

Turkey: Gas Sector Strategy



Energy Sector Management Assistance Program (ESMAP)

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Abbreviations and Acronyms

APEC	Asia Pacific Economic Cooperation
BOTAS	Turkish National Gas Company
EFET	European Federation of Energy Traders
EMRA	Energy Market Regulatory Agency of Turkey
EU	European Union
EUAS	Turkish National Generating Company
GDP	Gross Domestic Product
GoT	Government of Turkey
IA	Implementation Agreement
IEA	International Energy Agency
IPPs	Independent Power Producers
LNG	Liquefied Natural Gas
MENR	Ministry of Energy and Natural Resources
NGML	Natural Gas Market Law (Law 4646)
OECD	Organization for Economic Cooperation & Development
REs	Renewable Energies
SEE	South-east Europe
SGIC	State Gas Import Corporation
SPO	Treasury and the State Planning Organization
SPR	Strategic Petroleum Reserve
SWOT	Strengths and Weaknesses, Opportunities and Threats
TA#2	Temporary Article 2 of NGML (see above)
ToP	Take-or-Pay
TPA	Third Party Access (to gas pipelines)
TPAO	Turkish National Petroleum Producing Company
TPES	Total Primary Energy Supply
WACOG	Weighted Average Cost of Gas
WGGS	Working Group on Gas Supply
WGWC	Working Group on Wholesale Competition

Units of Measure

bbbl	Barrels
bcm	Billion Cubic Meters
kms	Kilometers

Preface

This report summarizes a strategy for accelerating the liberalization of the natural gas market in Turkey in line with the objectives of the Natural Gas Market Law of 2001 (Law 4646) (NGML). It focuses on the desired future framework for the natural gas market and indicates the changes that need to be made in the “buy” function, “sell” function and “transit” function as well as the steps which need to be taken to transition from the current framework to the desired framework.

The report was prepared by World Bank in the spring and summer of 2004 working closely with the Government of Turkey, especially the Ministry of Energy and Natural Resources (MENR), the Energy Market Regulatory Agency (EMRA), the Turkish National Gas Company (BOTAS), Treasury and the State Planning Organization (SPO). The final report was then discussed with the Government of Turkey. The principal authors of the report are Mr. Ranjit Lamech, Mr. James Moose, Mr. Ray Tomkins, Mr. Roland Priddle and Mr. Adnan Vatansever. Mr. Gurhan Ozdora and Mr. Elif Yukseker from the World Bank Ankara office made very useful contributions and Mr. Yukari Tsuchiya edited and processed the report for publication. The team would like to thank Mr. Peter Thomson, Mr. William Porter, Mr. Bent Svensson and Mr. Philippe Benoit for their valuable inputs and comments on the Strategy Note.

The report was then submitted to ESMAP for final publication in 2007. Special thanks to Mr. Tae Yong Jung for his review and comments, and to Ms. Marjorie K. Araya and Ms. Ananda Swaroop from the ESMAP Communications and Publications Team for final editing, production and dissemination of this report.

Executive Summary

The Purpose of this Note

Turkey's NGML charts an ambitious program for change, in pursuit of the objective of liberalization of the gas market and the creation of a financially sound, stable and transparent market (Article 1). The World Bank team strongly supports this objective.

However, progress in the three years since the Law was adopted has been quite slow. In particular, the following issues remain unresolved:

- Industry structure remains monolithic, with no separation of functions other than some distribution;
- Cost transparency, largely due to the existing industry structure, remains deficient;
- Competition has not developed in the wholesale sector; and
- International investors remain concerned by the delays.

The purpose of this Note is to assist policymakers by proposing a pragmatic and flexible program of change which will enable Turkey to develop a modernized gas market structure ("Structure 2010"). The Note is supportive of the objectives of the NGML and does not call for fundamental changes in it. Rather, it suggests some modification of the Law's present rigidities. The context for the Note includes several implementation concerns and questions raised by the incumbent gas monopoly, BOTAS, government institutions and the private sector.

The Strategic Objective for Turkey's Gas Market

Developing a modern gas market hinges upon Turkey's ability to benefit from its strengths and opportunities, as well as its capability to address challenges, some of which are created by market liberalization. Within this context, the following strategic objective is proposed:

“To provide for the expanding use, on an economic basis, of a secure supply of natural gas in an increasingly competitive domestic wholesale market, while maximizing Turkey’s transit business opportunities, appropriately managing the medium-term potential supply-overhang and minimizing the state’s future contingent liabilities by shifting risk to the private sector.”

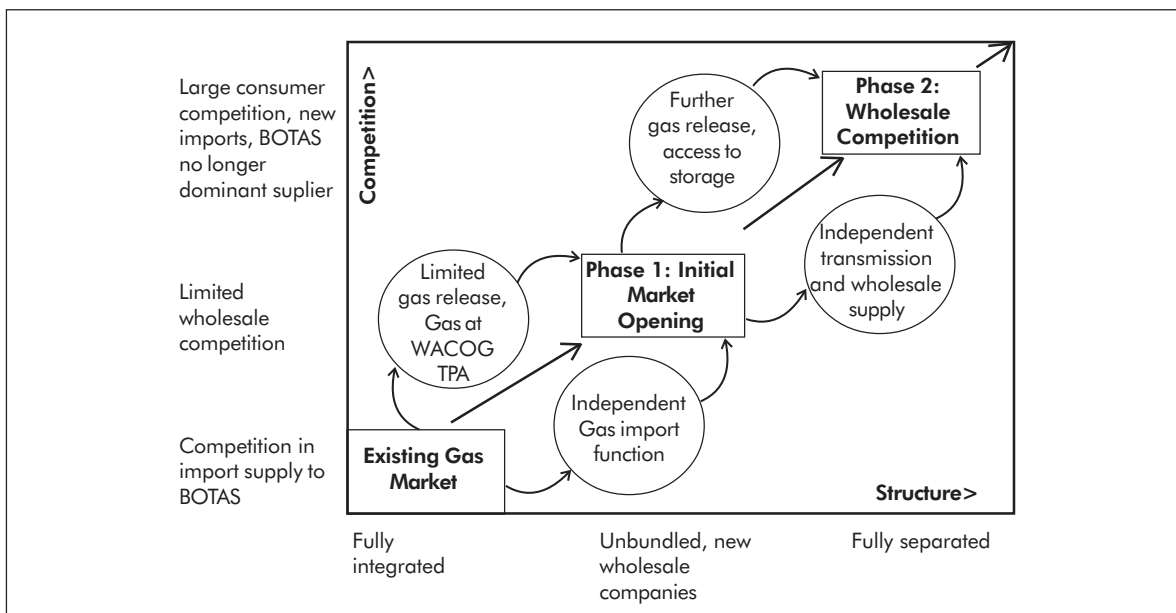
The adjustments proposed in this Note will facilitate the progress toward realization of Turkey’s strategic objective. It is our underlying vision that the proposed changes will benefit all participants in the Turkish gas market, namely the consumers, the Turkish Government and eventually BOTAS as well.

“Structure 2010:” A Framework for Modernizing Turkey’s Gas Market

“Structure 2010” is the modernized gas market structure envisaged in this Note for Turkey. It involves changes along the whole gas transacting chain and provides the essential framework for a functioning gas market.

The evolution toward “Structure 2010” can be viewed as a transitional path in which certain developments follow a continuing trend (such as the degree of market opening) while others are marked by discrete steps (such as the full functional unbundling of BOTAS). Conceptually, the market transition is illustrated in Figure 1.

Figure 1: Phased Transition to “Structure 2010”



Note: WACOG: Weighted Average Cost of Gas; TPA: Third Party Access.

Restructuring of BOTAS' monopolistic activities is an essential precondition for overcoming the identified weaknesses of the present vertically integrated, excessively concentrated industry, and moving toward competition by degrees. Restructuring should start with functional unbundling and move toward full separation of BOTAS into separate legal entities serving its main functional areas of importing, transmission and storage, and wholesale supply.

Progress toward "Structure 2010" requires addressing BOTAS' current monopoly status in the three main functions of the gas sector:

- Buying gas (importing);
- Selling (wholesaling); and
- Transit.

Given Turkey's increasing diversity in gas supply and its maturing gas market, the case for maintaining monopolies in order to support a national champion is not strong and should be examined carefully, as it prevents the benefits of restructuring being realized.

The "Buy" Function

The current "single buyer" model is not appropriate for achieving the full benefits of supplier competition. This Note, therefore, proposes the following:

- **BOTAS monopoly in imports should be abandoned:** The World Bank team supports the NGML objective to eliminate BOTAS' monopoly of gas imports. As Turkey is no longer facing a monopoly supplier and has already completed most of its gas import infrastructure, competition in imports needs to be introduced as soon as the end of the overhang of contracted gas supply is in sight. This will ensure real competition in gas supply. In addition, as a result of having new players in gas imports, the risk of large forecasting errors will be reduced and the financial liabilities will be carried by the new (private) players;
- **BOTAS' share of imports need not be reduced as far as 20 percent by 2009:** The NGML provision requiring BOTAS to reduce its share of imports to 20 percent of the national consumption by 2009 is unnecessarily ambitious (Temporary Article 2 of NGML, TA#2). In European Union (EU) countries which have already established a competitive gas market, the proportion of supply controlled by the largest supplier ranges from about 50 percent in Germany and the U.K. to 75 percent in Italy and Spain and 90 percent in France. Furthermore, given the size of BOTAS' contract portfolio, reducing BOTAS' share to 20 percent is very difficult in the foreseeable future; some intermediate reduction targets would be more practicable; and

- **The focus should shift upon ensuring fair competition in supply:** Policymakers' concern should not be to achieve particular predetermined shares of imports for BOTAS (or anyone else for that matter). Their interest should focus on whether or not there is abuse of its dominant position by any market player(s). This is a longstanding principle in competition policy and law. This could become a criterion for EMRA to apply in place of the present NGML provisions respecting market shares.

The "Sell" Function

Wholesale gas competition is fundamental to the operation of a competitive market. Without some wholesale competition, retail competition is unlikely to develop. In order to achieve competition in wholesale, several measures are required:

- **Break up BOTAS wholesale monopoly:** Introducing wholesale competition should be viewed as an immediate step in restructuring the Turkish gas sector. Its multiple benefits include: providing choice to eligible buyers, starting to move market risk away from BOTAS, giving all players experience with competitive market behaviors and initiating commercialization of the sector. In addition, breaking BOTAS wholesale monopoly will likely: attract multinationals' interest; result in new service offerings; provide consumer choice; and work efficiencies into the system, including more efficient use of the transmission system. Furthermore, new investors attracted by wholesale competition could potentially emerge as importers, paving the way toward import competition;
- **Abandon the goal of reducing BOTAS share of wholesale gas supply to 20 percent by 2009:** With the goal of implementing wholesale competition, the NGML proposes to limit the market share of individual wholesalers. Article 4.4 e) 6 calls for a process of contract release which will reduce BOTAS' shares of the market to 20 percent within five years. Such a proposal is revolutionary and unprecedented. Reducing BOTAS share to this level is probably impossible in the near future. Experience in western Europe suggests that a competitive wholesale market can exist where individual shares considerably exceed that figure. Furthermore, the presence of a legislated 20 percent ceiling on market shares might present a disincentive for some potential investors, particularly foreign ones contemplating a large long-term commitment to the Turkish market. Reduction of BOTAS' share should start soon and proceed in steps, while monitoring the emergence of competition; and
- **Replace contract transfers with a gas release program:** The process of contract transfer set out in the NGML (TA#2) is most unlikely to succeed, mainly due to resistance from foreign suppliers and reluctance of new private players to take on all the liabilities associated with a particular contract of BOTAS. A gas release program, which essentially consists of transferring (releasing) incremental volumes of gas by the monopoly buyer to new wholesale competitors, appears more suitable for Turkey. Such a program may

serve as a catalytic means to kick-start wholesale competition without affecting upstream contracts which underpin investment and security of supply.

The Transit Function

The transit of foreign gas across Turkey from suppliers in the Caucasus and Middle East to buyers in southern and central Europe is a major opportunity for the Turkish gas sector. It can benefit Turkey in terms of economic activity, reduced unit transmission costs, possibly improved security of supply, reduced supply overhang and the creation of market hubs with greater liquidity than if serving the domestic market only. However, benefiting from gas transit would require the following:

- **BOTAS should act as a transmission entity, instead of being a merchant gas company:** BOTAS would like to control the transit (and re-export) of gas through its territory. However, this is hardly likely to happen due to: destination clauses in contracts which prohibit re-export of gas; potential conflict of interests regarding provision of pipeline access to other transit parties; and resistance against the presence of an intermediary by both suppliers and importers. Indeed, the role of a merchant gas company for BOTAS in gas transit will likely hinder, rather than foster, the development of Turkey as a gas corridor. Transit development could be faster if BOTAS concentrates on developing its role as a transmission and transit entity; and
- **Policy and the law on who can be involved in transit should be flexible:** The NGML provides for transmission and, by implication, transit to be the continuing long-term role for BOTAS. It is unclear, however, from the NGML Article 4.4) c) 9) what role is allowed for other companies building new transmission. (This might be allowed as long as the new transmission lines are not part of the national transmission network, but this is not stated clearly). We believe that policy (and the law) should be flexible on this point, in order to accommodate the possible investor interest in dedicated, privately-owned, transit pipelines. At the same time, there is no principled reason for excluding a state role in gas transmission. Modern incentive regulation could help to work efficiencies into BOTAS' operations, which in terms of investment capital already appear to be cost-efficient relative to North American pipelines. Meanwhile, to avoid a potential abuse of monopoly power, the law should set clear limits about the level of control which could be assigned to Turkey's own gas suppliers on transit pipelines.

Managing the Transition

A carefully phased, properly integrated program will be required to manage the transition to a competitive gas market, probably to be achieved over about an eight-year period. Initial recommended steps include:

- **An early policy statement:** It would be normal for a new government, having reviewed established policies, to indicate what it intends to retain and what it wants to change. This would give confidence and guidance to all the industry players, present and potential, domestic and foreign. It would give valuable public guidance to the regulator too. It would provide a road map for change and address a certain malaise in the gas sector resulting from the lack of present progress in implementing the NGML (apart from distribution licensing);
- **Review of legislation:** An examination is required of the NGML and related legislation in the light of new policy needs. This review could be carried out in various forums – parliamentary committee and with industry and consumer groups. The possible NGML amendments which are referred to in this Note are evaluated in Chapter 8, followed by Annex II which provides a detailed appraisal of the possible changes in the law;
- **Establish a gas consultative body:** Some form of advisory body should be created which could provide insightful, practical advice to government in respect of an industry which is in process of transformation. The National Petroleum Council in the U.S.A. could provide a model. In Canada, a national advisory committee on petroleum performed this function during a period of policy turmoil from 1969-80. Alternatively, the Government of Turkey (GoT) might open a structured dialog with an existing representative group such as the Petrol Platformu Dernegi (“Petform”);
- **Appoint a change champion:** Within this process of transformation, conflict will inevitably arise between several departments of government, EMRA and BOTAS. Therefore, disputes must be resolved, and policy guidance discretely but firmly given. Under these circumstances, it may be desirable to identify and empower a change champion at the undersecretary level within government. This person would have a good understanding of the gas industry and a clear vision to achieve the objectives of the NGML. The change champion would need to enjoy the confidence of all major institutions involved in Turkey’s gas sector, as well as be able to mediate and resolve issues interdepartmentally and between government and the private sector; and
- **Arrange for technical assistance:** MENR, EMRA, BOTAS and possibly other stakeholders in gas market liberalization and restructuring will need internationally experienced consulting advice to assist in developing the detailed implementation in such areas as gas release; wholesale market design; model contracts; and, eventually, the design of any new importing scheme.

These elements of transition to a competitive gas market will need to be accompanied by a number of measures in four major areas: restructuring of BOTAS, wholesale competition, managing the supply overhang and moving to competitive buying. Altogether, these measures are summarized in terms of headings for a “time line” exercise in Table 1. It is recognized that some of the elements of that time line are not sufficiently mature in terms of policy thinking, for definite target dates to be put on them.

