

# 4

## EU Dependence on Russian Energy

### **Introduction: *primus inter pares* – Russia in EU energy security**

Goods and influence travel between the Russia and the collective economic area demarcated by the 27 member states of the European Union (EU), so if the latter were asymmetrically and totally dependent on Russia, analysis of the geopolitics of EU–Russian interactions would be simple. However, the particular nature of their mutual energy trade (or their ‘money-for-energy’ exchange) has clearly advantaged Russia over the EU at saliently critical times, as in January 2006 and 2009, when Russia’s dominant gas-producing and exporting firm Gazprom halted the flow of gas to Ukraine, which in turn stopped feeding the Europe-bound transit pipeline. Moreover, a considerable heterogeneity marks EU member states’ respective patterns of fuel importation and thus shapes their disparate views on the best way to deal with Russian and other energy exporters. Analysing this heterogeneity is tractable, however, due to a salient divide between the EU15 core, elements of which prefer direct channels of access to Russian gas, and the newer EU10 (now EU12) members, some of which serve as transit states and have thus expressed concern that these projects could elevate the risks of flow manipulation inhering in their near-absolute dependency on Russian fuel sources.

Consequently, while the benefits of using energy more efficiently and exploiting renewable sources, thereby limiting carbon emissions, possibly boosting domestic or intra-EU27 employment and curtailing importation of hydrocarbons, have diffused widely within the EU, member states remain split on the necessity and desirability of reducing dependence on Russia. Key EU15 states could cite the post-Cold War trend of declining relative EU reliance on Russian gas imports to identify

the problem as arising not from rent-seeking behaviour by Russia's respective oil and gas pipeline monopolists Transneft and Gazprom (see the following chapter), but from the often disputatious movement of Russian energy supplies across Belarus and Ukraine. Conversely, the EU10, which were unanimously awarded membership by the EU15, have fewer means to mitigate the worst short-term consequences of being more highly dependent on Russian oil and gas. During the 2009 gas cut, for example, Slovakia was reprimanded for moving to ramp up output from a Soviet-era nuclear power plant (NPP), considered one of the three most dangerous in Europe and slated for decommissioning as a condition for EU10 states' 2004 accession (Pancevski, et al., 2009, p. 31; Wagstyl and Ward, 2010, p. 8). Not surprisingly, then, new member states and the European Commission have been decidedly more supportive of measures to broaden the EU's external supplier base, not simply its selection from the menu of supply routes for Russian energy.

Yet, diversification itself has posed a key dilemma for the European Commission and even for the most heavily Russia-dependent member states. As the steep overhead costs and prolonged gestation times associated with diversification projects better allow the monopoly supplier of Russian-controlled gas to obstruct them, the European Commission has had to hedge its bets on major diversification by cultivating various institutional accoutrements of its existing energy 'partnership' with Russia. While it incorporates policies that reflect collective EU27 interests, this partnership seems intended to lend legitimacy to separate and often cross-cutting interests of particular member states. Major energy firms and governments in key EU15 states, namely France, Italy and Germany, by no means the most highly dependent on Russian gas imports, are undertaking joint projects to pipe these imports around extant transit territories, especially as they do not have to incur the largest political costs and risks entailed by this sort of EU-Russian partnership. Moreover, the gathering momentum behind certain of these projects has induced even those EU member states that are more heavily dependent on Russia to jump on the bandwagon for fear of being left out of the pipeline nexus altogether. Consequently, the European Commission has struggled to forge a common energy policy that would establish a 'single reference point' and enable the EU to 'speak with the same voice' (European Commission, 2006b, p. 5) on the need for sufficient diversity of exporters – not just diversion of Russian gas routes – that would ensure against future disruptions in imported energy deliveries.

This chapter addresses, in succession, Russia's role as an EU energy provider, the complications in this energy trade that are posed by the presence of multiple transit territories and the EU's efforts to try to influence the policies and actions of Russia and the transit states in order to ensure its energy security.

### **A Russo-centric profile of EU energy security**

The concept of energy security is closely tied to notions of dependency on foreign suppliers. However, relevant levels and measures of dependency differ. A pivotally significant measure consists of *economic* dependency on energy, as indicated by gross domestic product (GDP) spent by consumers on energy and imports or that earned by producers on energy exports (and rates of growth or decline in those fractions), as well as those volumes of energy required to generate units of GDP (and rates of change in those volumes). Empirically speaking, importing economies have typically decoupled themselves from energy consumption to a greater extent than exporting economies from energy production (Ahrend, 2005, pp. 584–609; Lucas, 2008, p. 90).<sup>1</sup> Notably, according to the European Commission's Eurostat (2010a) database, the energy intensity of the present-day EU27 economy fell by 12 per cent, from 193 kilograms of oil equivalent (kgoe) required to generate € 1000 of GDP in 1999 to 169 kgoe in 2007.

Indeed, economic measures of Russian dependency on their mutual energy trade far exceed those of the EU. In economic terms, though its 2007 trade in mineral fuels with the Russian Federation accounted for over half of the EU27's overall trade deficit, imports of Russian mineral fuels made up less than 7 per cent of the total value of EU imports and an infinitesimal fraction of the EU's overall 2007 GDP of nearly € 13 trillion (Eurostat, 2010b). Conversely, Russia exports one-quarter of its oil production and three-quarters of its extracted gas to the EU (BP, 2008), with oil and gas together having comprised nearly one-half of Russia's total 2006 exports by value and roughly 15 per cent of its overall GDP (World Bank, 2007). The United Nations (2002, pp. 850, 853; 2007, p. 5) has indicated a 19-per cent increase (from 42 per cent in 1999, at the depths of Russia's earlier economic crisis, to 61 per cent in 2007) in the mineral fuels-based proportion of Russia's overall export portfolio by value. This implies that Russia cannot readily embargo energy supplies to European customers, as it has done with Former Soviet Union (FSU) importing countries, without harming itself.

Even if the focus is limited to the issue of how consumers can ensure *physical* supplies, individual countries rely on different total energy demands, various mixes of energy sources, disparate volumes of imports (overall and by fuel source) and varying ranges of external suppliers. Therefore, a single country or a distinct aggregation of countries can experience different permutations of dependency with divergent geopolitical implications. At one end of the continuum, economic growth might require no incremental input of energy. By contrast, consumer prosperity could be tightly shackled to specific volumes and portfolios of fuel supplies from one foreign producer. Most economies lie somewhere in between these extremes. For example, an economy may import a particular fuel from only one exporting country without relying much on large overall volumes of imports to satisfy its demand for that source of energy. Another economy may import sizable quantities of a fuel, but from a wide array of exporters. Whatever the case, a country's respective advantage or predicament in this regard has a significant bearing on the political stance it takes vis-à-vis its most salient energy suppliers. Simultaneously underscoring both a need for and an impediment to a common energy policy, disparate levels and types of energy dependency across EU member states have undeniably frustrated efforts to ensure that 'Europe speaks with one voice and acts accordingly' on matters of crucial urgency to its energy security (European Commission, 2008a, p. 10).

#### EU energy demand trends: is pro-environment also pro-Russia?

Chapter 3's brief survey suggests that long-term trends in both overall demand for energy and energy imports as well as in the consumption and importation of specific fuels can help situate Russia in the analysis of how and to what extent the EU's economy remains vulnerable from an energy standpoint. As Table 4.1 indicates, over a 15-year post-Cold War period ending in 2007, the EU27's gross inland energy consumption grew by 11 per cent, with this expansion concentrated in the EU15. While growth in EU27 oil demand just kept pace with its rising total energy demand, nuclear power use rose by 15 per cent, but use of solid fuels, centrally coal, fell by 18 per cent. The EU27's respective demands for gas and renewable energy rose by 46 and 81 per cent over the period 1992–2007, with EU15 gas demand increasing by 57 per cent and consumption of renewable energy sources in EU10-coterminous territory growing by 150 per cent from a smaller baseline. While some of this change has accompanied efforts to comply with environmental

Table 4.1 Gross inland energy consumption – EU and Turkey

	1992	2007	Change (%)
Austria	25873	33809	31
Belgium	51756	57377	11
Denmark	18973	20516	8
Finland	28102	37630	34
France	239055	270272	13
Germany	342601	339568	-1
Greece	23174	33488	45
Ireland	9914	15883	60
Italy	154789	183452	19
Luxembourg	3801	4655	22
Netherlands	70959	84542	19
Portugal	19065	25975	36
Spain	95476	146812	54
Sweden	46431	50564	9
United Kingdom	215738	221092	2
<b>EU15</b>	<b>1345707</b>	<b>1525634</b>	<b>13</b>
Cyprus	1792	2726	52
Czech Republic	44778	46241	3
Estonia	6944	6029	-13
Hungary	25203	27020	7
Latvia	6135	4764	-22
Lithuania	10845	9151	-16
Malta	619	946	53
Poland	97431	97982	1
Slovakia	17662	18074	2
Slovenia	5277	7346	39
<b>EU10</b>	<b>216687</b>	<b>220278</b>	<b>2</b>
Bulgaria	20731	20341	-2
Romania	46924	40083	-1
<b>EU27</b>	<b>1630049</b>	<b>1806336</b>	<b>11</b>
Turkey	54770	101510	85

Units: 1000 tonnes of oil equivalent (toe).

Source: Eurostat (2010a).

commitments mandated in the 1997 Kyoto Protocol to the 1992 UN Framework Convention on Climate Change, the EU10(12) slashed its aggregate coal use by one quarter, largely due to the downsizing of their antiquated Soviet-style heavy industrial sectors.

The International Energy Agency (2009f, pp. 632–3) has projected expansion in overall EU27 demand for energy to slow to less than 2 per cent during the period 2007–30, with coal, oil and nuclear power

declining, both in absolute and in relative terms, at the expense of natural gas and a basket of various renewable energy sources. Accordingly, total CO<sub>2</sub> emissions from the EU area have entered a downward trajectory. They fell by 4 per cent between 1990 and 2007 and are expected to fall another 10 per cent by 2030. The respective 33 and 26 per cent fractions of total 2007 emissions generated by the burning of coal and natural gas are projected to reverse places by 2030, with oil retaining its relatively larger share of 41–2 per cent.<sup>2</sup>

Since the end of the Cold War, the fuel mix of the EU's energy basket has undeniably shifted. As Table 4.2 shows, natural gas, which supplied nearly 18 per cent of the EU27's fuel consumption requirements in 1992 and drove approximately three-quarters of its total energy demand

Table 4.2 Energy mix – EU and Turkey (% of gross inland energy consumption)

	Solid fuels		Oil		Gas		Nuclear		Renewables	
	1992	2007	1992	2007	1992	2007	1992	2007	1992	2007
Austria	13	11	44	41	21	21	0	0	21	24
Belgium	19	8	41	39	17	26	21	22	1	3
Denmark	36	23	44	41	11	20	0	0	7	17
Finland	17	19	34	29	9	10	18	16	19	23
France	8	5	38	34	12	14	37	42	8	7
Germany	30	26	40	33	17	23	11	11	2	8
Greece	35	32	59	51	1	10	0	0	5	5
Ireland	31	14	49	55	19	27	0	0	2	3
Italy	8	9	58	44	27	38	0	0	5	7
Luxembourg	27	2	51	63	12	26	0	0	1	3
Netherlands	12	10	37	44	47	40	1	1	1	4
Portugal	15	11	69	54	0	15	0	0	15	18
Spain	22	14	52	48	6	22	14	10	5	7
Sweden	5	5	31	28	1	2	36	34	27	31
United Kingdom	28	18	39	36	24	38	9	7	1	2
EU15	20	15	43	38	18	25	14	14	5	8
Cyprus	1	1	99	96	0	0	0	0	0	2
Czech Republic	61	46	18	22	13	15	7	15	1	5
Estonia	65	61	22	19	10	13	0	0	7	10
Hungary	20	12	31	28	31	40	14	14	2	5
Latvia	9	2	41	34	28	29	0	0	16	30
Lithuania	4	3	37	30	26	32	35	30	3	9
Malta	0	0	100	100	0	0	0	0	0	0
Poland	76	57	14	26	8	13	0	0	2	5
Slovakia	33	22	20	21	28	28	16	22	2	5
Slovenia	30	22	30	35	12	12	20	20	11	10

EU10	55	41	21	26	15	19	7	8	2	6
Bulgaria	36	39	27	25	20	15	14	19	2	5
Romania	23	25	26	26	45	33	0	5	5	12
EU27	25	18	39	36	18	24	13	13	5	8
Turkey	31	29	43	32	7	30	0	0	18	9

Source: Calculations based on Eurostat (2010a).

growth, came to meet nearly 24 per cent of overall EU27 energy needs by 2007. Gas is projected to fill nearly 29 per cent of the EU27's 2030 energy requirements. This fraction grew less dramatically for the EU10, rising from 15 to 19 per cent of their collective energy demand. Oil and nuclear power have accounted for relatively static shares – 37–8 per cent and 12–13 per cent, respectively – of the EU27's overall energy demand, although these respective proportions are projected to fall to 31 and 11 per cent of the 2030 demand mix. The EU10's aggregate oil consumption rose from 17 to nearly 21 per cent of its total energy demand.

During the same time period, coal's one-quarter share of the EU's 1992 energy consumption fell to nearly 18 per cent in 2007, with the EU10 easing its combined reliance on coal from a relatively higher 55-per cent baseline to 41 per cent. Accounting for nearly the same proportion of the EU27's total growth in gross inland energy consumption as oil, use of renewable energy sources (inclusive of hydropower) soared in absolute terms across the entire EU27, as this basket of myriad fuel sources expanded from a relatively negligible level. In short, the EU27 has essentially substituted cleaner-burning renewable sources and natural gas for coal, a process that has in turn confronted the EU with the pressing question of how to access more non-Russian sources of external gas supply.

#### Rising EU dependence on Russian oil joins an enduring reliance on its gas

Due to steady growth in its energy consumption requirements, nearly all of this increase having been motored by the EU15, the EU27 became dependent on imports to meet over half of its total energy needs between 2003 and 2004 (Eurostat, 2009a, pp. 456–7). Analysis of the three main hydrocarbon fuel categories – coal, oil and natural gas, in which importation is salient, helps to pinpoint where this dependency is most relevant in terms of identifying and strengthening the weakest links in EU energy security.

### Coal

Trends relevant to the sub-categories of brown or soft coal (lignite) and black or hard coal serve as strong proxy measures for what is happening in terms of the overall consumption and importation of solid fuels in the EU. While imports met less than one per cent of the EU27 area's 2007 lignite consumption requirements, with Russian brown coal rising from 27 per cent of total imports in 1992 to 89 per cent in 2004 before dropping off to 17 per cent in 2007, thus showing no definitive trend, the proportion of EU27 black coal demand met by external suppliers rose from just under one-third in 1992 to nearly three-fifths in 2007. Moreover, Russia's share of these imports climbed from a comparatively minuscule 7 per cent in 1992 to roughly one-quarter 15 years later.

Import dependency has been even more pronounced and subject to a sharper rate of increase within the EU15 core. Reliance on foreign suppliers to meet EU15 collective black coal needs rose steeply from 46 per cent in 1992 to just over four-fifths in 2007, with Russia's share of these imports also growing from about 5 per cent to just over one-fifth. Even though Russia accounted for a relatively steady 24 per cent fraction of aggregate EU10 imports over the period 1992–2007, imports as a percentage of total lignite consumption dropped off sharply. Conversely, imports supplied an expanding fraction of EU10 hard coal demand, with Russia's share of that import basket climbing from 18 per cent to just over two-thirds. Nonetheless, for environmental and geological reasons, coal fills a declining portion of EU energy demand, thus mitigating the countervailing trend of rising dependency on general imports and Russian supply.

### Crude oil

Both crude oil consumption in the EU and exports to this area grew slightly between 1992 and 2007. While combined EU10 oil demand rose by nearly 23 per cent, EU27 crude consumption grew by only 10 per cent over the period in question. Growth in EU27 importation approximated 4 per cent. However, as shown in Table 4.3, dependence on external suppliers to meet its oil demand remained high, making the EU27 most heavily import reliant in terms of oil, and imports of Russian crude into the EU experienced a phenomenal ascent, soaring from just over 1 per cent of extra-EU27 imports in 1992 to one-third in 2007, with the EU10 coming to depend on Russia to fill over nine-tenths of its collective oil import basket. Consequently, the presence of Russian supplies

Table 4.3 Crude oil-import dependency ratios – EU and Turkey

	Non-EU crude imports		Non-EU crude imports		Russian crude imports		Russian crude imports	
	% Crude consumption	% Energy consumption	% Crude consumption	% Energy consumption	% Non-EU crude imports	% Crude consumption	% Energy consumption	
	1992	2007	1992	2007	1992	2007	1992	2007
Austria	84	87	37	36	0	3	0	1
Belgium	95	94	39	37	0	50	0	19
Denmark	47	26	21	11	20	0	9	0
Finland	57	83	19	24	23	89	13	5
France	90	91	34	31	0	14	0	4
Germany	83	82	33	27	0	38	0	10
Greece	104	106	61	55	2	32	18	1
Ireland	101	63	49	35	0	0	0	0
Italy	95	95	56	42	0	19	0	8
Luxembourg	0	0	0	0	0	0	0	0
Netherlands	89	78	33	34	0	36	0	12
Portugal	93	99	64	54	0	0	0	0
Spain	94	98	49	47	0	23	0	11
Sweden	76	68	24	19	7	49	5	2
UK	53	62	21	22	4	13	2	3

Table 4.3 (Continued)

	Non-EU crude imports				Russian crude imports					
	% Crude consumption		% Energy consumption		% Non-EU crude imports		% Crude consumption		% Energy consumption	
	1992	2007	1992	2007	1992	2007	1992	2007	1992	2007
EU15	85	85	35	33	10	27	8	22	3	9
Cyprus	103	0	102	0	0	0	0	0	0	0
Czech	99	97	18	21	0	65	0	63	0	14
Estonia	0	0	0	0	0	0	0	0	0	0
Hungary	73	93	23	26	0	97	0	90	0	25
Latvia	100	0	41	0	0	0	0	0	0	0
Lithuania	99	100	37	30	0	96	0	97	0	29
Malta	0	0	0	0	0	0	0	0	0	0
Poland	99	103	14	26	0	97	0	100	0	26
Slovakia	98	102	19	22	0	100	0	102	0	22
Slovenia	99	0	30	0	0	0	0	0	0	0
EU10	94	100	16	21	0	93	0	92	0	19
Bulgaria	92	100	25	25	100	65	92	65	25	16
Romania	50	65	13	17	0	55	0	36	0	9
EU27	83	85	33	31	1	33	1	28	0	10
Turkey	83	90	35	23	2	39	2	35	1	9

Source: Calculations based on Eurostat (2010a).

grew from nearly 12 to 28 per cent of EU27 oil demand, as though the EU was still engaged in a process, dating back to the 1973–74 Arab oil embargo (Goldman, 2008, pp. 46–7), of moving away from Organization of Petroleum Exporting Countries (OPEC) in the direction of Russia.

