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Summary in English

During the recent years, energy security has become one of the most significant factors affecting the security and foreign policies of the countries in Western CIS, South Caucasus and Central Asia. Indeed, due to its significance as both an energy producing and transit area and its strategic location in the neighbourhood of the EU, Russia and China, the Wider Europe is in the centre of the global energy interplay.

The disintegration of the Soviet Union had a considerable impact on the energy sector of the Wider Europe area. During the Soviet period and immediately after it, the energy sectors of the countries were heavily interdependent. Since then, the countries in the region have started to emphasise self-sufficiency of energy. While the energy exporting countries have been exploring possibilities to **penetrate markets outside the region**, the energy importing countries have been searching for different suppliers in order to **diversify their energy supply**. However, despite of these changes, the region is still relatively interdependent with regard to its energy sector. The majority of the countries **depend on Russia either for their energy supply or energy infrastructure**, particularly with regard to natural gas.¹ Russia's own energy resources, as well as its strategic location and control over most export routes for Central Asian oil and gas, make the country particularly important actor regarding issues related to energy security of the Wider Europe countries. All the post-Soviet countries – even those that have close relations with Russia – are interested in diversifying their economic and energy relations and getting access to new markets. Russia, on the other hand, aims to maintain its traditional sphere of influence, and control the energy transport routes in the former USSR area.²

In addition to Russia, the EU, the US and China are all interested in reinforcing their relations with the countries in the Wider Europe area. The US aims to promote the post-Soviet countries' relations with the west and has a strategic security interest particularly in Central Asia.³ In turn, **both China and the EU seek to diversify their energy supplies**. China's growing energy demand has compelled the country for a global hunt for energy. China is the world's largest producer and consumer of coal⁴ but it needs other fuels as well to produce enough energy for economic development. China is particularly interested in the hydrocarbon resources of the Central Asian countries of Kazakhstan, Turkmenistan and Uzbekistan. The EU aims to secure energy supply and avoid over-reliance on any one country, and looks for new energy suppliers for instance in Azerbaijan and Turkmenistan. On the other hand, countries like Ukraine and Georgia have a strategic position in the EU's objectives to diversify its energy supply and to guarantee secure and reliable energy routes, and could play a significant geo-economical role as energy transit states in the future.

Energy supply is linked to a number of economic and political security issues. Energy is one of the most important inputs into national economies, and their competitiveness is

affected by energy prices. In the Wider Europe area, the economic aspect is particularly important for the energy producing countries, such as Azerbaijan, Kazakhstan, Uzbekistan and Turkmenistan, which receive **a great share of their revenues from oil and natural gas exports**. In those countries, energy exports are a booster for economic growth and a significant source of prosperity, although unevenly distributed among the citizens. The effective management of such revenues has remained problematic in many countries in the region, and some national economies have grown too dependent on energy sector.

Countries such as Azerbaijan, Kazakhstan and Turkmenistan that have considerable hydrocarbon reserves, aim to increase their significance on the world energy market. However, to translate these significant reserves into production, **large investments are needed**, and the countries need to attract both foreign investments and advanced technological know-how. Reaching this goal would require creating an investor-friendly business climate.⁵ Furthermore, to become major players on the international energy market, they need not only to increase the production of hydrocarbons, but also to **develop transport routes for their energy supplies**. So far, limited export options and reliance upon the Russian pipeline network has restricted their ability to profit from their extensive oil and gas reserves. The constructions of the Baku-Tbilisi-Ceyhan oil pipeline and the parallel South Caucasus natural gas pipeline have had considerable symbolic significance as providing links between the Caspian region and Europe. In turn, for the countries with limited energy reserves, such as Georgia and Ukraine, energy transit is an attractive option to receive significant revenues and boost the economic security.⁶

Energy is closely linked to foreign and security policy and geopolitics of most of the supplier and consumer nations. The availability of energy directly affects the defence capability of states, and instead of just a basic trading good, energy is often seen as a strategic commodity, which can be used as a strategic and foreign policy tool. In the EU–Russia relations, as well as in Russia's relations with its neighbouring countries in Western CIS, South Caucasus and Central Asia, energy issues have emerged as the single most important factor defining the development of the foreign relations between countries and regions. The gas disputes between Russia and Ukraine, of which the most recent in 2009, and the war between Russia and Georgia are extreme examples of the fragility of the energy balance in the Wider Europe.

As particularly gas supply has sometimes been used as a political leverage, many countries in the Wider Europe have been moving towards domestically produced energy sources, such as **coal and hydropower**. As coal is cheaper than oil and gas, it could be increasingly used for domestic heat and power production, which would increase energy security of energy importing countries and free more oil and gas for export in energy exporting countries. Particularly Ukraine and Kazakhstan have large coal reserves, and they have potential to increase their coal production. Kazakhstan already exports roughly a third of its production to Russia and other countries, and for Ukraine, increasing domestic coal production could provide better energy security. However, as coal-fired plants produce significant CO₂ emissions, for example twice as

¹ The International Bank for Reconstruction and Development (IBRD) / The World Bank 2010: Lights Out? The Outlook for Energy in Eastern Europe and the Former Soviet Union.

² German, T.: Corridor of Power: The Caucasus and Energy Security. *Caucasian Review of International Affairs*, Vol. 2 (2) Spring 2008; Peyrouse, S.: Is there any unity to the Trans-Caspian Region? The economic relations between Central Asia and Caucasus. *Asia Europe Journal*, vol. 7, no. 3, 2009.

³ Peyrouse 2009; Stockholm International Water Institute: Regional Water Intelligence Report Central Asia. Paper 15, March 2010.

⁴ U.S. Energy Information Administration: International Energy Statistics 2009.

⁵ IBRD / The World Bank 2010.

