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Intelligence Report

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Iran and Russia Poised to Alleviate Turkish Gas Crisis

[Redacted]

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Turkey faces shortages of natural gas that—despite contrary assurances

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[Redacted]—could force it to turn to imported gas from Iran sooner than the negotiated 2001 deadline. Furthermore, a larger undertaking, Russia's Blue Stream project, continues to outpace the US-backed TransCaspian Pipeline project (TCP). Although Ankara views the TCP as its top priority, the project is bogged down in negotiations among the parties:

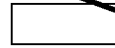
- Turkey's current gas shortages are estimated to be at least 15 billion cubic meters per year (bcm/y), or 60 percent of current needs, causing declines in industrial output and blackouts in peak demand periods.
- Iran has completed its segment of the pipeline to Turkey, while [Redacted] Turkey is close to completing its segment from the border to Erzurum and has begun construction from there westward. [Redacted]

Russia's Blue Stream gas project also is moving forward quickly. Credit approval from the Italian credit agency Sace for its financing package, delayed since the summer of 1999, is the only remaining obstacle before construction of the Black Sea portion of the project can begin. The delay is due to lingering concerns about the volume of financial and technical data that must be reviewed and the technical challenges inherent in the project. Sace, however, has given no indication of canceling the project, which is far advanced in all other aspects: [Redacted]

- [Redacted]
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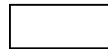


Meanwhile, the TCP is bogged down in complex negotiations between the parties:

- Turkmenistan's President Niyazov has threatened not to renew the consortium agreement to develop the TCP unless an acceptable financing package and accelerated construction timetable are adopted.
- *Niyazov's intransigence regarding the volumes of gas to be granted Azerbaijan on the TCP has further delayed progress on the project.*



Imports from the Blue Stream and Iran-Turkey pipelines would delay the TCP until late this decade because Turkish demand growth would be insufficient over the next several years to accommodate another large project, thus making financing nearly impossible to obtain. If the TCP is set aside, Turkmenistan probably would opt to export gas via Iran and Russia.



Turkey's Immediate Need for Gas

Turkey's gas shortages are said by senior Turkish Government officials to be at least 15 billion cubic meters per year (bcm/y) short of current gas requirements. Various Turkish press reports and senior Turkish officials have cited gas shortages as the cause for low industrial capacity utilization. Firms in far western and central Turkey lack sufficient gas to meet their current needs, according to industry experts. Moreover, in early 1999 Turkey activated several new gas-fed power plants, adding over 3 bcm/y to its gas demand. These plants are currently operating by using their gasoil backup capability, which is more expensive and less efficient than gas use. Country-wide blackouts are symptomatic of the country's inability to meet natural gas and electric power needs during periods of peak usage:

- In mid-November 1999, Turkey experienced rolling blackouts of two hours per day for nearly a week because of insufficient natural gas to fuel gas-fed power plants following a weather-related delay of a liquefied natural gas (LNG) shipment from Algeria and reduced deliveries from Russia, according to press reports.
- In late January 2000, Turkey again experienced three days of three-hour rolling blackouts because of a compressor problem on the Russian line during a particularly cold weather period.

Gas Market Growth Expected

The Turkish Ministry of Energy and Natural Resources (MENR) estimates—as well as our own—say that Turkey's natural gas needs will reach 53 bcm/y by 2010. The forecast is largely predicated on Ankara fulfilling its construction plans for gas-fed power plants and distribution pipelines. This latest demand forecast—issued since the August 1999 earthquake—claims that Turkish demand for electricity will rise between 8 to 10 percent per year through 2010. Of this, between 30 and 40 percent will be fueled with natural gas.

