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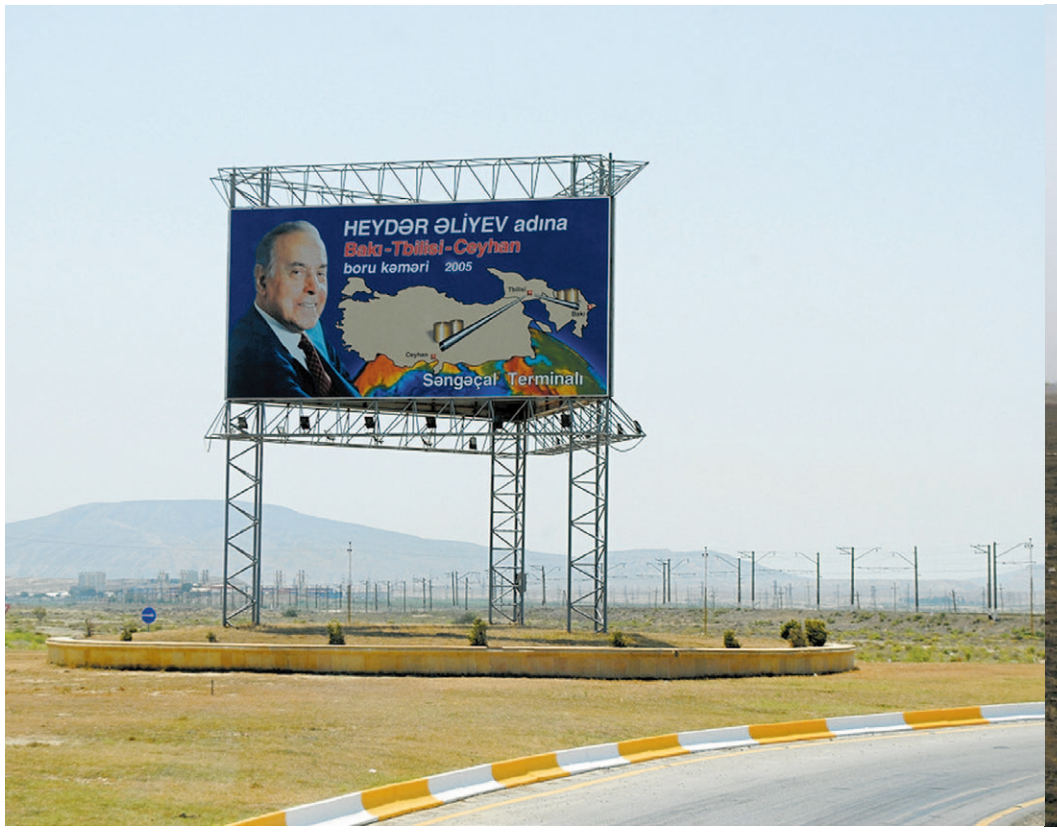
The Central Eurasian hydrocarbon energy complex



The focus here is on understanding current developments in the Central Eurasian hydrocarbon energy complex and their relationship to the 'Southern Corridor' strategy of the European Union (EU) for insuring energy provisions from the Caspian Sea basin. This essay examines how the circum-Caspian region, in particular western Central Asia and the South Caucasus, are together acting so as to extend a geo-economic energy network from China to the EU. The emphasis is oninfluence and constraint upon choices concerning resource development, and on how those choices feed back into reconfigurations of those international constellations of influence. Regarding Central Asia, it concentrates on the evolution of energy development and export strategy in Turkmenistan; regarding the South Caucasus, it concentrates on Azerbaijan. Due to editorial limitations on length, the discussion is almost entirely on natural gas.

Robert M. Cutler

THE ORGANIZING APPROACH TAKEN is an east-to-west 'ordering'. The first section below sets out the organizing categories and framework for analysis. A discussion then follows on Central Asia in general, in particular the evolution of Turkmenistan's energy export policy; then, more comprehensively, prospects for the trans-Caspian transmission of natural gas from Central Asia for European destinations; and finally, the evolution of Azerbaijan's energy policy with special, but not exclusive, attention to how this complements the EU's 'Southern Corridor' strategy. The essay is closed with a summary of the argument and offers associated conclusions concerning the motives of the various players involved and the significance of this evolution of international 'geo-economic' energy relations on classically conceived geopolitics in the present and near future.