⁶ German 2008.

much as gas-fired plants, the challenge will be to make coal more environmentally acceptable.⁷

With regard to CO₂ emissions, **nuclear energy** is a significantly cleaner way to produce electricity. However, following the nuclear accident in Japan's Fukushima, some countries have adopted a more cautious approach to nuclear energy and are reconsidering the necessity of building new nuclear reactors. For now it seems that the events in Fukushima have had the largest impact on countries in which nuclear energy has already been a debated issue, such as Germany. However, in countries where civil society is much weaker and public opinion is not a driving factor behind the nuclear decision-making, the effect of Fukushima on energy policies is likely to be less significant. In the Wider Europe region, development of nuclear power is underway for example in Belarus where plans to build a Russian-financed nuclear power plant are progressing.⁸ Countries such as Kazakhstan, Ukraine and Uzbekistan also have substantial uranium reserves to fuel nuclear power plants.⁹ In Armenia, on the other hand, Japan's nuclear accident has raised a debate over the safety of Metsamor nuclear power station which is also situated on an earthquake-prone zone, and prompted the Armenian government to invite the IAEA inspection to the plant.¹⁰

In Central Asia, Kyrgyzstan and Tajikistan are increasingly using water resources to develop hydropower stations. As they do not have hydrocarbon resources, they have been suffering from severe electricity shortages during wintertime. Meanwhile, the arid but energy-rich downstream countries of Kazakhstan, Turkmenistan and Uzbekistan need water for irrigation and are concerned that the upstream damming of rivers will lead to shortage of water during irrigation season.¹¹ The countries have not succeeded in agreeing on the management of the shared water resources. Instead, they are increasingly viewing the water issue as a zero-sum game.¹²

Moreover, Central Asian water problems have implications that could extend beyond the region itself. China and Afghanistan are already included in the water-related tensions, as they both rely on the water of the same rivers, the Amu Darya and the Syr Darya, for which the Central Asian states are competing. If the situation in Afghanistan stabilises, its demand for both water and energy is likely to increase significantly, which may also further increase the competition for water in the region.¹³ Indeed, **competition for water resources** is adding tensions to an already uneasy region of Central Asia and increasing the potential for energy-related conflicts there. Cooperative approach to the management of shared water resources and more effective use of them would be needed to solve the water problem in the region, but the long history of mistrust among the countries hinders regional cooperation.

Energy waste is a problem throughout the Wider Europe area. Energy is wasted in production, particularly through gas flaring and venting in Kazakhstan, Uzbekistan, Turkmenistan, and Azerbaijan. Technical and commercial gas transmission and distribution losses are also high throughout the region. For example in Uzbekistan, they accounted for approximately

a fifth of total gas production in 2005. Energy waste is both economic loss and environmental harm – gas flaring and venting, for example, contribute significantly to CO₂ emissions. Furthermore, **the deteriorating energy infrastructure**, particularly for power generation and district heating, can lead to an energy crisis, if action to upgrade is not taken soon.¹⁴

Indeed, the impact of energy production and consumption on the environment is an increasing concern, and **addressing the climate change** will be one of the great challenges in the energy outlook of the Wider Europe area. Reducing the reliance on coal, improving energy efficiency and increasing the use of renewable energy sources would all contribute to the reduction of greenhouse gas emissions. Countries in the Wider Europe area have significant potential to **increase their energy efficiency**, from which they could benefit in several ways: investing in energy efficiency would lower greenhouse gas emission, enhance energy security and contribute to more sustainable economic growth. The example of Belarus shows that increasing energy efficiency substantially is possible if the government places high priority on it: between 1996 and 2008 energy intensity of Belarus decreased by almost 50 percent.¹⁵

The Western CIS, South Caucasus and Central Asia as well as individual countries throughout the region are confronted with significant challenges in their energy outlooks. Diversifying energy supplies – both sources of supply and fuels – and developing alternative transport routes for energy are important factors contributing to the countries' energy securities. Upgrading the deteriorating energy infrastructure, reducing energy waste and increasing energy efficiency also enhance their energy security. However, the current state of the world cries out for sustainable development, which requires contributions from all countries. The impacts of energy production and consumption on the environment are of increasing concern. Indeed, in the Wider Europe area, as well as in other parts of the world, there is an increasing demand for environmentally sound energy solutions to fight climate change, without sacrificing the economic development.

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⁷ IBRD / The World Bank 2010.

⁸ See e.g. Naviny.by 20.5.2011: Loan agreement for Belarus' nuclear power plant project may be signed in summer, says Russian finance minister.

⁹ IBRD / The World Bank 2010.

¹⁰ See e.g. Grigoryan, M.: Armenia: Metsamor Awaits IAEA Inspection. EurasiaNet 4.5.2011.

¹¹ Libert, B. et al.: Water and Energy Crisis in Central Asia. China and Eurasia Forum Quarterly, Vol. 6, No. 3 (2008).

¹² Stockholm International Water Institute 2010.

¹³ Cruz-Del Rosario, T.: Risky riparianism: cooperative water governance in Central Asia. Australian Journal of International Affairs, Vol. 63, No. 3, September 2009.

¹⁴ IBRD / The World Bank 2010.

¹⁵ IBRD / The World Bank 2010.

Резюме на русском языке

В последние годы энергетическая безопасность стала одним из самых весомых факторов, влияющих на политику безопасности и внешнюю политику стран западной части СНГ, Южного Кавказа и Средней Азии. Действительно, благодаря производству и транзиту энергоносителей, а также стратегическому расположению между ЕС, Россией и Китаем, Расширенная Европа находится в центре глобального энергетического взаимодействия.

Распад СССР значительно повлиял на энергетический сектор Расширенной Европы. В советский период и сразу после него энергетические секторы стран региона были тесно взаимосвязаны. Затем эти государства начали подчеркивать свою энергетическую самодостаточность. Если страны-экспортеры энергоносителей ищут возможности для **проникновения на рынки за пределами региона**, то страны-импортеры энергоресурсов ищут различных поставщиков в целях **диверсификации энергопоставок**. Однако, несмотря на эти изменения, энергетический сектор региона, по-прежнему, остается относительно взаимозависимым. Большинство стран **зависит от России либо в поставках энергоносителей, либо в использовании энергетической инфраструктуры, особенно в отношении природного газа**.¹⁶ Собственные энергоресурсы России, равно как и ее стратегическое положение и контроль над большинством маршрутов экспорта среднеазиатской нефти и газа, делают ее особенно важным игроком в вопросах энергобезопасности стран Расширенной Европы. Все постсоветские страны – даже те, которые имеют тесные отношения с Россией – заинтересованы в диверсификации своих экономических и энергетических связей и получении доступа к новым рынкам. Россия, с другой стороны, стремится сохранять свою традиционную сферу влияния и контроль над энергетическими маршрутами на территории бывшего СССР.¹⁷