This level is achievable but will require substantial investment from private—especially foreign—companies. MENR estimates that Turkey will need as much as \$4.5 billion per year invested in its energy infrastructure, and it is looking to foreign investors to contribute \$3.5 billion per year toward that amount, according to industry press:

This memorandum was prepared by analysts from the Office of Transnational Issues. Comments and queries are welcome and may be directed to

- Turkey's prospects for attracting such investment improved substantially in mid-1999 when the Turkish Legislature passed constitutional amendments assuring openness to foreign investment in independent power projects (IPPs) and providing for international arbitration in the event of a dispute.
- The implementing legislation for these amendments also has been passed and took effect on 22 December 1999, according to Turkish economic press, thereby placing Turkey in a favorable position to attract foreign investors to help it meet its energy-development agenda.

A large number of independent power plant projects have begun construction or are near final approval.¹ Notable among new IPP projects are three large gas-fed plants that Ankara awarded to a US-Dutch-Turkish consortium led by InterGen (a 50-50 partnership between US Bechtel and Royal Dutch Shell) that are expected to be completed between late 2001 and mid-2002.

Gas Suppliers Race to Meet Turkish Demand

Turkey has been targeted by several potential gas suppliers eager to deliver additional volumes to help meet Turkey's gas needs. Ankara has encouraged all potential suppliers and has signed either preliminary agreements or finalized contracts for more gas than it can use in the first half of the decade. *Therefore, the projects that do not come onstream first will have to wait until late in the decade when demand growth should be sufficient to enable Turkey to accommodate new gas supply sources.*

Iran-Turkey Gas Pipeline Nearly Complete

Several Turkish Government officials have assured that the Iran-Turkey gas supply deal—originally scheduled to deliver Iranian gas starting 1 January 2000—will be delayed until 30 July 2001. Turkish press reports the startup date as September 2001. Turkish officials that Turkey has persuaded Iran to delay implementation of the pipeline. Despite these statements, because of growing needs, Iran could be the first major new gas supplier to Turkey before the end of 2000.

¹ These gas-fired plants will require roughly 15 to 20 bcm/y of gas.

- Iran would begin delivery of 1.25 bcm of gas to Turkey in 2001—representing partial-year shipments at an annual rate of 3 bcm/y—and 3 bcm/y in 2002. Deliveries would increase by 1 bcm annually beginning in 2003 until reaching 8.5 bcm/y in 2007, [redacted]
[redacted]
- Although the original contract signed in 1996 provided for Turkey eventually to import 10 bcm/y, the take-or-pay provision applies only to 8.5 bcm/y, obligating Botas, the Turkish state pipeline company, to purchase only that much. [redacted]

[redacted] Iran has completed its segment of the Iran-Turkey gas pipeline and is nearing completion of the compressor stations on the line that would enable initial gas shipments of just under 1 bcm/y. [redacted] Botas is close to completing the first phase of its portion from the border to Erzurum and could be ready to deliver about 1 bcm of gas to Erzurum by spring:

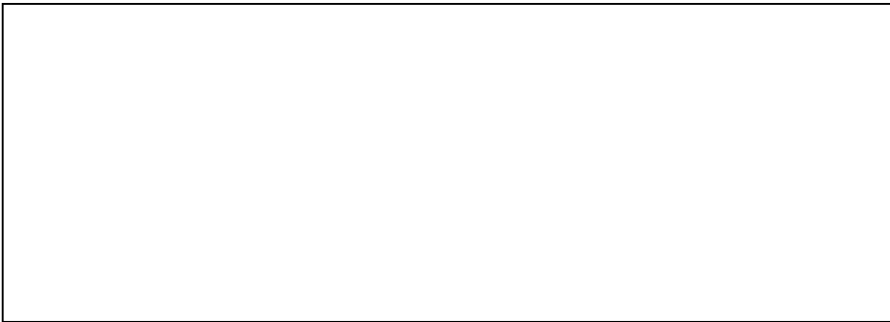
- We judge that eastern Turkey could readily use about 1 to 2 bcm/y of natural gas to generate electric power—either by converting existing oil-fired power plants along the pipeline route or using the several new, small mobile power stations that can use either natural gas or gasoil. Imports from Iran would increase steadily as the pipeline and compressor stations are completed along the route on the way to connect into the western trunklines at Ankara, scheduled for mid-to-late 2001.
- Once the connection into Ankara is complete and compressor stations are in place, Turkey would be able to use more than the full contracted amount of 8.5 bcm/y. [redacted]

