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IRAN AND CASPIAN BASIN OIL AND GAS

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Rich oil and gas reserves lie under and around the Caspian Sea, mostly oil in Kazakhstan, and Azerbaijan, and gas in Turkmenistan. The proven reserves are about the same order of magnitude as around the North Sea: 16 billion barrels of oil and 8.3 billion cubic metres of gas, according to the US government. And the possible reserves are much greater: 163 billion barrels of oil and 17.6 billion cubic metres of gas, which would make them equal to 16 per cent of 1996 global proven reserves of oil, and 12 per cent of gas.¹

The big question for the Caspian basin countries is how to sell this oil and gas. Their large neighbour, Russia, has lots of oil and gas of its own, plus an extensive pipeline network to move that oil and gas. Russia's Gazprom gas monopoly therefore does not need Turkmenistan's gas for the Russian market nor for re-export from Russia.² Gazprom imposes bad terms for the Turkmen gas it takes; in 1996, the theoretical price was the equivalent of oil at \$6.70 a barrel, and only half of that was paid.

Iran would be a natural market for the Caspian basin's oil and gas. Iran produces lots of oil and gas of its own, but that production is along the Persian Gulf, 700 or more miles away from Iran's largest cities in the north of the country (Tehran, Tabriz, and Mashhad). The big northern Iranian cities are closer to Caspian basin oil and gas than they are to Iran's major oil and gas fields. Purchasing Caspian oil and gas would allow Iran to export more of its own oil and gas.

Furthermore, Iran could be an attractive transit route from the Caspian basin to world markets. For instance, Turkmenistan would like to sell gas to Pakistan and to Turkey, and Iran provides convenient geography to reach either. Routes that avoid Iran are complicated by political problems. To sell to Pakistan, the only alternative route is via unstable Afghanistan. To reach the Turkish market without going via Russia, the alternative routes would have to go through Azerbaijan plus either Georgia or Armenia. Going through two countries en route would be a problem in any case because that complicates negotiations over payment, but the problem grows because the Georgian route is circuitous and Armenia is hostile to Turkey.

Iran could earn fees for swap arrangements or for providing a transit route. The fees could be \$1 per barrel of oil or \$0.10 per cubic metre of gas over and above the transport costs Iran would have to bear. At the high end, that could in theory mean \$1.5 billion a year: \$1 billion for three million

barrels per day (b/d) and \$500 million for 50 billion cubic metres a year (cm/y).

Regarding Iran and Caspian energy, the US government's position has been affected by several policy objectives which are not always mutually consistent. The 1997 State Department Caspian Region Energy Development Report notes four objectives, in the following order:

- “Resolution of Regional conflicts” such as the Armenian-Azerbaijan conflict, various other ethnic tensions in the Caucasus, or the Tadjik civil war. These conflicts provide an opportunity for meddling by outside forces such as Iran, and they create conditions conducive to the growth of violent Islamist movements.
- “Increase and diversification of world energy supplies”, an interest best advanced by developing Caspian basin energy as a supplement to Persian Gulf oil and gas.
- “Independence and sovereignty” of the Caspian basin states. A major issue here is providing alternatives to dependence on pipelines via Russia. Besides the political problems, such dependence allows Russian pipeline owners to charge extraordinarily high fees. The solution is multiple energy export routes. That immediately raises the issue of whether to allow pipelines crossing Iran.
- “Isolation of Iran” by reducing income Iran could devote to weapons of mass destruction, destabilising conventional arms and terrorism. This interest is best served by preventing any Iranian role in Caspian energy.

To this list can be added:

- Not antagonising Russia needlessly, given that the US has with Russia a host of interests such as nuclear arms control and NATO expansion. This interest argues against actions that appear to use political pressure against Russian firms in the Caspian market, which has historically been served from Russia.
- Helping NATO ally Turkey, both to guarantee its security in a dangerous neighbourhood and to promote economic development that may undercut radical discontent, especially that feeding the Islamist cause. This argues for promoting pipelines that go via Turkey and for helping Turkey address its energy needs.