Помимо России, также ЕС, США и Китай заинтересованы в укреплении отношений со странами зоны Расширенной Европы. США способствует развитию отношений постсоветских стран с Западом и имеет стратегические интересы в сфере безопасности, прежде всего в Средней Азии.¹⁸ В свою очередь, **как Китай, так и ЕС пытаются диверсифицировать импорт энергоресурсов**. Растущий энергетический спрос Китая вынуждает его искать источники поставок энергоносителей по всему миру. Китай является крупнейшим в мире производителем и потребителем угля,¹⁹ однако нуждается и в других видах топлива, чтобы производить достаточно энергии для экономического развития. Китай особенно заинтересован в углеводородных ресурсах стран Средней Азии – Казахстана, Туркменистана и Узбекистана. ЕС, стремится обезопасить импорт энергоносителей и не полагаться только на одну страну, ища новых поставщиков энергоносителей, например, в лице Азербайджана и Туркменистана. С другой стороны, такие страны как Украина и Грузия имеют положение, стратегически отвечающее целям ЕС по диверсификации энергопоставок и обеспечению безопасных и надежных энергетических маршрутов, и в будущем могут играть значительную геоэкономическую роль как страны-транзитеры.

Поставки энергоносителей касаются ряда вопросов экономической и политической безопасности. Энергоресурсы – один из важнейших факторов национальных экономик, на конкурентоспособность которых влияют цены на энергоносители. В зоне Расширенной Европы экономический аспект особенно важен для стран-производителей энергии, таких как Азербайджан, Казахстан, Узбекистан и Туркменистан, получающих **значительную долю доходов от экспорта нефти и природного газа**. В этих странах экспорт энергоносителей является стимулом экономического роста и значительным источником благосостояния, которое, однако, распределяется неравномерно среди населения. Эффективность управления такими доходами остается проблематичной во многих странах региона, а некоторые национальные экономики стали слишком зависимы от энергетического сектора.

Такие страны как Азербайджан, Казахстан и Туркменистан, обладающие значительными запасами углеводородов, стремятся укрепить свое положение на мировом энергетическом рынке. Тем не менее, для трансформации этих значительных ресурсов в производство **необходимы крупные инвестиции**, поэтому странам необходимо привлекать иностранные инвестиции и передовые технологии. Достижение этой цели потребует создания благоприятного инвестиционного климата.²⁰ Кроме того, чтобы стать крупным игроком на международном энергетическом рынке, они должны не только наращивать добычу углеводородов, но и **развивать маршруты поставок своих энергоресурсов**. Пока еще узкий выбор вариантов экспорта и зависимость от российской трубопроводной сети ограничивают их возможности получения прибыли от имеющихся у них крупных запасов нефти и газа. Строительство нефтепровода Баку-Тбилиси-Джейхан и параллельного южнокавказского газопровода имеет большое символическое значение в установлении связей между Каспийским регионом и Европой. В свою очередь, для стран с ограниченными энергоресурсами, таких как Грузия и Украина, транзит энергоносителей по их территории обеспечит им значительные доходы и повышение экономической безопасности.²¹

Энергия тесно связана с внешней политикой, политикой безопасности и геополитикой большинства стран-поставщиков и стран-потребителей. Наличие энергоресурсов прямо влияет на обороноспособность государств, а энергоносители часто воспринимаются не только как сырье, но и как стратегический товар, который может служить инструментом внешней политики. В отношениях ЕС и России, а также в отношениях России с соседними странами западного СНГ, Южного Кавказа и Средней Азии энергетические вопросы стали важнейшим фактором, определяющим развитие внешних связей между странами и регионами. Споры вокруг газа между Россией и Украиной, последний из которых произошел в 2009 году, и война между Россией и Грузией являются яркими свидетельствами хрупкости энергетического баланса в Расширенной Европе.

Поскольку, прежде всего, поставки газа порой используются как политический рычаг, многие страны Расширенной Европы двигаются в направлении использования собственных источников энергии, таких как **уголь и гидроэлектростанции**. Так как уголь стоит дешевле, чем нефть и газ, доля его использования может вырасти в жилом отоплении и производстве энергии и тем самым повысить энергобезопасность стран-импортеров энергоресурсов и высвободить объемы нефти и газа для экспорта в странах-экспортерах. Крупными запасами угля и потенциалом увеличения его добычи обладают прежде

¹⁶ The International Bank for Reconstruction and Development (IBRD) / The World Bank 2010: Lights Out? The Outlook for Energy in Eastern Europe and the Former Soviet Union.

¹⁷ German, T.: Corridor of Power: The Caucasus and Energy Security. Caucasian Review of International Affairs, Vol. 2 (2) Spring 2008; Peyrouse, S.: Is there any unity to the Trans-Caspian Region? The economic relations between Central Asia and Caucasus. Asia Europe Journal, vol. 7, no. 3, 2009.

¹⁸ Peyrouse 2009; Stockholm International Water Institute: Regional Water Intelligence Report Central Asia. Paper 15, March 2010.

¹⁹ U.S. Energy Information Administration: International Energy Statistics 2009.

²⁰ IBRD / The World Bank 2010.

²¹ German 2008.

всего Украина и Казахстан. Казахстан уже экспортирует около трети объемов своей добычи в Россию и другие страны, а увеличение внутренней добычи угля на Украине может повысить ее энергетическую безопасность. Однако поскольку угольные электростанции производят большое количество CO₂, например, в два раза больше чем газовые электростанции, уголь предстоит сделать более экологически приемлемым.²²

С точки зрения выбросов CO₂, **атомная энергетика** является намного более чистым способом производства электроэнергии. В то же время, в результате аварии на японской АЭС «Фукусима» некоторые страны заняли более осторожную позицию в отношении атомной энергетики и пересматривают необходимость строительства новых ядерных реакторов. Похоже, что события на «Фукусиме» больше всего повлияли на такие страны, как Германия, где атомная энергетика уже является предметом дебатов. Однако в странах, где гражданское общество развито значительно хуже и общественное мнение не является движущим фактором в принятии решений в области атомной энергетики, влияние «Фукусимы» на энергетическую политику, по-видимому, будет меньше. В регионе Расширенной Европы идет процесс развития атомной энергетики, например, в Беларуси, где реализуется план строительства АЭС, финансируемого Россией.²³ Такие страны, как Казахстан, Украина и Узбекистан также имеют существенные запасы урана, необходимого для работы атомных электростанций.²⁴ В то же время в Армении атомная авария в Японии вызвала дебаты вокруг безопасности Мецморской АЭС, также расположенной в сейсмоопасной зоне, и побудила правительство Армении пригласить на электростанцию инспекторов МАГАТЭ.²⁵

