate. In 1977, talks started with Swedish firms but were cancelled in 1979. The talks did not end in an agreement mainly due to the lack of political will to finalize the process,³³⁰ and the military coup in 1980.

5.2.2.1 Protests start against Akkuyu

In 1976, the chairman of a local organization for fishery and agriculture, who was inspired by anti-nuclear protests in France, along with some journalists, revealed that the research activities carried out in the region was for the establishment of a nuclear power plant. They also informed the local fishermen about the disadvantages and risks of nuclear power plants. They continued their activities to raise awareness through articles in the wide circulation media, books, and anti-nuclear themed posters and conferences. They could attract local civil society organizations as well

Turkish Electrical Authority and the General Directorate of Mineral Research and Exploration Geology Department Report, 1983.

³²⁹ “Atom Santrali için Radyasyon Tehlikesine Karşı Nüfusu Az Olan Akkuyu Seçildi (For the Atomic Plant the Low Population Akkuyu was Chosen against the Danger of Radiation,” *Cumhuriyet*, June 8, 1978, p. 1.

³³⁰ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, p. 138.

as national ones, such as the TMMOB (The Union of Chambers of Turkish Engineers and Architects-Türk Mühendis ve Mimar Odaları Birliği).³³¹

5.2.3. 1980s: Özal and a new economic system; political concerns

Early 1980s mark the beginning of a new era characterized by the performance of the late Prime Minister Turgut Özal. He envisioned that Turkey would be integrated with the rest of the world, as opposed to the previous economic models shaped by inward-looking economic policies. In 1982, TAEK was established as a governmental organization under the direct supervision the Prime Minister.³³² Studies for site selection for another nuclear power plant began in early 1980s, and İnceburun-Sinop was selected by the Nuclear Power Plants division of TEK.³³³ Without a tender process for the nuclear power plant, in 1982, the Atomic Energy of Canada Limited (AECL), Siemens-Kraft Werk Union (KWU) of Germany and General Electric (GE) of the United States were asked to submit bids. The Statute No. 7405, on “Licensing Nuclear Facilities” entered into force in 1983. In November 1983, the negotiations with AECL, KWU and General Electric started.³³⁴

The expert team by General Electric concluded that a nuclear power plant in Sinop was not feasible, because of the insufficient studies on earthquake zones under the Black Sea. While talks with the Americans stalled, they continued with the

³³¹ Künar, “*Don Quichottes*” against *Akkuyu*, ..., 2002, pp. 26, 28.

³³² “TAEK’s history,” 2009.

³³³ Interview with T. Fikret Tekin, a geologist, who participated in the commission to license the *Akkuyu* site, March 6, 2007, Ankara.

³³⁴ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, pp. 138, 139.

Canadian and German firms.³³⁵ Although in August 1984, there was an agreement, the government declared that it changed the basic provision of the tender from turn-key to build-operate-transfer (BOT). However, it discouraged the KWU and General Electric. On the basis of the turn-key agreement, it was agreed that a PHWR (Pressurized Heavy Water Reactor) and PWR would be built in Akkuyu, and then two BWR power plants in Sinop, where the site-selection process was going on.³³⁶ A pre-agreement was signed with AECL on the basis of the BOT model. However, the attempt failed due to the lack of will as a result of the government's inclination towards thermal power plants, and as a result of the Canadian government's decision that the BOT was too risky.³³⁷ Then, the AECL also faced financial problems when it asked a loan guarantee from the Canadian government and banks, and could not receive it from the former.³³⁸

Without a tangible result from the talks with Canadian and German firms, Turkey sought other cooperative ventures in the nuclear field, and signed a nuclear cooperation agreement with Argentina in May 1988. The agreement foresaw transfers of technical assistance, such as front-end nuclear fuel cycle research and development, and research on power and research reactor planning, construction, quality assurance, operation and regulation. It also included provisions about IAEA safeguards to apply to all nuclear material designed for the use of nuclear technology to be transferred.³³⁹ Turkey also engaged in talks with Argentina for the construction of the CAREM-25, an Argentine-made 25 MWe nuclear reactor in Ankara which

³³⁵ Ahmet Kütükçüoğlu, "Turkey's Joint Venture Scheme," *Nuclear Engineering International*, March 1986, p. 29, cited in Kibaroglu, "Turkey's Quest..." 1997, p. 36.

³³⁶ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, p. 138.

³³⁷ *Ibid*, 138, 139.

³³⁸ "Still Negotiating," *Nuclear Engineering International*, June 1987, p. 38, cited in Kibaroglu, "Turkey's Quest..." 1997, p. 36.

³³⁹ See Richard Kessler, "Argentina Says Nuclear Accord With Turkey Sets Stage for Exports," *Nucleonics Week*, May 12, 1988, pp.8-9; "Argentina and US in Cooperation Talks" *Nuclear Engineering International*, November 1988, p.3, cited in Kibaroglu, "Turkey's Quest..." 1997, p. 37.

included representatives from the Turkish firm STFA and TEK and two Argentine firms.³⁴⁰ However, there was no progress because of political concerns, which will be dealt with in more detail below.

Because of the failures of the attempts, there was a sense that Turkey was done with nuclear power plants, and the related personnel started to move gradually to other institutions, that is, there was disintegration in the cadres. The new administration of the TEK closed the Nuclear Power Plants Department in 1988 on the grounds that it was no longer necessary. In TAEK several skilled personnel either went to other institutions or went abroad.³⁴¹

5.2.3.1. Political concerns during the talks

Turkey committed in both AEK and TAEK establishment laws that it would use nuclear power for civilian purposes. Still, proliferation concerns of the governments of the firms or international actors were important factors that prevented the finalization of tenders during the 1980s. Ankara ratified the NPT in April 1980, and committed itself not to produce nuclear weapons, and not to help states seeking nuclear weapons. In addition, by the safeguards agreement of 1981 with the IAEA, it agreed for inspections in all existing and prospective nuclear facilities.

There were allegations at this period that Turkey and Pakistan were illicitly cooperating on nuclear matters. The United States was concerned about Turkish-Pakistani cooperation in 1981 on strategic nuclear material trade with the potential of

³⁴⁰ “Agreement Signed to Build CAREM,” *Nuclear Engineering International*, December 1990, p. 8.

³⁴¹ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, p. 139

military applications.³⁴² During the talks with Canadian and German firms, political considerations of their respective governments were conducive to their withdrawal. The KWU was probably discouraged from an agreement because of the reaction of the West German government to Turkey's improving relations with East Germany. The Canadian AECL most likely bowed to pressure from Western countries which were concerned about the possibility that Turkey may build a nuclear bomb based on CANDU (Canadian Deuterium-Uranium) technology.³⁴³ The Greek, Israeli and French opposition impeded financing for the project, because Western countries worried that Turkey would follow Pakistan by modifying the technology to gain the capability to build an atomic bomb.³⁴⁴

The talks with Argentine firms could not advance because of the decision to appoint the former head of Argentina's nuclear energy commission as the new ambassador to Turkey. This decision caused unease on the part of the United States, the Soviet Union, Germany and Brazil. The United States worried that this technology could be transferred to Pakistan.³⁴⁵ On the other hand, regarding the Akkuyu bid, where German, Canadian and American firms were involved, officially, the United States rejected the existence of proliferation concern resulting in the cancellation of the project. A US official stated that despite the concerns with some dual-use exports from Turkey to Pakistan, the United States did not act to prevent US vendors to build a nuclear reactor in Turkey on suspicions that Turkey might have a clandestine nuclear program in the future. He added that if there were such concerns,

³⁴² Kibaroglu, "Turkey's Quest..." 1997, p. 35.

³⁴³ "Canadian Firm Drops Bid to Build Nuclear Plant," *Nuclear Developments*, February 25, 1988, p. 39.

³⁴⁴ Ibid.

³⁴⁵ "Argentina to Help Acquire 'Nuclear Technology'," *Nuclear Developments*, June 21, 1988, p. 39; "Nuclear Pact With Argentina 'Secretly Signed'," *Nuclear Developments*, November 15, 1990, pp. 29-30; "Secret Talks' With Argentina on Nuclear Plant," *Nuclear Developments*, October 6, 1989, pp. 31-32, cited in Kibaroglu, "Turkey's Quest..." 1997, p. 37.

they would not have allowed the American firm, General Electric to bid from the outset.³⁴⁶

Turkey's attempts for nuclear technology transfer were short of alleviating the fears of the West about proliferation. Moreover, particularly after the nuclear plant accident in Chernobyl in 1986, there was heightened awareness on environmental issues, and public opinion turned against nuclear power plants.

5.2.3.2 Chernobyl and the birth of the anti-nuclear platform

The anti-nuclear groups organized a signature campaign after Chernobyl. It remained limited, but the "triumph" of the environmental protests against the establishment of thermal power plant in Aliğa, by the Aegean Sea, gave spur to similar protests against the power plant in Akkuyu. The forerunners of the movement wanted to publish a journal for media attention. The Greens and environmental organizations supported the project, and in September 1992, the *Ağaçkakan (Woodpecker)* journal was published that contained the file on "Nuclear Honeymoon." In the same period, Greenpeace initiated its first campaign in Turkey. The anti-nuclear platform was launched in 1993 with the call from the Ağaçkakan journal to local organizations. Anti-nuclear meetings were held in big cities, including Istanbul, Ankara, Izmir, Bursa, Zonguldak and Mersin. The protesters of nuclear power plants started confronting with the officials in panels on the one hand, and organizing protests, signature campaigns, and mailing to the President, Prime Minister and MPs on the other. The platform decided to organize a "counter-

³⁴⁶ Mark Hibbs, "Turkey's Pro-US Regime Extends Bidding, Which May Boost Westinghouse Bid," *Nucleonics Week*, Vol. 38, No. 36, September 4, 1997, p. 7.

conference” at the time when there would be nuclear technology conference in Ankara, and they found support from various newspapers, trade unions and civil society organizations. Similar activities were organized in 1994 in Istanbul and Izmir, particularly street protests and campaigns that coincided with energy congresses.³⁴⁷

Rock bands played an important role in the formation and strengthening of the anti-nuclear public opinion in the United States and in Europe, and the same method was followed in Turkey: Public figures were extensively involved in campaigns and activities against the establishment of nuclear power plants. Rock bands and musicians performed in anti-nuclear campaigns beginning from 1993. Writers, caricature artists, graphic artists, film makers contributed to these campaigns with their works. Photo exhibits concerning the impacts of radiation on people were utilized to raise awareness at the public level and strengthen the opposition.³⁴⁸

5.2.4. 1990s: Ecevit-Yılmaz government, Akkuyu and Financial constraints

A 1992 Energy Ministry report presented nuclear power as an indispensable option to prevent the energy shortage in the following two decades.³⁴⁹ The then Minister of Energy Ersin Faralyalı, stated that a consensus in the Parliament would create a positive public opinion and would precipitate the generation of nuclear

³⁴⁷ Künar, “*Don Quichottes*” against Akkuyu, 2002, pp. 39-41.

³⁴⁸ Künar, “*Don Quichottes*” against Akkuyu, 2002, pp. 61-65.

³⁴⁹ Özemre, *Ah Şu Atomdan Neler Çektim (Oh What I Suffered From The Atom!)*, 2002, pp. 139,140.

power.³⁵⁰ In 1993, the Higher Council of Science and Technology identified nuclear technology among the top five technologies as a national goal.³⁵¹ In 1995, TEAŞ, in order to make the preliminary analysis of the Nuclear Power Plant (NPP) tender, awarded a consultancy contract to a South Korean firm, the Korea Atomic Energy Research Institute (KAERI), for the construction of 1,200 MWe nuclear plant to be built in Akkuyu.³⁵²

The tender announcement specified that the bids would be turnkey and with 100% financing. In early 1997, TEAŞ announced the bidders to construct the Akkuyu nuclear power plant.³⁵³ The period between 1996 and early 1997 was the initial phase of the bidding process, and during that time, it was reported that the AECL tried to convince Prime Minister Necmettin Erbakan on the grounds that the Canadian technology would render Turkey self-sufficient in nuclear power, because it used natural uranium instead of enriched uranium, by which TEAŞ could exploit domestic uranium resources. After the Erbakan government ended with a crisis in early 1997, he was succeeded by the Mesut Yılmaz government. Yılmaz was determined to strengthen relations with the United States. The United States, Germany and France stepped up their lobbying activities respectively for

³⁵⁰ Former Minister of Energy, Ersin Faralyalı's remarks, *BYEGM*, December 6, 1992, <<http://www.byegm.gov.tr/ayintarihidetay.aspx?Id=208&Yil=1992&Ay=12>>.

³⁵¹ Türk Bilim ve Teknoloji Politikası 1993-2003, *TÜBİTAK*, February 3, 1993, available at: <http://www.tubitak.gov.tr/tubitak_content_files/BTYPD/btyk/2/2btyk_karar.pdf>.

³⁵² Özemre, *Ah Şu Atomdan Neler Çektim*, 2002, p. 140.

³⁵³ The Mitsubishi Heavy Industries (MHI) of Japan, Westinghouse Electric Corp. and Raytheon of the United States together with Turkey's Enka; Atomic Energy of Canada Ltd (AECL) with Kvaerner-John Brown of the UK and Hitachi of Japan, with Turkish firms Gama-Güriş-Bayındır; The German-French consortium composed of Nuclear Power International (NPI), Siemens and Framatome, collaborating with Campenon Bernard, Hochtief AG, and the Turkish finance, construction, and engineering firms Garanti Koza, STFA, Tekfen, and Simko; and Ansaldo Energia of Italy: "Akkuyu bidders announced," *Nuclear Engineering International*, March 31, 1997, p. 4; Mark Hibbs, "Regional Gas Market Keys to Turkey's Akkuyu Project," *Nucleonics Week*, 28 August, 1997, Vol. 38, No. 35, p. 10.

Westinghouse, and for the NPI (Nuclear Power International: The Siemens-Framatome Consortium).³⁵⁴

The Yılmaz government lasted until 1999. Out of the 1999 election, a new coalition government was formed, which included The Democratic Left Party (DSP with Turkish acronyms, left), and Bülent Ecevit as the Prime Minister, the Nationalist Action Party (MHP with Turkish acronyms, far right) and the Motherland Party (ANAP). The Energy Minister of the new coalition government under Ecevit's premiership, Cumhur Ersümer, from ANAP, was very determined for the establishment of the nuclear power plant in Akkuyu.³⁵⁵ Enis Öksüz, the then Minister of Transportation, and from the same party, was less polite and called those against nuclear power plants "idiot."³⁵⁶ However, the Treasury did not give purchase guarantees, and this decision was supported also by the IMF and World Bank.³⁵⁷ The project ran into hurdles and was followed by corruption lawsuits.³⁵⁸ The bidding companies were in dispute;³⁵⁹ the nuclear project competed with defense projects;³⁶⁰ and there were proliferation concerns.³⁶¹

With the end of the Cold War, Turkey's relations with the newly independent states in Central Asia and Caucasus increased international concerns, since some of

³⁵⁴ Mark Hibbs, "Regional Gas Market Keys to Turkey's Akkuyu Project," 1997.

³⁵⁵ "Ersümer'den Greenpeace'e Rest (Ersümer's Challenge to Greenpeace)" *Sabah*, October 21, 1999, <<http://arsiv.sabah.com.tr/1999/10/21/p03.html>>.

³⁵⁶ "Nükleer Santrale Karşı Çıkanlar Gerizekalıdır (Those against Nuclear Plant are Idiot)," *Sabah*, December 5, 1999, <<http://arsiv.sabah.com.tr/1999/12/05/p07.html>>.

³⁵⁷ "Hazine Garantisizliğine DB ve IMF Desteği (Support from WB and IMF to No-Guarantee [to the Nuclear Project] by the Treasury," *Sabah*, April 23, 2000, <<http://arsiv.sabah.com.tr/2000/04/23/e04.html>>.

³⁵⁸ "Nükleer Santral Pazarlığı Yapmış," *Akşam*, October 23, 2002,

<<http://www.aksam.com.tr/arsiv/aksam/2002/10/23/yazidizi/yazidizi1.html>>; See "DGM'den Ağır Ceza'ya (From the State Security Court to Heavy Penalty (Court)" *Sabah*, May 5, 2001, <<http://arsiv.sabah.com.tr/2001/05/05/p09.html>>.

³⁵⁹ Ercan Ersoy, "Turkey nuclear bid may hit new challenges", *Reuters News*, February 23, 2000.

³⁶⁰ Ibid.

³⁶¹ Ezelhan Üstünkaya, "Hem Atomcu Hem Çevreci! (Both Atomist and Environmentalist!)", *Milliyet*, March 15, 2000, <<http://www.milliyet.com.tr/2000/03/15/haber/hab09a.html>>; Zülfikar Doğan, "Nükleeri Karıştıran Mektup", *Milliyet*, April 9, 2000, <<http://www.milliyet.com.tr/2000/04/09/ekonomi/eko00.html>>

them possessed nuclear facilities.³⁶² In April 2000, the Energy Minister, Ersümer, declared the decision by the government to postpone the nuclear-plant project until July 2000 due to financial constraints as a result of the IMF-backed economic program.³⁶³ On 25 July 2000, the late Prime Minister Ecevit declared that the tender for the nuclear power plants was cancelled due to the shortage of funds to construct the power plant. He drew attention to the TAEK report that in 15-30 years, there would be problems with natural gas, and suggested that there would be a need for several nuclear power plants, not one nuclear power plant. Therefore, if Turkey invested on this project on borrowed funds, it would jeopardize the economic program which aimed at decreasing inflation. So, if the available funds were pushed to limits and a large amount of foreign loans were taken for financing, then, inflation would increase.³⁶⁴

Ecevit drew attention to the fact that in the meantime, the applications of wind and solar energy could be widened, and suggested that the abundant thorium reserves in Turkey could substitute the current input of nuclear reactors, that is, uranium. At the same time, hydraulic and natural gas projects should be accelerated without delay, and wind and solar energy should be utilized. He also added that the losses in the electrical grid should be addressed, and extravagant use of electricity should be prevented.³⁶⁵

The tender process led to several rows and rumors on corruption cases, and it was one of the reasons of the postponement by the government.³⁶⁶ It was also argued

³⁶² Kibaroglu, "Turkey's Quest..." 1997, p. 38.

³⁶³ "Nuclear-plant decision postponed until July," *The Globe and Mail*, April 22, 2000, p. A22.

³⁶⁴ "Ecevit: Akkuyu ile İlgili İhalelerin İptali Nükleer Enerjiden Vazgeçmek Anlamına Gelmiyor," *BYEGM*, July 26, 2000, <<http://www.byegm.gov.tr/YAYINLARIMIZ/HABERANADOLU/HABER-ANA/2000/07/HA00X07X26.HTM>>.

³⁶⁵ "Akkuyu İptal (Akkuyu Cancelled)," *Hürriyet*, July 26, 2000, <<http://webarsiv.Hurriyet.com.tr/2000/07/26/226325.asp>>.

³⁶⁶ "Nükleer Santral Pazarlığı Yapmış ([He] Negotiated on Nuclear Power Plant)," *Aksam*, October 23, 2002, <<http://www.aksam.com.tr/arsiv/aksam/2002/10/23/yazidizi/yazidizi1.html>>; See

that Ecevit cancelled the tender because whichever firm the tender for the Akkuyu power plant would be granted, the rest of the two would sue the winning consortium for the cancellation of the tender. This in turn, would strengthen the arguments on corruption, and would extend the criminal activity web to irritate some ministers, and as a result would destabilize the coalition.³⁶⁷

In the 1990s, Turkey faced financial problems for new projects on energy which were based on generating electricity from water and coal, therefore it became necessary to seek alternative energy resources. Overall, the attempts failed because of the absence of a national energy strategy coupled with international concerns for proliferation and domestic political reasons.³⁶⁸ Nuclear energy was seriously contemplated to meet the growing demand and with a national source (to decrease dependency)- which motivated the Justice and Development Party government to make nuclear technology a part of its policy.

5.2.4.1. Anti-nuclear movement becomes national in scope

As the government announced the tender for Akkuyu in 1996, the anti-nuclear platform organized annual fests in the town, which brought together activists and the local residents. In this period, chambers got involved and helped the movement to become national.³⁶⁹ The protests in Bergama had reversed the government decision for gold mining in the region, and in 1999, the residents of

“DGM’den Ağır Ceza’ya (From the State Security Court to Heavy Penalty (Court)” *Sabah*, May 5, 2001, <<http://arsiv.sabah.com.tr/2001/05/05/p09.html>>.

³⁶⁷ Harun Odabaşı, “Akkuyu Nükleer Savaşı (The Akkuyu Nuclear War),” *Aksiyon*, No. 415, November 18, 2002, <<http://www.aksiyon.com.tr/yazdir.php?id=2131>>.

³⁶⁸ Kibaroglu, “Turkey’s Quest...” 1997, p. 34.

³⁶⁹ Künar, “*Don Quichottes*” against Akkuyu, 2002, pp. 128, 138.

Bergama joined those in Akkuyu for a more effective resistance. The cancellation of the tender in 2000 gave confidence to the anti-nuclear movement. Greenpeace supported the movement with demonstrations, conferences and reports. Their protests in front of governmental buildings, such as the Turkish Electrical Authority and the Energy Ministry received media attention. They carried out a symbolic referendum in Akkuyu in 1999 with an 84% against. Greenpeace called the Energy Minister to stop the tender by putting a giant poster on the Bosphorus Bridge.³⁷⁰ After Akkuyu, anti-nuclear platforms were formed in Mersin, Sinop and Izmir.

5.2.5. 2002-present: Erdoğan government re-tabled nuclear plans

The Erdoğan government re-tabled nuclear power as one of the alternative energy sources to reduce supply security risks caused by the dominance of imported fuels and to ensure diversity in power generation. In 2004, the Energy Ministry revived the nuclear project and launched studies for a long-term and comprehensive nuclear power program. Turkey and the United States agreed to cooperate on the civilian uses of nuclear energy, and the agreement was ratified by the Parliament on January 14, 2004.³⁷¹ A 2004 report by the Turkish Electricity Transmission Company foresaw that between 2011 and 2015, a 4500 MW nuclear capacity would be installed on the basis of the assumption that the energy demand would increase by

³⁷⁰ Ibid, pp. 177-183.

³⁷¹ Türkiye Cumhuriyeti ile Amerika Birleşik Devletleri Arasında Nükleer Enerjinin Barışçıl Kullanımına İlişkin İşbirliği Anlaşması ve Eki Mutabakat Zaptının Onaylanmasının Uygun Bulunduğuna Dair Kanun (The Law on the Approval of the Agreement between the Republic of Turkey and the United States on the Peaceful Use of Nuclear Power, and the Memorandum of Understanding) No. 5068, January 14, 2004, available at: <<http://www.tbmm.gov.tr/kanunlar/k5068.html>>.

7.9% between 2005 and 2020.³⁷² At the end of 2005, the government announced the plans to have at least three nuclear power stations with a capacity of 5000 MW in operation by 2012.³⁷³ In January 2006, The Energy Minister declared the date launch of nuclear power would take place in 2015.³⁷⁴

The Ministry foresaw that it was necessary to make new investments of 56.500 MW in high scenario, and for 40.500 MW in low scenario, until 2020.³⁷⁵ The ETKB report warned that Turkey's dependence on foreign resources was around 72%, and if no measures were taken, this would increase to 80%. After the meetings on the relationship between energy and climate change, the Energy Ministry reported to the Environment and Forestry Ministries that the most convenient options for sustainable development were renewables, the efficient use of energy, clean coal technologies and nuclear energy.³⁷⁶

Since 2003, the Justice and Development Party (AKP with Turkish acronyms) government stated its determination to make use of nuclear power to meet Turkey's energy needs for the future. Nuclear energy was also in the AKP's 2002 elections declaration, where it was stated that AKP's energy policy was based on cheap and reliable access to energy, a competitive energy market, decreasing the burden on public budget, and the preservation of the environment and human health. Their rationale was to provide an alternative or a substitute to the natural gas-operated

³⁷² *Türkiye Elektrik Enerjisi Üretim Planlama Çalışması 2005-2020 (Turkish Electrical Energy Generation and Planning Study 2005-2020)*, Türkiye Elektrik Üretim İletim A.Ş. Araştırma Planlama ve Koordinasyon Daire Başkanlığı (Turkish Electricity Generation and Transmission Company, Research, Planning and Coordination Department), November 2004. The results of the study are available at:

<http://www.teias.gov.tr/apkuretimplani/sonuclar.htm#_Toc84405681>.

³⁷³ "Ulusal Nükleer Teknoloji Politikası (The National Nuclear Technology Policy)," *TAEK*, July 2, 2009, available at: <http://www.taek.gov.tr/tr/belgeler-formlar/func-download/10/chk,744c76c8752f373f4ecf4c470d16e99c/no_html,1/>.

³⁷⁴ The Energy Minister Hilmi Güler's speech on the Ministry's 2007 Budget to the TGNA General Board, December 20, 2006, p. 34,

<www.enerji.gov.tr/yayinlar_raporlar/2007_Butce_Konusmasi.pdf>.

³⁷⁵ "The 2006 Performance Report of the Energy Ministry," 2006.

³⁷⁶ *Ibid.*

power plants, which were basically dependent on foreign sources, and with an aim to observe environmental safety.³⁷⁷ After assuming power, the AKP included this policy in its government program: To avoid energy shortage, “environmentalist nuclear energy sources”³⁷⁸ would be introduced (meaning those technologies not posing a threat to the environment or human health), along with energy resource diversification.³⁷⁹

The official statement of the Energy Ministry explained the rationale behind the nuclear energy project on the basis of the criteria that made up Turkey’s energy strategy: That nuclear energy was cheap and environment-friendly, which would boost Turkey’s development, and would help establish the high-technology products and infrastructure.³⁸⁰ The Energy Ministry and TAEK prepared a “National Nuclear Technology Policy.” In addition to the utilization of domestic resources for energy supply, they foresee the establishment of a 5,000 MWe nuclear production capacity until 2015 with reactor technologies using natural uranium and pressurized water reactors.³⁸¹ The policy aimed at the formation and development of the legal, institutional, industrial and personnel infrastructure in accordance with up-to-date technologies. It also included support for research and development activities in the

³⁷⁷ *Adalet ve Kalkınma Partisi Seçim Bildirgesi (The Election Statement of the Justice and Development Party)*, Part 6, September 26, 2002, <<http://www.belgenet.com/secim/bildirge/akp2002-4.html>>.

³⁷⁸ See Erdoğan’s remarks: TGNA General Board Minutes, 22th Term, 1st Legislative Year, 49th Session, March 18, 2003.

³⁷⁹ The Program of the 59th Government submitted by Prime Minister Recep Tayyip Erdoğan to the Turkish Grand National Assembly, March 18, 2003, <<http://www.basbakanlik.gov.tr/docs/hukumetprgr.doc>>.

³⁸⁰ “Nuclear Energy,” *Republic of Turkey, Ministry of Energy and Natural Resources*, May 20, 2009, <<http://www.enerji.gov.tr/index.php?dil=tr&sf=webpages&b=nukleerenerji&bn=224&hn=224&nm=384&id=388>>.

³⁸¹ When the policy was announced, the tender process was still in effect. The specification for the use of natural uranium or pressurized water reactors would point at some firms and exclude others. Hence, it contradicts with measures of TAEK for bidding.

nuclear field, and at the same time would encourage the participation of the private sector in nuclear technology investments.³⁸²

Regarding the applications of nuclear technology, the policy sought to widen the uses of nuclear technology to fields like, medicine, industry, agriculture, animal husbandry, environment and food. As the raw material for nuclear fuel, uranium and thorium would be produced out of domestic reserves in order to decrease dependence on foreign sources. To address the issue of radioactive wastes, studies would be carried out to minimize these wastes in order to decrease their impact on human and environmental safety. A “Nuclear Technology Center” would be established to carry out scientific and technical studies, which would include research reactors and pilot facilities. In order to raise the human capital to apply the nuclear technology policy, nuclear training centers would be set up. A “National Nuclear Coordination Board” would be established in order to effectively sustain nuclear and radiation safety in all applications of nuclear technology. In addition, to develop the measures, legal and R&D infrastructure would be ameliorated.³⁸³

Following the TAEK proposal for some eight locations as the nuclear power plant sites, in April 2006, Prime Minister Erdoğan announced that the government chose Sinop, İnceburun.³⁸⁴ The Ministry stated that according to the plans, there would be a need for a 4,500 MWe nuclear energy by 2020, and that it was not possible to generate it by one reactor.³⁸⁵ Right after the declaration, the Energy Ministry held a two-day nuclear energy summit in mid-April 2006. The first one was with the representatives of the private sector, and the second was held with some 150

³⁸² “Ulusal Nükleer Teknoloji Politikası (The National Nuclear Technology Policy),” 2009.

³⁸³ Ibid.

³⁸⁴ “Nükleer Santralın Adresi Sinop (The Address of the Nuclear Plant is Sinop),” *NTVMSNBC*, April 13, 2006, <<http://www.ntvmsnbc.com/news/368946.asp>>

³⁸⁵ “İlk nükleer santral Sinop'a kurulacak (The first nuclear power plant to be built in Sinop),” *Milliyet*, April 13, 2006, <<http://www.milliyet.com/2006/04/13/ekonomi/eko02.html>>.

participants from academia, Foreign Ministry, Defense Ministry and Gülhane Military Medical Academy in the TAEK headquarters, to discuss the technology and what the nuclear technology center would encompass.³⁸⁶ The Energy Minister convened the representatives of some leading Turkish firms³⁸⁷ to discuss the plans to build nuclear power plants. In addition to the private sector, energy and economy bureaucracy was also present in the meeting. The talks focused on the investment models and concerns over the possible risks due to the use of nuclear energy.³⁸⁸

The government also worked on the legal infrastructure for licensing,³⁸⁹ nuclear fuel deals,³⁹⁰ and allocated funds for research on domestic technology.³⁹¹ The most important issue was financing.³⁹² The law on the establishment and operation of nuclear power plants passed from the Parliament in early May 2007. However, during the deliberations the government and the opposition party were at odds.³⁹³ It was first vetoed by the then President Ahmet Necdet Sezer. The law 5710 passed from the Parliament after making the changes that were proposed and was issued in the Official Gazette on November 21, 2007.³⁹⁴ The law defined the process of competition (tender) and the selection process for the nuclear power

³⁸⁶ “Nükleer Enerji Zirvesi'nin ikinci ayağı başladı (The Second Part of the Nuclear Energy Summit Starts),” *Sabah*, April 13, 2006, <<http://arsiv.sabah.com.tr/2006/04/13/eko134.html>>; “Güler: Nükleer enerji mecburiyetimizdir (Güler: Nuclear Energy is Our Obligation),” *Hürriyet*, April 14, 2006, <<http://hurarsiv.Hurriyet.com.tr/goster/haber.aspx?id=4257133&tarih=2006-04-14>>.

³⁸⁷ Koç, Sabancı, Zorlu, Enka, Çalık, Gama, Akkök, Ak Enerji, Alarko, Tekfen, Doğuş, Güriş, Nurool and Habaş.

³⁸⁸ “Holdings discuss nuclear energy in Ankara” *Turkish Daily News*, April 14, 2006, <<http://www.turkishdailynews.com.tr/article.php?newsid=40767>>.

³⁸⁹ “Nükleer enerji için lisans hazırlığı (Preparations for Licensing for Nuclear Power),” *NTVMSNBC*, April 1, 2007, <<http://www.ntvmsnbc.com/news/404325.asp>>;

³⁹⁰ “Nükleer santralde yetki EÜAŞ'ta (The Power Rests with EÜAŞ in Nuclear Plant),” *Sabah*, July 28, 2006, <<http://arsiv.sabah.com.tr/2006/07/28/eko137.html>>.

³⁹¹ Sezer Kılıç, “Nükleer için TAEK'e 3 milyar YTL kaynak (3 billion YTL to TAEK for nuclear),” *NTVMSNBC*, March 8, 2007, <<http://arsiv.ntvmsnbc.com/news/402183.asp>>.

³⁹² “Private sector wants to include public sector in nuclear plants,” *Turkish Daily News*, May 12, 2006, <<http://www.turkishdailynews.com.tr/article.php?newsid=43216>>.

³⁹³ “Nükleer Yasası sessiz sedasız geçti (The Nuclear Law Passed Quietly),” *NTVMSNBC*, May 9, 2007, <<http://www.ntvmsnbc.com/news/407510.asp>>.

³⁹⁴ “Nükleer Güç Santrallerinin Kurulması ve İşletilmesi ile Enerji Satışına İlişkin Kanun (The Law on the Establishment, Operation and Energy Sales),” *Official Gazette*, No. 26707, November 21, 2007, <<http://www.resmi-gazete.org/tarih/20071121-1.htm>>.

plants, the determination of the establishing firm, and the principles on the sale of the electricity generated. The law foresaw that TETAŞ would purchase the electricity on the basis of an agreement with the firm. The law also formed two different funds for costs regarding the management of radioactive waste and for decommissioning of the power plant.³⁹⁵

While the licensing work was continuing for the Sinop site, the government opened the tender (which it calls a “competition”) for Akkuyu (which already had a license) and on September 24, 2008, some six consortiums responded, with only one filing a proposal: The Atomstroyexport-Inter Rao-Park Teknik consortium. Those outside the competition, presumably were dissatisfied with guarantees and subsidies, and had expected Treasury guarantees. The consortium proposed to establish four units of VVER1200 (AES-2006) design reactors, which is the Russian type pressurized water reactor. The nominal electrical power of each unit proposed for Akkuyu would be around 1200 MWe, and the total power of the nuclear power plant composed of four units would be approximately 4800 MWe. On December 19, 2008, TAEK announced that the evaluation of the proposal is complete,³⁹⁶ and confirmed that the proposal met the criteria. It was then submitted to TETAŞ, the authorized institution to open the third letter submitted by the consortium, which contained the price per kWh. On January 19, 2009, TETAŞ declared that the Turkish-Russian consortium’s offer was 21.16 cents per kWh, which far exceeded the expectations for an economical energy investment.³⁹⁷ Although it was acknowledged that nuclear power plant investments were expensive, this price tag was unaffordable for the

³⁹⁵ Soner Aksoy, “Nükleer Enerji Yatırımlarını da Özel Sektör Yapmalı (The Private Sector Should Invest for Nuclear Power)” *İşveren (The Employer)*, December 2007, <http://www.tisk.org.tr/isveren_sayfa.asp?yazi_id=1932&id>.