Table 1: Time Line of Activities and Responsibilities for Gas Sector Restructuring and Achievement of a Functional Gas Market

	Tasks	Responsible Institution(s)	2004				2005				2006				2007	2008	2009	2010	2011	2012
			I	II	III	IV	I	II	III	IV	I	II	III	IV						
I.	Initiating New Gas Strategy																			
	Issuing Policy Statement	MENR																		
	Instituting Review of Legislation	MENR, Parliament																		
	Establishing Gas Consultative Body	MENR																		
	Appointing a Change Champion	MENR																		
	Arranging for Technical Assistance	MENR, EMRA, BOTAS																		
	Identifying and Implementing Supportive Policies and Policy Measures	MENR, Other Ministries																		
II	Restructuring BOTAS																			
	Presenting Proposal for Separation of Accounts	BOTAS																		
	Presenting Proposal for Separation of Functions	BOTAS																		
	Accepting/Rejecting BOTAS Proposal	MENR																		
	Acting on Acceptable Proposal	BOTAS																		
	Filing Tariff (Rates + Services + Access)	BOTAS																		
	Filing Basic Network Code	BOTAS, WGWC																		
	BOTAS Acquiring Storage, Incorporating in Tariff	BOTAS, TPAO																		
	Accepting/Rejecting BOTAS Proposal	EMRA																		
	Acting on Acceptable Proposal	BOTAS																		
III.	Wholesale Competition																			
	Establish Working Group on Volume Release and Wholesale Competition ("WGWC")	MENR																		
	WGWC Obtaining Consulting Budget & Assistance	MENR/WGWC																		
	WGWC Presenting Proposal to Policymakers	MENR, Cabinet																		
	Acting on Approved WGWC Proposal	EMRA, BOTAS, Private Sector																		
	BOTAS Filing WACOG + Management Fee	EMRA Supervise/Approve																		
	BOTAS Filing Wholesale Price	EMRA Supervise/Approve																		
	BOTAS Offering Buyers Amended Contracts	Buyers Accept/Reject																		
	BOTAS Initiating Volume Auction	New Entrant Wholesalers																		
	New Entrant Wholesalers Applying for Licenses	EMRA																		
IV.	Managing Supply Overhang																			
	Establishing Government/BOTAS/(Petform) Working Group on Gas Supply ("WGGS")	MENR																		
	Canvassing and Testing Options for Dealing with Supply Overhang	WGGS																		
	Acting on Selected Options (Export, Reexport, etc)	MENR, BOTAS																		
V.	Moving to Competitive Importing																			
	Assessment of When Supply Overhang Phases Out	WGGS																		
	Policy Decision on Competitive Importing	MENR, Cabinet																		
	Developing Modalities for Allocating New Imports Policy Decision on Modalities	WGGS MENR, Cabinet																		
	Implementation in Anticipation of Supply Overhang Phase-out	EMRA/BOTAS/ Private Sector																		

1. The Strategic Context for Turkey's Gas Sector

The key issues facing Turkey's gas sector include both problems and opportunities. Overcoming the problems and taking advantage of the opportunities hinge upon adopting a consistent and comprehensive strategy for the sector, discussed at length in this paper. This section in particular looks at the strategic context for gas in Turkey in terms of a simplified SWOT analysis (Table 1.1), looking at **strengths** and **weaknesses** (essentially "internal" to the system), **opportunities** and **threats** (which tend to be "external"). It goes on to review the supply demand outlook and assesses the "overhang" of contracted import supply (Refer to "Addressing a Potential Supply 'Overhang' of Contracted Imports").

Table 1.1: The SWOT Analysis

<i>Strengths</i>	<i>Weaknesses</i>
<ul style="list-style-type: none"> • High demand growth potential structure • Favorable supply geography and infrastructure • Extensive transmission backbone • Lack of clean energy substitutes 	<ul style="list-style-type: none"> • Excessively concentrated industry structure • High risk-bearing by the GoT • Lack of gas storage • Unproven environment for investors • Little indigenous supply
<i>Opportunities</i>	<i>Threats</i>
<ul style="list-style-type: none"> • Access to multiple sources of supply • Potential role as a transit corridor • Potential social and economic improvement • Potential for domestic and foreign investments 	<ul style="list-style-type: none"> • Supply overhang • High leverage of incumbent suppliers • Unfair competition by Gazprom • Security of pipeline/LNG supply

Strengths

The principal **strengths** of the Turkish gas industry include:

- **High demand growth potential:** Turkey, with a population of 70 million and a rapidly growing economy, has had one of the fastest growing gas markets in the world in the past decade. Moreover, as indicated in Table 1.2, the growth of demand for gas has not been significantly affected by its three economic crises. Also, there is a substantial unrealized potential for gas demand, given the relatively low share of gas in its Total Primary Energy Supply (TPES).

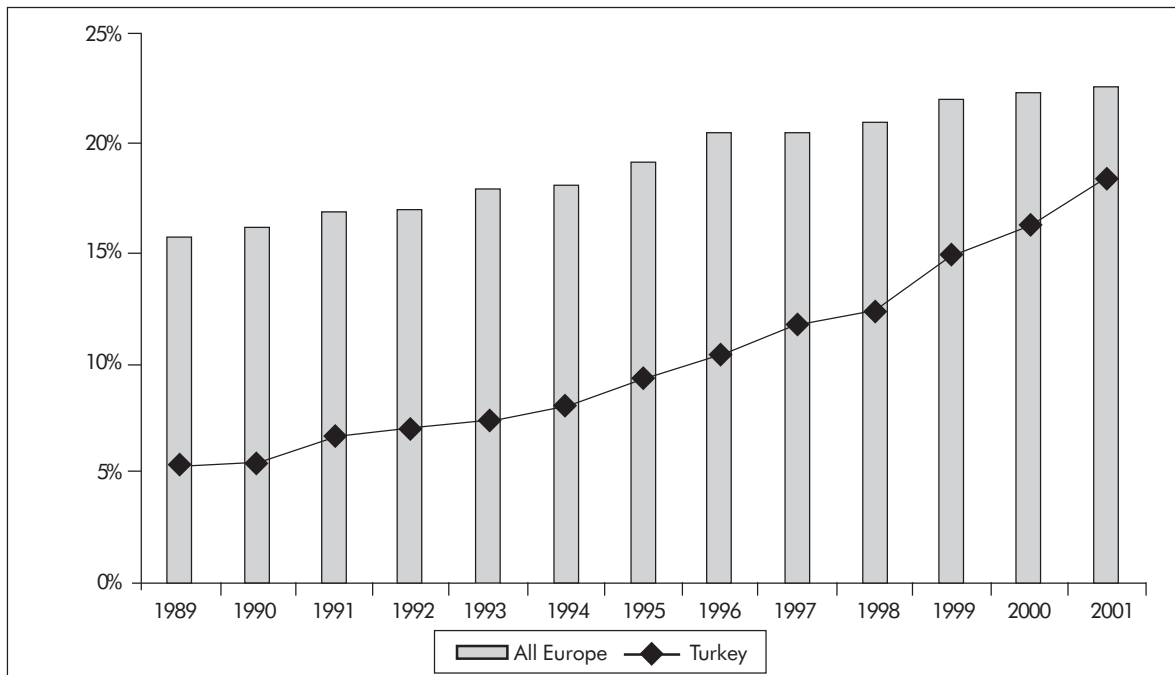
Table 1.2: Growth in GDP and Gas Consumption in Turkey

Year	GDP Growth Rate (%) ^a	Gas Consumption (bcm)	Growth in Gas Consumption (%)
1991	0.3	4.097	22
1992	6.4	4.461	8.9
1993	8.1	4.975	11.5
1994	-6.1	5.377	8
1995	8.0	6.859	27.6
1996	7.1	8.041	17.2
1997	8.3	9.874	22.8
1998	3.9	10.383	5.2
1999	-6.1	12.657	21.9
2000	6.3	14.975	18.3
2001	-9.5	16.368	9.3
2002	7.8	17.624	7.7
2003	5.8	21.182	20.2

Source: State Statistics Institute (DIE), BOTAS.

^a1987 base year.

Figure 1.1 shows that this share, standing at about 18 percent in 2001, is below the European average of 23 percent, and significantly lower than in the Netherlands (40 percent), U.K. (39 percent) and Italy (33 percent);

Figure 1.1: Share of Gas in Total Primary Energy Supply (1989-2001)

Source: OECD/IEA.

- **Favorable supply geography and infrastructure:** Turkey is favorably located relative to gas resource-rich, revenue-needy supplying countries to the east, including Azerbaijan, Iran, Iraq, Russia and Turkmenistan. Russia and Iran rank first and second among the world's largest gas reserves holders, and have already been connected to Turkey through major pipelines. While a pipeline from Azerbaijan is scheduled to be in operation by 2006, Iraq and Turkmenistan could also be linked to Turkey in the near future. Future incremental import contracts, including short-term ones, can use the existing infrastructure at lower cost;
- **Extensive transmission backbone:** The system is substantially in place or under construction to cover the main consumption areas of the country (excluding, for the moment, the south-east). With significant ongoing investments, the transmission network will be completed by 2006; and
- **Lack of clean energy substitutes:** Alternative clean energy sources are not readily available in large amounts, except for hydropower, which is already heavily exploited (with the exception of small hydro plants) and expensive to develop.

Weaknesses

The weaknesses the sector faces are principally:

- **Excessively concentrated industry structure:** The vertically integrated, state-owned gas industry is excessively concentrated. This is adverse to industry vigor

and efficiency, handicaps development of a competitive market and probably works against rapid market expansion;

- **High risk-bearing by the GoT due to state ownership:** The Turkish state, through BOTAS, the Turkish National Gas Company, has accepted major gas market risks and associated contingent liabilities, mainly through long-term gas import contracts with Take-or-Pay (ToP) provisions;
- **Lack of gas storage in the national territory:** Existing storage capacity is insufficient, relative to sector needs. When the North Marmara and Degirmenkoy facilities are completed in 2005, storage will still fall short of the 10 percent requirement in the Natural Gas Market Law (NGML). This is apart from the growing need for storage to meet temperature-related demand fluctuations. There are limited geological possibilities for well-located, economically viable new storage;
- **Unproven environment for investors:** There are substantial uncertainties in both policy and regulatory aspects of the sector which pose risks for private investors. The continuing dominance of the incumbent monopolist poses potentially large risks to new entrants and will require strong regulation and/or unbundling; and
- **Little indigenous supply:** Prospects are poor for developing such supply on a scale which could contribute an important competitive element to the domestic market.

Opportunities

The opportunities for the industry arise from:

- **Access to multiple sources of supply:** Turkey's geographic location offers it a unique opportunity. Unlike most of the import-dependent European countries, due to its relative proximity to major gas producers, Turkey has a potential access to multiple sources of pipeline gas supply. Many countries in Eastern Europe have no supply choice, being locked in to a monopoly supplier (Gazprom). Accessing these multiple sources could foster the creation of a competitive gas market in Turkey, as well as enhance its supply security;
- **Turkey's potential role as a transit corridor:** Turkey offers an overland route which can bring together gas producers in the Caucasus and the Middle East and gas markets in southern and central Europe. Routes through Turkey offer Iran (and, later, Iraq and possibly Syria) a pipeline option for exports to Europe. They give the Caucasus (and, later, Central Asia) a strategic alternative to routes through its major competitor, Russia. They offer European markets a fourth major supply source (to Algeria, Norway and Russia);
- **Potential for social and economic improvement:** Usage of gas can be extended, ensuring better quality of air, life and health in many cities, and lowered production costs for industry, assisting Turkey's export competitiveness. The use of gas for electricity generation can, and has reduced, the Government of Turkey (GoT) budgetary needs on behalf of traditional (hydro) electric development; and

- **Potential to mobilize domestic and international capital and entrepreneurship in a restructured, expanding gas sector:** Turkish investors have responded vigorously to the opportunities created by the offer of new gas distribution franchisees and by the privatization of certain existing distribution networks. International gas industry investors maintain a presence in Turkey and, along with Turkish entrepreneurs, are likely to be attracted to invest as new opportunities arise, for example, in gas wholesaling, regional pipelines and, eventually, in new gas imports.

Threats

The threats Turkey's gas industry faces may be both geopolitical and commercial in character:

- **Supply overhang:** Extending to about 2012 – the over-contracting of imports by BOTAS in relation to reduced outlook for domestic gas requirements has created a continuing financial obligation on the GoT and inflexibility in import and wholesale competition. Some of the implications are addressed on pages 11-12 and Annex I;
- **Leverage possessed by incumbent suppliers:** Suppliers of both Turkish and transit markets could potentially frustrate, by market- and non-market means, Turkey's ambitions to develop transit markets. This includes competition from Algerian gas in southern European markets and Russian gas in other European markets;
- **Possibility for unfair competition by Gazprom:** As the world's largest gas producer, Gazprom has developed a strategy for expanding downstream into eastern and central European gas markets. It has expressed similar ambitions for Turkey, where it holds the largest market share as a supplier. This creates potential for unfair competition, and requires strong regulation; and
- **Security of supply of pipeline and tanker-borne gas imports:** This presents an ongoing concern which needs to be addressed by Turkey's national gas strategy.

Addressing a Potential Supply "Overhang" of Contracted Imports

The prospects for a supply overhang pose a major challenge to the gas sector in Turkey. In recent years, this threat has been widely debated, following two economic crises which raised uncertainty about Turkey's future economic situation. While in general, supply shortages are also important due to their potential impact on economic growth. Turkey's immediate concern in maintaining its supply/demand balance is in terms of the possibility for supply overhang in the years ahead.

It is essential that Turkey addresses the threat of supply overhang for the following reasons:

- Supply surpluses could trigger large penalty payments under ToP obligations; and
- Supply surpluses also delay the time of opening the market properly to competition in imports and wholesale.

Annex I provides in detail several potential scenarios about Turkey's supply/demand balance from 2005 through 2015. The conclusion is that there is a significant risk for a supply overhang. In three (out of six) scenarios, Turkey faces supply surpluses. These could potentially encumber Turkey with liabilities ranging from US\$1 billion to US\$5 billion. It is, therefore, important that the risks caused by supply surpluses are given due weight in the gas market strategy.

Some of the measures this Note suggests for restructuring of the Turkish gas sector could, in fact, help to address the supply overhang issue as well. These include:

- Shifting risks to the private sector;
- Taking steps to unbundle BOTAS; and
- Fostering a competitive environment in the wholesale market.

2. Strategic Objective and Policy Goals

The SWOT analysis has highlighted that there is considerable scope for Turkey's gas sector to evolve in different directions, some more favorable than others. Although gas use has been growing fast, in other respects, change in the sector has been very slow. It is time to take a more fundamental look at the policy options for Turkey and assess whether they are likely to meet Turkey's strategic objective for the sector. The objective examined below forms the policy-setting for major reform measures addressed through the rest of the Note.

Strategic Objective

The following strategic objective is proposed for Turkey's gas sector:

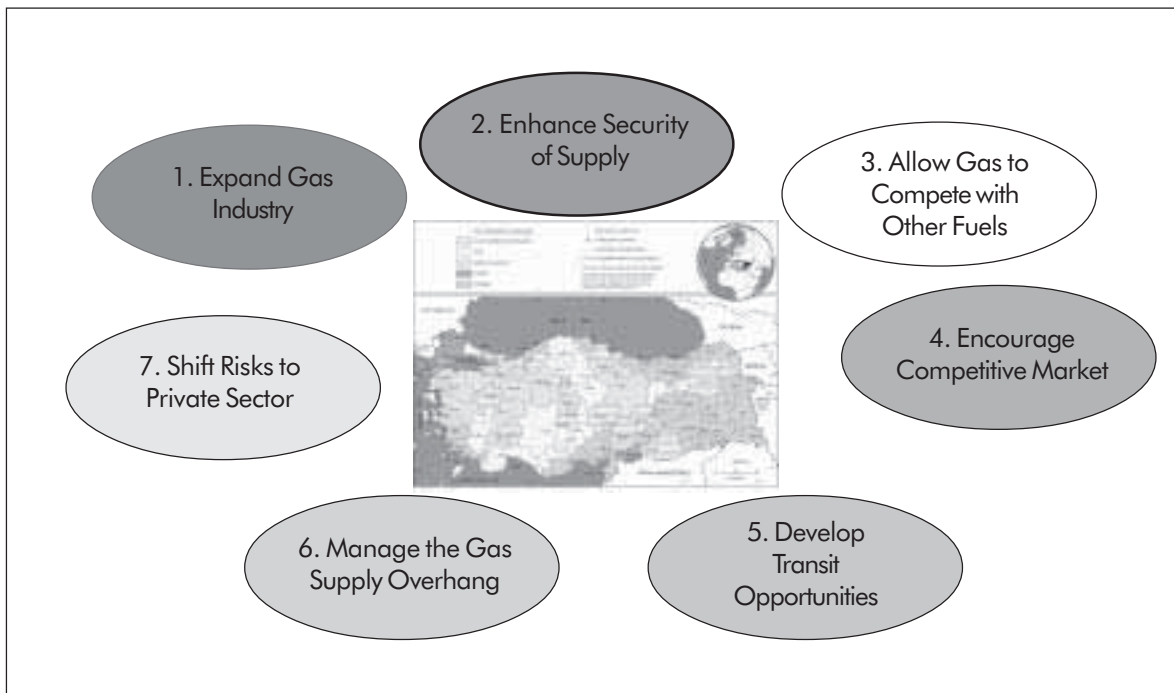
"To provide for the expanding use, on an economic basis, of a secure supply of natural gas, in an increasingly competitive domestic wholesale market, while maximizing Turkey's transit business opportunities, appropriately managing the medium-term potential supply overhang and minimizing the state's future contingent liabilities by shifting risk to the private sector."

The objective is deliberately cast in general terms. Experience shows that broad expressions of policy are generally more enduring than ones that go into detail. Clearly though, there are detailed issues underpinning each clause of the proposed strategy. For example, by "expanding use" is meant "a greater aggregate contribution by gas in the national energy balance, broader national geographic availability of this fuel, provision of gas to a high proportion of urban residential and commercial consumers and optimization of gas use in industrial sectors where it has particular technical advantages." Such a policy requires acceptance of the import dependency which it implies. Security concerns have to be addressed, primarily by expanding further the diversity of supply and by increased gas storage. The cost and environmental advantages of gas should be stressed.

Policy Goals and Supporting Measures

The proposed strategic objective contains seven key elements (see Figure 2.1). Each of these elements can be stated more clearly as a policy goal and each, in turn, requires a set of supporting measures for implementation. The suggested policies build upon Turkey's identified strengths and opportunities, and aim to address weaknesses and mitigate potential threats.