Turkey's energy needs create a problem for the United States. With a growing economy, Turkey wants to use more natural gas, which is both cheaper and less polluting than oil. It plans to increase gas consumption from 8 billion cm/y in 1996 to 60 billion cm/y in 2010; the increase is equivalent to 900,000 b/d of oil.³ Turkey could get the gas readily from Russia, but it wants to diversify its sources of supply, for economic, as well as political reasons. While small amounts could be imported by ship, that is not practical for the large increase Turkey plans. Turkey therefore wants to buy gas from the Caspian states or from one of the oil rich rogues, Iran and Iraq. The Turkish government has signed agreements in principle to purchase large amounts of gas from Turkmenistan, Iran and Iraq as well as Russia, plus agreements to import liquified natural gas from several countries. The total amount involved in these agreements is in excess of what Turkey needs in the next twenty years, so some of these projects will never come to fruition.

Quite a stir was created by the Washington Post report in July 1997 that the US government would not oppose a \$1.6 billion pipeline to Turkey crossing Iran en route from Turkmenistan.⁴ In point of

fact, no such pipeline is likely to be built at any point soon, if ever. What is under construction is a pair of connector pipelines linking up to Iran's gas lines: on the east from the gas fields in Turkmenistan, and on the west from the gas distribution network in eastern Turkey. Thanks to these connector pipelines, Iran will import gas from Turkmenistan and export an equal quantity of gas to Turkey. The amounts involved will start at 3 billion cm/y and escalate over time, possibly to 10 billion cm/y, which is the energy equivalent of 110,000 b/d of oil.

Besides confusing several important aspects about the Turkey-Iran-Turkmenistan gas relationship, the Post article also misled about the US position. Whatever attitude the US government has towards the connector pipelines, it would take an aggressive interpretation of the Iran-Libya Sanctions Act (ILSA, or D'Amato Act) to say that the US could sanction the firms involved in the pipelines. ILSA is aimed only at investment in Iran, not at trade with Iran—a feature essential to making ILSA consistent with the agreements establishing the World Trade Organisation (WTO). Therefore the only issue is whether foreign firms were investing in the development of the Iranian oil and gas industry. In fact, the portion of the connector pipelines inside Iran are being paid for entirely by Iran, without any foreign financing. The only way to claim the project fell under ILSA restrictions would be to claim that investment outside Iran that helped Iran was also subject to ILSA, and that would be a stretch.

Furthermore the Post article misstated the foreign policy context. The decisive factor raised by the Turkmenistan-Iran-Turkey gas swap was not whether to ease up on Iran: it was how to help Turkey meet its energy needs, while depriving Iran of a market for Iranian gas.

In addition to the Turkey-Turkmenistan gas swaps, US government policy permits oil swaps. In his August 19, 1997 letter conveying Executive Order 13059 tightening the ban on trade with Iran (and his May 6, 1995 letter to the House speaker, and Senate president about Executive Order 12959 imposing the ban), President William Clinton wrote:

“Under appropriate conditions, United States persons may be licensed to participate in market-based swaps of crude oil from the Caspian Sea area for Iranian crude in support of energy projects in Azerbaijan, Turkmenistan, and Kazakstan (sic).”

The informal understanding has been that “appropriate conditions” refers to the limited swaps of oil during the early stages of the projects. Sales of what is called ‘early oil’ are crucial to the profitability of the Caspian projects, since without them, the developers would have no revenue until the pipelines are built. If the projects had no way to sell oil except via a pipeline, then those controlling the pipeline route would be in a position to extract high prices. In particular, Russians could charge such high fees for a pipeline from the Kazakh oil fields that they, rather than Kazakhstan, would reap most of the benefits. In practice, swaps of early oil have been a useful tool for Kazakh oil development, but the oil swapped has all come from the Kazakh share rather than from what belongs to US oil companies.