³⁹⁶ “TAEK Ölçütleri Uygunluk Değerlendirmesi Tamamlandı (The Evaluation of Compatibility with TAEK Criteria is Complete),” *TAEK*, December 18, 2008, <<http://www.taek.gov.tr/tr/basin-aciklamalari/41-2008/213-basin-19aralik2008.html>>.

³⁹⁷ “Nükleer Santralde Yüce Divanlık Skandal (Scandal in Nuclear Power),” *Hürriyet*, April 24, 2009, <<http://www.Hurriyet.com.tr/ekonomi/11505171.asp?gid=229>>.

government and did not meet the policy criteria of cost-effectiveness. The acceptable price would be in the range of 10-12 cents.

In late 2009, the Council of State halted the execution of some articles of the nuclear power plant tender regulation, and the tender for the Akkuyu plant was cancelled.³⁹⁸ Later on, the government decided to sign bilateral agreements at the governmental level for nuclear power plants, that is to say, without issuing tenders. The first one was signed with Russia for a power plant in Akkuyu,³⁹⁹ and then with South Korea for another in Sinop.⁴⁰⁰

Turkey's new plans coincide with an increasing interest in nuclear power in its region,⁴⁰¹ and with an international security environment that de-stabilizes regional security. In this context, it is important to present Turkey's non-nuclear-weapon-state status in order to understand the arguments that uphold nuclear power for a latent nuclear capability.

³⁹⁸ "Nükleer İhalesi İptale Gidiyor (The Nuclear Tender about to be Cancelled)," *NTVMSNBC*, November 16, 2009, <<http://www.ntvmsnbc.com/id/25021766/>>; "Nükleer Santral İhalesi İptal Edildi (The Nuclear Power Plant Tender was Cancelled)," *CNN Türk*, November 20, 2009, <<http://www.cnnturk.com/2009/ekonomi/genel/11/20/nukleer.santral.ihalesi.iptal.edildi/552540.0/index.html>>.

³⁹⁹ "Russia signs deal to build Turkey's first nuclear power plant," *RiaNovosti*, August 6, 2009, <<http://en.rian.ru/business/20090806/155747143.html>>;

⁴⁰⁰ "Turkey, South Korea sign protocol to establish nuclear power plant," *Anatolian News Agency*, March 10, 2010, <<http://www.aa.com.tr/en/turkey-south-korea-sign-protocol-to-establish-nuclear-power-plant.html>>.

⁴⁰¹ Saudi Arabia: "Saudis set stage for Mid-East nuke race," *The Australian*, August 22, 2009, <<http://www.theaustralian.com.au/news/world/saudis-set-stage-for-mid-east-nuke-race/story-e6frg6so-1225765015029>>; Egypt: "Egypt unveils nuclear power plan," *BBC*, September 25, 2006, <http://news.bbc.co.uk/2/hi/middle_east/5376860.stm>; Jordan: Yoav Stern, "Jordan announces plans to build nuclear power plant by 2015," *Ha'aretz*, 3 April, 2007, <<http://www.haaretz.com/hasen/spages/844962.html>>.

5.3. Turkey's non-nuclear-weapon state status

Turkey's security policy is primarily shaped on the basis of the strategy of deterrence.⁴⁰² In 1980, Turkey ratified the NPT as a non-nuclear weapon state, and became party to other agreements regarding the nonproliferation of weapons of mass destruction (WMD) and their delivery systems. Turkey could maintain its non-nuclear-weapon status relying on its deterrent capabilities, and later its strategic relations with the United States and Israel in military matters. There were other elements that sustained this policy as a security asset.⁴⁰³

Turkey is a signatory to the NPT and all other nonproliferation of WMD regimes; so first and foremost, Turkey is legally and politically committed to keep its NNWS status. Ankara's international commitments go beyond legal constraints, and build an image of a dedicated member of the regime, and confirm the country's status as an "accepted" state among the community of nations. Nuclear nonproliferation regime was bolstered after the Cold War -by the extension of the

⁴⁰² See *Turkey's National Defense Policy and Military Strategy*, White Paper, Part IV, Section I, Republic of Turkey, Ministry of Defense, 2000.

⁴⁰³ For an analysis of theories explaining nuclear proliferation, see Tanya Ogilvie-White, "Is There a Theory of Nuclear Proliferation? An Analysis of the Contemporary Debate," *The Nonproliferation Review*, Fall 1996, pp. 43-60; Scott Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security*, Vol. 21, No. 3, Winter 1996/1997, pp. 54-86. Nuclear proliferation was tackled mainly from the Realist and Neo-Realist viewpoints during the Cold War as nuclear weapons are the ultimate means of military capability and there was a bipolar international structure: See Daniel Deudney, "Dividing Realism: Structural Realism versus Security Materialism on Nuclear Security and Proliferation," in Benjamin Frankel and Zachary Davis eds., *The Proliferation Puzzle: Why Nuclear Weapons Spread and What Results*, London: Frank Cass, 1993, pp. 20-21; Benjamin Frankel, "The Brooding Shadow: Systemic Incentives and Nuclear Weapons Proliferation," Benjamin Frankel and Zachary Davis eds., *The Proliferation Puzzle: Why Nuclear Weapons Spread and What Results*, London: Frank Cass, 1993, pp. 37-78; John M. Deutsch, "The New Nuclear Threat," *Foreign Affairs*, Vol. 71, No. 41, Fall 1992, pp. 120-134; George Schultz, "Preventing the Proliferation of Nuclear Weapons," *Department of State Bulletin*, Vol. 84, No. 2098, December 1984, pp. 17-21; Michael M. May "Nuclear Weapons Supply and Demand," *American Scientist*, Vol. 82, No. 6, November-December 1994, pp. 526-537; Bradley A. Thayer, "The Causes of Nuclear Proliferation and the Nonproliferation Regime," *Security Studies*, Vol. 4, No. 3, Spring 1995, pp. 463-519; Richard Betts, "Paranoias, Pygmies, Pariahs, and Nonproliferation Revisited," in Benjamin Frankel and Zachary Davis eds., *The Proliferation Puzzle: Why Nuclear Weapons Spread and What Results*, London: Frank Cass, 1993, pp. 100-124; David Gompert, Kenneth Watman and Dean Wilkening, "Nuclear First-Use Revisited," *Survival*, Vol. 37, No. 3, Autumn 1995, pp. 27-44.

NPT, denouncement of nuclear weapons by a number of states and their NPT memberships, success of the UN inspections in Iraq, and cooperation between the United States and Russia to prevent proliferation. Being a NNWS, thus, became the accepted norm of international community, as opposed to the past decades, where possession of nuclear weapons was a sign of prestige and status. In this sense, Turkey's status was contemplated as an asset rather than a deficiency for national security.

Regarding nuclear nonproliferation at the institutional level, the NPT aims at the total and eventual elimination of all nuclear weapons, and forms the cornerstone of the regime. NNWSs benefit from "negative security assurances"⁴⁰⁴ and international cooperation to deal with proliferation risks. In terms of security, Turkey's ties to the West, particularly its EU perspective constitutes a political constraint, which makes a nuclear Turkey suicidal to its EU membership bid. At the domestic level, there has not been a passionate call from the military, politicians or the public for Turkey to acquire nuclear weapons.

The attack on the United States on September 11, 2001 was a turning point for the international nuclear nonproliferation regime and US foreign and security policy. Iran's nuclear program became worrisome, and North Korea carried out a successful nuclear test on the grounds of national security reasons. On the other hand, the United States initiated nuclear cooperation with India, which is not party to the NPT. Soaring relations with the United States, increasing rate of anti-American public opinion, Iran's nuclear program with a rough diplomatic process, and North Korea's withdrawal from the NPT had an impact on the pillars that sustained Turkey's status. However, it should be underlined that proliferation is a political

⁴⁰⁴ It is the assurance given by a nuclear-weapon state that a non-nuclear-weapon state the former will not use nuclear weapons against the latter.

decision, and that Turkish policymakers would need to go through a cost-benefit analysis.⁴⁰⁵

In terms of nuclear technology transfer for energy generation, the debate revolves mainly around the energy axis rather than proliferation. The next chapter will provide the positions of the involved actors and their arguments.

⁴⁰⁵ There were concerns in the States that Turkey might choose to go nuclear if Iran goes down the path, and reports that Turkey's plans to transfer civilian nuclear technology combined with Iran's nuclear program may stimulate demands that Turkey should also use the technology for military purposes to achieve regional parity. See Karl Vick, "Energy, Iran Spur Turkey's Revival of Nuclear Plans," *The Washington Post*, March 7, 2006, p. A14.

CHAPTER VI

ARGUMENTS IN THE DEBATE ON NUCLEAR ENERGY

This chapter will present the actors and their arguments regarding the pursuit of nuclear power in Turkey. Although it is not the immediate concern, it will not exclude views on the military use of nuclear technology, which either consider it as a desired option, or as a despised choice. The concerns on nuclear power increased since the late 1980s, particularly because of the Chernobyl nuclear reactor accident, and the opposition is vocal since the early 1990s, notably after the arrival of Greenpeace.

The 1960s and 1970s did not witness a debate, because there was lack of environmental sensitivity under the stress of the Cold War. The aim of the governments was to acquire the technology and the main question was site selection to establish the NPP, rather than a debate on its necessity.⁴⁰⁶ Scientific communities were gradually growing and academicians were trying to raise skilled personnel who would work in NPPs.⁴⁰⁷ The 1986 Chernobyl accident had a serious effect on the perception of nuclear power plants, as “nuclear” was then associated with “threat,” instead of “energy,” so the connotation changed. After the Greenpeace activists

⁴⁰⁶ Interview with T. Fikret Tekin, March 6, 2007.

⁴⁰⁷ Interview with Prof. Dr. Orhan Yeşin, March 30, 2006, Ankara.

visited Turkey in 1992 and opened a branch, environmental sensitivity increased particularly as a result of demonstrations, protests and signature campaigns that created awareness at the public level.

The debate is not within the policymaking circles, but rather between individuals, political parties and civil society. It is characterized by a conflict between two positions which try to ascribe different meanings to nuclear power, and in turn to affect the energy policy outcome. The arguments of the actors will be presented by starting with the government, that is, the civilian government, foreign ministry, and energy bureaucracy including the Energy Ministry, TAEK and the EPDK. The role of the military in the making of security policy is important in Turkey. Nuclear issue has a military connection, therefore, it is useful to include the viewpoint/position of the military in order to provide inputs for the assessments on nuclear proliferation for the future. Next in line are political parties and politicians. They will be followed by the views of the economic and business élite and the energy sector both in and abroad, who are concerned with the input costs, supply security and lucrative sales. Last but not least, is the civil society, which includes the media, non-governmental organizations and academics.

6.1. Government

The views and policies of the governments during the nuclear technology transfer attempts were provided in the previous chapter. The AKP government, as its predecessors, tabled the nuclear power project in order to address energy shortage. Starting from late 1990s, Turkey grew increasingly dependent on natural gas and to

its main providers (Russia and Iran). This resulted in an unsustainable energy policy. Nuclear power emerged as a viable alternative, because it would ensure supply security, contribute to environmental sustainability, provide diversification in the resource portfolio and reduce dependency.

Nuclear technology has critical components which can be used for civilian and military purposes, and the peaceful nuclear technology is inextricably linked to the norms of international nuclear nonproliferation regime: States party to the NPT as non-nuclear-weapon states have the right to pursue peaceful nuclear power and they commit not to divert the technology to military use. Thus, nuclear power projects, unlike other energy projects, involve an international security dimension and are related to a country's international relations, that is to say, the home countries of the firms which (would) table proposals in the tender(s). There have been proliferation concerns during the tenders,⁴⁰⁸ although the debate in Turkey focuses more on the energy aspect and the "necessity" question. The Turkish **Foreign Ministry** emphasizes Turkey's international standing as a committed nation to the nuclear nonproliferation regime, referring to the NPT and to other nonproliferation treaties, agreements and protocols to which Turkey is a party.

The Energy Bureaucracy for nuclear power includes the Energy Ministry, TAEK and the Energy Market Regulatory Authority.⁴⁰⁹ Former Energy Ministers,

⁴⁰⁸ During the 1980s, there were concerns regarding Turkey's relationship with Pakistan. During the tender process that started in 1996 and ended in 2000, the United States was concerned about the involvement of Turkish entities in proliferation-related trade: Letter of Transmission to the Congress from President George W. Bush for the Proposed Agreement for Cooperation between the United States of America and the Republic of Turkey Concerning Peaceful Uses of Nuclear Energy, January 22, 2008,

<<http://georgewbush-whitehouse.archives.gov/news/releases/2008/01/20080123-6.html>>.

⁴⁰⁹ Although the EPDK does not have a role in formulating the policy, it incurs the results of the policy.

Deniz Baykal⁴¹⁰ and Recai Kutan⁴¹¹ had indicated urgency for nuclear energy. After the AKP government re-tabled plans for nuclear power, the **Energy Ministry** defended the project on the basis of environmental-friendliness and cost-effectiveness.⁴¹² Former Energy Minister, Hilmi Güler, underlined that energy shortage, dependency on energy imports, climate change and insufficiency of local resources made nuclear energy a “necessity” and not a choice.⁴¹³ The Minister saw the project as a nuclear technology program, and not just the establishment of nuclear power plants.⁴¹⁴ The Energy Ministry also planned the establishment of a nuclear technology center in Sinop.⁴¹⁵ Güler also stated that plans to acquire both the fuel technology and to make a national prototype.⁴¹⁶

TAEK is responsible for determining the essence of nuclear policy and of the strategy for defense against nuclear hazards. Official statements by TAEK acknowledge the benefits of nuclear technology for energy generation. There were also unofficial statements: In the first Energy Council which convened in December 1998, the “Nuclear Energy Commission”⁴¹⁷ submitted a report that stressed the significance of nuclear energy and provided guidance on the development of the infrastructure.⁴¹⁸

⁴¹⁰ The remarks of Deniz Baykal, the then Minister of Energy, The 3rd Energy Congress, November 20, 1978, The archives of the Prime Ministry General Directorate of Press, Media and Information, November 1978, <<http://www.byegm.gov.tr/yayinlarimiz/ayintarihi/1978/kasim1978.htm>>.

⁴¹¹ “Turkey Nuclear -2: Govt To Invite Bids In October” *Emerging Markets Report*, August 29, 1996.

⁴¹² “Nuclear Power,” *Ministry of Energy and Natural Resources*.

⁴¹³ “Nükleerde Son Perde (The Last “Scene” in Nuclear [Plans]),” 2007, p. 34; TGNA Minutes, 22nd Term, 5th Legislative Year, 38th Session, 20 December, 2006.

⁴¹⁴ “Nükleerde Son Perde (The Last “Scene” in Nuclear [Plans]),” 2007, p.33.

⁴¹⁵ The remarks by Hilmi Güler, former Minister of Energy, TAEK, Ankara, 12 February, 2008.

⁴¹⁶ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁴¹⁷ The Commission included the TAEK Chairman, former Chairman and several nuclear and physics engineers along with the representatives of the firms which participated the nuclear power plant tender.

⁴¹⁸ 1. Enerji Şurası, Nükleer Enerji Komisyonu Raporu, (The Nuclear Power Commission’s Report, 1st Energy Convention), December 1998, <ozemre.com/index.php?option=com_docman&task=doc_download&gid=37&Itemid=53>.

As the government re-tabled plans for nuclear energy, TAEK issued the National Nuclear Technology Policy report,⁴¹⁹ and a series of brochures on the benefits of nuclear power plants: TAEK sets energy supply portfolio as a national priority. It would achieve the aim to decrease dependency, maintain secure and continuous supply of resources against price fluctuations and possible limitations in the flow of energy. The report compared nuclear power plants on the basis of economic and technological criteria with other sources, and established its benefits and necessity for Turkey. It listed the advantages of nuclear energy as: diversification of energy sources, stability in electricity generation costs (compared to the 80% of fuel cost in natural gas operated thermal power plants, nuclear fuel constitutes only 20% of the electricity generation cost), secure base-load energy (which will not be affected by climatic changes or environmental factors), and decreasing the CO2 emissions. In addition, the facilities that would be established to produce nuclear energy would contribute to the development of science and technology infrastructure.⁴²⁰

EPDK is responsible for reviewing applications in the energy sector, and for giving licenses. It is not an institution of energy policymaking, so it cannot affect policy. However, a former EPDK Chair, Yusuf Günay, expressed concern on the liberal characteristic of the energy market. He warned that it would be disrupted because of the government purchase guarantee on nuclear energy.⁴²¹ He also suggested caution against regulations that could discourage private sector to invest in nuclear energy.⁴²²

⁴¹⁹ “Ulusal Nükleer Teknoloji Politikası (The National Nuclear Technology Policy),” 2009.

⁴²⁰ *Nükleer Enerjinin Ülkemize Kazandıracakları (What the Nuclear Power Plants Would Provide to Our Country)*, Ankara: TAEK, 2008.

⁴²¹ “Nükleerde Son Perde (The Last “Scene” in Nuclear [Plans]),” 2007, p. 34.

⁴²² EPDK Başkanı Yusuf Günay’ın LPG Piyasası’nda İlk Lisans Verme Töreninde Sorulara Verdiği Cevaplar (The Answers of The Chairman of EPDK, Yusuf Günay, to Questions in the First Licensing

6.1.1. Military

The Turkish Armed Forces (TAF) is not directly involved in the nuclear energy debate, but its views are important for assessments on diversion of technology to military use. It has become an important actor because of proliferation concerns during some of the tenders. The official position of the military⁴²³ is maintaining the non-nuclear weapon status of Turkey, which is committed to the nuclear nonproliferation regime, and which ensures its security through alliances.

Iran's nuclear program is cause for concern: A nuclear capable Iran would trigger a regional security dilemma, challenge the effectiveness of international institutions and of the international nonproliferation regime. Although Turkey's security policy is not just shaped by Realist parameters, strategic assessments may not exclude symmetric responses to proliferation. In fact, Ret. Captain (N) Yılmaz Aklar, drew attention to the strategic priority for deterrence in the Turkish military. In the case of a security deficiency due to the non-nuclear weapon status of Turkey, he is not restrained to suggest that Turkey should take the decision to acquire nuclear weapons. He reasons that because in the unstable neighborhood, Turkey must have nuclear capability.⁴²⁴ This line of argument is not confined to the military but other individuals who engage in a "strategic assessment" for Turkey's security policy options.

in the LNG Market Ceremony) February 11, 2006,

<<http://www.epdk.org.tr/basin/2006/2006konusma/2006-02-11-LPG.html>>.

⁴²³ Kitle İmha Silahlarının ve Bunların Fırlatma Vasıtalarının Yayılmasının Önlenmesine İlişkin Genel Politika (The Policy on the Nonproliferation of Weapons of Mass Destruction and their Delivery Systems), *Turkish Armed Forces*, (Date accessed: May 8, 2006), <http://www.tsk.tr/4_ULUSLARARASI_ILISKILER/4_20_Kitle_Imha_Silahlari/Kitle_Imha_Silahlari.htm>.

⁴²⁴ Interview with Ret. Captain (N)Yılmaz Aklar, March 30, 2006, Ankara.

6.2. Political Parties and Politicians

The conflict over nuclear power continued between political parties as well: The following remarks are chosen from among the politicians and MPs from AKP (and its predecessors the Welfare Party-RP and the Virtue Party-FP⁴²⁵) and other mainstream parties such as the Republican People's Party (CHP), Nationalist Action Party (MHP), Democrat Party (formerly True Path Party-DYP), the Motherland (ANAVATAN) and the Democratic Left Party (DSP).⁴²⁶

The AKP government re-tabled the plans for generating nuclear power, and several MPs defended the project in the Assembly General Board sessions. **Remzi Çetin** advocated nuclear power on the basis of energy shortage (expected for 2010s and 2020s) and the procurement of advanced technology for scientific and industrial development.⁴²⁷ **Mustafa Öztürk**, prescribed NPPs a leading role for progress in industry and several sectors. Because it is relatively easier and cheaper to store the nuclear fuel, nuclear energy would contribute to the energy supply security. Öztürk saw nuclear power plants also as an instrument of prestige.⁴²⁸

Afif Demirkıran promoted nuclear power to address energy shortage and dependency, and saw the inclusion of nuclear energy in the energy portfolio as an obligation.⁴²⁹ **Cahit Can**, an MP from Sinop, which is the town where the government plans to build nuclear power plants, supported the decision, and soothed the worries on the risks of accident and waste by pointing out the safety measures

⁴²⁵ The Welfare Party and the Virtue Party were closed down by the Constitutional Court due to activities against secularism. The Justice and Development Party (AKP) were established afterwards by the "reformist wing."

⁴²⁶ They are chosen from the TGNA General Board Minutes, in mid-1990s until today. The 70s and 80s until the Chernobyl accident was not quite a scene of disagreement and debate. The parties are listed in alphabetical order.

⁴²⁷ TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 61st Session, February 9, 2006.

⁴²⁸ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁴²⁹ Ibid.

and the re-usable character of waste.⁴³⁰ **Öner Gülyeşil** referred to the efforts of anti-nuclear lobbies to prevent the establishment of NPPs through civil society organizations, like Greenpeace, relying on his personal experience.⁴³¹

Soner Aksoy served as the Chair for the parliamentary commission on industry, trade, energy, natural resources, information and technology. He stated that nuclear power would help diversification, and would increase investments in electricity generation. Since the operations, maintenance and fuel costs of nuclear power plants are less than those of fossil fuel-operated plants, NPPs would be important instruments to provide stability in electricity production costs, hence long-term price stability.⁴³²

ANAVATAN (The Motherland Party)⁴³³ was home to both views: **Miraç Akdoğan**, supported nuclear energy, as opposed to **Züheyir Amber** from Hatay, and **Hüseyin Özcan** from Mersin, the region where Akkuyu is located. For Miraç Akdoğan, uninterrupted energy resources must supplement renewable energy resources, that is, because they are dependent on natural processes.⁴³⁴ Züheyir Amber, shared the arguments usually brought forward by the anti-nuclear groups.⁴³⁵ Hüseyin Özcan, conveyed the party position that favored sustainable development. That is to say, the Party was not against the production of nuclear energy, but upheld measures that would minimize environmental degradation, and promote the establishment of an infrastructure that would be more environment-conscious. In addition, the Party prioritized the use of natural resources and riches instead of

⁴³⁰ Ibid.

⁴³¹ Ibid.

⁴³² “Nükleer Enerji Yatırımlarını Da Özel Sektör Yapmalı (The Private Sector Should Also Undertake Nuclear Energy Investments),” 2007.

⁴³³ The party was merged to Democrat Party in October 2009.

⁴³⁴ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 38th Session, December 20, 2006.

⁴³⁵ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

nuclear energy, and encouraged the acquisition of up-to-date technologies of NPPs.⁴³⁶

BDP (Peace and Democracy Party) views nuclear energy as a “threat to the nature.”⁴³⁷

CHP (The Republican People’s Party) is the main opposition party. It stands in the left of the political spectrum, and is inclined to reject nuclear power for ideological reasons. As a matter of fact, Onur Öymen, the chief advisor to the CHP in foreign affairs, underlined that renewable resources are underutilized. He also drew attention to the loss of electricity in transmission lines. He stated that the CHP was not against the transfer of nuclear technology, but that Turkey should decide in accordance with international developments in scientific matters, such as fusion technologies.⁴³⁸

Mustafa Özyürek underlined that the CHP was for environmentalism, social justice, equality and takes “human first.” He argued that NPPs would certainly have adverse consequences on the environment.⁴³⁹ **Sedat Uzunbay** pointed at the high risks of NPPs, and stated that Turkey would still be dependent on fuel, because the NPPs would use enriched uranium, and the local uranium and thorium reserves would lie idle.⁴⁴⁰ As an alternative for nuclear power, he proposed wind energy systems, and small hydroelectrical power plants. He promoted energy efficiency in household and industrial consumption.⁴⁴¹

Engin Altay, an MP from Sinop, firmly opposed the decision to establish a NPP, and particularly the absence of the public interest on what he termed as “a vital

⁴³⁶ Ibid.

⁴³⁷ Barış ve Demokrasi Partisi Programı (The Peace and Democracy Party Program), (Date accessed: May 15, 2010), <<http://www.bdp.org.tr/hakimizda/program.html>>.

⁴³⁸ Interview with Onur Öymen, March 27, 2006, Ankara.

⁴³⁹ TGNA General Board Minutes, 22nd Term, 1st Legislative Year, 52nd Session, March 21, 2003.

⁴⁴⁰ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁴⁴¹ TGNA General Board Minutes, 22nd Term, 3rd Legislative Year, 39th Session, December 24, 2004.

issue”. For him, the decision was an imposition and undemocratic.⁴⁴² **Ahmet Rıza Acar** was concerned about nuclear waste and implicitly referred to plutonium in that “waste” that could be used to manufacture nuclear weapons.⁴⁴³ **Vahit Çekmez**, MP from Mersin, argued that the Akkuyu NPP would threaten tourism and agriculture in Mersin, and the entire Mediterranean. Another shortfall was with the cooling water which may disrupt the ecological balance of the sea. He questioned the waste disposal sites not only for Akkuyu plant but also for other plants to be established in Turkey. He argued that public health would be sacrificed at the expense of political gains.⁴⁴⁴

Retired Ambassador **Umut Arık**, advisor to the **DP (Democratic Party; formerly DYP-True Path Party)**, underlined that the transfer of nuclear technology would mean the development of energy technology, and it must be the aim to have optimal technological mix to realize development. Ret. Ambassador **Nüzhet Kandemir** explained the DP’s position on the nuclear energy as the use of the technology only for peaceful purposes and dealing with states of concern at the diplomatic level.⁴⁴⁵ During the previous attempt in the 1990s, the MPs from the DYP in general supported the plans to establish NPPs in Turkey. For instance, **Halil Yıldız** was critical of the opposing groups for having “backward” ideas. However, by the establishment of high-technology NPPs with Western technology, Turkey would be in the league of those states having nuclear energy technology, and it would become a regional power.⁴⁴⁶

⁴⁴² TGNA General Board Minutes, 22nd Term, 4th Legislative Year 91st Session, April 20, 2006.

⁴⁴³ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁴⁴⁴ Ibid.

⁴⁴⁵ Interview with Ret. Ambassadors Nüzhet Kandemir and Umut Arık, March 24, 2006, Ankara.

⁴⁴⁶ TGNA General Board Minutes, 20th Term, 2nd Legislative Year, 33th Session, December 14, 1996.

As far as the **DSP (The Democratic Left Party)** is concerned, in 2000, the Ecevit government abandoned the nuclear power project on the basis of unfavorable financial situation. In the 2003 party program, the party supported primarily coal, national resources, and any fruitful project for electricity generation. During the Erbakan government, the nuclear power issue was mainly criticized by the DSP. For instance, **Fikri Sağlar**, an MP from Mersin, contested the government on whether their main goal was producing energy or nuclear bomb. He was convinced that if the single aim was to produce energy, the government could have tried to keep control of the loss and theft in energy that amounted almost to 40% of the supply.⁴⁴⁷ However, when the DSP came to power in 1999, and continued with the project, there was a change of tone. **Ziya Aktaş** supported nuclear technology “for the future of Turkey.” In this respect, he argued that the nuclear power plant in Akkuyu would contribute to a great extent to acquire know-how.⁴⁴⁸

The **RP (Welfare Party)** saw nuclear technology as that of the future⁴⁴⁹ and for some MPs, it would establish Turkey as a “Muslim and powerful country.” **Cemal Külahlı** referred to a suspicion during the 1980s, that Turkey’s acquisition of nuclear technology would be disadvantageous; so he argued that Turkey’s project-as a Muslim and powerful country- was disrupted.⁴⁵⁰ He urged the immediate finalization of the tender for the Akkuyu nuclear power plant, and argued that it was impossible to stay away from the technology of the future. The **FP (Virtue Party)** was established after the Welfare Party was closed down,⁴⁵¹ and it continued to support the nuclear project for strategic reasons and as an alternative type of

⁴⁴⁷ TGNA General Board Minutes, 20th Term, 2nd Legislative Year, 66th Session, March 11, 1997.

⁴⁴⁸ TGNA General Board Minutes, 21st Term, 1st Legislative Year, 24th Session, June 27, 1999.

⁴⁴⁹ TGNA General Board Minutes, 20th Term, 2nd Legislative Year, 33th Session, December 14, 1996.

⁴⁵⁰ Aslan Polat’s remarks, TGNA General Board Minutes, 20th Term, 1st Legislative Year, 41st Session, April 20, 1996.

⁴⁵¹ The Party was closed down by the Constitutional Court on June 21, 2001, due to activities against secularism.

energy.⁴⁵² They had concerns about external actors who were effective in the cancellation of the tenders.⁴⁵³

MHP (The Nationalist Action Party) is a nationalist party, and may have a tendency to perceive civilian nuclear technology as an infrastructure for military capability. MHP upholds that the TAF should attain the most advanced military status in terms of weapons and equipment (which may mean the acquisition of nuclear weapons as well). However, they also see nuclear energy and technology as a capability that would raise the image of a country, and one that accords prestige.⁴⁵⁴ MHP also sees the economic benefits of nuclear power and its contribution to industrial development: **Mustafa Yaman** prescribed nuclear energy to address the increasing prices and the energy demand considering the limited reserves of oil and natural gas. In addition, Turkey needed to add new production techniques to the existing ones in order to expand its economy. Otherwise, he warned that Turkey would be in the dark considering the fact that it already utilized the water potential that was saved for 2000.⁴⁵⁵

Former Minister of Energy, **Cumhur Ersümer**, stood firm against anti-nuclear energy protests. Greenpeace protesters identified him with the Akkuyu nuclear power plant: They put a placard on the Bosphorus bridge saying: “Stop Ersümer.” He challenged them that even they wrote “stop” on the sky, his government would finish the project, and that the opposition is influenced by oil and

⁴⁵² Remarks by Hüseyin Kansu, TGNA General Board Minutes, 21st Term, 2nd Legislative Year, 14th Session, November 3, 1999.

⁴⁵³ Remarks by Ahmet Derin, TGNA General Board Minutes, 21st Term, 2nd Legislative Year, 14th Session, November 3, 1999; Remarks by Veysel Candan, TGNA General Board Minutes, 21st Term, 1st Legislative Year, 42nd Session, July 30, 1999.

⁴⁵⁴ Mehmet Kaya’s remarks, TGNA General Board Minutes, 21st Term, 1st Legislative Year, 36th Session, December 17, 1999.

⁴⁵⁵ TGNA General Board Minutes, 21st Term, 2nd Legislative Year, 42nd Session, December 24, 1999.

gas lobbies.⁴⁵⁶ The former Minister of Transportation, **Enis Öksüz** called the opponents “idiot,” by giving the example from Europe, where kids played next to the power plants. He referred to “a game” that aimed at destabilizing the country by making it to buy expensive energy, and to prevent its development. He argued that firms which wanted Turkey “in their hands,” used environmental groups.⁴⁵⁷

6.3. Economic and Business Élite

Industrialists’ and Businessmen’s Associations are influential pressure groups within the civil society. **TÜSİAD (The Turkish Industrialists and Businessmen’s Association)** is one of the most influential pressure groups on government policies. The Association welcomed the decision to include nuclear energy into the energy production basket: They emphasized development, welfare and increasing the competitive power in international trade. TÜSİAD upheld having timely, sufficient, reliable, and environment-friendly energy supply with competitive prices, in order to maintain high economic growth and to support the endeavors for social development. They endorsed nuclear power considering that it was clean, economical, and did not emit greenhouse gases.⁴⁵⁸

⁴⁵⁶ See Cumhur Ersümer’s remarks, “Türkiye’de Nükleer Enerji Yarışması Başlarken Ortamın Değerlendirilmesi (An Assessment While the Nuclear Energy Competition Begins),” *EkoEnerji (EcoEnergy)*, No. 21, September 2008, p. 62, available at:

<http://www.ersumer.org/EkoEnerji_eylul_panel_pdf.log.pdf>; Also See “Ersümer’den Greenpeace’e rest (Ersümer’s Challenge to Greenpeace),” *Sabah*, October 21, 1999, <<http://arsiv.sabah.com.tr/1999/10/21/p03.html>>, and “Nükleer santrale ihtiyacımız var (We need the Nuclear Power Plant),” *Sabah*, January 10, 2000, <<http://arsiv.sabah.com.tr/2000/01/10/e10.html>>.

⁴⁵⁷ “Nükleer santrale karşı çıkanlar geri zekalıdır (Those Against the Nuclear Power Plant are Idiot),” *Sabah*, December 5, 1999, <<http://arsiv.sabah.com.tr/1999/12/05/p07.html>>.

⁴⁵⁸ “Nükleer Santral yapılması gecikmiş ancak olumlu bir adım (Nuclear power plant is a positive but belated step),” TS/BAS-BÜL/06-29, TÜSİAD, May 5, 2006.

In their report, *Turkey's Energy Economy and the Future of Oil*, **MÜSİAD (Private Industrialists and Businessmen's Association)** welcomed the nuclear power project and stressed its necessity.⁴⁵⁹ **ASO (Ankara Chamber of Industry)**, supported the project on the basis of energy security through diversification.⁴⁶⁰ The Chairman of the Union of Chambers and Commodity Exchanges of Turkey (**TOBB**), Rifat Hisarcıklıoğlu, also underlined diversification to avoid dependency, and argued that Turkey had been late to make use of nuclear power.⁴⁶¹

The **ATO (Ankara Chamber of Commerce)** report on *Urgency in Nuclear Energy*, issued a warning against a serious energy crisis. The report emphasized high energy prices, inefficient use of national resources, theft and loss in transmission. ATO promoted nuclear power as a need and not a choice.⁴⁶²

6.4. Energy Firms

Nuclear power plants are costly projects and Turkey is an attractive customer. Local energy firms are interested in nuclear energy projects, because the demand for electricity is increasing, and beginning from the mid 2000s, energy became the prominent issue in the economic agenda. According to Zafer İncecik, the chairman of

⁴⁵⁹ *Türkiye'nin Enerji Ekonomisi Ve Petrolün Geleceği (Turkey's Energy Economy and the Future of Oil)*, MÜSİAD Araştırma Raporları (MÜSİAD Research Reports), No. 49, February 2006, p.116, available at: <http://www.musiad.org.tr/img/arastirmalariyayin/pdf/arastirma_raporlari_49.pdf>.