Figure 2.1: Policy Goals for the Turkish Gas Sector



Policy Goal 1: Foster the continued rapid expansion of the gas industry

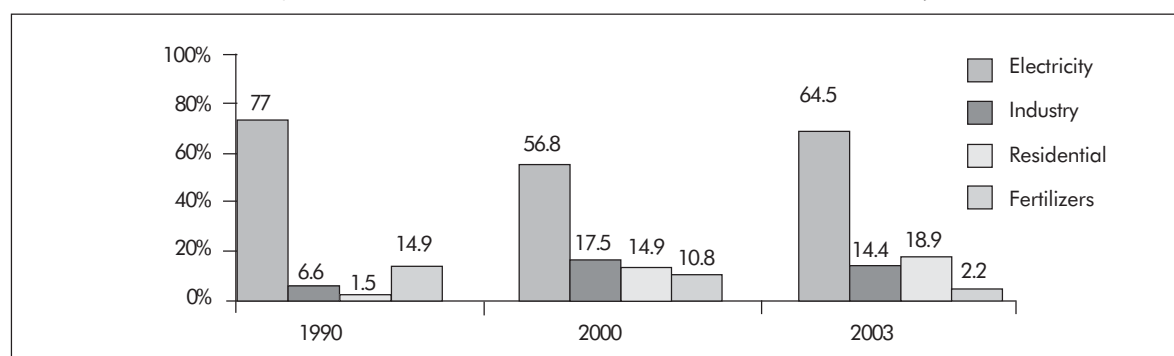
Gas consumption in Turkey has quadrupled in the past decade. This is parallel to the Europe-wide trend involving rapid increase in gas consumption. Table 2.1 indicates how rapidly gas usage has increased relative to Gross Domestic Product (GDP) and total energy supply in Europe. Nonetheless, it has been rising even faster in Turkey. Since the first shipment of imported gas in 1987, its share in the TPES has reached 18 percent by 2001.

Table 2.1: Total Increase in Europe's TPES, GDP and Natural Gas Use

	Last Five Years (2001 over 1997)	Last 10 Years (2001 over 1992)	Last 15 Years (2001 over 1987)	Last 20 Years (2001 over 1982)
TPES	5.2%	11.2%	21.0%	29.9%
GDP (Constant US\$)	10.6%	22.6%	41.1%	56.9%
Natural Gas	16.0%	48.6%	79.9%	104.1%

Source: World Bank.

Yet, given Turkey's market size, and the substantial lack of alternative sources of energy, gas consumption in Turkey remains relatively small. Moreover, gas consumption appears to be excessively concentrated in the electricity generating industry (about 64 percent of 2003 gas demand), even though this is changing in favor of residential consumption, as indicated in Figure 2.2.

Figure 2.2: Structure of Gas Consumption in Turkey

Source: BOTAS.

There is scope for substantial further expansion of the market for gas by:

- Completing the national transmission system, in terms of volume capability and geographical spread;
- Franchising gas distribution in a growing number of cities and provinces;
- Attracting new, enterprising, financially strong, technically capable investors to all sectors of the gas business, particularly distribution; and
- Taking measures to ensure competitive gas prices and services along the whole gas chain.

Policy Goal 2: Enhance security of energy supply within the overall goal of an expanding gas industry

Turkey, like many other modern industrial economies, is going to be increasingly dependent for her energy needs on imported supplies of oil, gas, and, to a lesser extent,

coal. Despite the increased flexibility of the world oil industry to deal with supply interruptions (demonstrated at the time of the Iraq-Kuwait war of 1990-91 and the Iraq war of March-April 2003), energy supply security concerns remain. They are being reflected nationally in countries as diverse as the U.S.A., India and China,¹ and in international forums such as the European Union (EU), the International Energy Agency (IEA) and Asia Pacific Economic Cooperation (APEC).² Turkey's energy supply is relatively diversified, but security can be ensured and further enhanced by:

- Broadening the present diversity of international sources of supply of oil and gas;
- Developing a significant gas transit business, and ensuring the growth of oil transportation through its existing and prospective oil pipelines;
- Attracting, in due course, new entrants to the gas importing business;
- Encouraging petroleum exploration on the national territory by means of an internationally competitive upstream regime together with the present unrestrained access for such petroleum to the domestic market;
- Developing on the national territory storage facilities which are adequate in terms of volumes, locations and delivery capability;³
- Investigating the technical⁴ and political feasibility of developing and using gas storage in foreign countries;
- Working cooperatively with fellow members of the IEA, in relation to oil market information, analysis and flexible emergency response measures;
- Maintaining strong relations with foreign oil and gas supplier countries and companies; and
- Arranging, where economically feasible, dual fuel capability to ensure security for particular gas and oil end-users, such as gas-fired thermal power plants.

¹ Supply security concerns are reflected in measures taken by several countries aimed at developing strategic reserves. For instance, the U.S.A. is committed to bringing its Strategic Petroleum Reserve (SPR) in 2004 up to the full amount of storage capacity, about 700 million Barrels (bbl) of crude oil. China, in 2002, and India, in 2004, announced their intention to accumulate strategic oil stocks along the lines of the USA SPR.

² There is a proposal before the EU to increase emergency oil stocks from the present 90 days' supply to 120 days by 2007. Gas supply security is also under discussion. The IEA maintains and exercises its emergency oil-sharing system and as well places emphasis on flexible emergency response measures. Oil and energy supply security is a regular element of discussion by APEC energy ministers.

³ The current main storage facility in Turkey is Liquefied Natural Gas (LNG). There is some debate as to whether this could be counted as "storage" as regards the requirement of the NGML. LNG is more usually used for medium-term storage, for example, weekly peaks, rather than seasonal storage, also because it is a very costly storage. However, despite these restrictions, a "firm" storage equivalent capacity, which might be only a fraction of the total capacity, could be calculated for the purposes of the NMGL requirements.

⁴ Technical feasibility may be a major obstacle for geographical reasons. For example, storage sites (depleted gas fields) may be available in Romania, but to meet winter demands in the Istanbul area would require the expensive duplication of the existing pipeline transporting Russian gas via Bulgaria.

Policy Goal 3: Allow gas to find its economic place in the expanding Turkish energy market

Where gas is available from several sources, as is the case in Turkey, and infrastructure costs are not excessive, its market economics are typically favorable compared to petroleum products and locally mined coal. Unless it is unfairly burdened fiscally, gas then tends to become the predominant fuel in all non-transportation energy uses.

Policy should be designed to ensure a “level competitive playing field” for natural gas in the energy economy. This would involve, among other things:

- Ensuring that there are no fiscal or other government-related distortions working against gas in the market for competitive energies;
- Giving local recognition (for example, at the municipal level) to its superior emissions qualities over other fuels such as high sulfur coal and lignite;
- Ensuring that gas can compete equally with coal, hydro and other REs in the market for electricity generation, checking, for example, that there are no distortions in the cost of capital which might favor hydro generation; and
- Avoiding discrimination against natural gas within the context of the government’s newly established priority of relying on renewable resources.

Policy Goal 4: Facilitate new entrants and encouraging competition

Competition is not yet present within the Turkish gas market. Encouraging competition will ensure new flows of capital and entrepreneurship, domestic and foreign, to the gas sector, thereby achieving the efficiencies of resource utilization which are associated in theory and practice with functioning markets. For competition to work, markets must be opened and competitors brought in. This calls for:

- Publicly assuring Turkish and foreign investors of the GoT’s commitment to a competitive gas market;
- Addressing the issues of excessive concentration, vertical integration and lack of transparency in the present industry structure;
- Establishing the preconditions for new wholesale entrants, such as the early “unbundling” of gas supply from gas transmission,⁵ and committing to open up imports to competitive buying as the supply surplus dissipates;

⁵ “Unbundling” in this context means the separation of the function of supplying the gas commodity from the function of gas transmission. These two activities can, and probably should, be carried out by different entities. This is to ensure that other users of gas transmission have free and fair access and can compete with BOTAS on equal terms.

- Progressively opening the wholesale gas market to new investors, in part by giving them access to BOTAS' supply through import volume release to private wholesalers; and
- Gradually enlarging the share of the consumer market which is accessible to wholesalers, for example, by lowering the threshold to qualify as "eligible consumers."

Policy Goal 5: Establish the foundation for Turkey to become a major transit route for gas from the Caucasus and Iran (possibly Iraq as well) to southern and central Europe

Gas transit affords a long-term strategic opportunity for Turkey which opens up possibilities for: larger pipeline investments; lower unit transmission costs for Turkish gas consumers; increased market liquidity; greater opportunities for "hub" operations; earning transit fees; and improved security of gas supply.⁶

Yet, the transit business will take time to develop. Market opportunities will have to be identified, alliances created and new infrastructure built or existing facilities expanded. The "threats" arising from the geopolitics of gas (see Table 1.1) will have to be overcome.

Turkey could take initial steps which would include licensing some gas (re-)exports as soon as circumstances allow, and facilitating exchanges of exports for imports (gas swaps) in view of the long transmission distances from East to West.

Meanwhile, the foundation for a successful long-term development can be started now by:

- BOTAS actively building a reputation for cost-efficient, technically reliable gas transmission;
- Being prepared to enter into multilateral intergovernmental agreements to provide for the security of gas transit across Turkey, while carefully limiting any financial or diplomatic exposure for the GoT;
- Committing to non-discriminatory treatment for transit gas in terms of rates, access to services and transit fees, while retaining the possibility of negotiated, rather than the Energy Market Regulatory Agency (EMRA)-regulated, rates for transit gas on the national system;

⁶ Import supply security will be increased if the supplier is also transiting through Turkey and, therefore, dependent on maintaining good relations with Turkey. Although experience suggests that simply being a reliable payer is far and away the most important factor in ensuring continuing gas supply.

- Recognizing the possibilities that “rent collection” may be small, as gas transiting Turkey has long distances to travel and faces strong competition in European markets, in some cases from established infrastructure;
- Indicating preparedness to contemplate investment in transit gas transmission by private investors, if BOTAS cannot fund the necessary development independently;
- Harnessing the cooperation of multinational players who can help place new gas sources in the western European mix against the competition of incumbents such as Russia and Algeria; and
- Actively participating in and endorsing the principles of the Energy Charter organization.

Policy Goal 6: Manage the medium-term gas supply overhang

Optimum management of the supply overhang will help to minimize BOTAS’ (that is, the GoT) financial exposure, while ensuring security of supply.

The issue of supply overhang could be addressed through a number of measures on both the demand and supply sides of the Turkish gas market. Without getting into further details on the “demand-side,” maximizing the domestic gas market, and re-exporting some gas contracted initially for the Turkish market, appear as primary measures.⁷

On the “supply-side,” efforts should focus on:

- Continuously monitoring prospective national gas supply and demand within the context of Turkey’s energy balance;
- Maintaining appropriate government-to-government liaison; and
- Seeking to negotiate reductions in ToP penalties with all countries, especially those which aim to transit Turkey with gas.

Policy Goal 7: Shift gas sector risks to the private sector

The GoT has, from the inception of the country’s modern gas industry, involved itself in activities which are inherently risky. Notably, the state has accepted the market risk inherent in entering into long-term gas import contracts through BOTAS. The state has also engaged through BOTAS in the gas transmission business, which poses for specific pipeline projects completion, technical and market risks.

⁷ Currently, all Turkey’s gas imports have “destination clauses” preventing re-export, except for the Azeri gas contract.

However, Turkey's gas sector is approaching a size and stage of maturity where it can attract domestic and foreign risk capital and where BOTAS' initiatives, with corresponding financial exposure for the state, are, therefore, less and less necessary for the success of the industry.

It is clear from the NGML Temporary Article 2 (TA#2), that the GoT's intention is to reduce its exposure to gas market risk by progressively reducing BOTAS' share of imports. This is a worthwhile objective, even though the World Bank team is not sure whether it is either feasible or necessary to achieve the quantitative targets set out in the NGML TA#2 so rapidly.

More generally, GoT should adopt, as a policy goal, to progressively reduce its contingent liabilities with respect to the gas industry, moving risks increasingly to the private sector. This can be done by:

- Initiating a program of gas volume release to new entrant wholesalers, to whom BOTAS should be able to transfer a proportionate share of its (and, therefore, the GoT's) financial liabilities (see Chapter 5);
- Opening imports to competitive purchasing by private sector corporations, as soon as the existing supply overhang is prospectively removed (see Chapter 6); and
- Continuing to seek out other areas of the industry where private capital, domestic and foreign, is prepared to invest and accept risks, as is already being done for new and some existing gas distribution businesses.

Assessing Existing Policy in Relation to the Strategic Objectives

Existing policy is reflected largely in the NGML and in regulations made pursuant to it. Assessed in relation to the "Strategic Objective" (given in the beginning of this Chapter) and the policy measures needed to support it (see "Policy Goals and Supporting Measures" in this Chapter), the NGML is lacking in some important respects and weak in others.

If the policy objectives and policy measures outlined above are to be pursued, then consideration needs to be given to legislative and regulatory changes, as well as initiatives, such as those described in Chapter 8.

Policy Gaps

It is recognized that not all the policy goals and measures highlighted earlier in this section can be embodied in law and regulations. However, the present policy, as reflected in the NGML, is inadequate in at least the following respects:

- It provides for distribution franchising, but neglects other measures to support industry expansion;
- It does little for supply security, beyond mandating storage of 10 percent of annual gas import volumes, which is currently, and for the near future, highly unfeasible;
- It does not provide a comprehensive framework to encourage new entrants, for example, to wholesaling;
- It does not have any specific measures to encourage the development of reexports, gas swaps or gas transit; and
- It does not directly address management of the gas supply overhang issue.

Regulatory Weaknesses

The regulatory framework is also *weak* in a number of respects in relation to the policy goals. Key areas include:

- The provisions relating to the reduction in BOTAS' import and wholesale market shares are overly ambitious within the envisaged time frame, exceed any EU requirements, may discourage investors and are probably impractical;
- The requirement for storage by importers of gas equivalent to 10 percent of the national consumption (Article 4.4 a 3) is not feasible in the short term;⁸
- The provisions for BOTAS contract transfer (TA#2) are not workable, and should be replaced with a volume release program of more modest proportions;
- Accounting separation of BOTAS functions (TA#2) will not alone be sufficient to convince new investors that they will be able to operate on a level playing field with BOTAS in the wholesale business, for example, as concerns transmission rates and access;
- The provisions for distribution franchising (Article 4. g) do not give EMRA any overall policy guidance;⁹ and
- In regard to transmission rates and access, the provision for EMRA to determine tariffs (Article 11. 2) seems out of keeping with modern regulatory practice, which is for the regulated entity to apply for new tariffs and for the regulator to review, and, if needed, modify them in relation to whatever guidance is provided in the law.¹⁰

⁸ Storage should be provided by the market as a whole, and as a market function reflecting the cost and commercial value of storage.

⁹ For example, as to the GoT's market penetration objectives, it is recognized that EMRA has sought and received public comments before making its regulations, but this is different from the provision made by government of policy guidance to a regulator.

¹⁰ By contrast, the provision that EMRA can determine transit transmission tariffs differently than local transmission tariffs (Article 11.2) for purposes of encouraging transit is probably a sound feature. However, as with local transmission tariffs, transit tariffs should be based on proposals submitted by the pipeline for EMRA approval. In both cases, it should be accepted to file for approval of tariffs which have been freely negotiated between the pipeline owner and the shippers.

Conclusion

The gas policy for Turkey which underpins the NGML, and is set out in Article 1, is fundamentally sound and is accepted as the basis for this Note. However, the situation presents some weaknesses which could be addressed through the following steps:

- As suggested on page 15, the GoT will benefit from publication of a gas policy statement which incorporates a clear strategic objective. This would give a positive signal to all industry stakeholders, provide a unifying theme for policy implementation and would put the stamp of approval of the present GoT on progress toward a liberalized, expanding industry;
- The enunciation of a strategic objective, together with implementation of the NGML, will, of course, not alone be sufficient to bring about a change. A set of policy goals and supporting measures along the lines proposed in the beginning of this Chapter is an essential component of a revived policy drive; and
- Such policy goals and measures would help remedy the deficiencies in the present policy milieu which are identified under the topic "Assessing Existing Policy in Relation to the Strategic Objectives" in this Chapter. Additional actions, involving legislative amendments, would be needed to correct the significant regulatory weaknesses listed above.

These steps are of critical importance in terms of creating a modern, efficient structure for the Turkish gas sector, which is the subject of the next Chapter of this Note.

3. “Structure 2010:” The Future Market and Industry Structure

“Structure 2010” describes how we envision the structure of the gas market and the industry evolving over the medium and long terms. Structural change is a vital component of reform of the sector, which anticipates a growing role for new players and private investors. Without structural change, liberalization of the market will be slowed, and private sector involvement diminished.

“Structure 2010” is founded on the goals embodied in the NGML, specifically:

- Introducing new investors in the midstream¹¹ (import buying) and downstream (wholesale selling) segments of the industry; and
- Establishing the conditions for competition and entrepreneurship to work efficiencies into an expanding industry.

The difference, compared to the NGML, is that “Structure 2010” takes a pragmatic approach to issues such as gas contract release versus gas volume release. Also, it adopts a more flexible approach on the speed of market opening and the role of BOTAS.

“Structure 2010” articulates an achievable set of goals for the Turkish gas sector by 2006, 2010 and beyond, in terms of a market structure appropriate for the nation’s medium- and long-term needs. Its main features are set out, using Figures 3.1, 3.2 and 3.3.