Because the EU27's collective crude oil demand rose by nearly one-tenth from 1992 to 2007, increasing dependency on one particular exporter that has utilised pipelines extensively to ship not only gas but also oil counsels prudence against becoming complacent about the oft-touted capacity of oil's prevailing 'spot market' structure to adjust and compensate for shortfalls from any one particular supplier. In 2007, for example, five EU member states – the Czech Republic, Germany, Hungary, Poland and the Slovak Republic – together received 63 million metric tonnes per annum (mmta), just under one-third of all exports of Russian crude and Transneft-controlled crude, through the Druzhba ('Friendship') Pipeline (Energy Information Administration, 2008b, p. 5). After the main trunk of the pipeline forks into two at Mozyr, a Belarusian refining hub, the northern branch carrying most of Druzhba oil serves Germany and Poland and the southern branch, from which spurs connect to the Odessa–Brody and Adria pipelines, carries the minority share to the three other EU member states (International Energy Agency, 2010, pp. 23–4). While this volume made up 35 per cent of EU27 crude oil imports from Russia, but only 11 per cent of all EU27 crude imports and 10 per cent of EU27 crude oil demand, for the five member states served by it, this pipeline supplied approximately 87 per cent of their total crude oil imports from Russia, nearly half of their overall imports, and 43 per cent of their crude oil demand. Bulgaria, the Czech Republic, Finland, Hungary, Lithuania, Poland, Romania and the Slovak Republic, four of whom are also supplied by 'Friendship', looked to Russian oil to provide at least half of their respective oil imports and, with the exception of Romania, to supply at least three-fifths of their respective oil consumption requirements in 2007. This oil-import dependency profile bears at least a passing resemblance to that of natural gas.

### Natural gas

Because of its predominantly pipeline-based and multi-jurisdictional transit along the Eurasian landmass, natural gas forms a salient focus of our geopolitical analysis. As indicated by Table 4.4, EU27-area gas imports nearly doubled over the period 1992–2007.

Table 4.4 EU and Turkish imports of non-EU gas (terajoules – gross calorific value)

	Extra-EU27 gas			Russian gas		
	1992	2007	Change (%)	1992	2007	Change (%)
Austria	193225	379607	96	193225	216419	12
Belgium	254898	381798	50	0	31528	+10000
Denmark	0	0	0	0	0	0
Finland	115204	173166	50	115204	173166	50
France	1076912	1438678	34	446260	238022	-47
Germany	1225841	2586105	111	838330	1436060	71
Greece	0	155138	+10000	0	118819	+10000
Ireland	0	0	0	0	0	0
Italy	1083613	2469718	128	503757	863613	71
Luxembourg	2	55948	+10000	0	0	0
Netherlands	98413	0	-100	0	0	0
Portugal	0	174947	+10000	0	0	0
Spain	225149	1465575	551	0	0	0
Sweden	0	0	0	0	0	0
United Kingdom	220519	866401	293	0	0	0
<b>EU15</b>	<b>4493776</b>	<b>10147081</b>	<b>129</b>	<b>2096776</b>	<b>3077627</b>	<b>47</b>
Cyprus	0	0	0	0	0	0
Czech Republic	254451	327343	29	254451	259008	2
Estonia	33381	37372	12	33381	37372	12
Hungary	191344	372938	95	191344	300491	57
Latvia	99298	61201	-38	99298	61201	-38
Lithuania	128699	138425	8	128699	138425	8
Malta	0	0	0	0	0	0
Poland	248080	352748	42	248080	260533	5
Slovakia	222888	238667	7	222888	236839	-6
Slovenia	27960	35364	26	20094	21657	8
<b>EU10</b>	<b>1206101</b>	<b>1636265</b>	<b>35</b>	<b>1198265</b>	<b>1315526</b>	<b>9</b>
Bulgaria	188931	128088	-32	188931	128088	-32
Romania	166688	179802	8	166688	164124	-2
<b>EU27</b>	<b>6055496</b>	<b>11152628</b>	<b>98</b>	<b>3650630</b>	<b>4685365</b>	<b>28</b>
Turkey	169937	1385956	716	169937	857649	405

Note: Gas imports into the EU27 area from non-EU supplier countries are calculated by subtracting *intra*-EU27 imports from *total* EU27 imports for each EU27 member state and by summing to obtain the various respective totals

Source: Calculations based on Eurostat (2010a).

As elaborated on further in subsequent chapters, much of the EU27's rising import dependency did not necessarily leave Gazprom with a tighter chokehold on European gas supplies. While EU15 imports of Russian gas grew by nearly half, EU10 imports rose only slightly, boosting EU27 gas shipments from Russia by 28 per cent over 1992–2007. Yet, as Table 4.5 illustrates, the Russian *share* of EU27 gas imports fell from its high of three-fifths in 1992 to nearly 39 per cent in 2007. Nonetheless, as demand and general importation rose, Russian gas dropped less dramatically as a percentage of EU gross inland gas consumption, from 27 to 23 per cent. According to data given by the International Energy Agency (2009d, pp. II. 30–3, II. 46–9), pipelines supply 85 per cent of the EU27 gas import basket, and Russian gas, all exports of which to the EU27 have been piped, accounted for 46 per cent of the EU27's piped imports.

Most EU member states, with the exception of Denmark, Ireland, the Netherlands, Romania, Sweden and the UK, depended on imports from *outside* the EU27 area to meet more than half of their respective natural gas needs in 2007. Of those relying on *extra*-EU27 imports to meet over half of their demand, only Belgium and Poland imported less than 70 per cent of their gas needs that same year. Moreover, of those EU27 member states who imported over seven tenths of their gas needs, nine smaller economies – Bulgaria, the Czech Republic, Estonia, Finland, Greece, Hungary, Latvia, Lithuania and the Slovak Republic – also relied on Russia to meet over seven tenths of their respective overall gas importation requirements, with six of these countries also highly dependent on Russian crude oil. Of those states, only Hungary depended on Russia to supply less than 70 per cent of its gas consumption needs in 2007.

On the whole, EU member states, especially within the EU15 core, display a wide variety of gas consumption and import-dependency profiles. In one anomalous case, Russia filled just over 90 per cent of Romania's import basket, but, because Romania imported only 30 per cent of its 2007 gas demand, Russia met only 27 per cent of this need, not far above the EU27 average. The import dependencies of EU15 giants Germany and Italy soared by 30 and 20 per cent, respectively, but, while both relied on Russia to fill just over two-thirds and 46 per cent of their respective import baskets in 1992, they cut these respective dependencies on Russian gas to 55 and 35 per cent by 2007. Conversely, France imported a constant 80 per cent of its gas demand between 1992 and 2007, but purchased only 17 per cent of these imports and 13 per cent of all its total gas needs from Russia.

Table 4.5 Gas-import dependency ratios – EU and Turkey

	Non-EU gas imports				Russian gas imports					
	% Gas consumption		% Energy consumption		% Non-EU gas imports		% Gas consumption		% Energy consumption	
	1992	2007	1992	2007	1992	2007	1992	2007	1992	2007
Austria	77	117	18	27	100	57	77	67	18	15
Belgium	61	55	12	16	0	8	0	45	0	1
Denmark	0	0	0	0	0	0	0	0	0	0
Finland	100	100	10	11	100	100	100	100	10	11
France	81	80	11	13	41	17	34	13	4	2
Germany	46	73	9	18	68	56	32	40	6	10
Greece	0	100	0	11	0	77	0	76	0	8
Ireland	0	0	0	0	0	0	0	0	0	0
Italy	57	76	17	32	46	35	26	27	8	11
Luxembourg	0	100	0	29	0	0	0	0	0	0
Netherlands	6	0	3	0	0	0	0	0	0	0
Portugal	0	99	0	16	0	0	0	0	0	0
Spain	83	99	6	24	0	0	0	0	0	0
Sweden	0	0	0	0	0	0	0	0	0	0
United Kingdom	9	23	2	9	0	0	0	0	0	0
EU15	40	58	8	16	47	30	19	18	4	5
Cyprus	0	0	0	0	0	0	0	0	0	0
Czech Republic	94	98	14	17	100	79	94	78	14	13
Estonia	100	100	11	15	100	100	100	100	11	15
Hungary	53	75	18	33	100	81	53	60	18	26
Latvia	124	97	39	31	100	100	124	97	39	31
Lithuania	100	103	28	36	100	100	100	103	28	36
Malta	0	0	0	0	0	0	0	0	0	0
Poland	69	61	6	9	100	74	69	45	6	6
Slovakia	96	100	30	31	100	99	96	100	30	31
Slovenia	98	83	13	11	72	61	70	51	9	7
EU10	81	85	13	18	99	80	80	68	13	14
Bulgaria	100	91	22	15	100	100	100	91	22	15
Romania	17	30	8	11	100	91	17	27	8	10
EU27	44	60	9	16	60	39	27	23	5	6
Turkey	96	98	7	33	100	62	96	61	7	20

Source: Calculations based on Eurostat (2010a).



### 'Thou shalt not pass'? The problematic movement of Russian hydrocarbons to Europe

As Map 4.1 illustrates, a central feature of EU energy security involves the physical transit of much of its importation of Russian and other FSU hydrocarbons across ex-Soviet territories Belarus and Ukraine.



Map 4.1 Europe-orientated Eurasian energy pipelines.  
Source: Energy Information Administration (2008b).

Both transit countries overwhelmingly depend on imports of Russian oil shipped by monopoly pipeline operator Transneft, even though they re-export fractions of the oil as crude or refined products. In fact, 2007 Ukrainian oil imports of 15–16 mmta covered 78 per cent of its total oil supply but only 11 per cent of its total energy needs, while Belarus imported approximately 20 mmta of crude in 2007, which supplied 90 per cent of its oil needs and 46 per cent of its total energy supply. Ukraine exported around 4 mmta, and Belarus 14 mmta, of refined products that year (International Energy Agency, 2009a, p. II. 73, II. 218). Gas met roughly two-fifths of each country's total energy supply (*ibid.*), with exports by Gazprom covering two-thirds of Ukraine's 67-bcma requirement and nearly all of Belarus's 2007 gas demand of 21 bcma (International Energy Agency, 2009d, pp. II. 9, II. 17, II. 33).

These transit countries have exemplified the difficulty of balancing the potentially clashing roles of import-dependent consumer and reliable transit pipeline operator. As they were historically part of the Soviet Union, they consequently enjoyed gas and oil subsidies similar to those in the Russian Republic, a residual legacy of centralised control that continued into the post-Cold War period. Thus, a common element in Russia's bilateral disputes with most FSU countries has been the threat or use of sudden price hikes and energy cut-offs, which are albeit more potent weapons when markets favour sellers, to increase ownership and control over local assets and operations and to stop the economic and political gravitation of these countries and their energy-related assets into US and European orbits (Woehrel, 2009, pp. 7–14).

These disputes have been the main cause of periodic interruptions in Russia's pipeline-based energy deliveries. Belarus hosts both spurs of the aforementioned 'Friendship' Pipeline, the southern leg of which continues into Ukraine before forking again into the EU territories of Hungary and the Slovak Republic (and thenceforth into the Czech Republic). It can also transport oil through another pipeline that forks into both Latvia (Ventspils Port) and Lithuania (the ports of Butinge, in the Mazeikai oil complex, and Klaipeda). Belarus is the only non-Russian transit territory shipping Druzhba oil to Poland and Germany. This northern spur conveyed just under three quarters of this pipeline's oil flow in 2007, accounting for approximately 23 per cent of Germany's extra-EU27 crude oil imports and 18 per cent of its crude oil demand and nearly all of Poland's crude oil imports and demand (Energy Information Administration, 2008b, p. 5; Eurostat, 2010a). While its prevailing 'spot market' structure makes the oil trade literally and figuratively more 'fluid' than the natural gas trade, a large share of oil in international

transit nonetheless moves by pipeline (Energy Information Administration, 2008c, p. 1), and it has been observed that disruptions in Druzhba's operation could inflict some economic damage on its terminus countries as well as raise global prices at the margin (Clover, 2010, p. 2; Kramer, 2010a, p. 9).

Indeed, in January 2007, Transneft halted oil deliveries to Belarus. This occurred in retaliation for a Belarusian failure to accede to Transneft's demand that it accept higher prices and pay an export tariff commensurable to what Belarus was earning from refining Russian oil and re-exporting it to Europe, thus imposing an opportunity cost on Transneft of relinquishing tax receipts that it might have garnered from the direct export of those oil products had they been processed and shipped by Russian exporters. The imbroglio, which resulted in a 3-day stoppage of westbound oil supplies, ended upon Belarus's consent to remit one-third of the normal export duty to Transneft in return for suppressing transit fees required of the latter monopoly Russian oil pipeline operator (International Energy Agency, 2010, p. 23). At the same time, and 1 year after the first of the more renowned halts in the flow of Gazprom gas to Ukraine (see below), Gazprom's threat to halt gas shipments to Belarus was staved off only by an agreement to double Belarusian gas prices over 2006 levels, raise them gradually to world levels by 2011 and give Gazprom a majority stake in local monopoly operator Beltransgaz (Woehrel, 2009, p. 13).

By 2009, Belarus's joining of the EU's Eastern Partnership programme signalled the possibility that a new threshold had been reached in the weakening of President Alexander Lukashenko's fealty to the Kremlin. With the expiration of the previous agreement, concluded for a 3-year period at the end of the previous dispute, the oil dispute reared its head again. Transneft issued a differentiated request, indicating that it wanted to obtain the full tariff rate (then approximately \$267/metric tonnes (mt)) on all Russian crude processed in Belarus and re-exported westwards (about 71 per cent of Belarus's crude imports from Russia), but not on the 29-per cent remainder of Russian oil consumed there domestically (International Energy Agency, 2010, p. 23). On 2–3 January 2010, after renegeing on the offer not to impose export taxes on Belarus's domestically consumed oil and thus provoking a Belarusian counter-threat to raise the price charged for the pure transit of Russian oil from \$3.90/mt to \$45/mt, Transneft cut shipments to Naftan and Mozyr refineries, although westbound transit supplies apparently continued without disruption, unlike during the 2007 dispute (International Energy Agency, 2010, p. 23; Kramer, 2010a, b). Even if another

cut-off were to have occurred in early 2010, all five potentially affected EU27 and IEA member states would have been able to draw down on 90-day emergency oil stocks and resort to alternate routes (such as the Adria Pipeline that brings oil from Croatia's Omisalj Port to Slovakia and pipelines that convey oil from Italy's Trieste Port to the Czech Republic), although the dispute did raise the price of oil futures (International Energy Agency, 2010, p. 23).

However, the most salient issue tied to the tenuous balancing act between consumer and energy transit conductor concerns Ukraine's role in sending four-fifths (roughly 120 bcm) of Russia's gas exports to Europe, thus ensuring that the EU27 continues to obtain the Russian-controlled gas that supplies over one-fifth of its collective gas demand. The first major Gazprom gas cut-off to Ukraine, starting on the last day of 2005 and lasting less than a week, reverberated further 'downstream' into the EU after Ukrainian officials diverted supplies from the transit pipeline, but the next major stoppage, occurring exactly 3 years later, spanned 3 weeks after flows into the transit line were halted to prevent a repeat of Ukrainian diversions (Woehrel, 2009, pp. 7–10). This resulted in a cumulative loss of 7 bcm over the relevant time frame (International Energy Agency, 2009d, p. I. 5).

These disputes revolved around quarrels over Ukraine's accumulated debt for past gas imports from Gazprom, the price it would pay for future imports, and the amount that Ukraine would earn as transit host. However, the seminal dispute of January 2006 also took place in the politically charged context of the 'Orange Revolution' associated with the landmark 2005 election of pro-Western President Viktor Yushchenko (Goldman, 2008, pp. 144–5; Lucas, 2008, p. 168). It was at least partially resolved at the time by creation of joint venture UkrGazEnergo, which granted now defunct partner and intermediary firm RosUkrEnergo, itself half owned by Gazprom, 50 per cent of the Ukrainian market. A brief cut-off to Ukraine in March 2008, depriving it of half of its imports from Gazprom, ended before the burden was passed onto the EU because Ukraine eliminated UkrGazEnergo in favour of conceding to Gazprom direct access to the lucrative industrial market (White, 2008). While the EU had by then developed the storage capacity which would allow it to respond more effectively to the 2009 cut-off (International Energy Agency, 2009d, p. I. 5), economic recession, which reduced Ukrainian gas demand and bolstered stocks, and the concomitant price decrease from \$450 to \$271 per thousand cubic metres facilitated a new gas-payment arrangement (Woehrel, 2009, pp. 9–10). As of early 2010, having concluded a deal with newly elected Ukrainian President Viktor

Yanukovich to cut the price of natural gas by 30 per cent (at a cost to Gazprom of \$30 billion) and waive another potential \$2 billion fine for non-purchased gas in exchange for Ukraine's 25-year extension on Russia's naval basing rights in the Crimea, Moscow revealed its continued interest in consolidating control over Ukraine's gas-transit network via a proposed merger between Gazprom and Ukraine's Naftogaz (Barry, 2010).

### 'Externalising' EU energy policy 'upstream'

As detailed in Chapter 3, it has been understandable for the EU to bring material and institutional leverage to bear in trying to attain implementation of the *acquis communautaire*, the EU's growing panoply of directives and regulations, even in the territory of its 'upstream' energy suppliers. While 'upstream' aptly describes Russia and other source countries, it also encompasses non-EU *transit* countries, which could potentially include Turkey, since the energy sectors in both sets of territories have been distorted by the pervasive and perverse application of subsidies that have deprived them of clear market incentives to extract, consume and transport hydrocarbons more efficiently and switch to environmentally friendlier renewable energy sources. In lieu of having substantial military power-projection capabilities, the EU has had to fall back on 'soft power' tools of (dis)suasion and economic (dis)incentives. However, while its aforementioned market power serves as a basic deterrent to deliberate exporter-initiated cuts in the flow of energy to EU territory, preventing or mitigating abrupt stoppages arising out of disputes between source and transit countries, akin to *force majeure* incidents (so-called acts of God) from the perspective of the consuming economy, necessitates the use of more nuanced instrumentalities.

The EU's ability to leverage financial assistance is indirectly located in its collective or in its separate member states' presences in a number of multilateral bodies. These include the European Bank for Reconstruction and Development (EBRD), the 61 current members of which include all current EU member states, the European Community and the European Investment Bank (EIB); the International Monetary Fund (IMF), which can exert its clout in the energy sector through a number of facilities, notably its conditional stand-by loan arrangements; the World Bank; and vehicles of political summity such as the Group of Eight (G8). The EU can also provide direct assistance via the EIB, which was created, along with the European Community, by the 1958 Treaty of Rome. In 2007, the EIB's Corporate Operational Plan set € 4 billion

as a lending target for projects in five EU priority areas, including not only the improvement of trans-European energy networks (under the official aegis of the EU's Trans-European Networks-Energy (TEN-E programme)), but also the security of external energy supplies passing through countries in the EU's neighbourhood. The EIB's Board of Governors also approved a separate multi-annual € 3 billion facility to finance energy sustainability and supply security in external countries (European Investment Bank, 2007).