В Средней Азии Кыргызстан и Таджикистан все больше используют водные ресурсы для развития гидроэнергетики. Не имея углеводородных ресурсов, эти страны испытывают сильный дефицит электроэнергии в зимнее время. В то же время засушливые, но богатые энергоресурсами Казахстан, Туркменистан и Узбекистан, расположенные вниз по течению рек, нуждаются в воде для ирригации и обеспокоены тем, что строительство дамб вверх по течению приведет нехватке воды в ирригационный период.²⁶ Страны не смогли договориться об управлении общими водными ресурсами. Вместо этого, они все с большим антагонизмом подходят к решению водной проблемы.²⁷

Кроме того, водные проблемы Средней Азии могут иметь последствия, выходящие за пределы самого региона. Китай и Афганистан уже вовлечены в конфликт вокруг воды, так как оба потребляют воду из одних и тех же рек, Амударью и Сырдарью, являющихся предметом соперничества стран Средней Азии. Если ситуация в Афганистане стабилизируется, его потребность в воде и энергии, по-видимому, значительно возрастет, что может еще больше усилить конкуренцию за водные ресурсы в регионе.²⁸ Действительно, **борьба за водные ресурсы** усиливает напряженность и в без того непростом регионе Средней Азии, увеличивая возможность энергетических конфликтов. Для решения водной проблемы в регионе потребуются кооперативный подход к управлению общими водными ресурсами и их более эффективное использование, однако давно сложившееся недоверие

между странами препятствует региональному сотрудничеству.

Энергетические выбросы являются проблемой во всех частях Расширенной Европы. Энергия теряется при производстве, особенно при факельном сжигании и вентиляционном выпуске газа в Казахстане, Узбекистане, Туркменистане и Азербайджане. Потери при транспортировке и распределении технического и коммерческого газа также высоки во всем регионе. Например, в Узбекистане они составили около одной пятой объемов газа, добытых в 2005 году. Энергетические выбросы означают не только экономические потери, но и экологический ущерб. Так, на факельное сжигание и вентиляционный выпуск газа приходится значительная доля выбросов CO₂. Кроме того, ухудшение энергетической инфраструктуры, особенно электростанций и систем теплоснабжения, может привести к энергетическому кризису, если в ближайшее время не будут приняты меры по их модернизации.²⁹

Действительно, влияние производства и потребления энергии на окружающую среду вызывает растущую озабоченность, и **решение проблем изменения климата** будет одним из самых больших вызовов будущей энергетики Расширенной Европы. Сокращение потребления угля, повышение энергоэффективности и увеличение использования источников возобновляемой энергии также будет способствовать сокращению выбросов парниковых газов. Страны Расширенной Европы имеют значительный потенциал для **повышения своей энергоэффективности**, что даст им следующие выгоды: инвестиции в энергоэффективность приведут к снижению выбросов парниковых газов, повышению энергобезопасности, будут способствовать более устойчивому экономическому росту. Пример Беларуси показывает, что существенное повышение энергоэффективности возможно, если правительство начнет уделять этому приоритетное внимание: в период с 1996 по 2008 годы энергоинтенсивность Беларуси уменьшилась почти на 50 процентов.³⁰

Западная часть СНГ, Южный Кавказ, Средняя Азия, а также отдельные страны региона столкнулись со значительными энергетическими вызовами будущего. Диверсификация энергоснабжения – как источников поставок, так и видов топлива – и развитие альтернативных маршрутов транспортировки энергоносителей являются важными факторами, повышающими энергетическую безопасность стран региона. Модернизация стареющей энергетической инфраструктуры, сокращение энергетических выбросов, и повышение энергоэффективности также повышают их энергобезопасность. Созданное положение в мире срочно требует перехода на устойчивое развитие, что возможно только при участии в этом всех стран. Влияние производства и потребления энергии на окружающую среду вызывает все большую озабоченность. На территории Расширенной Европы, равно как и в других частях мира, растет спрос на экологичные энергетические решения, способные остановить изменение климата без ущерба для экономического развития.

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²² IBRD / The World Bank 2010.

²³ See e.g. Naviny.by 20.5.2011: Loan agreement for Belarus' nuclear power plant project may be signed in summer, says Russian finance minister.

²⁴ IBRD / The World Bank 2010.

²⁵ See e.g. Grigoryan, M.: Armenia: Metsamor Awaits IAEA Inspection. EurasiaNet 4.5.2011.

²⁶ Libert, B. et al.: Water and Energy Crisis in Central Asia. China and Eurasia Forum Quarterly, Vol. 6, No. 3 (2008).

²⁷ Stockholm International Water Institute 2010.

²⁸ Cruz-Del Rosario, T.: Risky riparianism: cooperative water governance in Central Asia. Australian Journal of International Affairs, Vol. 63, No. 3, September 2009.

²⁹ IBRD / The World Bank 2010.

³⁰ IBRD / The World Bank 2010.

Western CIS

Recent political developments

Deepening economic crisis increases popular discontent

The economic situation in Belarus has worsened significantly during this year. In May, the Belarusian rouble was devaluated strongly. The inflation has increased dramatically and, according to the Belarusian Ministry of Finance, is expected to reach almost 40 % during this year. Country's foreign currency reserves have fallen dramatically. Shortages are increasing, as importers lack cash to buy basic goods and drastic price increases have made the Belarusian public to buy a great deal of goods in shops. The public discontent has been rising because of the shortages, and it was further increased after the Belarusian government decided to impose restrictions and extra duties on exports of a range of goods by Belarusian individuals. This decision harms particularly residents of the border areas, for whom the sale of goods, mainly fuel, to neighbouring countries has often been an important source of income. In June, several small protests have taken place at the border crossings to Poland and even in Minsk, where hundreds of drivers blocked the main street to protest against increasing petroleum prices. The protest in Minsk was organised through social networks, which is increasing in popularity also in Belarus.³¹

Following the recent protest, President Lukashenka has said that he will not allow any further public protests in Belarus and will put them down.³² Repression of opposition has also continued with the trials connected to the opposition demonstrations held in Minsk last December. Opposition presidential candidate Andrei Sannikau, who was accused of organising post-election riots, was sentenced to five years in prison, and other presidential candidates have received milder sentences.³³ Several other opposition activists have been convicted to prison as well.³⁴