Given Turkey's desperate need for gas and electric power—and the reported state of readiness in eastern Turkey—Ankara will be under intense pressure, especially from Turkish industry, to accept Iranian gas as soon as preparations to and within Erzurum are complete—probably in the spring of 2000. This pressure will intensify as Turkey experiences more country-wide blackouts during peak periods—which will become more often until new power and natural gas sources can be added—and as more of the infrastructure is developed. [redacted]

Russia's Blue Stream Next in Line

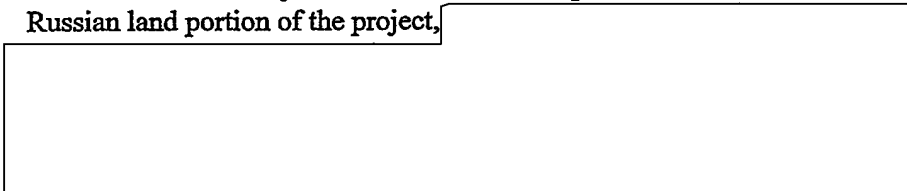
The next major gas supplier to Turkey is likely to be Gazprom's Blue Stream project, which is scheduled to deliver gas to Turkey via a pipeline under the Black Sea starting in mid-2001.² Blue Stream continues to move toward a spring 2000 start of construction on the Black Sea segment, according to industry experts. In late November 1999, the Gazprom-ENI consortium signed contracts worth \$1.7 billion with Italy's Saipem, France's Bouygues, and the Japanese consortium comprising Mitsui, Sumitomo, and Itochu for implementation of the subsea segment of the project. The contracts pave the way for the design, engineering, equipment supplies, and construction of the segment that will transit the Black Sea from Tuapse, Russia, to Samsun, Turkey:

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With the signing of a protocol by Moscow and Turkey in late November 1999 covering tax-related issues involving Blue Stream, the only issue remaining to be resolved before construction of the subsea segment can begin is credit approval from the Italian export credit firm Sace, according to industry press. The Blue Stream consortium has been awaiting a decision since summer 1999 but it has not yet been rendered, most likely because of the volume of financial and technical data that must be reviewed pertaining to this technically difficult project. Sace has given no indication that it is about to cancel the project, which is already so far along in all other aspects:

- There has been a delay in the finalization of Japanese loans for the Russian land portion of the project,



² The project—a joint venture between Gazprom and Italy's ENI—would deliver 16 bcm/y to Turkey, with an additional 14 bcm/y for Europe by the end of the decade.

- The delay will only slightly alter the construction schedule on the land portion and final loan approval is anticipated, according to industry experts. []

Turkey probably will not renege on its commitment to Blue Stream, even if the project is delayed. Ankara's main concern is a desire to obtain gas supplies as quickly as possible, and Ankara has consistently maintained that it welcomes gas supplies from any potential source. Despite a recent slight decline in gas production, Russia has ample reserves available to supply Blue Stream and has given the project the highest priority in terms of supply availability:

- Prime Minister Ecevit said in an interview in late October that Turkey is willing to take gas from whomever can supply it and that Turkey would live up to its contractual obligations with Russia. President Demirel, citing Turkey's gas needs in a November 1999 interview, reiterated Ankara's commitment to Blue Stream.
- Moreover, there are a large number of Turkish contractors involved in Blue Stream who stand to lose millions of dollars if Turkey backs out of the project. []

The TCP: Spinning Its Wheels []