⁴⁶⁰ "Nükleer enerji olmazsa doğalgazın esiri oluruz (Without nuclear, we will be captive to natural gas)," *Yeni Şafak*, May 8, 2006, <http://yenisafak.com.tr/arsiv/2006/mayis/08/e02.html>; Also See the summary of the ASO Energy Summit held on May 15, 2006 in Ankara at: <<http://www.kojenerasyon.com/duyurular/2006/09/18/2.htm>>.

⁴⁶¹ Remarks by Rifat Hisarcıklıoğlu, See "Uluslararası Enerji, Kojenerasyon ve Çevre Teknolojileri Konferansı Yapıldı (The International Energy, Cogeneration and Environmental Technologies Conference was Held)," May 30, 2007, <http://www.tobb.org.tr/haber_arsiv2.php?haberid=1394>.

⁴⁶² "ATO Başkanı Aygün: '2009'da Karanlığa Gidiyoruz' (ATO Chairman Aygün: We'll be in Dark by 2009)," *ATO*, July 24, 2007, <<http://www.atonet.org.tr/yeni/index.php?p=1111&l=1>>; Also See "Ekonomik Gelişim için Nükleer Şart (Nuclear is a Must for Economic Development)," *ATO*, November 24, 2007, <<http://www.atonet.org.tr/yeni/index.php?p=1441&l=1>>.

the executive board of **Siemens**, Turkey should follow a balanced energy policy. He refers to one that is based on utilizing abundant natural resources and nuclear energy. For, it is clean and more advantageous than natural gas or hydroelectrical power, particularly considering a crisis with Iran.⁴⁶³ Other interested firms are the **Sabancı Holding**,⁴⁶⁴ the **Akkök Group**,⁴⁶⁵ and the **Alarko Holding**.⁴⁶⁶ They support nuclear power for energy security and demand state involvement in projects.

6.5. International Actors

International actors include states and energy firms. The main providers of nuclear technology and the leading states in nonproliferation efforts have had concerns on proliferation during Turkey's attempts to transfer nuclear technology for civilian purposes. Others were mainly concerned about accident risks in the region or were engaged in a commercial rivalry. In 1980, the then Minister of Energy Esat Kırathioğlu recalled that after the talks were finalized with the Swedish firms, there was a referendum in Sweden to decide whether to make the transfer to Turkey or not.

⁴⁶³ Eylem Türk, "Çernobil korkusu yersiz, beş nükleer santral gerekli, (The fear of Chernobyl is baseless, [we] need five nuclear power plants)," *Milliyet*, February 5, 2006, <<http://www.milliyet.com/2006/02/05/ekonomi/axeko02.html>>; Interview by Çağrı Bilgin with Zafer Incecik, "Türkiye açısından nükleer enerji birkaç kamyonluk küçük mesele, (For Turkey, nuclear power is a small issue of a few trucks)," *Radikal*, July 31, 2006, <<http://www.radikal.com.tr/haber.php?haberno=194402>>.

⁴⁶⁴ Interview with Ahmet Dördüncü, the CEO of Sabancı Holding by İbrahim Ekinci, the Chief Economist of the daily *Milliyet*, June 22, 2008, <http://www.sabanci.com/sabanci_basin_bultenleri_detay.asp?N=353>.

⁴⁶⁵ Interview with Mehmet Ali Berkman: "Akkök Grubu'ndan dev yatırım planı (The Giant Investment Plan of the Akkök Group)," *Rota Haber*, March 16, 2008, <<http://www.rotahaber.com/haber/20080316/Akkok-Grubundan-dev-yatirim-planı.php>>; Also See the Interview by Volkan Akı with Ömer Dinçök, "Devlet nükleerde model getirmeli (The State should provide a model [of investment] on nuclear [power])," *Akşam*, May 1, 2006, <<http://www.aksam.com.tr/yazar.asp?a=38311,10,118&tarikh=01.05.2006>>.

⁴⁶⁶ "Alarko Holding Nükleer Enerjiyle İlgileniyor (The Alarko Holding is interested in nuclear power), Interview given to *Enerji Gündemi*, May 1, 2006, <<http://www.alarko.com.tr/haber.asp?ID=914>>.

The result was positive, but ironically the correspondence of approval reached to the Minister the day before the military coup took place (September 12, 1980). Afterwards, the transfer was cancelled.⁴⁶⁷ Turkey's contacts with Pakistan during the 1980s arouse suspicions about intentions for military cooperation including nuclear field. When Argentina and Turkey signed a nuclear technology cooperation agreement in 1988, the United States, the Soviet Union and the Federal Republic of Germany contemplated that Turkey's acquisition of nuclear technology would be disadvantageous.⁴⁶⁸

During the nuclear power tender in the 1990s, there was a competition among the participating companies, which had a dispute on the awarding of the tender. The Westinghouse Electric Co. (Britain) and AECL (Canada) firms were at odds with the NPI (France), which they claimed did not satisfy the conditions in tender terms.⁴⁶⁹ In the meantime, the then Minister of Transportation, Enis Öksüz, member of MHP, was quoted as promoting Turkey's right to build nuclear weapons through the establishment of nuclear power plants.⁴⁷⁰ However, he then refuted the statements attributed to him. It was also claimed that the government favored the design by

⁴⁶⁷ Esat Kirathlıoğlu's remarks, Panel on Nuclear Power, June 4, 2008, Ankara.

⁴⁶⁸ Atilla Atakan, "Argentina to Help Acquire Nuclear Technology," *Hürriyet*, May 25, 1988, pp. 3, 15. Publicly, American and Turkish governments firmly denied any interference with the Akkuyu project, and put forward the change in the financing model as the exclusive reason. Washington also declared that if they had suspected Turkey of having an unclear program, they would have prevented General Electric from participating to the tender. However, Nevzat Şahin, the Nuclear Projects Manager at TEAŞ at the time, asserted that the opposition groups to the establishment of nuclear plants were also funded by sources in the United States or Europe. Source: Mark Hibbs, *Regional Gas Market Keys to Turkey's Akkuyu Project*, 1997. Information confirmed by Nevzat Şahin on May 9, 2009.

The media also drew attention to the possibility that oil and coal cartels would aim at preventing the widespread use of other energy resources which could be an alternative to coal and oil. Accordingly, they would support some environmentalist national or international institutions, academicians or media members in order to create a collective hysteria starting from extreme sensitivity and extending to paranoia for the public regarding nuclear energy. See Harun Odabaşı, "Akkuyu Nükleer Savaşı (The Akkuyu Nuclear War)," *Aksiyon*, November 18, 2002, <<http://www.aksiyon.com.tr/yazdir.php?id=2131>>.

⁴⁶⁹ Ercan Ersoy, "Turkey nuclear bid may hit new challenges," *Reuters News*, 23 February 2000.

⁴⁷⁰ "Countries who are in danger want to own nuclear weapons as deterrents. Such countries have a right to own the atomic bomb," he reportedly said in an interview in *Akdeniz Postası Weekly*, November 3, 1997; "MHP, atom bombası istiyor (The MHP wants the atomic bomb)" *Hürriyet*, 12 March, 2000, <<http://arama.Hurriyet.com.tr/arsivnews.aspx?id=-139480>>.

Canada, which also provided the possibility for nuclear bomb making. On the other hand, the AECL suspected that this piece of news was served to the media on purpose in order to decrease the chances of the company and Canadian reactors, that is, CANDUs, on the grounds that they are less proliferation resistant. Still, the opponents in Canada argued that if a right wing party came to government, Turkey would have long-term military ambitions with nuclear technology.⁴⁷¹

Greece and the Greek Cypriot Administration have been concerned about Turkey's plans to build a nuclear power plant in Akkuyu because of its possible impacts for the Mediterranean region. A former Environment Minister, Costas Petrides expressed concern for the construction of an NPP in an area of high seismic risk opposite their northern coast.⁴⁷² Also, a former spokesperson for the Greek government, Dimitris Reppas stated that in case Turkey took the decision to build a nuclear power plant, Athens would use every legal right to oppose it.⁴⁷³ After the devastating earthquake in August 1999 in Turkey's northwest, the then Greek Undersecretary for Foreign Affairs, Yannis Kranidiotis urged Turkey to reassess its plans to build nuclear reactors, because Akkuyu was also within an earthquake zone. He added that Greece would oppose the project which would threaten the entire region. In early 1999, the Greek Ministry for the Aegean Sea initiated an international campaign on environmental grounds to oppose the Akkuyu plant.⁴⁷⁴

The United States also promotes Turkey's EU membership bid, and works to ensure that it defines the energy security of the EU as part of its energy policy. Hence

⁴⁷¹ Shawn McCarthy, "Bid to sell reactor to Turkey raises fears: Officials deny bombs would be produced," *The Globe and Mail*, April 14, 2000, p. A2.

⁴⁷² "Cyprus Voices Concern about Plans For Turkey Nuclear Plant," *Dow Jones International News*, June 26, 1997.

⁴⁷³ "Aykut'un nükleer santral endişesi (Aykut's Concern on Nuclear Plant)," *Sabah*, November 8, 1997, <<http://arsiv.sabah.com.tr/1997/11/08/r12.html>>.

⁴⁷⁴ "Greece to Turkey: Rethink Nuke Plan," *AP Online*, August 18, 1999.

the Bush administration signed the decision that allowed cooperation and technology sharing on civilian nuclear energy with Turkey.⁴⁷⁵

In my judgment, entry into force of the Agreement will serve as a strong incentive for Turkey to continue its support for nonproliferation objectives and [to] enact future sound nonproliferation policies and practices. It will also promote closer political and economic ties with NATO ally, and provide the necessary legal framework for US industry to make nuclear exports to Turkey's planned civil nuclear sector.⁴⁷⁶

6.6. Civil Society

The civil society involved in the nuclear energy debate is mainly composed of environmental NGOs, unions, chambers, media, and scientists. The anti-nuclear movement in Turkey gained momentum particularly after the Chernobyl accident as a result of awareness in the public about safety and waste issues. After the arrival of Greenpeace in 1992, they organized demonstrations, protests and campaigns against nuclear power. Local groups and organizations make extensive use of the expertise of and the information supplied by transnational environmental groups.⁴⁷⁷

6.6.1. Anti-nuclear groups

The Anti-nuclear platform includes some 50 civil society groups that are either anti-nuclear or environmentalist.⁴⁷⁸ They are against nuclear power and

⁴⁷⁵ "Agreement for Cooperation between the United States of America and the Republic of Turkey Concerning Peaceful Uses of Nuclear Energy," January 22, 2008.

⁴⁷⁶ Ibid.

⁴⁷⁷ Anti-nuclear arguments mimic those of Greenpeace, IPPNW and Friends of the Earth.

⁴⁷⁸ Participating groups include:

nuclear weapons. They uphold energy efficiency, conservation, amelioration of transmission lines to prevent lost and/or stolen energy, and the use of national and renewable energy resources. They try to raise public awareness on the dangers of NPPs, particularly in provinces where NPPs are planned, like Sinop and Mersin. Their activities range from campaigns, publications, demonstrations, development of education materials, to forming commissions to develop relations with the media.

When the government took the initiative to prepare the law on the establishment of nuclear power plants, some 165 academicians put their signature under the “The Declaration by Scientists Against Nuclear Power Plant.”⁴⁷⁹ They criticized the way the NPP issue was tackled in Turkey, mentioned waste and radiation risks, and drew attention to the absence of a definition for crime and punishment in the law. They stressed that NPPs were not the solution for global warming, but a restraint on the use of fossil fuels and conservation.⁴⁸⁰ Shortly before the Law was discussed in the relevant Parliamentary commission, the anti-nuclear platform members (from Istanbul, Mersin, Sinop, Adana and Samsun) collected some 100,000 signatures for a petition to prevent the establishment of the NPP. They presented nuclear power plant as “lethal.”⁴⁸¹

The Chamber of Electrical Engineers (Elektrik Mühendisleri Odası-EMO) is one of the most ardent voices in the anti-nuclear groups, and is inclined to

Batı Karadeniz Çevre Patformu/BAKÇEP(Western Black Sea Environment Platform), Doğu Akdeniz Çevre Patformu /DAÇE(Eastern Mediterranean Environment Platform), Ekoloji Kolektifi (The Ecology Collective), Eurosolar Türkiye, Greenpeace, Mersin Çevre Dostları Derneği (Mersin Friends of the Environment Association), NÜSED, Sinop Çevre Dostları Derneği (Sinop Friends of the Environment Association), TMMOB Çevre Mühendisleri Odası (Environmental Engineers’ Chamber), TMMOB Elektrik Mühendisleri Odası (Electrical Engineers’ Chamber), TMMOB İnşaat Mühendisleri Odası (Civil Engineers’ Chamber), TMMOB, The Greens.

⁴⁷⁹ Nükleer Santral Karşıtı Bilim İnsanları Bildirisi (Declaration of Scientists Against Nuclear Power Plants), March 10, 2007, *Elektrik Mühendisliği Dergisi (Electrical Engineers Journal)*, Vol. 430, April 2007, pp. 105-107, <http://www.emo.org.tr/ekler/8ec7fefbec9864f_ek.pdf?dergi=457>.

⁴⁸⁰ Ibid, p. 107.

⁴⁸¹ “Nükleere karşı 100 bin imza TBMM’ye teslim edildi (100 thousand signatures against nuclear were submitted to the Turkish Parliament),” *EMO*, November 24, 2006 <http://www.emo.org.tr/genel/bizden_detay.php?kod=50723&tipi=2&sube=0>.

look at the issue from an economic perspective.⁴⁸² **The Chamber of Environmental Engineers (Çevre Mühendisleri Odası-ÇMO)**, is also against nuclear energy and nuclear power plants, not only because of the accident risks and waste issues, but also due to the double-use nature of critical nuclear technologies.⁴⁸³

TEMA (Türkiye Erozyonla Mücadele, Ağaçlandırma ve Doğal Varlıkları Koruma Vakfı - The Turkish Foundation for Combating Erosion, Reforestation and the Protection of Natural Habitats), also favors renewable energy resources over nuclear power.⁴⁸⁴ **Greenpeace** has played an important role in supporting anti-nuclear activities in Turkey through its local chapter. They emphasize that energy generation should be clean, cheap and fast. Nuclear, for them, is expensive, dirty and inefficient, and is a type of technology that is old, cumbersome and dangerous.⁴⁸⁵

The Union of Chambers of Turkish Engineers and Architects (Türk Mühendis ve Mimar Odaları Birliği-TMMOB) demanded the withdrawal of the Law on the establishment of nuclear power plants. The Chairman of the TMMOB, Mehmet Soğancı, argued that the government exposed people to “threat” under the pressures

⁴⁸² “Türkiye’nin Nükleer Çöplük Olmasına İzin Vermeyeceğiz (We Will not Let Turkey Become Nuclear Waste Dump),” EMO Press Release, April 26, 2006, <http://www.emo.org.tr/genel/bizden_detay.php?kod=46354&tipi=3%E2%8A%86=6>; Nükleer Santral Yasasının Değerlendirilmesi (The Assessment of the Nuclear Power Law), *EMO*, May 16, 2007, http://www.emo.org.tr/genel/bizden_detay.php?kod=54043

⁴⁸³ ÇMO: Nükleer Silahlara da Santrallere de Hayır (Environmental Engineers’ Chamber: No to Nuclear Weapons and Nuclear Power Plants alike), August 6, 2005, <http://www.sendika.org/yazi.php?yazi_no=3107>.

⁴⁸⁴ “TEMA’dan, Türkiye Büyük Millet Meclisi’ne Çağrı: Türkiye’nin Önceliği Nükleer Enerji Değil, Enerji Verimliliği ve Yenilenebilir Enerji (TEMA’s Call to the TGNA: Turkey’s Priority is not Nuclear Energy, [but] Energy Efficiency and Renewables)” January 19, 2007, <<http://www.tema.org.tr/SayfaBilesenleri/TemaHaberArsivi.aspx?id=156>>.

⁴⁸⁵ “Nükleersiz Gelecek, Temiz Enerji (A Future Without Nuclear, Clean Energy),” *Greenpeace Mediterranean*, (Date accessed: January 21, 2010), <<http://www.greenpeace.org/turkey/campaigns/nuekleersiz-ortado-u>>; “Greenpeace Neden Nükleere Karşı? (Why is Green peace against nuclear?)” *Greenpeace Mediterranean*, (Date accessed: January 21, 2010), <<http://www.greenpeace.org/turkey/campaigns/nuekleersiz-ortado-u/greenpeace-neden-nuekleer-silah>>.

of nuclear lobbies. Energy shortage is exaggerated, and the solution is appropriate energy planning and not nuclear power.⁴⁸⁶

Women's groups reacted to Minister Güler, after his remarks that the issue of nuclear power plants became a "matter of honor" for them.⁴⁸⁷ Bilge Seçkin from **the Association of Working Women's Human Rights**, stated that the concept of honor was an institutionalized discourse to maintain dominance through pressure over women. In the same way, nuclear power plants were used as the tools to continue this dominance through nature.⁴⁸⁸

6.6.2. Pro-nuclear Groups

Pro-nuclear civil society groups are much fewer in number compared to the opposition groups. **The Nuclear Engineers' Association** criticized the government's decision to cancel the Akkuyu tender in July 2000, pointing out to the shortcomings in the government's rationales.⁴⁸⁹ **The Nuclear Technology Information Platform (Nükleer Teknoloji Bilgi Platformu-NÜKTE)** was established by nuclear engineers who favored the establishment of nuclear power plants in Turkey. They aim at providing responses by physics and nuclear engineers against anti-nuclear arguments. Their membership includes several academics who are experts in nuclear

⁴⁸⁶ "Nükleer Santral Macerasından bir an Önce Vazgeçilmeli, Nükleer Santral İhalesi İptal Edilmelidir ([the Government] should immediately give up the adventure of nuclear power plants, and should cancel the nuclear tender)," TMMOB Press Release, September 15, 2008, <http://www.tmmob.org.tr/genel/bizden_detay.php?kod=612&tipi=3>.

⁴⁸⁷ Nuriye Akman, "Hilmi Güler: Nükleer santral, namus meselemiz," *Zaman*, March 21, 2007, <<http://www.zaman.com.tr/haber.do?haberno=516203>>.

⁴⁸⁸ Emine Özcan, "Nükleer Namus Üzerinden Meşrulaştırılıyor (Nuclear is Legitimized Over Honor)," *BIA News*, March 23, 2007, <<http://bianet.org/bianet/cevre-ekoloji/93741-nukleer-namus-uzerinden-mesrulastiriliyor--2>>

⁴⁸⁹ "Akkuyu Nükleer Santral İhalesi'nin İptalinin Düşündürdüğü (What the Cancellation of the Akkuyu Nuclear Power Plant Tender [Makes Us] Think of)," Nükleer Mühendisler Derneği'nin Kamuoyuna Açık Mektubu (The Open Letter of the Nuclear Engineers' Association), Ankara, July 2000.

or physics engineering, and who participated in the drafting of the law on the establishment of nuclear power plants.⁴⁹⁰

6.6.3. Media

The media in Turkey did not carry the nuclear energy debate in the first pages; rather the issue was reflected in the sections related to economy or in columns. **Doğan Heper**, columnist in *Milliyet*, favored the transfer of nuclear technology not only for energy, but mainly for military purposes. He argued that the criteria in such a transfer should be benefit and safety,⁴⁹¹ and that Turkey should be ready for all circumstances, especially considering nuclear proliferation in its region. He referred to Iran and to the meaning of nuclear capability for a strong Muslim state. Considering the vagueness of the EU integration process and of the US security guarantee after March 1st 2003,⁴⁹² he questioned restraint if neighboring countries acquired such capability.⁴⁹³ Heper advocated Turkey's having a nuclear capability to provide nuclear balance in the region, like the one in Cold War, and argued that it would increase Turkey's prestige.⁴⁹⁴ Like Heper, **Rıza Zelyut**, columnist in *Güneş* daily, is in favor of Turkey's acquiring a nuclear weapon.⁴⁹⁵ He made it clear that to get cheap energy, and to avoid making expenses for a cumbersome army, nuclear

⁴⁹⁰ "NÜKTE neden kuruldu? (Why has NÜKTE been established?)" *NÜKTE*, April 2006, <<http://www.nukte.org/hakkinda>>.

⁴⁹¹ Doğan Heper, "Kamusal Alanı Beklerken (While Waiting for the Public Domain)," July 29, 2004, *Milliyet*, <<http://www.milliyet.com/2004/07/29/yazar/heper.html>>.

⁴⁹² Doğan Heper, "Geçmişle Hesaplaşma (Settling Old Scores with History)," *Milliyet*, November 18, 2004 <<http://www.milliyet.com/2004/11/18/yazar/heper.html>>.

⁴⁹³ Doğan Heper, "Türkiye 'Atom' Yapabilir (Turkey can make the bomb)," *Milliyet*, January 26, 2006: <<http://www.milliyet.com/2006/01/26/yazar/heper.html>>.

⁴⁹⁴ Doğan Heper, "'Nükleer'de Geç Kalıyoruz (We are being late in nuclear)," *Milliyet*, February 2, 2006 <<http://www.milliyet.com/2006/02/02/yazar/heper.html>>.

⁴⁹⁵ Rıza Zelyut, "Türkiye Atom Bombası Yapmalıdır, (Turkey Should Make the Atomic Bomb) /1," *Güneş*, July 27, 2007, <<http://www.gunes.com/2007/07/27/yazarlar/y4.html>>.

technology was a must for Turkey. He contemplated that the transfer would also increase the legitimacy and popularity of the government.⁴⁹⁶

Metin Münir, from *Milliyet*, is one of the columnists who wrote extensively on the nuclear issue. While questioning the plans on the establishment of nuclear power plants and criticizing the government, he also stressed that being against nuclear power was to remain “backward.” He acknowledged that nuclear power would not ease Turkey’s dependence on foreign sources. Instead the aim was to diversify the sources and to alleviate the risk.⁴⁹⁷ **Erdal Sağlam**, from *Hürriyet*, argued in line with the government that the nuclear power plant issue should not only be tackled from an electricity generation perspective, but the acquisition of nuclear energy technology.⁴⁹⁸

Meral Tamer, columnist in *Milliyet*, has been the most vociferous regarding the disadvantages and irrelevance of nuclear power. She pointed at nuclear lobbies who tried to sell outdated nuclear technology to developing countries since they were no longer demanded in the West.⁴⁹⁹ She explained the decrease in the demand for nuclear reactors in the West with the expectation for new generation reactors.⁵⁰⁰ She also noticed the discrepancy between the estimates of the government and the EMO for electricity demand: Thus, she argued that due to the exaggerated demand, the government created urgency for energy shortage.⁵⁰¹ Tamer believed the officials

⁴⁹⁶ Rıza Zelyut, “Türkiye Atom Bombası Yapmalıdır (Turkey Should Make the Atomic Bomb) /2,” *Güneş*, July 28, 2007, <<http://www.gunes.com/2007/07/28/yazarlar/y4.html>>.

⁴⁹⁷ Metin Münir, “Nükleer gericilik (Nuclear reactionism),” *Milliyet*, April 28, 2006, <<http://www.milliyet.com/2006/04/28/yazar/munir.html>>.

⁴⁹⁸ Erdal Sağlam, “Nükleerle ilgili strateji belgesi (The strategy document on nuclear),” *Hürriyet*, April 18, 2006, <<http://hurarsiv.Hurriyet.com.tr/goster/haber.aspx?id=4270144&yazarid=8>>.

⁴⁹⁹ Meral Tamer, “AKP de nükleer santral yapamaz (Neither AKP can establish a nuclear power plant),” *Milliyet*, November 14, 2002, <<http://www.milliyet.com/2002/11/14/yazar/tamer.html>>.

⁵⁰⁰ Meral Tamer, “Başbakanı Nükleer Enerjide Kim Yanıltıyor? (Who is Misleading the Prime Minister on Nuclear Energy)?” *Milliyet*, July 23, 2004, <<http://www.milliyet.com/2004/07/23/yazar/tamer.html>>.

⁵⁰¹ Meral Tamer, “Nükleerde rakamları konuşurursak... (If we let the numbers talk on nuclear),” *Milliyet*, August 3, 2004, <<http://www.milliyet.com/2004/08/03/yazar/tamer.html>>.

were not qualified enough to comment on the nuclear issue,⁵⁰² and proposed that conservation/saving energy might save Turkey from the need to build nuclear reactors.⁵⁰³

Şahin Alpay, from *Zaman*, wrote about the dangers of nuclear power and explained the rise of demand for nuclear power as a consequence of international economic situation and climate change, instead of a conscious or well-thought choice.⁵⁰⁴ Some columnists criticized the anti-nuclear movement: **Hıncal Uluç**, columnist in *Sabah*, categorized himself as “anti-environmentalist”, because he noticed that environmental groups were against all energy types that could be harnessed from national sources, but interestingly not against oil and gas.⁵⁰⁵ **Can Ataklı** of *Vatan* daily is also critical of environmentalist groups, particularly Greenpeace. He wondered whether Greenpeace and like-minded groups were against nuclear energy solely on the basis of environmental concerns, or whether they received the financial backing of those who wanted to introduce other energy sources for service.⁵⁰⁶

6.6.4. Academics

Scientists joined the debate with diverging convictions about nuclear power. Istanbul Technical University, Bosphorus (Boğaziçi) University and Hacettepe

⁵⁰² Meral Tamer, “Gül, nükleeri önce kendi öğreysin de... ([President] Gül Should Learn Nuclear First),” *Milliyet*, March 21, 2006, <<http://www.milliyet.com/2006/03/21/yazar/tamer.html>>.

⁵⁰³ Meral Tamer, “Nükleer, enerji verimliliğini engelleyebilir (Nuclear may prevent energy productivity),” *Milliyet*, March 23, 2006, <<http://www.milliyet.com/2006/03/23/yazar/tamer.html>>.

⁵⁰⁴ Şahin Alpay, “Nükleer Lobi Atakta (The Nuclear Lobby is in Action),” *Zaman*, February 9, 2006, <www.zaman.com.tr/webapp-tr/yazar.do?yazino=254754>.

⁵⁰⁵ Hıncal Uluç, “Devlet Krizi Olurmuş (Would be a State Crisis),” *Sabah*, August 15, 2000, <<http://arsiv.sabah.com.tr/2000/08/15/y08.html>>.

⁵⁰⁶ Can Ataklı, “Nasıl da Demokrat Kesildik (How could we pretend as democrats),” *Vatan*, September 21, 1999, <<http://arsiv.sabah.com.tr/1999/10/21/y05.html>>.

University are the primary institutions with departments and institutes on nuclear engineering and/or nuclear energy. **Prof. Dr. Ahmet Bayülken**, from the Energy Institute of the Istanbul Technical University, argued that nuclear power plants would also introduce nuclear technology that could be used in other fields of science or industry. For him, the ratio of 5% for nuclear energy in meeting Turkey's energy demand was a significant number considering the depletion rate for other sources like water and coal.⁵⁰⁷ **Prof. Dr. Hasan Saygın**, from the İTÜ Energy Institute, suggested that Turkey adopt "wait and see" policy, because there were uncertainties regarding the evolution of nuclear power plants. He underlined that the absence of the fuel cycle technology would create dependence.⁵⁰⁸

As opposed to their colleague, some seven academics from the İTÜ Energy Institute's Nuclear Researches Department, signed a letter in support of nuclear power. In that, **Prof. Dr. Melih Geçkinli, Prof. Atilla Özgener Assoc. Prof. Akif Atalay, Assoc. Prof. Murat Aydın, Assoc. Prof. Ahmet Durmayaz, Assoc. Prof. Bilge Özgener and Asst. Prof. Nesrin Kara Altınsoy** argued that Turkey, which was late for nuclear energy and lagged behind several of her neighbors, should endorse it particularly in the new century, in which the significance of energy will increase.⁵⁰⁹

Hacettepe University has a Nuclear Engineering Department, whose title in Turkish implies that nuclear power is only for civilian purposes (Nükleer Enerji

⁵⁰⁷ İsmail Altunsoy, "İran gaz vanasını kısınca, Meclis nükleer enerji tasarısına hız verdi (When Iran Cut off gas, the Parliament stepped up the energy draft law)," *Zaman*, January 7, 2007, <<http://www.zaman.com.tr/webapp-tr/haber.do?haberno=483805>>; confirmed by him on June 3, 2009 through email correspondence.

⁵⁰⁸ Hasan Saygın, Timur Küpeli, Ahmet Küçükşahin, and Ayhan Demir, " *Nükleer Enerji ve Ulusal Güvenlik (Nuclear Power and National Security)* ", *Silahlı Kuvvetler Dergisi (The Turkish Armed Forces Journal)*, Vol. 126, No. 391, January 2007, pp. 22-35.

⁵⁰⁹ Letter sent to Derya Sazak by the faculty of the İTÜ Energy Institute, Nuclear Researches Department, August 4, 2004.

Mühendisliği-Nuclear Energy Engineering).⁵¹⁰ **Prof. Dr. Okan Zabunoğlu** from Hacettepe University's Nuclear Engineering Department underlined that nuclear technology is a *sine qua non*, while it is energy planners who would determine whether Turkey needs nuclear energy. That is, Turkey should aim at acquiring nuclear technology and not just operating a few power plants. He deemed nuclear technology as a step in development, and if that is missed at the “nuclear age”, it will be hard to reach to the next age. Referring to the difference between “base load” (the power that should exist at a constant rate to meet demand) and “peak load,” (which is needed when demand is high), he maintained that fossil fuels and nuclear are unrivalled in terms of providing the base load. Renewables, on the other hand, are dependent on geography and climatic conditions, which is why they are more suitable for peak loads. He stated that Turkey had enough skilled personnel and infrastructure in terms of working within the safety culture.⁵¹¹ **Prof. Dr. Mehmet Tombakoğlu** from the same department underlined the safety measures in NPPs by referring to the containment structure that was absent in Chernobyl, but which exists in the power plants in the United States and Europe. It is a cement structure with 1-1.5 meter width resistible to a plane crash. Even if an accident occurs, no one would incur the effect. 40% of the investment for NPP goes to safety, therefore costs are high.⁵¹²

Prof. Dr. Haluk Utku from Hacettepe University's Institute of Nuclear Sciences, looked at the nuclear power issue from the perspective of climate change: He referred to the Kyoto Protocol, and the international sanctions it would engender after 2012. During the debates whether nuclear energy should be included in the

⁵¹⁰ The perception was emphasized by Dr. Şule Ergun, from Hacettepe University, Nuclear Engineering Department, in the interview by the author, June 10, 2009, Ankara.

⁵¹¹ Interview by Esra Akgemci with Okan Zabunoğlu, August 26, 2008, via email correspondence.

⁵¹² Interview with Mehmet Tombakoğlu, June 10, 2009, Ankara.

Protocol as a clean resource, he saw that the investments for the use of fossil fuels would become problematic and carry nuclear energy as an option of precedence. He showed that if Turkey ratified the Kyoto Protocol, it would need to give up investments on energy generation based on coal. From the strategic perspective, while oil and gas routes involved political and military risks and have price fluctuations, nuclear fuel could be obtained from countries which were politically more stable, like Canada and Australia. He urged policymakers to consider the need for skilled personnel for the planned NPPs considering the insufficient number of universities offering courses on nuclear technology. Thus, the government should be investing for education parallel to the investments on NPPs.⁵¹³ He also urges the stability of frequency in the grid that will not allow more than ± 20 Mhz deviation. Nuclear power generation would allow this stability, and provide the opportunity for electricity imports.

Prof. Dr. Osman Kadiroğlu, a retired professor from Hacettepe University's Nuclear Engineering Department, argued that Turkey did not have any other choice than nuclear, and that nuclear energy was entirely advantageous. Kadiroğlu argued that the main defect in Turkey was the lack of nuclear energy planning. For instance, in the previous attempt (90s), he observed that people without enough expertise were appointed to the technical commission of the tender.⁵¹⁴ Nuclear engineering track was established in **Middle East Technical University** -Mechanical Engineering Department, but it was closed down after the nuclear power project was shelved. Still, some 25 students obtained an MA degree, most of whom left to study abroad.

Prof. Dr. Orhan Yeşin taught courses on nuclear energy in the department. He

⁵¹³ Haluk Utku, "Nükleer Enerji Politikası ve Dikkate Alınması Gerekenler, (Nuclear Energy Policy and Points to be Considered)," *Dünya Enerji Konseyi Türk Milli Komitesi E-Yayın, (World Energy Council Turkish National Committee Electronic Journal)*, No.3, February 2, 2005, <yunus.hacettepe.edu.tr/~utku/NukEnerjiPlanl.doc>.

⁵¹⁴ Interview with Osman Kemal Kadiroğlu, June 15, 2009, Ankara.

favoring nuclear power for resource diversification, affordable energy supply and environmental friendliness.⁵¹⁵

The late **Prof. Dr. Ahmed Yüksel Özemre** was the former Chairman of TAEK, and wrote extensively on nuclear power.⁵¹⁶ He also advocated nuclear power because of its contribution for energy security and technological progress.⁵¹⁷ He also recommended that the choice of nuclear technology be within a national strategy that upheld national interest. It should take into account, along with economic concerns, the capacity of national industry, of the national transmission network and national raw material.⁵¹⁸ He added that the institution that should decide for the choice of nuclear technology should be the Science and Technology Higher Authority after taking the opinion of experts.⁵¹⁹

Prof. Dr. Mustafa Özcan Ültanır, professor in Ankara University, argued that nuclear energy was a “reality” of the current era. He prescribed nuclear power to make up the energy shortage of the next decade and was convinced that the problem will not be addressed unless nuclear energy is included in the basket. He was critical of the anti-nuclear lobbies for deceiving local people, and for being against contemporary technology, welfare and civilization.⁵²⁰ **Prof. Dr. Cemal Saydam**, from Hacettepe University’s Environmental Engineering Department and an expert on oceanography, clarified that nuclear power plants would never give harm to the seas, particularly for the seas surrounding Turkey. For him, nuclear power plants are

⁵¹⁵ Interview with Orhan Yeşin, 2006.

⁵¹⁶ *Orta ve Uzun Dönem Elektrik Enerjisi Üretim Planlama Çalışması 1997-2020*, Türkiye Elektrik Üretim İletim A.Ş. Araştırma Planlama ve Koordinasyon Daire Başkanlığı Üretim Planlama ve Koordinasyon Müdürlüğü, Ankara, 1997, cited in Özemre, *Ah Şu Atomdan Neler Çektim! (Oh What I Suffered from the Atom!)*, 2002, p. 141.

⁵¹⁷ Özemre, *Ah Şu Atomdan Neler Çektim! (Oh What I Suffered from the Atom!)*, 2002, p. 141.

⁵¹⁸ *Ibid.*, p. 142.

