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The Ex-Soviet States and Asia-Pacific: Energy Outlook to 2010

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The former Soviet republics — which are referred to in this paper as the newly independent states (NIS) and which taken together remain among the world's largest energy producers, consumers and exporters — will certainly play an important role in shaping the future global energy balance, and particularly that of the Asia-Pacific region. However, due to present economic and political uncertainties, potential energy flows between the NIS and the rest of the world are difficult to predict. Thus assumptions about these flows play a key role in global and regional projections.

Our reference case scenario assumes an actual restoration of the NIS potential as a net exporter of the main internationally tradable energy sources (oil, gas and coal) by the end of this century, with an aggregate exportable surplus reaching 6.2 mboe/d in 2000 and exceeding 8.2 mboe/d by 2010. (See Table 1.)

Because of the geopolitical position of NIS, and in part due to already existing transport infrastructure, the bulk of these fuel exports will go to Europe. As such they will only indirectly influence energy markets the Asia-Pacific area. Nevertheless, a certain part of these supplies, especially those originating east of Siberia (i.e.,

Table 1: Outlook for NIS Production and Consumption of Main Energy Sources

	1990[a]	1992[a]	1995	2000	2005	2010
Oil						
Production (MT)	571	453	372	460	505	535
mboe/d	*11.71*	*9.27*	*7.63*	*9.41*	*10.36*	*10.98*
Russia	516	401	310	355	370	380
Kazakhstan	19	26	30	48	65	70
Azerbaijan	12.5	11	12	22	25	27.5
Consumption (MT)	425	349	272	310	335	355
mboe/d	*8.77*	*7.17*	*5.61*	*6.38*	*6.91*	*7.32*
Exportable Surplus (MT)	146	104	100	150	170	180
mboe/d	*2.94*	*2.10*	*2.02*	*3.03*	*3.45*	*3.66*
Gas						
Production (Bcm)[b]	815	781	822	930	1015	1075
mboe/d	*13.38*	*12.78*	*13.49*	*15.23*	*16.67*	*17.65*
Russia	641	640	654	720	765	805
Turkmenistan	88	60	73	90	105	120
Consumption (Bcm)	707	682	717	770	815	855
mboe/d	*11.61*	*11.17*	*11.78*	*12.61*	*13.38*	*14.04*
Exportable Surplus (Bcm)	108	99	105	160	200	220
mboe/d	*1.77*	*1.61*	*1.71*	*2.62*	*3.29*	*3.61*
Coal						
Production (MT)	703	606	583	610	665	715
mboe/d	*6.81*	*5.83*	*5.65*	*5.87*	*6.50*	*6.95*
Russia	396	337	314	325	340	360
Ukraine	165	134	134	140	145	155
Kazakhstan	131	127	125	135	170	190
Consumption (MT)	681	574	549	565	600	635
mboe/d	*6.54*	*5.44*	*5.24*	*5.32*	*5.71*	*5.98*
Exportable Surplus (MT)	22	32	34	45	65	80
mboe/d	*0.27*	*0.39*	*0.41*	*0.55*	*0.79*	*0.97*

(a) Actual.
(b) Measured under ex-USSR standard conditions (20°C and 760 mm Hg).

Note: Conversion to barrels of oil equivalent (boe) takes account of the current *gross* energy content of fuels produced/consumed in different ex-Soviet states and was done on the basis of the following ratios: 1 boe = 5.8 MMBtu = 0.144 TOE (1 TOE = 40.3 MMBtu = 7.414 boe).

New source of energy supply for Asia-Pacific region

in the Russian Far East), will find their way directly into the Pacific Rim and intertwine with energy flows of the neighbouring Asia-Pacific countries.

The Russian Far East (RFE) is emerging as a new major source of supply for the rapidly growing Asia-Pacific energy markets. Beyond 2000, thanks to ongoing and earmarked resource developments, the RFE can substantially increase its self-sufficiency

in crude oil, become a marginal exporter of light products (gasoline and jet fuel), restore and strengthen its status of a supplier of coking coal, and provide massive supplies of natural gas to neighbouring Pacific countries. This will not only reshape today's matrix of energy flows in the Asia-Pacific, but may also noticeably repaint existing patterns of geopolitical relationships in the region.