“Structure 2010” – The Main Features

Progress toward “Structure 2010” involves changes in the degree of market opening and hinges upon taking discrete steps in certain areas, such as the full functional unbundling of

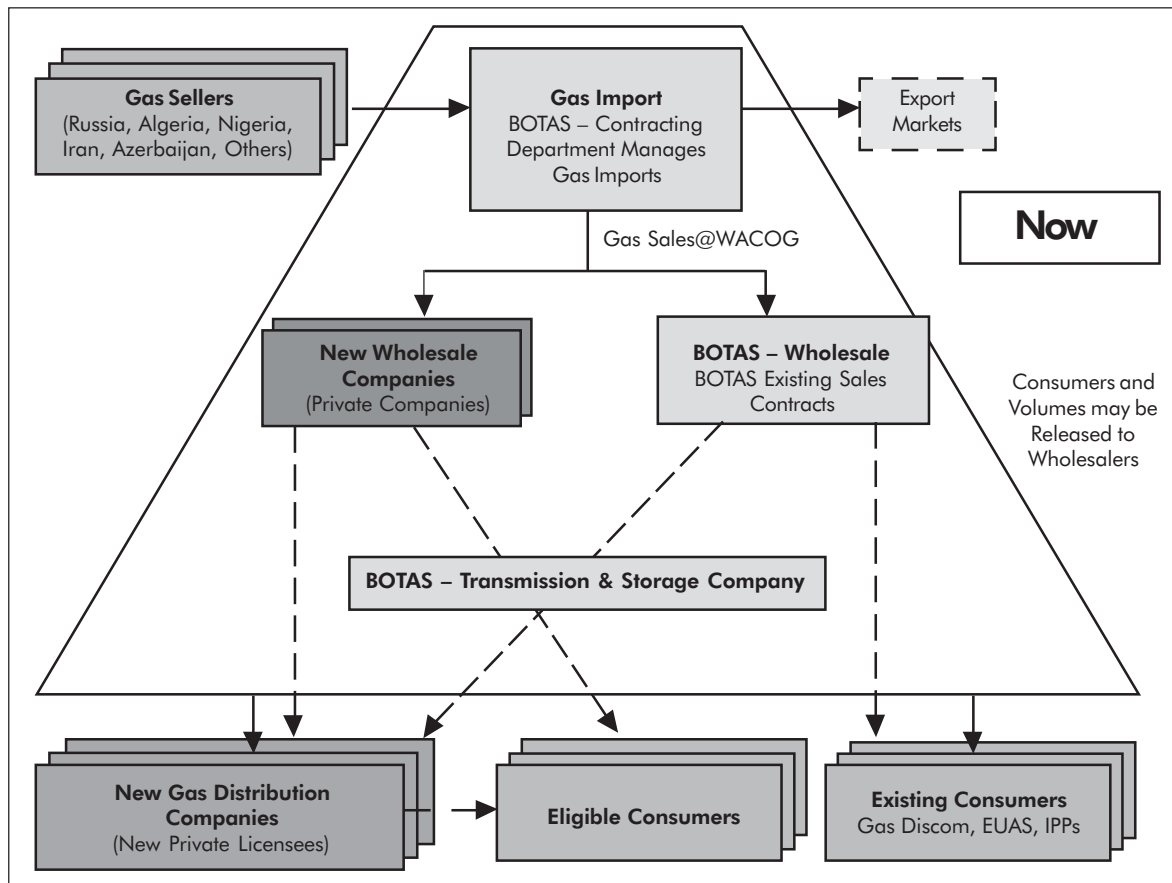
¹¹ “Upstream” would include exploration, development, production, gathering and processing of gas to pipeline quality. For the most part, the upstream function in relation to Turkey’s industry is performed outside the country.

BOTAS. Based upon Figure 1 which summarized the evolution of the structure of the Turkish gas market, the following section describes this evolution in further detail.

The current gas market structure

Figure 3.1 reflects the current situation. All gas purchases and sales, down to the level of supply to the distribution companies and to large consumers, are in the hands of BOTAS. The gray shaded background represents the “monopoly area.” There is no competition in terms of price or service. Market risk is borne largely by BOTAS, ultimately by GoT as owner of the company. Exports and private new entrant wholesaling is yet to begin.

Figure 3.1: Current Gas Market Structure (2004)



Note: The heavy arrows indicate current transactions. The faint boxes and text indicate activities which will appear in later stages but are not operational now.

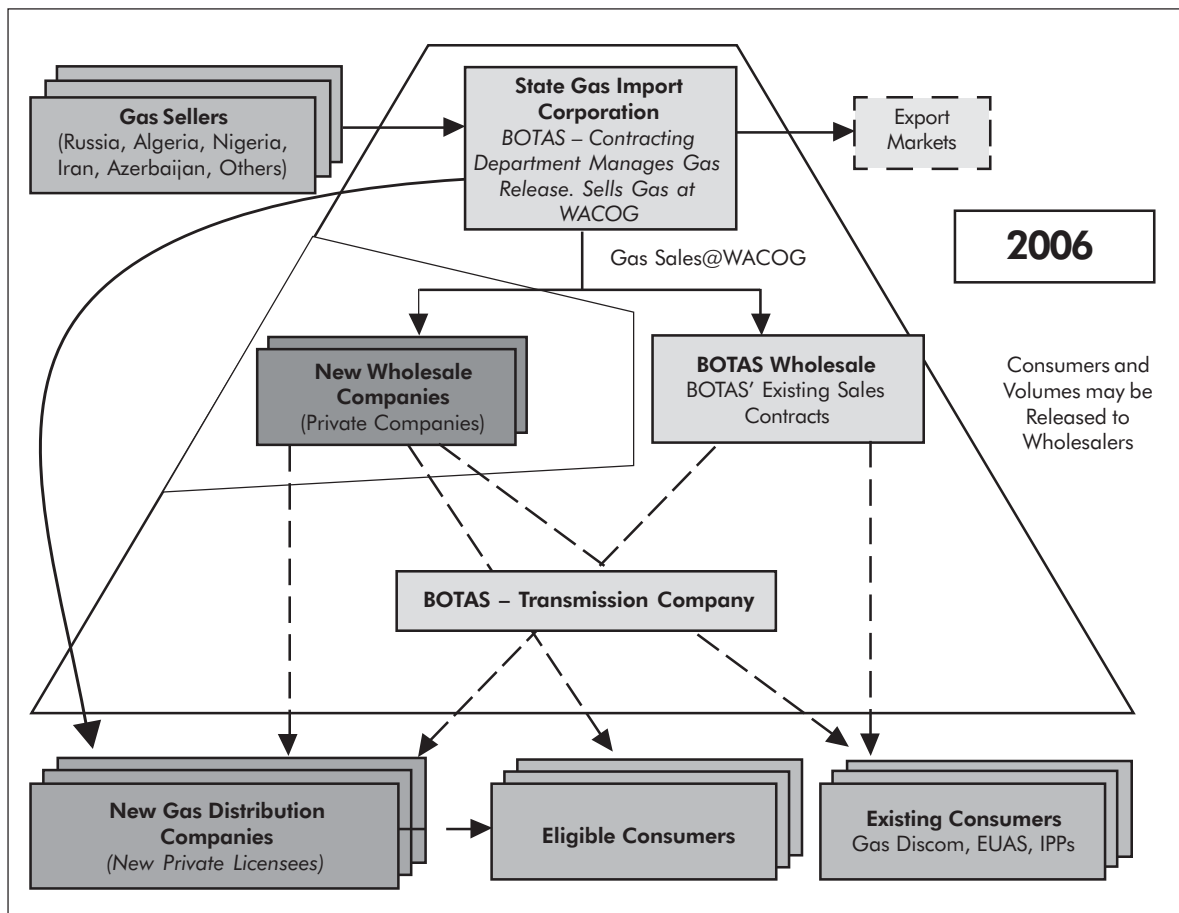
Discoms: Distribution companies; EUAS: Turkish National Generating Company; IPPs: Independent Power Producers.

Phase 1: Initial Market Opening

Figure 3.2 describes the start of the transition to a liberalized, competitive gas market, which might be initiated by about 2006. The “single importer” role, now named the State

Gas Import Corporation (SGIC), is retained because of the continuing supply overhang. However, new wholesalers are active, buying gas from the SGIC (a ring-fenced part of BOTAS) at its Weighted Average Cost of Gas (WACOG), accepting some of the associated market risk, and competing against BOTAS Wholesale, particularly in terms of service offerings, for sale to three classes of large buyers – eligible consumers, existing distribution companies and new gas distribution companies.

Figure 3.2: Medium-term Structure (Initiated by 2006)



A limited degree of wholesale price competition is possible. It is based on expected new entrants' ability to construct wholesale portfolios from varying tranches of gas (different terms, different shapes), matched to a portfolio of sales contracts. The result may be lower transaction costs than BOTAS has so far achieved.

The ability of new wholesale companies to compete with BOTAS, given that they are buying gas on the same terms as BOTAS, depends on their skill in constructing a portfolio or purchase and sales contracts which has a lower average cost of supply than BOTAS' average cost. This will tend to mean that they will aim to "cherry-pick" the consumers with a flat load shape and those consumers who may currently be supplied by BOTAS at prices above their

real cost. They might also be able to achieve a higher utilization rate of contracted transmission capacity thereby lowering the transportation component of their cost of sales. To achieve this, new wholesalers clearly must have open access to transmission on nondiscriminatory terms.

In general, we would expect EMRA to support the emerging competition through procompetition regulatory policies. These could include prohibiting BOTAS from competing to retain or win back eligible consumers after they had switched to a new supplier (who presumably would have been able to offer a lower price than BOTAS' current price). BOTAS would also be required to publish all their tariffs so that new suppliers would be able to identify more easily potential new consumers.

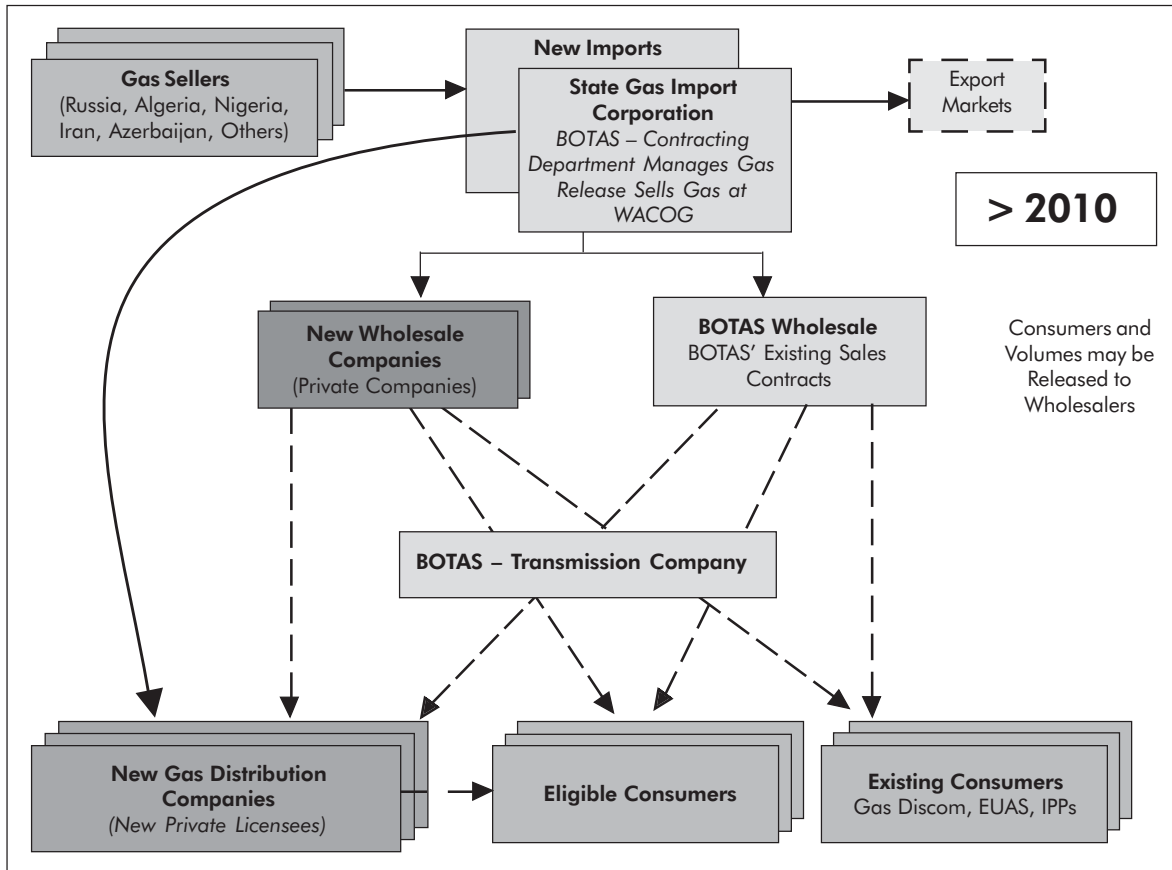
Additionally, BOTAS Wholesale is required to give the players in each of the buyer groups the contractual option of transferring some or all of their purchases to the new wholesalers. BOTAS makes all its sales at WACOG plus a regulated, published margin.¹² For this purpose, BOTAS' import contracts are "ring-fenced" so that the company cannot use selectively whatever competitive advantage particular contracts afford. The resulting, initially limited, wholesale competition reduces the size of the monopoly area represented by the gray shading. Exports have been initiated.

The full unbundling and separation required in Phase 2 will start and progress during Phase 1.

Phase 2: Wholesale Competition

Figure 3.3 shows the "end state" of restructuring to be reached by about 2010. All transactions are open to competitive forces. This is reflected in removal of the gray monopoly zone, which also indicates that BOTAS' vertical integration is over following the creation of separate state-owned activities. BOTAS Wholesale is therefore allowed to compete fully for eligible consumers.

¹² BOTAS Wholesale will be initially restricted from selling to eligible consumers at a different tariff to that which applies to its existing consumers. Hence, it may not be allowed to offer a lower competing tariff to eligible consumers until the competitive market has developed to a certain extent.

Figure 3.3: Long-term Structure (2010 and Beyond)

New importers have joined BOTAS in primary supply to the market.¹³ New wholesalers can purchase from those importers or from BOTAS State Gas Import,¹⁴ as indeed can BOTAS Wholesale, both of which might, by 2010, be candidates for privatization. Market risk is shared across the system by the operation of contracts. The GoT's contingent liabilities are proportionately reduced.

The buyers of gas in large volumes, for own use or for distribution, experience stronger price competition for their business. BOTAS and the private sector wholesalers compete on an even footing, as the new wholesalers have the option of buying from new imports. With a competitive market established, there is no need for EMRA's intervention in freely negotiated contractual arrangements. BOTAS Wholesale can, therefore, compete to win back business at the wholesale level which it lost in the transition.

¹³ Subject to some restrictions imposed by EMRA on the total volume of new imports, to avoid undue stranding of existing contracts.

¹⁴ The NGML provides that, upon being restructured after 2009, only the company which has the gas purchase and sale contracts and which will perform import activities shall be called BOTAS. This is, presumably, to avoid having to transfer the gas import contracts to a new legal entity.

Direct Purchases from Importers: From 2010 onwards, distributors and other large buyers can purchase directly from importers. The solid line in Figure 3.3 shows this transaction potential from the import level to the purchase level. Licensed importers are not obligated to obtain wholesale licenses (Article 4.4[e]).

“Structure 2010” – Subordinate Features

Transmission: Transmission and system operation is at the heart of the power system whatever the market structure. It is of utmost importance for BOTAS to focus on its unique role in transmission (and transit). The unbundling of BOTAS will assist in enabling this focus to be realized.¹⁵

Regulation needs to support the opening up of transmission with the development/finalization of three important regulations/codes, which will all need to be in place for Phase 1 as well as Phase 2:

- Third party access regulation;
- Network code and balancing agreement; and
- Transmission tariff regulation.

The intent of established policy is that BOTAS transmission remains the principal owner and operator of the high-pressure network. There may, however, be a need for private capital. This will depend mainly on whether or not BOTAS can obtain the funds to complete the system.¹⁶ To a lesser degree it will depend on whether, following completion of the system, there remain isolated gas markets of useful size which could be connected by high-pressure lines off the BOTAS transmission system.

Regardless of ownership, the new players in the wholesale segment of the industry are offered nondiscriminatory open access¹⁷ based on unbundled, transparently established and fair tariffs.

Storage: Accessed on a nondiscriminatory basis, storage has by 2010 been developed sufficiently to ensure high load factors on the transmission system, economic handling of

¹⁵ *In integrated companies, transmission often is treated less than equally, for example, in terms of access to funding.*

¹⁶ *The present expectation is that the transmission system can be completed by about 2006. Incremental capital needs seem not to be excessive.*

¹⁷ *“Open access” is the North American term equivalent to the EU term “third party access” (“TPA”) which is also used in this Note.*

distributors' and others' peak requirements and enhanced security of gas supply. There is a time dimension to the storage issue. The load profile of gas demand changes, becoming "peakier" as the temperature-sensitive load grows with distribution systems reaching a high proportion of households. This increasing need for storage requires substantial investment in facilities.

Given Turkey's unfavorable geology, gas storage is likely to have natural monopoly characteristics and so prices need to be regulated by EMRA. However, EMRA should be instructed to set those prices at levels which will provide a strong incentive for investors. Tariff regulation needs to cover all capital costs, including the cushion gas.

In the early years, BOTAS should contract with Turkish National Petroleum Producing Company (TPAO) and private providers (if available) for all the underground storage at hand and embody the associated costs in the fixed charge element of a two-part transmission tariff. Later, storage could become a separately priced and contracted element of the gas chain, and could be owned and operated by BOTAS as part of the national transmission system or by the private sector if they were interested and able to do so.

Gas Distribution: The successful further development of this industry segment contributes to: expansion of the gas market; achievement of a better balance in the market (where consumption is presently heavily concentrated in electricity generation); continued improvement in urban air quality across the country; and achievement of the GoT's social policy goal of making gas available to a large proportion of the urban population. Near-universal availability of gas spreads to the 57 (and more) cities which received franchises by 2010.