The EIB is heavily involved in the TEN-E programme, which is specifically focused on raising EU funds and targeting them on enhancing the efficacy and operability of the internal electricity and gas markets, a mandate that necessarily involves a number of external countries in the vicinity of EU territory. Part of the TEN-E budget is derived from third-party lending vehicles such as the European Neighbourhood and Partnership Instrument (ENPI), but it is supported mainly by the European Regional Development Fund (ERDF) and the EIB, which can fund up to half of a project's costs and use its 40-per cent contribution to the European Investment Fund (EIF) to underwrite additional loans (European Commission, 2009a). However, the TEN-E budget is primarily directed towards feasibility and engineering studies (European Parliament and European Council, 2006, p. 2), so it has been allocated only about € 20 billion for each of the last 5 years and € 155 million for the period 2007–13 (Checchi, 2009, p. 2; European Commission, 2009g, p. 1). Thus, even the Commission, in its Second Strategic Energy Review of November 2008, has conceded the inadequacy of the TEN-E budget as a tool for catalysing EU priority energy projects and proposed that it be replaced by an 'EU Energy Security and Infrastructure Instrument' (European Commission, 2008a, pp. 6–7). The aforementioned ENPI has been allocated about € 12 billion over the period 2007–13, 6 per cent of which is channelled into a Neighbourhood Investment Facility (NIF) that is to be pooled with individual member-state contributions entrusted to the EIB. The ENPI has emerged as another source of monies targeted at cross-border cooperation (CBC) initiatives, governance reform and 'twinning' projects that pair up EU member-state public agencies with their non-EU counterparts (European Commission, 2009e, 2010).

### Russia and other countries at the EU's energy 'headwaters'

While the EU has a range of economic tools at its disposal, institutional colloquy has constituted its most visible vehicle of active engagement

with its major external energy suppliers. Efforts to promote 'dialogue' and 'partnerships' have existed between individual European importing countries and oil-producing states since the 1973–74 Arab oil embargo, but the EU in its current incarnation has also been engaged in its own specific formal process of dialogue with OPEC, its major oil supplier, in an 'energy partnership' with the African Union, which includes states instrumental in an effort to construct a Trans-Sahara pipeline to take Nigerian gas to Europe (see Chapter 5), and in the International Energy Forum.

The EU's seminal post-Cold War concern with the energy sectors of its FSU 'upstream' suppliers, especially Ukraine, which experienced the Chernobyl meltdown in 1986, revolved around ensuring the safety of their NPPs. However, the novel EU that was created by the 1992 Maastricht Treaty gave strong support to the Energy Charter Treaty (ECT), which was signed in the same year that General Agreement on Tariff and Trade (GATT) was incorporated into the new World Trade Organization (WTO) and was intended to harmonise EU–FSU energy trade with GATT/WTO free trade principles. Given the extensive involvement of EU firms in energy investments and trade with Russia and other landlocked FSU countries, it is logical from the EU's standpoint that the treaty stipulates that the transit of hydrocarbons comply with Article V of General Agreement on Tariff and Trade (GATT). Thus, since 2000, ECT contracting parties have been discussing the addition of a Transit Protocol that would 'develop a regime of commonly-accepted principles covering transit flows of energy resources' (Energy Charter Secretariat, 2004, p. 15; van Aartsen, 2009, pp. 3–4). While Ukraine is a contracting party, Belarus and Russia are significant non-parties.

Nonetheless, the EU has persisted in its endeavour to bring its energy relations with 'upstream' territories into conformity with WTO market principles. It smuggled this objective into a raft of Partnership and Cooperation Agreements (PCAs) with FSU states, including Russia, which in 2003 agreed with the EU on a 'Road Map of Common Economic Space'. In 2000, the EU and Russia launched their ongoing Energy Dialogue, which has provided a forum for both parties to air their respective views of energy security to each other. In addition to advocating energy efficiency and savings, which could release more Russian hydrocarbons for export, the European Commission implicitly prefers that its strategic partnership lead to Russia's elusive ratification of the ECT (Europa, 1997, pp. 16–17; Europa, 2003). Nonetheless, the competing perspectives exhibited by Russia as a source country and the EU as a 'downstream' consuming party remain somewhat distant. The tenth Progress Report on the EU-Russian Energy Dialogue, issued in

November 2009, indicates Russian disagreement with the EU's assessment that its 'Third Energy Package' provides 'an attractive and stable regulatory framework also for Russian investments into the EU electricity and gas sector' and EU concern over Russia's 'Federal law on Foreign Investment in Industries of Strategic Importance for State Defense and Industry' (Piebalgs and Shmatko, 2009, p. 7).<sup>3</sup>

### **Transit countries: managing the flow of Russian energy 'midstream'**

With observably limited capacity to exert direct influence over the policies and decisions of governments in the producer countries, especially during seller's markets, the EU has tried to align the economic, political and regulatory structures of extra-EU27 transit countries with the *acquis communautaire*. This 'convergence' objective strongly embodies the functionalist integration logic underlying the European Coal and Steel Community (ECSC), the EU's seminal predecessor. Efforts in this regard have been centrally focused on implementing market reform in Ukraine, largely in order to improve the efficiency and transparency of gas transmission operations there. As elaborated on below, however, some European companies have instead concentrated their investment capital on obviating the need for transit countries altogether via joint ventures in pipeline projects that will forge direct bilateral energy connections with Russia. Implicitly sanctioned by their governments, these actions may even reverse the trend of declining EU dependency on Russian gas.

In parallel with its 1997 agreement with Russia, the European Community signed a PCA with Ukraine that came into effect in 1998. This was essentially designed to focus 'Ukraine's approximation efforts on the legal framework of the EU's single market and of the WTO system' (European Commission, 2009c). The agreement's underlying purpose of integrating the Ukrainian energy sector into a larger market economy is indicated in its application of GATT Article V on 'freedom of transit in goods' and in PCA Article 53, which explicitly declares that energy-related cooperation 'shall take place within the principles of the market economy and the European Energy Charter, against a background of the progressive integration of the energy markets in Europe' (European Commission, 1994b, p. 28). In 2004, EU territorial boundaries extended to Belarus and Ukraine, prompting articulation of an ENP. The ENP underscored the importance of bilateral action plans, which, in the field of energy, included fostering 'further gradual convergence of energy policies and the legal and regulatory environment' and '[r]einforcing

networks and interconnections', both deemed 'necessary for ensuring the security and safety of energy supplies and for extending the internal energy market to partner countries' (Ibid., p. 17).

This policy was concretised in the EU-Ukraine Cooperation Council's February 2005 endorsement of a new EU-Ukraine Action Plan. The introduction to this plan plainly announced that, 'Enlargement offers the opportunity for the EU and Ukraine to develop an increasingly close relationship, going beyond co-operation, to gradual economic integration and a deepening of political cooperation' (European Commission, 2005a, p. 1). In the area of energy, the plan called for '[g]radual convergence towards the principles of the EU internal electricity and gas markets' (Ibid., p. 33). Moreover, it explicitly referred to an EU directive on 'the financial and legal restructuring of the gas transit business... and unbundling and transparency of accounts' (Ibid., p. 34). In December 2005, just before the first Gazprom cut-off, the institutional content of their energy relationship crystallised in the signing of a highly detailed memorandum of understanding (MoU) on EU-Ukraine energy cooperation. The MoU stated that 'the gradual adoption by Ukraine of the EU energy *acquis* would constitute a significant step towards Ukraine's objective of gradual economic integration and deepening of political co-operation with the EU' (European Commission, 2005c, p. 1). Ukraine was considered for observer status in the South-East Europe Energy Community Treaty (SEEECT), which specifies a graduated adoption timetable for a dozen measures contained in the energy *acquis* for the EU and non-EU countries of Southeast Europe (Ibid., p. 9).<sup>4</sup> Finally, both parties assented to set up a Joint Hydrocarbon Technical Support Group to carry out work on 'enhancing the hydrocarbons security and transit conditions and operations' (Ibid., p. 10).

Russian gas cut-offs and threats of stoppage have infused the EU-Ukrainian energy relationship with an immediate saliency. The EU attention is now more strongly focused on how to ensure, from Russia via Ukraine, 'the continuous availability of energy in varied forms, in sufficient quantities and at affordable prices' (United Nations Development Programme, 2001 cited in Checchi et al., 2009, p. 2). The EU has kept pushing in its pre-crisis vein for greater convergence between EU and Ukrainian energy practices, policies and institutions, although it has been more willing to fund this effort. Ukraine obtained observer status in the Energy Community in November 2006, signed a 'road map' on 'energy efficiency, renewables and measures to tackle climate change' in March 2008, a month during which it narrowly averted another gas cut-off, and 1 year later, following the second major EU gas 'crisis', it

hosted a conference designed to assemble multiple sources of investment to modernise its gas transit system (European Commission et al., 2009). While the latter conference occurred soon after the January 2009 cut-off, it also represented the culmination of numerous Commission studies estimating the cost of rehabilitating Ukraine's pipeline system for 2009-15 at € 2.5 billion (Europa, 2009b). The conference's joint declaration acknowledged the strategic importance of Ukraine's gas transit system, which the Ukrainian side suggested expanding from 120 to 180 bcm, before addressing Ukraine's intention to carry out a 'Gas Sector Reform Programme' in 2010-11 and spelling out the Commission's willingness to use ENPI/NIF outlays to leverage funding from the World Bank, EBRD and EIB, co-signatories to that declaration (European Commission et al., 2009).

The economic crisis commencing in late 2008 complicated the issue of funding efforts to secure a stable flow of gas through Ukraine. On the one hand, by weakening the Ukrainian economy, it also lowered the latter's demand for Gazprom-controlled flows of gas. Although this did not prevent the January 2009 crisis, it did, over the course of 2009, lead to more gas being routed from Ukrainian consumers, especially large industrial concerns, into storage (European Commission, 2009d).<sup>5</sup> By the end of August, the Ukrainian government reported that its gas reservoirs, with a capacity of 27 bcm, were full, leading experts to suggest that Ukraine's warnings in May and June that gas levels were too low to prevent another winter shortage crisis had been exaggerated (Valasek, 2009).

In 2009, the Russo-Ukrainian gas dispute seemed to move closer, albeit haltingly, to a final resolution. A confluence of factors, centrally the cuts in heating supplies to households in up to 20 European countries over a 2-week period when temperatures had plummeted to as low as -20°C (-4°F) as well as an estimated \$1 billion revenue loss to Gazprom, made it vitally imperative to conclude the 21 January 2009 agreement that led to the official resumption of supplies (Traynor, 2009, p. 26). Under this new 10-year arrangement, Ukraine assented to pay double the pre-crisis price of nearly \$180 per thousand cubic metres for Gazprom gas, with the resulting \$360 figure still 20 per cent less than the market price of \$450, as well as pay its previous month's gas bill by the end of the first week of the successive month. Russia, for its part, received a commensurate one-fifth discount on the fee it was to pay to send the gas to Europe. After 2009, market prices for all bilateral gas-related transactions were supposed to prevail, a deal that was aided by the recession-induced decline in gas prices and reaffirmed in a 19 November 2009 meeting between the

Ukrainian and Russian prime ministers (Dejevsky, 2009, p. 44; EurActiv Network, 2009b; Olearchyk, 2009a, p. 6; Kramer, 2009a).<sup>6</sup> Conversely, the same economic crisis that lowered GDP and local currency values and allowed Ukraine to obtain a \$16.4 billion IMF stand-by loan also raised the risk that Ukraine would cease paying for and receiving Gazprom gas during the summer of 2009, when it needed to stockpile 19 bcm for winter release (Mortished, 2009, p. 42). While this enhanced the circumstances in which Ukraine could plausibly request an emergency loan package of \$4 billion, apart from its stand-by loan, Ukraine's inability to make further progress on gas-sector reform and electorally related promises by then Prime Minister Tymoshenko to raise government spending lowered donors' willingness to spend additional monies (Ibid.; European Commission, 2009d, p. 4; Olearchyk, 2009b, p. 5).

### Cutting out the 'middleman': direct pipelines to Russia

Given its – and possibly others' – perspectives on the aforementioned hydrocarbon transit 'crises', Russia has attempted to route more of its energy exports around its most 'problematic' transit partners. Given its salient petroleum-related disputes with Belarus, Estonia, Latvia, Lithuania and even Turkey (more indirectly in relation to questions of how much Russian and FSU oil can feasibly be channelled into the Bosphorus Straits, through which cargo traffic cannot be assessed tolls by Turkey according to the provisions of the 1936 Montreux Convention), the Kremlin and its authorised oil-export monopoly Transneft have achieved large strides in routing oil exports around these territories. Transneft pipes about 75 mmta, some of which used to reach world markets via Lithuania's Ventspils Port or Belarus, to Russia's Primorsk via the Baltic Pipeline System (BPS) and is working to expand this route's throughput capacity (Energy Information Administration, 2008b, p. 5). The availability of the BPS has already enhanced Russian firms' ability to cut off oil supplies to Latvia and Lithuania, as was done in 2002 and 2006, respectively (Woehrel, 2009, pp. 12–13). To the south of Russia, Transneft has been pursuing the Burgas–Alexandroupolis oil pipeline project with Italian firm Eni to create a new route that bypasses Turkey's Bosphorus Straits (Energy Information Administration, 2008c, pp. 7–8). In diametric contrast to their relations in the area of natural gas transit, Russo-Ukrainian oil trade has been relatively smoother, with both sides agreeing in early 2010 to increase transit fees to Ukraine and price these fees in euros, raise export volumes from Yuzhny and re-start shipments to major Ukrainian refineries (International Energy Agency, 2010, p. 26).

The same drives and imperatives have appeared in the case of natural gas. Joining Gazprom in its efforts to bypass transit countries altogether have been major European energy firms. As opposed to a genuine policy of diversifying not only transit routes but also suppliers, this policy of diverting Russian gas around 'problematic' transit territory seems strongly motivated by the desire for some reciprocal share of Russia's rich upstream sector. First elevated to the public agenda in April 2005 after having received EU endorsement much earlier, the Northern European Gas Pipeline (NEGP), or Nord Stream, project, which partners key Germany energy firms BASF-Wintershall and E.ON-Ruhrgas, Dutch company Gasunie and France's GDF-Suez, which collectively own 49 per cent, with Gazprom, in control of the remaining 51 per cent, will, if built by the end of 2011 at the earliest, consist of two parallel pipelines estimated to cost € 7.4 billion (in late 2009) and capable of transporting 55 bcma across a 1200-km stretch of the Baltic Sea from Vyborg in Russia to Greifswald in Germany (Larsson, 2007, pp. 21–5; Bryant, 2009, p. 11; EurActiv Network, 2009a; Kramer, 2009b). It has been criticised for enhancing Russian state leverage over and eliminating transit revenues to the Baltic states, Belarus, Ukraine and Poland, where the foreign minister likened it in 2006 to the 1939 Molotov–Ribbentrop Pact. Moreover, given the prominent position of former German Prime Minister Gerhard Schröder on the Nord Stream board, it has come to symbolise the powerful tendency of bilateral member-state and firm interests to trump EU solidarity, even though it received TEN-E project status (but no funding) in 2006. Although candidate routes passing through territorial waters of EU10 Baltic states were precluded, fellow EU15 Baltic member state Finland withheld approval of the final version of the project until conceding in early 2010 (Larsson, 2007, pp. 6–7; Bryant, 2009, p. 11; EurActiv Network, 2010).

The analogous South Stream project has been exposed to similar criticisms. As part of a July 2007 memorandum between Italian firm Eni CEO Paolo Scaroni and then Gazprom Vice-President Alexander Medvedev, this project, cost estimates for which vary from Putin's lower-end estimate of € 8.6 billion (\$12 billion in mid-2009) to larger estimate of € 12 billion, was originally intended to ship up to 31 bcma (matching its rival Nabucco's capacity), 900 km across the Black Sea to Bulgaria, where it would fork into a southwestern branch moving gas to Greece and then undersea to Italy and a northern line taking gas via Serbia, Hungary and either Austria or Slovenia to Italy (Baran, 2008, p. 1; Gorst and Hoyos, 2009, p. 3). Nearly 1 year later, Vladimir Putin and Silvio Berlusconi, prime ministers of Russia and Italy, respectively, agreed to double the



pipeline's capacity to 63 bcm, 'enough to supply more than four-fifths of Italy's total gas consumption', leading Eni CEO Scaroni to explicate that, '1 bn cubic meters more here will be 1 bn cubic meters less gas crossing Ukraine'. Resembling the deals that German firms arranged with Gazprom on Nord Stream, Eni and subsidiary Enel agreed to sell Gazprom 51 per cent in three West Siberian gas fields (Gorst and Hoyos, 2009, p. 3). Towards the end of 2009, electricity firm EDF of France, of which GDF-Suez was blocked by Turkey from joining the Nabucco consortium, became the third partner in South Stream (EurActiv Network, 2009a). It has been reported, however, that its possible passage through Ukraine's EEZ may give the latter country a veto over South Stream (Kommersant, 2008).

### Conclusion

While the crises sparked by the Russian gas cut-offs of January 2006 and 2009 and the averted stoppage of March 2008 possess an obvious saliency and immediacy that concentrated minds on finding the most readily available solutions, these stoppages could not easily be likened to the sort of blunt and deliberate exercises of power that Arab oil exporting countries wielded against Western oil consuming nations in 1973–74. Moreover, given the post-Cold War decline in dependency by the EU and many of its member states on Russian gas (but not oil), joint ventures by major EU15-headquartered energy firms and Russian state pipeline monopoly operators Transneft and Gazprom to build direct linkages between Russian and EU territory via the Burgas–Alexandroupolis oil pipeline (Eni and Transneft) and the Nord Stream and South Stream gas projects may actually allow Russia to demonstrate more clearly that it has no intention whatsoever – or conversely *every* intention – of wielding any energy 'weapon' against Europe.

However, the majority of EU states that acceded in 2004 or 2007 are more heavily reliant on Russian pipeline-transported energy, primarily gas but also oil. Given their history in the Soviet bloc, they tend to sympathise more closely with the Ukrainian view that Moscow directs or condones Gazprom gas cut-offs to keep them ensconced in the Russian economic and political orbits. Consequently, the EU needs to continue increasing energy efficiency and renewable energy production, which also mesh with its environmental treaty commitments, integrating its energy networks more tightly via greater gas storage capacity and interconnections (i.e., reversible pipelines), and applying regulatory apparatuses to ensure that these infrastructures work for member states'

common good. Otherwise, the most vulnerable of the EU12 may follow, as they have already shown evidence of doing, some of their EU15 counterparts down the path of unilateral action, in the form of self-centred bilateral ties with Gazprom or re-activation of risky NPPs. In short, a common energy policy could facilitate stronger collective action on projects of 'European interest', including those designed to widen the diversity of export routes for non-Russian suppliers, the subject of our next chapter.

# 5

## The EU Outreach to Non-Russian Energy

### Introduction: no refrain from the 'great game'

In one sense, shifting the focus to European Union (EU) importation of non-Russian energy supplies simply inverts the previous chapter's analysis. However, more substantively important here is a discussion of the nature by which and the extent to which explicit policies articulated at the EU institutional level, mainly by the Commission, have sought to alter the EU's current portfolio of supplies and suppliers, one that evolved largely as a cumulative result of the pursuit of various policies and the unfolding of economic processes at the national level. In an acknowledgement of the limits to which the EU27 can ensure its energy security in the absence of new external fuel sources, the European Commission's (2007a) proposed common energy policy has enumerated measures intended to further diversification. These consist of a number of priority 'projects of European interest' that have received Trans-European Networks-Energy (TEN-E) financing for feasibility studies and been assigned project coordinators to ensure their progress. However, the EU energy budget, dominated by TEN-E financing, remains structurally underfunded (Andoura et al., 2010, p. 37), a deficiency that complements the diversification objective's lack of *acquis*-related regulatory force.