The prospect is that US policy may permit a larger role for Iran in Caspian energy development than had been expected when Clinton imposed the trade ban on Iran. The US government seems to have decided to factor in a variety of considerations, such as the desire to help Turkey and the Caspian states. The effect of allowing a larger Iranian role may end up being quite high:

- Iranian leaders have already seized on the perceived change in US policy as proof that Iran need

not change its unacceptable international behaviour .

- Europeans may decide that US policy is hypocritical, changing to allow business with Iran when US business can benefit. This may undercut any momentum for change in European policy towards Iran after the April 1997 Mykonos verdict, in which a Berlin judge ruled that Iran's leaders ordered terrorist killings.
- Russians may regard the US as engaged in a double whammy against Russian business: permitting energy investment in Iran when that undercuts Russian firms (for they see the alternative to pipelines via Iran as pipelines via Russia), while demanding Russia shut down its energy business with Iran, namely, the sale of nuclear power plant under International Atomic Energy Agency safeguards.

APPENDIX

THE TECHNICAL DETAILS OF IRANIAN-CASPIAN OIL AND GAS PROJECTS

Oil

Iran is importing from the former Soviet Caspian basin countries about 125,000 barrels per day (b/d) of oil. The procedures and the very approximate volumes involved are:

Turkmenistan: 50,000 b/d. Iran Marine Services (IMS) in partnership with Glencore has since early 1997 been handling 36,000 b/d of Turkmen oil (some crude, some refined) which is shipped to Iran's Bandar-e Anzali port, on the Caspian near Azerbaijan, from where it is carried by truck and rail to either domestic markets or to the Persian Gulf.¹ Vitra (Iran Marine Industries Co.), owned by the Iranian Ministry of Industries, claims to be shipping 36,000-73,000 b/d from Turkmenistan to Iran's Caspian port of Nekaa, but that claim seems inflated. In the early 1990s until 1996, Vitra, in partnership with Vitol, was trucking 6000 b/d from Turkmenistan to Iran's Bandar Abbas port, in the Persian Gulf near the Straits of Hormuz.

Azerbaijan: 30,000 b/d. In the first quarter of 1997, Iranian gasoil imports for domestic use from Azerbaijan were 30,000 b/d.² These imports are likely to stop by late 1997 because the completion of the renovation of Iran's Abadan refinery will give Iran the capacity to produce all the gasoil it needs.

Kazakhstan: 40,000 b/d. The Kazakhstan government ships oil to Iran for domestic use in return for Iran exporting an equal quantity of its oil from the Persian Gulf. In theory, the volume is 40,000 b/d, to increase to 120,000 b/d, although the marketing director for the National Iranian Oil Company (NIOC), Hojatallah Ghanimi Fard, has said Iran could take 500,000 b/d.³ In fact the swap has proceeded in fits and starts, due to Iranian objections about quality and therefore price. In May 1997, it was agreed to change the mix of oil from 50 per cent oil from the Tengiz field and 50 per cent from the Buzachi field to 80/20, which may put exports on a more steady basis.⁴ Recent Kazakhstani statements have been optimistic that the 40,000 b/d target can be reached in late 1997.

Uzbekistan: 3000 b/d. Since early 1997 Glencore has been sending by rail 2400-3600 b/d of condensate from Kacahl Banar in Uzbekistan to Iran's Bandar-e Khomeyni port on the Persian Gulf for re-export.⁵

Gas

Iran is building a 25-mile, \$90-million, 40-inch pipeline from Kurtkui to the Turkmenistani border connected to a 60-mile, \$100-million, 40-inch pipeline on the Turkmenistani side which goes to the Kopedzke field.⁶ Iran is financing the entire \$190-million project, which was 85 per cent complete in July 1997.⁷ Initial deliveries, set to start in February 1998, are to be 2 billion cubic meters a year (cm/y), which is equivalent to 188 million cubic feet a day (cf/d). That is the energy equivalent of 34,000 b/d of oil. Eventually, after additional testing and construction of more compressor stations, the pipeline is supposed to carry 12 billion cm/y, equal to 1.13 billion cf/d (equivalent to 206,000 b/d of oil). There is also talk of a 35-mile pipeline to hook up Turkmenistan's Dauletabad field to the Iranian Northeast pipeline.⁸