Needed Reforms and Legislative Changes

The following Chapters examine in detail the key reforms and legislative changes to be undertaken to achieve "Structure 2010:"

- Industry restructuring (Chapter 4);
- Implementation of BOTAS gas release as a means to create a competitive wholesale sector (Chapter 5);
- Initiating competitive import buying (Chapter 6);
- The development of the preconditions for gas reexports and transit (Chapter 7); and
- Introducing changes to the NGML (Chapter 8).

4. Restructuring the Industry

Restructuring of the Turkish gas sector is necessary to overcome the identified weakness of the present vertically integrated, excessively concentrated industry. It is a precondition for the creation of a competitive market, which is one of the policy goals of the NGML. While rather limited competition is possible during the initial market opening (Phase 1), the emergence of a dynamic, competitive market requires complete separation of BOTAS transmission activity from its wholesaling and importing activities. Changes to be brought about by and within BOTAS are central requirements of the proposed restructuring.

Why Restructuring is Needed

It has been argued in the previous section that there is no longer sufficient reason to retain the integrated and monopolistic position of BOTAS; that it will hinder rather than promote gas industry development. Restructuring will be an essential part of and help to foster the industry's development, because it will:

- Help bring transparency to prices and access terms, as well as all trading relationships along the gas chain;
- Create a level playing field for new wholesalers, and later new importers, particularly, in terms of pricing and access terms for their use of the transmission and, later, distribution systems; and
- Enable BOTAS to properly segregate its profit centers and generate internal efficiencies, particularly in its unique role in transmission.

The benefits of restructuring and transition to a competitive market will ultimately be felt by all parties:

- Consumers will receive gas at lower prices, and expanded access to networks;
- BOTAS will be operating an expanding transmission and system operation role as a

central player in all market developments; its “spin-off” businesses of importing and supply should develop profitably; and

- New entrants will have increasing opportunities to invest and trade in the gas industry.

What is Required for Restructuring of BOTAS?

BOTAS should be invited to present its proposals for the separation of accounts, required by NGML TA-2, as soon as possible. It is already nearly two years overdue. We are, of course, aware that BOTAS is practicing separation of accounts internally since the start of 2004. However, that is not sufficient to implement unbundling of functions internally, much less to provide a degree of transparency externally. Achieving full functional separation of BOTAS’ activities will require the following:

- BOTAS should bring forward for GoT approval proposals to separate in terms of management, location and intra-corporate transactions, its import, wholesale, transmission and storage businesses;
- Upon approval by the GoT, the new structure would be published and financial reporting be made congruent with it;
- BOTAS SGIC would be responsible for management of all import activities and for sales to all wholesalers;
- BOTAS Wholesale would take over BOTAS’ existing contracts for sales to distributors, eligible consumers and electric generators;¹⁸ and
- BOTAS transmission+storage would provide services to all wholesalers on an arm’s length basis including:
 - Modern, two-part, transmission+storage rate, comprising capacity and commodity charges to give incentive for high utilization of transmission capacity;¹⁹ and
 - Non-discriminatory, transportation terms which would be open access for all wholesalers (including distributors).

¹⁸ Why is it desirable to separate BOTAS State Gas Import Corporation (SGIC) from BOTAS Wholesale? Wholesale operations must be on the same footing as those of the private wholesalers, with management, accounting and location separate from its supplier, SGIC. Wholesale must eventually compete on a level playing field with those other wholesalers and there must be transparency of its relations with SGIC. In the longer term, SGIC will have to compete similarly with other importers. All of this is best achieved by eventual legal separation. We tend to doubt that retaining a joint import wholesale operation would result in economies over the separation proposed here. On the contrary, we think that competitive efficiencies will be worked into the operations of both with lower rather than higher aggregate costs than before.

¹⁹ We are aware that BOTAS has received consultants’ advice for modeling its tariffs under different design assumptions and that its staff is now being trained in use of that model.

- Network codes, including rules for operation, access, balancing and storage (perhaps starting with a basic code and monthly balancing, moving on by 2010 to a comprehensive code with daily balancing).²⁰

The foregoing are all envisaged in the NGML, in accordance with principles recognized by EMRA and embodied in its regulations. They are to be prepared by the transmission and storage businesses for approval by EMRA.

Considerable goodwill on the part of BOTAS toward new market entrants (the wholesalers) will be required for the successful implementation of the proposed changes. These new market entrants will be at the same time clients of BOTAS for wholesale gas sales and for transmission services, and competitors against BOTAS in the wholesale market and, eventually, in gas importing.

Creation of the necessary level playing field, however, cannot of course be left entirely to BOTAS' goodwill. EMRA will have to vigilantly monitor for nondiscriminatory treatment of the new market entrants and for abuse of dominant position by BOTAS. If it finds that the development of a competitive market is being impeded, it must use its NGML powers to correct any adverse tendencies, for example, by speeding up gas release, or requiring more rapid unbundling and separation of BOTAS' activities.

The measures outlined above, however, need to be further supported through a few additional actions:

- BOTAS' financial future should be reviewed, focusing particularly on adequately financing future investments in the completion of the transmission infrastructure to supply natural gas to every region of Turkey and proper maintenance of that system. BOTAS' regulated transmission rates should be designed to generate revenues sufficient for these purposes. This principle should be upheld regardless of the policy decisions taken as to the structure, activity and ownership of the import and wholesaling components of the gas chain;
- Related concerns about possible additional costs which may result from BOTAS' restructuring (creation of new business units and enlargement of the company's organizational structure) may not be well founded, but will need to be addressed;

²⁰ We are also aware that BOTAS has already developed a prototype network code based on an Irish model and circulated it for discussion with potential users. These are both commendable initiatives by the corporation.

- The treasury should not treat BOTAS as a source of revenue, beyond its paying value-added, sales taxes, profit taxes and import duties on its operations and contributing to treasury an annual dividend (related to its profitability rather than, as now may be the case, to GoT fiscal needs). Any “siphoning” of a share of consumer rents (that is, the difference between supply costs of gas and the prices at which gas is fully competitive with other fuels) from the gas sector must be made explicit and visible, preferably in the form of consumption taxes. This is another important aspect of “transparency.” It calls for legal arrangements to be made outside of the NGML; and
- Consideration should be given to the legal separation of BOTAS’ activities being brought forward in time from 2009. Legal separation should be achieved well before full competition in Phase 2. Most of the changes proposed in Chapter 4 could be better achieved if they were to be implemented in the context of a legal restructuring taking place in the near future. On the other hand, it is not proposed to accelerate the possible privatization of BOTAS assets compared to the NGML schedule. However, an extended period of operation of the other business units, as separate legal entities with related financial reporting, might make these assets (other than transmission, which is not to be privatized) eventually more saleable. Where there is a political will, legal separation can be achieved surprisingly quickly, as was illustrated by the case of Romgaz SA, which was speedily unbundled following the approval of a restructuring program by the Romanian government in 2000.

What are the Likely Effects of Restructuring?

The restructuring outlined here is broadly consistent with the provisions of the NGML and is a condition precedent for successful gas release and the inception of wholesale competition. If the above steps are taken, the effects would be:

- Responsibilities would be clearly focused;
- Comparisons would be possible with third party benchmarks;
- Competitive environments would be stimulated, and “commercializing” the gas sector would become easier;
- BOTAS’ businesses would likely be run more efficiently;
- The new transparency would be valuable to all industry and government players; and
- The way would be paved toward legal restructuring later.

Competitive markets do not always deliver lower prices immediately, since some restructuring costs may occur and previously some prices may have been too low. But in due time, competitive pressures will result in lower costs and prices. This could arise through improved efficiency in:

- Import contracting;
- Operating and maintaining pipelines and services; and
- Achieving higher utilization of the network.

New players will enter the market creating opportunities for new patterns of trading and investment. BOTAS' successor companies are also likely to benefit. The supply activity could expand into nonregulated supply opportunities.²¹ Transmission will have an expanding and central role in operating the new market and should receive adequate revenues to carry out necessary investment.

²¹ In the U.K., Centrica, which is the former British Gas supply activity, has become the largest retailer of electricity and is also very active in telecommunications, transport services and financial services.

5. Implementing Wholesale Competition by Gas Release

The NGML proposes to implement wholesale competition by a reduction of BOTAS' share in the market to 20 percent within five years and by a process of contract release.

We agree with the aims in principle, but the specific proposal is revolutionary and unprecedented:

- **Revolutionary** in that no country, to our knowledge, has attempted to reduce the incumbent's market share so far and so fast; and
- **Unprecedented** in that no country, to our knowledge, has succeeded with a program of contract release.

A more flexible and pragmatic approach to achieving the aims of establishing sound wholesale competition over a few years is possible, and presented below.

Why is Wholesale Competition the Necessary First Step to a Competitive Gas Market?

Wholesaling is an essential function in most markets. Wholesalers are the main actors seeking to manage supply and demand, minimize prices and offer diversity of products. Gas is no exception.

Wholesale gas competition (that is, freedom for distributors, electric generators and "eligible consumers" to choose their suppliers and for suppliers to choose their consumers) is assumed as a fundamental policy objective for the Turkish gas sector, because:

- This is established policy in Turkey, as reflected in the NGML;
- It is established policy in the EU, which Turkey wants to use as a model for its gas sector in anticipation of membership; and

- It has been demonstrated elsewhere that competitive forces can be successfully released in the gas market and that these forces create industry efficiencies (including on the part of South-east Europe [SEE]), maximize consumer welfare, minimize the state's liabilities and are the best means to continuously equilibrate gas demand and supply (examples: Argentina, Australia, Canada, U.K., U.S.A.).

Wholesale competition is necessary to introduce new players who can compete to become the buyers of new imports and the sellers to retailers. Wholesale competition, thereby, facilitates the introduction of competition both upstream and downstream.

Why Should There be Competition Now in Wholesaling?

Turkey should make every effort to attract new entrants to gas wholesaling, even before competitive import buying can be initiated, because:

- A competitive Turkish gas market is the policy objective, competition requires competitors and a start should be made now to attract them in;
- These new entrants will be precursors to fully priced competitive wholesalers who will emerge in the long term – the new entrants' activity will not create robust competition initially throughout the system, but for that sort of competition to develop, experienced wholesalers will have to be present when import competition starts to develop;
- New entrants through the wholesale route should "graduate" over time to become strong candidates for new import licenses;
- New wholesalers will start the desirable process of moving market risk on the demand-side away from BOTAS (and, therefore, the GoT) and onto the private sector;
- New entrants will start to offer choices to consumers, something which is completely absent today; and
- Given the rising share of residential consumption, their activity could help "rebalance" gas prices (for example, against poor load factor residential and commercial markets and in favor of high load factor industrial and electricity generation markets).

Essentially, new entrants will enable the "commercialization" of the wholesale business in the sector, helping to make it progressively more subject to competitive disciplines along the whole chain of gas activities and transactions.

How can Competition be Created in Wholesaling without New Imports?

International experience recommends the use of gas release programs in circumstances similar to Turkey's, that is, where contractual commitments limit the possibilities for

new imports. Gas release programs, in essence, consist of transferring (releasing) incremental volumes of gas by the monopoly buyer to new competitors. Such a policy has the following advantages:

- “Release program can overcome the problem of inadequate access to new primary supplies, particularly in the early stages of market opening and can have an important catalytic role in developing sustainable competition in the gas market;”²² and
- “Gas release program may be a catalytic transitional means to kick-start competition without affecting upstream contracts which underpin investment and security of supply.”²³

As of April 2003, gas release programs were planned, existed or had been used in Austria, Germany, Italy, Spain and the U.K., countries which account for over 70 percent of EU gas consumption.²⁴ The experience of gas release in the UK (1992-95), Spain (2001-04) and Italy (2003-10) has been favorable²⁵ and in Spain seems to have led to a striking diversification in market shares, with gas traders accounting for 36 percent of the market in 2002.²⁶

How should Wholesale Competition be Introduced?

Import contract transfer, or alternatively, volume release by BOTAS to private third parties are likely the only means to initiate wholesale competition in the continuing absence of competition in import supply.

Contract transfer, however, is most unlikely to succeed, because:

- Foreign exporters are not willing to transfer contracts and lose the “security” of an arrangement guaranteed by BOTAS’ owner, the GoT;
- Potential wholesalers are not willing, at least at this stage of market development, to take on all the obligations (financial obligations and duration, for example,) of contracts entered into by BOTAS;²⁷

²² Source: European Federation of Energy Traders (EFET). Paper entitled “Implementation of Gas Release Programmes for European Gas Market Development,” June 2003. Page 1. www.efet.org

²³ Source: Discussion Document on Long-term Contracts, Gas Release Programs and the Availability of Multiple Gas.

²⁴ Source: EU Commission Staff Working Paper, April 2003 for the Second Benchmarking Report on Implementation of the Internal Market. Page 22, Table 9 Market Structure in Import and Production of Gas.

²⁵ Source: EU Commission Staff Discussion Document, January 22, 2002, *op cit*, pages 3-8.

²⁶ Presentation: Gas security of supply in a liberalized market. Jordi Dolader. Commissioner. June 27, 2003. www.cne.es

²⁷ This is not surprising, given that the financial exposure from taking on only one contract could be as large as US\$1.0 billion and given that the terms of access to the Turkish market for gas would be almost completely unknown.

- Each contract also has an associated Implementation Agreement (IA) covering, among other items, the guarantees. It would be very hard to transfer the terms of the IA to a private party. Complex renegotiation would be necessary (and possibly not successful);²⁸
- Buyers may not be seeking volumes of gas which exactly match the terms of the contracts (which are large), while splitting the contracts could be very complex;
- The contracts are confidential and details cannot be released publicly in order to allow buyers to examine them, without, thereafter, giving some competitors an unfair advantage over others; and
- Conversely, competitors who had examined all of BOTAS' contracts would, thereafter, have an unfair advantage in competing against BOTAS.

The contract transfer process set out in the NGML (TA#2) is unworkable. Therefore, the essential policy implementation question is “what is the test which will show whether or not the contract transfer process provided in TA#2 of the NGML has failed and instead volume release can apply?”

It would be a waste of time and could as well antagonize exporters if BOTAS were to be required to go through the TA#2 process of “testing” contract transfer.²⁹ Some means must, therefore, be found to “short cut” that process.

In view of the foregoing, we recommend that the GoT move promptly but cautiously to implement a pragmatic volume release scheme. This is strongly preferred to pursuing the NGML process through its several steps only to demonstrate what is already clear that contract transfer is not a solution. This is because export suppliers will not agree and if exporters would happen to agree, there are no creditworthy parties willing to accept unchanged all the rights and obligations of BOTAS' existing contract(s) in which they had no negotiating role.

However, the problem is that EMRA is required to implement the NGML, and the NGML states that the method must be contract transfer (unless it can be proved that contract transfer has failed). Therefore, the law should be changed as soon as possible to allow EMRA to implement volume release.

²⁸ Negotiation of the terms of IAS typically takes many months.

²⁹ Briefly, the NGML, TA#2, requires BOTAS annually from 2003 to 2009 to tender to import licensees for the transfer of a proportion – not less than 10 percent – of its contracted import volumes and the associated rights and obligations. The transfer becomes effective upon the execution by the successful bidder of a new contract with the foreign selling party. BOTAS is only allowed to transfer its gas to the successful bidder if the latter is unable to execute a new contract with the foreign seller, and then only under the condition that the bidder accepts all the liabilities of bilateral agreements and that the price is not less than that determined by those agreements.

The volume release should be for volumes and terms which are easily “digested” by the market and match the requirements of the end use consumers. Recommended here is a program of short-term (for example, three to five years) release by BOTAS, at buyer’s option, from the pool of all existing contracts at a floor price of WACOG plus a contract management fee. Such a program is preferred by BOTAS and, based on indications from the Petform Gas Group (a grouping of mainly multinational industry players), has a reasonable chance of being attractive to potential new suppliers.³⁰

A trial volume release program, involving modest amounts of gas (say 1 Billion Cubic Meters (bcm) a year for three years, in blocks of 10 mmcm³¹) might, with international consulting assistance, be put together in as little as six months. By starting small, risks would be minimized for all those taking part. A demonstration project might be attractive for all stakeholders who may be skeptical as to the feasibility and value of a volume release program.

A trial scheme like this would be consistent with the cautious, pragmatic approach which is commended here and which is likely to be favored by both BOTAS and the potential new entrants to Turkish gas wholesaling. It would not involve for the GoT any irreversible policy change or significant other risk.

How would a Program of Volume Release Work?

The auction for volume release would be run by the separated unit of BOTAS (BOTAS-SGIC) which handles import contracts, and which would, subsequently, be fully separated into the SGIC. BOTAS-SGIC would receive the WACOG plus a small contract management fee³² for gas transferred to new wholesalers (BOTAS-SGIC’s total gas import portfolio would, as noted, be ring-fenced to prevent the company, upon market opening, from using particular import contracts selectively in an anti-competitive manner). That total price would be made public. The wholesalers would pay WACOG plus the management fee plus whatever premium they bid³³ in an EMRA-supervised release auction.

³⁰ One type of new supplier could well be large consumers who want to contract at the wholesale level for their own requirements plus an additional amount to sell on to some other industrial consumers.

³¹ Auction terms and procedures would need to be determined but could, for example, be based on a floor price related to WACOG (for firm gas supply) plus a bid premium, with indexation to match the average of terms in the contract portfolio. This would pass on the full ToP risk to purchasers. There would also have to be a fair balancing regime in the network code and/or other contracts offered with flexibility, that is, a large swing.

³² These should be regulated by EMRA to be cost-reflective and small in order to avoid anti-competitive pricing.

³³ The premium should also be small, or zero, to avoid new wholesalers being priced out of the market.

