

Turkey's Energy Policies in a Tight Global Energy Market

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The international energy market experienced rising prices (“tightening”) with little surplus energy supply at the beginning of the twenty-first century. This situation propelled energy security to the center of several international political relationships and dramatically increased international interest in a number of energy-rich regions and energy transit states. Turkey, bordering on the Middle East, Russia, and the Caspian states is adjacent to regions which possess over seventy percent of the world’s proven oil and natural gas reserves. Turkey also sits on major international waterways. Both factors predispose Turkey to become an important transit state for world energy resources—a role that Ankara has enthusiastically embraced. As stated by Turkish Prime Minister Recep Tayyip Erdoğan, “One of the main factors of Turkey’s energy strategy is making use of its geography and geostrategic location by creating a corridor between countries with rich energy resources and energy consuming countries.”¹ As part of its drive to serve as a significant energy transit state, Ankara has signed a number of importation agreements in the last decade with neighboring natural gas producers, inaugurated the Baku-Tbilisi-Ceyhan oil pipeline project, launched the Baku-Tbilisi-Erzurum natural gas pipeline, and is exploring additional major energy transport and production projects. Furthermore, in April 2006, after forty years of deliberations on

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This article will analyze Turkey's energy policies and the political and economic opportunities and challenges created for Ankara under tight international energy market conditions. The article discusses the following topics: Turkey's energy profile, current trends in the world energy market and their implications for Turkey; the risks and opportunities inherent in Turkey's role as an energy transit hub, and policy recommendations.

Turkey's energy profile

Like close to half of the world's states, Turkey possesses few indigenous sources of energy, importing approximately 90 percent of the energy that it consumes. Turkey produces small amounts of oil and poor quality coal, marginal amounts of natural gas, and no nuclear energy at this stage. In April 2006, Ankara announced its decision to establish its first nuclear power station, which would be built in Sinop, and launched a search for funding and an appropriate company to build the reactor, which is intended to become operational in 2012. Turkey produces a robust amount of hydroelectricity and has the potential to increase hydroelectric production. In addition, Turkey produces very small amounts of renewable energy sources and is in a position to increase production of wind, geothermal, and solar power production, if it promotes the appropriate policies.

Turkey's total primary energy supply (TPES)² is comprised of: oil thirty-eight percent; natural gas twenty-three percent; coal twenty-seven percent, combustible renewables and wastes seven percent. The remainder comes from hydroelectric power, geothermal energy, and additional renewable energy sources.

Turkey's energy total final consumption (TFC) has grown rapidly in the last decade. In 2003, it stood at 64 MTOE (million tons of oil equivalent), an increase of fifty-four percent from the 1990 level. Turkey's economy is highly energy intensive—achieving rates that are significantly higher than most OECD (Organization for Economic Co-operation and Development) states. As stated in International Energy Agency's 2005 review of Turkey, "Turkey's energy policy has been highly supply-oriented, with emphasis placed on ensuring additional supply to meet the growing demand, while energy efficiency has been a lower priority."³ The largest energy consuming sector in Turkey is industry (forty-five percent), followed by the residential sector (thirty-one percent), and the transport sector (nineteen percent). The leading energy consumers of the industrial sectors are the iron and steel sector (3.3 MTOE, 2003), chemicals and petrochemicals (2.2

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MTOE excluding feedstock), and textile and leather industries (1.5 MTOE).⁴ The transport sector's use of energy also grew significantly in the last decade, increasing by twenty-nine percent between 1990 and 2003. The government expects the transport sector's use of energy to grow by sixty-one percent between 2003 and 2010. In Turkey, there are ninety cars per 1,000 inhabitants (compare with 808 per 1,000 in the United States, or 284 per 1,000 in neighboring Greece).⁵

Turkey has considerable oil refining capacity, and it is an exporter of refined oil products. If Turkey's energy consumption continues to grow, refining capacity will need to expand in order to meet demand. Turkey sells one third of its refined oil products to OECD states and another third to Middle Eastern countries. Turkey possesses no significant natural gas storage facilities, and its current capacity is below the NATO standard of three months supply.⁶

As an OECD state and subsequently an International Energy Agency member, Ankara benefits from IEA coordinated policies, and the security derived from the right to utilize the coordinated IEA energy stocks. Turkey is integrating its energy infrastructures with neighboring countries. In 2006, Turkey took major steps to synchronize its electricity grid with the European grid (UCTE) and has electricity interconnections with most neighboring countries. Turkey's electric system is not yet synchronously connected with neighboring systems, but it is exploring policies to rectify this. In addition, Turkey has taken steps to interconnect its natural gas system with that of neighboring states.