Belarus applies for international loans

Belarus has requested for an up to USD 8 billion loan from the International Monetary Fund (IMF). The Eurasian Economic Community (EurAsEC) has already approved an USD 3 billion stabilisation loan for Belarus, and the Export-Import Bank of China has agreed to provide over USD 1 billion in loans to finance joint projects in Belarus.³⁵

The statist economic model of Belarus has come under increasing strain and the government's policy of

keeping the people satisfied by increasing wages and welfare will be increasingly difficult in a worsening economic situation. The operation of the Belarusian economic model has for long been based on inexpensive Russian energy and trade subsidies but Russia has gradually increased its oil and gas prices and reduced preferences previously given for Belarusian firms. Furthermore, the global economic crisis has caused a fall in demand for and prices of the key Belarusian exports in international markets. The government has tried to avoid any structural reforms of the economy fearing public destabilisation but the mounting economic problems in Belarus may be so serious that significant economic reforms cannot be avoided by any loans.³⁶ Furthermore, if the IMF grants a loan to Belarus, the conditions will be strict – the IMF will likely demand the implementation of structural economic reforms from Lukashenka.³⁷

Moldova and Ukraine negotiate on association with the EU

Ukraine is aiming to deepen its relationship with the European Union as it hopes to sign an association agreement, including an agreement on a free-trade zone, with the EU by the end of this year. This could be a setback for Russia who has preferred Ukraine to join customs union among CIS states. However, Ukraine has suggested a compromise that would include both the association agreement with the EU and a relatively free trade with CIS states – but without jeopardising the integration with the EU.³⁸ Russian and Ukrainian officials have even presented a vision that Russia, Ukraine and the EU could eventually forge a common economic area in the next 15–20 years.³⁹

The pro-European course of the current government in Moldova has also brought the country closer to the EU. The sixth round of the negotiations on the Moldova-EU Association Agreement was held in April, and the next round is scheduled to be held in June. However, although there were progress in negotiations, implementing the promised pro-European reforms in Moldova is lacking. Both the inefficiency of the state administration and effective resistance from industry and state-administrative lobbies have prevented the government to carry out major reforms to the system.⁴⁰

³¹ EIU ViewsWire 1.6.2011: Belarus politics: Grim; Eastweek 15.6.2011: Rising public dissatisfaction in Belarus.

³² RFE/RL 14.6.2011: Lukashenka Says He Will Not Allow Further Protests.

³³ Eastweek 25.5.2011: Belarus: Further convictions of opposition activists.

³⁴ RFE/RL 17.6.2011: Belarusian Opposition Activists' Convictions Upheld By Court.

³⁵ RIA Novosti 1.6.2011: Belarus seeks \$8 bln IMF loan – premier; RIA Novosti 4.6.2011: EurAsEC approves \$3 bln. loan for Belarus; RIA Novosti 14.6.2011: China's Eximbank to give Belarus \$1 bln loan.

³⁶ Kłysiński, K.: On the verge of crisis? Mounting economic problems in Belarus. OSW Commentary 6.4.2011; EIU, Belarus Country Report May 2011.

³⁷ Coalson, R.: With Economy In Free Fall, Belarusian President Running Out Of Options. RFE/RL 14.6.2011.

³⁸ EIU 19.5.2011: Ukraine politics: Stumbling west.

³⁹ Gotev, G.: Special Report: Russia, Ukraine eye customs union with EU. EurActiv 19.5.2011.

⁴⁰ Eastweek 20.4.2011: Moldova's pro-European course: progress in negotiations, but no real reforms.

Western CIS

Special theme – energy security

Ukraine balances between the EU and Russia

Ukraine is getting closer to signing the Association Agreement with the EU. In the end of May 2011, a compromise was reached on one of the final disagreements concerning the energy sector. Contrary to the EU's previous demands, it was now decided that Ukraine will not be obliged to pay compensation for any interruptions in gas transit.⁴¹ Ukraine is important for the EU as a transit country for Russian gas, and the EU is interested in integrating Ukraine to West.⁴²

Russia, on the other hand, has promised Ukraine cheap gas supplies in return for joining a free-trade union with Russia, Belarus and Kazakhstan. The rising gas prices have affected Ukrainian economy which relies heavily on energy-hungry industries such as steel and chemicals. Furthermore, the transit fees for Russian gas are very important for Ukraine. Therefore Russia's offer of cheap gas supplies is very attractive for Ukraine. Ukraine has been trying to perform a balancing act between the EU and Russia, attempting to move closer to the former without alienating the latter.⁴³ However, despite of increasing pressure from Russia, for now it seems likely that the Association Agreement with the EU will be signed during this year, and thus Ukraine would prefer the rapprochement with the EU.⁴⁴

Belarus to build a nuclear power plant

Belarus is planning to build a nuclear plant in Ostrovets, close to Lithuanian border. The plant is estimated to have a capacity of 2 400 MW and to be put in operation in 2018. In March 2011, Russian Prime Minister Putin and Belarusian President Lukashenko signed an agreement on a Russian loan of USD 9.4 billion to Belarus for the construction of the nuclear power plant.⁴⁵

Belarus has been aiming to increase its energy security as it currently depends almost completely on Russian natural gas supplies. In this regard, the country has two options: either to diversify energy supplies or to increase its own energy resources. Currently neither of the options seems achievable. Belarus can hardly diversify its energy supplies away from Russia now when the country is increasingly isolated from Europe. Furthermore, as the planned nuclear power plant will be both financed and constructed by Russians, it won't guarantee increased energy security for Belarus either.⁴⁶

Lithuania has strongly opposed the Ostrovets nuclear power plant project. The safety issues have raised concerns among Lithuanians because the plant would be located only 50 kilometres from Vilnius and the water of the river Neris, flowing into Lithuania, would be used for cooling the reactors.⁴⁷ Furthermore, Lithuania is concerned about the improving relations between Russia and Belarus. Besides, the Ostrovets nuclear power plant might compete with Lithuania's own nuclear power plant that is intended to be built in Visaginas.⁴⁸

The Fukushima accident has affected nuclear policy of some countries, most notably Germany. However, in countries where public opinion does not play a major role in forming government policymaking, such as Russia and Belarus, the development of nuclear power will probably continue.⁴⁹