In contrast, the TCP is bogged down in negotiations among the parties. []
[] Turkmenistan's President Niyazov warned he would exercise his contractual right not to renew the agreement signed with the US consortium, PSG,³ last year if PSG does not come up with an acceptable financing package and an accelerated construction timetable, []
Niyazov asserted that the consortium's three-year design and construction period for the TCP is too long and that he wants gas to flow in 2001:

- While Niyazov continues to proclaim his commitment to the TCP, his frustration with the project's slow progress and the need to conclude complex project-related legal agreements has induced him to develop ties to Russia and Iran, []

³ PSG is charged with implementing the TCP in conjunction with Royal Dutch Shell. It comprises Bechtel and GE Capital. []

Azerbaijan's Gas Is Complicating the Issue [redacted]

Azerbaijan's participation in the TCP is key to the its viability because the TCP is routed through Azerbaijan to Turkey. Large gas reserves have been discovered in Azerbaijan's Shah Deniz field, and Baku has said that it wants access to half the capacity of the TCP for its exports or the project will not proceed through its territory:

- Although Niyazov recently told a PSG delegation led by George Shultz that he might permit a small volume of Azerbaijani gas to transit the TCP once Turkmen gas deliveries reach fully contracted volumes, the 3 bcm/y he offered is insufficient to meet Baku's export needs, [redacted]
- In January meetings with representatives of the signatory countries, Niyazov said he would be flexible in allowing Azerbaijani gas into the pipeline, but he refused to commit as to specific volumes. [redacted]

Frustrated with Niyazov, [redacted] Valeh Aleskerov, Director of Foreign Investment for the Azerbaijani energy firm Socar, said in January that he plans to announce a project to build a gas export pipeline to Turkey due onstream by the end of 2002, [redacted] This would enable Baku to export Shah Deniz gas sooner than it would through the TCP and without competition from Turkmenistan. Azerbaijan could become an attractive supply option for Turkey, because it offers the shortest supply route and because the Azerbaijani Government has the rights to obtain the gas from producers at low prices, thus enabling Baku to sell gas to Turkey at a competitive price, [redacted] [redacted]

Furthermore, Aleskerov told [redacted] the companies developing the Shah Deniz gas field are considering exporting the gas through to Iran because it would be the easiest and cheapest way to move gas to Turkey, [redacted] [redacted] He said that Iran is willing to purchase more than 8 bcm/y of Azerbaijani gas for re-export to Turkey and for domestic use in northern Iran. Iran's northern pipeline system has been expanded sufficiently to transport Azerbaijani gas to Turkey, and the newly completed pipeline from Tabriz to Turkey has enough excess pipeline capacity to deliver more than 8 bcm/y. [redacted]

Despite these storm clouds, PSG and Royal Dutch Shell are attempting to convince Azerbaijani leaders that Baku's interests are better served by cooperating with the TCP rather than pursuing an independent pipeline project to send gas to Turkey, [redacted] The consortium maintains that Baku can save

⁴ Estimates of Azerbaijani gas exports to Turkey range from 5 to 20 bcm/y with volumes coming onstream at various intervals during the decade. [redacted]

money and spare itself the problems of concluding host government agreements by aligning itself with the TCP.

- Aleskerov may calculate that movement toward a gas deal between Azerbaijan and Turkey might spur Niyazov to offer Baku better terms and could induce PSG-Shell to alter its terms to meet Baku's requirements.

Egyptian Gas Could Be Added to the Mix

Spotting an opportunity, Egypt is primed to join the race to supply Turkey with gas by mid-decade with pipeline gas and liquefied natural gas (LNG) projects under consideration. In 1999, Turkey signed a letter of intent to buy 4 billion cubic meters per year (bcm/y) of gas from Egypt with the means of delivery and starting date unspecified.