In the past two decades, Turkey has made significant progress in switching from power generation by coal-fired plants to those employing natural gas. Switching to natural gas from oil and coal has been facilitated in a variety of sectors by Turkey's improved natural gas transmission and distribution infrastructure.⁷

Turkey's domestic energy production, distribution, and energy transit infrastructure are still predominantly in the hands of state-owned companies. While Turkey's parliament passed an energy liberalization law in early 2001 in order to end the government's monopoly in the energy sector, the privatization process is still in its early stage as of this writing. In December 2003, Turkey's parliament passed additional legislation—the Petroleum Market Law—removing state controls on the oil sector and lifting price ceilings. This legislation led to comprehensive reform of the oil sector. At the same time, large-scale smuggling of fuel into Turkey from neighboring states creates unfair competition to legitimate market operators in Turkey and deprives the state of revenue.

Turkey has incorporated many European Union energy laws and standards into its domestic legislation as part of its efforts to attain EU membership. In addition, Turkey has ratified the United Nations Framework Convention on Climate Change (UNFCCC).

Turkey is in relatively close proximity to much of the world's current energy production and also sits on several important waterways; thus, Turkey is well-positioned to become a significant energy hub and transit state. Prime Minister Erdoğan stated that part of "our main strategy is for Turkey to become the fourth main natural gas artery of the EU."⁸

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Turkey currently imports oil from Russia, Iran, and Iraq, natural gas from Russia and Iran, and LNG from Algeria and Nigeria. Large volumes of both oil and natural gas will soon be arriving from Azerbaijan. Turkey is also exploring the importation of natural gas from Kazakhstan, Turkmenistan, and Egypt.

Among the potential importers of energy resources via Turkish territory are Greece (and then on to Italy), the Balkan states (potentially continuing on to Austria), Ukraine, Lebanon, and Israel. Ankara is also studying the viability of exporting energy from Turkey to Asian markets via the territory of Israel (which abuts both the Mediterranean and Red Seas).

Turkey's role as a transit state for oil and natural gas provides development and investment opportunity for underdeveloped regions, such as Turkey's eastern provinces. Both the Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzurum pipeline projects have provided development resources to Turkey's eastern provinces and the Ceyhan area.

Turkey's investments in oil production projects abroad are growing considerably. The Turkish Petroleum Corporation's (TPAO) investments abroad grew almost by a factor of ten in three years, from USD55 million (2001) to USD519 million (2004). TPAO's main ventures abroad are in Azerbaijan. For instance, TPAO holds a 6.75 percent share in the Azerbaijan International Operating Company (AIOC) and a 9 percent share in the Shah Deniz project. In addition to Azerbaijan, TPAO has also invested in Libya and Kazakhstan and is exploring ventures in Turkmenistan, Iraq, and Syria.

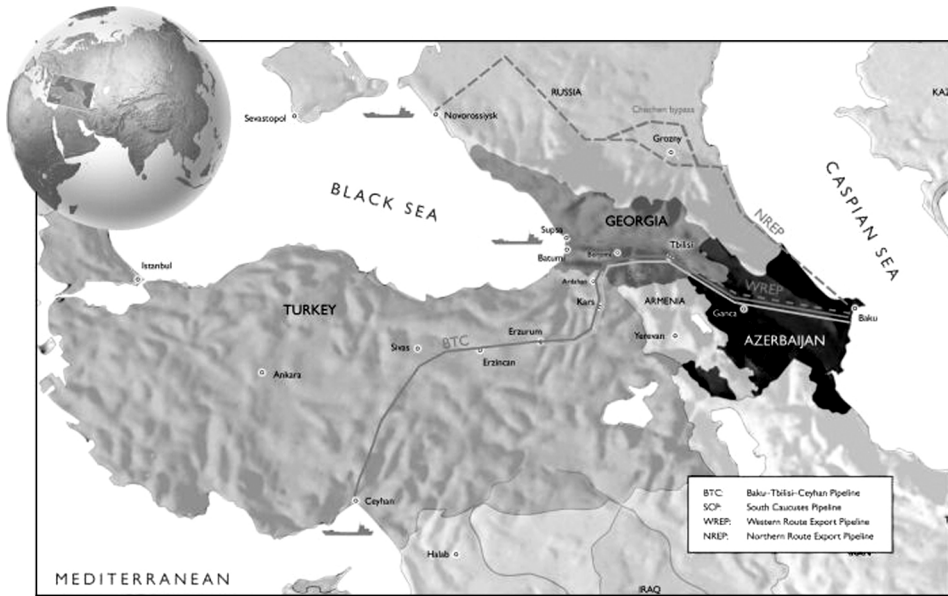
World Energy Trends: Implications for Turkey

Under the tight market conditions that are prevailing in the global market as of this writing, energy's role in international politics becomes more significant than in the past. While eventually oil prices will decrease, many market analysts assess that high oil prices will remain a feature of the international energy market for a significant period of time.⁹

In the era of high oil prices, the role of transit states has become particularly vital, and their status in the international political system has risen. Sustained high oil prices have rendered oil production in many geographically and geologically challenging places, such as land-locked countries, commercially viable. Turkey borders a significant number of land-locked energy producers in the neighboring Caspian region. Turkey is viewed by the energy producers of the Caspian as a preferred transit state, due to a number of factors, including its important role within the Euro-Atlantic security and political structures.