⁵¹⁹ *Ibid.*

⁵²⁰ Mustafa Özcan Ültanır, “Nükleer Enerji Neden ve Nasıl bir Çare? (Why and How is Nuclear Energy a Remedy?),” *İşveren (Employer)*, February 2006, pp. 63-67.

the only sources of energy that are reliable and sustainable.⁵²¹ **Assoc. Prof. Dr. Mehmet Şahin from Gazi University, Energy Education Department** encouraged the acquisition of nuclear technology for its input in other fields like electricity, computer, equipment, physics of energy, and so on.⁵²²

Assoc. Prof. Mustafa Kibaroğlu is an expert on arms control, disarmament and nonproliferation issues, and worked on Turkey's nuclear energy bid. He acknowledges the benefits of nuclear technology in civilian applications, like medicine, agriculture, etcetera..., however, he has concerns about international and regional developments that challenge the nonproliferation regime, and which may erode the norms of nonproliferation and the pursuit of nuclear power.

Prof. Dr. İnci Gökmen from Middle East Technical University, Department of Chemistry subscribes to anti-nuclear arguments.⁵²³ **Assoc. Prof. Kayıhan Pala** from Uludağ University's Faculty of Medicine-Department of Public Health argued that the NPP would constitute great risk due to the shortcomings in implementation stage.⁵²⁴ He carried out a thorough study on the cancer cases in Eastern Black Sea region, namely the province of Hopa, after the Chernobyl accident. He found out that the cases of the Hopa region showed a divergence from other regions of Turkey, which deserves further research.⁵²⁵

Necdet Pamir is a prominent energy expert, with a focus on oil and gas. Pamir defines energy supply security issue as a function of national and economic

⁵²¹ Email correspondence with Cemal Saydam, June 3, 2009.

⁵²² Email correspondence with Mehmet Şahin, June 3, 2009.

⁵²³ "Nükleer Santral Karşıtı Biliminsanları Bildirisi (The Declaration of Scientists against Nuclear Power Plants)," 2007.

⁵²⁴ Pervin Metin, "Çernobil Türkiye içinde patlar (Chernobyl Will Explode in Turkey)," April 14, 2006, <<http://arsiv.sabah.com.tr/2006/04/14/gnd123.html>>; confirmed by Kayıhan Pala via email correspondence, June 3, 2009.

⁵²⁵ Kayıhan Pala, "Hopa'da Kanser Görülme Sıklığı: Tanı Konmuş Olgular ve Ölümler Üzerinden bir Değerlendirme (The Frequency Rate of Cancer in Hopa: An Assessment on the Detected Cases and Deaths)," *Çernobil Nükleer Kazası Sonrası Türkiye'de Kanser (Cancer in Turkey after the Chernobly Nuclear Accident)*, Ankara: Turkish Medical Association Publications, April 2006, pp. 73-104.

security, and sees Turkey's decisions shaped within the parameters of American energy security policy and strategy in the Middle East.⁵²⁶ Regarding the pursuit of nuclear power, he sees various unresolved issues, like waste disposal, and argues that it would not be a wise decision to materialize the transfer without first addressing these issues. Second, he is concerned about the conduct of the tender process, and about estimates that exaggerate the demand for energy in view of alternative resources. He encourages policymakers to set up the infrastructure on human resources, legislative and economic basis, and then plan for the construction.⁵²⁷

The coordinator of the National Security Strategies Research Center-TUSAM (Türkiye Ulusal Stratejiler Araştırma Merkezi) Ali Külebi is the author of the book *Turkey's Energy Problems and Nuclear Necessity*. He believed that anti-nuclear rhetoric damaged Turkey's interests, because nuclear technology was a necessary component of modernity. He argued that it would provide Turkey with "strides" apart from electricity generation (by which he meant nuclear weapons).⁵²⁸ Külebi deemed that the anti-nuclear movement was an outgrowth of the West and its institutions which did not want Turkey to have nuclear power plants. The West used civil society organizations to form a public opinion that opposed the establishment of these plants, because they would loathe a Muslim country to possess nuclear technology.⁵²⁹

This chapter has provided an overview of the actors and their arguments. Next chapter will analyze these arguments.

⁵²⁶ Necdet Pamir, "ABD Politikalarının Kıskacında Irak ve Türkiye'nin Enerji Denklemleri (Iraq and Turkey's Energy Equations in the Clamp of US Policies)," *Cumhuriyet Enerji Dergisi (Cumhuriyet Energy Journal)*, No. 2, February, 2008, pp.12-14.

⁵²⁷ Interview with Necdet Pamir by Nagehan Alçı, September 29, 2008: "Hükümetin Nükleer Israrı," *Akşam*, October 19, 2008, <<http://arsiv.aksam.com.tr/haber.asp?a=131157,12&tarikh=19.10.2008>>.

⁵²⁸ Ali Külebi, *Türkiye'nin Enerji Sorunları ve Nükleer Gereklik (Turkey's Energy Problems and the Necessity of the Nuclear)*, Istanbul: Bilgi, 2007, p. 131.

⁵²⁹ *Ibid*, p. 135.

CHAPTER VII

ANALYSIS OF THE DEBATE: THE TWO COMPETING MEANINGS OF NUCLEAR POWER

This chapter will analyze how the actors construct social realities, establish links between meanings and fix them through discourse. State officials present nuclear energy and nuclear power plants as the “solution” to the “problem” (or sometimes the “response” to the “threat”). To that end, they first highlight the “problem of energy shortage” and then “the threat of energy dependency” to set the agenda. Afterwards, they present “nuclear energy and nuclear power plants” as “the solution” or “rational choice.” In the meantime, the government (including the energy bureaucracy) constructs an identity for itself (and its supporters), creates publics and excludes “others.” On the other hand, the opposition contests the definition of the problem and the determination of policy options. “Nuclear” (energy or power plants) comes to mean “disadvantageous” or “threat,” and the problem becomes the government decision itself. Hence, there are two rival discourses on nuclear power: The former constructs the meaning of nuclear as “power” or an “asset,” and the latter as “threat.”

The respective arguments of the actors will be analyzed as follows: The main arguments will be highlighted. The excerpts from the actors' statements below them will be analyzed so as to understand the meanings they assign to concepts, the links they establish between them and the construction of identities. It will be done by "discursive practices approach," that is through the tools of *presupposition*, *predicate analysis* and *subject positioning*. It will, thus, examine the discursive practices of the actors involved, such as the government, politicians and energy bureaucracy, who determine the threats to/needs of the state, and decide on the actions and their implementation. It will also analyze the discourses of the NGOs which focus on the environment and define threats and risks accordingly. The analysis will show how these actors linguistically construct reality and privilege the state over domestic actors (including the public) in the making of policy, how identities are constructed (the "self" and the "other"), how the "other" is depicted as a threat, and how its legitimacy is reduced. The texts will be selected from the authorized representatives in the two groups: That is, government and military officials, bureaucrats, heads of associations and unions, of energy firms, energy professionals, civil society organizations, journalists and academics. The diversity of the choices will also address the problem of selection bias, since the views of the groups or individuals may not be uniform. The analyses of the main arguments reveal results that may cause repetitions of the assumptions, predications or subject positions. These are not intended repetitions, but those which cannot be omitted due to the nature of the analysis.

7.1. Arguments in favor of the decision: “Nuclear energy is an asset for augmenting state power.”

The following excerpts are chosen from the statements of state officials (such as the energy ministers, individuals from the energy bureaucracy and MPs who speak for the government in the Parliament), journalists, academics and civil society representatives. In their discourses, some four points are articulated and reinforced: Their definition of the issue constructs nuclear power as the “solution;” state is the referent of action, that is, the transfer of technology will enhance state power economically, ideationally and in military terms, and bolster energy security. Third, decisionmakers are “rational.” Finally, the “others” who oppose the decision are irrational, and “other sources of energy” are inferior to nuclear energy to address the “problem” at hand.

Before the analysis of the texts, the official statement deserves attention. The **Energy Ministry** announces its decision on nuclear power as follows:

...Related to the electrical energy supply and demand projections, it is planned that from 2015 on, a 5000 MW power nuclear power plant capacity will be made operational...The process of the establishment of nuclear power plants is in progress. Turkey’s first planned nuclear-power-plant in Mersin-Akkuyu retains the license, and studies for licensing the Sinop site is in progress. (...) The negative impact on the environment of fossil fueled, particularly of the coal-fired thermal plants are incomparable to that of nuclear power plants. To the contrary, nuclear power plants are options that should be taken regarding environmental effects. Regarding the continuity of electricity production, nuclear power plants are safer and ready compared to thermal or hydroelectrical power plants. In addition to the global developments on widening the use of renewable resources, projects on nuclear energy investments gained pace.⁵³⁰

Presupposition: This excerpt creates the background knowledge that there is a discrepancy between supply and demand of electricity that causes an energy shortage. It also assumes that the license which was obtained in the 1970s for

⁵³⁰ “Nuclear Energy,” *Ministry of Energy and Natural Resources*.

Mersin-Akkuyu site is still valid. Nuclear power plants are not harmless, but their impact on the environment is negligible. The global trend is to find alternatives to fossil fuels, and nuclear energy is among the viable alternatives.

Predication: Nuclear Power Plants are predicated as the appropriate options to observe environment-sensitivity, and safer compared to coal and water.

Subject positioning: The rest of the world is constituted as a subject, which uses nuclear energy. Although it is not openly stated, the government and the Energy Ministry are constituted as subjects who are in charge of meeting the gap in the electricity supply and demand. They are following the developments, assess the needs, and are capable of taking the right decision. Nuclear energy as an object is positioned superior to coal and water, hence the appropriate choice for the energy policy.

The statements of the Energy Minister privilege the state over other actors or affected parties by the policy on nuclear energy. The referent is the state, its survival, its economy, and so on... The main point is that nuclear energy will strengthen the bases of state power. The identity of the state and the decisionmakers is constructed superior to the “others,” such as the public or the opposition. So is the position of nuclear energy versus “other types of energy.”

The following highlights are the main arguments of the proponents: Nuclear power is necessary for Turkey and it will augment Turkey’s power militarily, politically and economically. It is a rational decision, and the opposition is irrational, driven by interest or ideology.

7.1.1. “Nuclear energy is necessary for Turkey’s development: It will address the energy shortage, will decrease dependency and the energy bill.”

Hilmi Güler, former Minister of Energy:

If Turkey aspires to develop viable solutions for the future in its national energy policy, it should place its energy basket over five pillars, that is, renewables, coal, hydro, nuclear and natural gas.⁵³¹ ...[N]uclear energy is not a choice but a necessity in order to meet the country’s energy shortage...the resources at disposal will fall short for a continuous flow of electricity for base load and peak hours, thus, nuclear energy is a must and the only way out.⁵³² ...We are determined [to establish nuclear power plants which will] decrease dependency [and] to pay less for the energy bill considering the rising oil and gas prices, and to inflict less pollution to the environment...⁵³³ (...) If you want us to be environment-friendly, to produce cheap, sustainable and continuous electricity without polluting the environment, we should do it...⁵³⁴

TÜSİAD:

Taking note of the global developments, it has become necessary that [Turkey implement] policies in line with our strategic interests determined in the framework of a comprehensive energy policy... In this context, the decision to include nuclear energy, which was belated, into energy production basket is a positive one.⁵³⁵

Haluk Utku, Hacettepe University:

If Turkey ratifies the Kyoto Protocol, it will need to give up investments on energy generation with coal. Thus, Turkey should take meetings on climate change seriously, and formulate policies in that regard... From the strategic perspective, the primary reasons [for choosing nuclear] are that oil and gas routes involve political and military risks and have price fluctuations... [while] nuclear fuel can be obtained from politically more stable countries, like Canada and Australia.⁵³⁶

Presupposition: Turkey will have an energy shortage in the future. Nuclear energy and nuclear power plants are cheap, environment-friendly, and will decrease dependency on foreign sources. Global developments require new policies on energy

⁵³¹ TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, April 20, 2006.

⁵³² “Nükleerde Son Perde (The Last “Scene” in Nuclear [Plans]),” 2007, p. 34.

⁵³³ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 38th Session, December 20, 2006.

⁵³⁴ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103rd Session, May 8, 2007.

⁵³⁵ TÜSİAD: “Nükleer Santral yapılması gecikmiş ancak olumlu bir adım (Establishment of nuclear power plant is a belated but a positive step),” 2006.

⁵³⁶ Haluk Utku, “Nükleer Enerji ve Dikkate Alınması Gerekenler, (Nuclear Energy Policy and Points to be Considered),” 2005.

security. Energy security should be considered within strategic assessments. The decision for nuclear power is useful for Turkey's energy security, and in accordance with the energy policy making criteria. Turkey is not a party to the Kyoto Protocol (speech delivered before Ankara ratified the Protocol in 2009), which allows it to pursue less environment-friendly measures for energy generation. However, it will eventually ratify it; thus, it must align its energy policies accordingly.

Predication: Nuclear energy is predicated as “a necessity to meet the country's energy shortage”, “must” and “the only way out.” These predicates constitute nuclear energy as the “life safer” from “a situation that needs urgent response.”

Subject Positioning: Local resources, particularly hydro-power, oil and gas are put in an inferior position vis-à-vis nuclear energy: Domestic and renewable resources are insufficient; the resources at disposal will pollute the environment; and oil and gas will be costly. Nuclear energy is superior to fossil fuels in terms of supply security, price stability and environment friendliness. “We” refers to policymakers, the government, Energy Ministry, and the energy bureaucracy. It constitutes them as subjects, and confers the identity of the “powerful” or “mighty.” Since “We” are working for the best interests of the country, “We” are entitled to determine the best resource.

Assessment: Nuclear power is constructed as a necessity by means of the energy shortage that faces the energy-dependent Turkey. Policymakers constitute themselves as capable and responsible actors who chose “the rational option” over other alternatives, which are inferior to nuclear energy.

7.1.1.1. “Nuclear energy is urgent, because its absence is a threat to the country’s survival, development and welfare.”

Mustafa Öztürk, AKP Sinop MP:

If we really think of the future of our country, its development and welfare... [T]o prevent darkness, nuclear power plants are urgent [measures]. If we do not show enough resolve, and do not bring this technology in 2015, we would be preparing the dark days. Therefore, in great responsibility, we must build urgently, quickly, without delay, not even one, but several nuclear power plants.⁵³⁷

Sinan Aygün, former Chairman of ATO:

“We have two choices: Either dark or nuclear power plant...”⁵³⁸

Metin Münir, Milliyet columnist:

It is risky for the economy to be dependent on oil and gas which are instruments of coercion in foreign policy and whose prices are fluctuating. (...) There are several states in Europe which generate the main proportion of their energy need from nuclear power plants. Modern nuclear power plants are cheap and safe. Compared to the old generation power plants, they emit less waste. The energy produced is cheap after the construction cost deduced. In addition to limiting dependency on foreign sources, nuclear power plants decrease the emission of greenhouse gases...⁵³⁹

Presupposition: Turkey needs and deserves to take advantage of nuclear energy. It is to a country’s interest to have a secure supply, diversified resources and to acquire nuclear technology. Nuclear energy will contribute to welfare. The West is the example; it is the yardstick. There is a problem of energy shortage, “darkness” is a threat, and nuclear power is the remedy. Dependency diminishes state power, undermines economic stability, and the diplomatic/negotiation powers of the state. “Remaining in the dark” is unacceptable neither for individuals nor for states. The arguments for risky and expensive NPPs are flawed. It is only nuclear energy that can make up the gap in the energy supply, and not any other resource.

⁵³⁷ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁵³⁸ *Nükleer Enerjide Acil Durum Raporu (The Report on the Urgency of Nuclear Power)*, 2007.

⁵³⁹ Metin Münir, “Nükleerleştiremediklerimizden misiniz? (Are you one of those whom we could not nuclearize?)” *Milliyet*, January 28, 2006, <<http://www.milliyet.com/2006/01/28/yazar/munir.html>>.

Predication: NPPs are predicated as to “provide the main portion of electricity in several European states,” “are cheap and safe,” and “modern ones emit less waste” than old ones.

Subject Positioning: The following concepts are positioned in a relation of superiority/inferiority: The economy versus other sectors; modern versus old NPPs; natural gas versus alternative resources. Nuclear power is positioned in opposition to “darkness” which is a danger. “We,” connotes Turkey, the decisionmakers, who should be responsible, and who are in a position to solve the problems of the country, need to take action, make a choice, and adopt policies to its favor.

Assessment: Energy security is vital for survival; hence dependency and shortage are threats to security. Dependency on energy imports reached intolerable levels, and it is an issue that needs urgent measures. Nuclear power is the best or the most appropriate response. Nuclear energy is superior to other resources, and its absence would mean darkness. Policymakers need to take action. This discourse securitizes the shortage of energy, and constructs nuclear energy as the single response.

7.1.1.2. “Nuclear energy is superior to fossil fuels and renewables.”

Gül Göktepe, advisor to TAEK Chairman:

Among the developing countries, it is Turkey whose energy demand is increasing the most. We, as nuclearists, are not against renewables. We favor the use of clean energies like wind. However, since they are not enough by themselves, we are trying to say that there is a need for a clean source like nuclear energy.⁵⁴⁰

⁵⁴⁰ Önay Yılmaz “Nükleer takip (The Nuclear Chase),” *Milliyet*, November 17, 2004, <<http://www.milliyet.com/2004/11/17/siyaset/axsiy01.html>>, statements confirmed by Gül Göktepe via email correspondence.

Mehmet Ali Yavuz, DYP Konya MP:

Nuclear energy should definitely be used in our country, and the NPPs should be established... The NPPs-which observe public health and environmental safety and international high-technology- should be established.⁵⁴¹ The construction of the hydroelectrical and thermal power plants are continuing...but they will not be enough to meet the needs. The establishment of nuclear power plants ... is inevitable. Environmental groups are against NPPs; but they are the only way to overcome the shortage of energy.⁵⁴²

Nuclear Engineers' Association:

...Considering that 10 years' fuel for nuclear power plants can be stored, and thus dependency can be reduced, we are hard pressed to understand the logic behind the insistence on natural gas. The use of hydroelectricity is around 20% worldwide, whereas it is 40% in our country; and almost all the big and economical HEPPs have already been constructed. From now on, we do not have rivers left to make a second Atatürk dam. The (Hydroelectrical Power Plants) HEPPs to be constructed from now on, will be smaller in power, and higher in cost... [O]ur country should not be more dependent on hydroelectricity than today considering the irregular precipitation regime and river flows. How accurate and realistic to rely on wind and solar energy, whose share is less than 1 % in worldwide production of energy, is a separate issue of debate.⁵⁴³

Presupposition: Developing countries are hungry for energy and Turkey is one of them. Renewable energy resources are not enough to meet the energy demand of developing countries. Turkey faces a serious energy shortage. The demand for energy is so high that the current measures are not enough and it will inevitably establish NPPs. Dependency on natural gas is disadvantageous for the state. The insistence on the use of hydro-power is groundless. Public health and environmental safety should be observed in energy projects.

Predication: Renewables are "clean" but insufficient resources of energy. That renders nuclear energy the only option, because it is both "clean" and can address the energy demand of developing countries. NPPs "are the only way to overcome the shortage of energy", and will "inevitably be established." NPPs are advantageous to diminish dependency with the possibility to store the fuel. On the other hand, there are drawbacks of hydroelectricity: the use of rivers passed the

⁵⁴¹ TGNA General Board Minutes, 20th Term, 1st Legislative Year, 41st Session, April 20, 1996.

⁵⁴² TGNA General Board Minutes, 21st Term, 1st Legislative Year, 24th Session, June 27, 1999.

⁵⁴³ "Akkuyu Nükleer Santral İhalesi'nin İptalinin Düşündürdükleri," July 2000.

efficient levels, that is, it “will be more expensive if new HEPPs are built.” Renewables are “unpredictable resources.”

Subject positioning: “We” refers to nuclearists who are confronted with the environmental groups. “Nuclearists” are not against renewables. So, “we” have overlapping grounds with “them”. Where “we” diverge is the (in)sufficiency of renewables to address the energy shortage. “We” place nuclear in the same basket with renewables, whereas “they” perceive it as an antonym. “Environmental safety” is prioritized over “shortage of energy,” because the referent is the economy, human needs and public health. Nuclear energy is positioned superior to natural gas, hydro, wind and solar energy. It is superior, because others either result in dependency or are insufficient to meet the overall demand.

Assessment: Nuclear is more advantageous than renewables in terms of yield per unit investment, energy security and meeting the demand. All these characteristics make it the rational policy choice.

7.1.1.3. “Nuclear energy is an issue of honor.”

Hilmi Güler:

The establishment of nuclear power plant has become a matter of honor for us. The aim is not just to generate energy, but to develop the technological infrastructure of the country. Our country should be able to stand on its own feet in terms of nuclear in the future. Nuclear technology is a threshold. We need to get over this threshold. Those who are blindly against nuclear energy do not know that there are 285 nuclear medicine units. (...) Nuclear power plant means cheap and unabated generation of electricity. [There might be] aridity... There might be insufficient water in dams. The wind might not blow continuously... Coal [produces] CO₂. Nuclear energy is superior in these aspects as well.⁵⁴⁴

Presupposition: The technological infrastructure of Turkey needs to be developed. Turkey is dependent on foreign sources for the nuclear technology

⁵⁴⁴ Akman, “Hilmi Güler: Nükleer santral, namus meselemiz,” 2007.

infrastructure. Nuclear technology is advanced. There are those who are categorically against nuclear power. Honor is the bottomline of socially conditioned human behavior: If something is an issue of honor, then it must be accomplished, because it is a liability to the public.

Predication: Nuclear technology is “advanced” and “a threshold,” Nuclear energy is “cheap,” provides “unabated electricity,” is not vulnerable to climatic changes and does not emit CO₂.

Subject Positioning: “We” are the policymakers, state officials, who work for “our” country. “We” are also devoted to social values, and do whatever it takes to live up to our commitment (to “our” people/constituencies/people who trusted us). “Those blindly against nuclear power” are inferior, because they are unaware of the facts and benefits of nuclear technology. Nuclear is superior to wind, hydro and coal, because they do not meet the energy security criteria.

Assessment: Although there is one example of a text that includes the word “honor,” the concept is too important to be ignored. When something is declared an “issue of honor,” all obstacles are automatically removed in the minds. The concept of “honor” determines the urgency of an issue and the acceptability of an individual (or a group of people) in a group (or in a wider community), and the achievement of the “issue of honor” becomes the priority. It is a concept that is attributed to masculinity such that it is the duty of the man to protect his family. Similarly, governments may take “honor” as the basis of their existence, can mobilize the population, and can legitimize their position. They prevent a public discussion since all measures are acceptable for an “issue of honor.” The minister, by equating nuclear with “honor” tries to legitimize the necessity of establishing nuclear power plants.

7.1.2. “Nuclear energy will augment Turkey’s power: for the state (national security), the economy, the environment, technological development, and status.”

7.1.2.1. Economy, Technology, Environment

Mustafa Öztürk:

The establishment of nuclear power plants will provide a secure base for electricity, and resource diversification, and would have a role in obtaining nuclear technology. NPPs are high-technology products. Since the use of this technology requires high quality and security systems, they will play a leading role for progress for industry and several sectors... Because it is relatively easier and cheaper to store the nuclear fuel, nuclear energy will contribute to the energy supply security. Nuclear power plants do not emit greenhouse gases, therefore they will be appropriate choices to prevent the adverse environmental consequences of rising energy demand. NPPs will contribute to the maintenance of price stability in the long-run.⁵⁴⁵

Metin Münir:

There are several states in Europe which meet the main proportion of their energy need from nuclear power plants. In France, 78%, in Belgium, 55%, and in Sweden, 52% of electricity is generated out of nuclear power plants.⁵⁴⁶

Presupposition: Supply security, resource diversification and acquisition of nuclear technology are state interests. The West is a benchmark for Turkey in terms of development and energy policies.

Predication: Nuclear power plants “are high technology products,” “do not emit greenhouse gases,” will constitute “a secure base for electricity,” “an alternative for diversification,” “basis for nuclear technology,” “a step for other high-technology sectors,” and will contribute to “price stability and energy supply security.” They exist in most of the industrialized countries, and provide a substantial share of electricity.

⁵⁴⁵ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁵⁴⁶ Münir, “Nükleerleştiremediklerimizden misiniz?,” 2006.

Subject Positioning: “Industrialized countries” and “states in Europe” are positioned in relation of similarity and superiority vis-à-vis Turkey, which does not have nuclear power plants.

Assessment: NPPs will not be merely energy generating facilities, but will provide a value added to the level of technological development in the country, sustainability of the environment and the economy. The benefits of NPPs are multiple. Therefore, nuclear energy meets the criteria of energy security.

7.1.2.2. State, National security

7.1.2.2.1. “Nuclear power will overcome dependency on natural gas by diversification.”

Hilmi Güler:

...[T]he natural gas coming from the Russian Federation via our Western route reaches our country over Ukraine, Romania and Bulgaria; and Russia’s efforts are continuing to mitigate the problems due to heavy winter conditions in this route. (...) Iran reduces its daily natural gas delivery to such an extent that violates the terms of the contract by the justification that its domestic consumption increases during the winter. (...) In addition, during January, there were delays in the arrival of tankers carrying liquified natural gas (LNG) coming from Algeria to our Marmara LNG facility because of the storm in the Dardanelles Strait. (...) Nuclear power plants have exclusive characteristics to provide for energy supply security. (...) Energy diversification in our country has become inevitable while the energy demand is rising constantly today.⁵⁴⁷

NÜKTE:

If we had been able to include this energy within our country’s portfolio, we would definitely not have become dependent on natural gas and we would have saved over 3 billion dollars. When we multiply it with the passing years, we can see how much we erred. In this sense, it would become easier to understand why Russia, the world energy giant, increased the NPP investments. With a 100- million-dollar fuel an NPP of 1000 MW can produce energy for three years unabatedly, and you may be hard pressed to believe that this spends a 33-million-dollar fuel per year. It is also environment-friendly. It will be easier to understand why France produces 80% of its electricity out of nuclear. It thus provides its people the cheapest electricity! As a

⁵⁴⁷ Interview with Hilmi Güler, *İşveren (The Employer)*, Vol. 44, No. 5, February 2006, pp. 33, 34.

result, nuclear energy is a national energy. It is the most environment-sensitive one...⁵⁴⁸

Presupposition: Turkey is dependent on natural gas, and this is disadvantageous. The pipeline that carries the Russian natural gas to Turkey is full of problems: It passes through the territories of four states which increases risk, because those countries dramatically increase their demand for gas during winter. The alternative route is also problematic. The third option, the transportation of LNG, is also adversely affected by weather conditions. Therefore, none of the three routes are reliable, and natural gas does not meet the conditions for supply security. It is nuclear energy which can address the problems that natural gas creates. The rising energy demand can be met by adding new energy resources in the supply basket.

Predication: Natural gas is problematic in terms of delivery, creates dependency, subject to shortages during the winter, and unreliable. Nuclear energy is “environment-friendly,” “national” and “the cheapest” resource.

Subject Positioning: Nuclear power excludes all other options that could become an alternative to natural gas. It is not as risky as natural gas, so, it is superior.

Assessment: Dependency on natural gas is a pressing issue for Turkey: It not only affects economic balances, but also constrains the power of the state. The transportation of natural gas for supply security is also problematic: Weather conditions and the political issues in the transportation routes increase risk. The fuel for natural gas is fluid as opposed to the storable nuclear fuel. Nuclear energy would be a “national” resource, that is, it will diffuse dependency, and avoid pressures in the conduct of its foreign policy, because it will provide abundant electricity and diversification. Nuclear power is the best alternative to address the problems of dependency on natural gas and supply security.

⁵⁴⁸ “Türkiye Enerji Dosyası (The Turkish Energy Dossier),” *NÜKTE*, March 2006, <<http://www.nukte.org/enerjidosyasi>>.

7.1.2.2.2. “Turkey should have nuclear capability, and nuclear technology transfer will be the first step.”

Some actors go a step further and securitize the absence of nuclear energy in that it can become a threat to national or economic security. They see nuclear power plants as the technological basis for a nuclear weapon capability. There are other individuals who directly argue that Turkey must have nuclear weapons to bolster its national security. Turkey is a party to the NPT and to other agreements of the international nonproliferation regime, therefore official statements underline the continuation of that status. Still, Iran’s nuclear program increased concerns on regional proliferation trends. In his last day of service, **Gen. Hilmi Özkök**, as Chief of General Staff, declared that:

...The existence of states that have weapons of mass destruction or of states of concern along the axis starting from North Korea and extending to the Middle East, constitutes a serious... threat for our country’s security. If this problem is not resolved despite the intense diplomatic efforts of the international community, I think that it is quite possible that we, as a country, will be faced with important junctures of decision in the foreseeable future. Otherwise, we will be faced with losing our strategic superiority in the region... The Cold War ... remained in the past. Ambiguities, frozen conflicts and the breakdown of balances of power have surrounded Turkey’s horizons like a nightmare... The new environment dictates that we always need to be cautious.⁵⁴⁹

Presupposition: Regional proliferation is a threat to Turkey’s national security. By the Middle East, he refers to Iran. If diplomacy cannot turn the tide of regional proliferation, Turkey will not only lose its strategic superiority, but also will have to make hard choices with respect to the response to the threat. New threats of the post-Cold War require diverse security measures. The Cold War balances of power were sustainable and provided for Turkey’s security, but the new security

⁵⁴⁹ Genelkurmay Başkanı Orgeneral Hilmi Özkök’ün Devir-teslim Töreni Konuşması (The Handover Speech of Chief of Staff, Gen. Hilmi Özkök), August 28, 2006, <http://www.tsk.tr/10_ARSIV/10_1_Basin_Yayin_Faaliyetleri/10_1_7_Konusmalar/2006/orghilmioz_kokdvrtslkonusmasi_28082006.html>.

environment in Turkey's immediate neighborhood is unsustainable and threatens national security.

Predication: "We" and Turkey are predicated with "facing with important junctures of decision in the foreseeable future if proliferation continues in our region," "surrounded in its horizons with the breakdown of balances of power like a nightmare," "under the threat of proliferation," and "needs to be cautious when the new security environment is concerned."

Subject positioning: "We" denotes Turkey and its citizens. Turkey is positioned superior to the countries in its region, and nuclear capability would alter this position when a regional country acquires it.

Individual statements openly refer to a latent nuclear capability: **Ali Külebi** suggests that Turkey should acquire nuclear weapons with regards to the unreliability of alliances, the indefinite process of EU integration and the concerns on regional proliferation:

... The acquisition of nuclear capability by bordering states, like North Korea, China, India and Pakistan, will form a "nuclear belt" that reaches to our borders when Iran also becomes a nuclear power. ...Turkey [will be] vulnerable to threats in its neighborhood... The ... acquisition of nuclear power and a deterrent nuclear ... umbrella is ... a condition for regional powers [so] Turkey needs to attain this potential... (...)We think that it is helpful for Turkey - which will find the opportunity to take steps for becoming a nuclear power in military terms by establishing nuclear power plants- to plan becoming a nuclear power and to include it in the National Security Policy Strategy... Such deterrent mechanisms are necessities to alleviate and even to prevent ... threats forged by foreign powers against the national unity and the probable pressures on our country.⁵⁵⁰

Doğan Heper, Hürriyet columnist:

... Pakistan, India, North Korea and finally our neighbor Iran has channeled or aspiring to transfer nuclear power into military field... With the motion of March 1st, Turkish-American relations soared... The EU will accept us at least 15 years later.⁵⁵¹ ...Russia and the United States are utilizing nuclear energy, even making weapons. On the other hand, we are begging Iran for gas. This begging disturbs me, how about you? ... [The acquisition of] nuclear technology will eventually provide the

⁵⁵⁰ Külebi, *Türkiye'nin Enerji Sorunları ve Nükleer Gereklik (Turkey's Energy Problems and the Necessity of the Nuclear)*, 2007, pp. 216-218.

⁵⁵¹ Doğan Heper, "70 milyon moral bekliyor (70 Million Awaits Morale)," *Milliyet*, January 12, 2006, <<http://www.milliyet.com/2006/01/12/yazar/heper.html>>.

military superiority of this country... [It] will not only increase Turkey's prestige in the region, but will also serve permanent peace...Otherwise... we will continue to remain a "developing country."⁵⁵²

Rıza Zelyut, journalist:

Turkey definitely needs nuclear energy... both to make up its energy gap and to sustain its strategic advantage-that it maintains by its huge army- more cheaply and effectively.⁵⁵³ (...) Please be mindful of which countries use nuclear power. These [countries] are those which could mend their economies rapidly.⁵⁵⁴ It is hard to say that the Turkish army has the power to deter, because it does not have an atomic bomb. (...) The West puts pressure on Turkey ... [by warning] that "If Iran goes nuclear, it will strike you, too!" The main reason behind the anti-Iran propaganda is ... to conceal the Israeli atomic threat, and to deprive the Muslim world of atomic bomb...⁵⁵⁵

Presupposition: Proliferation is potentially dangerous (for Turkey's security in the future). Ensuring Turkey's security and maintaining its regional standing in the foreseeable future is possible only by the acquisition of nuclear weapons. There is a gap between response capabilities and threats that Turkey is facing. Foreign powers conspire to weaken and divide Turkey by targeting its national unity and applying pressure on political issues. The way to deter these threats is the possession of nuclear weapons. Turkey was deceived and was not given nuclear technology. Turkey is a powerful country, but the fact that it does not have nuclear weapons keeps it lesser. Nuclear weapons mean power and prestige. It is a shame that Turkey does not have them. The response to proliferation is proliferation. Nuclear technology should be acquired as a stepping stone for its military use. The Christian and Western world knows that nuclear power augments power materially and ideationally, so they do not want the Muslims to have it, because Muslims are "inferior" and they should remain as such. Muslims do have the right to acquire the technology, but it is the West which prevents them. Turkey's current status is fragile

⁵⁵² Heper, "Nükleer'de geç kalıyoruz (We are Being Late in Nuclear)," 2006.

⁵⁵³ Zelyut, "Türkiye Atom Bombası Yapmalıdır (Turkey Must Manufacture the Atomic Bomb) /1," 2007.

⁵⁵⁴ Zelyut, "Türkiye Atom Bombası Yapmalıdır (Turkey Must Manufacture the Atomic Bomb)/2," 2007.

⁵⁵⁵ Ibid.

regarding the balances of power and its alliances, thus it must increase its power. This justifies the threat and response in the form of nuclear weapons.