Ukraine hopes to exploit shale gas deposits

Ukraine is hoping to reduce its dependence on Russian natural gas supplies by developing shale gas production. Ukraine has been looking to the United States that has set an example of profitable shale gas production. Ukraine has negotiated with Exxon Mobil, Chevron and Shell of searching for shale gas deposits in Ukraine. Ukrainian Parliament has also passed investor-friendly legislation aimed at opening its domestic natural gas market to shale gas producers. In addition, President Yanukovich has signed a shale-gas exploration agreement with the US and agreed with the EU on energy transport that opens Ukraine's pipeline system to Western companies.⁵⁰

In Europe, Poland's shale gas industry has set a promising example – Poland is believed to be rich in shale gas resources and exploration wells have already been drilled there.⁵¹ Ukraine has been estimated to have at least two basins containing promising shale gas targets. However, they have not been thoroughly explored yet and therefore there are only preliminary estimates of their potential available.⁵² Gazprom has been critical regarding the potential of shale gas production in Ukraine. According to the company, shale gas would not help to reduce Ukraine's dependence on Russian gas.⁵³

⁴¹ Eastweek 1.6.2011: Getting closer to signing the EU Association Agreement with Ukraine.

⁴² EIU ViewsWire 18.4.2011: Ukraine/Europe politics: Gas games.

⁴³ EIU ViewsWire 18.4.2011: Ukraine/Europe politics: Gas games.

⁴⁴ Korduban, P.: Ukraine Drifting Away From Customs Union With Russia. Eurasia Daily Monitor 25.5.2011; Eastweek 1.6.2011: Getting closer to signing the EU Association Agreement with Ukraine.

⁴⁵ Stratfor 22.3.2011: Lithuania's Concerns over Russian Nuclear Projects; The Baltic Times March 24–30, 2011: Baltic region going nuclear.

⁴⁶ Denisenko, V.: The Energy Security of Belarus. Geopolitika 14.3.2011.

⁴⁷ Tracevskis, R.: Anti-nuclear sentiment of the Lithuanians. The Baltic Times May 5–11, 2011.

⁴⁸ Stratfor 22.3.2011: Lithuania's Concerns over Russian Nuclear Projects.

⁴⁹ Recknagel, C.: First Chornobyl, Then Fukushima. Will Nuclear Energy Survive? RFE/RL 24.4.2011.

⁵⁰ Kramer, A.: Ukraine Looks to Texas for an Energy Path. The New York Times 4.5.2011.

⁵¹ Kramer, A.: Ukraine Looks to Texas for an Energy Path. The New York Times 4.5.2011.

⁵² U.S. Energy Information Administration: World Shale Gas Resources: An Initial Assessment of 14 Regions Outside the United States. April 2011.

⁵³ Kyiv Post 21.2.2011: Gazprom: Shale gas won't help Ukraine reduce reliance on Russia.

South Caucasus

Recent political developments

Large opposition protests in Georgia

Several thousand Georgians took part in anti-government protests during several days in Tbilisi in late May, inspired by the recent wave of protests in North Africa and the Middle East. The protests started as peaceful but later turned into a violent clash between police and demonstrators, leaving four people dead. Protesters were demanding the resignation of President Saakashvili. The protests were coordinated by the People's Representative Assembly, an umbrella opposition group established by former parliament speaker Nino Burjanadze.⁵⁴

The protests did not succeed in their goal of forcing Saakashvili to resign. However, the events have raised questions about the human rights situation in Georgia. The police response has been condemned by international human rights groups as an excessive use of force, and a thorough investigation into the events has been demanded.⁵⁵

Opposition groups protest in Azerbaijan – government aims to restrict online free speech

Since March 2011, anti-governmental activists have rallied in Azerbaijan as well. So far, the protests have been rather small but happened quite frequently, and further protest can be expected, despite of police crackdowns they have faced. The demonstrations have been inspired by the wave of protests in North Africa and the Middle East. Currently the opposition's ability to challenge the leadership of the authoritarian regime seems limited but as the example of North Africa shows, the situation could change rapidly. The risks to President Aliyev's regime could also increase if the economic slowdown were to become more serious. Furthermore, the growing strength of Islamic community has worried the Azerbaijani authorities during recent years, and if the government will impose more restrictions on religious freedom, it could lead to social unrest.⁵⁶

The protests have been mostly called for by youth activists via Facebook. A young opposition activist who used Facebook to organise anti-governmental rallies was recently sentenced to prison for two years officially for evading military service. Indeed, Azerbaijani officials seem to be concerned about youth activity on social networks. Currently the Azerbaijani government is aiming to criminalise the act of spreading misinformation in the internet – for example Skype and Wikipedia have been named as potential threats to Azerbaijan's security. Although the amendments are denied to be used to restrict free speech, the critics

point out that they will potentially aim at exactly that purpose.⁵⁷

Anti-government rallies in Armenia

Large opposition protests have been held in Armenia as well during this spring. Thousands of people have been gathering to the Freedom Square in Yerevan, which has been off limits to opposition rallies since 2008 when at least ten people were killed in violent clashes on the Square. Again, references were made to the protest in Arab countries. The protests were led by former President Levon Ter-Petrosian, who heads the largest opposition party in Armenia.⁵⁸

The worsening economic conditions feed public discontent in Armenia. Now, the Armenian government seems to be improving its relations with the opposition. The negotiations between Ter-Petrosian and President Serzh Sargsyan's government have continued for weeks. Allowing the opposition to hold rallies at Freedom Square has also indicated a thaw in government-opposition relations.⁵⁹ The release from prison of some prominent opposition figures, considered as political prisoners by the opposition, has been set as one of the preconditions of starting a dialogue with the government. The Armenian authorities seem to have accepted the demand because in late May 2011, a general amnesty was granted for the two most prominent members of the opposition remaining in prison.⁶⁰

Georgia still blocking Russia's WTO membership

Georgia seems to be the only obstacle left on Russia's long path of becoming a member of the WTO. Georgia still insists that it should have control over the borders between Russia and the breakaway regions of South Ossetia and Abkhazia, and threatens to veto over Russia's membership. However, although historically countries have always joined the WTO only with the unanimous consent of all members, according to the treaty, accession only requires the approval of two-thirds of the member countries. Still, if the other countries would overrule Georgia's objections, it would send an unpleasant signal that more powerful nations can dominate over weaker countries. Therefore, some kind of compromise between Russia and Georgia is likely to be sought.⁶¹

⁵⁴ Kramer, A.: Riot Police Break Up Opposition Protest in Georgia. The New York Times 26.5.2011; RFE/RL 8.6.2011: The Georgian Political Landscape After May 26.