The pipeline project involves the extension to Turkey of a proposed Egyptian gas export pipeline to Israel. A new company—composed of the Egyptian General Petroleum Corporation (EGPC), an Egyptian businessman, and Israel's Merhav Group—would build the pipeline, according to press reports. The Egyptian Government has agreed that the company will be granted the rights to build a pipeline from El Arish to Israel along the southern Mediterranean.

The extension to Turkey would depend upon a peace agreement being reached between Israel, Syria, and Lebanon. It would be economically viable only if it were to be built in shallow territorial waters off the coasts of Lebanon and Syria. Talks are already underway between EGPC and Turkey's Botas over volumes. Egypt wants to export at least 8 bcm/y while Turkey has limited the purchase amount to 4 bcm/y because of other purchase commitments. Because underwater pipelines generally need between 7 and 11 bcm/y of throughput to be commercially viable, it is unlikely that the project will advance quickly.

LNG is a more realistic alternative because Egypt could profitably supply Turkey with 4 bcm/y of LNG. Ankara is evaluating bids to supply a planned LNG project at Izmir with BP-Amoco and ExxonMobil the two contenders for the award.

Implications for the TransCaspian Gas Pipeline

Successful completion of Blue Stream and the Iran-Turkey gas pipeline would set back construction of an east-west gas pipeline corridor for years. Most industry experts say Turkey can use the gas from only one of these large projects for most of the decade, especially since both Blue Stream and the TCP involve a take-or-pay obligation for Turkey. As a result, financing for the TCP will be difficult to obtain

until later in the decade, when Turkish demand grows sufficiently to accommodate large new gas supply sources.

If the TCP is set aside, Turkmenistan—desperate to find outlets to export its gas—probably will opt to export gas via Iran and Russia.

- Turkmenistan could enter into a swap agreement with Iran in which Ashgabat supplies northern Iranian markets with Turkmen gas through an existing pipeline between the two countries, thus freeing Iranian gas for export to Turkey.
- Turkmenistan will sell 20 bcm of gas to Gazprom this year, and the two countries will meet this summer to discuss a longerterm deal.

Meanwhile, Iran would be well-positioned to garner a larger share of the Turkish gas market because of excess pipeline capacity and large gas reserves that could be developed for additional exports.

Longer term prospects for the TCP will improve if Azerbaijan reaches an accommodation with Turkmenistan and forgoes plans to build its own pipeline. Turkey's desire to diversify its gas supply sources, coupled with an expected rise in both Turkish and European gas demand sufficient to accommodate another large export project, would make the TCP viable toward the end of the decade.

Current and Proposed Gas Supply Projects to Turkey

Finalized Contracts

Supplier	Capacity (bcm/y)	Pipeline/ LNG	Startup	Status
Iran	10	Pipeline	2000-2001	Iranian segment complete; Turkish segment near completion. Onstream mid 2001 or earlier.
Russia-Blue Stream	16	Pipeline	2001	Finance credit approval pending; construction targeted for spring 2000.
Algeria	6	LNG	3 bcm/y currently; 6 bcm/y by mid-decade	Boosting export capacity. Planning additional deliveries when the Izmir LNG facility comes onstream mid-decade.
Nigeria	1	LNG	1999	Began LNG deliveries to Turkey November 1999