In addition to intra-EU27 divisions on the need and ways to fulfil this objective, diversification, as discussed in a subsequent section, also faces countervailing moves by Russian state interests, including those running Gazprom, to consolidate relationships with firms, often 'national oil companies' (NOCs), in those key producing countries that might provide larger alternative supply sources. Given the Russian energy

sector's unlikely combination of onerous legal and practical restrictions on foreign direct investment (FDI), many imposed or re-imposed since 2003, and the perpetual failure of its leading state firms, exemplified by Gazprom, to plough enough sales revenues back into core operations to lessen the long-term need for new infusions of private investment (Goldman, 2008, pp. 126–35; Lucas, 2008, pp. 96–7, 182–5), it is not surprising that the Kremlin would display an acutely keen regard for how other producing regions could expand their European markets at Russia's expense. Russia's efforts to enter cooperative arrangements with other producing countries' state-influenced NOCs in order to gain a hand in shaping or steering the use of their respective upstream sectors could be construed as part of a larger drive to maximise obtainable rents from all links of the chain of energy value production.

As it supplies the plurality 39-per cent share of EU27 gas imports, Gazprom serves as central inspiration for our conceptualisation of gas 'w-a-r-s' ('wide-area rent-seeking'). As discussed below, our concept is not meant to connote that producing, transit and consuming states are poised to engage in military struggle over gas or the terms of its delivery – their interdependency, albeit highly asymmetrical according to the time frame and geographic area in question – minimises the likelihood of warfare. Rather, it implies that many energy-centric international tensions have arisen in large part from strong resistance to attempts to acquire ownership and operational control of different segments of the value chain that are located outside of the initiating firms' home jurisdictions. However, as it operates predominantly on the basis of long-term contracts mandating indexation of gas prices to those of oil, 'take-or-pay' requirements and prohibitions against importers' 'on-selling' to third parties, the natural gas trade reflects the comparative strength of exporters' rent-seeking imperatives. Indeed, the 'rentier state' has characteristically dominated commodity trade outflows in many if not most countries that depend heavily on commodity export revenues (Colombo and Lesser, 2010, p. 7). Gazprom's rent-seeking strategy has two prongs, what we term 'near encirclement' and 'far encirclement'. The former prong consists of actions to gain greater control over transit-pipeline operations and downstream assets and the latter entails efforts to influence the availability of supplies from their respective third-party 'upstream' sources, with both working in tandem to constrain the number of non-Russian gas supplies entering the EU27 area. In short, Moscow has been anything but a passive spectator, even in realms of the energy game outside Russia's traditional sphere of influence.





Table 5.1 (Continued)

	Non-EU supplier country (% of non-EU imports)															
	Russia		Norway		Algeria		Nigeria		Libya		Qatar		Egypt		Trinidad & Tobago	
	1992	2007	92	07	92	07	92	07	92	07	92	07	92	07	92	07
Hungary (1,1)	100	100*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Latvia (1,1)	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lithuania (1,1)	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malta (0,0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland (1,1)	100	100*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Slovakia (1,1)	100	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Slovenia (2,2)	72	61	0	0	28	39	0	0	0	0	0	0	0	0	0	0
EU10																
Bulgaria (1,1)	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Romania (1,1)	100	91-100*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU27	60	39	17	25	22	16	0	5	0	3	0	2	0	2	0	1
Turkey**	100	62	0	0	0	13	0	4	0	0	0	0	0	<1	0	<1

\*Note on sources: The bulk of these calculations are based on Eurostat (2010a), but 2007 calculations of Russian supplies for Hungary, Poland and Romania include volumes from Uzbekistan and either Turkmenistan (for Hungary and Poland) or 'Other FSU' (for Romania), based on volumes specified as such by the International Energy Agency (2009d, pp. II. 30-II. 33) and implied as belonging under BP's (2008, p. 30) category 'Other Europe & Eurasia'. However, in the case of Austria, BP (2008) indicates no imports falling under the latter category for 2007, and the International Energy Agency (2009d) designates as 'Non-Specified' a volume that amounts to 28 per cent of Austrian imports of extra-EU27 gas after Russian and Norwegian supplies are taken into account.

\*\*17 per cent of Turkey's gas imports came from Iran.

EU27 depended on Algeria, Norway and Russia to meet nearly all of their collective need for gas imports from external sources. By 2007, however, EU27 reliance on this trio declined by nearly one-fifth, with Russia and Algeria losing respective market shares not only to Norway, but also to Libya and liquefied natural gas (LNG) exporters Egypt, Nigeria, Qatar and Trinidad and Tobago.

While this point has not yet received due emphasis, diversification is not genuine if dependence on Russia is simply replaced by dependence on another single country. In most cases, member states importing natural gas from outside the EU27 had typically managed by 2007 to widen their external supplier portfolio from a single entity to at least two entities, and in rarer cases, to three or more. Norway grabbed an additional 8 per cent of the EU27 market, increasing its overall share of it to one-quarter. Seven countries increased their demand for Norwegian gas, four of them (Austria, the Czech Republic, Italy and Spain) from a 1992 baseline of zero. Only two member states, the Netherlands and the UK, imported no Norwegian gas in 2007. Algeria's share dropped from 22 to 16 per cent of the EU27 gas-import basket. Belgium, France, Italy and Spain all cut their respective relative demands for Algerian gas, for which gains in the smaller markets of Greece, Portugal and Slovenia could not offset larger losses. Belgium slashed its heavier reliance on Algerian gas in 1992 by tapping a wider array of external suppliers, not only Norway, one of its previous extra-EU27 suppliers, but also Russia, Qatar and Trinidad and Tobago.

As analysed in the previous chapter, even large member states France, Germany and Italy, headquarter countries to large firms that have entered or are seeking to enter major joint undertakings with Gazprom, lowered their relative need for Russian gas. Thus, these joint ventures do not necessarily reflect any official policy of supplication to a major supplier country, even if the bypassing of ex-Soviet Bloc space inadvertently threatens to undermine the national interests of those new member states that possess only transit leverage to counter-balance their almost exclusive reliance on Russian gas. While Germany simply shifted the relative weight of its dependence from Russia to Norway, France widened its supplier base to include Egypt and Nigeria and Italy added gas from Libya and Norway.

In a few expected cases, Russian gas never factored into decisions to diversify relevant supplier portfolios. The Iberian Peninsula stands out for its noticeably broad diversification of suppliers as well as modes of supply, especially LNG. Spain, which never imported Russian gas, widened its base of external suppliers from two to seven or eight, five

of which (Egypt, Nigeria, Oman, Qatar and Trinidad and Tobago) supply exclusively LNG and two of which (Algeria and Libya) added LNG to their export baskets. LNG exports meet nearly 70 per cent of Spain's gas imports, with the latter in turn accounting for over half of total EU27 LNG imports. In 1992, Portugal used no gas of any sort, but by 2007, was piping in gas from Algeria and receiving LNG shipments from Nigeria, with the latter African country's LNG exports filling nearly two-thirds of the Portuguese gas-importation and consumption baskets. The EU27 buys over three-fifths of Algerian LNG exports and nearly two-thirds of Nigerian gas exports (BP, 2008, p. 30; International Energy Agency, 2009d, pp. II. 30–3, II. 46–9, II. 55).

In fact, those EU states that have diversified their extra-EU27 gas supply base most broadly seem to have amassed the requisite capacity for major LNG tanker shipments. LNG, accounting for roughly one-fifth of natural gas imports into the EU area, with the latter market concentrated in seven member states (Belgium, France, Greece, Italy, Portugal, Spain and the UK), is poised to make even further inroads into expanding the EU27's supply portfolio as the whole. While the EU draws in 20 per cent of the world's LNG exports, two-fifths of the latter supply is shipped to Japan alone, which draws from 13 different suppliers (International Energy Agency, 2009d, p. II. 55). Between 1999 and 2008, € 4.4 million in TEN-E financing was allotted to LNG-related projects in Greece, Italy, Portugal and Spain (European Commission, 2009g), of which Revithoussa in Greece and Sines in Portugal have been completed (International Energy Agency, 2009d, p. II. 56).

### **The EU's official diversification strategy and policy priorities**

The EU's efforts to diversify types and countries of origin and transit have been ongoing for nearly one decade. According to the European coordinator of the 'southern corridor' for natural gas, the EU's diversification of partners 'is in a way just another translation amongst many of the underlying free-market and competition-based pillars on which the European Union is based' (van Aartsen, 2009, p. 3) and has been motivated by the broader objectives of dampening prices and widening consumer choice (Andoura et al., 2010, p. 27). Nonetheless, diversification as an official EU energy policy strategy received fresh impetus from the 2006 Russian gas cut to Ukraine. Commission efforts to promote greater diversification, centrally for those EU12 states that remained, for historical reasons, predominantly dependent on Russian gas and its trans-Ukrainian and Belarusian passage, were inextricably

coupled to appeals for greater solidarity between the EU15 and EU12 sub-groups. Greater gas storage and interconnectivity, essentially involving the capacity for inputting supplies from anywhere in the EU27 area into a network that could convey them to a larger number of intra-EU27 locations, have been deemed crucial not only to enhancing the liquidity component of a fully integrated internal gas market (Checchi, 2009, p. 1) but also to allowing member states to present a credibly united front in the face of external gas cuts (Gillman and Martin, 2009). In fact, the 2009 gas 'crisis' might have had been worse for EU12 populations had there been no earlier storage build-ups nor any flow reversibility to send gas from Greece to Bulgaria and from the Czech Republic to Slovakia (Chaffin, 2009, p. 8; Hope and Troev, 2009, p. 2).

However, the Commission has also stressed the importance of implementing physical and legal mechanisms for accessing new sources of gas and oil supplies. Right after the first Gazprom cut-off, the European Commission (2006b, p. 15) identified the necessity of 'independent gas pipeline supplies from the Caspian region, North Africa and the Middle East into the heart of the EU, new LNG terminals serving markets that are presently characterised by a lack of competition between gas suppliers, and Central European oil pipelines aiming at facilitating Caspian oil supplies to the EU through Ukraine, Romania and Bulgaria'. This green paper called for a strategic energy review that 'could acknowledge the concrete political, financial and regulatory measures needed to actively support the undertaking of such projects by business' (Ibid.).

In the following year, stronger synergistic linkage between greater network connectivity and wider diversity of suppliers and supply routes materialised in the Energy Policy for Europe. In its January 2007 communication to the Council and Parliament, the European Commission (2007a, p. 9) identified a 'Priority Interconnection Plan' that included four central projects, each with its own 'European co-ordinator': 'the Power-Link between Germany, Poland and Lithuania; connections to offshore wind power in Northern Europe; electricity connections between France and Spain; and the Nabucco pipeline, bringing gas from the Caspian to central Europe.' In fact, the latter, led by Austrian firm OMV, had already received approximately € 6.5 million for basic engineering studies by 2004 (European Commission, 2009g). Two other enumerated priorities under this Plan included establishing a 5-year deadline 'within which planning and approval procedures must be completed for projects that are defined as being "of European interest" under trans-European Energy Guidelines' and '[e]xamining the need to increase funding for the Energy Trans-European networks,

particularly to facilitate the integration of renewable electricity into the grid' (European Commission, 2007a, p. 9).

At the end of 2008, just prior to the second major gas cut-off, the EU issued its 'Energy Security and Solidarity Action Plan'. While acknowledging that the EU27's import profile 'represents a reasonably well-diversified supply picture', the European Commission (2008a, p. 4), in its Second Strategic Energy Review of November 2008, lamented that, 'a number of Member states rely on a single supplier for 100% of their gas needs.' This report more sharply delineated the infrastructure that the Commission preferred the Community to prioritise. It underscored the necessity of a 'southern gas ring' to carry Caspian and Middle Eastern supplies as 'one of the EU's highest energy security priorities' and pointed out the interest in exploring the cost effectiveness of a 'block purchasing mechanism for Caspian gas ("Caspian Development Corporation") ... in full respect of competition and other EU rules' (Ibid., pp. 4–5) – in other words, a block 'Gas Purchasing Group' supervised by a supranational 'Gas Supply Agency' (Andoura et al., 2010, pp. 115–6). This strategic energy review then proceeded to emphasise the utility of enhanced LNG facilities (proposed for a separate action plan) and the importance of a Mediterranean 'energy ring' that would link the region's large potential reserves of solar and wind power to the European continent (Ibid., p. 5). Even if production of renewable energies did not suffer from geographical confinement (Andoura et al., 2010, p. 66), the respective private and official initiatives Desertec and Med Solar Plan, which could diversify European energy suppliers and suppliers in an environmentally sustainable manner, have not been wholeheartedly embraced by potential non-European source countries (Colombo and Lesser, 2010, p. 10).

As later chapters elaborate in further detail, pipelines thus continue to assume a prominent role in Commission plans to diversify gas supplies. As indicated in the most recent Progress Report on 'natural gas route 3' (NG3), covering those 'projects of European interest' linking Caspian and Middle Eastern gas supplies to Europe, '... the European Union has designated (in the TEN-E programme) three ... pipelines as of strategic importance', the Turkey–Greece–Italy Interconnector (TGII), Nabucco and White Stream (van Aartsen, 2009, p. 7). These three, in addition to the Trans Adriatic Pipeline (TAP), received nearly € 23.7 million in TEN-E funding for various feasibility and engineering studies between 1999 and 2008 (European Commission, 2009g). The smallest portion of this financing, roughly 3 per cent, was allocated in 2007 and 2008 to the most recently proposed White Stream Project, which is projected to

bring Caspian gas to various new member-state EU markets via Ukraine, while nearly 13 per cent went to TAP, which is to transport gas from Italy to various Southeastern European countries. On the other hand, over half of the funding was dedicated to the sub-sea TGII, with the now operable Turkey–Greece leg receiving about € 4.5 million, or just over one-third of the total funds that had been allocated to TGII through 2008, and the Greece–Italy leg obtaining the remaining € 8.6 million. Turkey, ineligible for direct receipt of these monies, is crucial to the building of pipelines that attracted nearly two-thirds of TEN-E financing for NG3 projects.

### Gas 'w-a-r-s'

Rising energy prices create a hospitable climate for rent-seeking. While the state's deliberate creation of tightly controlled spheres of economic activity can lead to the same debilitating competition to grab the associated monopoly rents (Krueger, 1974), higher prices, notably for geographically clustered resources, may raise the value of the existing prize enough to divert social effort from productive activity to re-distributive (rent-seeking) contestation (Wick and Bulte, 2006, p. 458). During the period 2003–08 real energy prices doubled (World Bank, 2009, p. 51). Consequently driven and enabled to act more assertively by these favourably changed circumstances, governments of states with hydrocarbon-rich territory moved to consolidate control over 'their' upstream assets and extraction activities. After more than a decade of comparative openness to FDI in the buyer's market of the 1990s, exporting states, including Russia, acting on behalf of their NOCs, reversed course to wrest not only larger royalties and tax revenues from multinational majors, who had been enjoying relatively advantageous terms of Production Sharing Agreements (PSAs), but also majority shares of ownership from these foreign investors and concomitant decision-making power over the disposition of field equipment and operations (Hulbert and Arian, 2009; World Bank, 2009, p. 104). Not surprisingly, control over upstream assets and operations gravitated to NOCs, with foreign investors relegated to minority equity-holders or service contractors, even in post-Saddam Iraq (Kanter, 2009).

Officials from exporting countries have long sought to deflect blame for the price of fuel at the petrol pump and elsewhere, criticising end-use taxes in importing countries as doing more to enrich governments of the latter than to curtail consumption. Whatever the veracity of this argument, different parties do compete to aggrandise the lion's share of

the large value that comprises the differential between low production costs and high retail prices (Victor and Victor, 2006, pp. 138–9). Given that they may control at least 85 per cent of the world's viably productive 'upstream' territory (Hulbert and Arian, 2009), which in turn intensifies the focus on the geopolitical concerns that are saliently operative in the 'Regions and Empires' storyline (Correljé and van der Linde, 2006) reviewed in Chapter 2, NOCs are preeminent, but typically inefficient, generators of national income in major exporting countries (and in some major importing countries as well), so they seek out remunerative income-generating opportunities 'downstream'. Thus, the entire hydrocarbon value chain provides ample opportunity for governments and firms to obtain large financial returns by occupying one or preferably more of its potentially lucrative niches. Indeed, it is not surprising that firms headquartered within their respective territories would first try to obtain the greatest share of value that can be generated from activities and niches over which their states exercise sovereign control.<sup>1</sup> Afterwards, they may seek to expand their range of influence along the value chain beyond those nodes over which they possess direct territorial control. With resources scarce and 'a significant part of the world's supply and demand... controlled by authoritarian states', competition remains intense, but not 'in the "Smithian" sense' (Andoura et al., 2010, p. 76).

In a relatively reciprocal relationship, openness granted at one link of the chain to actors associated more strongly with another node of the supply chain can be conditioned on access to the latter links. Yet, symmetrical reciprocity rarely exists at any given moment. Specifically, seller's markets raise fears on the part of firms based in consuming states – typically multinational majors – that access to 'upstream' sectors will shrink, while buyer's markets instil in producing-state firms a corresponding fear of 'downstream' market loss. By logical corollary, buyer's markets may help open up upstream sectors in exporting countries to direct investment by preeminent importing-country firms, although extraneous factors, such as future expectations of renewed price upswings (Hulbert and Arian, 2009) and greater saving of revenues in such vehicles as stabilization or 'sovereign wealth' funds during the boom phase of the commodity cycle for counter-cyclical spending in the 'bust' phase (World Bank, 2009, pp. 106–7), may forestall (re-)liberalisation. In contrast, seller's markets may make infrastructure assets in large consuming markets available for purchase or other forms of cooptation, via bartering or asset swapping, for example, by dominant exporting-country firms.

Russia's state-dominated Gazprom has earned renown for crafting and implementing strategies to earn more from every phase of its pipeline-structured natural gas trade with Europe, from upstream production to transit operations to downstream storage and distribution. As Meister (2010, p. 24) asserts, Gazprom aims 'to be able to provide the entire value chain... on the European market'. In terms of what we call 'near encirclement', it has pursued assets primarily by negotiating to buy into an array of extant and future infrastructure assets dispersed across the widest swath of its most economically salient geography, especially in countries located in what was once the former Soviet bloc. It has also sought to dominate the construction and operation of new prestige projects like the earlier described Nord Stream and South Stream gas pipelines, just as Transneft has also sought to wield influence over oil projects, like the trans-Black Sea Burgas–Alexandroupolis pipeline. In its strategic prong of 'far encirclement', Gazprom has been looking to consolidate inroads into the upstream sectors of the Caspian, Middle East and Africa, which are poised to fill a greater portion of EU-orientated future gas pipelines and LNG cargoes. This has taken the form of official bilateral forays and exploratory work within the Gas Exporting Countries Forum (GECF), a so-called gas OPEC, to achieve greater coordination of world output and prices in a more globalised and LNG-based future gas market. Whatever the likely end result of these efforts, Russia has shown a clear regard for its present and future share of key energy markets.