The Turkmenistani-Iranian pipeline will carry gas into Iran's 30/36-inch northeast pipeline. That pipeline was originally built to carry 12 billion cm/y from Iran's Sarakhs field to the major city of Mashhad and the electricity generation plant at Nekaa.⁹ In the early 1990s, Iran's northeast pipeline was connected to the main Iranian gas network built around the old IGAT pipelines which were designed to carry gas from the Persian Gulf to Azerbaijan, then part of the USSR.

Iran plans to sell gas to Turkey. The gas is to be exported through a 150-mile pipeline in Iran, stretching from the two IGAT pipelines to the Turkish border. The new pipeline, which will connect to a 650-mile pipeline in Turkey, will carry 3 billion cm/y at first, which is to rise over time to 10 billion cm/y.¹⁰ Turkey and Iran are financing their respective proportions of the pipeline, which could be ready by late 1998 or early 1999, assuming no construction delays. The value of Iran's projected gas exports to Turkey, which are to last 23 years, have been variously valued at \$18 billion to \$23 billion.¹¹

The gas exported by Iran to Turkey may be balanced by the gas Iran imports from Turkmenistan. For one thing, it is not clear Iran has the extra gas to export to Turkey. Iran has sharply increased its consumption of gas. In 1981, Iran consumed 6 billion cm/y; twelve years later, in 1993, Iran consumed 27 billion cm/y, and in 1996, 40 billion cm/y (3.9 billion cf/d) which is equivalent to 445,000 b/d of oil.¹² Plus, Iran has introduced an extensive programme to re-inject gas into older oil fields, which raises the pressure and therefore allows extraction of more of the oil in those fields. Iran re-injected 2 billion cm/y in 1981, and 22 billion cm/y in 1993. Adding together the consumption and re-injection, Iranian use of gas went from 8 billion cm/y in 1981 to 49 billion cm/y in 1993, and probably 62 billion cm/y in 1996. It seems unlikely that Iran will be able to produce much more than this unless billions of dollars are invested in a major new gas project, most likely the South Pars gas field (offshore in the Gulf, overlapping the border between Iranian and Qatari waters). It would certainly be difficult for Iran to meet growing domestic demand and simultaneously to export 10 billion cm/y to Turkey unless South Pars is developed.

Importing gas from Turkmenistan is potentially much cheaper for Iran than developing its own gas reserves. Turkmenistan has lots of gas production capacity that it cannot use at present because there is no market for its gas; its former markets in the old Soviet Union have dried up as the economy there shrunk and as energy prices were raised from derisory lows to world market levels.

Turkmenistan's alternatives for selling gas are not good. Turkmenistan's 1996 agreement with the Russian gas pipeline company, Gazprom, specified that Turkmenistan was to earn \$42 per thousand cubic meters, which is the energy-equivalent of \$6.70 per barrel, and it would seem that Gazprom only paid about half of that.¹³ So it would seem profitable for Iran and Turkmenistan if

Turkmenistan were to sell gas to Iran at a low rate: Turkmenistan would earn more than on the gas it sells to Gazprom, and Iran would save the cost of developing a major new field. But the Turkmenistani leadership has been unwilling to recognise the country's poor bargaining position, and it has been insisting on unrealistic terms.¹⁴

There has been much talk about a gas pipeline from Turkmenistan to Turkey. In fact, no such pipeline is anywhere near the construction stage. Iran, Turkmenistan and Turkey signed on 14 May 1997 an agreement for a pipeline from Turkmenistan to Turkey and beyond, but no financing has been identified for this project, which is years from beginning construction.¹⁵ Presumably this pipeline will be an extension into Turkey of the 56 - inch Turkmenistan transcontinental pipeline agreed to earlier between Iran and Turkmenistan.¹⁶ The proposal is for two-stage construction. Stage one, costing \$2.3 billion inside Iran, and \$0.3 billion in Turkmenistan, would have five compressor stations, giving a 15 billion cm/y capacity (1.45 billion cf/d, equivalent to 258,000 b/d of oil). Stage two would add an additional five compressor stations, raising this capacity to 28 billion cm/y (2.7 billion cf/d, equivalent to 482,000 b/d of oil). All of this is many, many years away.