Preliminary Agreements

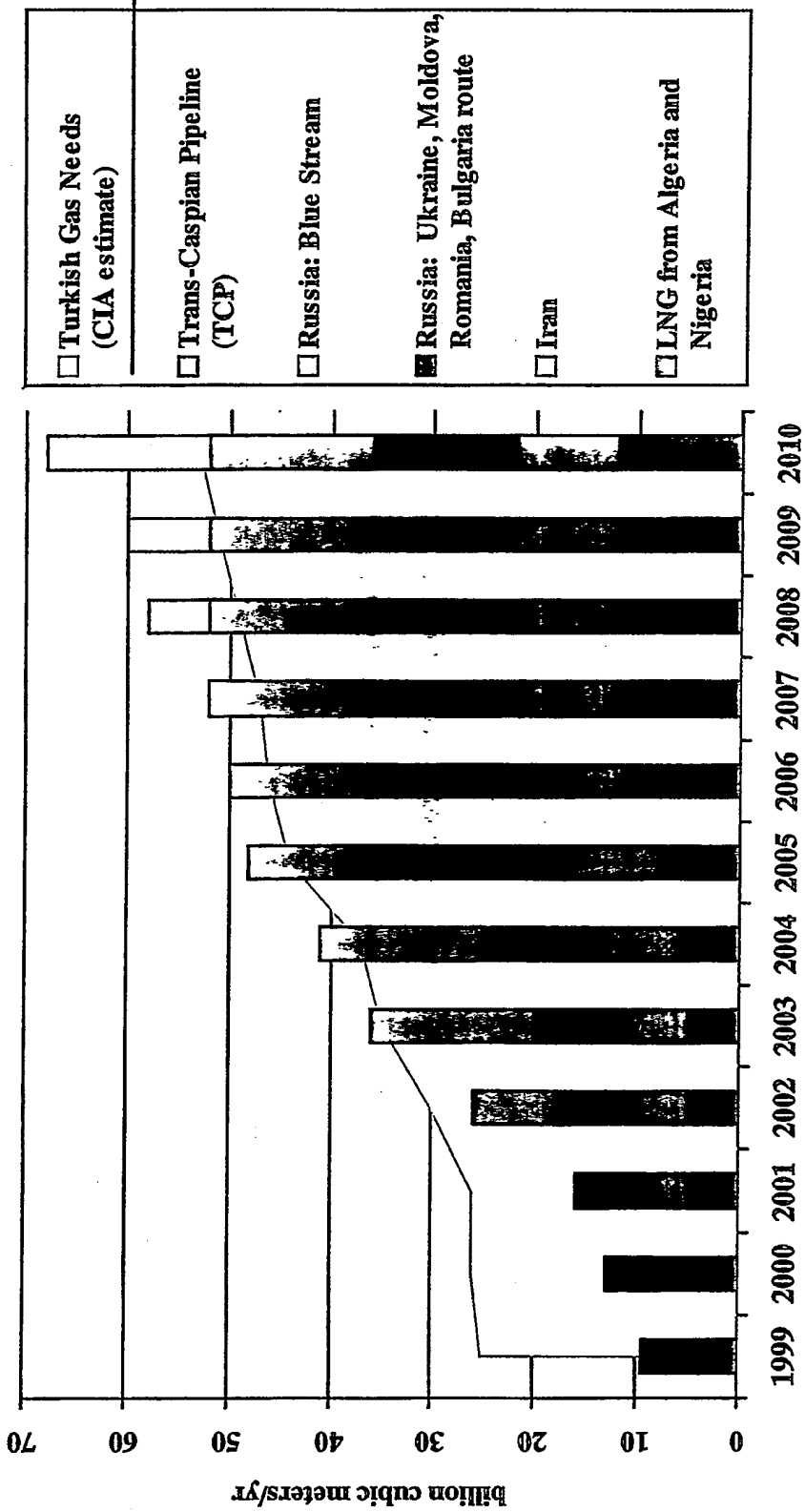
Turkmenistan/ Azerbaijan TransCaspian Pipeline	16	Pipeline	2003-2004	Financing not in place. Agreement between Turkmenistan and Azerbaijan needed on pipeline capacity shares.
Iraq	10	Pipeline	N/A	Project on hold pending lifting of sanctions.

Proposed

Egypt	4.6	LNG	Mid-decade	BP-Amoco and ExxonMobil competing to supply planned Izmir LNG facility.
	N/A	Pipeline	Mid-decade	Proposed gas pipeline from Egypt to Israel with extension to Turkey.

Estimated Turkish Natural Gas Needs and Supplies Through 2010

(With probable delivery schedule)



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Competitors for the Turkish Gas Market