#### 'Near encirclement'

The EU energy market has been liberalising under Commission pressure on national authorities to 'unbundle' ownership of energy production from that of its distribution. Consequently, Gazprom has set its sights on more than just expanding basic trunk-pipeline capacity and maintaining or acquiring a dominant share of the arms-length contractual purchases of extra-EU27 gas imports by EU member states' incumbent firms. It has also sought to buy into local storage nodes and distribution channels within the EU, in such critical gas storage and transmission points as Austria (Lucas, 2008, pp. 179–80), raising fears that it would simply apply a model of doing business throughout the Former Soviet Union (FSU) that has featured use of non-transparent intermediary trading companies, such as the three successive entities set up to market Russian and Turkmen gas in Ukraine – ITERA, EuralTransGas and RosUkrEnergo (Goldman, 2008, pp. 145–7; Woehrel, 2009, pp. 7–10).

Were it to enlarge its major EU markets via success of these endeavours, Gazprom could effectively use its acquisition of this infrastructure both to crowd itself 'in' and to crowd rival foreign supplies out of the European markets at critical intervals, thereby opposing the diversification process that the Commission has been promoting and individual member states have been pursuing.

Just as it may be able to aggrandise its shares of EU markets at the expense of rival foreign suppliers, Gazprom may be able to ensure the pliability of certain transit states, those most highly dependent on Russia. Thus, 'near encirclement' also connotes the possibility that new Gazprom-led pipeline projects, such as the Northern European gas pipeline (NEGP), or Nord Stream project, with Ruhrgas (Germany), and the South Stream project, with Eni (Italy), will not only bypass FSU transit territories of Belarus and Ukraine, which have long been regarded by Russia and many core EU15 member states as nettlesome partners, but also to leave new member states like Poland and those on the Baltic Sea more vulnerable to gas cut-offs if they choose to deviate from Moscow's expectations of how they should behave, especially if and when the added pipeline capacity exceeds the availability of Russian and other gas sources to fill it (Lucas, 2008, p. 182; Woehrel, 2009, p. 5). These behavioural expectations may encompass a spectrum ranging from questions of access by Gazprom and other Russian firms to the relevant sectors of their domestic economies to the overall foreign policy stances of EU12 member states.

Two distinctions are worth pointing out. One concerns the particular context in which the strategy is applied. Gazprom and other firms headquartered in preeminent exporting countries, typically state-backed NOCs, may simply announce rises in the price of near future gas exports to 'downstream' consumer markets according to contractual terms or forgo these price hikes in exchange for obtaining offsetting ownership of infrastructure of comparably appraised value, which can also help maintain or expand respective sales domains. The first mode of rent-seeking occurs most often vis-à-vis developed markets, while the second is more typically pursued in conjunction with threatened price hikes addressed to consumer markets that are subsidised by exporting companies, a situation apropos of Gazprom's myriad bilateral relationships with national entities of various FSU states that it inherited from the ex-Soviet Ministry of Energy (Woehrel, 2009, pp. 7–14). Both efforts are facilitated by the higher revenues earned under seller's market conditions, but they can also be motivated by an interest in defending relative positions

in 'downstream' territories when the market shifts to the advantage of buyers.

Another related distinction concerns the process by which the strategy is pursued. Rent-seeking can be done transparently, according to the rules and regulations of a liberalised market that the EU27 area is becoming. For instance, the justificatory rationale of declarations of intent to raise contracted prices or to lift subsidies can be measured according to standard price-setting criteria. By contrast, unilateral price hikes can be presented as *fait accompli*, perhaps masking an ulterior motive to build a monopoly position that precisely contravenes the laws and spirit of liberal competition. Even if monopolisation attempts can later be identified as unfair market practices and subsequently neutralised by application of legal regulations in 'downstream' markets, it may prove more difficult by then to recoup the cumulative opportunity costs of lost or reversed diversification that resulted from the preceding market-cornering behaviour.

These distinctions often blur in practical terms. For example, Gazprom appears to have complemented its expressed interest in gaining 10 per cent of the UK's natural gas market with purchase of a 10-per cent share of the Bacton-Zeebrugge Interconnector that runs between Belgium and the UK, a 25-year agreement with Fluxys to build an underground storage site in northern Belgium, and an effort to acquire a share of the BBL pipeline between the Netherlands and the UK (Lucas, 2008, p. 175; Weaver, 2009, pp. 49–50). The latter effort fits into an early 2010 agreement to permit Gazprom to store gas shipped through Nord Stream, now 9 per cent owned by Dutch firm Gasunie, in Holland's Bergermeer storage facility, which could hold enough gas to supply 1 year of Dutch demand or be sold in the UK market (Steen, 2009, p. 16). Gazprom has met resistance from this northwestern corner of Europe that does not depend much on Russian gas anyway. In August 2007, Belgian authorities quashed Gazprom's bid for the Zeebrugge storage-pipeline complex (Lucas, 2008, p. 175), while UK political opposition to Gazprom's earlier attempt to acquire Centrica, reflecting antipathy towards Moscow's restrictions on FDI in the Russian energy sector and the opacity of Gazprom's business dealings elsewhere in Europe and the FSU, forced Gazprom to scuttle its purchase (Roberts, 2010, p. 27).

The influence of Gazprom and other Russian energy firms grows larger and arguably less transparent as countries approach the former Soviet bloc. This phenomenon is not confined to EU12 territory.

Gazprom enjoys a large presence in the gas storage, distribution and retail marketing sectors of those EU member states where Russia dominates the gas-importation basket, including the aforementioned Baltic countries, the Balkan states of Bulgaria and Romania and the Central European nations of the Czech Republic, Hungary, Poland and Slovakia (Weaver, 2009, pp. 51–2). It has also made certain inroads into the EU15 as well. Like several EU12 states, including fellow Baltic countries Estonia, Latvia and Lithuania, Finland remains fully gas-dependent on Gazprom, which also owns sizable shares of all their gas monopolies (Ibid., pp. 50–1). Thus, while it held out the longest of the EU member states involved (including Denmark, Germany and Sweden) against allowing the passage of Nord Stream through its territorial waters, ostensibly for environmental reasons, Finland eventually conceded its approval, partially because the project enlisted the support of former prime minister Paavo Lipponen (Kramer, 2010c). His German counterpart Gerhard Schröder was appointed to head up Nord Stream's shareholder's committee, apparently in the wake of the latter's approval of German financial guarantees to Gazprom, a transaction that fomented enough suspicions for the Commission to launch an investigation into whether these amounted to illegal state subsidies (Larsson, 2007, pp. 28–33). In moves probably designed to undercut the 'downstream' viability of the Nabucco Project and foster competition with neighbouring Hungary, Russia has promised to transform Austria into a 'hub' for Gazprom-controlled gas exports, consistent with the building of a € 260 million facility capable of storing 2.4 bcm and Gazprom's gaining of rights to acquire shares of Austria's gas transit and distribution sectors (Lucas, 2008, pp. 179–80; Weaver, 2009, pp. 49–50).

#### 'Far encirclement'

As suggested earlier, Russian energy interests capitalised on earlier seller's market conditions to do more than simply defend their extant portion of the European gas market. They have also acted to extend or strengthen their influence vis-à-vis other third-party regions, including not only the Caspian Sea basin, an integral component of ex-Soviet territory, but also the Middle East and Africa, where key producers are supplying European energy consumers either through pipelines extending under the Mediterranean to the European continent or via LNG shipments. Gazprom has developed a budding presence in some of the following producing regions and countries. While some of this presence,

albeit inchoate and often tenuous, has grown out of direct bilateral arrangements between Gazprom and other Russian energy firms with the respectively dominant NOCs in those countries, another source of inroads into these alternative EU supplier countries has arisen via joint ventures and asset-swap transactions with major EU member-state firms that continue to nurse their hopes of maintaining or obtaining reciprocal footholds in the upstream Russian market.

As embodied in our label 'far encirclement', this apparent Russian strategy of expanding inroads into newer extra-regional and global (LNG) energy sectors suggests that EU member states should avoid becoming unduly complacent about premising their energy security strategies and plans on tapping more gas from outside Russia's traditional sphere of influence. In short, 'far encirclement' as a strategic vision suggests that Gazprom seeks cooperative, coordinative or cooperative relationships with a number of NOCs in other key gas producing areas of the world, whether through a formal 'gas-OPEC' type of mechanism or, most probably, through a series of ad hoc bilateral marketing arrangements, in order to curtail the nature and degree of competition it faces in 'downstream' markets. The capacious geographic compass of Gazprom's strategic vision may necessitate more active efforts to ensure that the various limbs of Europe's increasingly interconnected pipeline network are capable, not merely physically, but also politically, of advancing the collective EU interest in diversification of routes and suppliers.

#### *The Caspian Region*

As detailed to a greater extent in Chapter 6, since the end of the Cold War, EU institutions, member states and headquartered firms have been seeking to establish and consolidate a European presence not only in Russia, but also in the non-Russian territories of the FSU. However, even if they were to overcome the full array of barriers to realising more profitable returns on their FDI in the states of this region, firms seeking to augment their hydrocarbon exports from the disparately energy rich states of the Caspian Sea Basin still channel the bulk of those exports across the Russian land mass that lies between most of the non-Russian FSU Caspian states and potentially lucrative European markets. During the Cold War, the Caspian Basin was largely Soviet territory, so most pipelines of the formerly integrated political unit became de facto export routes crossing Russia. Subsequent control over the physical movement of natural gas from Kazakhstan, Turkmenistan and Uzbekistan, via the



Soviet-era Central Asia Centre (CAC) Pipeline, fell under Gazprom, giving this 50.01-per cent state-owned company dominant purchasing leverage over Caspian gas to complement its monopoly vis-à-vis many FSU and new EU member states. Only in recent years have non-Russian routes come online. Azerbaijan's oil can now go via the Baku-Supsa line to the Black Sea via Georgia and the Baku-Tbilisi-Ceyhan (BTC) pipeline to Turkey via Georgia and some gas travels through the Baku-Tbilisi-Erzurum (BTE) pipeline to Turkey via Georgia. Kazakhstan's oil has found a direct outlet to China, while Turkmenistan's gas can now be shipped not only through the older Korpedzhe-Kurt-Kui line to Iran, which delivered about 6 bcm in 2007, but also through the newer Dauletabad-Sarakhs-Khangiran line, which is slated to deliver up to 12 bcma to Iran, and another one that may eventually deliver up to 30 bcma to China via Uzbekistan and Kazakhstan (International Energy Agency, 2008b, pp. 28-9, 62-3).

Nonetheless, the construction of these non-Russian pipelines from the Caspian Basin, principally those taking energy west, proceeded rather fitfully to surmount formidable economic and political obstacles. The latter arose largely out of a situation where pipelines that had already been commissioned in the Soviet era and currently lie under the respective controls of Gazprom (formerly the Ministry of Gas Industry) or Transneft generated benefits for those possessing an 'incumbent' position with respect to any proposed challengers, thus helping lock many FSU states into Russia's economic orbit (Wohlforth, 2004). Russia's cost advantage was reinforced by the evident doubts, especially in the buyer's market of the 1990s, about the financial wisdom of building the 'multiple pipelines' that lay at the core of the Clinton administration's seminal promotion of an East-West energy corridor (Jaffe and Manning, 1998-99, p. 118; Bahgat, 2002, p. 323). Finally, the period prefacing the US-led invasion of Iraq in March 2003 generated expectations that an underexploited source of oil would deluge world markets, thus forcing all energy prices further down and obviating any remaining need for new non-Russian Caspian pipelines (Andrianopoulos, 2003, p. 80).

Consequently, EU efforts to diversify its supplier portfolio by accessing more Caspian gas via the 'southern corridor' have been strongly hindered by the historical imposition and Gazprom's utilisation of Moscow's presence in this region. In fact, the more explicit determination by the Commission to support the creation of independent European-orientated export routes for Caspian gas largely seems to reflect greater awareness of the necessity of hedging against the increasing unlikelihood of obtaining Russian ratification of the 1994 ECT and

its Transit Protocol, which would serve as the legal mechanisms for eliminating Gazprom's and Transneft's respective chokeholds over the CAC and the various oil pipelines that terminate at Russia's Black Sea and Baltic ports or cross directly into Europe (Olcott, 2006, pp. 222-6; Roberts, 2006, pp. 217-18; Belkin, 2007, pp. 3, 11).

The energy seller's market certainly did nothing to assuage Moscow's opposition to ratifying these measures. It even encouraged Russian officialdom, acting through Transneft, which has a one-quarter share in the Caspian Pipeline Consortium (CPC) pipeline carrying oil from Kazakhstan's Tengiz field to Novorossiysk, one of Russia's foremost ports and energy export centres, to ratchet up the stringency of its conditions, including higher transit tariffs and Kazakhstan's *quid pro quo* participation in the aforementioned Transneft-led Burgas-Alexandroupolis Pipeline, for agreeing to allow expansion and use of the CPC, the only physical route that traverses Russia but also enjoys legal independence from Moscow and is dominated by a consortium of foreign corporations (Socor, 2007b; Ritchie, 2008).

By 2008, talk of a new Gazprom-spearheaded project (the Prikaspiiski Pipeline) to carry additional Turkmen and Kazakh gas northwards along the Caspian littoral to and via Russia to Europe was threatening to make the existing Russian chokehold even more restrictive (Rodova, 2008a; Blank, 2010). The economic crisis that achieved near-epic proportions in the latter half of 2008, thereby eroding both energy prices and the concomitant value of Gazprom's capital stock, should logically have caused many of the latter firm's projects to be shelved or scaled back. Although Gazprom had long been re-exporting gas to Ukraine and Europe from Turkmenistan, which the successor government to Saparmurat Niyazov had forced Gazprom to buy at higher prices earlier in 2008, the negative effects of the market collapse reverberated back up the value chain, leading some European importers to renege on 'take-or-pay' contracts with Gazprom and the latter in turn to spurn further purchases of Turkmen gas on previously agreed terms. Turkmen authorities, who attributed an April 2009 explosion on the Dauletabad-Deryalyk leg of the CAC pipeline to a Russian decrease in flow intake, consequently halted gas exports, which later resumed on modified terms in January 2010, after the inauguration of new pipelines to China and Iran (Moscow Times, 2009, p. 3; ITAR-TASS, 2010). Notwithstanding the economic downturn and related Russo-Turkmen imbroglio, Gazprom has steadfastly pursued Russia's abiding interest in securing agreements with its three Central Asian partners to proceed with expansion of the CAC's capacity to take more of their gas to Russia (Xinhua, 2008; Gorst, 2009, p. 2).



*The Middle East*

The Middle East, long an arena of competition, first among Western powers for its energy reserves and later between the US and Soviet Union for overall regional influence, has become another area towards which Russian energy firms have shown growing interest that reflects a combination of business and geopolitical motivations. With the world's largest combined reserves of oil and gas, the Persian Gulf and North Africa, which, as described below, have not been immune to Soviet and later Russian influence, represent areas that have been among the least susceptible to the EU influence. For one, due to a longer period of colonial dominance and convenient access to seaborne transportation routes, this region has fully developed extraction and exportation infrastructure, adding another element of 'incumbency' that can make it costlier to bring new sources of supply and modes of delivery into global energy trade equations. In addition, regional countries have exerted output and pricing power through a series of actions involving the expropriation of multinational majors' assets, the implementation of embargoes and their participation as OPEC members in the cartelistic activity of setting overall output ceilings and dividing up production quotas among themselves. As they did after the 1973–74 Arab oil boycott (Skeet, 1988, p. 118), and as they are now doing with Russia, European countries have largely adopted non-confrontational strategies along the lines of 'dialogue' and other exertions of 'soft power' in seeking to lower or stabilise energy prices. Indeed, the European Commission (2001, p. 73) has for at least the past decade proclaimed that it is highly attuned to the 'expectations of several producer countries regarding political developments in the Middle East'.

Russian firms have still struggled to maintain their foothold in Iraq's energy sector, even though the latter has thrown up many obstacles in the way of both investors and customers. For the past 30 years, Iraq has been a major exporter of crude oil, with a smaller but significant fraction of these exports conveyed by the Kirkuk–Yumurtalik, or Iraq–Turkey (IT), pipeline (actually two parallel lines), which terminates in Ceyhan, Turkey's major Mediterranean oil export terminus. Post-occupation sabotage in Iraq disrupted pipeline operations (Williams, 2006) until late 2007, when the IT line's return to functionality played a major role in lifting Iraqi annual crude output by nearly one-fifth from its 2003–07 range to 115 mmta by the end of 2007 (International Energy Agency, 2007a, p. 21). Even though the IT route remains vulnerable to attack, its throughput later reached sustainable volumes equivalent to 20 mmta and aided Iraq in bringing annual oil output to 122 mmta (International

Energy Agency, 2010, pp. 16–17). Motivated perhaps by this favourable turn of events, a Russo-Iraqi agreement to cancel Iraq's Saddam-era debt in return for Baghdad's reconsideration of the validity of Russian firm Lukoil's earlier 1997 oil contract to develop the West Qurna 2 field (International Energy Agency, 2008a, p. 22) may have prepared the ground for Lukoil's successful 2009 bid, co-offered with Norway's Statoil, to develop this field (Kanter, 2009). Encouraging signs in the oil sector, especially in the Kirkuk region's production and export sectors, imparted fresh impetus to a 1996 bilateral proposal to develop the capacity to pipe 10 bcma of gas from northern Iraq to Turkey (Roberts, 2004, p. 7; Winrow, 2004, p. 34; O'Byrne, 2007). Iraq, holding slightly less than 2 per cent of global gas reserves, but more than Norway or the combined reserves of Azerbaijan and Kazakhstan (BP, 2009, p. 22), may provide another source of supply for the EU's Nabucco Pipeline Project.

Moscow has acted even more vigorously to establish inroads into Iran, Iraq's neighbour and perennial competitor. Iran holds the world's second largest gas deposits (Ibid., p. 22) and has been estimated as capable of covering more than one-tenth of the EU's medium-term needs (European Commission, 2005d, p. 15). Given that most Iranian gas to Europe will flow through Turkey, which actually imported less gas from Iran than the latter obtained from Turkmenistan in 2008, in respective volumes of 5.8 bcma versus 6.5 bcma (BP, 2009, p. 30), bilateral Turco-Iranian disputes have cast uncertainty on the prospects of assimilating this route into a 'southern corridor'. Related to the underlying issue of Turkey's periodic over-buying of imported gas supplies on a 'take-or-pay' basis, which also applies to Russia, Turkish authorities stopped importing Iranian gas in early 2003, just weeks after the 10 bcma-capacity Tabriz–Erzurum pipeline commenced operations, in order to force changes in price, volumes and destination restrictions (Winrow, 2004, pp. 29–30). Yet, the flow of gas into this conduit has also been cut from the Iranian end, ostensibly to cover domestic shortages in recent winters, and decreases in the flow from Turkmenistan, such as one that occurred in 2008, have in turn impinged on the now operational Turkey–Greece Interconnector (Platts, 2006; Reuters, 2008).