1 US Department of State (1997), Caspian Region Energy Development Report, p.4: Global proved reserves at the end of 1996 were 1.037 billion barrels of oil and 141.3 billion cubic metres of gas (British Petroleum, BP Statistical Review of World Energy 1997, pp. 4 and 20). One cubic metre of natural gas is 35.3 cubic feet or 36 thousand British thermal units (BTUs). One thousand cubic meters of gas is the energy equivalent of 6.29 barrels of oil.

2 Klasson, Mikhail and Krotova, Yelena (1996), 'Ashgabat and Moscow Will Be Selling Turkomen Gas Together', Delovoy Mir, Moscow, 16-22 August, p. 4, as transmitted by Foreign Broadcast Information Service (FBIS), 3 October 1996 and Delovoy Mir, 8-11 August 1997, p. 6, as transmitted by FBIS, 14 August 1997.

3 The Turkish energy minister, Recai Kutan, quoted in The Financial Times, 29 April 1997, p. 4.

4 Morgan, Dan and Ottoway, David (1997), 'U.S. Won't Bar Pipeline Across Iran', Washington Post, 27 July 1997, pp. A1 and A27.

1 Farman-Farma, Amir (1997), 'Moving Caspian Crude Oil and Products Through Iran', Petroleum Intelligence Weekly, 11 August 1997, p. 9.

2 Islamic Republic News Agency, 15 May 1997, citing the Azeri newspaper Gunay.

3 Petroleum Argus, 15 November 1996.

4 According to the Kazakhstan National Oil Company president, Nurlan Balgimbayev, in Interfax, 19 May 1997.

5 Farman-Farma, Amir (1997).

6 'Turkmenistan: Pipeline to Europe opens export potential', Petroleum Economist, May 1997, p. 129.

7 According to Hossain Karimi Ashtiyani, head of the project, as quoted in the Middle East Economic Digest, 1 August 1997.

8 'Turkmenistan: Pipeline to Europe opens export potential', Petroleum Economist, May 1997, p. 129.

9 International Energy Agency (1995), Middle East oil and Gas, Paris: OECD/IEA, pp. 118-132.

10 According to the Turkish Ministry of Energy and Natural Resources, Turkish Radio and Television (TRT), 5 November 1996, as transcribed in FBIS on the same day) and to the Iranian oil minister, Aqazadeh (cited in the Middle East Economic Digest, 15 November 1996).

11 The actual value will depend upon the price of gas over the life of the contract. The exact procedure for setting that price does not seem to have been determined. The lower estimate of \$18 billion seems more plausible Middle East Economic Digest, 1 August 1997, p. 13.

12 International Energy Agency (1995), *ibid.*, p. 233, and Middle East Economic Digest, 1 November 1996.

13 Klasson, Mikhail and Krotova, Yelena (1996), 'Ashgabat and Moscow Will Be Selling Turkomen Gas Together', Delovoy Mir, Moscow, 16-22 August, p. 4, as transmitted by FBIS, 3 October 1996.

14 Gazprom board chairman, Rem Vyakhirev, noted the Gazprom has no need for Turkmen gas Delovoy Mir, 8-11 August 1997, p. 6, as transmitted by FBIS, 14 August 1997.

15 Middle East Economic Digest, 23 May 1997, p. 17.

16 'Turkmenistan: Pipeline to Europe opens export potential', Petroleum Economist, May 1997, p. 129.