⁵⁵ RFE/RL 8.6.2011: The Georgian Political Landscape After May 26.

⁵⁶ Muradova, M.: Azerbaijani police cracks down on protests. Central Asia-Caucasus Analyst 16.3.2011; EIU, Azerbaijan Country Report May 2011.

⁵⁷ RFE/RL 18.5.2011: Azerbaijani Facebook Campaigner Jailed For Two Years; Abbasov, S.: Azerbaijan: Baku Moving to Restrict Online Free Speech? EurasiaNet 25.5.2011.

⁵⁸ Grigoryan, M.: Armenia: Opposition Bypasses Police, Stages Rally in Freedom Square. EurasiaNet 17.3.2011, The Associated Press/The Canadian Press 28.4.2011: Thousands of opposition supporters protest in centre of Armenia's capital.

⁵⁹ Grigoryan, M.: Armenia: Government, Opposition Hold "Open" Dialogue Behind Closed Doors. EurasiaNet 12.5.2011.

⁶⁰ Martirosian et al.: Prominent Armenian Opposition Figures Are Released Under Amnesty. RFE/RL 27.5.2011.

⁶¹ Coalson, R.: Russia's 17-Year Bid to Join the WTO Faces One Last Hurdle. RFE/RL 9.5.2011.

South Caucasus

Special theme – energy security

The future of the Nabucco pipeline remains uncertain

Construction of the Nabucco pipeline, scheduled to start in 2012, has been postponed to start in 2013. According to Nabucco Gas Pipeline International GmbH, the postponement is resulting from the changes in the timing for gas supplies in the Caspian and Middle East regions, as announced by potential suppliers. The company aims to align the Nabucco timeline with potential gas suppliers, and first gas is expected to flow through the pipeline in 2017.⁶² Currently the only potential supplier for Nabucco is the Shah Deniz II field in Azerbaijan, from where the first gas is scheduled to be on stream in 2017.⁶³

However, some steps have been taken in the development of the Nabucco project as well. Nabucco Gas Pipeline International GmbH has announced that the Project Support Agreements for the pipeline have been finalised and signed by the Nabucco companies and the representatives of the five transit countries (Austria, Bulgaria, Hungary, Romania and Turkey) in Turkey in June 2011.⁶⁴

Negotiations on the status of the Caspian Sea

Caspian Sea coastal states have continued to negotiate on the legal status of the Caspian Sea in April 2011. So far, the five littoral states Russia, Kazakhstan, Turkmenistan, Azerbaijan and Iran have managed to sign agreements on Caspian Sea security, the delimitation of national zones and a ban on fishing for sturgeons, as well as progressed in negotiating on the environmental protection. Negotiations will continue in the summit in Russia later this year.⁶⁵

The legal status of the Caspian Sea has remained unresolved for long. The sea is very rich in oil and gas resources, and all littoral states would like to have their share on hydrocarbon resources.⁶⁶ Russia, Kazakhstan and Azerbaijan support the so-called median lines division principle, which Turkmenistan and Iran oppose as it would leave them with smaller shares of the Caspian Sea. Iran and Turkmenistan would prefer equal division, with the five littoral states each receiving 20 percent of the sea. In the absence of an overall agreement, Russia is advocating bilateral agreements. However, Iran has declined to recognise any other deals on the Caspian division before an

overall Caspian Convention is signed by all five littoral states.⁶⁷

The safety of Armenia's Metsamor nuclear power plant questioned

After the crisis in Japan's Fukushima, concerns have been raised about the safety of the Metsamor nuclear power plant in Armenia. The Metsamor nuclear plant is located close to Turkish border, less than 40 kilometres from Armenia's capital Yerevan and in a seismic zone. Metsamor was shut down for seven years following an earthquake of 6.8 magnitudes in 1988 that killed 25 000 people. The epicentre of the earthquake was less than 100 kilometres from Metsamor. The plant itself survived without damage but the massive earthquake heightened concerns about the safety of the facility. However, in 1995, the government of the independent Armenia decided to reopen the nuclear plant.⁶⁸

The Metsamor nuclear plant currently provides more than 40 percent of electricity in Armenia. Armenia is isolated from Azerbaijan and Turkey and therefore has difficulties in obtaining energy from elsewhere. The country suffered from severe electricity shortages during the time Metsamor was closed. Therefore Metsamor is very important for Armenia in terms of energy production.⁶⁹

The critics of the plant point out that due to its design and location, Metsamor is among the most dangerous nuclear power plants in the world. However, government officials and nuclear experts in Yerevan dismiss such concerns, claiming that significant improvements to the plant's safety have been made and currently it is no less safe than any other nuclear reactor in the world. Armenian government refuses to shut the plant down and a few years ago even declined the EU's offer of an EUR 200 million loan to finance its closure. Instead, Armenia plans to replace Metsamor with a new nuclear power plant at the same location by 2017.⁷⁰ In order to dampen down the international critique, the Armenian government recently invited the IAEA to investigate the safety of the Metsamor plant.⁷¹ The initial findings of the IAEA suggest that the Metsamor plant will pass the inspection but the debate over plant's safety continues.⁷²

⁶² Nabucco Gas Pipeline International GmbH Press release, 6.5.2011.

⁶³ EurActiv 9.5.2011: Nabucco pipeline construction pushed back to 2013.

⁶⁴ Nabucco Gas Pipeline International GmbH Press release, 8.6.2011.

⁶⁵ Turkmenistan Newswire 27.4.2011: Caspian coastal states negotiate legal status on sea.

⁶⁶ Papandropoulos, A.: The Caspian Sea region and its legal status. New Europe 13.2.2011.

⁶⁷ Blagov, S.: Littoral States Struggle to Agree on the Caspian Settlement. Eurasia Daily Monitor 6.5.2011.

⁶⁸ Lavelle, M. & Garthwaite, J.: Is Armenia's Nuclear Plant the World's Most Dangerous? National Geographic News 11.4.2011.

⁶⁹ Lavelle, M. & Garthwaite, J.: Is Armenia's Nuclear Plant the World's Most Dangerous? National Geographic News 11.4.2011.