Under the most probable circumstances (the reference case),[1] the RFE's current heavy dependence on outside supplies of crude oil (82% in 1992) is likely to decrease to 37% by the year 2000 and further down to 11% by 2010. In this case, the region's net import of crude oil will shrink from 163,000 b/d in 1992 to less than 80,000 b/d in 2000 and to only 30,000 b/d in 2010. The region's projected deficit in the main oil products (excluding lube oils, bitumen and LPG) will decrease from 233,000 b/d in 1992 to some 200,000 b/d in 2000 and less than 160,000 b/d in 2010. As for coal, a tangible exportable surplus can appear only after the year 2005 and is likely to amount to 10 million tonnes per year by 2010. In turn, as soon as the year 2000, the region will have a sizeable and sustainable exportable surplus of 950 mmscfd of natural gas, which will be further developed beyond 2005 to 1.4 Bscfd by the year 2010. (See Table 2.)

All in all, while emerging as a major natural gas exporter, the RFE will still remain dependent on imported supplies of crude oil and products. This does not mean, however, that no oil will be available for exports from the region. Most likely, some of the region's requirements in crude and products will still be satisfied by supplies from West and East Siberia, while some of RFE's oil will be acquired by foreign investors as compensation for their participation in upstream and downstream projects. This can result in gross exports from the region of up to 70,000 b/d of crude and 20,000 b/d of products by the year 2000, and up to 140,000 b/d of crude and 50,000 b/d of products by 2010. As well, up to 10 million tonnes of high-quality Yakutian coking coals can be annually available for export by the end of this century, and up to 20 million tonnes per year by 2010.

Foreign investment opportunities

Still, it is worth recalling that the RFE's energy future, and especially implementation of its export-oriented plans to tap the region's fuel potential, greatly depend upon the active participation of foreign investors. Consequently, the foreign trade component of the RFE's fuel balances is extremely sensitive to other countries' involvement in the region's energy resource development. And only close cooperation with other countries of the Pacific Rim will bring about export levels high enough to influence the existing Asia-Pacific market. Japan, the US and South Korea are now the

1/ The following projections reflect the base-scenario findings of a recently completed in-depth study entitled *Oil and Gas in the Russian Far East* prepared through cooperation between GAPMER and Fesharaki Associates Consulting and Technical Services, Inc. (FACTS). It is available from FACTS, P.O. Box 61806, Honolulu, Hawaii 96839, USA.

Table 2: Fuel Balances of the Russian Far East – 1992-2010 – Reference Case

	1992[a]	1995	2000	2005	2010
Crude Oil[b]:					
Production ('000 b/d)	36.6	32	132	170	240
Consumption[c] ('000 b/d)	199.5	204	209	228	270
Surplus ('000 b/d)	-162.9	-172	-77	-58	-30
'000 boe/d	*-164.5*	*-174*	*-78*	*-59*	*-30*
Oil Products:[d]					
Production ('000 b/d)	173.5	183	193	215	252
Consumption[e] ('000 b/d)	406.0	387	391	404	410
Surplus ('000 b/d)	-232.5	-204	-198	-189	-158
'000 boe/d	*-235.9*	*-207*	*-201*	*-192*	*-161*
Natural Gas:					
Production (mmscfd)	305	380	1,610	1,900	2,850
Consumption[e] (mmscfd)	305	380	660	950	1,470
Surplus (mmscfd)	-	-	950	950	1,380
'000 boe/d	-	-	*162*	*162*	*236*
Coal:					
Production (MT)	40.3	50	60	70	80
Consumption[e] (MT)	40.8	49	67	68	70
Surplus (MT)	-0.5	1	-7	2	10
'000 boe/d	*-6.1*	*12*	*-85*	*24*	*122*

(a) Actual. (b) Including condensate. (c) Refinery intake, own and direct use, losses and stocks change. (d) Main products (gasoline, jet fuel, diesel/gasoil and fuel oil) only. (e) Including own use, losses and stocks change.

key players, but the PRC, Taiwan, Australia and Canada could all have important roles to play in developing these resources and/or providing capacious market outlets.