Predication: Turkey does not have reliable allies, faces games/threats forged by foreign countries, “is begging Iran for gas,” “was deprived of nuclear energy,” needs to obtain the technology to develop nuclear weapons, “should plan on becoming a nuclear power and make it a policy,” should acquire nuclear energy and then nuclear weapons, “would become influential and gain prestige with nuclear weapons,” and will remain a “developing country” without nuclear weapons. Nuclear energy is predicated as a national and continuous resource and rational choice.

Subject Positioning: Muslims versus the West/Christians, are pitted against each other as nuclear have-nots versus nuclear haves in superiority-inferiority relationship. The first is constructed as secondary to the latter, so nuclear energy will give them the status they seek.

Assessment: Turkey is under threat, and should augment its military power: It should become a regional power to survive the external threats. Ankara should have its own nuclear capability. In this sense, the nuclear energy project will be the first step to provide latent nuclear weapons capability.

7.1.2.3. “It will increase state power at the domestic level.”

Rıza Zelyut:

The AKP government, in its past five years of service, did not leave something that is worth remembering in the future. I hereby propose: They can put their mark under a big endeavor that can be considered as a turning point in Turkey’s history. Let me give its name: “To Start the Atomic Age in Turkey.” Acquiring [nuclear] technology is first and foremost a political decision... The previous governments boasted about highways and bridges. If the AKP government can bring this technology, then they can boast about initiating the nuclear age in Turkey. For me,

this is the biggest patriotic act. I can say that I will applaud this endeavor as an all-time AKP-opponent.⁵⁵⁶

Presupposition: Nuclear technology transfer is advantageous for state power, and the decision to that end would demonstrate that state officials observe the benefit of the state and their people. Notable performances by governments are huge development projects.

Predication: The AKP government is “incapable” to contribute to the growth and development of the country, and an undertaking for nuclear power would make them “patriot.”

Subject Positioning: The author places “I,” a citizen who is not satisfied with the deeds of the government, hence the tag “all-time AKP opponent.” The decision on nuclear energy is so effective that it could convert such an opponent to appreciate the government. The satisfaction of the opposition will increase the approval rates and increase the power of the government.

Assessment: Mega projects signify development, and the increase in state power. Governments with such endeavors receive public acceptance and legitimacy. Nuclear power project is constructed as a “turning point” and “patriotic act” for governments needing to substantiate their power.

7.1.2.4. “The nuclear energy project is a matter of prestige.”

Hilmi Güler:

For, this is not only an energy program for us, not a matter of energy, it is a matter of prestige, a matter of passing a threshold in terms of technology, that is, a threshold that self-confident states pass...⁵⁵⁷

⁵⁵⁶ Ibid.

⁵⁵⁷ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 38th Session, December 20, 2006.

Doğan Heper:

Our national pride should reach to the zenith. 70 million [the population of Turkey] are waiting for this. A morale-boosting action will make the 70 million to clamp together, to be in unity and integrity, and reinforce their pride to be Turkish citizens. For example, the success on nuclear field ... could give this morale to our society.⁵⁵⁸

Presupposition: Turkish people need morale because their unity and integrity have been challenged such that it affected their pride for their “nationality.” So, nuclear power will restore their morale, because it represents power and prestige, and gives self-confidence.

Predication: The “nuclear energy program” of the government is predicated as a “matter of prestige” and “passing a threshold in terms of technology” and which will restore the country’s “self-confidence.”

Subject Positioning: “We” is used for the government and the policymakers. It constructs them as actors working to the benefit of the state. In the second text, it refers to the Turkish people. Turkey is positioned inferior to the “self-confident” states which passed the “threshold” through the acquisition of nuclear technology. Therefore, it is generation of nuclear power that will make Turkey even with those states.

Assessment: Nuclear power project will not only augment Turkey’s power through its contribution to development, energy generation, and economic growth, but also to its status. For, having nuclear technology is a threshold to becoming a developed/1st tier country.

⁵⁵⁸ Heper, “70 Milyon Moral Bekliyor (70 Million Awaits Morale),” 2006.

7.1.3. “It is rational to have nuclear energy, and irrational not to have it, because of its advantages.”

The following text is chosen to present the bullet points of arguments regarding rationality: It is established by reference to policymakers identifying with the residents who perceive a threat to their health and environment, to “facts” that Turkey already has a background with nuclear technology, and to “incomplete or inaccurate information” that manipulate the rationality of the opposition. The remaining texts are chosen in different categories where nuclear energy is constructed as the “rational choice.”

Hilmi Güler:

... [W]e are not an ignorant country in terms of nuclear energy. (...) We also have kids, we ... will also live in this country. (...) I am from the Black Sea [region]. It is heads or tails, we will achieve this job. Let's get rid of underestimating ourselves. (...) There is one way for rationality... : Turkey should start working for long-term nuclear energy production ... We are trying to do what is right. Especially in face of global warming which is tremendously dangerous, we find it appropriate to [establish the nuclear power plants].⁵⁵⁹...[N]ow there is a... new period called “nuclear renaissance.” (...) Even the founding members of some environmentalist groups joined the nuclear environmentalist group.⁵⁶⁰ Waste is not that horrendous. ...: If a five-member-family used nuclear power for fifty years, their waste would fill up [less than a] glass of water, 200cc. [The perception that] everywhere will be covered by waste, everybody will get cancer, will die, and the like... [is wrong].⁵⁶¹

Presupposition: The Turkish government is rational about nuclear energy. If the NPP were dangerous, the Minister himself would not have approved the decision. The Turkish public underestimates the state's skills to properly carry out a task. There is a perception that waste is horrendous, but those who argue as such are unaware of the “real facts” about waste.

Predication: He predicates policymakers as informed (not ignorant), with kids, residents of their homeland, “capable” of achieving nuclear power project, and

⁵⁵⁹ TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, April 20, 2006.

⁵⁶⁰ TGNA General Board Minutes, 22th Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁵⁶¹ TGNA General Board Minutes, 22th Term, 4th Legislative Year, 91th Session, April 20, 2006.

in an effort “to do what is right.” Waste is “in small quantities,” and does not “cause cancer or deaths.”

Subject positioning: “We” refers to the government and the Energy Ministry. With the sentence “we are not ignorant,” Güler constructs himself and the state officials as rational subjects: They can decide for the good of the nation, economy, people and the environment-which are taken as objects and in an inferior position. “I” refers to the Minister himself as a person, as a father, and as someone from the Black Sea region, who will be exposed to the risks of a NPP. By constituting himself as subject, he reinforces rationality: As the person at the head of energy policymaking, and as someone who will not be insulated from the impacts, he must be rational by carrying out the decision. He establishes similarity with the residents of the Black Sea region, some of whom oppose the project.

7.1.3.1. “Scientific and technical data corroborate the decision because they are objective. Experts approve the decision.”

The discourse on **science** is a repeated theme to establish the objectivity of the information hence the credibility of actors:

Hilmi Güler:

[W]hile doing this, without any [psychological] complexes, I use quite serious, scientific and technical methods. I am an old TÜBİTAK member, at the same time I am coming from the bureaucracy; that is, I am a person who knows the nation and the state. Therefore, in these studies, only scientific and technical methods are used.
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Presupposition: Science is the basis of knowledge and the “truth,” because it is objective. TÜBİTAK is the Turkish Scientific and Technical Research Institution,

⁵⁶² Ibid.

which is presumed to be impartial. Government decisions become political and unscientific if they oversee scientific and technical assessments to address an issue.

Predication: Hilmi Güler predicates himself as “an old TÜBİTAK member,” “coming from the bureaucracy,” that is, as “a person who knows the nation and the state.”

Subject Positioning: With “I,” The Minister constitutes himself as an authority that has expertise and background in science, technology and bureaucracy. He positions himself superior to those who lack such expertise and who may argue against the government’s energy policy.

Technical information is used to establish the argument that the disadvantages of nuclear energy are few and tolerable, so it becomes the rational choice.

NÜKTE:

Its waste is not a problem. A pool in the size of an Olympic pool installed during the construction of the NPP would contain the spent fuel rods. You can close down the NPP and this pool- which will be enough for a 50-year life [of an NPP]. Thus, you won’t have any waste problem.

Presupposition: Opponents argue that nuclear waste is “lethal,” but this is not the case. Waste is stored in a way that does not threaten life.

Predication: Waste is “not a problem,” it does not fill up huge spaces and can be contained safely.

Subject positioning: “We” know what we are doing, because “we” looked at the technical details. “You” do not know the “facts”, which is why “you” exaggerate the “waste problem.” NÜKTE constructs itself as an authority by referring to others who are ignorant.

Reference to **experts** is another method to construct rationality. Discourse can create experts or authorities, and refer to their statements as the source of knowledge

to establish a certain “reality.” The following excerpts are chosen from the statements of those individuals who establish themselves as “authorities” regarding the nuclear energy issue, or they include statements which refer to an “expert.”

Nuclear Engineers’ Association:

Prof. Dr. Jeffrey Sachs, the director of Harvard University’s Center of International Development, in his analysis which is published in the British journal, *Economist*...divides the World into three. Technology-producing countries, technology-using countries, and those countries which neither produce nor use technology. In this classification, Turkey was shown in the [category of] States not producing or using technology. The shame goes not to Turkish scientists, but to those statesmen who do not trust their own experts...the Nuclear Engineers’ Association could not accept the decision to cancel the Akkuyu NPP tender. The efforts of all these skilled people, the funds of the State, the hopes of nuclear engineers vanished all at once...⁵⁶³

Mehmet Şahin, Gazi University:

Actually, all facilities generating energy are harmful for the environment. For example, if [we] want to establish a 1000 MW wind power plant, [we] would need a 50-thousand-acres field. Around these windmills, no living organisms or flora can live. For a 1000 MW HEPP, thousands of acres of field or agricultural land would be left under water. Nuclear power plant can be established in a much narrower area and would not be harmful to the environment. For me, a conscious environmentalist should support nuclear power plants.⁵⁶⁴

Okan Zabunoğlu, Hacettepe University:

As an academic and scholar, I well know that there are steps during the process of learning, like steps on a stairway. If you miss a step, you may reach the next one with some extra effort. If you miss 2 steps, it becomes much harder to reach the second one. Well, if you miss more than two steps, it may be impossible to catch up. This is my major worry ... during our country's walk on a technological stairway. So far, we have remained deprived of the benefits of nuclear energy and technology. And ... we are in the “nuclear era;” ...staying away from nuclear technology is tantamount to missing a few steps on the stairway. I’m afraid that we will not be able reach the next step if we do not take steps [for nuclear power generation] soon-before it turns out that we are too late.⁵⁶⁵

Presupposition: Western (more specifically Anglo-Saxon) academics, academic institutions and journals are points of reference. Scientists and academics are skilled people and they should be consulted with before taking a decision that

⁵⁶³ “Akkuyu Nükleer Santral İhalesi’nin İptalinin Düşündürdükleri,” July 2000.

⁵⁶⁴ “Akademisyenler nükleer enerjiye farklı bakıyor (Academics Perceive Nuclear Power Differently),” *Hürriyet*, May 7, 2006,

<<http://hurarsiv.Hurriyet.com.tr/goster/haber.aspx?id=4374864>>.

⁵⁶⁵ Interview with Okan Zabunoğlu, November 2008.

pertains to technology transfer. Nuclear technology is an advanced technology and one that grants status to states. It is a shame for statesmen who purposefully deprive Turkey of this technology. It is the experts who can guide policymakers for accurate decisions. The argument that “renewables are environment-friendly and nuclear is harmful” is false. To the contrary, nuclear energy is more environment-friendly than renewables. Scientific information is objective and true. Those environmentalists who are against NPPs are unconscious, that is, they are not accurately informed. Turkey should acquire the know-how on nuclear technology and attain the one at the global level. The more Turkey remains behind the pace of technology, the harder it becomes to learn new ones. Since Turkey could not procure nuclear technology while world entered the “nuclear era,” it is time that Turkey constructed nuclear power plants. Otherwise, it will never catch up with the contemporary technology.

Predication: Experts on nuclear technology are skilled, and are acquainted with the pursuit of nuclear power.

Subject Positioning: Western experts are advanced and they are given the identity of being the point of reference. Technology is constituted as an object in political economy to determine the status of countries in the world. Hence, Turkey is positioned inferior to states which possess advanced technology products. The nuclear engineers of Turkey, who are “experts” and “authorities,” are constituted as subjects superior to the statesmen who cancelled the tender and acted irrationally. Nuclear is superior over wind and hydro power considering the impacts on the environment. Nuclear technology is equated with the necessary leap to reach the next step in the technological ladder.

Assessment: Nuclear energy is constituted as the rational choice for Turkey’s energy security, in view of increasing demand/need and limited supply. These supply

and demand estimates were made on the basis of scientific and technical facts. Scientists and experts are objective and reliable. Nuclear technology is also an asset to attain more advanced levels of science. Therefore, the “fact” that “nuclear energy is the appropriate choice” is established. The positivist philosophy⁵⁶⁶ and the significance of science⁵⁶⁷ are determining in the Turkish political culture regarding development and progress: They are under the basis of “what we know.”

7.1.4. “Opposition to nuclear energy on environmental and human health grounds is tricky. International actors behind the opposition try to keep Turkey non-nuclear and weak.”

Cumhur Ersümer, former Minister of Energy:

Even if [they] write “stop” on the sky...we will materialize this project. (...) They put a placard onto the building of the Energy Ministry, saying “No to Nuclear” and they chained themselves. We have always been mild towards these groups...but we could not reckon that they would come together, [unite forces with] important [actors], and prevent us.⁵⁶⁸

Rıza Zelyut:

[W]hy Turkey, which is trying to accede to the European Union, and with scarce resources is not using this technology while the EU generated one third of its electricity from nuclear [?]. (...)To keep Turkey continuously dependent on foreign sources ... to make it use risky and costly energy so as to prevent its rapid development... to prevent the manufacture of an atomic bomb... [and] to make it to allocate a huge amount of GDP to maintain the army, thereby to curtail its power for development.⁵⁶⁹ Europe and the United States have cheated countries like us so far by saying that “nuclear energy is dangerous!” When nuclear energy came to the agenda in our country, Western countries activated some civil society organizations

⁵⁶⁶ Ali L. Karaosmanoğlu, “Turkish Security Culture: Evolutionary or Carved in Stone,” in Peter M. E. Volten ed., *Perceptions and Misperceptions in the EU and Turkey*, Harmonie Paper, No. 23, Groningen: CESS, 2009, pp. 33, 34.

⁵⁶⁷ Atatürk’s dictum “the truest guide in life is science” emphasizes the positivist philosophy and the importance of reason to attain “the objective truth.” See: *Atatürk’ün Söylev ve Demeçleri (Atatürk’s Speeches and Declarations)*, Vol. 2, Ankara: Türk Tarih Kurumu, 1959, p. 215 cited in ibid, p. 34.

⁵⁶⁸ “Türkiye’de Nükleer Enerji Yarışması Başlarken ... (... While the Nuclear Power Competition Starts in Turkey),” 2008.

⁵⁶⁹ Zelyut, “Türkiye Atom Bombası Yapmalıdır (Turkey Must Manufacture an Atomic Bomb) /2,” 2007.

in Turkey. (...) ...they showed... the Chernobyl accident as evidence... (...) ... the absence of nuclear energy is one of the reasons of our energy dependence.⁵⁷⁰

Can Ataklı, columnist in *Vatan* daily:

Not every environmentalist movement is innocent. The most outstanding demonstrations of the past 15 years are those for “the environment.” (...) However ... the “politicized” environmentalist movement was not composed only of “innocent” wishes and ideals, but was engaged with relations of interest. (...) The forerunner of the groups making demonstrations worldwide is Greenpeace. However, I always had doubts about this organization. (...) Now, they are making demonstrations in Turkey, and opposing nuclear power... Do Greenpeace and their supporters in Turkey oppose nuclear energy just because it will damage the environment or are they receiving the “financial” support of those who want to open up other energy sectors for service? If nuclear energy is that harmful, they should start their demonstrations in Russia and the United States.⁵⁷¹

Presupposition: Civil society organizations for the environment are false pretences; they are the agents of the West. So, the real reason behind the fear is not environment, but international and national interest. Those who give support to the environmentalist groups should be cautious and question the real intentions behind.

Predication: Turkey was “kept dependent on foreign sources in energy,” “deprived of nuclear technology,” and “prevented from manufacturing an atomic bomb.” Thus, it could not develop and lost power. Greenpeace is predicated as “the forerunner of the environmentalists” but one which “created doubts” with “demonstrations involving corporate or state interests.”

Subject Positioning: Turkey is positioned inferior vis-à-vis the EU and the United States, in a way to refer to “nuclear have-nots” versus “nuclear haves” in terms of technology. In this context, nuclear energy will confer Ankara’s prestige and status. The method to prevent countries like Turkey from having the technology is to create fear, so that these countries will reject nuclear energy by themselves.

Assessment: The opposition -consciously or unconsciously- becomes the instrument of the international power game that tries to maintain “inequality”

⁵⁷⁰ Zelyut, “Türkiye Atom Bombası Yapmalıdır (Turkey Must Manufacture an Atomic Bomb) /1,” 2007.

⁵⁷¹ Ataklı, “Nasıl da Demokrat Kesildik (How Could We Pretend as Democrats),” 1999.

between great and small powers. Therefore, their intentions are doubtful. These groups can manipulate the public opinion to choose one policy option over another, by politicizing or securitizing an issue. The supporters discursively construct (external) antagonism toward the opposition by referring to international concerns on proliferation and Turkey's power that would be enhanced with the acquisition of nuclear power plants.

7.1.4.1. "The opposition is irrational due to misinformation or lack of information."

Hilmi Güler:

[There can be] no way with *İstemezük*. *İstemezük* is only a word for sheer opposition spoken by those who do not have expertise.⁵⁷²

Doğan Heper:

One of the first tasks of the US President Bush in his Asia visit was to sign a nuclear cooperation agreement with India...Some people... say that "the United States gave up nuclear energy, let's not undertake it." They do not know that today there are 440 NPPs in operation, 26 in construction ...and 32 planned... And us? None...⁵⁷³

Mustafa Özcan Ültanır:

Today in France, which is the leading country in nuclear, there are 59 reactors in operation, and 11 old NNPs are shut down. In Japan, where there are new reactors under construction, there are 56 in operation and three NPPs were shut down... [A]ll the fuss about the closure of reactors and waning of interest in nuclear after Chernobyl do not reflect the truth. Besides, Chernobyl with its old technology is quite different, and does not constitute an example...⁵⁷⁴

Presupposition: The opposition should not object without an alternative (like the Jannissary demonstrations against the Ottoman Sultan). They cannot assess the problem well. The opposition argued that closure of reactors meant waning of

⁵⁷² TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 100th Session, May 10, 2006.

⁵⁷³ Doğan Heper "Arapsaçı derler ya, öyle, (It's just like a Muddle)," *Milliyet*, March 9, 2006, <<http://www.milliyet.com/2006/03/09/yazar/heper.html>>.

⁵⁷⁴ Ültanır, "Nükleer Enerji Neden ve Nasıl Bir Çare? (Why and how is nuclear Power a remedy?)" 2006, p. 64.

interest in nuclear energy, particularly after Chernobyl; but the record of the leading states in the industry points to the reverse. The United States is the leading country in technology, military, economic and political power. So, it must be acting rationally to maintain its status.

Predication: Chernobyl NPP was “old technology,” “different” from the contemporary NPPs, and “does not set an example” to assess interest in nuclear energy. The opposition does not have expertise or know the “facts.”

Subject Positioning: The opposition is inferior to “us,” because they oppose without an alternative, and irrationally. The planned NPPs are superior to Chernobyl-type reactors. Those against the NPP put forward the United States as proof, but with lack of information.

Assessment: An actor is rational when s/he bases her/his arguments on facts. The opposition relies on false or incomplete information, thus their arguments are unreliable.

7.1.4.2. “The opposition is driven by ideology.”

The style of anti-nuclear activists is described by the former Chairman of the TAEK, late **Ahmed Yüksel Özemre**, as follows:

Since 1985, I had the opportunity to meet several “anti-nuclear” people in various European countries and of course in Turkey. It is possible to divide them into two: The first group is composed of people who are sincere and open-minded. The Second group [can be named as] “nuclear fanatics.” (...) Their common goal is to rid nuclear energy off the Earth. (...) ..their behavior and beliefs are in the fashion of the Persian dualist religion [which seeks] to demolish the “Evil” at any cost ... and to restore the world to its primary status, that is, the paradise. (...) The “Good” is the “Sun” (or renewables) and the “Evil” is nuclear power. (...) Greenpeace works like a “church,” there is “clergy,” “pilgrim sites,” such as nuclear power plant sites, or policymaking institutions (such as the Energy Ministry), and “prayers” in the form of slogans. (...) They label the supporters as “under the command” of

“lobbies” and “immoral,” whereas they are the “real scientists.” They do not make scientific analyses and do not count on factual evidence for their arguments. They also do not question the financial support they receive to organize their activities. Thus, it is hard to establish a rational dialogue, and the best way is to leave them with their ignorance.⁵⁷⁵

Presupposition: The anti-nuclear movement is not changing and cannot change, because it is devoted to its cause, which is utopian. The financial support comes from actors with corporate or political interests.

Predication: Anti-nuclearists are divided into two: The first group is open-minded. The second group is fanatical, who mimic the philosophy of the old Persian religion, where there are two opposite sides. The fanatics are prejudiced, and hold on to their cause like a “religion.” they are irrational and “ignorant.”

Subject Positioning: With “I,” Özemre establishes himself as the authority/expert of nuclear issues. The “other” is not even worth talking to. He constructs two anti-nuclear groups, and highlights the fanatics. The open-minded opponents can be talked into, and can understand the “facts” by gaining knowledge. The “other” is completely “ignorant.”

Assessment: Opposition to nuclear power based on belief systems are hard to overcome: Their sight is precluded, and they reject listening to and understanding the “other.”

7.2. Arguments in opposition of the decision: “Nuclear power is a threat.”

The following texts are chosen from the statements of civil society organizations, politicians and journalists. Examples from the international environmental or anti-nuclear arguments are also included where they are applicable,

⁵⁷⁵ Özemre, *Ah Şu Atomdan Neler Çektim! (Oh What I Suffered from the Atom!)*, 2002, pp. 165-170.

to show the overlaps with the domestic discourse. The opponents put forward five main arguments: Nuclear power plants are dangerous, because of the risk of accidents, leakage and proliferation. Chernobyl accident, the unresolved issue of waste, Turkey's administrative deficiencies and proliferation cases prove the level of the "risk." Nuclear power generation is also disadvantageous, that is the costs overwhelm the benefits. Renewable energy sources (particularly wind and solar) are alternatives with saving and efficiency measures. Decisionmakers are irrational, immoral and undemocratized, because they do not engage experts into decision-making, are under the influence of nuclear lobbies, exaggerate the shortage scenario and sacrifice human life for economic benefit. As opposed to the global loss of faith in nuclear, it is odd that Ankara insists in the pursuit of nuclear power. Finally, the anti-nuclear groups admit that their position is shaped by an ideology that is broadly critical of the prevailing political and economic system.

7.2.1. "Nuclear power plants are dangerous: The 'radiation' and proliferation risk threaten humans, environment, agriculture and tourism."

IPPNW:

An accident could happen in any power station as a result of technical defect or human error, releasing large quantities of radioactivity into the environment. According to the official ...risk study [in Germany], a German nuclear power station in operation over some 40 years has a 0.1 percent probability of a worst-case scenario nuclear incident. In the European Union there are more than 150 operational nuclear power stations. The probability of a worst-case scenario nuclear incident is around 16% in Europe. That equates to the chances of throwing a 6 with the first cast of the dice. Worldwide there are some 440 operational nuclear power stations. The probability of a major worst-case scenario incident within the next 40 years is in the region of 40 percent. As the nuclear disaster in Chernobyl shows, a

major worst-case scenario nuclear incident can be expected to cause several thousand fatalities.⁵⁷⁶

Engin Altay, CHP Sinop MP:

We are not going to make Sinop a waste dump... There is no... border between radiation and cancer...⁵⁷⁷ (...) The risk of leakage and accident is still high. This technology...is... the junk technology of the past...⁵⁷⁸

Turkish Medical Association:

The radiation emitted during normal operation near the power plant, and accidental leaks are harmful. The waste issue could not be resolved for 50 years. The emitted radiation ... passes onto living things through food or respiration. [It]... causes cancer... Despite all these catastrophes, with this Akkuyu NPP tender, we are gradually approaching another “national disaster” that our country has ever seen. Experts say that if the power plant is established close to the active Ecemiş fault line 25 km away, the results of an earthquake or an accident will be catastrophic; and not only Turkey, but the entire Middle East will be affected.⁵⁷⁹

Presupposition: Accidents are frequent in nuclear power plants. Human life is at risk. NPPs are unsafe, like the Chernobyl nuclear reactor, and all nuclear accidents will be like Chernobyl. An NPP in Sinop will make the city a “waste dump.” The radiation emission from a NPP is always above the tolerable levels, and it causes cancer. The site chosen is in an active earthquake zone, so the NPP will pose a grave risk in case of an earthquake. The risks are already high, and advances in technology did little to diminish them.

Predication: Nuclear power plants are “never safe,” “problematic technologies,” “extremely risky,” “prone to accidents,” “radioactive,” and “cancer-prone.” The planned NPP will make its environs “a waste dump,” be “outdated” and could be “constructed in an earthquake zone.”

⁵⁷⁶ “International Nuclear Power Fact File Poster Campaign,” *IPPNW*, (Date accessed: April 25, 2006) <<http://www.facts-on-nuclear-energy.info/index2.php?size=b&l=en>>.

⁵⁷⁷ General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, 20 April, 2006.

⁵⁷⁸ Ibid.

⁵⁷⁹ “Hadi Deprem ‘Doğal Felaketti, Ya Nükleer Santral (The Earthquake was a ‘natural disaster,’ what about the nuclear power plant?),” (Declaration signed by civil society organizations including the Turkish Medical Association), *Türk Tabipleri Birliği*, (Date accessed: January 15, 2010) <<http://www.ttb.org.tr/TD/TD56/nuklear.html>>.

Subject positioning: 16% probability is likened to the dice, to highlight the image of “gambling,” that is, nuclear power plants have high accident risk, and sacrifice human life. “We” are the opposition and “we” are aware of the dangers and risks of the NPPs. The opposition identifies itself with the residents of Sinop, where the NPP will be built. “We” also refers to the Turkish public: “Our” country is dragged towards a disaster without consultation with the “experts.”

Assessment: The referents of policy-making should be public health and safety. NPPs emit lethal doses of radiation and have frequent accidents. The site is unsuitable with respect to safety. The NPP is taken as a facility with a high probability of radiation risk and irreversible consequences for life.

7.2.1.1. “Waste is an unresolved and a serious problem without a solution for the foreseeable future.”

IIPNW:

Every nuclear power station converts uranium fuel rods through nuclear fission into highly radioactive nuclear waste. Nuclear waste constitutes a life-threatening hazard because of its radioactive emissions. Therefore, people, animals and plants need to be protected for several hundreds of thousands of years. Nuclear power stations have been in operation for some 50 years but to date no one knows how nuclear waste can ultimately be stored. Worldwide there is not one safe and secure disposal option for the highly radioactive waste produced by nuclear power stations. In the short period of time that nuclear power has been used, it is leaving behind - in the shape of the resultant nuclear waste - a dead hand of historical dimensions for the Earth. If prehistoric man had already had nuclear power stations we would even today still be having to maintain a watch over his waste.⁵⁸⁰

Tacidar Seyhan, CHP Adana MP:

OK, but what will you do with the waste?... Why is the world thinking about waste without any solution?... There is no single nuclear waste [in Arizona], why not? Is it only the reaction of the public? No. They could not solve the issue technologically...⁵⁸¹

⁵⁸⁰ “International Nuclear Power Fact File Poster Campaign,” 2006.

⁵⁸¹ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103rd Session, May 8, 2007.

Declaration of Scientists Against Nuclear Power Plants:

1. [T]he nuclear power plant accidents and radioactive wastes, ... are the main sources of harmful radioactive emissions...are among the riskiest in the... scientific scale, and it is not observable and not controllable.
2. [This] radiation is unobservable, thus its effects are not detected in a short time..., therefore, [it leaves] the society ... under threat... It is alarming because it cannot be controlled; it is catastrophic worldwide with lethal consequences, dangerous for future generations...
3. The biggest risk is about waste management. (...) [T]he technology to manage the waste without risks has not yet been developed. Therefore, these wastes are sold to some states with high costs. Only this can prove why the nuclear lobby has chosen our country. Those who want to establish nuclear power plants should also explain how they will manage radioactive waste.⁵⁸²

Presupposition: All that nuclear power generation produces is waste, which lasts for a long time and is lethal. Radioactive decay will not reach safe levels even after thousands of years. Nuclear lobby sees Turkey as a lucrative market. Despite all drawbacks, if the NPP is established, waste will stand as a pressing issue, because there is no final solution yet. The residents of Arizona reacted the waste repository under the Yucca Mountain. More importantly, the technology is insufficient to manage the waste without threatening public health and safety.

Predication: “Nuclear waste” is constructed as a “threat” to human health and “a profitable asset.” It is predicated as “dangerous for future generations,” “the riskiest,” “unmanageable,” but profitable. The level of its radioactivity is “unobservable” and “uncontrollable.” It can result in “catastrophic consequences.”

Subject positioning: Nuclear power is equated with the problem of waste. Waste is positioned in relation of similarity to “a dead hand of historical dimensions for the Earth.” The “prehistoric man” constructs “the huge difference” between the length of the time that nuclear waste needs to be controlled versus the shortness of time during which nuclear power is useful. It, thus, constructs the “high” cost and “meager” benefit of having NPPs. Nuclear waste will not only threaten “us” at present, but “our future.” “We” have to prevent this. The “Scientists” are experts on

⁵⁸² “Biliminsanlarından Nükleer Karşısı Bildiri (Declaration of Scientists Against Nuclear),” 2007.

the dangers and drawbacks of nuclear power plants, whereas “those who want to establish NPPs” act only on interest and are immoral. Therefore, scientists are superior to decisionmakers.

Assessment: Waste is constructed as “lethal,” because it is highly radioactive. Radiation is hard to detect and control. Therefore, when an NPP is established, it will threaten the lives of not only the residents, but also of future generations because of the unresolved issue of waste disposal.

7.2.1.2. “Turkey’s administrative structure exacerbates the risk.”

TMMOB:

Since the increase in safety coefficients increase costs, it is not hard to predict that in developing countries like us, [there will be a] tendency to decrease costs by keeping safety criteria at low levels. Insurance companies cover only a small portion of the damages caused by nuclear accidents.⁵⁸³

Meral Tamer:

If I were Finnish, I would not have any objection to nuclear power plant, because: The Finnish... know how to operate a nuclear power plant. The government is transparent; it does not work behind closed doors. It has the habit and responsibility to be accountable to its public.⁵⁸⁴

Declaration of Scientists:

4. ...there is no definition of nuclear crime and punishment in the Turkish legal documents... The allowed dose of radiation in Turkey is four times as much in the United States, 3.3 times in Germany and twice as much of Britain. Turkey managed the Chernobyl Accident with a regulation allowing five times as much of these doses.
5. Our country... cannot observe the risks on the environment and health generated by nuclear power plants, cannot evaluate, manage, communicate, recognize, control them, and cannot protect the society against the harmful effects of radiation.
6. (...) TAEK ... is open to political influence. It is disadvantageous for our country... that this agency is the single high authority to license nuclear energy investments.

⁵⁸³ TMMOB Press Release, September 15, 2008.

⁵⁸⁴ Meral Tamer, “Çinli olsaydım nükleer santrale ‘evet’ derdim (If I were Chinese, I would say Yes to the NPP),” *Milliyet*, June 28, 2006, <<http://www.milliyet.com/2006/06/28/yazar/tamer.html>>.

7. (...) The Environmental Impact Assessment (EIA) reports issued by the Ministry of Environment does not protect the society in general and the ecosystem, it is rather a showpiece... The enterprise does not conform to EIA, but the EIA is rendered compatible with it...

8. (...) The risks posed by nuclear power plants... are higher because of the incomplete and insufficient infrastructure of our country.

It is evident that the DPT, Energy Ministry, BOTAS, TEAS, TAEK and DSİ ... are uncoordinated, and that what we are having is indeed an “energy management crisis”...⁵⁸⁵

Presupposition: Turkey is a developing country, does not know how to operate an NPP, its government is not transparent and does not have a tradition of accountability. Developing countries do not have enough funds to maintain appropriate safety and insurance levels. The nuclear power plant issue is not tackled properly, because it is only handled by the energy élite and the government. The parties which should be involved are excluded from the decision-making process. Nuclear crime and its punishment should be legally recognized. Western countries should be taken as yardstick, because they are more concerned about human life. Good governance is possible only by democracy. Nuclear energy is not environment-friendly.

Predication: The Finnish “are capable of operating an NPP,” and have a transparent and accountable” government. Turkey “does not have sufficient regulations for ensuring nuclear safety,” “is not capable of maintaining statistics,” issues EIA reports as “showpieces,” and overall lack the infrastructure for properly establishing and operating a nuclear power plant, or meeting the safety standards.

Subject Positioning: By referring to Finland, Meral Tamer compares the system in Finland and Turkey. She positions Turkey in an inferior position in terms of appropriately operating a nuclear power plant. Scientists use “We” to construct their identity as those who care about their country. It is “our” duty to present “you,” the uninformed community, the facts about nuclear power plants, because

⁵⁸⁵ Nükleer Santral Karşıtı Bilim İnsanları Bildirisi (Declaration of Scientists Against Nuclear Power Plants), 10 March 2007.

decisionmakers do not and cannot. “We” are concerned about the environment, health and the future of “our” society, but the government is not. Technical personnel are pitted against bureaucratic/political, where the former is superior regarding NPPs.

Assessment: Turkey’s political culture and technical insufficiency render it an incapable country to assess, prevent or deal with the risks and dangers of NPPs and radiation; therefore the risk will be multiplied in the case of Turkey.

7.2.1.3. “Chernobyl is the proof of the threat.”

The Chernobyl nuclear accident was a real example of NPP failure, and it affected particularly the Black Sea region-the environment, agriculture, economy, and more importantly human health. The resentment and protests against the choice of Sinop for an NPP site were inevitable, because the residents had developed an “image” through Chernobyl.