Just as European expectations of obtaining more gas from Iran have been diminished by application of sanctions on Tehran over the latter's uranium enrichment program and by specific difficulties that Turkey has experienced in its energy dealings with Iran, Moscow has cultivated a range of mutual interests with Tehran, including those in the energy field. Moscow has refused to use the leverage afforded by its permanent seat on the United Nations Security Council (UNSC) to approve

comprehensive multilateral sanctions extending to Iran's energy sector, not least because it has sought to have a role in developing civilian nuclear power at Iran's Bushehr site. In 2008, Gazprom also signed memoranda of understanding (MoUs), one on investing in Iran's oil and gas fields, notably the vast South Pars formation, thus filling the breach left by departing private-sector firms, such as Spain's Repsol, France's Total and Japan's Inpex (Eqbeli and Shiryaevskaya, 2008; Socor, 2008), and another on entering the Iran-Pakistan-India ('Peace') pipeline project, which India approved in return for promised participation in Russia's Sakhalin II (International Energy Agency, 2008b, pp. 29, 32). Thus, Russian plans for Iranian gas do not seem to help EU27 member states in getting more of it for themselves.

### *Africa*

EU members cannot be complacent about the future potential nature and volume of African energy supplies to Europe, especially those from its bastions in North Africa, as Gazprom has attempted to leverage Soviet-era alliances with relevant regimes to enter various African energy sectors. Egypt, a new LNG exporter, which shipped nearly 45 per cent of its 14 bcma in exports to EU member states (BP, 2009, p. 30), may also wish to use Turkey (after Jordan and Syria in succession) to pipe its gas to Europe. Accordingly, Egypt, Jordan, Syria, where Gazprom's partially owned construction company Stroitransgaz built the Syrian leg, joined Turkey in agreeing to extend a proposed Arab Gas Pipeline (AGP) project to Turkish territory, where additional connections could link it up to Nabucco (Winrow, 2004, pp. 34–5; APS, 2008). In Libya, from where a trans-Mediterranean pipeline supplies 13 per cent of gas imports (BP, 2009, p. 30) into Italy, which is part of the proposed TGII, Gazprom acquired assets from a subsidiary German BASF firm, which is party to Nord Stream (Socor, 2006; RIA Novosti, 2008). In 2008, in returning for agreeing to coorganise the marketing of additional Libyan gas supplies to Europe, Gazprom, replicating its strategy vis-à-vis Caspian FSU states, offered to purchase the entire volume of Libya's export-bound oil, gas and LNG supplies (Socor, 2008).

Some of these moves have been abetted by EU-headquartered firms. Enticed by the prospect of securing greater access to the Russian upstream sector and ensuring the future profitability of their joint South Stream venture to pipe Gazprom's gas under the Black Sea into Southeastern Europe, Italy's Eni firm not only purchased one-fifth of Gazprom's oil business, which was assembled from Yukos's confiscated assets, but also offered Gazprom inroads into Libya's oil and gas sector.

Although Eni's own share of Libya's giant Elephant field had been reduced by Tripoli to less than one-third in 2008, Eni agreed to divide with Gazprom a share that had been shrunk to 32 per cent in 2008, although the exact terms of Gazprom's entry into Libya have still not been finalised (Crooks, 2007, p. 26; Hoyos, 2008, p. 17; BBC, 2009).

Compared to Libya, which supplied less than 4 per cent of the European market, Algeria forms a much bigger fixture of the EU gas-importation portfolio. It provided 59 bcma (just under two-thirds of which came in the form of piped supplies to Italy and Spain), or 17 per cent, of the EU27's total 2008 gas imports and nearly twice as large a proportion of Italy's imports (BP, 2009, p. 30). In 2006, Gazprom agreed with Sonatrach, Algeria's state energy firm, to produce gas and jointly market it to Europe in return for permitting the latter entity to join an LNG development in Russia (Socor, 2007a), although this never progressed very far even during the height of the 2003–08 commodity boom (Gorst, 2008, p. 25). Gazprom also broached the idea of helping to produce Nigerian gas for domestic use, even as France's Total has taken the lead in proposing to build a 4128-km trans-Sahara pipeline at a cost of € 15 billion that could transport 20–30 bcma of this gas under the Sahara to Algeria and then to Europe (Gorst, 2008, p. 25; Green, 2009, p. 5; Weaver, 2009, p. 50). Although it does not directly supply the Iberian Peninsula, Gazprom has acquired 6–7 per cent of a Portuguese energy company with a share of the supply allotted to the planned Medgaz pipeline from Algeria to Spain (Weaver, 2009, p. 50).

All these instances or trends of 'far encirclement' may dovetail with Gazprom's efforts to shape the future LNG market. The latter interest has been evidenced by Russia's tentative support, together with major gas producers Algeria, Iran and Venezuela, for turning the GECF into a more active 'gas-OPEC' (Economist Intelligence Unit, 2008; Shchedrov, 2008; Shiryaevskaya, 2008). In December 2009, on the heels of a joint Russo-Iranian meeting where Russian Energy Minister Sergei Shmatko reputedly reaffirmed his country's support for Gazprom's involvement in the construction of a gas pipeline from Iran to India, GECF member states accepted Leonid Bokhanovsky, who had overseen pipeline building in Algeria, India and Syria as former head of Stroitransgaz, Gazprom's construction arm, as their head until the end of 2011 (Medetsky, 2009, p. 1). Nonetheless, effective market cartelisation is sure to be hobbled by supplier competition (Chazan, 2007), manifested in the egregious non-participation of non-Russian FSU Central Asian states in the organisation and exacerbated by soft prices. Thus, GECF 'activism' seems intended, at least for Gazprom, on gaining a stronger

influence over a gradually globalising LNG market of which it recently became part.

### **Conclusion: will the EU end up energy diversified or upended by Russia?**

The Commission articulated common energy policy in 2007 and promoted subsequent proposals, like the Second Strategic Energy Review in 2008, which advised in favour of prioritising further fuel supplier-diversification, *inter alia*, and TEN-E financing has been earmarked for identified 'priority' projects with their own specifically designated coordinators. Yet, vigorous top-down efforts have not been able to achieve greater cooperation and solidarity among EU27 member states, where headquartered energy corporations have succumbed to nation-centric *realpolitik* temptations to secure separate bilateral deals with Gazprom. The declared pledges contained in the 2007 Lisbon Treaty to let the Commission decide 'in a spirit of solidarity between Member States, upon the [appropriate] measures ... if severe difficulties arise in the supply of ... energy' (European Union, 2007, p. 72) do not impinge on a member's 'right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply' (*ibid.*, p. 88). Thus, the treaty, which strikes a muddled balance between sovereignty concerns and supranational-action competency in the energy sector, retains 'pre-existing flaws and gaps' (Andoura et al., 2010, p. 76).

Part of the problem with characterising the default member-state-centric approach to EU energy security as *realpolitik* is that it seems a manifestly unrealistic way for the aggregate EU27 entity to try to guarantee uninterrupted physical deliveries of its collective present and future import needs from its external suppliers. As Andoura et al. (2010, p. v) remark, 'Member states are right to view energy as strategic, but wrong to believe that separate and/or diverging national approaches will enable them to achieve their strategic objectives.' Key features of the energy game make it amenable to rent-seeking *par excellence* and Russia's Gazprom remains one of the game's keenest participants (hence, the frequent references to the new 'great game' featuring Eurasian hydrocarbon resources). Thus, while this may reflect revenue-preservation motives more than purely expansionist imperatives and may not necessarily translate into the successful meeting of any larger Kremlin foreign policy objectives, Gazprom has trained a sharp eye on all developments that might affect Russia's main European customer base, including contrary

Commission campaigns to promote expansion of the EU27's import repertoire. Thus, it has worked throughout the entire gas delivery system to ensure that it controls, or at least continues to profit from, the widest swath of relevant upstream fields, transit routes and downstream networks, if necessary, at the expense of crowding out other extra-EU27 suppliers. As EU actors are engaged in gas 'wars' one way or another, whether or not they wish to be, they have not totally relinquished a vision of new routes of access to Middle Eastern and Caspian supplies that have become increasingly reliant on bridges crossing Turkey.

# 6

## Roads to Europe for Caspian and Middle Eastern Energy Supplies

### Introduction: opportunities and blindspots in the EU's quest for new foreign energy supplies

This chapter builds specifically on the previous examination of efforts to diversify the European Union's gas supplies and suppliers in line with the objective of ensuring that the European Union (EU) has more source countries from which to access energy as well as more evenly balanced dependency across them. The crafting of this objective, as articulated by the Commission, has been grounded in the plausible assumption that more strenuous market competition among suppliers should not only help to dampen or suppress price increases, but should also minimise the impact of future energy 'crises' arising out of disputes between specific producer and transit countries or precipitated by deliberate cut-offs. As examined previously, those member states, albeit limited in number, that have more fully equipped their domestic markets with the necessary intake infrastructure to re-gasify tanker shipments of liquefied natural gas (LNG) have also tended to achieve a wider broadening of their repertoire of suppliers that could be generalised to the rest of the EU area. In lieu of the EU27 becoming more widely capable of receiving and circulating LNG, individual EU member-state governments and firms have fallen back on maintaining their respective interests in tapping more gas (and more oil, in the case of the former) from a larger array of suppliers in the Caspian and Middle East regions via planned pipelines. This section includes a brief survey of changes in the relative availability of oil and gas reserves from regions that the EU has been accessing and those from which it could potentially import significantly greater volumes.

Our analysis then assesses the status of particular transportation infrastructure mechanisms by which various EU member states have sought to access additional Middle Eastern and Caspian region energy supplies. As embodied in the Pan-European and Odessa–Brody oil pipeline projects or the White Stream project for gas, all of which involve Ukraine, certain plans to transship hydrocarbons along an 'East-West corridor' have been conceptualised in such a way as to bypass both Russia and Turkey, with one environmental rationale for the aforementioned oil schemes being that they would decrease the flow of Russian-origin tanker traffic through the Bosphorus Straits. However, as explained in Chapter 5, the extant bulk of Trans-European Networks-Energy (TEN-E) financing for the 'southern corridor' has gone to those projects crossing Turkey. Moreover, the current operation of smaller trans-Turkey pipeline flows of energy originating from the Middle East and the Caspian, the landlocked nature of which impose certain limitations on the feasibility of LNG exports, indicates that Turkey has become increasingly central to plans to diversify the EU's import basket to a fuller geographical extent and thus more prominently located on the EU's energy security agenda. Thus, this chapter also previews Chapter 7's much fuller elaboration of how Turkey has already allowed the EU to attain a marginal widening of its pipeline-based hydrocarbon importation options.

On the other hand, the EU as a predominantly consumer-orientated economic area faces competition for supply from other importing-consuming countries. Consequently, efforts to obtain more energy supplies from the rich deposits located in the Persian Gulf and the Caspian Sea Basin regions are poised to encounter a considerable challenge, not just from Russia on the supply side, as discussed in Chapters 5 and 7, but also from major Asian countries on the demand side.

A case in point, rapidly growing China has stepped more actively than the EU as an entity into the fray, with the former's state-influenced companies, prominent among them the China National Petroleum Corporation (CNPC) and its overseas subsidiary PetroChina, entering joint ventures in the exploration and production (E&P) sector and obtaining Beijing's underwriting of concessional loans and loan guarantees to shepherd the construction of the necessary complement of oil and gas pipelines to Kazakhstan, Turkmenistan and Uzbekistan on the Caspian's eastern rim. Thus, China has accomplished more than the EU to date in providing these landlocked states with an additional export outlet to an increasingly lucrative market that eases their dependence on Russia and, to a much lesser extent, Iran, fellow Caspian Basin states that have

had many conflicts of interest with their various non-Russian Former Soviet Union (FSU) littoral partners. Accordingly, however, this diversification has favoured China, as well as the landlocked producing and exporting countries in question, without redounding to the benefit of Europe. Thus, this chapter devotes considerable space to examination of the extent to which Chinese projects pose a new threat to the viability of Europe-bound Caspian energy supplies and routes.

### The EU'S access to world hydrocarbon reserves

Earlier chapters underscored that the area comprising the collective territory of the 27 EU member states has actually diversified *towards* Russia in meeting its oil import needs while actually diversifying *away* from Russia in terms of meeting its gas importation requirements. These cross-cutting trends do not represent the result of pursuit of an illogical or irrational collective-level policy. Rather, they mirror with some accuracy underlying trends in the distribution of world oil and gas reserves. However, they fall short of completely reflecting changes in the global distribution of the respective resources in question.

Surprisingly, non-Middle Eastern countries and regions have gained greater shares of world reserves at the expense of the Middle East, without displacing the latter in any meaningful way. According to figures derived from BP (2009, pp. 6, 8, 22–3), Europe and Eurasia (a BP-labelled category dominated by the FSU), Africa and Central and South America (a third category) came to account for a larger collective share, and respectively augmented regional shares, of the world's total oil reserves in 2008. In the two decades between 1988 and 2008, the first category's fraction of the world's oil reserves expanded from under 8 to 11.3 per cent, while Africa's grew from nearly six to ten per cent and the third category's portion of the world's oil reserves increased from nearly seven to ten per cent. Conversely, the Middle East's fraction of global oil reserves actually fell by over five per cent, from 65.4 per cent to just below three-fifths. While Russia supplied nearly one-third of EU oil imports and only a slightly smaller fraction of the EU's petroleum demand in 2007, it accounted for just over six per cent of 2008 global petroleum reserves. This mismatch indicates that the EU remains underserved by the collective oil riches contained in other regions of the world like Africa and the Persian Gulf, towards which the EU has also maintained an evident propensity for 'dialogue' and 'partnership'.

The scenario for natural gas differs markedly from that of petroleum supply. Because the gas trade remains dominated by pipeline

movements, the EU area's importation profile may not become as widely diversified, relative to its oil basket, as would be suggested by the overall distribution of worldwide reserves. While Russia continues to supply just under two-fifths of the EU27 area's collective gas importation portfolio, it accounts for closer to 23 per cent of the latter's gas demand, a percentage that nearly matches Russia's share of world gas reserves. This suggests some basis for stability in the EU's present level of average dependency on Russia, albeit a mean that masks an uncomfortably wide range of variation across member states. However, as it imports another two-fifths of its gas from Algeria and Norway, two exporters that hold four per cent of global gas reserves between them, the EU may have to accelerate LNG capacity building to tap into regions holding the remaining 73 per cent of world's remaining gas reserves, the bulk of which are concentrated in the Persian Gulf.

Institutions of the EU recognise this necessity. Even the 'European Coordinator' responsible for monitoring and ensuring progress on those 'projects of European interest' involving the implementation of a 'southern corridor' for gas has recommended against the EU neglecting the utility of accessing more LNG from African and Middle Eastern sources and developing certain ports in Greece and Romania as new hubs for the trading of these supplies in Europe (van Aartsen, 2009, pp. 9–10). While the fraction of world gas reserves comprised by countries falling into the category of European and Eurasia declined from 40.6 to 34.0 per cent between 1988 and 2008, the Middle East's share climbed *pari passu* from 31.3 to 41 per cent (BP, 2009, pp. 6, 8, 22–3). African gas has also come to account for nearly eight per cent of global gas deposits. Thus, the slow but steady growth of LNG exports to European and other markets of Qatari gas reflects the fact that the latter constitutes nearly 14 per cent of the world's total, behind only Russia and Iran, which holds 16 per cent but has been hobbled in its ability to produce and export this gas by economic sanctions and mismanagement.

While the energy reserves of the Caspian Sea Basin have been subject to wildly vacillating estimates of their potential size and thus should not be unduly relied on to replace more mature producing regions like the North Sea, these hold an under-tapped potential to supply the EU27 economy, but most critically its newest member states, via export routes that do not traverse Russian territory. Russian and Iran also have Caspian littorals that extend out over energy beds, which have been the subject of lingering legal disputation (International Energy Agency, 2008b, p. 66), but possess more encompassing territories with direct marine outlets to world markets, in stark contrast to the four land-locked

basin states of Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan. While oil from Azerbaijan and Kazakhstan, the main non-Russian FSU oil powerhouses in the Caspian Sea Basin, is already reaching markets without having to transit Russia, both territories taken together account for approximately four per cent of global oil reserves and therefore have room to grow to fill a slightly larger proportion of total European imports. Azerbaijan's oil can now reach Europe-orientated markets without having to traverse Russia out of geographical necessity, although China serves as the only non-Russian landborne exit route for Kazakhstan's oil at present. The four non-Russian FSU basin states, which collectively accounted for just under seven per cent of 2008 global natural gas reserves, represent the focus of considerable Euro- and Sino-centric efforts that have begun to achieve fruition. The former set of efforts have yielded a pipeline crossing Azerbaijan, Georgia and Turkey into Greece and the latter efforts have resulted in a pipeline extending from Turkmenistan across Uzbekistan and Kazakhstan to China, giving these landlocked states export outlets that bypass Russia while assisting the major consuming areas in question to broaden their respective supplier bases.

### **The EU and Caspian energy**

Firms headquartered in European countries have provided the bulk of the material means and wherewithal to realise the energy-sector dimensions of the EU's Partnership and Cooperation Agreements (PCAs) with various non-Russian FSU states. By default, actors in Europe's corporate sectors have occupied the vanguard of EU-centric efforts to exploit gas supplies from the FSU Caspian littoral states, with notable albeit partial success in Azerbaijan and Kazakhstan that has not been replicated in Turkmenistan and Uzbekistan. As these multinational corporations have become more prominently involved in the Caspian energy sector, they have also shown a corollary interest in ensuring that the hydrocarbons they produce can be exported on the most competitive terms possible. While this interest reflects their preferences and those of their hosts for developing routes of hydrocarbon egress that are independent of Russia, given the capacity of state-led firms in the latter to buy captive energy supplies at lower-than-market prices and thus capture large rents from their passage, it is logical for EU institutions to back these projects, as they have done to a small extent via the TEN-E programme, for the sake of diversifying the EU27 area's portfolio of non-Russian-controlled imports.

By contrast, as amply underscored already, member governments have, until more recently, shown a more ambivalent attitude – one that reflects their disparate energy profiles – towards formalisation of EU efforts to access more Caspian energy, with an understandable degree of validity. As discussed in previous chapters, hesitancy on the part of some of them stems from many member states' desire not to jeopardise inflows of Russian gas and a variety of separate deals with Gazprom that have been pursued by a number of their major companies (Belkin, 2007, pp. 9–13). Indeed, to reiterate the common lament once more, the European Commission (2007a, pp. 18–19) admits that EU members have visibly struggled to 'speak with one voice' on common energy concerns, including how to build Europe-orientated connections to Caspian Basin energy supplies in the face of Russian efforts to prevent univocal EU forays in that endeavour.

In any case, the relative paucity of TEN-E financing for natural gas route 3 (NG3 or 'southern corridor') projects, which make up a specific section of a larger East–West energy corridor, as well as problems that individual companies have sometimes encountered in investing in and developing the various fields in the Caspian Basin region have made it costly and politically cumbersome for many of these firms to proceed as quickly as they and the governments of their host countries might prefer in readying their full panoply of upstream assets for production and export. In contrast, as discussed further below, contiguous People's Republic of China (PRC), opposite to the EU area in being relatively more dependent on foreign oil than gas, has made mammoth strides in developing and accessing its own secure landborne supplies of oil from Kazakhstan and gas from Turkmenistan, which are intended to balance its predominantly maritime importation of hydrocarbons from the rest of the world.