There are three sets of preconditions for successful volume release, each involving the following players: the wholesalers buyers and “eligible consumers”; BOTAS and EMRA. The preconditions for the first group include:

- The presence of *wholesale buyers* who are prepared to acquire volumes on this basis from BOTAS (there appears to be such a group already present in Turkey);
- Availability of *eligible consumers* including distributors and electricity generators who request to be released from their contracts with BOTAS to recontract with new wholesalers;
- Consumers would have to be given a choice and be allowed to exercise an option to end their contract with BOTAS early; regulations would permit them to recontract with new wholesalers and to recontract with BOTAS upon the expiring of arrangements with new wholesalers; and
- *Wholesalers* and *eligible consumers* will have to be able to interact in a market-like manner to agree on prices and other conditions of supply: There will be no “guaranteed markets” because wholesalers will compete with each other for consumers and consumers will always have the option of staying with BOTAS or reverting to BOTAS.

The second set of preconditions refer to BOTAS, which would have to adjust all relevant contractual arrangements:

- To permit their early termination, at buyer’s option, in order to substitute new contracts between eligible consumers and new wholesalers; and
- To provide, again at buyer’s option, for the termination/redetermination dates of buyer’s contracts to be aligned where necessary to the start of the new gas contracting year, which might be November 1.

EMRA should ensure that the regulatory policy is procompetition. EMRA should implement regulation in a way which is supportive to new entrants. For the purpose it should:

- Take regulatory steps to identify a small and justifiable BOTAS-SGIC import contract management fee, above its WACOG, which would be maintained for a certain term; would present a viable business opportunity for new wholesalers; would adequately cover the costs of BOTAS-SGIC’s contract and risk management without putting new entrants at a price disadvantage;
- Take regulatory steps to identify a minimum wholesale margin for BOTAS’ own wholesale operations which would be made public. BOTAS would be required to maintain this margin for all wholesale sales until such time as it no longer had a dominant position in the market;

- Implement a scheme to allocate release volumes for defined terms and conditions, probably by an auction among prequalified new wholesalers, Turkish or foreign;
- Issue regulations covering transmission tariffs, transmission access and a network and balancing code;
- Deal with any issues necessary to establish a level playing field between BOTAS and other wholesalers, such as the delivery point designation, tax and foreign exchange issues; and
- Automatically grant wholesale licenses to the successful bidders, perhaps on the basis of some simple prequalification criteria.

What would be the Likely Results of Wholesale Competition by Gas Release?

The general case for the introduction of wholesale competition is argued under the heading “Why is wholesale competition the necessary first step to a competitive gas market?” in the beginning of this Chapter. The specific results-related cases for wholesale competition by volume release is as follows:

- **Inflow of new entrepreneurship:** The gas sector will receive an infusion of new entrepreneurship, introducing experience and practices from other functioning gas markets. This can only be beneficial to the Turkish gas economy;
- **Market development possibilities:** The new wholesalers may be able to find market development possibilities which have escaped BOTAS, with favorable results for the gas sector in terms of capacity utilization and reducing the import supply overhang;
- **Enhanced consumer value for gas buyers:** Gas buyers who transfer their purchases to the new wholesalers will do so because they perceive greater consumer value in such arrangements than in staying with BOTAS;
- **Active presence of multinational corporations:** Some of the new wholesalers will be affiliates of multinational enterprises,³⁴ already represented in Turkey, who will be encouraged to stay, invest and contribute to the sector. (This will more likely be for the long-term potential they see in Turkey, in terms of its domestic market and gas transit, rather than for the profits of wholesale activities based on volume release, which is likely to be small.) The active presence of these multinationals is strategically valuable because of the resources they command and their potential to “make projects happen,” including the development of transit;

³⁴ This group includes some of the world’s largest gas players: BP, ENI, ExxonMobil, Gazprom, Shell, Statoil and Total. These companies could be important for Turkey’s gas future. They are worth retaining in the country.

- **Increased efficiencies:** Competition in wholesale will spur more efficient operations with smaller margins eventually benefiting consumers by providing marginally cheaper gas and/or gas supply services to which they attribute greater value;
- **Better utilization of the transmission system:** Private wholesalers, if there is an efficient transmission tariff, are likely to contribute to a more efficient use of the transmission system than BOTAS itself (for example, by contracting for a smaller amount of capacity for a given bundle of transactions than BOTAS has *de facto* allocated to those transactions). The resultant cost savings will eventually be partly passed on to consumers. These, and other efficiencies, together with the general “demonstration effect” of the wholesalers’ business practices, should exert downward pressure on BOTAS’ own wholesaling cost; and
- **Reducing BOTAS’ financial liabilities:** Depending on how the contractual relationships with BOTAS-SGIC are framed, BOTAS-SGIC should be able to transfer to the new wholesalers, the financial liabilities relating to their proportionate share of imports. (We do not recommend any approach to wholesale competition and the introduction of new players who would increase public sector liabilities in relation, for example, to imports or to the electricity sector.)

These benefits justify, and require, the steps outlined above.

6. Initiating Competitive Import Buying

Gas imports provide virtually all of the primary supply of gas to the Turkish market. Only very limited wholesale supply competition can start while there remains a virtual monopoly on importing. A fully effective wholesale market requires alternative choices of primary supplier. Therefore, import buying should be opened up to competition at the earliest opportunity, which will be around the time when Turkey's demand for gas outstrips the minimum ToP obligations on the current contracts. These issues are examined more fully below.

Why should Importing be Opened up to Competition?

It is a sound policy to open up importing to competition for the following principal reasons:

- Unless large new gas discoveries are made and developed in Turkey,³⁵ this is the only way through which wholesalers will be able to fully compete on the basis of their efficiency in both purchasing and selling;
- Multiple import buyers will bring diversity in import contracting which will address the market's needs more effectively than can a single buyer;
- In particular, competing import buyers are likely to achieve a better continuing supply/demand balance than has BOTAS, and, in any case, they will bear the consequences of their own errors in forecasting or contracting;
- In the long-term, market risk will be borne principally by private sector players; and
- Diversity of players and of import sources will improve the security of Turkey's gas supply.

³⁵ By competing producers.

How can Imports be Purchased Competitively?

The “single buyer” model has enabled Turkey to create a substantial gas import pipeline infrastructure on the basis of long-term contracts for large volume supplies from Russia and elsewhere. Now, the industry is reaching a mature stage at which the existing pipeline system can accept a growing component of short-term arrangements – provided, of course, that its services are appropriately unbundled and third party access to gas pipeline (“TPA”) is assured. This is the sort of condition which the North American industry had reached by the mid-80s.

Independent importers should be able to find sellers (producers) who are willing to offer relatively small volumes of incremental gas for short periods (for example, 0.5 bcm of gas for one or five years). This makes it easier for new entrants to the market and for supply to be balanced with demand. For each such purchase, it is likely that each main supplying country will compete for the contract, helping to keep future prices low.

Furthermore, it is likely that these contracts, being much smaller in value than the existing large, long-term contracts, can be guaranteed by the creditworthiness of the buyers and will not need the support of government guarantees. The NGML prohibits BOTAS from entering into new contracts until its market share has fallen substantially. We support this aim, as it will create the necessary space for new buyers to assume the liabilities of new imports. However, it may not be necessary to force BOTAS’ share down as low as 20 percent. EMRA should be given the flexibility to determine the point at which the wholesale market will become sufficiently competitive and, thereafter, allow BOTAS to reenter the market for new import contracts providing it can do so without any government guarantees.

It should be noted that by protecting the market for BOTAS’ existing contracts, EMRA will be “locking in” the prices in those contracts. The alternative is to allow early competition to lead to lower prices in the market (assuming lower priced imports can be contracted), but it is then likely that the stranded costs would have to be recovered through a consumer levy which would ultimately lead to higher costs overall.

The responsibility for licensing new imports is presently assigned exclusively to EMRA. During the transitional stage, which could be around 2010 depending on the out-turn for demand growth, EMRA will be able to gradually open the market for new import

supplies. The existing contracts should not be “stranded”³⁶ unduly, although some competitive pressure should be put on those contracts so that BOTAS has continuing possibilities to negotiate improved terms.

When the supply overhang is prospectively removed (see “Addressing a Potential Supply ‘Overhang’ of Contracted Imports” in Chapter 1), then, after appropriate policy input has been provided, applications for import licenses should be solicited by EMRA from the private sector. Alternative means of allocating such rights might be:

- By means of a “beauty competition” on the basis of published criteria to secure competitively priced imports by pre-qualified players from countries identified as able to meet national objectives for supply and supplier diversification; or
- By auction to the highest bidder; or
- By a two-stage process combining both of the above; and
- By benchmarking, in which licenses up to a maximum volume are granted to any party able to import below a benchmark price.

A more radical approach would be to “leave it to the market” and license any and all importers who could demonstrate that they had contracted gas supply and transportation for it. Depending on the condition of international energy markets at the time, such a “free-for-all” approach would likely bring the strongest competitive pressure on BOTAS and its contracted suppliers. However, this step should only be taken when the risk of the contingent liabilities in the existing contracts are reduced to manageable proportions.

The choice of approach to licensing new imports should be influenced by the policy importance of achieving early, strong competition in primary gas supply. This consideration commends licensing schemes which maximize choice and flexibility and minimize regulatory requirements and attempts at “rent collection,” for example, through auction of import licenses.

The approach will also be influenced by consideration of the implications for relations with incumbent suppliers, ToP in existing BOTAS contracts and possible resulting financial exposure for the GoT.

³⁶ A “stranded” contract is one which is at a higher price than the market price, and cannot, therefore, be sold to consumers. This would happen if the import market was opened too far and too fast, at a time when competing gas supplies could be contracted at lower prices.

What are the Likely Effects of Competitive Import Purchasing?

The development of gas supply based on competing foreign sources (countries and/or suppliers within those countries) and competing domestic or foreign importers will progressively create a functioning market in primary gas supply.

Such a market would establish in Turkey's gas sector the conditions which exist where there are competing gas producers in a market supplied largely by multiple producers of indigenous gas (example: the U.K.) or competing generators in an electricity market where distributors and eligible consumers have free choice.

The presence of competing providers of primary gas supply offering to wholesalers, eligible consumers and distributors different prices and other terms and conditions of sale is the essential ingredient for robust competition throughout the gas market. It will facilitate real wholesale competition, and the emergence of competing suppliers will also allow the benefits to permeate the retail gas market.

7. Developing Gas Transit

Achievement of significant gas transit volumes through Turkey to Europe has been identified under the topic “Policy Goals and Supporting Measures” in Chapter 2 as an appropriate policy goal which will allow Turkey take advantage of its geographic location.

Figure 7.1: Turkey's Strategic Role in Gas Transit to Europe



Why Transit Foreign Gas?

Transit activity can bring benefits for Turkey in terms of:

- The economic activity – employment and earnings – from construction and operation of either an expanded national transmission system or of pipelines built specifically for transit purposes;
- The reduction in the unit costs of BOTAS transmission for Turkish gas users, where transit gas flows through the existing (expanded) system rather than in dedicated pipelines, and an increase in the average rate of capacity utilization is achieved;

- The earning of transit revenues for providing a transit route and transmission services;³⁷
- The potential to enhance the security of gas supply by virtue of having larger-than-otherwise volumes of gas moving across the national territory;
- The potential to reduce the contracted gas supply overhang through reexports, where possible (currently this only applies to the gas contract with Azerbaijan); and
- The possibility of creating a Turkish gas market hub and contributing to a more liquid market for gas.

How can Gas Transit be Achieved?

It is not possible to anticipate all the circumstances under which transit pipelines may be proposed and built or the BOTAS system expanded specifically to handle transit gas. However, the following parameters are proposed:

- **Market structure:** “Unbundling” of the merchant role from the transmission function is useful to attract transit interest in respect of BOTAS existing system. Foreign suppliers’ and buyers’ interest is in receiving reasonably priced, secure transmission service on nondiscriminatory access terms. BOTAS Wholesale is likely to continue to be a user of the transmission system;
- **Participants:** There should be no policy predetermination as to which companies would (and would not) be acceptable participants in gas transit activities – SEEs or private investors, Turkish or foreign. Given the possible variety of sources – country, project sponsor(s), pipeline routings and market country(ies), it is unlikely that one comprehensive policy determination could fit all needs. The GoT should, therefore, maintain a flexible policy stance, waiting to see what sort of proposals the market may generate, while, in the meantime, determining clearly the limits of involvement allowed for Turkey’s own gas suppliers. This issue is probably best left to be dealt with on a case-by-case basis;
- **Pipeline geography:** There should not be any predetermination as to whether transit gas should use the existing (expanded) system or whether Turkey should favor segregated transit pipelines (arguably, the existing network is an important asset for Turkey to use, in her own interest and in the interests of transit shippers);
- **Investment opportunities:** Transit operations may be more attractive to project proponents – whether they are suppliers, buyers or multinational intermediaries – if they are allowed to invest in related pipeline and other facilities. In this connection, it is recognized that:

³⁷ This is based on the assumption that transit fees will not overburden the total cost of transit, as to make it uneconomic.

- The companies sponsoring projects would generally like to have some ownership position in and management influence over transit pipelines; and
- The possibility of foreign investment in transit lines may give rise to policy concerns. However, transmission, including transit transmission, is a regulated business and, in principle, regulatory outcomes should be unaffected by the matter of ownership. Yet, ownership and operation by a private company, which is also a shipper (producer) is likely to be seen as limiting fair access to the pipeline by the owner's competitors.

Gas Transit (and Reexport) and Incumbent Suppliers

Turkey's aspirations for becoming a gas transit country will inevitably confront with conflicting pressures from established suppliers of Turkish and European markets, on the one hand, and aspiring new suppliers from the Caucasus and the south-west Asia region, on the other. Managing these pressures will pose major challenges in terms of regulatory policy implementation for agencies of the GoT, particularly EMRA. Additional challenges will appear regarding international trade relations for the GoT, and commercial relations for BOTAS and other operationally involved parties. Turkey's success in its transit role will largely be determined by its ability to manage these challenges.

The stance of incumbent suppliers will be of particular importance in regard to Turkey developing a transit role. The issues of gas transit, re-export and competition for market share in the Turkish and other European markets will be all intertwined for the incumbents. Suppliers with no existing access to European markets, such as Iran, will be inclined toward supporting Turkey's transit role, which can eventually lead to getting the incumbent's consent on re-exporting part of the gas. Prospective suppliers, such as Azerbaijan, have already agreed to let Turkey resell their gas in the European markets. Other future suppliers may follow suit when signing contracts with Turkey.

Gazprom, of course, presents the salient case where existing supplies, pipeline investments and markets could be adversely affected, at least in terms of growth prospects, through the competition of transit gas. Its economic interests may be compromised by the development of gas transit projects across Turkey, and especially by BOTAS, if it starts re-exporting part of the contracted gas as a means for dealing with the supply overhang.

However, for several reasons, Turkey's relationship with this incumbent supplier in regard to transit gas projects need not automatically be an adversarial one:

- **High level of interdependence:** Both Turkey and Gazprom are inclined to avoid confrontations. Turkey depends on Russian gas and will continue to remain so in the near future. But this dependence has already become a mutual one, following Turkey's emergence as one of Gazprom's largest clients in the European market. The Russian supplier aims to

retain a large share in the Turkish market, and has made significant sunk-cost investments to supply Turkey, which bodes well for the future of Russia-Turkey trade;

- **Potential for further flexibility in Gazprom’s supply contracts:** On several occasions, Gazprom has demonstrated its readiness for compromise in disputes with clients. Turkey has already achieved the right for revision of its existing contracts with Gazprom, but further revision of its supply contracts is possible. More specifically, the possibility for easing restrictions on re-exporting Russian gas should not be written off.³⁸ Since 2000, the EU legislation has dubbed contracts banning re-export of gas as anti-competitive, resulting in mounting pressures for Gazprom. The Russian major, after years of resistance, has recently agreed to allow its Italian and Austrian clients to re-export Russian gas. Similar negotiations are under way with Poland, even though a compromise agreement was reached in 2003, reducing Poland’s contracted volumes of gas imports in the face of its own supply overhang prospects.;
- **Gazprom’s growing interest in developing foreign gas reserves:** Gazprom may be interested in expanding its interests to include investments in non-Russian gas sources. The company reports that it has interests in India, Iran and Vietnam, among other countries. Like many other current or former state companies, Gazprom may be moving into the international field looking to maximize returns to its shareholders rather than carrying out a national gas development function in its home country. Petrobras, PetroChina and Statoil are examples of current or former state companies headquartered in different continents which have done the same. Gazprom’s experience, technical capability, geographical reach and financial strength are considerations which would make it a valuable project partner for BOTAS or other investors in Turkey and abroad.

What are the Likely Effects of Gas Transit?

The benefits of Turkey’s involvement in transit business, as examined under the topic “Why transit foreign gas?” in this Chapter, are multiple. Given the recent progress in building oil transport infrastructure, along with the prospects for a gas pipeline from Azerbaijan, Turkey has a significant chance to emerge as a transit corridor for the energy resources in the Caspian region, and possible for the Middle Eastern resources in the longer run.

Additionally, achievement of the gas transit objective will help to reduce Turkey’s supply overhang by the end of the decade, and open the possibility of new imports sooner rather than later.

³⁸ One possibility would be to involve in gas swaps. This mechanism could be used both before and after the existing contracted gas supply overhang is eliminated. If before, this could contribute to earlier elimination of the overhang. The most obvious opportunity is if a country to the west of Turkey, say Greece, purchases gas from a country to the east, say Iran. In that case, it would make sense for Turkey to swap some of its Russian gas from the Western pipeline route, which could be diverted to Greece, in exchange for taking delivery of the Iranian gas on the East.