IPPNW:

As the nuclear disaster in Chernobyl shows, a major worst-case scenario nuclear incident can be expected to cause several thousand fatalities.⁵⁸⁶

Engin Altay:

We could not yet rid ourselves of the Chernobyl syndrome, the syndrome of a catastrophe which took place twenty years ago. [Y]ou do not have the right to put the entire Black Sea region into a new syndrome...⁵⁸⁷

TMMOB:

In the 20th anniversary of the Chernobyl disaster, we once again warn the government: Turkish people should not be left under threat as a result of the pressures of nuclear lobbies.⁵⁸⁸

⁵⁸⁶ “International Nuclear Power Fact File Poster Campaign,” 2006.

⁵⁸⁷ TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, April 20, 2006.

⁵⁸⁸ TMMOB Press Release, September 15, 2008.

Presupposition: All nuclear power plants pose accident risk, like Chernobyl, so all of them are threat to life.

Predication: Chernobyl was “a catastrophe,” “the evidence of a worst-case scenario that would result in several thousand fatalities” and created the perception that “all NPPs threaten health and safety.”

Subject Positioning: “We,” the residents of Sinop, are affected by Chernobyl’s consequences, and “our” memories are fresh. “You” are immoral and under the influence of “nuclear lobbies” and will create a new fear by establishing NPPs in the Black Sea region. “We” are under the domination of the “powerful.”

Assessment: A catastrophic accident like Chernobyl is probable and all NPPs are accident-prone. The site chosen for the establishment of the NPP in Turkey is in the Black Sea region, which suffered the impacts of radiation in 1986 onwards, and the residents acquired the “Chernobyl syndrome.” The referent is human life, and it is superior to all interests, most notably corporate.

Politicizing and securitizing processes are relatively easy for audiences who are more receptive to hear about the risks and threats to their survival. The risks to life are intolerable in case of an accident or a leakage. For the uninformed laymen, technical details of NPPs for safety measures remain under the shadow of “Chernobyl effect” and the administrative history of their home country. The common discourse of “threat” to security takes human health, environment and the economy with references to tourism or agriculture. The repeated predicates for NPP and nuclear energy are “dangerous, risky and dirty.” References to the “sacrifice” of human health and environment in return for “political gains,” create reaction against policymakers or “lobbies,” and mobilize the audience to oppose the project.

7.2.1.4. “Nuclear technology is a step for nuclear weapons production.”

IIPNW:

Those countries which have developed and built nuclear bombs in recent decades began with a civil nuclear program. However, these civil programs were often only a cover for their military interests and provided them with access to the technologies and know-how for the design of nuclear bombs. This fact shows that the export and further proliferation of nuclear technology significantly increases the risk of nuclear weapons proliferation.⁵⁸⁹

Arif Künar, Member of Electrical Engineers’ Chamber, Energy Commission:

It is possible to divide those who support nuclear technology in our country into two main categories. (...) The second group,...is composed of... various right/left-wing nationalist or religious fundamentalist groups or parties, who seem to advocate nuclear technology with “innocent” reasons, but essentially aspire to have only “nuclear capability,” “nuclear weapons,” and “atomic bombs...” Included in this category are those who perceive nuclear weapons as an instrument of their greed for power, or who envy Iran’s defiance of the United States, and want to assume the leadership of the “World of the Oppressed.”⁵⁹⁰

Greenpeace:

As opposed to what the nuclear industry tries to make us believe, the proposed nuclear power plants ...will cost billions of dollars, produce thousands of tons of high-level radiation, will increase the risk of nuclear proliferation due to the production of nuclear weapon raw material...⁵⁹¹

Presupposition: Proliferation is a threat, it should be prevented, and all civil programs carry proliferation risk. The pursuit of nuclear energy is irrational, because a risky, dirty and expensive facility will be established. Also, this is a technology of a weapon that threatens the entire humanity. Some supporters of the nuclear energy program view it as a latent capability: Although not pronounced, this is their main aim. The pursuit of nuclear weapons is out of greed, and it blocks rationality. They aspire to use them as instruments to attain regional leadership. The nationalist and

⁵⁸⁹ “International Nuclear Power Fact File Poster Campaign,” 2006.

⁵⁹⁰ Arif Künar, “Nükleer Santral Macerası Artık Bitmeli, Türkiye’nin Önü Daha Fazla Tıkanmamalıdır (The Nuclear Adventure Should End, Turkey Should not be Blocked Anymore),” *Elektrik Mühendisliği (Electrical Engineering)*, Vol. 425, February 2005, p. 52, <http://www.emo.org.tr/ekler/f61408e3afb633e_ek.pdf?dergi=4>.

⁵⁹¹ “Chernobyl,” *Greenpeace*, (Date accessed: January 13, 2010), <<http://www.greenpeace.org/turkey/chernobyl/>>.

religious fundamentalist groups want to gain support and legitimacy through nuclear power programs and hidden agendas. The nuclear industry tries to make people believe in the benefits of nuclear energy; however their costs overwhelm the benefits.

Predication: Those who support nuclear energy to attain nuclear capability are “nationalist” or “fundamentalist.” They perceive nuclear weapons as instruments for “power” and “leadership” by which they can gain status among the “world of the oppressed,” and defy the United States.

Subject Positioning: NPPs are constructed as objects equal to facilities for nuclear weapons production. “We” are the opposition, and the nuclear industry is the “other” which tries to deceive “us” in order to pursue its interests.

Assessment: Nuclear weapons are irrelevant for the maintenance of external security (as deterrents or defense capabilities), and they threaten international security. Proliferation should be prevented. As nuclear power plants also produce the raw material for the manufacture of these weapons, they are risky for security. The risk of proliferation is constituted as a cost that significantly exceeds the benefits of nuclear energy. Nuclear technology will inevitably drive states to proliferation, not only for bolstering military capabilities, but also for status and prestige.

7.2.2. “Nuclear power plants/nuclear energy are disadvantageous: Their contribution compared to cost is very low.”

IPPNW:

The human race can easily do without nuclear power's marginal contribution. The risks of nuclear accidents, production of highly radioactive waste and the costs necessary for its disposal, bear no rational relationship to the slight short-term gain

in energy that nuclear power provides. Nuclear power is both hazardous and superfluous.⁵⁹²

Sedat Uzunbay, CHP Izmir MP:

The argument that nuclear-generated electricity is cheap is sheer fabrication. The cost of investment, operation and nuclear waste management expenditures reflected onto unit electricity is extremely high. In short, nuclear-generated electricity will be the most expensive, considering these facts... It is not possible to use the uranium and thorium that is present in our country in nuclear power plants. These NPPs use enriched uranium, and Turkey does not have enrichment facilities. In short, one can argue that Turkey does not have the energy resources that nuclear reactors need. So, NPPs are totally dependent on foreign sources. Thus, NPPs will increase our dependence.⁵⁹³

Turkish Medical Association:

It is asserted that there is enough uranium enough for nuclear power plants in our country. However, ... [it is] enough to meet the annual fuel for a 1000 MW nuclear power plant. As a result, our dependency will continue in terms of fuel and technology...Nuclear energy is not cheap as argued; to the contrary, it is the most expensive. ... Since their initial investment and normal operational costs are quite high, nuclear power plants, within their 30-35 years of time, produce energy with high costs due to prevalent accidents, out-of-service and maintenance costs. To these unit costs, if we add unaccounted costs, like decommissioning, closure, control and waste- which is still without a solution in the world-, we come across to awesome numbers.⁵⁹⁴

Presupposition: The benefits of nuclear energy are exaggerated. Nuclearists paint an unproblematic picture for nuclear energy, but it is costly. Energy policies should address dependency and choose options with affordable prices and costs to maintain economic security.

Predication: Nuclear energy is predicated as “providing slight short-term gains,” “hazardous and superfluous,” has problems with the domestic fuel supply, thus totally dependent on foreign sources, “expensive,” “unable to meet the unit costs in proposals,” and has “unaccounted costs of decommissioning, closure, control and waste.”

⁵⁹² “International Nuclear Power Fact File Poster Campaign,” 2006.

⁵⁹³ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁵⁹⁴ “Hadi Deprem ‘Doğal Felaketti, Ya Nükleer Santral (The Earthquake was a ‘natural disaster,’ what about the nuclear power plant?),” 2010.

Subject positioning: The “estimates” of nuclearists are positioned inferior to those of the “experts” because the former is based on incomplete data and subjectivity, while the latter includes all items of costs and is objective.

Assessment: Electricity generation via nuclear energy is has little benefits compared to its costs. Therefore, it becomes an irrational policy option. Nuclear power generation is likely to disrupt economic balances because of the high costs at every level.

7.2.2.1. “There are other viable alternatives to nuclear energy:

Renewables and Saving/efficiency.”

IPPNW:

...In just a few decades, nuclear power industry’s fuel reserves will run out. (...) [V]arious world energy scenarios show that the climate problem can only be addressed by the use of renewable forms of energy in conjunction with efficient and economical energy technologies... Nuclear power is capital intensive while renewable forms of energy are labor (job) intensive. (...) [T]he rapid expansion of a world solar energy industry is an important step towards preventing wars over scarce resources such as oil, gas and uranium.⁵⁹⁵

Declaration of Scientists:

The solution to climate change is not nuclear power plants...Building nuclear power plants as the remedy to climate change is to choose the worse over bad... [O]ur country has ...natural, and abundant, sufficient, national, clean and renewable energy resources like hydroelectric, wind, solar, biomass, bio-fuel, biogas, national technologies of energy production and a great potential for energy conservation.

Sedat Uzunbay:

We can decrease loss and theft, and increase the efficiency of the operating plants. We can try to increase energy efficiency in household and industrial consumption.⁵⁹⁶

Presupposition: Fossil fuels are not consumed efficiently. Since the raw material for nuclear power is scarce, it will share the same fate as fossil fuels; so it is

⁵⁹⁵ “International Nuclear Power Fact File Poster Campaign,” 2006.

⁵⁹⁶ TGNA General Board Minutes, 22nd Term, 3rd Legislative Year, 39th Session, December 24, 2004.

not predictable. Climate change is a “problem” that needs a solution. Nuclear energy does have alternatives, and they are renewables. The share of renewables will eventually increase as a result of measures to slow down climate change. Fossil fuels and uranium are non-renewable, thus they have more potential to engender conflict. In contrary, renewables are not going to deplete, so they can prevent conflict out of scarcity. The domestic capacity of renewables is sufficient to meet Turkey’s energy demand, and they will benefit the country. Loss and theft ratio in the energy supply figures can become zero. Eliminating “loss and theft” and saving energy are the perfect “substitutes” for NPPs, because they will provide the same percentage of energy.

Predication: Nuclear power is predicated with “expiring reserves,” and generating fewer jobs compared to other energy resources. Renewable energy industries are “labor-intensive.”

Subject positioning: Renewables are positioned superior to fossil fuels and nuclear energy in terms of addressing climate change and of employment. They are also “peaceful resources,” since they do not cause resource conflict. “We” refers to the public represented by MPs, who have the capability to come up with less costly measures to ensure supply security. “Renewables” “decreasing the loss and theft ratio” and “saving” are constituted as substitutes for the “increase in total energy supply” the government expects to get from the NPPs.

Assessment: This argument renders obsolete the proponents’ view that nuclear power is a necessity: It acknowledges Turkey’s energy shortage, but prescribes the amelioration of the infrastructure, the use of existing resources, and the modification of consumer behavior towards conserving energy. It runs parallel to the international environmentalist discourse that favors “small scale” energy investments that harm

the environment less instead of mega projects that are perceived to be risky for the environment.

7.2.3. “Decisionmakers are irrational.”

Just like the proponents, opponents make extensive use of the rationality discourse, and talk about science and technical “facts” to support their cases. Accordingly, the decision not only jeopardizes the interests of the country, but also threatens the citizens and the environment. Among the opposition, various groups consider NPPs dangerous by themselves and not even as an option in any energy policy. Some others argue about the handicaps in the government’s strategy to pursue nuclear energy. For the first group, the quest for nuclear energy is an act of irrationality by itself; for the latter, the decisionmakers act irrationally, immorally or irresponsibly about the technical, economic and legal infrastructure they have to establish before attempting to build NPPs.

7.2.3.1. “Decisionmakers are insufficient. They do not work with experts.

So, they are irrational.”

The Declaration of Scientists against Nuclear Power Plants:

The [issue of] nuclear power is a technical subject that involves all branches of science and concerns all interest groups of the society,... [It includes issues like] technology, site selection, ...impacts on health and environment, ... dependency on foreign sources, ...the elimination of radioactive waste, decommissioning and the cost estimates of the above. That is why, we, who provide professional education and consultancy organizations... and as the experts, consider it as our duty to share ... our knowledge and views ..., for a healthy and safe society and its future... The

decision to make nuclear power plants in Turkey is not a scientific but a political choice....⁵⁹⁷

Tacidar Seyhan, CHP Adana MP:

[The decision for nuclear energy] has nothing to do with rationality, logic, modernity, reformist thinking or looking forward...⁵⁹⁸

Turkish Medical Association:

The decision for the nuclear adventure is too vital to be taken by a handful politicians and bureaucrats behind closed doors, by discarding the local people, scientific communities, associations and civil society organizations.⁵⁹⁹

Presupposition: Policymakers should consider the interests and concerns of citizens, civil society and scientific communities regarding nuclear energy. The supporters must have other interests, because rational people would not support nuclear energy. It is the responsibility of the civil society to be against NPPs, and it should issue a warning. The undertaking for nuclear power is an adventure. Since politicians do not consult with experts and scientists, their decision must be flawed. They should choose nuclear power on a technical and scientific basis. Turkey has an energy problem. The government should make policies on a rational and logical basis in conformity with modernity and forward-looking vision. The process should include several experts from different disciplines. If a decision is taken in accordance with the interests of the bureaucracies and not of the citizens, then it is a political choice. Nuclear power generation is such a sensitive issue that decisions taken only by politicians make them too risky to implement.

Predication: Experts “provide professional education and consultancy.” They are responsible to share their knowledge with the public. Policymakers are irrational, illogical, old-fashioned, and lack a forward-looking vision.

⁵⁹⁷ The Declaration of Scientists Against Nuclear Power Plants, March 10, 2007.

⁵⁹⁸ General Board Minutes, 22nd Term, 5th Legislative Year, 103th Session, May 8, 2007.

⁵⁹⁹ “Hadi Deprem ‘Doğal Felaketti, Ya Nükleer Santral (The Earthquake was a ‘natural disaster,’ what about the nuclear power plant?),” 2010.

Subject Positioning: “We” constructs the scientists, as the medicals, experts and concerned citizens, as opposed to “policymakers” who take decisions with “political motives” and not science. Science is superior to politics, because it is objective and the latter is subjective. That is to say politics can easily divert from rationality that is acceptable to all. Therefore, “We,” experts, are superior to politicians in terms of decisions that involve technical matters.

Assessment: The decision is questionable from the beginning, because rationalities of those who are in charge of taking it are shaped by political concerns, and not by objective scientific criteria. Policymakers are constructed as subjective actors, and nuclear energy as an “irrational choice.” Science as the basis of knowledge and objectivity is a powerful argument to construct reality. The relevance of science is embedded in the culture and reiterated in Ataturk’s dictum that “the best guide in life is science.”

7.2.3.2. “Nuclear energy risks human life; decisionmakers are undemocratized and immoral.”

Engin Altay:

The statement of the Prime Minister to establish a NPP in Sinop is, primarily, very undemocratic. In all developed countries which we take as an example-Japan, Austria, Sweden, Germany and the United States...such a vital issue cannot be imposed on the people of Sinop without consulting with the residents. And you won’t be able to impose it. Your power will not be enough to sacrifice the people of Sinop just because they have low population...⁶⁰⁰

Vahit Çekmez, CHP Mersin MP:

...Mr. Minister ... shows various examples with people enjoying the sea next to an NPP. My concern here is the lack of responsibility, and the public health that would be sacrificed at the expense of political gains.⁶⁰¹

⁶⁰⁰ TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, April 20, 2006.

⁶⁰¹ TGNA General Board Minutes, 22nd Term, 5th Legislative Year, 103rd Session, May 8, 2007.

Mustafa Özyürek, CHP Istanbul MP:

[T]he [party] program [of the AKP] includes the phrase, “environment-friendly nuclear power plant.” (...) There is no environment-friendly nuclear power plant... NPPs are NPPs, and in the past all environmentalist, all conscious people struggled... against the establishment of the NPP in Akkuyu... and prevented it until today. Now, if that plant will be established with an environmentalist pretext by those who will earn money out of it, we have always been, and we will be against such attempts, against these power plants that will turn Turkey into hell. [The CHP] is for environmentalism, social justice, equality and we are in front of our public with our philosophy which takes “human first.”⁶⁰²

Presupposition: NPPs are definitely dangerous and will damage the environment. Those who have been against NPPs are conscious of its risks and dangers. The only reason to endorse these risks could be material gain, and it will be at the expense of the environment and public health. Human life is superior to political and economic interests.

Predication: The CHP is “environmentalist,” observes “social justice and equality,” and, takes humans as the primary referent of policymaking.

Subject Positioning: The CHP and the ruling AKP are at opposition. The AKP is “inferior” because it is unaware of facts, and has surrendered to corporate interests. “We” refers to the CHP. Its referents are humans and environment, not bureaucratic or economic interests.

Assessment: Decisionmakers are idealized as ethical subjects who should take human life as their priority, and not bureaucratic or political interests. NPPs threaten human life, so the nuclear energy decision must be taken on the basis of personal or bureaucratic interests. Thus, the government sacrificed human life, and is “immoral.” In addition, the government is constructed as “undemocratic” because it did not consult with the residents “whose life will be at risk” should an NPP is built in their vicinity.

⁶⁰² TGNA General Board Minutes, 22nd Term, 1st Legislative Year, 52nd Session, March 21, 2003.

7.2.3.3. “The shortage scenario is exaggerated: The issue is not defined accurately.”

Mehmet Soğancı, Chairman of TMMOB:

None of the exaggerated demand estimates of the Energy Ministry after the 1980s turned out... [T]he government which presents nuclear power plants as solutions to the probable energy crises indeed knows well: For years, there are scenarios of remaining in the dark, but for some reason, our country does not remain in darkness. The government... knows well that the solution to these scenarios is not nuclear plants. For their share will only be 5% of the existing power generation.⁶⁰³

Sedat Uzunbay:

Mr. Minister previously stated that there would be a bottleneck in energy in 2006; then, he changed [his mind] and the bottleneck was postponed to 2010: Error in estimates, four years. Second...for the year 2005 the electricity demand would be 197 billion kWh; but the target in 2004 is 145 billion kW/h: Error in estimate, by difference of a year, is 35%. Our Minister now says that, under the low scenario, in the year 2010, that is, five years from now, the electricity demand will rise by 50%. These estimates are no longer convincing, Mr. Minister. What we have suffered were all due to these estimates.⁶⁰⁴

Turkish Medical Association:

All energy supply-demand scenarios prepared by official institutions in the 1970s are erroneous by 2-3 times and are exaggerated. The decision put forward depending on these estimates and [the assumption that] nuclear power plants are “the single and obligatory” choice is not one that is technical or economic, but political, [that is] according to some people’s interests.⁶⁰⁵

Presupposition: The Energy Ministry exaggerates data to construct the “threat” of darkness. The public needs “real” data to be convinced. There must be something that made the government to assign urgency to nuclear power plants. Numbers and facts are objective, and they prove the government’s exaggerations of the energy shortage.

Predication: The government is “well-informed” that Turkey will not remain in the dark and the solution to the energy problem is not nuclear power plants, but it

⁶⁰³ TMMOB Press Release, September 15, 2008.

⁶⁰⁴ TGNA General Board Minutes, 22nd Term, 3rd Legislative Year, 39th Session, December 24, 2004.

⁶⁰⁵ “Hadi Deprem ‘Doğal Felaketti, Ya Nükleer Santral (The Earthquake was a ‘natural disaster,’ what about the nuclear power plant?),” 2010.

decides “according to the political interests of some people.” Energy crisis/shortage scenario is “exaggerated,” “based on flawed estimates,” and “unconvincing.”

Subject Positioning: The estimates of Energy Ministry or official institutions are confronted with the “real facts” about the energy gap in relation of inferiority. “We” denotes Turkey and Turkish people, and they are constructed as those “without authority but suffering” from the decisions of “insufficient policymakers.”

Assessment: The fact that there will be energy shortage is agreed upon, but the shortage is not as pressing as it is argued to make nuclear power as the “unique” solution. The argument constructs the energy gap as “tolerable” and not “urgent” as the proponents argue.

7.2.3.4. “The (developed/rest of) the world is giving up nuclear, why is Turkey going after it?”

Greenpeace:

With their shocking effects, the Three Mile Island and Chernobyl accidents created such a public suspicion that in all of the world, new orders for commercial reactors were suspended... Moreover, despite the talk of a nuclear renaissance, the new reactor orders did not match the high expectations.⁶⁰⁶

Engin Altay:

It is all open facts... Canada... didn't it shut down its 7 plants? Germany... didn't it convert the three of the four plants to natural gas? The United States: technology giant, patron of the world...did it establish a plant since 1979? The Asian tigers, China, Taiwan, Indonesia, Vietnam... didn't they suspend their nuclear project? Didn't the EU states turn toward renewable energies? Isn't it their aim to make narrow use of all nuclear power plants? Mr. Minister should sincerely answer these questions...⁶⁰⁷

Mehmet Soğancı:

While nuclear power plants are being given up in the entire world, why is the government so persistent in the establishment of nuclear power plants in Turkey? Their [aim] is not to

⁶⁰⁶ *Nükleer Güç, Enerji Güvensizliği (Nuclear Power, Energy Insecurity)*, Greenpeace, September 2008, p. 6.

⁶⁰⁷ TGNA General Board Minutes, 22nd Term, 4th Legislative Year, 91st Session, April 20, 2006.

address Turkey's energy problem, but to make our country a market for the nuclear industry. The government which shapes all its policies according to the impositions of the United States, European Union, the IMF and the World Bank, instead of thinking our people and the country's interests, is exposing once again our country's citizens and livelihoods under threat with the impositions of the nuclear lobbies.⁶⁰⁸

Presupposition: The accident risk in nuclear power reactors are so high that the expected increase in demand did not come to fruition. The developed world and the big energy consumer countries in Asia chose to make little use of nuclear power. There is an inconsistency between the global trends in energy and the policies of the Turkish government. The government prioritizes bureaucratic interests over the interests of the country and its citizens, because it cannot take independent decisions that would be to the benefit of the country. International interests do not care about national or public interests. Therefore, the nuclear decision was not given to the benefit of the country; instead it serves the economic interests of international lobbies which ally with governments.

Predication: Nuclear power plants are “given up in the entire world,” indicated by the insufficient orders that do not match high expectations of nuclear renaissance. The government is in collaboration with the nuclear lobbies, does not think of the interests of the country and the citizens. It acts in accordance with the impositions of political and economic giants.

Subject Positioning: The rest of the world (the developed world) is the benchmark for taking economically sound decisions. Since Turkey took a step in the opposite direction, it is irrational and inferior with respect to the developed world.

Assessment: Rationality construction continues with reference to the behavior of the “rational” decisionmakers in the developed world. The “fact” that the

⁶⁰⁸ Press Statement of Mehmet Soğancı, the Chairman of the Executive Board of TMMOB: See TMMOB Press Release, September 15, 2008.

rest of the world is giving up on nuclear power is constructed with the “data” that their interest to nuclear power is low.

7.2.3.5. “The nuclear lobby influences decisionmakers.”

Sedat Uzunbay:

“What has changed; perhaps nuclear lobbies got involved.”⁶⁰⁹

IPPNW:

In order to attribute significance to nuclear power, the nuclear industry repeatedly overstates nuclear energy’s share of electricity generation. If one examines closely what contribution nuclear energy makes to total worldwide energy consumption, it becomes evident that nuclear power is of practically no significance for mankind’s energy needs.⁶¹⁰

Meral Tamer:

...Nuclear lobby is in charge again... The weakest argument of the Energy Minister ... was the NPP photographs he wanted to show me: “If only you saw those photographs, there are beaches right next to the power plant. People go to the sea, they fish...” Right there, I got suspicious that the nuclear lobby was in charge again. Indeed, as a journalist who made her first visit to a nuclear power plant 20 years ago, and who tried to watch the activities of the nuclear lobby in Turkey since mid-80s, I already memorized those photographs. I even remember the CEO of the construction company wearing his bathing suit and swimming in the sea next to the nuclear plant.⁶¹¹

Presupposition: NPPs are certainly dangerous, and governments decide under the influence of lobbies. If Turkey establishes NPPs, it will be “surrendering” to the interests of nuclear lobbies.

Predication: Nuclear lobbies put pressure on Turkey and “overstate the share of nuclear energy in electricity generation” to make it more attractive for governments. The Turkish government is influenced by nuclear lobbies, because the

⁶⁰⁹ TGNA General Board Minutes, 22nd Term, 3rd Legislative Year, 39th Session, December 24, 2004.

⁶¹⁰ International Nuclear Power Fact File Poster Campaign, 2006.

⁶¹¹ Meral Tamer, “Enerji Bakanı Hilmi Güler’e nükleer sorular (Nuclear Questions to the Energy Minister Hilmi Güler),” *Milliyet*, July 2, 2004, <<http://www.milliyet.com/2004/07/02/yazar/tamer.html>>.

Minister of Energy uses the same medium to convince people of the advantages and safety of NPPs.

Subject Positioning: Nuclear lobbies are powerful and influence domestic decisionmakers. They are given the same identity. The government is also constructed in opposition to its own country, in terms of prioritizing bureaucratic interests. Therefore, it is alienated from its citizens, and their decision on nuclear energy becomes “irrational.”

Assessment: The minds and deeds of decisionmakers are manipulated by the propaganda of corporate interests, and impair their rationality. Accordingly, even if supply shortage may be a fact, nuclear power should not have been the choice. International firms united their interests with those of local policymakers who might have tackled the energy shortage issue in good faith.

Similar to the proponents’ construction of the “other” as “irrational”, the opponents try to construct the supporters of nuclear power and decisionmakers irrational, incapable or undemocratized on the basis of the “fact” that nuclear power is a threat to life and environment. Risks of production are represented mainly by radiation that could be leaked from nuclear power plants anytime and/or by accidents.

7.2.4. “Anti-nuclearism is an effort for an alternative world to the capitalist system with alternative resources.”

The “**Ekoloji Kollektifi**” (The Ecology Collective), in its “Call to the Anti-nuclearists,” establishes linkage between environmentalism and anti-nuclearism with changing the capitalist- liberal economic system and right-wing policies:

If, for the ecology movement, anti-nuclearism will continue to be the title for creating an alternative world, it should criticize the current civilization, display it and to “get even with” it... In the broader sense, anti-nuclear movement should focus on creating an alternative to the capitalist and industrial civilization that is maintained by energy consumption. (...) Saying “No” to nuclear energy implies the necessity to create a new production and consumption pattern... Alternative energy can only be possible with an alternative society... In today’s world, where nuclear programs have become a function of the “exploitation economies” ... energy policies based on nuclear energy precipitates the impoverishment of people and degradation of the environment. ... [N]uclear power means colonialization. (...) The “nuclear power plant civilization” means poverty and doom. (...) The demand is “No to nuclear energy; free and clean energy to meet everybody’s needs.” This is an appeal for the “communitization of energy.” The slogan “No to Nuclear” rejects relations of dominance and exploitation within the prevailing developmental, economic and governance approaches. It will be possible by a policy of solidarity, equality and the will to create an ecological society.”⁶¹²

The Found for the Preservation of Turkey’s Nature -Antalya Branch:

The Nuclear Law... is uncivilized, just like the uncivilized administrations [that exercise power] over women, environment and the economy, and is far from humanity [and] environment-friendliness...⁶¹³

Emet Değirmenci:

First of all, we need to look at the hierarchical/centralized structure of the power that wants to keep the sovereignty/exploitation of the nuclear industry when we argue against nuclear power or the logic that wants to erect an atomic plant in Akkuyu today. (...) ...[U]nless [we] get rid of the mindset from which this hierarchical power emanates, centralized giant structures will always prevail in our world. The exploitation of human over human, the sovereign relationship of man over woman, the old over the young will always continue. For, although energy is recyclable, if the logic favors sovereign relations, ... giant solar panels, biomass plants or wind turbines of kilometers will continue to scare us. For, when a prevailing power comes and turns off the switches, what could those [people] on the ... mountains do? In fact, as socialists, we do not want mammoth-fancy complex structures like the symbols of the Stalin period in Russia. We want to put into action solutions that are local, the techniques of which could be understood and used by the public, technologies that would not feed relations of domination and those that are far from bureaucratic structures.⁶¹⁴

Presupposition: Social movements that take the environment and ecology as their focus should place themselves in the left of the political spectrum, because environmental degradation is the result of the capitalist economic system. Anti-

⁶¹² “Nükleer Karşıtlarına Çağrımızdır! (Our Call to the Anti-nuclearists),” *The Ecology Collective*, February 24, 2006.

⁶¹³ “AKP Hükümet’inin Yaptığı Nükleer Yasa’nın Meşruiyeti Yoktur! (The Nuclear Law of the AKP Government does not have Legitimacy),” Press Release, The Fund for the Preservation of Turkey’s Nature -Antalya Branch, May 9, 2007.

⁶¹⁴ Emet Değirmenci, “Toplumsal Ekoloji Perspektifinden Nükleer Endüstri,” in Künar, “*Don Quichottes against Akkuyu...*,” 2002, p. 256.

nuclearism is the back-bone of these movements: It implies “the necessity to create a new production and consumption relationship.” Capitalist economy results in “dominance” and “exploitation.” “Alternative energy” is “environment-friendly,” and further implies an “alternative world” to the capitalist one. Domination over the weak by the strong is an indication of lack of modernity. Civilized/modern societies observe the rights of the lower strata, as well as the environment, which is exploited. Nuclear power is promoted by the hierarchical/centralized structure of power which wants to maintain its position. The word “erect” instead of “establish” indicates an unfavorable action. Giant structures of hierarchy and domination want such giant structures of electricity generation, therefore they should be eliminated. To put an end to exploitation, energy generation systems should not pave the way for domination, but should be local and easy to use.

Predication: Nuclear energy “is a function of exploitation economy,” “precipitates the impoverishment of people and the degradation of the environment;” it “means the same with colonialization,” which is directly related to the “survival of environment and communities.” Nuclear power plants are the products of “centralized giant structures power” that produce such structures of power generation. Local structures of energy generation are the “solutions” to the energy problem, their “technologies are intelligible to the public,” and they do not serve the interests of the centralized structures of power.

Subject Positioning: Nuclear energy is positioned similar to dominance and anti-nuclear is accepted equal to the rejection of dominance. Accordingly, those who argue for nuclear energy would support colonialization, dominance and exploitation. The government is identified with an “uncivilized administration.” Local, small, and simple structures of power generation are superior to giant and complex structures.

Assessment: The referents of the ecologists and anti-nuclearists are humans and the environment. They are under the “risk” of nuclear power plants, and are “exploited” by the inequality that is reinforced by the capitalist world economy. Nuclear power rests at the heart of the system championed by the “powerful and dominant capitalist, right-wing polity,” and perpetuates their power. The ecological society is equated with equity, living in harmony with the environment, and new relations of production. When production pattern changes, so will consumption. To transform the world to an ecological society, nuclear energy should be abandoned.

7.3. Evaluation

The above analysis revealed the “constitutive stories”/narratives of both sides: The supporters structured their narrative so as to construct the “reality” that nuclear energy is an asset for state power in tangible and intangible terms (political, economic, environmental and with respect to prestige). Nuclear power plants should be established as soon as possible, because the absence of nuclear energy will leave the country in the “dark.” Nuclear energy will diversify the energy basket and will diffuse the country’s dependency on imported resources and their providers. The secure energy base and stable prices will boost economic growth, development and competitiveness of the country in international trade. Acquisition of nuclear technology will contribute to scientific and technological progress, and to Turkey’s international standing. Accordingly, it is “irrational” to be devoid of nuclear energy. Scientific and technical data also prove its advantages. Therefore, the opposition is “irrational:” They are either the representatives of international lobbies, are

misinformed or driven by ideology. The supporters take the state, the economy, and the environment (in terms of its use for economic and state security) as referents.

As far as the positioning of subjects are concerned, the government is superior to the public, it knows the best, works for the best of the country, experienced, rational, so it has taken the best decision. Nuclear energy is superior to fossil fuels and renewables. Scientists, experts are superior to the public. The opposition is irrational. Economic growth and development are primary state interests, and they are superior to the protection of the environment. The environment should be protected as a base for economic growth.

The dissenters' narrative constructs nuclear power as a "threat:" Nuclear power generation is dangerous for human health and the environment due to the "risk of radiation" during operation, leakages, accidents, or waste disposal. Nuclear power plants carry "proliferation risk" and threaten economy and agriculture. Turkey's political and scientific bases are insufficient to take appropriate measures to alleviate the risk: As a matter of fact the accident in Chernobyl is the proof that nuclear power plants are dangerous. Their meager contribution to power supply is incomparable to the threats and risks it poses. Renewable energy resources like solar and wind, saving and efficient use of energy would substitute the expected share of nuclear power in total energy supply. Decisionmakers are irrational, insufficient, immoral and undemocratic since they do not engage "experts" and the public into the decision-making process in a project that directly affect humans and livelihood. The energy shortage estimates are flawed and exaggerated, thus, Turkey does not need to make huge investments for such a big project on energy. Decisionmakers are irrational because they do not follow up the "rest of the world" which gave up on nuclear power. Consequently, the decision on nuclear power was taken on the basis of

bureaucratic or individual interests which were influenced by nuclear lobbies. Decisionmakers with moral and democratic values would not put the lives of their citizens at risk for material gains. For anti-nuclearists, being against nuclear energy and nuclear weapons is an ideological position that seeks to create an alternative world to the capitalist system.

The opponents' positioning of subjects reveal that renewable resources are superior to nuclear power and public health and environment are superior to state power. The government and supporters of nuclear energy are irrational: Policymakers are immoral and undemocratized because they sacrifice human life in return for personal gain.

The nuclear power debate is marked rather by a competition for rationalization of the position, than a preoccupation to find the scientific/technical facts. The arguments do not always rely on scientific data; they might be driven by disinformation or misinformation. The following chapter will look at what misses from the debate.