### **EU efforts to access Caspian Basin energy without Russia or Turkey**

As companies headquartered in EU countries have been engaged in the partially fruitful development of Caspian Basin hydrocarbons for export, the EU has been correspondingly compelled to engage in prudent consideration of an array of candidate pipeline routes to ship these resources. Not all of these incorporate Turkey. In fact, although the volume of oil that they ship dropped by approximately one-quarter to 119 mmta in 2006, 5500 tankers exporting oil from around the rim of the Black Sea, but largely from Novorossiysk, already squeeze their



way through the narrow Bosphorus Straits between Turkey's Asian and European shores, occasionally colliding and spilling large quantities of petroleum in the environs of Istanbul (Energy Information Administration, 2008c, pp. 7–9). Consequently, one justification that some have cited in favour of these projects has been that they would help relieve this congestion. However, many of them have been hampered by some of the same key obstacles besetting major new expansions of Europe-orientated pipeline connection to Caspian energy that cross Turkey. Moreover, they have failed to obtain the necessary levels of financial and political backing that would put them on a competitive footing with those trans-Turkey pipelines that already exist. Indeed, the EU's institutional cooperation with non-Russian Caspian states has taken shape largely within the 'Baku initiative' and bilateral memoranda of understanding (MoUs) that were elaborated on in Chapter 3. Although the EU's approach has been based on '[t]he underlying idea that common energy interests can be advanced through a gradual process of regulatory approximation towards European norms', it 'has not captured the imagination of Caspian producers, who feel that the strategic and commercial value of the gas trade – rather than the details of the Gas Directive – should be the basis of their energy relationship with the EU' (International Energy Agency, 2008b, p. 45).

#### *Oil: The Pan-European and Odessa–Brody pipelines*

While interested in all conceivable non-Russian FSU sources of Caspian oil, the EU and major firms headquartered in its member states have focused primarily on developing the physical and legal means to bring additional supplies of petroleum from Kazakhstan. This oil is envisaged to cross, in succession, the Caspian Sea, Azerbaijan and Georgia, the two Caucasus region countries that already host the Baku–Tbilisi–Ceyhan (BTC) and Baku–Supsa pipelines as well as the railway terminating at Georgia's Batumi Port, and then the Black Sea.

The Pan-European Oil Pipeline (PEOP) has been designed to bring oil from Constanta, on Romania's Black Sea coast to Serbian and Croatian refineries and deliver the refined product onwards via Slovenia or the Istria peninsula to Trieste in Italy. Estimated to cost upwards of € 2 billion and expected to have throughput capacity of 60 mmta, this project, the subject of an April 2007 inter-governmental accord endorsed by the EU Commission at Zagreb and a development company founded 1 year later, appears to have garnered some interest from Kazakhstan. Five months after conclusion of the inter-governmental

accord, state firm KazMunaiGas, which already owned Georgia's Batumi oil terminal, consented to acquire the vast majority share of a Romanian oil enterprise that included two refineries and over 600 petrol stations spread across seven countries. The project, however, has not advanced very far for several reasons. These include Italian and Slovenian absence from the project development company, Russian pressure on potential upstream supplier Kazakhstan to route most of its oil exports through the Transneft-controlled Burgas–Alexandroupolis Pipeline, and Gazprom's oil arm Gazpromneft's interest in gaining majority control over Serbia's NIS oil company (Ibid., pp. 55–7).

Progress on the Odessa–Brody Pipeline Project, another project that has received feasibility financing from the European Commission, has long been stymied by some of the same problems afflicting the aforementioned project. In 2001, Ukraine built a 674-km pipeline with a throughput capacity of 9 mmta that is now theoretically available to convey Caspian oil from the Pivdenny terminal at Ukraine's Odessa Port on the Black Sea northwards to Brody in western Ukraine, where the oil would enter that leg of the Druzhba trunk line that reaches the Czech Republic, Germany and Slovakia. However, without Kazakhstan oil yet accessible in sufficient quantities, Ukraine, then under the leadership of Leonid Kuchma, agreed in 2004 to accept the Anglo-Russian TNK-BP's proposal to reverse the direction of Odessa–Brody so that more Russian crude could reach the Black Sea (Ibid., p. 58; Kupchinsky, 2007). As the International Energy Agency (2008b, p. 58) has remarked, 'in this way, the project initially viewed as a means of relieving congestion in the Bosphorus ended up increasing volumes seeking transit through the Straits'.

This project experienced a later upturn in fortune, albeit insufficient to bring about its full realisation. In August 2005, during the 2003–08 commodity price boom, the Commission became more highly motivated to award a contract to a European consortium to finalise studies on the feasibility of extending this pipeline to Poland (Kupchinsky, 2007). The following year, the northern spur of the Druzhba export pipeline, part of which supplies Russian oil to Lithuania, was shut off, persuading that EU member state to join fellow member state Poland, as well as Azerbaijan, Georgia and Ukraine, in setting up a consortium to extend Odessa–Brody another 500 km to Poland's Plock Refinery, making the project's cost equivalent to one euro per kilometre (International Energy Agency, 2008b, p. 58; Crooks and Olearchyk, 2007, p. 8). Nonetheless, with Kazakhstan declining to join this consortium,

the project, while acquiring stronger EU-level support, continues to face uncertainty in terms of how it will be filled (Crooks and Olearchyk, 2007, p. 8).

#### *Gas: White Stream Project*

At its inception, the White Stream Project was known as the Georgia-Ukraine-European Union (GUEU) Pipeline. Like its counterpart oil projects, this project envisages the construction of a new sub-sea pipeline, up to 1355 km long – at an estimated cost of € 3.8 billion – to ship amounts of Caspian gas, rising from 8 bcma in its initial phase to 32 bcma, through Azerbaijan and Georgia to Romania directly via the Black Sea or indirectly via Ukrainian Crimea (International Energy Agency, 2008b, p. 65). White Stream has gained the strong support of Ukraine and received € 650 million in TEN-E funding (over the 2007–08 period), as a component of the EU's NG3 ('southern corridor') 'project of European interest' (European Commission, 2009g, pp. 1–2; van Aartsen, 2009, pp. 2–3).

This project confronts problems that also face others encompassed within the NG3 gas-corridor framework. As an initiative intended to provide a new route for gas supplies that skirts Russian and Turkish territory, it faces the ever-present possibility of being preempted by Gazprom. That firm has heretofore maintained control of most non-Azeri sources of FSU Caspian gas and, as further discussed in the next chapter, even agreed in 2009 to commence buying 0.5 bcma from Azerbaijan starting in January 2010 (Energy Information Administration, 2009a, p. 5). The latter has even agreed to send 56 million cubic metres per annum (mcma) of gas to traditional nemesis Iran (Blagov, 2010), with which it has had a lingering dispute over ownership of the Caspian seabed's Alov/Alorz energy deposits (International Energy Agency, 2008b, p. 66). Based on its central passage through Georgia, a characteristic of most other projects to transport more Caspian hydrocarbons to European markets, the International Energy Agency (Ibid., p. 65) has added that, 'More than other projects in the region, the viability of the White Stream project was called into question by the Russia-Georgia conflict [of August 2008].'<sup>1</sup> While concern over the viability of White Stream from a security standpoint focuses more on the effects of regional conflicts on the calculations of Caspian producers about where to send their exports in the long run, others have implied that potential revenue gains from the existence of direct Caspian-centric energy corridors to Europe should permit the cooptation of even the most aggrieved parties of local opposition within the transit states (Grgic, 2009, p. 9).

#### **Turkey's growing involvement in Europe-orientated Caspian Basin energy projects**

Another hurdle that the aforementioned projects face is the existing operation of oil and gas projects that now cross Turkey. This is not an insurmountable hurdle, as Iranian, Turkish and now Chinese projects themselves succeeded in eroding Russia's once formidable monopoly on Caspian-origin pipeline routes. As discussed more extensively in Chapter 7, since 2006–07, the BTC and Baku-Tbilisi-Erzurum (BTE) pipelines have been transporting the respective bulk of Azerbaijan's oil and gas exports to the Turkish land mass, from where some fraction of them are shipped or piped onwards to the EU area. Officials in Ankara, the Commission and in some member states have touted Turkey as a route for conveying significantly larger supplies of hydrocarbons originating not only from the Caspian Basin states of Azerbaijan, Kazakhstan and Turkmenistan but also from the Middle Eastern countries of Egypt, Iraq and Iran. These plans have moved forward sporadically, slowed down not only by expected opposition from Russian interests, but also by inherent difficulties with each of these candidate suppliers.

#### *West Shore: Azerbaijan*

UK firm BP, successor to British Petroleum, both descendants of their seminal predecessor Anglo-Persian, has continued to occupy the forefront of efforts to produce and export oil and gas from fields located in Azerbaijan's territory along the western shore of the Caspian Sea. With nearly one-third plurality shares in both related projects, BP led the Azerbaijan International Oil Consortium (AIOC), which developed the Azeri-Chirag-Guneshli (ACG) oilfield cluster. An overlapping group of licensees, including leader BP, Norway's Statoil, with a nearly nine per cent share, and EU-headquartered firms Agip and Total, uninvolved in the ACG project but each with a five-per cent share in this pipeline (International Energy Agency, 2008b, p. 9), built the BTC pipeline, discussed more fully in the following chapter. As ACG oil started becoming available first from Chirag in late 1997 and later from the Azeri fields in late 2005 to early 2006, prior to completion of the BTC line, shipments of this earlier oil had to be exported by rail to Georgia's Black Sea port of Batumi or by pipeline, either from Azerbaijan's Sangachal Port at Baku to Russia's Black Sea port of Novorossiysk or via the AIOC's Western pipeline extension from Baku to Georgia's Supsa Port. In precise contrast to Agip and Total, US firm ExxonMobil, the one ACG licensee without any corollary share in the BTC, continued to pipe its quota of ACG oil



to Supsa, although the pipeline in question underwent repairs between October 2006 and November 2008 (Energy Information Administration, 2009a, p. 3).

Prior to the BTC pipeline's construction, Azerbaijan's production had clearly been restrained by lack of adequate exportation capacity. As apparent from annual data issued by BP (2009, pp. 9–10), Azerbaijan achieved a 45-per cent jump in output and a three-fifths spike in export volumes between 2005 and 2006, the year that the BTC line was ushered into operation. Between 1998 and 2008, Azerbaijan nearly quadrupled its output from 11.4 to 44.7 mmta (Ibid., p. 9), becoming the 'largest contributor to Non-OPEC supply growth during 2006 and 2007' (Energy Information Administration, 2007, p. 2). In 2006 and 2007, respectively, approximately 44–51 per cent and 43–49 per cent of Azerbaijan's crude oil exports were shipped to the EU area.<sup>2</sup> Italy reportedly purchased approximately two-fifths of Azerbaijan's 2008 oil exports (Energy Information Administration, 2009a, p. 2), although Eurostat (2010a) data indicate that Italy bought 40–50 per cent of the EU27 area's imports of Azerbaijan's oil in 2006 and 2007.

Several members of these consortia, with a few key exceptions, also participated in bolstering Azerbaijan's natural gas production and exportation capabilities. Most of Azerbaijan's gas has been extracted from the offshore Shah Deniz field. Development of this field originated in a 1996 Production Sharing Agreement (PSA) involving a seven-member consortium that comprises leaders Statoil and BP, each with 25.5-per cent shares and joint leadership responsibilities, separate ten-per cent shareholders Eni-affiliated LukAgip, France's Total, Iran's Naftiran and Azerbaijan's State Oil Company (SOCAR) and Turkish Petroleum (TPAO), which holds a nine-per cent share. This group of licensees built the Shah Deniz gasfield as well as its complementary project the South Caucasus Pipeline (SCP) – also known as the BTE pipeline (see Chapter 7) – in 2007.

#### *East Shore: Kazakhstan, Uzbekistan and Turkmenistan*

Across the Caspian Sea, other European firms have been more prominent than BP in the upstream sector. Similar to Azerbaijan in facing a more dire need for foreign investment and assistance, not only to extract hydrocarbons but also to build new export routes, Kazakhstan, under the longstanding rule of Nursultan Nazarbayev, assented to PSAs in the buyer's market of the 1990s that collectively granted majority shares in field and pipeline projects to multinational corporations. Made up of EU-headquartered firms Eni (lead operator), Total

and Shell and American ExxonMobil, each with identical shares of 18.52 per cent, as well as smaller stakeholders ConocoPhillips, Inpex and KazMunaiGaz, the Agip Kazakhstan North Caspian Operating Company (Agip KCO) has been undertaking to develop the challenging Kashagan giant offshore oilfield, estimated to contain recoverable oil reserves of 1730 mmt and total reserves-in-places of 5070 mmt (Energy Information Administration, 2008a, p. 3). The Karachaganak Petroleum (KPO) consortium, which includes Eni and lead operator British Gas (BG), each with 32.5-per cent shares in early 2008, one-fifth shareholder Chevron and ten-per cent shareholder Lukoil, has been tasked with operating the Karachaganak field, estimated to hold 1100–1200 mmt of oil and gas condensate and over 1000 bcm of natural gas (Ibid., p. 4).

This field's crude had little choice but to go to Russia for processing until a new pipeline spur came online in 2003. This allowed the oil, approximately 12.5 mmta in 2007, to be rerouted into the Caspian Pipeline Consortium (CPC)'s pipeline at Atyrau. This conduit, respectively 19 and 24 per cent owned by Kazakhstan and Transneft, transported nearly 35 mmta in 2007 (from the Kenkiyak, Karachaganak and Tengiz fields), over half of Kazakhstan's total oil exports, nearly 1600 km to Novorossiysk (Ibid., p. 5). Kashagan oil could eventually feed the BTC pipeline (of which Total and Eni each own five per cent) either by sub-sea pipeline or barge, already a means of carrying approximately 10 mmta of Kazakhstan oil (Ibid.). Although less than one-fifth of this volume went to Baku in 2007 for onwards rail delivery to Georgia's Batumi Port, the Kazakhstan Caspian Transportation System will encompass a new port at Kuryk south of Aktau, an upgraded tanker fleet, a new uploading terminal at Baku, and an interconnection to the BTC (International Energy Agency, 2008b, p. 54).

However, even in landlocked Kazakhstan, changes in the balance of power driven by the 2003–08 commodity boom were bound to have a deleterious business impact on European and American investments prospects. The government introduced price-indexed 'rent' and 'windfall profit' export-taxation mechanisms, ended tax-stabilisation guarantees, and capped foreign shares in offshore projects at 50 per cent in early 2004, imposed legal preemptions on interfirm transfers of oil assets in 2005, paving the way for it to buy out BG's share of the Kashagan project, and even legalised the unilateral abrogation of contracts in late 2007 (Energy Information Administration, 2008a, p. 7). Despite the field's hydrogen sulphide content and burial under highly pressurised natural gas, factors playing a significant role in lead operator Eni's decision to push its start up from 2005 back to 2011, Kazakhstan,

suggesting that this delay had helped to inflate project costs from \$57 to \$136 billion, brought operations to a cessation and demanded \$10 billion in compensation from Agip KCO in late 2007 (Ibid., p. 3). Eni was also accused of various tax violations (Dinmore and Gorst, 2007, p. 5). This paved the way for a forced renegotiation that resulted in the doubling of KazMunaiGaz's stake to 16.81 per cent, a corresponding reduction in each of the four main foreign shareholders' individual shares to 16.66 per cent and additional recompense via price-indexed payments to the government (Crooks, 2007, p. 26; Stern, 2007; Energy Information Administration, 2008a, p. 3).

In Kazakhstan, as in Russia, contract revisions and operational changes have sometimes followed charges of environmental violations and accompanying fines. Given the manner of contract renegotiation related to Russia's Sakhalin II offshore project, observers have imputed novel pretexts for engaging in 'resource nationalism' to these types of charges (Belton and Crooks, 2007, p. 7). In mid-2005, the government mandated that companies lower Kazakhstan's oil output enough to eliminate any concomitant flaring of gas, estimated at 8 bcm in 2006. This restriction, coupled with a sudden shutdown of its generators in 2005 that released sour gas into the atmosphere, suppressed output from the Tengizchevroil (TCO) consortium's Tengiz oilfield in 2005-06 and compelled implementation of a new \$1 billion Sour Gas Injection (SGI) innovation that started to reverse Tengiz production declines in late 2007. Nonetheless, the consortium incurred a \$609 million fine in 2007 for storing over 9 mmt of waste sulphur (Energy Information Administration, 2008a, pp. 3, 8). Other companies have faced similar problems on different projects. Stoppage that same year on Kashagan work was at least partially supported by official claims that the project induced the deaths of coastal seals (Gorst, 2007, p. 11). Sufficiently alarmed by this train of events, EU Energy Commissioner Andris Piebalgs admonished that the EU "would take adequate measures if the legal rights of European companies were put at risk" (quoted in Gorst, 2007, p. 11). Nonetheless, EU-headquartered firms continued to absorb the costs of doing business. In 2009, UK firm BG, which had been levied tax fines by Kazakhstan earlier in 2004 (Hoyos, 2004, p. 26), invoked international arbitration to try to recover £ 616 million in extra duties that had been assessed by Kazakhstan on the export of Karachaganak hydrocarbons (Tobin, 2009).

Uzbekistan and Turkmenistan, the other energy endowed eastern Caspian littoral countries, have been among the least permeable to the influence of EU institutions or EU member state-headquartered firms.

Although both produce and export relatively miniscule amounts of crude oil compared to their FSU counterparts Azerbaijan, Kazakhstan and Russia, they occupy more salient positions in the natural gas sector. In 2008, according to data provided by the Energy Information Administration (2010) database, Uzbekistan exported as much as gas as Azerbaijan and Kazakhstan combined, with Uzbekistan and Turkmenistan collectively exporting 63 bcm, approximately one-quarter of Russian volumes. Yet, as each country has been governed by highly dictatorial regimes that have not offered clear and consistent ground rules, neither has been able to attract significant inflows of foreign direct investment (FDI) from the EU27 economy, nor have they built any independent capacity to transport their hydrocarbons directly to Europe. Indeed, any gas from these two countries that reaches the EU area has already been bundled into export streams that are controlled by Gazprom and mostly sold via opaquely intermediary trading arrangements.

Both countries' attitudes towards EU-centric investment and exports have ranged from indifferent to ambiguous. Uzbekistan President Islam Karimov, who has faced EU sanctions over his government's role in the 2005 Andijan massacre, has dismissed outright almost any prospects of shipping gas into a trans-Caspian pipeline (AFP, 2008). On the other hand, Turkmenistan's government, which changed hands from now deceased Saparmurad Niyazov, the self-styled 'Head of the Turkmen', to Gurbanguly Berdymukhamedov, has stoked new hopes on the part of foreign investors looking to enter Turkmenistan's upstream gas sector. In mid-2009, during the Russo-Turkmen imbroglio over Russia's sudden halt to the passage of Turkmen gas flows into the Central Asia-Centre (CAC) pipeline, which caused an explosion in the latter, the Berdymukhamedov government granted German firm RWE, the newest partner in the Nabucco Pipeline Project consortium, exploration rights in its Caspian Sea territory (Globe and Mail, 2009, p. B6). However, while other Western firms, including Chevron, BP and Shell, have expressed interest in gaining similar E&P rights to Turkmenistan's onshore deposits, Turkmenistan has thus far confined its enticements to less alluring service contracts (Shiryaevskaya, 2010).