The Central Eurasian hydrocarbon energy complex

A 'complexity science' approach is appropriate for tracing the evolution of the Central Eurasian hydrocarbon energy complex over the last two decades. The distinctive features of the approach are (1) a framework built around the three technical terms – 'emergence', 'autopoiesis', and 'coherence' – for explaining the self-organization of the energy networks and (2) the emphasis on different scales of analysis. The phases of emergence (1993-1998), autopoiesis (1999-2004), and coherence (2005-2010) respectively express the 'bubbling-up' of possibilities for new patterns of international relations, free from bipolar constraints; the 'settling-down' of unsustainable patterns of structuration of regional subsystems (including the beginning of their relatively autonomous self-direction of their own evolution as regional subsystems of international relations); and the 'running-deep' of reciprocal relations among those new subsystems (including their incipient coherence).

In that perspective, two facts about the evolution of the Central Eurasian hydrocarbon energy complex are especially striking. The first is that bilateral Kazakhstan-Russia and Turkmenistan-Russia energy relations have been so important over the last twenty years that the Kazakhstan-Russia-Turkmenistan triangle may be analytically taken as the basis from which the Central Eurasian hydrocarbon energy complex has evolved since then. (Kazakhstan-Turkmenistan energy relations are now developing as well, most notably, but not only, through cooperation over the gas pipeline to China). The second is that an inductive logic appears to govern how patterns in that evolution recur and recombine in different and ever-newer ways. There are evolutionary regularities in Caspian/Central Asia energy development and its connection with the South Caucasus through three phases over nearly the last two decades. However, their essence cannot be properly understood through the regular emphasis on bilateral relations in international studies; on the contrary, the focus on triangular relations is essential. Network sociologists have demonstrated that these have a dynamic that differs qualitatively from any aggregation or iteration of bilateral or dyadic relations.

In each of the three Central Asian phases described (1993-1998, 1999-2004, and 2005-2010), a different strategic player – a 'fourth vertex' – adds itself to the basic Kazakhstan-Russia-Turkmenistan energy triangle. Between 1993 and 1998, the fourth player that added itself to the Kazakhstan-Russia-Turkmenistan triangle was the US, creating a Kazakhstan-Russia-US triangle, immediately in evidence over the question of an export pipeline for Tengiz crude. American offshore terminals in the Gulf of Mexico were the first intended targets of Kazakhstani oil shipments. Also during these years, the US embassy in Almaty (then Kazakhstan's capital) proved essential to Russia and Kazakhstan for the restructuring of the Caspian Pipeline Consortium, in fact enabling the CPC's pipeline to be subsequently built. Western interest in Turkmenistan at this time was exclusively from the US, concentrated on ameliorating Ukraine's payments situation as an importer from Turkmenistan and also promoting the first attempt to negotiate a Turkmenistan-Azerbaijan Trans-Caspian Gas Pipeline (TCGP). In the 1990s, US companies GE Capital, Bechtel and PSG were the driving forces behind this pipeline. The US-Kazakhstan-Turkmenistan triangle remained undeveloped.

From 1999 to 2004, the EU became the fourth player associated with the fundamental Central Asian energy triangle, after the American project had failed. The EU's latest initiative, led by the German company RWE, concerned a Turkmenistan-Azerbaijan gas link descending from that failed project. The EU-Russia-Kazakhstan triangle was manifested in European and Russian interest in developing the Kashagan deposit and other North Caspian fields in Kazakhstan's offshore, though the European interest was from EU member states and their national champions, rather than from the EU itself. The EU-Turkmenistan-Kazakhstan triangle was also manifested in the failed Trans-Caspian Gas Pipeline project and other designs still on the drawing-board, with more or less direct successors being: the idea to pipe Kashagan's associated gas to Azerbaijan, and the proposed Kazakhstan-Caspian Transportation System (KCTS), also for Kashagan if not Tengiz oil.

Finally in the third phase, from 2005 to 2010, China became the prominent fourth player. The China-Turkmenistan-Russia triangle is animated by disagreements between China and Russia over Turkmenistan's natural gas, as in the competition between Russia's unrealized project for a refurbished Caspian Coastal (Prikaspiiskii) Pipeline on the one hand and, on the other, the Turkmenistan-China gas pipeline now under construction. The China-Kazakhstan-Russia triangle is also characterized by a China-Russia contradiction, in for example the China-Russia competition to buy out the Canadian firm Petrokazakhstan (previously Hurricane Hydrocarbons). Petrokazakhstan owned a piece of the pipeline that China needed to put together its Tengiz-Xinjiang oil pipeline, a westward extension of the pipeline from eastern Kazakhstan to China agreed upon in the late 1990s and which entered into service after long negotiations over implementation. The China-Kazakhstan-Turkmenistan triangle is evident in the gas pipeline, negotiated on the basis of a bilateral China-Kazakhstan project, now being built from Turkmenistan, through Uzbekistan, and then through Kazakhstan to western China. There, it will join up with the 'West-East' Pipeline in China running to the coast, which Beijing constructed earlier this decade, and for precisely this reason, at a financial loss.