CHAPTER VIII

FILLING IN THE GAPS

The previous chapter analyzed the competing discourses on nuclear power in Turkey. However, some of these arguments contained technical mistakes or misrepresentations. This chapter will shed light on those mistakes and the missing issues from the debate. The narratives that construct the meaning of nuclear energy at times selected or ignored certain pieces of information to produce or reproduce a certain meaning. Actors might not question these “facts.” Thus, combing these misrepresentations, correcting them and including the missing points would facilitate the negotiation process. The first section will revisit the misrepresented “facts.”

The previous chapter found that science and reference to experts are important tools to establish “reality” in the domestic context. The dissertation foresees the inclusion of academics in the critical engagement process. The second section will provide the multiple facets of “nuclear decision-making,” including political, economic, technological, and legal aspects. It will rely on the views of academics and experts on the legal and technical aspects of nuclear power generation.

Actors may present inaccurate information to an uninformed audience. They may use technical terms which leave the audience unable to check against reality. Ronald Bleiker, in his assessment of the United States' construction of North Korea as a rogue state,⁶¹⁵ points out to the language of defense analysts which became the most accepted, the most credible and rational way of assessing issues of security.

Experts on military technologies have played an essential role in constructing North Korea as a threat... The political debate... is articulated in highly technical terms.” Non-experts “...often lack the technical expertise to verify the claims thus advanced, even though those claims are used to legitimize important political decisions. As a result, the techno-strategic language of defense analysis has managed to place many important security issues beyond the reach of political and moral discussions.⁶¹⁶

Technical language may obscure facts or misrepresent them, thereby affecting policy or public opinion. The following section will explore the distorted or misrepresented technical facts, which will also help to display what misses from the debate.

8.1. “Facts” revisited:

8.1.1. “The accident risk in a nuclear power plant is high.”

Nuclear energy differs from fossil fuels in terms of its requirements for safety, particularly regarding the functioning of the reactor core and the disposal of radioactive waste. Environmental and anti-nuclear groups emphasize that the damage in the reactor core could result in catastrophes like the accident in Chernobyl in 1986.

⁶¹⁵ Bleiker, “A rogue is a rogue is a rogue...,” 2003.

⁶¹⁶ Ibid., p. 734.

They refer to the numerous minor accidents throughout the 1990s,⁶¹⁷ and argue that the increase in the number of plants will increase the probability. Some figures do not represent facts appropriately, however. The IPPNW's information note dramatically increases the probability rate and constructs the "risk" as intolerable:

An accident could happen in any power station as a result of technical defect or human error, releasing large quantities of radioactivity into the environment. According to the official "German Nuclear Power Station Risk Study - Phase B," a German nuclear power station in operation over some 40 years has a 0.1 percent probability of a worst-case scenario nuclear incident. In the European Union there are more than 150 operational nuclear power stations. The probability of a worst-case scenario nuclear incident is around 16% in Europe. That equates to the chances of throwing a 6 with the first cast of the dice. Worldwide there are some 440 operational nuclear power stations. The probability of a major worst-case scenario incident within the next 40 years is in the region of 40 percent. As the nuclear disaster in Chernobyl shows, a major worst-case scenario nuclear incident can be expected to cause several thousand fatalities.

The term "worst-case scenario" refers to a case like Chernobyl that would discharge high-level radiation with catastrophic consequences. Advanced technology reactors involve safety structures and components such as containment structure for the reactor core that would prevent the release of high-level radiation to the environment, such as in Chernobyl. However, an accident may also be in the category of "severe accident" that exceeds the limits of the safety structures. If the probability rate of 0.1% is taken for "severe accidents", then the mathematical formula for calculating the probability for, for example 150 nuclear power plants is not derived by simply multiplying $0.1\% * 150 = 15$. In that case, if we had 1,000 NPPs in Europe, we would have 100% probability of accident! As much as it is true that the more NPPs are constructed, the more the risk is, the calculation of the probability generates a much lower number.

⁶¹⁷ See "Calendar of Nuclear Accidents and Events," *Greenpeace*, (date accessed, December 20, 2009), <<http://archive.greenpeace.org/comms/nukes/chernob/rep02.html>>.

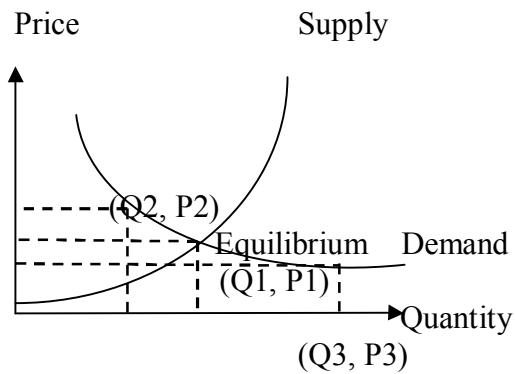
8.1.2. “Saving and decreasing the loss and theft ratio will substitute the contribution of nuclear power.”

This argument is widely used in the statements of the anti-nuclear groups. Energy gap is estimated according to the supply and demand at a certain point in the future. Energy demand forecasts are made according to the economic growth rate. For a period of a decade, estimates could have error margins depending on internal or external shocks to the economy and economic growth. As of 2007, Turkey’s installed capacity is 40,836 MW, and the consumption of electricity was 191,6 billion kWh. The Ministry estimates that according to the low scenario, the demand would be around 406 billion kWh, and 500 billion kWh according to the high scenario in the year 2020. The Ministry foresaw that the installed capacity should be doubled to meet the demand in the following decade.⁶¹⁸

In economics, the intersection of supply and demand curves of a commodity is called “equilibrium.” The diagram below shows a standard demand and supply curve determined by the price and quantity of the commodity. The point (Q1, P1) is the equilibrium. When there is a shock to the economy, which increases price, the quantity demanded decreases and moves to (Q2, P2) level. Here, there is a surplus if there is still Q1 amount of the commodity in the market. If the reverse occurred, then there would be a shortage of the commodity as in the point (Q3, P3).

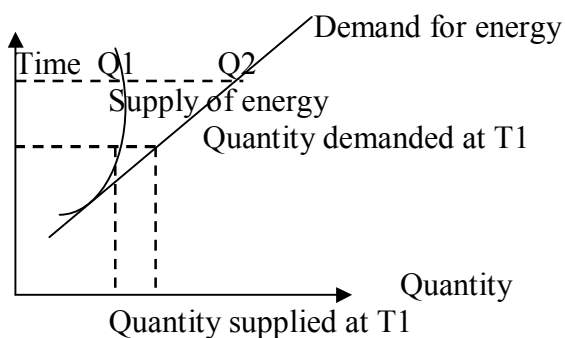
⁶¹⁸ “Elektrik (Electricity),” *Republic of Turkey, Ministry of Energy and Natural Resources*, May 20, 2009, <<http://www.enerji.gov.tr/index.php?dil=tr&sf=webpages&b=elektrik&bn=219&hn=219&nm=384&id=386>>.

Diagram 1. Supply and Demand



To talk about a gap in a certain period of time, the supply and demand curves should be depicted in a diagram with time and quantity in the axes, as shown in the second diagram: As the supply and demand are only forecasts for the future, the equilibrium may vary. The expectation is that the policy would provide that both curves run parallel to each other with the supply either overlapping or above the demand curve in order to prevent shortage. The outlook of Turkey's supply and demand curves are depicted in Diagram 2. The difference between quantities demanded and supplied produces the shortage, that is, energy gap. Unless the supply increases through time, the gap will widen as shown in the difference between Q_1 and Q_2 .

Diagram 2. Quantity demanded and supply of energy by time



In the case of Turkey, the demand is expected to increase within the parameters of a “developing country” and growing population, while the supply is expected to grow with a decreasing rate and to decrease considering climate change, decrease in the level of resources or incomplete use of capacity (unless new resources are included).⁶¹⁹ The demand for energy may decrease with internal or external shocks to the economy like economic crises, decreasing employment and increasing prices. That is, the supply and demand curves may shift according to these shocks in the first diagram and re-determine the equilibrium. The first diagram applies to a relatively shorter period of time, whereas the second is what estimates are depicted on.

Accordingly, the statement for increase/decrease in demand/supply and quantity demanded/supplied are not the same. The proposals for bringing down loss and theft miss the “price” as a variable to affect the quantity demanded and mix up the demand and supply of electricity. The ratio of loss and theft was 20% in 2002 and diminished to 14 %.⁶²⁰ Loss refers to that in transmission lines, and amelioration would certainly increase the supply of electricity. However, it is not possible to bring it down to zero for technical reasons. The theft ratio in Turkey is enormous (average is over 15%), particularly in Eastern and Southeastern regions: Almost 70% of the population use unaccounted electricity.⁶²¹ However, it does not mean that if electricity theft is addressed, so will energy shortage. Theft refers to unregistered users of electricity, who use power without payment. So, when they are made

⁶¹⁹ “The 2006 Performance Report of the Energy Ministry,” 2006, p. 16.

⁶²⁰ Former Minister of Energy Hilmi Güler’s remarks, “Güler: Elektrikte kayıp-kaçak oranı % 14’e düştü (Güler: The loss and theft ratio in electricity fell to 14 %),” *Pal Haber*, April 12, 2009, <<http://www.palhaber.com/haber/ekonomi/ekonomi-genel/guler-elektrikte-kayip-kacak-orani-14-e-dustu.html>>.

⁶²¹ “Elektrikte 2.2 milyar YTL’lik kayıp-kaçak (2.2. billion YTL worth of loss and theft),” *NTVMSNBC*, June 16, 2008, <<http://arsiv.ntvmsnbc.com/news/450024.asp>>.

registered users, their demand will decrease slightly, because they would have to pay a price for it. That is, the theft ratio may become zero, but it will not decrease the quantity demanded by the exact ratio of theft. For, they will still be using, that is, demanding electricity. So, the quantity demanded of the “new” users will be reflected to the demand curve which requires an equal amount in supply in order not to have a gap. The decrease in the demand for electricity will be a meager amount of saving from loss and theft instead of the total 20%. So, in absolute terms, the addition to power supply will not come mainly from decreasing the theft ratio, but the loss. The addition to the supply will come with the decrease in loss and the decrease in quantity demanded due to the “increase” in the price of electricity (from zero to the actual price).

8.1.3. “Waste is a problem that is yet to be addressed.”

Anti-nuclear groups highlight the “waste issue” to depict the costs and “threat” of nuclear power plants. They argue that the final disposal method or lieu is not definite yet, and Turkey should not be a waste dump. They perceive that until such a method is found, nuclear power is extremely dangerous. The main issue that misses from the debate is the question of “what to do with spent fuel,” that is, the fuel used up in the reactor. Nuclear fuel comes in the form of “assembly” of long, thin rods bundled together. When the reactor cannot be operated with the existing fuel, some of it is replaced by fresh fuel. The fuel that is taken out is called “spent fuel” in the form of long thin metallic rods. Other than that, there is no highly radioactive waste or emission from nuclear power plants. Around 95% of the spent fuel is uranium, 1% is plutonium (which is a potential explosive), and the remaining

4% is fission products and other actinides. Spent fuel is stored in water ponds. If the spent fuel is not reprocessed, it is by itself called High Level Waste (HLW). In the case of reactors using natural uranium, spent fuel contains weapons-grade Pu-239 (the fuel contains U-238 that becomes Np-239, and which then turns into Pu-239) which can be diverted to misuse after being reprocessed. Some countries may sell their spent fuel as a commodity, but the transportation process is cumbersome and involves risks of accident or theft.

The safety risk emanating from spent fuel is the long half-life of the radioactive waste. In the reprocessing plants to re-cycle spent fuel, a slow leakage could end in catastrophic consequences for the environment and people. The main issue is the absence of a final disposal of the reactor and reprocessed waste (the large cooling pools to store the fuel are interim measures). Storing the waste in deep geological repositories is the most suitable option. However, it has unresolved issues, such as finding a fully functional repository and whether the spent fuel and reprocessed waste can be stored equally efficiently in all sites. The United States, Finland and Sweden worked on finding a suitable repository.⁶²² Looking at the issue from a developing country perspective, the outlook is grim considering their weak safety cultures and lax implementation of regulations.

As much as the management of waste is a legitimate concern, it is not without a solution. Özemre suggests a sarcophagus instead of decommissioning the nuclear power plant. There are other methods, such as burying the waste under geological formations. The Yucca Mountain in Nevada was chosen as the nuclear waste repository by the United States, but these plans were deferred partly because of public opposition, and also for making use of the valuable portion of the spent fuel,

⁶²² "Nuclear Power's Changing Future," Press Release, *IAEA*, June 26, 2004, <<http://www.iaea.org/NewsCenter/PressReleases/2004/prn200405.html>>.

considering that the price of uranium may increase. Another reason for countries to defer the final disposal is that the later waste is buried the less radioactive it will be and the less room it will require. Okan Zabunoğlu does not see a nuclear waste issue for Turkey. He assumes that even if all the electricity production were made through nuclear plants, that is, with around 23 plants in operation (each with 1,000 MWe), the waste generated for 20 years would not even fill an Olympic pool.⁶²³

8.1.4. “The share of nuclear power would not worth the investment. Renewables are enough to make up the gap.”

This argument defines “cost” only materially, and not politically. The energy strategy criteria foresee as little dependency as possible, that is, diffusing the dependencies by diversifying resources, or choosing a resource that is national. The current basket of resources to produce electricity in Turkey includes coal (lignite), hydropower and natural gas. The Energy Ministry acknowledged that due to drought, the hydroelectricity could not reach the expected level.⁶²⁴ The lion’s share is with natural gas (47.3 %), then follow coal (20.7%) and hydro-power (18.2%).⁶²⁵ The percentage of Russian gas is around 60% and it is expected to increase in the coming decade.⁶²⁶ It creates an enormous dependence on natural gas as a resource, and is multiplied by the dependence on one country, which in turn has foreign policy implications. The repetitive crises in the coldest times of winter as Russia cuts the

⁶²³ Interview with Okan Zabunoğlu, 2008.

⁶²⁴ “Hidrolik (Hydraulic),” *Republic of Turkey, Ministry of Energy and Natural Resources*, May 20, 2009, <<http://www.enerji.gov.tr/index.php?dil=tr&sf=webpages&b=hidrolik&bn=232&hn=&nm=384&id=40699>>.

⁶²⁵ “Elektrik (Electricity),” 2009.

⁶²⁶ “Natural Gas Purchase Agreements,” *BOTAŞ*, (Date accessed: November 25, 2009), <<http://www.botas.gov.tr/index.asp>>.

flow of gas to Ukraine led Europe to seek for alternative measures or resources, like the Nabucco gas pipeline project.

The ratio of renewables and their availability is a matter of question. Renewables have reliability issues, and the installed capacity will be incomparable to nuclear power. If 5% of the power supply is unfulfilled, it will remain as a shortage, and will exacerbate the dependency rate. In addition, one of the most popular arguments of the opponents is that “Turkey did not remain in the dark as the proponents argued in the past decades;” however, the increase in dependency on Russia and natural gas, and the high price of electricity are the prices paid by the industry and households to prevent “darkness.”

Another important factor in defining the energy need is the distinction between the “base load,” that is, the minimum amount of energy demanded at a particular timeframe, versus the “peak load,” which is the amount over base load. The electricity network should contain the base load amount of electricity, which should be generated from reliable and continuous sources. In this case, fossil fuels and nuclear stand out. Renewables, on the other hand, are more suitable for meeting peak loads, because their continuity is dependent on geographic and climatic conditions. When the issue is the energy shortage in the base load, the criteria of selection should include continuity and reliability of the energy resource.

8.1.5. “Thorium is abundant in Turkey and Turkey should wait for new generation Thorium-operated reactors.”

The thorium in nature is Th-232, which is not fissile, hence does not qualify to be fuel. It becomes valuable when it is converted to U-233, a fissile isotope. Apart

from the three main types of nuclear reactors in operation-PWR (Pressurized Water Reactor), BWR (Boiling Water Reactor) and CANDU (Canadian Deuterium-Uranium), there are reactors specifically designed for use of Thorium, however, they have not become commercial. O. Zabunoğlu argues that it is not wise to acquire nuclear technology through a reactor specifically designed for the use of Thorium. It is better to start with better established, standard reactor technologies, which is actually the first and important step in technology. He also advises caution on the exact amount of Thorium in Turkey, which should be verified by an analysis of the MTA on its grade and reserves.⁶²⁷

8.1.6. “Nuclear power will not cease dependency, because Turkey will import fuel.”

Nuclear fuel will be imported; however, dependency on nuclear fuel is different in nature from that on natural gas. A reactor is usually purchased with an accompanying contract for the supply of nuclear fuel, which can be stored in large amounts for a long period of time. Zabunoğlu points out to the fact that not all countries having nuclear power plants have the facilities to produce natural uranium and enrich it and fabricate it as nuclear fuel. Thus, he suggests cooperation and exchange between countries, because only few of them carry out these tasks to obtain fuel. Although Turkey is said to have uranium reserves enough for about a 2000 MWe plant for 30 years, it does not have the technology for the production of fuel, or the establishment and operation of a nuclear power plant. In addition, he does not

⁶²⁷ Interview with Okan Zabunoğlu, 2008.

suggest that Turkey acquire enrichment technology, because it does not plan to have sufficient number of reactors that would make enrichment economically feasible.⁶²⁸

8.1.7. “Turkey does not have enough human resources for a nuclear industry.”

Turkey has several nuclear science and engineering programs: Hacettepe University’s Department of Nuclear Engineering and the Institute of Nuclear Sciences, the Nuclear Energy Program of the Energy Institute of the İTÜ, the Nuclear Sciences Institute of Ege University, Institute of Nuclear Sciences in Ankara University, and the Department of Nuclear Medicine Gazi University. There was also a nuclear energy track in the Middle East Technical University’s Mechanical Engineering Department, in its graduate program. Some graduates of the Department of Nuclear Engineering at Hacettepe University continued graduate study in the United States, worked in international organizations, or firms. Some of them returned to work in Turkish universities, TAEK, EÜAŞ and the private sector. Zabunoğlu argues that there is a significant potential for human resource although the number of qualified people for the time being is not sufficient. He suggests that with planning, the capacity could be increased for organizing this potential, such as raising specialists in selected areas, providing practical training, and such.⁶²⁹

⁶²⁸ Ibid.

⁶²⁹ Ibid.

8.1.8. “The most developed and the most widely used nuclear power plant technology will be procured.”⁶³⁰

“The most developed technology” is the latest, that is, either not tested, or tested insufficiently, so they are not widely used. Insufficient tests involve several potential risks, and risk the country to be the testing ground. Therefore, “the widest technology” and “the most developed technology” are mutually exclusive, that is, they cannot be met at the same time. Thus, it would not suit Turkey’s conditions. “The most developed technology” is the Pressurized Water Reactors and Boiling Water Reactors, which use enriched uranium. If Ankara insists in domestically enriching uranium for a few reactors on the basis of dependency issue, it may create international concerns such as those with Iran’s nuclear program.⁶³¹

8.1.9. “Nuclear Renaissance”

“Nuclear renaissance” refers to a renewed interest in nuclear power to address both to climate change and to ensure energy security in the new century. Moeed Yusuf argues that the picture is not as bright as the optimists think.⁶³² For the “renaissance” to become true, nuclear industry should be economically competitive compared to its main rivals, coal and natural gas, which dominate today’s electricity market. Wind and solar energy, on the other hand, are not likely to rival nuclear

⁶³⁰ Akman, “Hilmi Güler: Nükleer santral, namus meselemiz (Hilmi Güler: Nuclear Power Plant is an issue of honor for us),” 2007.

⁶³¹ Iran’s nuclear program created international concerns since 2002. Iran refuses to halt its uranium enrichment program, and to ratify the Additional Protocol, thereby causing concerns on the transparency of Iran’s program. Its insistence to continue enrichment activities on the basis of energy shortage and to avoid dependency does not convince the international community.

⁶³² Yusuf, *Does Nuclear Energy Have a Future?* 2008.

energy. However, nuclear power does not seem to surpass coal and natural gas on the basis of economic criteria due to investment uncertainty caused by long construction periods and capital costs. Added to that are the low efficiency levels, higher operation and management costs, political uncertainty and policy reversals in developing countries. All these increase the risk of investment, and reduce investor motivation for the improvement of the nuclear sector to decrease those risks; hence turns into a chicken-and-egg problem.

Climate change is a strong factor pushing the demand for nuclear energy, which does not have greenhouse gas emissions. The overall CO₂ emission of fossil fuel chains is around 20-60 times as much of the nuclear power generation process.⁶³³ However, mainly due to public opposition, Europe kept nuclear power out of the climate change agenda. The United States, even with a renewed interest, gave priority to renewables, efficiency, carbon capture and sequestration.⁶³⁴ Yusuf also cites the safety and waste issues that require high expenditures.⁶³⁵

Proliferation is the most important concern about the spread of nuclear energy. The increase in the number of plants would require enriched uranium, hence more enrichment facilities. Considering the path going down to the weapon, and the experience with Pakistan, North Korea and Iran, which chose to have their own enrichment capacities, the renewed interest particularly in the developing world could become an impediment for the nuclear renaissance. The proposals to revise the provisions in the NPT that allow every country to pursue civilian nuclear technology are not practical. The option being pursued is to put the “suspect” states under

⁶³³ “Nuclear Power and Climate Change,” *Nuclear Energy Agency*, 1997, p.11, available at: <<http://www.nea.fr/ndd/climate/climate.pdf>>; “*Comparison of energy sources in terms of their full-energy-chain emission factors of greenhouse gases*,” IAEA-TECDOC-892, Vienna: International Atomic Energy Agency, 1996.

⁶³⁴ Yusuf, *Does Nuclear Energy Have a Future?*, 2008, pp.14, 15.

⁶³⁵ See “Calendar of Nuclear Accidents and Events,” 2009.

enhanced safeguard inspections by the IAEA and deny privileges; however, this is against the spirit of the Treaty. What is more, it creates an “us versus them” dichotomy. Proposals to address the proliferation puzzle due to the diffusion of nuclear technology end up with the same dichotomy- this time as “haves versus have-nots” (such as the denial of the critical technologies to developing countries). This strategy also results in insecurity for the have-nots at the ideational level and adds further motivation for seeking nuclear-weapons capability.⁶³⁶

Yusuf cites public opinion regarding nuclear energy as quite a significant factor for the future of the industry particularly in terms of safety concerns. Safety and security concerns will continue to block a positive sentiment in the public. Particularly, in the new security environment, nuclear terrorism and proliferation are added to the agenda. The industry has been opaque towards the public, which expects more transparency,⁶³⁷ and that could add to the items of cost. It is mainly the developing countries which advocate nuclear power for energy security, because they need predictable and abundant supplies of energy. They find nuclear energy attractive compared to fossil fuels, because they can store fuel and find uranium in several parts of the world.⁶³⁸ Also, the cost of uranium is much less than fossil fuels in terms of production expenses. However, due to proliferation concerns, the reserves of uranium may not be readily available, and states may refrain from investing because of high establishment costs and investor averseness. On these grounds, Yusuf is convinced that “nuclear renaissance” has serious impediments and is hard to become a reality.

⁶³⁶ Yusuf, *Does Nuclear Energy Have a Future?*, 2008, pp. 18-21.

⁶³⁷ See *Nuclear Power Joint Fact-Finding*, Keystone, CO: The Keystone Center, June 2007, pp. 13, 63, 64, available at:

<http://www.ne.doe.gov/pdfFiles/rpt_KeystoneReportNuclearPowerJointFactFinding_2007.pdf>.

⁶³⁸ See *Uranium 2005: Resources, Production and Demand*, Paris: Nuclear Energy Agency, 2006.

8.2. The Multiple Facets of “Nuclear Decision-making”: Energy Policy, Science and Technology, Legal Process

Nuclear energy is only one item in the broader issue of planning Turkey’s energy policy. Apart from the traditional variables (cost, reliability and availability), environment-friendliness and political priorities determine decision-making. Turkey’s EU accession process and Kyoto Protocol are two such examples. As a candidate country to the European Union, Turkey should plan its energy policy in accordance with the Union’s *acquis*, in principle. The EU Green Paper, “Doing More with Less”⁶³⁹ puts forward the political priorities of the Union. Considering that the EU is poor in fossil fuels, and meets domestic demand via imports, its priority is to ensure the safety and the reliability of the transit routes. In this context, it views Turkey as an important transit country. Furthermore, the EU is a leading actor for meeting the goals of the Kyoto Protocol; so it will expect Turkey to pursue an energy policy that will be compatible with the climate change targets.⁶⁴⁰

The decision-making process for nuclear power generation involves complex strategic political and technical processes. The establishment, operation and management of power plants require strong political, legal and technical infrastructure. Politically, a country which pursues nuclear energy must convert plans into a state policy that will allow governments to plan, invest in and coordinate institutions on nuclear energy. It is extremely important to translate these efforts into law and to establish the legal infrastructure for supporting the subsequent steps. The

⁶³⁹ *Doing More with Less, Green Paper on Energy Efficiency*, European Communities, 2005, <ec.europa.eu/energy/efficiency/doc/2005_06_green_paper_book_en.pdf>.

⁶⁴⁰ Haluk Utku, “Enerji Güvenliğinde Eylemsizlik Prensibimiz: Nükleer Enerjiye Giriş (Our Principle of Inaction in Energy Security: Introduction to Nuclear Power),” *Stratejik Araştırmalar Dergisi (Strategic Research Journal)*, Vol. 6, No. 2, December 2008, p. 2.

technical infrastructure is necessary to operate and develop nuclear technology. It is not entirely independent from the political processes, because the decision to raise technical personnel and establish relevant institutions is given at the governmental level. Implicit in this process is timing: A nuclear power decision cannot be sealed from an analysis of the legal and technical infrastructure in place and making up the gaps in these sectors.

8.2.1. Legal infrastructure

The legal aspect of the nuclear energy projects is one of the least discussed issues. There are international guidelines for states which consider and plan their first nuclear power plant. Experts on nuclear energy are critical of the domestic processes in terms of drafting the legal bases and procedures. This section will first present the IAEA guidelines, and then the views of the experts on the technical and legal bases of the establishment of nuclear power plants.

8.2.1.1. International guidelines

Technical documents of the IAEA are available for countries which will construct NPPs for the first time.⁶⁴¹ In the preambles of these documents, it is emphasized that:

⁶⁴¹ *Milestones in the Development of a National Infrastructure for Nuclear Power*, IAEA Nuclear Energy Series, No. NG-G-3.1, Vienna: IAEA, 2007, available at: <http://www-pub.iaea.org/MTCD/publications/PDF/Pub1305_web.pdf>; *IAEA TECDOC-1555, Managing the First Nuclear Power Plant Project*, Vienna: IAEA, 2007, available at <http://www-pub.iaea.org/MTCD/publications/PDF/te_1555_web.pdf>.

The decision by a Member State to embark on a nuclear program should be based upon a commitment to use nuclear power for peaceful purposes, in a safe and secure manner. This commitment requires the establishment of a sustainable national infrastructure that provides governmental, legal, regulatory, managerial, technological, human and industrial support for the nuclear program throughout its life cycle. (...) The development and implementation of an appropriate infrastructure to support the successful introduction of nuclear power and its safe, secure, peaceful and efficient application is an issue of central concern, especially for countries that are considering and planning the first nuclear power plant. The infrastructure needed to support the implementation of a nuclear power plant covers a wide range, from the physical facilities and equipment associated with the delivery of the electricity, the transport of the material and supplies to the site, the site itself, and the facilities for handling the radioactive waste material, to the legal and regulatory framework within which all of the necessary activities are carried out, and the human and financial resources necessary to implement the required activities. (...) For a country with little-developed technical base, the implementation of the first nuclear power plant would, on average, take about 15 years.⁶⁴² (...) A wide range of legislation is expected to be in place in a State that has decided to implement nuclear power, the key elements of such legislation being nuclear safety, security, safeguards and liability for nuclear damage.⁶⁴³

Member States are advised to adopt the following international instruments before beginning a nuclear power project include:

- Comprehensive Safeguards Agreement pursuant to INFCIRC/153 (Corr.)
- Additional Protocol pursuant to INFCIRC/540 (Corr.)
- Convention on Early Notification of a Nuclear Accident
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency
- Convention on Nuclear Safety
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive
- Waste Management, reproduced in document INFCIRC/546
- Convention on Physical Protection of Nuclear Material, and Amendment
- Vienna Convention on Civil Liability for Nuclear Damage
- Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention, reproduced in document INFCIRC/402
- Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage and Convention on Supplementary Compensation for Nuclear Damage
- Revised Supplementary Agreement Concerning the Provision of Technical Assistance by the IAEA.⁶⁴⁴

The IAEA TECDOC 1555 also stipulates the following measures for the proper operation of nuclear facilities to achieve the highest safety standards:

- To control the radiation exposure of people and the release of radioactive material to the environment;

⁶⁴² *Milestones in the Development of a National Infrastructure for Nuclear Power*, 2007, pp. 1, 2.

⁶⁴³ IAEA TECDOC 1555, 2007 p. 2.

⁶⁴⁴ *Ibid*, pp. 2, 3.

-To restrict the likelihood of events that might lead to a loss of control over a nuclear reactor core, nuclear chain reaction, radioactive source or any other source of radiation;

-To mitigate the consequences of events if they were to occur.

The fundamental safety objective applies to all nuclear facilities and activities and for all stages over the lifetime of a facility or radiation source, including planning, siting, design, manufacturing, construction, commissioning and operation as well as decommissioning and closure. This includes the associated transport of radioactive material and management of radioactive waste. (...)...an effective nuclear infrastructure [should be] implemented in due time to ensure that the concerns of all stakeholders (and public especially) are being addressed adequately and that man and machine work together harmoniously to ensure safety...national efforts alone should not be considered sufficient and should be supported by the activities of variety of international organizations that cooperate to ensure an effective global nuclear safety regime.⁶⁴⁵

Legal framework is one of the key safety elements for an effective nuclear infrastructure. It includes legislation which establishes "...an independent and competent regulatory body [and] a regulatory system that provides framework ... within which construction, operation and decommissioning of nuclear facilities can proceed."⁶⁴⁶ Other key elements are regulatory competence that refers to the ability of the regulator to oversee all stages of the nuclear power generation project, "...including site evaluation, design review, construction, operation, decommissioning and waste management."⁶⁴⁷ Other elements are financial stability and capacity to acquire a plant and to fund operations, decommissioning and waste management; technical competence to organize adequate educational and training programs to raise skilled personnel; operator skills for appropriately maintaining facilities and development of safety culture; emergency preparedness at local, regional, national or international levels; and international connectivity with organizations in regimes of nuclear safety and operation.⁶⁴⁸

⁶⁴⁵ Ibid, p. 3.

⁶⁴⁶ Ibid, p. 4.

⁶⁴⁷ Ibid.

⁶⁴⁸ Ibid, pp. 4, 5.

8.2.1.2. Expert view on the legal and technical aspects of nuclear power generation

Experts on nuclear energy criticized Law No. 5710 (on the establishment of nuclear power plants) and the accompanying TAEK criteria,⁶⁴⁹ because the rationales of the decision and the implementation of the policy were inconsistent. Academics argued that the *sine qua non* elements of the establishment process are missing. Under these conditions, national nuclear technology could not be developed.⁶⁵⁰

Prof. Dr. Haluk Utku from the Hacettepe University observed that the involvement of both the public and private sector in financing with the way the

⁶⁴⁹ TAEK provided its criteria in accordance with the Article 3 of the Law No. 5710 (The Law on the Establishment and Operation of Nuclear Power Plants and Energy Sales).

1. Nuclear safety, up-to-date and proven technology. The design of the plant would be evaluated with respect to the measures taken to alleviate the radiological consequences of a “severe accident.” (The text uses “serious” with an inaccurate translation.)
2. Licensing. Except for the conditions and necessities of the (construction) site, the nuclear power plant should be in accordance with the designer country’s current nuclear safety legislation in force. The reference NPP will be one that can be an example for the proposed NPP, thus it should be licensed, in operation and be the latest example of the technology to be proposed.
3. Reactor type. Those types that will be considered for evaluation are heavy water reactors using natural uranium, pressurized water reactors and boiling light water reactors using enriched uranium. Therefore, reactors such as light water cooling graphite neutron moderated reactors, gas cooled reactors or fast breeder reactors) would not be taken into consideration.
4. Reactor life should have at least 40 years.
5. The reactor should be technologically tested. It includes second and third generation plants that have contemporary technological qualities and innovations.
6. Fuel technology should be tested. Here, too, reactors are specified to use either natural uranium or enriched uranium. Also, those reactors using MOX fuel are possible. The law explicitly proposes for domestic production of fuel, but acknowledges that production will become economical as multiple units are established.
7. Domestic contribution should be 60%.
8. Operational experience of reactors which should be documented.
9. Electrical output should be over 600 MW for each unit.

See “Criteria to be met by investors who will construct and operate nuclear power plants,” TAEK, September 17, 2009, available at:

<<http://www.taek.gov.tr/belgeler-formlar/func-startdown/94/>>.

⁶⁵⁰ They draw attention to the various technical errors, missing points and loopholes in the Law on the establishment of nuclear power plants. The law misses to include its “aim” of obtaining nuclear technology. TAEK prepared a short and insufficient document for the nuclear power generation plans. The questions still stand about financing and tender process. Source: Prof. Dr. Şarman Gençay’s speech preceding the Turkish Nuclear Energy Forum’s Press Briefing: *Sayın Cumhurbaşkanına, Türkiye Büyük Millet Meclisi’ne, Hükümet’e, Anayasa Mahkemesi’ne ve Kamuoyu’na Açık Mektup, (The Open Letter to the President, Turkish Grand National Assembly, the Government, the Constitutional Court and the Public)*, Ankara: Türk Nükleer Enerji Forumu (the Turkish Nuclear Energy Forum), January 18, 2008.

government presented the issue would keep the costs high.⁶⁵¹ As expenditures and costs increase, private firms would be discouraged from financing the project, and would ask for further guarantees from the host state. That would prolong the process. More importantly, the investment will have little funds for research and development, and that will render the NPP as an enterprise dependent on foreign sources. He underlined that one of the main pillars of research and development (R&D) was graduate studies in universities. The primary institution to provide financial resources to the projects on nuclear technology is TAEK. That is why, there must be linkage and cohesion with universities. The targeted dates did not conform to the science policy to raise skilled personnel on health physics and radiation safety. The only graduate program on health physics is at the Hacettepe University's Institute of Nuclear Sciences, and it would be insufficient to meet that gap. Further, it would need equipment for training labs and additional academic personnel. He proposed more research assistant admissions, increase in funds for TAEK, and membership to organizations such as WANO (World Association of Nuclear Operators), that makes analyses of the reactors in operation and provides information.⁶⁵²

Utku urged for a reliable electrical grid: Although NPP is a sound power generator, in the case of a shut-down because of an off-site power loss, the power plant itself needs significant amounts of energy. Particularly in winter and in peak hours, the frequency stability malfunctions will impose serious restrictions on the power plant. In those cases, the NPPs would need additional systems other than the ready-to-use emergency diesel generators. Such investments for safety should be

⁶⁵¹ See Haluk Utku, "Nükleer Santral İhalesine Neden Tek Bir Firma Katıldı? (Why Was There Only One Bidder Firm in The Nuclear Tender?)" *Zaman*, October 20, 2008, <<http://www.zaman.com.tr/haber.do?haberno=751288&title=yorum-prof-dr-haluk-utku-nukleer-santral-ihalesine-neden-tek-bir-firma-katildi&haberSayfa=1>>.