8. Changes to the Natural Gas Market Law (Law No. 4646)

The NGML, taken together with the relevant parts of the Electricity Market Law (Law No. 4628, as amended by Law No. 4646), is a valuable piece of legislation. Its clearly stated objectives include market liberalization, transparency and competitive pricing (Article 1), all of which are key elements of the strategy proposed in this Note. The Law equips EMRA with modern, comprehensive licensing powers. It provides transitional arrangements in respect to BOTAS and addresses other interim issues.

The World Bank team strongly supports the objectives of the Law, but recommends a number of changes in it. These changes do not, in any way, alter the fundamental design of the legislation. They are more in the nature of refining it. If they were acted upon, they would be helpful in achieving the objectives of the Law.

In the following paragraphs the recommended changes are ranked in order of importance. It will be for policymakers to judge the practical possibilities as to how far down the road of legislative change the GoT can and should go.

Essential Changes

Changing the TA#2 of the NGML appears of primary importance if Turkey is to implement wholesale competition by gas release and start to achieve the efficiencies of a competitive gas market which are presented in Chapter 5. The process of transferring BOTAS gas contracts to other import licensees, as set out in the NGML TA#2, appears to be unworkable, for the reasons described under the heading "How should wholesale competition be introduced?" in Chapter 5. Unless some administrative means can be found to deal with this issue, this provision of the Act must be changed.

Important Changes

Some additional changes in the legislation, though not immediately required, are also important, for the purposes of implementing the strategy proposed in this Note. Two issues outlined below appear central.

Abandoning Excessive Prescription of Market Shares

The NGML predetermines at a maximum of 20 percent of forecasted national consumption the eventual shares of BOTAS and of other potential participants in the Turkish market. Thus, under TA#2 this limitation applies to BOTAS' imports by 2009. Article 4.4) a) 4) similarly limits the annual amount of imports by any licensee. Article 4.4) e) 6) does the same for each wholesale company and Article 7. a) 2) applies the same limitation to sales by any legal entity. Finally, Turkish gas producers' sales to free consumers is not to exceed 20 percent of the national consumption according to article 4.4) b).

These quantitative provisions are unusual for a "generic" gas law. They presumably are an expression of competition policy for the gas sector (Article 7 is explicitly so). However, they are overly ambitious, they may be impractical in relation to BOTAS' imports and they may discourage foreign investment. Moreover, they are not needed to achieve a competitive gas market, which demonstrably exists in some European countries where the leading suppliers have much more than 20 percent market shares. These provisions put the Turkish gas market in a sort of quantitative "straitjacket." If they are adhered to, they will have adverse consequences as noted. If they are not adhered to, the NGML will fall into disrepute.

Accelerating the Change in BOTAS' Vertically Integrated Legal Structure

There is no strong operational need to retain BOTAS' current legal structure until 2009, as envisaged in the NGML TA#2. It is argued under the heading "What is required for restructuring of BOTAS?" in Chapter 4 that the changes recommended there – separation into three or four business units; financial reporting on that basis; separate "mind and management" for each; nondiscriminatory access to transmission for third parties – could better take place in the context of a new legal structure. Consideration should therefore be given to accelerating the legal changes before 2009, linking them with the operational restructuring of the BOTAS group.

Optional Changes

Further changes which probably should have the attention of policymakers if and when the Act is "opened up" for review can be classified under the following four headings.

Changes in Regulatory Practice

Present legislation does not give any general direction to EMRA to report publicly the reasons for its decisions, whether the decision has been to reject or to approve an application.

Reporting of reasons for decisions serves two valuable purposes: on the one hand, it is helpful to legal persons seeking EMRA approvals and, on the other hand, it provides a useful “discipline,” encouraging the regulator to provide clear and consistent decision-taking. Three examples of circumstances where reasons for decision should be given are: rejection (or grant) of license approvals (Article 4.2); Dealing with disputes about rejection by a transmission company of a connection request (Article 4.4) c) 2); and determining nondiscrimination in transmission pricing and access (Article 11.2). In each case, a key gas sector issue is in play: licensing will grant (or deny) investors access to the principal gas industry activities; transmission connections may determine the fate of, for example, regional transmission projects by new players; and what practices are and are not found to be discriminatory in pricing and access is of great importance to new entrants for importing and wholesaling. Knowledge of EMRA’s reasons for its decisions will be of great value to the parties involved in particular cases, to potential applicants and to ongoing industry participants.

Changes Giving Policy Guidance to the Regulator

There is little in the NGML by way of specific policy direction to EMRA in terms of implementing particular provisions. For example, the EMRA board is to examine and approve national transmission investment programs pursuant to Article 4.4) c) 8), but there is no guidance in the Law as to how this power should be used. The same may be said of the authority to grant city natural gas distribution licenses pursuant to 4.4) g). Consideration should be given to embodying in the Act some principles which should guide EMRA in these matters, without unduly fettering the board’s discretion in individual cases.

For example, the Canadian National Energy Board Act sets out how the regulator is to deal with applications for “certificates” which are required to build pipelines more than 40 Kilometers (kms) long. The regulator has to have regard to all considerations which appear to it to be relevant. It may also consider: the availability of gas; the existence of markets; the economic feasibility of the project; the financial responsibility and structure of the applicant; the methods of financing; and any public interest which the regulator thinks may be affected by granting or refusing the application (this example is given to illustrate how the issue has been addressed in another jurisdiction: it is not suggested that Turkey should simply adopt this language).

Provision for a Review Role for the Policymaker

There is similarly no provision for policymakers, that is the Minister of Energy and Natural Resources or the Council of Ministers, to have a final opportunity to review, remit to the

regulator or veto those EMRA decisions made under the NGML which may be regarded as having national importance. Examples of such decisions are: the grant of import licence(s) for large volumes from a country that has not previously supplied gas to Turkey (Article 4) 4) a)) and the licensing of storage facilities, if such facilities are going to involve large new underground construction (Article 4) 4) d).

Clearly, these are both very important decisions with national overtones for a country like Turkey which is likely to remain overwhelmingly dependent on imports for her gas supply. A “minimalist” option for dealing with this weakness in the Act is to provide that a positive decision by EMRA requires Council of Ministers approval before a license or other authorization can be issued. This is to give the policymaker an effective power of veto only. Experience in Canada suggests that such a provision tends to encourage regulators to take careful, explicit account of the national interest in specific decisions.

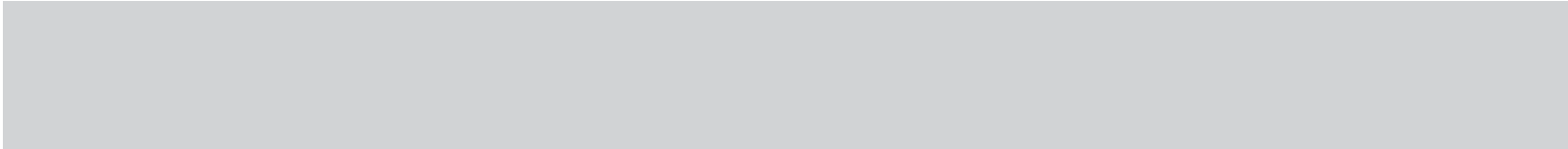
Changes Allowing Greater Discretion to Licensees

Several NGML Articles constrain licensees’ operational activities, for example, with a view to increasing national and local security of gas supply. Thus, 4.4) a) 3) requires import licensees to obtain commitments from storage operators regarding their ability to store the equivalent of 10 percent of their annual gas imports within five years. Article 4.4) e) 1) requires entities (wholesalers) selling to distributors to take specific measures in regard to supply scheduling and gas storage. Storage is one valuable means of improving the security of gas supply, but these provisions may prove to be unduly restrictive and EMRA should be allowed to review alternative proposals by market participants for ensuring security of supply. It should not be overlooked that contractual arrangements between gas buyers and sellers in a market economy are the primary means of ensuring security of supply.

On the basis of Article 11.2, it seems that new transmission and storage tariffs are to be determined by EMRA, partly on the basis of existing tariffs filed with the authority. This provision gives an unusually “active” role to the regulator. For example, long-established North American practice leaves the responsibility for developing tariffs with the regulated entity, which has to file them for approval (which may or may not be granted) with the regulator. This approach enables the regulated company to negotiate tariffs acceptable to users of the transmission or storage facilities. The result is often that an imaginative and practical set of tariffs is generated which fits well with the needs of the stakeholders. If responsibility for developing tariffs is to reside with the regulator, as seems to be the case under the NGML, this option would appear to be foreclosed and EMRA is left with the task of developing tariffs. However capable the regulator’s staff may be, it is unlikely to be able to devise tariffs which fit the needs of shippers and other parties as well as

the staff of the transmission company which operates the system and is in daily contact with its consumers. There is a good case for amending Article 11.2) to provide which the authority shall determine new tariffs based on applications made to it by the transmission and storage licensees, accepting or rejecting those applied-for tariffs, but not determining them itself.

Annex 2 sets out these and other potential changes to the NGML in tabular form, identifying the various provisions generally in the order that they appear in the Act, rather than in "rank order" as here, recommending possible changes and commenting on the reasons for such changes.



Annex 1
Supply/Demand Balances
2005-15: “Overhang” of
Contracted Imports

This Annex summarizes Turkey's current supply and demand situation and highlights the implications for the strategy.

It is important to start by noting that a forecast is just that, an uncertain but possible outcome and not a known factor. The supply/demand balance picture has been changing due to:

- Varying assumptions, and generally decreasing expectations, on the growth of demand; and
- Changes in the likely minimum supply of gas due to timing issues on new gas as well as relaxations of minimum ToP obligations.

It is also important to note that the financial consequences of surplus contracted gas depend on the restrictiveness in ToP conditions, the contractual penalties and whether, in fact, the penalties will be imposed by the upstream suppliers.

Supply Scenarios

The supply situation is summarized in Tables A.1 and A.2. Table A.1 shows Turkey's contracted gas over the period to 2015 using the annual contract quantities and the specified start dates for new gas pipeline supplies. The contracted gas increases steadily to 52 bcm by 2010. This excludes any supply from the Turkmen gas contract, which, so far, appears unlikely to be put into force in the near future. With Turkmen gas, the contracted gas supply would amount to 61 bcm by 2010.

Table A.1: Turkey's Contracted Gas (bcm)

Years	Russia 1	Russia 2 (Turusgaz)	Algeria	Nigeria	Iran	Russia Blue Stream	Azerbaijan	Turkmenistan	Total Contracted excl. T'imen
2003	6.0	8.0	4.0	1.2	5.0	2.0	0.0	0.0	26.2
2004	6.0	8.0	4.0	1.2	6.0	4.0	0.0	0.0	29.2
2005	6.0	8.0	4.0	1.2	7.0	6.0	0.0	0.0	32.2
2006	6.0	8.0	4.0	1.2	9.0	8.0	2.0	5.0	38.2
2007	6.0	8.0	4.0	1.2	10.0	10.0	3.0	7.2	42.2
2008	6.0	8.0	4.0	1.2	10.0	12.0	5.0	7.2	46.2
2009	6.0	8.0	4.0	1.2	10.0	14.0	6.6	8.2	49.8
2010	6.0	8.0	4.0	1.2	10.0	16.0	6.6	9.2	51.8
2011	6.0	8.0	4.0	1.2	10.0	16.0	6.6	10.2	51.8
2012		8.0	4.0	1.2	10.0	16.0	6.6	11.2	45.8
2013		8.0	4.0	1.2	10.0	16.0	6.6	12.2	45.8
2014		8.0		1.2	10.0	16.0	6.6	13.2	41.8
2015		8.0		1.2	10.0	16.0	6.6	14.2	41.8

Source: BOTAS.

The ToP element of the contracted gas varies from contract to contract. Table A.2 summarizes the minimum gas purchases needed to avoid ToP problems for two supply cases:

- **Case 1:** Using the assumed contractual ToP obligations and contracted delivery start dates for new gas; and
- **Case 2:** Summarizes a lower case in which some reductions in ToP are assumed following negotiations, and it is also assumed that there are delays in delivery of Azeri gas by one year.

Both cases assume no delivery of Turkmen gas.

Table A.2: Summary of Minimum Gas Purchase Projections (bcm)

Supply Cases	2005	2010	2015
Case 1: Current BOTAS Contractual Position	25.5	40.4	33.8
Case 2: Low Case	22.3	38.1	32.7

The average ToP percentage of the contracted quantity in 2010 is approximately 78 percent in Case 1 and 76 percent in Case 2 (Azeri gas delayed).

Demand Scenarios

There is more uncertainty in the forecasting of demand than supply. This is because a whole range of economic factors influence demand, not just GDP growth, but also other market factors including competing fuel prices, the competitive position of gas generation in the electricity sector and the rate of investment and uptake in new gas distribution. For the purposes of constructing scenarios to examine the possible risks of an excess supply and the potential of ToP problems, five demand cases have been developed and are summarized in Table A.3.

Table A.3: Summary of Five Gas Demand Projections (bcm)

Supply Cases ³⁹	2005	2010	2015
Case A: BOTAS Demand Assumption ⁴⁰	24.9	41.2	49.8
Case B: Very Low ⁴¹	23.6	29.6	30.0
Case C: Low ⁴²	26.3	40.5	45.5
Case D: Medium ⁴³	25.6	41.1	53.4
Case E: High ⁴⁴	26.5	45.1	71.7

Supply/Demand Balances and Possible Supply "Overhang"

The details of the supply and demand projections are provided in Table A.4.

The two supply cases (1, 2) and five demand cases (A-E) have been combined to form six possible scenarios for the supply/demand balances. We have not attempted to put probabilities on each of these scenarios and would, therefore, simplistically assume them to be equally likely. The scenarios are illustrated in Figure A.1.

³⁹ All supply cases are adjusted to have the same starting demand level in 2004 as the case.

⁴⁰ The "Case A" uses a recent set of projections based on detailed analysis of projected new city gas distribution demand. It assumes rapid growth in 2006 and 2007 (22 percent and 11 percent respectively).

⁴¹ The "Very Low" Case B is based on ECA analysis of the power sector and Organization for Economic Cooperation and Development (OECD's) forecasts of GDP growth in Turkey.

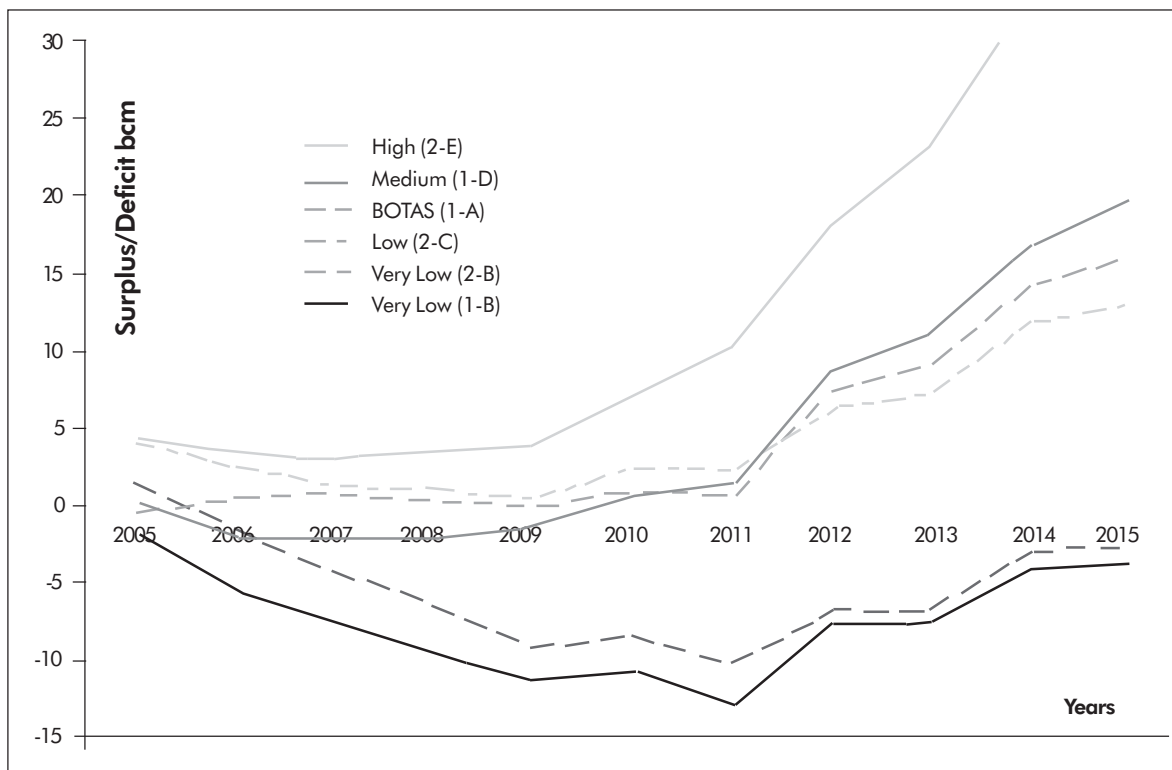
⁴² The "Low" Case C is developed by IBS using their model of residential and commercial gas demand and low penetration rates of new distribution.

⁴³ The "Medium" Case D is the IBS base case.

⁴⁴ The "High" Case E is the IBS high case, assuming very rapid growth of gas distribution and industrial consumption, and a near 50 percent increase in power consumption by 2015.