### **Chinese resource demand and EU energy security**

In contrast to the EU, the PRC, which stands out as one of the fastest growing economies, energy consumers and energy importers, has also sought to diversify its importation portfolio. In many ways, the nature

of the growth in the Chinese economy and energy consumption has replicated the industrial revolution itself. While the sustained high rates of expansion in the Chinese economy have largely been powered by access to relatively abundant domestic coal reserves, the increasing intrusion of concerns over carbon emissions and mine safety have helped to accelerate efforts to develop nuclear power and find new sources of oil and gas, in which China had been relatively self-sufficient until sometime in the past two decades. Since the early 1990s, when it became a net importer of petroleum, China has largely become dependant on Persian Gulf energy sources, which it has had to import through an easterly succession of maritime channels (in turn, the Hormuz and Malacca straits) that pose an array of interdiction risks to this trade from armed conflict, piracy and terrorism. Thus, while its state-led corporations have notably expanded China's supplier repertoire by acquiring oil assets in Africa, especially the Sudan, they have also supported building new pipelines to Russia and establishing a larger scope of overseas routes to source countries in the Western Hemisphere, primarily Brazil, Canada, Ecuador and Venezuela.

While they will contribute to keeping some floor under prices, the ways in which China is attempting to fulfil its oil demand, may have a more direct impact on the US than on Europe. However, since 2006, China has been importing oil from Kazakhstan via pipeline, and this development, coupled with endeavours to build new Sino-Russian pipelines that officials in Moscow have implied will afford Russia greater diversity of export channels, could negate European-centric plans to augment Kazakhstan supplies for the BTC or Odessa-Brody routes. Moreover, China has looked in a similar direction, towards Russia and Turkmenistan, with which it inaugurated a new pipeline in late 2009 that also crosses Uzbekistan and Kazakhstan before reaching Urumqi in PRC's restive province of Xinjiang, in its efforts to augment its natural gas imports, most of which arrived heretofore in the form of LNG from Australia. As Turkmenistan's gas serves as one of the largest potential non-Russian sources of new European supply (via the aforementioned trans-Caspian options or less directly, through Iran), this Sino-Turkmen pipeline potentially removes these volumes from consideration.

### **China's energy demand**

Although its economy was placed on a proto-capitalist footing as early as 1978, over a decade before the collapse of the Soviet Union, China has experienced prodigious growth in both its economy and its energy

use over the past two decades.<sup>3</sup> This expansion has occurred in both absolute and relative terms. In absolute terms, China's total primary energy demand of 758.4 million tonnes of oil equivalent (mtoe), which accounted for 9 per cent of the world total in 1993, rose 164 per cent by 2008 to reach nearly 2003 mtoe, or 18 per cent of the world total. While it consumed approximately 57 per cent of what the EU15 consumed in 1993, by 2008, it was using 270 mtoe more than the EU. China's domestic coal reserves, which account for seven per cent of the global total, have continued to provide the lion's share of China's overall energy needs. While coal met three-quarters of China's energy demand in 1993, by 2008, this fraction had dropped only fractionally, to seven-tenths. In fact, over the 15-year period in question, while coal's share of world total primary energy demand increased from 26 to 29 per cent, China's coal use, which made up 26 per cent of world coal consumption in 1993, climbed by an even larger multiple (150 per cent) to account for 43 per cent of world coal consumption.

Because of the absolute and relative increase in its energy demand, which remains dominated by the burning of coal, China also became the top-ranking emitter of carbon dioxide by 2007.<sup>4</sup> In 1990, China's CO<sub>2</sub> emissions of 2.244 billion mt represented only 11 per cent of the global total, a fraction that paled in comparison to the EU's 19-per cent share and the 23-per cent US share. However, in line with its overall percentage increase in energy demand, China's CO<sub>2</sub> output rose 171 per cent to 6.071 billion mt, or 21 per cent of 2007 global CO<sub>2</sub> emissions, edging out the US and putting the PRC leagues ahead of the EU, where carbon emissions actually declined between 1990 and 2007. During this time frame, the rise in Chinese coal-related carbon emissions made up 80 per cent of global increase in coal-generated emissions and nearly two-fifths of the increase in total world CO<sub>2</sub> emissions.

China's consumption of other energy sources has risen in tandem with its high economic growth rates, although more in absolute terms than in relation to its coal usage. In the decade and a half between 1993 and 2008, China endeavoured to augment its use of energy sources that limit carbon emissions and dependency on imports. The country managed to quadruple its generation of hydroelectric power and treble its share of the world's total from 6 to 18 per cent, and its reliance on nuclear power climbed exponentially, from a modest base of 0.4 mtoe to nearly 15.5 mtoe. In an area where Chinese activity has drawn the most attention from the rest of the international community because of the significant amount of new importation entailed, China increased its oil consumption from 140.5 to 375.7 mmt, 53 per cent as much as in the

EU. Although oil continued to provide 19 per cent of total PRC primary energy demand, this increase doubled China's share to ten per cent of global oil demand. By 2008, natural gas demand by China had nearly quintupled to 72.6 mtoe, or nearly 81 bcm (three per cent of world natural gas demand), 17 per cent of EU demand.

### **The PRC's hydrocarbon import profile**

#### *Oil*

Rapid expansion in China's economy and energy demand transformed it into a large net importer of fossil fuels.<sup>5</sup> While it was a net exporter of 35 mtoe of energy in 1990, it lost this capacity in mid-decade, turning into a net importer of 167 mtoe by 2007. While it covered its needs for hydroelectric power, nuclear energy and other renewables from domestic production, which provided just under 15 per cent of its total energy production in 2007, it imported over half of the oil component of its total primary energy supply (47 per cent of its crude oil needs) that same year. In 2007, crude oil filled over 95 per cent of China's total net energy import basket, and PRC net crude oil imports were third in size after those of the US and Japan. In 2008, China imported nearly 179 mmta of crude oil, nearly half of which came from the Middle East, three-tenths from Africa, three per cent from the Asia-Pacific region, and 17 per cent from an assortment of other source areas, and Saudi Arabia and Angola accounted for one-third of China's crude oil imports (Energy Information Administration, 2009b, p. 6). Chinese crude oil imports, which originated from a diverse array of suppliers comprising 40 countries, grew nearly 14 per cent between 2008 and 2009. Saudi Arabia gained another 15 per cent of the Chinese market to acquire the single largest share (24 per cent) and Angola obtained another seven to eight per cent to increase its portion to 16 per cent of PRC crude oil imports, thus bringing their combined share to two-fifths of the Chinese market (Chinaoilweb.com, 2010).

China has accelerated its acquisition of new assets and supplies from outside its traditional Middle Eastern and Asian-Pacific wellsprings. China slowly but gradually filled its import basket with more FSU and Latin American oil. While the Middle East and Africa continued to dominate the Chinese import basket, the FSU supplied nearly 11 per cent, with roughly one-third of this coming from Azerbaijan and Kazakhstan (see below) and two-thirds from Russia. Five South American countries – Argentina, Brazil, Colombia, Ecuador and Venezuela – covered slightly more than six per cent of PRC crude oil importation requirements

(Ibid.). As part of China's overall strategy of leveraging its deep official reserves to secure energy supplies from a range of developing producer countries, the return of an energy buyer's market in late 2008 found the China Development Bank in the enviable financial position of being able to underwrite new 'oil-for-loan' deals to Brazil (€ 7.4 billion, at the mid-2009 exchange rate, for up to 10 mmta of oil over 10 years to China Petrochemical Corporation, or Sinopec), Kazakhstan (€ 7.4 billion) and Russia (€ 18.5 billion) (Oster, 2009, p. B8). Between 2008 and 2009, Chinese consumption of Brazilian and Russian oil increased by nearly one-third (Chinaoilweb.com, 2010). Chinese loans to Rosneft and Transneft of \$40 billion in 2009 were directed to building a 69-km spur to bring Russian oil via the Eastern Siberia–Pacific Ocean (ESPO) Pipeline to the Chinese border and then into a 961-km pipeline to China's longtime workhorse Daqing oilfield (Energy Information Administration, 2009b, pp. 7–8).

While much of the focus on the new 'scramble for Africa' or other drives to acquire new assets features China pitted against the US, the EU27 area, which is significantly more dependant on foreign oil suppliers than the US, might be proportionally more vulnerable to the effects of China's growing petroleum importation requirements. As implied by the increasing EU reliance on FSU energy, this involves Russia more than Africa, Latin America and the Middle East, from where EU27 imports decreased by approximately one-quarter, from 322 mmta in 1992 to 243 mmta in 2007 (Eurostat, 2010a). While EU27 energy security is analytically framed in the aggregate, vulnerability to expanding demand by external actors for the pool of the area's available energy supplies varies by member state and supplier country. For example, significant increases in demand for Angolan, Brazilian, Iraqi, Libyan and Russian oil could put China on a potential collision course with France, the single largest EU importer of Angolan oil, Portugal (Brazil), Italy (Iraq and Libya) and Germany (Russia) (Ibid.; Chinaoilweb.com, 2010). As discussed below, China's pipeline projects may also clash with EU aspirations vis-à-vis the FSU as well.

#### *Gas*

The gradual increase in China's natural gas demand has also driven a more energetic search for foreign suppliers. China became a net importer of this energy source in 2007, the year after it first resorted to foreign suppliers.<sup>6</sup> Until 2010, it had been receiving all of its natural gas imports as LNG, which it started shipping from Australia in 2006, in an annual amount of 950 mcm, which came to less than

one per cent of global LNG trade, below two per cent of the EU's LNG imports, and just under five per cent of Australia's LNG exports (International Energy Agency, 2009d, p. II. 54). This gas is brought to Dapeng re-gasification terminal in Guangdong, a joint venture between China National Offshore Oil Corporation (CNOOC) and BP, under a 25-year contract to buy up to 4.395 bcma from Australia's North West Shelf liquefaction terminal (Energy Information Administration, 2009b, pp. 12–13). By 2007 and 2008, Chinese had raised its LNG import volumes to 4.020 bcma and 4.335 bcma, respectively, with over four-fifths of these coming from Australia (which in turn sent 16 per cent of its LNG exports to the PRC), and the rest from Algeria and Nigeria (both years), Oman (in 2007) and Egypt and Equatorial Guinea (in 2008) (International Energy Agency, 2009d, p. II. 55).

It appears on the surface that China is gearing up to place itself on a more competitive importation footing vis-à-vis LNG importers in the EU area. According to data found in the Energy Information Administration (2009b, p. 13), China has two re-gasification terminals, Dapeng and Fujian, and is planning to add seven more, lifting its initial LNG re-gasification capacity from 10 bcma to nearly 37 bcm per year, which, if expanded, could even reach 50 bcma within this decade. Two projects, Dalian and Rudong, slated to bring up to 8.7 bcma of Qatari gas after 2011, are being undertaken by the PetroChina subsidiary of CNPC. However, CNPC has reportedly entered into agreements with European firms Shell and Total and CNOOC has arranged to buy 4.8 bcma of Australian gas from UK firm BG over two decades (Ibid.). Thus, Chinese and EU interests have been more co-operative than rivalrous in terms of developing global LNG supplies. This is not necessarily the case in terms of laying pipelines to divert the coveted natural gas deposits of the FSU.

### **Chinese pipeline inroads to Central Asia**

Pipelines may represent a type of Faustian bargain in the realm of energy security. This path was taken by then members of the European Economic Community (EEC), especially West Germany, when, in the wake of the 1973–74 Arab oil embargo, which compounded existing European concerns over coal-based pollution, they moved to supplant some fraction of their dependence on this oil with natural gas (and oil) from the Soviet Union. This, however, laid the foundation for European consumers' sometimes irksome dependence on Russian gas (Goldman, 2008, pp. 136–9). While Chinese plans in this respect were conceived in the 1990s, pipelines accessing oil from Kazakhstan and gas from

Turkmenistan (via Uzbekistan and Kazakhstan) have now been built and brought into operation. These projects were constructed with material assistance from Chinese state-influenced corporations, not so much to allay PRC fears of another oil embargo, but in order to reduce China's vulnerability to a myriad of other potential threats to their Middle Eastern petroleum supply bases (Williams, 2006, p. 1081).

### *Kazakhstan oil*

As if Europe did not already have enough hindrances to overcome in attempting to develop and route a larger supply of Kazakhstan oil westward around Russian territory, now they must also factor in a potentially more serious source of demand-based competition from China to the east, which has a much larger and more dynamic economy than Russia. In relation to oil from the Persian Gulf, upon which China's import basket is most reliant, FSU oil shipments to China earlier in the twenty-first century were miniscule and based primarily on rail shipments, in volumes of 6–9 mmta from the erstwhile firm Yukos (Zweig and Jianhai, 2005, p. 28), which has been disbanded and its assets largely absorbed into by Gazprom's oil division. While China imported approximately 11.6 mmta of oil in 2008 and 15.3 mmta in 2009 from Russia, its imports of oil from Kazakhstan grew to over 5.5 mmta in 2008 and 6 mmta in 2009 (Chinaoilweb.com, 2010).

This represents the culmination of earlier Chinese efforts to build pipeline connections to access hydrocarbons from its Central Asian neighbours. Based on seminal Sino-Kazakhstan agreements, the first in 1997 to buy – some have claimed overpaid for – three-fifths of Kazakhstan firm Aktobemunaigaz and the latter's Aktobe oilfields and a second one in 1999 placing CNPC in charge of building and financing the pipeline (Williams, 2006, p. 1081; International Energy Agency, 2008b, p. 53), CNPC undertook to build a 2163-km pipeline in three phases to deliver oil from Kazakhstan to China. The shortest 449-km section, which actually routes oil in a westerly direction from Aktobe to Atyrau, was ironically the first to be completed, in 2004, so, while CNPC's accounting ledger may have been bolstered, China did not see any physical flows from Kazakhstan until the 2006 completion of the second phase of the project, a 962-km section that pumps oil from KazMunaiGaz's Kumkol field to Alashankou in China (International Energy Agency, 2008b, p. 53). Although the recent economic crisis pushed back completion of the pipeline's final 762-km leg between Kenkiyak and Kumkol, which could double the pipeline's present capacity to 20 mmta and is partially contingent on the Kashagan field's

development, it also presented CNPC with an opportune moment, one not fully seized, to acquire a larger share of KazMunaiGaz assets with new loans (Energy Information Administration, 2009b, p. 7; Dyer and Lau, 2009, p. 1; International Energy Agency, 2008b, p. 54). The pipeline could provide about five per cent of China's current oil demand (International Energy Agency, 2008b, p. 54) and one-tenth of its import needs (Chinaoilweb.com, 2010).

#### *Turkmenistan gas*

China acted with even greater alacrity in securing contracts to import gas from Turkmenistan, which possesses the largest exportable supply among all Caspian littoral states except Russia but had, until late 2009, lacked direct export access to markets that were more lucrative than Iran. Following a seminal 2006 Sino-Turkmenistan agreement, CNPC in 2007 signed a coveted PSA to develop Turkmenistan's South Yolotan gas fields and another accord with state firm Turkmengaz to invest over \$2 billion in building a 2000-km Central Asian Gas Pipeline (CAGP), extending from about 188 km south of the Turkmen-Uzbekistan boundary to the Sino-Kazakhstan border, to import gas over a 30-year period, in volumes starting from 10 bcma at the 2010 inception of the pipeline and reaching 30-40 bcma by 2012 (Energy Information Administration, 2008a, p. 9; 2009b, p. 12; International Energy Agency, 2008b, pp. 22, 62-3). Potential maximum post-2012 supplies from Turkmenistan could fill most of China's natural gas importation gap by 2020, which is projected to reach at least 40 bcma (International Energy Agency, 2008b, p. 22). In 2008, work accelerated on the Uzbekistan and Kazakhstan sections, the latter of which could be linked up to the internal Beynau-Bozoi-Akbulak Gas Pipeline to take smaller amounts of gas from Kazakhstan to China (Energy Information Administration, 2009b, p. 12; International Energy Agency, 2008b, pp. 22, 63).

The CAGP was inaugurated in December 2009, available to ship gas from Turkmenistan to the Chinese province of Xinjiang. In fact, the aforementioned April 2009 explosion on the CAC pipeline that Turkmenistan attributed to Gazprom's stoppage, which itself seems to have been related to its preference for lowering the price paid for Turkmenistan gas, helped to speed construction not only of the PRC-bound pipeline but also of a second pipeline to Iran, starting at 6 bcma (like the first one), but eventually rising to 12 bcma (Socor, 2009). While these pipelines certainly strengthened both Turkmenistan's exportation and China's importation options, they have potential negative ramifications for the prospects of broadening the EU's gas supply base.

Admittedly, given the lack of consistent and transparent information on the size of Turkmenistan's reserves, these projects may be less of a blow to Europe (less vis-à-vis the Iran-bound lines than the China-bound one) than to Russia, which eventually agreed to resume Gazprom's gas purchases on terms more favourable to Turkmenistan and to build the Prikaspiiski Pipeline to supplement the CAC's capacity (Blank, 2010). The most obviously relevant concern is that China, as a unitary actor that has weathered the latest economic crisis better than most European countries, has reduced Europe's pool of potentially available Turkmenistan gas and thus rendered the construction of any trans-Caspian sub-sea pipeline less viable. Conversely, others have pointed out that the most likely source of Turkmenistan natural gas for Europe, other than those volumes that might reach Europe via Iran and Turkey, would be western littoral deposits originating offshore or as gas associated with offshore oil output, not the eastern reserve base of Chinese supplies (Petersen, 2009; Socor, 2009).

#### **Conclusion: Asian bumps or craters in the way of EU energy security?**

Officials in EU institutions and member states have frequently implied and expressed their apprehensions not only about their reliance on their existing portfolio of non-EU energy supplies but also about proportionally increased reliance on the existing mix of suppliers located in this portfolio. As discussed in Chapter 5, only a subset of EU member states, including the UK and those on the southwestern coastlines of the European continent, have succeeded in achieving a wider range of gas-supplier diversity by developing the requisite infrastructure to receive and re-gasify tanker shipments of LNG, the bedrock of any future gas 'spot market' that would mimic the oil trade. For the most part, however, Europe and the EU have kept their dominant focus trained on the physical expansion and improved operation of the pipeline network – that is, by enhancing storage capacity and interconnectivity levels.

Though the state-backed corporate undertaking of projects with Transneft and Gazprom suggests an opposite tack, EU institutions, member-governments and headquartered companies have prudently refrained from putting so many of the Union's eggs in the Russian energy basket that they preclude the building of any other economic or physical links to foreign energy suppliers that require these connections to bypass Russia. In fact, the EU and its member states have shown clear recognition, as manifest in the Energy Commission-backed