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One significant development in the world energy market in the past few decades is a dramatic rise in the use of natural gas. While the absolute quantity of global oil consumption has grown since the 1970s, its share



Baku-Tbilisi-Ceyhan Pipeline

of world energy consumption has declined. In contrast, the relative shares of global use of nuclear energy, and most, significantly, natural gas have grown significantly.¹⁰ The increase in natural gas consumption and the export of oil from land-locked states has led to a number of energy pipeline projects that directly link some producers and consumers and to the emergence of new regional alliances that are linked by energy infrastructures. Azerbaijan, the Republic of Georgia, and Turkey are one such example. In addition, similar special energy-based cooperative units are developing in Africa, such as that between Chad and Cameroon.

An additional, observed political trend in oil producers under tight oil market conditions is the hindrance of democratic development. With heightened oil revenues, regimes are even less likely to agree to share or concede power, and increased oil revenues provide ruling regimes with the means to extend their rule. Major oil producers include Russia, the Caspian states, Iran, and other Middle Eastern states—all of which border Turkey and form part of its strategic environment.

New Security risks

Under tight market conditions, small changes in supply and demand can dramatically increase oil prices and impact the world's economic situation and subsequent political developments. Terrorists can therefore wreck global economic havoc through a local attack—even with minimal or no casualties. Energy infrastructure (such as, pipelines, pumping stations, ports) is a particularly great global security concern and of increasing interest to terrorists. Under these conditions, the need to secure vital sea

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lanes is heightened. Major key passages—chiefly, the Bosphorus Strait, Straights of Hormuz, and the Straights of Malacca—have increased strategic importance and thus demand increased security measures. Turkey, with the Bosphorus Strait crossing its territory, has seen its role as a transit state grow substantially in the international system during the past decade, as well as the security threats posed to this waterway.

Under tight oil market conditions, nuclear energy has become commercially competitive and a number of states are interested in developing new nuclear energy projects. The increased use of nuclear energy will create proliferation risks from fissile materials and nuclear weapons applicable technology.

The demand for and production of liquefied natural gas (LNG) is rapidly increasing, creating an entirely new set of security risks for the increased LNG tanker traffic and the receiving ports and their adjacent areas.

Moreover, the increased oil revenue of many Middle Eastern energy producers can be used by these states to finance terrorism.

Turkey's role as an energy hub: risks and opportunities

In the last decade, Turkey has undertaken a number of major infrastructure projects in order to meet rising domestic energy demand and to position itself as an energy hub for export to additional markets. A number of risks and opportunities are inherent in this energy hub role.

The main advantage of becoming an energy transit hub is a political one. Transit tariffs are not very lucrative—serving as an energy transit state provides a state with an advantage only if integrated with security and foreign policies. Nevertheless, Turkey has not coupled its policies for building energy transit infrastructure with a robust policy of translating that transit role into political gain. In contrast, Turkey's neighbor, the Republic of Georgia, has been especially successful in politically exploiting its energy transit role.

In addition, Turkey has not made comprehensive decisions on supply sources a necessary condition for developing its future political role from its transit capacity. Turkey must weigh the benefits and costs of either serving as an EU lever against Russia or as Russia's route for more imports into European markets. Ankara must decide on the role of Russia and energy supplies that are easily controlled by Russia in its energy import basket. On one hand, to both guarantee its own energy security and play a role in diversifying Europe's energy supplies, Turkey needs to import more energy from states other than Russia or those that are easily controlled by Russia. At the same time, relying primarily on Russia can have enormous benefits for Turkey in cementing the very vital and positive economic and political relationship that has been developing between Turkey and Russia over the last decade. Germany, for instance, by granting Russia a long-term predominant role in its energy market succeed-

ed in fortifying a special relationship; with Moscow that reflects on a variety of spheres of cooperation. In this light, Ankara must weigh the benefits and costs of playing a role in the EU's energy diversity policies, which would be aimed at building alternatives to Europe's dependence on Russia.

One of the impediments to Ankara leveraging its transport role into political gain is that Europe itself is not looking toward Turkey to play this role as of this writing. Europe has not yet concluded that it needs significant diversification of its energy supplies to ensure its energy security and has formulated no substantive policies on either this subject or Turkey's possible contribution.