Table A.4: Numerical Data for Figure A.1 Supply/Demand Balances 2005-15 (bcm)

Years	Supply Case 1	Supply Case 2	Demand Case A	Demand Case B	Demand Case C	Demand Case D	Demand Case E
2005	25.2	22.3	24.9	23.6	26.3	25.6	26.5
2006	30.1	26.2	30.4	24.6	28.7	28.2	29.6
2007	33.2	30.0	33.9	25.6	31.3	31.0	32.9
2008	36.2	33.1	36.5	26.6	34.2	34.1	36.6
2009	39.0	36.9	38.9	27.6	37.2	37.4	40.6
2010	40.4	38.1	41.2	29.6	40.5	41.1	45.1
2011	41.9	39.3	42.5	29.0	41.5	43.3	49.5
2012	37.1	36.3	44.3	29.3	42.5	45.7	54.4
2013	37.1	36.3	46.0	29.5	43.5	48.1	59.6
2014	33.8	32.7	47.9	29.6	44.5	50.7	65.4
2015	33.8	32.7	49.8	30.0	45.5	53.4	71.7

Figure A.1: Supply/Demand Balances

Note: Negative numbers indicate that demand is less than supply, and a potential ToP problem exists. The numerical data are presented in Table A.4.

It can be seen that the BOTAS scenario shows the sector broadly in balance up to 2011 (after which quantities of gas in excess of the minimum ToP would be purchased, followed by the need for new gas supply contracts before 2015).

The "high" scenario shows demand exceeding ToP requirement throughout, as does the scenario 2-C. The latter suggests that further moderate reductions in the minimum ToP quantities could offset low demand. Conversely, the scenario 1-D shows that even if demand is at a "medium" level, a ToP problem could arise if minimum required purchases are not reduced below the Case 1 level.

Three of the scenarios show that potential ToP supply surpluses would exist, up to 2010 (in scenario 1-D) and throughout the period (scenarios 1-B and 2-B). A rough indication of the cost of the ToP shortfalls up to 2010⁴⁵ is just under US\$1 bn for scenario 1-D, over US\$3 bn for scenario 2-B and over US\$5 bn for scenario 1-B.⁴⁶

⁴⁵ Using a 7 percent discount rate and a gas import cost of US\$160/mcm corresponding roughly to an oil price of \$30/Barrel (bbl).

⁴⁶ These are crude figures and do not take any account of the possibility to roll over shortfalls into later years, although in the case of the larger deficits the rollover provisions would not help as the deficits persist.



Annex 2

**Recommended Changes to
the Natural Gas Market Law
(Law No. 4646)**

This Annex sets out the potential changes to the NGML which are identified in the Strategy Note, particularly in Chapter 8. These changes are in the order that they appear in the Act, rather than in any “rank order.” All the changes are in some degree or other “recommended,” but the only change which is “essential” to the recommended gas strategy for Turkey is that to Temporary Article 2 (TA#2), relating to import contract transfer, unless, of course, administrative means can be found to nullify this provision (See the topic “How should wholesale competition be introduced?” in Chapter 5 and the topic “Essential Changes” in Chapter 8).

A standardized layout is used in the Annex. First, a generic area of concern is expressed. Second, the relevant Article(s) of the NGML are identified and their provision(s) summarized. Thirdly, a recommendation for change is made in non-legal terms and, fourthly, a short commentary is added on the reason for the proposed change.

The Annex also identifies some Articles which were not referred to in the main text. Changes to these Articles might usefully be considered. They relate to: provisions on competition, specifically Article 7.-a) 1); gas purchases by distributors, Article 7.4) d); and elements of TA#2 additional to the import contract transfer provision.

Natural Gas Market Activities

Article 4

Concern: EMRA's reasons for decisions should be given and published in at least the following three "regulatory process" cases: Rejection (or grant) of license approvals (Article 4.2); Disputes about connection requests rejected by transmission companies (4.4); and Determination of non-discrimination in transmission pricing and access (11.2). See Strategy Note Section 9.3.1.

4.2)

Provision: "...the authority shall inform the (license) applicant about the rejection decision together with its reasoning."

Recommendation: EMRA should be required to publish all its decisions and give reasons for them, whether for rejection or approval of an application.

Comment: Publication of decisions with reasons is an important aspect of regulatory transparency. Over time, it will provide valuable guidance to applicants as to what is and what is not acceptable to the regulator. It will, as well, usefully discipline EMRA's decision-taking by encouraging consistency and, therefore, helping create an environment of stability and predictability for the regulated industry. These are hallmarks of good regulation.

4.4)c) 1) & 2)

Provision: "The transmission companies are obliged to connect the users upon demand (1)...in cases where the transmission company rejects the request...the user may inform the authority...if it is determined by the authority that the transmission company violated the regulation related to the network process, the transmission company shall make the connection...."(2)

Recommendation and comment: Pipeline connections for distributors and other users are an important function. EMRA should be required to publish its decisions and give reasons.

Article 11 (Tariffs)**11.2) Transmission and storage**

Provision: “The authority shall determine the tariffs...applicable without discrimination among all users of equal standing...”

Recommendation and comment: This appears to be the provision for non-discrimination in rates (prices) and in access to the transmission system. The wording is quite terse. There should be a provision for complaints by system users regarding discriminatory pricing or access. These can emerge as central issues in a liberalized gas market with open access transmission. Again, EMRA should be required to publish its decisions and give reasons.

Concern: A number of provisions are excessively “prescriptive”. For example, they predetermine storage requirement and eventual market shares in importing and wholesaling. In the first case, they tend to deny policymakers and the industry flexibility, for instance, in ensuring security of gas supply by other means such as fuel switching, as well as by storage. In the second, they are unnecessarily ambitious in relation to the objective of creating a competitive gas market and they may be impractical or even counterproductive in terms of implementation. In the Strategy Note, most of these are classified as “important” items under the topic “Important Changes” in Chapter 8.

4.4) a) 3)

Provision: “...(applicants for import licenses) shall conduct storage activity ...to store an amount corresponding to 10 percent of the natural gas to be imported every year, in the national territory within five years.”

Recommendation: EMRA should be allowed to vary or suspend this provision, which probably cannot be met, or substitute an alternative means of insuring supply for firm consumers.

Comment: Gas storage is important for the secure normal functioning of the gas supply system and as one of several possible safeguards against disruption of imported supply. However, the 10 percent within five years storage requirement is too rigid and cannot be met in the next several years. EMRA should be able to waive it temporarily or approve an alternative means of insuring supply, some of which are listed under the topic “Policy Goals and Supporting Measures” in Chapter 2 the policy note under Policy Goal #2, pertaining to the increasing security of supply.

4.4) a) 4)

Provision: “Annual natural gas amount procured through import by any import company may not exceed 20 percent of the forecast national gas consumption determined by the authority.”

Recommendation: This provision should be deleted.

Comment: This provision is unnecessarily ambitious in relation to the objective of creating a competitive market. Given the size of BOTAS’ contract portfolio, it is probably practically unattainable in the foreseeable future (Strategy Note, Chapter 6).

The provision is presumably an expression of “competition policy” for the natural gas industry. It is too rigid. This purpose can better be served by a requirement that EMRA monitor the market for anti-competitive behavior and abuse of dominant position, partly by inviting and receiving substantiated complaints about such behavior by market players. EMRA should be suitably empowered to invite, receive, evaluate and, if proven, act to deal with such abuses. In this connection, consideration might be given to granting EMRA the right to exercise, in the natural gas sector, powers under competition legislation (see commentary below under Article 7).

4.4)b)

Provision: “The production companies (that is, companies producing natural gas in Turkey in accordance with Law No. 6326) are allowed to sell such amount directly to the free consumers as may not exceed 20 percent of the forecast national consumption determined by the authority...”

Recommendation: This provision should be deleted.

Comment: There is no reason why sale of domestic-produced gas to any segment of the market should be limited by a *de facto* quota of this sort. We know of no similar practice internationally. If Turkey were fortunate enough to develop substantial domestic gas production, the presence of this provision would be a disincentive to investors in gas-producing activities and an embarrassment to the GoT.

Concern: There is no provision for policymakers to have a final “say” in EMRA decisions which may be of national importance. Consideration might be given to granting the policymaker the authority to review, remit to the regulator or veto such decisions. Two examples are given: licensing of new imports and of major new storage facilities. See also Strategy Note, Chapter 8, “Optional Changes.”

4.4 a)

Provision: Procurement of natural gas through import is allowed under an import license.

Recommendation: The issuance of an import license for more than some predefined threshold volume of gas and term of years should be subject to the approval of the Council of Ministers.

Comment: Large new, long-term gas imports can raise concerns in such areas as security of supply and international relations. It makes sense to give the policymaker at least the authority to veto a proposal which EMRA is prepared to approve, because the policy side of government is presumably better able than EMRA to take account of these broader issues of trade and foreign relations. This same recommendation and comment applies to the relevant portion of TA#2.

4.4) d)

Provision: “Storage of natural gas: legal entities who will engage in storage activities are obliged to comply with a number of qualifying conditions.”

Recommendation: The same case can be made for policy guidance to be provided in the Law regarding the exercise of EMRA’s storage licensing functions as for the review of transmission investment programs. Additionally, provision might be made for the Council of Ministers to review decisions on large storage projects.

Comment: Storage is an issue of national importance for Turkey and some means should be found to provide for policy input to major regulatory decisions in this area.

Concern: Important functions are conferred on the regulatory agency, without any policy guidance being provided in the Law as to how it should be exercised. These are considered “optional” items in the Strategy Note, Chapter 8, “Optional Changes.”

4.4)c)8)

Provision: “The national transmission investment programs developed by taking into consideration the transit gas transmission shall be subject to examination and approval of the board.”

Recommendation: The clause should be amended to give the EMRA board some policy guidance as to what it should be looking for when it examines investment programs. For example, EMRA could be required to ensure that the programs can be financed, that they are appropriate in relation to national transmission needs and that they are prudent in terms of the resulting pipeline tariffs. In the alternative, EMRA could be required simply to take account of national policy for the gas industry as the policy arm of government may communicate that publicly to it from time to time.

Comment: Generally speaking, it is not advisable to give a regulator a power without any guidance as to how to use that power. The Law should supply the regulator with some kind of framework for its decision-taking.

4.4 g)

Provision: This relates to the grant of city natural gas distribution licenses.

Recommendation: This provision should be amended to provide EMRA with clear general policy guidance as to the criteria to be applied in licensing city natural gas distribution.

Comment: It is clear from the Strategy Note (Chapter 5) that gas distribution is an essential sub-sector of the gas industry. It has an important role in relation to Policy Goal #1, the fostering of continued rapid gas market expansion and, with that expansion, the successful management of the supply overhang. Distribution is a sector which can continue to attract new investment and entrepreneurship, reducing the State’s role in the overall industry. Distribution companies will be important consumers for new market entrants as wholesale competition is established. A successful distribution sector is an essential element of the vision for “Structure 2010,” presented under the heading “Structure 2010 – Subordinate Features” in Chapter 3. In view of these considerations, it would make sense to give EMRA guidance in the NGML as to the criteria to be applied for further licensing activity.

Concern: Further provisions inflexibly prescribe storage requirements and define market shares.

4.4 e)1)

Provision: "(Wholesalers selling to distribution companies) must draw up supply schedules...take measures for adequate storage to meet maximum seasonal natural gas demand...present lease contracts executed with the storage companies...within the period determined by the authority...storage within a five-year period from the date of the (wholesale) license shall be provided...may be extended by board decision for two years in case the storage facilities in the country do not reach a sufficient capacity...the board is authorized to determine the storage quantities to be maintained with a view to balance the intensive seasonal demand..."

Recommendation: This provision should be deleted.

Comment: The requirement for storage should be on the importer and/or the distributor. In the case of the distributor, he should have an obligation to serve.

4.4 e)6)

Provision: "The total gas amount sold by each wholesale company in one year may not exceed 20 percent of the national consumption forecast (by EMRA)."

Recommendation: This provision should be deleted.

Comment: The reasons are essentially the same as are given under 4.4) a) 4) above.

Concern: Consideration to be given for the specialist sector regulator to exercise competition tribunal authority in its area of expertise. /*

Protection of competition...
Article 7

7 a)1)

Provision: Essentially, the provisions of Law No. 4054 concerning the protection of competition are to apply to legal entities active in the natural gas market.

Recommendation: Consideration might be given to making EMRA responsible for implementation of Law No. 4054 in the natural gas market, because EMRA is a body with specialized knowledge of this market and is likely in a better position to apply the Law than is the competition commission.

Comment: See commentary under 4.4)a)4) above.

Concern: Further provisions that inflexibly define market shares.

7 a)2)

Provision: "No legal entity may sell more than 20 percent of the national natural gas consumption forecast for the current year."

Recommendation: This provision should be deleted.

Comment: See related comments under 4.4)a)4) and 4.4e)6) above.

7 d)

Provision: "It is essential that the distribution companies shall purchase maximum 50 percent of the gas that they shall distribute within one year from one legal entity..."

Recommendation: This provision should probably be deleted.

Commentary: This looks like another case of introducing an unnecessary and possibly counter-productive rigidity in gas purchasing. The distributors must protect themselves by contract. They may be required to demonstrate to EMRA that they have so done. It is entirely possible that, especially in the case of very small distributors, protection could best be achieved by one rather than by two or more contracts.

Concern: The regulator should not “determine the tariffs.” The regulated entities should be responsible to propose tariffs. EMRA should be responsible to approve them, or reject them, with reasons and require refiling.

Tariffs

Article 11

11.2)

Transmission and Storage Tariff:

Provision: “The authority shall determine the tariffs. The authority shall determine new tariffs based on the tariffs notified to itself and the principles stated in this Article.”

Recommendation: This provision should be amended to make it clear that the authority is to act on the basis of applications for new tariffs made to it by the transmission company (ies), accepting or rejecting those applied-for tariffs, but not determining tariffs itself.

Comment: See Strategy Note under “Regulatory Weaknesses” (“Assessing Existing Policy in Relation to the Strategic Objectives” in Chapter 2) and “Changes Allowing Greater Discretion to Licensees” in Chapter 8.

Concern: Underground storage possibilities in Turkey are probably so limited that they are likely to have natural monopoly characteristics. Their tariffs should, therefore, be determined by EMRA rather than negotiated between the storage companies and storage users.

11.2)

Provision: (second last provision under this item): “The storage tariffs shall be determined freely between the companies involved in storage business and the legal entities receiving the storage services.”

Recommendation: The pricing (tariffs) of storage services involving underground reservoirs should be regulated by EMRA.

Comment: See Strategy Note under the heading “Structure 2010 – Subordinate Features” in Chapter 3, comments under “Storage.”

Concern: Several of the “transitional” provisions set out in Temporary Article 2 are probably overambitious or unworkable and will need to be amended. Additionally, there is a case for accelerating legal restructuring before 2009. The separation of BOTAS accounts is overdue.

Temporary Article 2 (BOTAS): This Article deals with a number of issues addressed below.

- **BOTAS’ imports’ allowable share** of the national gas market to be reduced to 20 percent by 2009.

Recommendation: Amend this provision in light of the following comment.

Comment: The Law should not prescribe a particular market share for BOTAS (or any other player). See the comments under the headings “Structure 2010”: A Framework for Modernizing Turkey’s Gas Market” in the Executive Summary and “Assessing Existing Policy in Relation to the Strategic Objectives” in Chapter 2 of the Strategy Note. Instead, EMRA should monitor to ensure that dominant positions are not being abused and to take action if, as a result of its own monitoring or on the basis of justified complaints, it finds that they are (see comments above relating to Article 4.4 a) 4)).

- **BOTAS’ import contract transfer, to be carried out by annual tender.**

Recommendation: This provision must be changed if Turkey is to implement wholesale competition by gas release (see comments under the headings “How should wholesale competition be introduced?” in Chapter 5 and “Essential Changes” in Chapter 8.

Comment: This provision has not been implemented and probably cannot be, for practical reasons.

- **Transfer through sale of BOTAS import gas,** where contract transfer is not possible, the acquirer to accept all of the liabilities of BOTAS.

Recommendation: Amend this provision in the light of the following comment.

Comment: This provision, too, is probably unworkable because foreign exporters may object and, more importantly, because potential wholesalers are not willing at this stage of market development to accept all of BOTAS contractual obligations (see the heading “How should wholesale competition be introduced?” in Chapter 5).

- **Minimum annual amounts to be transferred by BOTAS**, by contract transfer or through sale.

Recommendation: Amend this provision to respond to the following comment.

Comment: This is another “excessively prescriptive provision” (see comments above relating to Articles 4.4) a) 4)) . It is poor policy. It has not been implemented, and it may be unworkable.

- **Conditions for new imports**, that is from countries other than those with which BOTAS has contracts.

Recommendations and comment: See recommendation and comment on Article 4.4 a) above.

- **Conditions for new imports**, from countries with which BOTAS already has contracts.

Recommendations and comment: See recommendation and comment on Article 4.4 a) above.

- **Term during which BOTAS’ vertically integrated legal structure may continue** (2009).

Recommendation: Consider amending to bring forward the date of BOTAS legal restructuring.

Comment: There is no strong operational case for retaining BOTAS' integrated structure until 2009. It may in fact be an obstacle to market liberalization. If BOTAS' legal restructuring is to be accelerated, then this provision will need to be changed.

- **Provision:** What is to happen to BOTAS after 2009, namely legal restructuring, creation of a horizontally integrated entity, retention of the BOTAS name, companies that shall be privatized.

Recommendations and comments: No recommendation or comments.

- **Provision: Accounting separation of BOTAS transmission, storage, sales and import activities.**

Recommendation: This provision needs to be enforced.

Comment: Implementation is legally and operationally overdue. It should have been realized by May 2003 and needs to be carried out as soon as possible (see the heading "What is required for restructuring of BOTAS?" in Chapter 4).

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