Above: Following the South Caucasus Pipeline (left) Turkish Billboard, Ceyhan and (right) marker post, Azerbaijan. The natural gas pipeline from the Shah Deniz gas field in the Azerbaijan sector of the Caspian Sea to Turkey runs parallel to the Baku–Tbilisi–Ceyhan oil pipeline. Right: Outskirts of Baku, Azerbaijan. Photographs reproduced courtesy Creative Commons/Flickr.

New players, rules and conditions for the Caspian energy great game

As the International Energy Agency (IEA) warned in November 2010, the world is confronted with "unprecedented uncertainty" for maintaining global energy security, due to the present worldwide economic crisis, the twin challenges of climate change and global energy security, as well as the huge energy demand of Asia and in particular China. According to the IEA's central scenario, the so-called 'New Policies Scenario' of 2011, world primary energy demand will increase by 40 percent between 2009 and 2035, with the non-OECD countries accounting for 90 percent of the projected increase.

Frank Umbach

HENCE, NEW LARGE SCALE INVESTMENT is required urgently at a time when geopolitical risks are rising: the high concentration of the world's remaining oil and gas reserves in an ever-smaller number of potentially unstable producer states and regions, makes the future supply of energy increasingly uncertain. The perceived "unprecedented uncertainties" for maintaining global energy security are also the result of those non-economic factors such as the political stability of many producer states. Thus the Arab revolutions have caught the entire international world by surprise and led to supply disruptions of oil and gas to Europe and other parts of the world.

Understandably, Russia has tried to use the opportunity to present itself as a harbour of political stability for its oil and gas supplies to Europe, on which the EU can rely for its future energy security. However, and quite contrary to its self-portrayal, as a result of the Russian-Ukrainian energy crisis in 2006 and in 2009, Russia (as Europe's most important energy partner) has been perceived as a rather unreliable and assertive partner, which uses the asymmetric interdependence with the EU-27 and its energy dependence on Gazprom as a foreign policy instrument to enforce its geopolitical influence in the Eurasian landmass.

While the global energy markets are more than ever determined by developments outside the OECD countries, particularly in China and India, Central Asia and the Caspian Region (CACR) with its regional oil and gas reserves have become increasingly important for the global energy security. Although these regional oil and gas reserves cannot replace the Persian Gulf (in terms of, e.g., oil supply), the region has become a strategically important fossil fuel supply base and has been identified both in the EU-27 as well as China at least as a 'supplementary supplier' and a rising diversification source for their oil and gas imports.

In recent years, the states of CACR have diversified their energy exports and energy foreign policies to China, the EU, and other energy partners. These new strategic trends, regional developments, and economic-political inter-dependencies offer new prospects, for both the regional states and their energy partners (Russia, China, Japan, the US, and the EU) in their energy and foreign policies. But they also create new challenges and problems when coping with the diverging interests of all sides in an increasingly more competitive international arena.

Russia's declining geopolitical influence in the CACR

At first glance, Russia's position appears stronger than ever. During the last decade, Russia's strategy of increasing its own and Gazprom's market leverage in the European gas market, by contractually locking in supplies, building new pipelines bypassing transit states, buying into European critical gas infrastructures (i.e., distribution system) and maintaining Gazprom's monopoly over Russian exports, had mostly been successful. In 2010, thirteen European countries still relied on Russia for more than 80 percent of their total gas consumption; a total of seventeen countries were dependent on Russia for more than 80 percent of their gas imports.

Moreover, the IEA has forecasted that Russia's projected increase of its gas production between 2009 and 2035 is greater than in any other gas producing country, accounting for no less than 17 percent of the worldwide gas supply increase. More recently, Gazprom officially opened its Nordstream pipeline last November, with a future volume of 55 bcm. This has given Russia more political and economic leverage over Ukraine in its negotiations with Gazprom over gas prices, but also with regards to Ukraine's willingness to sell its Gas Transport System (GTS) pipeline network, and to join the Moscow-led Customs Union. Until recently, Ukraine transported around 80 percent of Russian gas exports to Europe via its own transit pipeline network.