⁶⁵² Haluk Utku's letter to the TAEK Chairman, Okay Çakıroğlu, May 8, 2006.

taken into account, and even in the future training of control room operators, measures in times of scenarios involving network failure should be emphasized.⁶⁵³

Some 33 people who specialized in different branches of nuclear power came together under the “Turkish Nuclear Energy Forum” and issued an “Open Letter” to communicate their concerns with the Law No. 5710 and the TAEK criteria: They complained about several technical errors, deficiencies and loopholes. They also found the law too short to cover all the relevant points on nuclear power generation.⁶⁵⁴

The late Ahmed Yüksel Özemre (former Chairman of the TAEK) criticized the inconsistent and vague points in the Law and statements of officials, because they could be contrary to Turkey’s interests.⁶⁵⁵ Özemre demanded clarification of the terms “firm,” “competition,” and “licensing.” He also argued that instead of decommissioning, the nuclear reactor should be covered in sarcophagus.⁶⁵⁶

Nuclear power plant projects should be planned in detail, and the construction should be completed fast. Vural Altın, retired professor from Bosphorus University’s Nuclear Energy Engineering Department, and advisor to TAEK, acknowledged that the initial investment costs are higher and the period of construction is longer in NPPs; however, he also stated that the return of a nuclear power plant investment starts after a long period of an initial investment process. In the first five years of operation, the costs of depreciation are deducted from the income flow, which render

⁶⁵³ Utku’s Letter to the TAEK Chairman, May 8, 2006, p. 2.

⁶⁵⁴ *The Open Letter*, 2008.

⁶⁵⁵ In his article “Yeni Nükleer Enerji Kanunu Türkiye’yi Nereye Götürür (Where Would the New Nuclear Energy Law Draw Turkey to)?” January 5, 2008, <http://www.ozemre.com/index.php?option=com_content&task=view&id=280&Itemid=57>, Özemre refers to Hilmi Güler’s statement on the “Turkish model of investment model” regarding nuclear power. See “Hilmi Güler: Nükleer Santral Namus Meselemiz...,” March 2, 2007 and Nuriye Akman, “Nükleer Santral Bizim İçin Tercih Değil Mecburiyet (Nuclear Power Plant is not a Choice but Necessity for us),” *Zaman*, March 22, 2007, <<http://www.zaman.com.tr/haber.do?haberno=516832>>.

⁶⁵⁶ Özemre, “Yeni Nükleer Enerji Kanunu Türkiye’yi Nereye Götürür (Where Would the New Nuclear Energy Law Draw Turkey to)?,” 2008.

the cost of unit production high; but then it dramatically declines. For a realistic assessment, one needs to consider “the cost of life cycle” that takes the entire project. This assessment is subject to the construction period and the “discount limit” (the maximum discount that the bidding firm can make). The second one is determined in the market, but the first one can be controlled. If the construction is completed in due time, the project would yield the targeted return.

In the fifth article, the Law stipulated the creation of a National Radioactive Waste Fund (Ulusal Radyoaktif Atık Hesabı-URAH) to manage the waste, and an Account for De-Commissioning (İşletmeden Çıkarma Hesabı-İÇH) to meet the costs of dismantling at the end of the project life. However, the question is whether these funds will be enough since the decommissioning costs vary according to the nuclear power plant type. It is also unclear who or which fund will be used in case URAH becomes insufficient, because URAH will be a national fund, whereas the İÇH will be reserved for the power plant itself.⁶⁵⁷

8.2.2. Technology and fuel

Another important element of nuclear power generation is the reactor type and fuel. It is important to choose a type whose feasibility is proven and the widely used one is the Pressurized Water Reactor (PWR).

⁶⁵⁷ “Prof. Dr. Vural Altın Nükleer Enerji Yasası'nı yorumluyor (Prof. Dr. Vural Altın Assesses the Nuclear Energy Law),” *Global Enerji (Global Energy)*, Vol. 40, December 2007, <<http://www.globalenerji.com.tr/hab-23000202-114,40@2300.html>>.

Table 1. Nuclear power plants in commercial operation⁶⁵⁸

Reactor type	Main Countries	Number	GWe	Fuel	Coolant	Moderator
Pressurized Water Reactor (PWR)	US, France, Japan, Russia	265	251.6	enriched UO ₂	water	water
Boiling Water Reactor (BWR)	US, Japan, Sweden	94	86.4	enriched UO ₂	water	water
Pressurized Heavy Water Reactor "CANDU" (PHWR)	Canada	44	24.3	natural UO ₂	heavy water	heavy water
Gas-cooled Reactor (AGR & Magnox)	UK	18	10.8	natural U (metal), enriched UO ₂	CO ₂	graphite
Light Water Graphite Reactor (RBMK)	Russia	12	12.3	enriched UO ₂	water	graphite
Fast Neutron Reactor (FBR)	Japan, France, Russia	4	1.0	PuO ₂ and UO ₂	liquid sodium	none
Other	Russia	4	0.05	enriched UO ₂	water	graphite
	TOTAL	441	386.5			

GWe = capacity in thousands of megawatts (gross)

TAEK is the institution that will guide the development of nuclear technology. It should provide financial capabilities for procurement to the innovation firms in order for them to develop technology. Foreign firms can be encouraged to work with Turkish partners, and these projects can be linked with the IAEA project *In Pro*, which covers the development of the fourth generation nuclear power plants. With such a method, Turkey can acquire know-how.⁶⁵⁹

The production of nuclear fuel is another challenging issue: For uranium enrichment, countries need IAEA's cooperation. The providing firms may submit plans that would prolong the process until the construction of additional plants. Firms could accept the projects only upon the approval of their home countries. Second, Turkey should acquire the production capabilities regarding certain critical

⁶⁵⁸ "Nuclear Power Reactors," *World Nuclear Association*, April 2009, <<http://www.world-nuclear.org/info/inf32.html>>.

⁶⁵⁹ Haluk Utku, "Nükleer Enerjide Eylemsizlik Prensibimiz (Our Principle of Inaction in Energy Security)...," 2008, pp. 9, 10.

components which are heavy, voluminous and expensive. In terms of reactor safety, the nuclear electronic, measurement, control and instrumentation of the power plant should be in high standards. A center is necessary to test the electronic devices and circuits in the power plants which are under high radiation.⁶⁶⁰

With respect to fuel, new techniques have been developed that allows CANDU and PWR technologies to work together, and that almost removes the potential for the development of nuclear weapons out of spent fuel.⁶⁶¹ The scientific debates on the Th-U cycle regarding nuclear nonproliferation are not complete yet. However, in the future, the use of Th-U cycle may be proposed for High Temperature Gas Reactors (HTGR) since it will decrease the use of natural uranium. Another type of fuel called MOX (MixOxide) includes plutonium, and would contribute to the elimination of the plutonium produced for use in nuclear weapons.⁶⁶²

Utku states that nuclear cooperation with Russia can turn into an economic advantage. He also urges Ankara to develop interest in the *ITER* (Thermonuclear Energy Project) which involves fusion technology, and expected to be operational beyond 2030. It was launched in France with the participation of France, Germany, Britain, the United States, Japan and Russia. If successful, commercial fusion reactors will be established which produce electricity in high amounts.⁶⁶³

Haluk Utku states that when Turkey moves towards nuclear energy investments, it will be encouraged to receive fuel in the context of Global Nuclear

⁶⁶⁰ Ibid, p. 10.

⁶⁶¹ Jeremy J. Whitlock, The Evolution of CANDU Fuel Cycles and Their Potential Contribution to World Peace” Paper Presented at “International Youth Nuclear Congress 2000,” Bratislava, Slovakia, April 9-14, 2000.

⁶⁶² Utku, “Nükleer Enerjide Eylemsizlik Prensibimiz (Our Principle of Inaction in Energy Security)...,” 2008, p. 6.

⁶⁶³ Ibid, p. 11.

Energy Principles (GNEP).⁶⁶⁴ The purpose of the GNEP is to obtain nuclear fuel out of a pool (which will probably be stationed in countries with uranium enrichment or reprocessing facilities) to ensure that other countries will not be producing nuclear fuel. This aims at maintaining price stability and preventing nuclear proliferation. However, since the NPT allows countries to develop nuclear technology for civilian purposes, foregoing from this right would be contrary to the Treaty, in principle. That's why the phrase "voluntarily engage" is used in the GNEP Principles document.⁶⁶⁵

States participating in this cooperation would not give up any rights, and voluntarily engage to share the effort and gain the benefits of economical, peaceful nuclear energy... [T]his cooperation will be pursued with [an objective of] establish[ing] international supply frameworks to enhance, reliable, cost-effective fuel services and supplies to the world market, providing options for generating nuclear energy and fostering development while reducing the risk of nuclear proliferation by creating a viable alternative to alternative acquisition of sensitive fuel cycle technologies.⁶⁶⁶

8.3. Evaluation

This piece analyzed the discourses and the missing points in meaning construction: It provided how nuclear energy acquired two competing meanings, and how subjects and objects are positioned. This chapter provided what missed from the debate. Selection of "relevant facts" and "reduction" in narratives constructed the meaning of nuclear power.

The meaning of nuclear energy as "asset" and "threat" are constructed through two different narratives: The former establishes nuclear energy as an asset for state power on the basis of political, economic and environmental security along

⁶⁶⁴ Ibid, pp. 4, 5.

⁶⁶⁵ Ibid, p. 5.

⁶⁶⁶ Global Nuclear Energy Partnership Statement of Principles, September 16, 2007, pp. 1, 2, available at: <http://www.gnepartnership.org/docs/GNEP_SOP.pdf>.

with its value added to the status of the country among the community of nations. Its absence would have “unbearable consequences” not only for the economy but also for daily life. It is the “only” alternative that could both diversify the energy basket and diffuse the country’s dependency on imported resources and their providers. What Turkey needs is a secure energy base and stable prices that will boost economic growth, development and competitiveness of the country in international trade. Nuclear power generation is the best choice for energy policy.

The dissenters’ narrative constructs nuclear energy as a “threat:” Nuclear power generation is dangerous for human health and the environment due to the “risk of radiation” during operation, leakages, “frequent” accidents, or waste disposal. Nuclear power plants carry “proliferation risk” and threaten the economy and agriculture. Turkey’s insufficient political and scientific bases exacerbate the level of the risk: The accident in Chernobyl is the proof that nuclear power plants are dangerous. Their meager contribution to power supply is incomparable to the threats and risks. Renewable energy resources like solar and wind, saving and efficient use of energy would substitute the contribution of nuclear power. The energy shortage estimates are flawed and exaggerated; thus, Turkey does not need to make huge investments for such a big project on energy.

Supporters endorse a Realist view of state security (and international trade), and prefer an energy resource that will ensure energy independence, economic security and an environment that serves as a sustainable natural resource base for the economy. Their arguments are also influenced by the international norms of the pursuit of peaceful nuclear power. There are some individuals who also favor the military use of nuclear technology although they acknowledge that proliferation is indeed a threat to national security. They are worried that Ankara could be caught

“unprepared” by proliferation trends in the region. Regional security dilemma rules this argument.

Economic growth is essential to bolster the military sector, and sustain the power base in general. The understanding that economic growth and development will ensure the survival of the state dominates the discourses of the proponents. Although energy policymakers uphold international cooperation, reducing dependency on foreign sources is still the primary goal in the determination of energy strategy. This is the *Realpolitik* view of international trade, which is based on the assumption that international relations is a zero-sum game. Accordingly, the state should avoid dependency and vulnerability in order to maintain its power. Nuclear energy is constructed as an instrument that would enhance state power not only in material terms, but also ideational: Turkey is assumed to be a developing or a “second-tier” country, and the procurement of nuclear technology is seen as an asset to confer status and augment its power. In this conception, the environment, human rights, public health, and the like, are secondary concerns.

The proponents’ arguments are rather “home-made,” but those of the opposition are, for the most part, influenced by the international anti-nuclear or environmentalist discourse. These movements aim at putting pressure on governments on the basis of environmental protection and public health rather than other referents that relate to state power. They were influenced by the ideas such as “limits to growth” or “small is beautiful,” which lie at the basis of the environmentalist belief system. Different from environmentalism which accepts the system as a given, anti-nuclearism shares the worldview that favors the overthrow of the capitalist system. In general, environmentalists and anti-nuclearists prefer small-scale energy projects to huge ones: In this context, nuclear power rests at the heart of

the consumption economy, while using renewables and saving energy are choices in “harmony with nature.” The arguments of the dissenters reveal that the capitalist system is based on “domination of the nature” for economic gain. So, they perceive nuclear power as the instrument to reinforce this system, and demand change by proposing energy resources that are in “harmony with nature.”

The arguments of the dissenters suggest that they are borrowed extensively from the premises of Marxist, Critical and “Green” theories, which are not only “critical” of nuclear power but also of Realism. It is not the state, but the environment and the individual that should be protected from the negative impacts of further industrial growth. The demand for energy would not be high if the consumption-driven system was switched from the urban life-style to self-sufficient communities. The latter’s energy demand is substantially less. Nuclear power became a symbol for “mega” energy projects that reinforce the domination patterns in the world, be it political or economic. The findings out of the discursive analysis of the arguments promise positions for reconciliation to this “conflict” between the two views through the process of “critical engagement.”

8.3.1. Common Grounds for Critical Engagement

The domestic debate on the energy security policy of Turkey take place through two different belief systems in which nuclear power is perceived either as an asset to reinforce state power or an imminent threat to life. Their definition of the “need for energy,” safety concerns, impact on the economy and on the country’s image, the magnitude of facilities and referents of energy policy are different; so are

their prescriptions. In this context, it seems like a futile effort to expect reconciliation between the two positions since the latter is critical of the former not only at the practical level, but also at the theoretical level. At this point, the Constructivist insight that conflict can be eased through commonalities is relevant: Constructivism accepts that “reality” is a social construction, and ideas are sets of beliefs. Interaction of parties to a conflict is essential for mitigating the conflict. The above analysis provided the possibility for the mitigation of conflict on the basis of common points between these discourses. They can provide the opportunity to produce a sound policy on energy and nuclear power generation.

Social relations within the modern state can take advantage of the process of “exchange” to reduce the tendency toward the extreme.⁶⁶⁷ Z. Aydın observed that the state and the civil society showed the first signs of critical engagement regarding environmental protection and reconciling it with development goals.⁶⁶⁸ Critical engagement refers to the mutual recognition by the state and the NGOs of the other’s capabilities, and the understanding that the qualities of each party are necessary to address social and environmental problems.⁶⁶⁹ The government is one of the parties to the debate, and the opposition includes NGOs (environmental organizations and groups), as well as political parties, unions, chambers, and scientists. Power relations between the state and the civil society are unequal, so critical engagement involves cooperation and conflict when they discuss social and environmental issues. The aim is to prevent the conflict to get out of hand: If NGOs openly and strongly condemn state policies, they would put their power at risk to exert pressure on the state. On the other hand, if the state completely ignores the views of NGOs on environmental

⁶⁶⁷ *Infra*, pp. 23, 24.

⁶⁶⁸ Aydın, “The State, Civil Society, and Environmentalism,” 2005, p. 60.

⁶⁶⁹ Clark, “The State, Participation and the Voluntary Sector,” 1995; Bryant and Bailey, *Third World Political Ecology*, 1997; Fisher, *Nongovernments*, 1998.

issues, it may lose legitimacy. Critical engagement would help NGOs to influence policy-making, and help the state to show the public that it is receptive to their views and priorities.⁶⁷⁰

Common grounds exist to prevent an “absolute war.” That is to say, interaction and “exchange” would prevent the government to lose legitimacy, and the civil society to lose the opportunity to communicate public concerns and fears. A promising feature of the Turkish state for a constructive dialogue is the commitment to the goal of Westernization/modernization, and the acquisition of a more liberal view of politics and economics after 1980. The state started to endorse liberal values as a result of integration with the global economy and progressing relations with the EU, because it perceived them as a milestone for Westernization. Westernization is a powerful propellant for the state towards reconciling the goals of economic growth and environmental protection, because it provides a margin of flexibility to include challenging items on the agenda for the sake of modernity. Economic growth is the main component of development politics that will push other tasks such as women’s liberalization and the development of fine arts (which are indicators of Westernization). It allows the introduction of new goals or the revisioning of existing ones. Consequently, environmental protection can well be included in the agenda of development.⁶⁷¹

In Turkey, environmental activism was not perceived as a challenge as long as it did not focus on issues that could impede economic growth. The priorities of the state and dominant classes regarding development have prevented them to receive the demands of environmental civil society organizations, as well as similar

⁶⁷⁰ Aydın, “The State, Civil Society, and Environmentalism,” 2005, p. 60.

⁶⁷¹ Adaman and Arsel, “Development and Democratization in an Era of Environmental Crisis,” 2005, pp. 293-298.

international movements with which the former forms alliances.⁶⁷² The primary concern of the state regarding “critical engagement” with the NGOs and other civil society organizations was the consequences of such dialogue on developmental goals, and whether it would allow further demands that might jeopardize the state’s preferred development strategy.

The views of the opposition fall in the “Critical realm” except the argument that “nuclear energy is disadvantageous for the economy and the state.” The opposition argues that the high costs of investment, operation, maintenance and decommissioning would adversely affect the economy. The mindset is the same with the proponents that growth and economic development are integral to enhance state power. The belief system that underlies anti-nuclearism is critical of the prevailing power relations and demands change for a more equitable distribution of global income. Environmentalism demands ecological sustainability in production patterns. “Sustainable development” is one of the common grounds between the two sides: Here, the environment is a referent of the economy, and costs incurred by the environment are taken into account in the development schemes, especially for developing countries. Thus, “economic growth and development” is the main ground that reconciliation can be pursued.

Environmentalism position stands closer to liberalism than anti-nuclearism, and it provides a common “platform” for the state and environmentalists to engage in a dialogue. However, the dialogue between the state and environmentalists can address part of the conflict. The following section will list other common points with the state and anti-nuclearists, and will elaborate the points on modernity and economic growth.

⁶⁷² Aydın, “The State, Civil Society, and Environmentalism,” 2005, pp. 61, 66, 67.

8.3.2. Common Points in the Nuclear Debate

The analysis of arguments in the nuclear energy debate revealed common concepts, categories or assumptions. The first is the discourse on modernity, which is understood as a process by which the state would attain the developmental goals. The proponents equate the concept with economic growth, development and the acquisition of advanced technology. In this sense, they argue that nuclear power will stimulate development. The opposition, too, upholds modernity, but its indicator is environment-consciousness or environment-friendliness. Therefore, the more a government adopts environmental-friendly policies, the more modern it is. There is prospect for reconciliation on environmentally-sustainable economic policies, which are more effective than the existing ones. Governments should also focus on the reconciliation of economic growth with environmental protection, and engage the Ministry of Environment more effectively and strengthen the criteria in environmental impact assessment (EIA) reports for enterprises. The common ground with environmentalists that was tackled in the previous section can be furthered with a perspective on modernity.

The second common concept is economic growth. The proponents' arguments associate the acquisition of nuclear technology with economic growth under the argument of "energy security." Energy shortage is a serious problem for the current account balance, hence the gross domestic product. If energy prices fall, then Turkey's competitiveness in international trade will rise. It will also increase the output for the domestic market, which will decrease input (such as interim goods) prices other than energy. The opposition is concerned about the adverse economic impacts of high spending for NPP construction, and other costs like insurance,

decommissioning, and so on... They argue that these costs will put pressure on the budget and disrupt the economy.

Although they are the basis of environmentalism, the “small is beautiful” and “limits to growth” arguments are not common. The discourse of “economic growth and development” seem to have prevented these concepts to flourish in the domestic debate. Renewables are promoted primarily because they are “green” resources. In fact, the opponents argue that “renewables could substitute the contribution of nuclear power in total energy supply,” by which they demonstrate their concern for “energy security,” rather than the promotion of small-scale energy projects.

Under “energy security,” there are several common points between the two sides. They both agree that dependency on suppliers of natural gas should be reduced, and the solution is diversification. Second, both are convinced that the use of fossil fuels should be avoided, because they are harmful to the environment: Dependency on suppliers, price fluctuations and international shocks make them unpredictable. Third, both sides would rather have an option that would guarantee a cut in the energy bill. It would mean that the unit price of electricity should be affordable compared to natural gas in industrial production and household heating. With the emphasis on dependency and economic security, the opponents take the determinants of state power as referents. Last but not least, climate change worries both sides, and they agree that energy policies should take environmental criteria into account to slow down or prevent global warming.

Nuclear technology stimulates fear about proliferation. Both sides agree that nuclear proliferation threatens international peace and security.⁶⁷³ For the opponents, an additional concern is the impact on the environment that an accidental or intended

⁶⁷³ *Infra*, pp. 165, 166, 185, 186.

nuclear explosion (such as nuclear testing) might have. It is why nuclear power should not be pursued. While some supporters of nuclear power plants see them as a step and promote Ankara's acquisition of nuclear capability, they initially refer to regional proliferation, and especially the possibility of a nuclear neighbor. They argue that in order to not to lose its strategic position, Turkey should acquire nuclear technology. The Turkish government is worried about Iran's nuclear program and has been pursuing an active policy to address the problem with Iran's uranium enrichment activities. However, it is true that this issue calls Turkey's non-nuclear-weapon status into question, and that Ankara does not exclude the possibility to acquire enrichment capabilities in the future.

Critical engagement can excel through the concepts of modernity, economic growth, development and energy security. Negotiations can then continue about transparency regarding safety and waste management. In the first set of rounds, environmental groups can be engaged more than anti-nuclear groups and Greens, who may be stiff on growth and renewable energy options. It also takes an effective public relations exercise that involves nuclear scientists, training programs and allocation of funds for joint programs with universities. The language used in public statements should refer to policymakers and the public alike to demonstrate that the process is transparent and all-encompassing instead of being limited to closed sessions.

The outstanding issue that forms the bulwark between policymakers and the public is the safety concerns during and after the operation of the nuclear power plants. In this context, the primary concern is "radiation" by which the opponents refer to high-level radiation that could "leak" from NPPs during normal operation, by accidents or from "high-level waste." Both sides agree that nuclear waste is highly

radioactive, and it should be managed; however opponents argue that as long as a final method of waste disposal is not found, nuclear power generation is a threat to life. The burden is on the state to relieve the worries about safety, particularly of local residents. Safety and waste management issues particularly require transparency and effective information sharing with the public. The liberal and democratic qualities of governments will be an asset at easing the public's concerns.

Democratic governance and transparency is exactly where local residents are particularly worried about because of the past record of the state regarding crisis management and prevention. Governmental agencies, most notably TAEK could inform the public about acceptable levels of radiation. Governments should give utmost attention to informing the public about safety measures, and it should be included as an item in the nuclear energy policy.

Another shared conviction is that science is the objective source of knowledge and "truth." Indeed, the science and technology discourse has been powerful to construct reality in the Turkish case. The process of critical engagement should also include the presentation of "actual facts" and should eliminate misinformation and disinformation in the broader nuclear energy debate. This would allow technical data sharing between the two sides during talks. Chapter VII provided scientific and technical explanations to remove the flaws in the arguments.

The first round of talks was proposed to take place between the state and the civil society, more specifically environmentalists. In this round, the state should also aim at eliminating the "facts" that create disinformation on nuclear power. First, the risk of radiation through accidents, leakage or waste is amplified in the opposition's discourse. Radiation is perceived as the source of environmental damage, and acquired the meaning "threat to life." The level of radioactivity and the risk of

leakage as a result of accidents or waste disposal require clarification and technical explanations. Only after the information is corrected and effectively disseminated, the “threat perception” of nuclear power plants could recede. Yet, the memories of Chernobyl are revitalized with each cancer patient in the Black Sea region. So, the challenge is to overcome the psychological barrier of the locals.

Second, the opposition questions whether nuclear power is actually necessary. The government and the civil society should agree on the status of energy shortage, and the policy options that would address the issue. For the opposition, existing resources, most notably renewables, saving/efficiency measures, and ameliorating transmission and unregistered use would substitute nuclear power’s share in total supply. The government should underline that the “myth” of eliminating “loss and theft” would not diminish the necessity of nuclear power. The opposition presents “theft” as if it is about making up the shortage of supply, and misses the point that it implies “unregistered users” who should be included in the demand estimates. The actual shortage cannot be met only by saving measures and addressing theft. Renewables are also presented as feasible substitutes. Here, the difference between base load and peak load is the key to understand the insufficiency of renewables for continuous and reliable power supply.

On the safety issue, the opposition argues that Turkey will procure old technology reactors. They can hear the explanation that proven and widely used technology excludes up-to-date technology, because new technologies cannot be tested enough. Also, thorium-operated reactors have not become commercial, yet.

On the dependency question, the difference between natural gas and nuclear power requires clarification: Natural gas supply is vulnerable to abrupt disruptions, because it is fluid and transported via pipelines. Hence, it could become a political

instrument. Turkey could be affected by these disruptions although it may not be the subject of a political crisis (such as one between Russia and Ukraine). However, nuclear fuel can be stored for a long time and are purchased in large quantities. Therefore, dependency on fuel does not render the country vulnerable to political crises. Also, as nuclear power would provide diversification in resources, it will be diffusing dependency if not eliminating it altogether.

The most challenging issue in the talks is likely to be waste management. The opponents are mainly concerned about highly radioactive waste, and the absence of a final disposal method. Some of them are also worried about the plutonium in spent fuel that could be extracted to make nuclear weapons. The government should put forward convincing measures to answer how to manage “waste.” That is, it is important to understand whether the government will treat them as waste that should be disposed of, or would send them for reprocessing. It will remain as a question whether Turkey would insist on retaining its right to have the entire fuel cycle (so that it can acquire enrichment and reprocessing facilities in the future), or would agree on forgoing from this right and receiving fuel from an international pool.

The legal infrastructure for the establishment of nuclear power plants and generation of electricity requires a detailed study that also involves scientists, lawyers, economists and foreign ministry officials as the issue has several aspects including science, technology, law, pricing, insurance and nuclear nonproliferation. They both agree that legal infrastructure and fine management are integral for energy policy, because both are sensitive towards safety of NPPs. The second round of talks could be devoted to the technical and legal processes.

In this round, the government would be the audience while the experts on scientific and technical matters take the floor. Agreements, tender specifications or

legal documents may miss or be unclear about some points that could contradict with state interests. They could be prevented with the involvement of the scientific community in the policymaking processes. Chapter VII also provided their views with respect to framing of the legal and technical bases of nuclear power generation. They emphasized critical details during establishment, operation and decommissioning of nuclear power plants. The terms and concepts in the legal texts should be clarified to ensure that responsible institutions or firms would carry out their commitments. This is of vital importance, in case of inconveniences that would affect local residents and the environment. The scientific community is in a position to ask the relevant questions to find answers and to integrate them into the legal framework. The present chapter showed that they detected several missing items including those specified in the IAEA guidelines, vague provisions that would be contrary to state interests or to those of the local residents. The involvement of the scientific community is important: They do not hold on to a certain political position, and would contribute to the making of a sound energy policy by correcting the mistakes, or inserting relevant information that are missing.

Regarding proliferation concerns, officials strongly emphasized that Turkey's aim is only to generate nuclear power. The choice of the reactor type and fuel inevitably draws international scrutiny, because it is an indicator of a country's intentions. Ankara has chosen the PWR, which uses enriched uranium. It is likely that fuel will be provided by the home country of the constructor firm. However, Turkey's insistence on not endorsing the GNEP principles and its position that supports Iran's "right to enrich uranium because it would consider doing the same in the future" would worry international actors for Ankara's intentions.

CHAPTER IX

CONCLUSION

This study analyzed the competing discourses on nuclear energy in Turkey by looking at the different meanings of the concept which were promoted so as to affect energy security policy. As a growing economy, Turkey tries to meet its energy needs. In this context, nuclear energy was presented as “the solution” to the “problem” of energy shortage. On the other hand, beginning particularly from mid-1980s, these attempts faced the environmentalist and anti-nuclear challenge, which deemed that nuclear power generation is indeed the “problem,” and the “solution” to Turkey’s energy shortage should be sought in other alternatives, particularly renewable energy resources.

The discourses of the policymakers showed how they constructed the meaning of nuclear energy as “power” or an “asset” for state security. Similarly, the dissertation revealed the meaning of nuclear power in the discourses of the opposition, and how they constructed “nuclear” as “the threat to life.” The analysis disclosed that the two discourses represent two distinct belief systems which rest in different practical and theoretical levels. This study also looked at power relations at the international and domestic level regarding the utilization of nuclear technology

for peaceful purposes. It showed that international norms and belief systems on nuclear nonproliferation, peaceful use of nuclear power, energy security, environmentalism and anti-nuclearism shaped the arguments.

Chapter IV provided international power relations and norms with respect to nuclear nonproliferation, pursuit of peaceful nuclear power, energy security and environmentalist/anti-nuclearist position. It set the background for understanding what actors took as reference when constructing their arguments.

Chapter VII revealed the inner meanings the actors assigned to concepts, like nuclear energy, security, radiation, and so on... It found that the referents of the proponents are the state, economy and the environment in terms of its input to the economic processes and the survival of the state. On the other hand, the opposition upheld environmental protection and human health. The dissertation found that the two competing discourses belong to two different practical and theoretical realms, that is, Realism and Green Political Theory which is influenced by Ecocentrism, Marxism and Critical Theory. The dissertation hypothesized that these two discourses can still be reconciled by the insights of Constructivism. Through the common points extracted out of discourse analysis, it provided common grounds for a “Critical Engagement” between the government and civil society. Otherwise, the “conflict” could go the “extreme” if the government turned a blind eye to the public’s concerns, and the civil society protested the government at the expense of losing the opportunity to influence the policy in the table.

The narratives that construct a certain reality may ignore or select some data to produce or reproduce the meaning. Chapter VIII looked into the missing or misrepresented information in the debate that constructed the “reality” to the favor of one’s arguments. It also provided scientific and technical data with the help of expert

opinion. With the results of the analysis in Chapter VII, Chapter VIII assessed the debate and provided a roadmap for the process of critical engagement. It enlisted the common points for negotiation, and determined two essential concepts: Economic growth and environmental protection should be talked together, that is, they cannot be traded. Environmental groups and other actors of opposition should uphold economic growth, and the state should formulate development projects that take into account environmental protection.

Second, the state has a tradition of flexibility towards goals that would further Turkey's march for Westernization and modernization. After integration with global economy starting from 1980, the state started to pursue more liberal policies. If the opposition emphasized that environmental protection and sensitivity is a feature of modern societies, the state would be more willing and flexible to adopt policies in that regard. However, it is environmental groups rather than anti-nuclearists who are closer to liberal thinking. That is, they accept the current political and economic system and uphold the sustainability of the environment for that of the economy and state survival. On the other hand, Greens and anti-nuclearists take the ecology as their referent, and are against development projects that harm the environment. Therefore, the dissertation proposed that the first round of negotiations should start with the government and environmental groups instead of predominantly anti-nuclearists. Yet, it pulled out other common points that could provide a fertile ground for negotiation between the state and anti-nuclearists. These are modernity, resource diversification to avoid dependency and reliance on fossil fuels, concern on climate change and environmental protection, safety and waste management, the primacy of science to attain "reality," and appropriate energy planning.

Science and technology are significant to attain “objectivity” in the Turkish case. The second round of talks would host academics and experts on nuclear energy who would inform the government on the technical and legal aspects of nuclear power generation. Their input is integral not only for proper management, but also for correcting the mistakes that lead to a misrepresentation of issues, particularly those about safety. “Fear from radiation” underlies the opposition, and it takes an effective public relations effort to address safety concerns.

The dissertation qualifies to challenge the Realist theory’s assumption for “neutral” national interest and its ignorance of decision-making processes. For, Realism argues that the state is a rational actor which seeks to maximize power, and national interest is defined in terms of power. However, it does not look at the different rationalities, ideational power, and how an issue becomes that of national interest. The analysis showed that Turkey’s national interest for generation of nuclear power to ensure energy security is not “objective,” but constructed. Similarly, it contributed to Constructivism by the constructed meanings of nuclear energy as an “asset” for state power or “threat” (to the state, economy, environment and the individual) at the same time. It can provide a case for conflict resolution studies regarding the reconciliation of two seemingly irreconcilable positions, on the basis of common grounds for mutual understanding and facilitating negotiation. Last but not least, the analysis of the debate on nuclear power in Turkey would contribute to the nonproliferation literature in assessing the domestic level dynamics for proliferation should Turkey start generating nuclear power. The distinction between nuclear-haves versus nuclear-have-nots in terms of technology is a recently developing one. The former are the advanced industrialized countries, while the latter are predominantly developing countries. The contribution of the dissertation will be twofold: First, the

debate on nuclear power generation will provide a case for the developing country problematique between development and sustainability on the making of its energy policy. Second, nuclear energy promises more than economic growth; it is perceived as a threshold for international standing. The proponents' emphasis on gaining status through nuclear power generation would be an example of a "nuclear-have-not" within the new nuclear "North-South" debate.

As far as the future course of policy is concerned, it is important to note that nuclear power decision should be taken within the broader framework of Turkey's energy strategy. With the changing balances after the Cold War, and the growing demand, energy has become an item in the security agenda. Coupled with the aims of addressing climate change, states include environmental costs in their balance sheets, and energy issues cut across domestic, foreign and international agendas. On this basis, Ankara should carry out a concerted action with the Energy, Environment and Foreign Ministries to pursue a balanced power policy. Energy planning and particularly nuclear power projects require policies at state level instead of governmental, which are subject to change. They require a strong technical, personnel, economic, legal and political infrastructure to be conducted properly. Turkey does not seem to have devoted its resources to these goals, and unfortunately facing the dilemma of lagging behind or consuming resources inefficiently.

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