An additional risk of Ankara's energy hub policies is that Turkey may become oversupplied with natural gas—most of the imports are based on long-term take-or-pay contracts. Turkey may be required to pay penalties in the future to suppliers, such as Russia and Iran, if it cannot use or re-export all the natural gas that it has committed to import. Turkey must negotiate its contracts in a way that accommodates major contingencies that affect energy demand, such as major economic decline, war, and catastrophic, large-scale illness. In addition, Turkey needs to extensively expand its natural gas storage facilities.

Fuel is smuggled from neighboring energy-producing states into Turkey's market, and this compromises the viability of the legitimate and tax paying Turkish fuel distributors. Ankara may soon be forced to address the issue of fuel smuggling if the U.N. Security Council imposes sanctions on Iran. Turkey's border control on imports and exports to Iran will be crucial to the success of such a sanctions regime. If economic sanctions will be imposed on neighboring Iran, Turkey will thus derive a domestic benefit by reducing the amount of fuel smuggled into its domestic market.

Policy recommendations

Despite its vigorous activity in the energy sphere in the past decade, Ankara does not possess an over-arching energy policy, and its energy policies are not well integrated into its major security and foreign policies. Thus, Turkey needs to articulate an energy policy that outlines its energy security components and places the energy policy in the context of Turkey's foreign and security policies. Ankara needs to work fast on these policies because a number of neighboring states are starting to compete for the transit role. Moreover, the European Union is beginning to formulate new energy security policies, and Turkey should have a well articulated policy if it hopes to achieve a role in these new EU policies.

Turkey should weigh the desired role of foreign ownership in its domestic energy production and distribution market in the context of its larger energy security policies. This is most relevant to the desired role of Gazprom and other Russian energy companies in Turkey's domestic market as energy suppliers.

Ankara also needs to improve coordination among government agencies in all areas related to energy and between the energy agencies and the foreign policy and security ministries.

Some of the elements of Turkish energy policy do not necessarily accord well with each other. For instance, Turkey's desire to alleviate traffic in the Bosphorus Strait precludes certain transit options. Furthermore, privatization and energy security goals are not usually compatible.

Turkey needs to increasingly focus on the demand side (energy efficiency) and less on the supply side in its energy security policies. Turkey's use of energy intensity is above the OECD average. Turkey can lower the energy intensity of its economy through conservation, adoption of energy-efficient technology, and promoting spheres of production that are less energy intensive. While the shifting emphasis to less energy intensive sectors can be painful domestically, in the long-run it will help Turkey achieve advanced economy.

In the last decade, Turkey has made important progress in switching to cleaner fuels, such as natural gas. Turkey should continue to lower the usage of coal, both domestic and imported. Ankara should end the subsidies for its domestic coal industry and not grant exemptions to environmental regulations. As stated by the IEA in its 2005 review of Turkey, "Replace the subsidies by restructuring programs to address social impacts."¹¹

Turkey must ensure the security of the Bosphorus Strait. Increased traffic, increased transit of hazardous materials, and the increased and openly articulated interest of terrorists to target key transit ways all put the Bosphorus Strait and consequently the city of Istanbul in a highly perilous position.

In the last decade, Turkey has joined a number of multi-state energy projects in its goal of becoming a major energy transit hub and plans to join more. These multiple state projects carry environmental, social, and health implications. Diseases, spores, and alien species may travel along with oil and natural gas. Turkey must study the long-term implications of being an energy hub, prepare for any consequent dangers, but also prepare to benefit from additional opportunities.

Endnotes:

1. AFP, April 9, 2005
2. 2003.
3. *Energy Policies of IEA Countries—Turkey—2005 Review*, International Energy Agency, 2005, p. 12.
4. *Ibid*, p. 52.
5. World Bank, *Data and Statistics, Infrastructure* at <http://www.worldbank.org>.
6. *Zaman*, January 21, 2006.
7. *Energy Policies of IEA Countries—Turkey—2005 Review*, p. 29.
8. AFP, April 9, 2005.
9. In a study published in April 2005, the International Monetary Fund assessed that would remain in the price range of USD39-56 (in 2005 USD) per barrel for the next twenty-five years (*World Economic Outlook*, pp. 169-170). For more on the causes of the sustained high price of oil, see Michael C. Lynch, "Oil Prices Enter a New Era," *Oil and Gas Journal*, 12 February, 2001, pp. 20-30 and "Oil in Troubled Waters," *Economist*, April 28, 2005.
10. *Key World Energy Statistics 2005* (Vienna: International Energy Agency, 2005), pp. 6, 33.
11. *Energy Policies of IEA Countries—Turkey—2005 Review*, p. 98.