In 2011, the Kremlin successfully forced Belarus to join the Customs Union and to sell the remaining 50 percent of its prized pipeline company Beltransgaz, to Gazprom, which also controls the entire Belarusian refinery network. In response, Belarus has received a more generous discount on Russian gas supplies, accounting now for US$286 per 1,000 cubic metres (cm) in contrast to Ukraine's imported gas from Russia at a rising price of more than US$400 per 1,000 cm.

At the same time, however, alongside the growing LNG markets, which further pushed globalization, Gazprom has largely overlooked or has marginalized the development of unconventional gas in the US, particularly shale gas. The release of unconventional gas resources has triggered a revolution in the global gas markets. Unconventional gas not only transformed the US energy market, and especially the natural gas market, but it also was the tipping point of a fundamental change in global gas markets.

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Eurasia and geo-economic developments

Thus in Greater Central Asia, there are three periods of epigenetic development (i.e., each building on or accumulating from what went before), starting from the basis of the Russia-Turkmenistan-Kazakhstan triangle, and then successively adding the US, then the EU, then China, as fourth vertices, consecutively driving the evolution of the network as a whole. In the realm of Eurasian energy development, this means that the years 1993-1998 were marked principally by manifold proposals for new resource explorations and development, and pipeline construction as new possibilities for new patterns of international relations began to percolate from events on the ground, relatively free from the hierarchical constraints that characterized the bipolar Cold War system. The years 1999–2004 then saw the coming-to-life of some of those projects and the death (or suspended animation) of others; while from 2005 to 2010, some of those projects that were successfully born began to thrive.

Other analysts of international relations, using different methods, have independently also projected the years around 2040 to be the next period of global-systemic transformation.

International regions today enjoy an increased relative autonomy of the general international system in comparison with the bipolar Cold War system. Not only have new international regional subsystems emerged, but also new categories of such regions as well; littoral basins, for example, have become more important, and regional international systems are more and more densely linked to one another. One key aspect, and the irrefutable geo-economic significance, of such littoral basins is international energy pipeline construction. Their profile in international public policy issues in the broad sense continues to grow through issues such as ecological security, applicable legal regimes, and the need to put cross-sea trade by the littoral states on a firm and regular footing.

The effects of these geo-economic developments upon international politics, traditionally conceived in terms of alliances and military power projection, is really a question of general approach. For example, China has recently emerged as an important player in the geo-economic configurations that govern, and also result from, the development and export of hydrocarbon energy resources in the region of the Caspian Sea basin. However, that increased profile would be impossible without the state-financial resources at Beijing's disposal, which were aggregated over years of antecedent US government deficit spending. This development highlights, in particular, new aspects of world politics and economics that must be taken into account if their further evolution is to be projected.

Specifically, for a comprehensive geo-economic analysis, perhaps more closely approaching 'critical geopolitics', it would be necessary to engage in a much longer exercise, including not only traditional military-diplomatic as well as newer economic dimensions, but also financial instruments (which are distinct from economic ones), as well as ideological or political-cultural elements. In view of the lengthy advance planning that is necessary for energy geo-economic projects, and the emphasis that a comprehensive approach might put on ideologically or culturally constrained perceptions of the future, the still limited availability of non-hydrocarbon energy sources would not alter the fundamental direction of the analysis presented here, even if they became more available. This especially so in view of the relative non-substitutability of oil and gas fuels in the existing industrial plant and consumer commodities in the world economy.

The logic of the complex-scientific approach regards the three phases from 1993 through 2010 (emergence, autopoiesis, and coherence; or more colloquially, bubbling up, settling down, and running deep) as one large 'meta-phase' of emergence (bubbling up). This is followed by a 'meta-phase' of autopoiesis (settling down, 2011-28), which we are in fact now entering, and which in turn is also subdivided into three phases, each lasting for about five to six years. The emerging phase of the 'meta-phase' would thus run from 2011 through 2016, followed by the autopoiesis phase (2017-22) and the coherence phase (2023-28). After which time we could predict that a 'meta-phase' of 'running deep' (coherence), subdivided again into three phases, will follow from 2029 to 2046.

Other analysts of international relations, using different methods, have independently also projected the years around 2040 to be the next period of global-systemic transformation. This will undoubtedly also be felt in the Caspian Sea basin, and also in the geo-economics of the region. The central phase in the nested progression outlined above is clearly the middle phase of the middle meta-phase, i.e., 2017 through 2022. The projects today being planned for construction and entry into service during those years will therefore be the defining axes of development for the entire energy production sector from Central Europe to Central Asia, for the whole half-century following the disintegration of the Soviet Union.

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