⁷⁰ Bedevian, A. et al.: In Wake Of Japan Disaster, Safety Of Armenian Nuclear Plant Questioned. RFE/RL 19.3.2011; Danielyan, E.: Armenia Debates Nuclear Energy After Japan Disaster. Eurasia Daily Monitor 11.4.2011.

⁷¹ Grigoryan, M.: Armenia: Metsamor Awaits IAEA Inspection. EurasiaNet 4.5.2011.

⁷² Grigoryan, M. & Hayrapetyan, A.: Armenia: Fight Brews Over IAEA's Thumbs-Up Appraisal of Metsamor. EurasiaNet 7.6.2011.

Central Asia

Recent political developments

Tajikistan experiencing a socio-economic collapse

Food prices in Tajikistan have risen by approximately 30 % during recent months after Russia increased its export tariffs of oil and petrol exports to Tajikistan. Tajikistan receives most of its petroleum products from Russia. In addition, Tajikistan has been suffering from electricity shortages and Uzbekistan's rail blockade.⁷³

Almost half of the Tajik population already lives in poverty and the skyrocketing inflation threatens to impoverish Tajikistan even more. Malnutrition is a growing problem in the country. The Tajik officials have resorted to price controls in order to halt the rising food costs as well as allocated considerable sums of money for purchasing wheat and fuel, and for subsidies for the most vulnerable families. However, the government's efforts are inadequate to resolve the situation in the long term. Tajikistan's dependence on imported foodstuff and fuels is significantly adding to the problem as the exporting countries are raising their prices. Furthermore, as a landlocked country Tajikistan has to pay transit fees for neighbouring countries which have increased lately as well. Therefore, reducing the dependency on imported food by encouraging the agricultural sector could ease the situation in the long term.⁷⁴

Despite the growing frustration of the public, any significant public protests are unlikely in Tajikistan. However, if the economic situation continues its extreme deterioration, the possibility of social unrest in the future cannot be ruled out.⁷⁵

Two deadly explosions in Kazakhstan

Kazakhstan, the most stable country in Central Asia, has avoided social unrest and violent outbreaks that have occurred in its neighbouring countries. However, in May 2011 two blasts in less than a week shook up Kazakhstan, in different cities but both outside the facilities of the country's security services. The first explosion was identified as a suicide bombing, the first known incident of its kind in Kazakhstan. However, Kazakh officials claim that the second incident was only a spontaneous explosion in a car, killing two people. The Kazakh Interior Ministry has ruled out links with terrorism although the suicide bomber had connections with criminal and underground religious groups. Still, the attacks raise concerns that the extremist violence might be spreading to Kazakhstan from Afghanistan and other Central Asian states.⁷⁶

⁷³ Parshin, K.: Tajikistan: Dushanbe Feeling an Economic Squeeze. EurasiaNet 26.4.2011; Eastweek 18.5.2011: Tajikistan in collapse.

⁷⁴ Najibullah, F.: Frustrations Grow In Tajikistan As Food Prices Spike. RFE/RL 15.5.2011; EurasiaNet 23.5.2011: Tajikistan: Dushanbe Price Controls Aren't a Fix for Rampant Inflation.

⁷⁵ Najibullah, F.: Frustrations Grow In Tajikistan As Food Prices Spike. RFE/RL 15.5.2011; Eastweek 18.5.2011: Tajikistan in collapse.

⁷⁶ Lillis, J.: Second Mysterious Blast Rocks Kazakhstan. EurasiaNet 24.5.2011; Najibullah, F. & Abdirova, A.: Kazakh Suicide Bombing Puts Spotlight On Western Regions. RFE/RL 24.5.2011; RFE/RL 24.5.2011: Blast Kills Two Outside Kazakh Security Service Building.

Foreign powers compete for influence in Kyrgyzstan

Kyrgyzstan has tried to cooperate with both the US, China and Russia. The country has allowed the US to use its Manas airport for supporting efforts in Afghanistan, welcomed Chinese investments, and allowed Russia to use an air base at Kant. After the overthrow of President Bakiev's regime a year ago, relations with Russia have improved, and Russia has been keen to support the current leadership.⁷⁷

However, during her visit in Washington in March, President Otunbaeva requested US assistance in border protection and the fight against terrorism, including establishing an American anti-terrorist training centre in the south of the country. However, increasing the US presence in Kyrgyzstan is contrary to Russian interests and may lead to deterioration of Kyrgyz–Russian relations.⁷⁸

China strengthens its economic influence in the region

Both Turkmenistan and Uzbekistan have recently strengthened their economic cooperation with China. In April 2011, the Chinese Development Bank granted an USD 4.1 billion loan to Turkmenistan's state gas company Turkmengaz, intended for exploiting the largest gas deposits in Turkmenistan. Another deal guaranteeing the supply of gas to China was signed alongside with the loan agreement. The deteriorating economic situation in Turkmenistan, following the decrease of gas supplies to Russia and fall in export revenues has forced Turkmenistan to attempt to diversify its gas exports, and currently China is rising in importance as a partner country.⁷⁹

Uzbekistan has also signed several agreements with China, including a Chinese loan of USD 1.5 billion to Uzbekistan. Furthermore, the countries have agreed on an Uzbek section joining the Central Asia–China gas pipeline which would allow Uzbekistan to start exporting natural gas to China, and encouraging Chinese investments in Uzbek infrastructure and extractive industry. The recent agreements demonstrate a change in Uzbekistan's policy towards China. Before, Uzbekistan has been cautious about cooperation with China, fearing China's growing economic influence. Now Uzbekistan seems to be developing cooperation more actively, which could also be seen as a sign of the country's deteriorating economic situation.⁸⁰

⁷⁷ Pannier, B.: Russia's Star On Rise Again In Kyrgyzstan. EurasiaNet 9.4.2011.

⁷⁸ Eastweek 16.3.2011: President of Kyrgyzstan requests US support.

⁷⁹ Eastweek 11.5.2011: Turkmenistan makes another big loan from China.

⁸⁰ Eastweek 11.5.2011: Uzbekistan will strengthen its cooperation with China.

Central Asia

Special theme – energy security

Expanding natural gas production in Turkmenistan

The South Yolotan natural gas field in Turkmenistan has recently been estimated to be world's 2nd largest gas field, holding up to 21 trillion cubic meters of gas. However, Turkmenistan – as well as other Central Asian energy producers – has problems in transforming its resources into actual output and then delivering them. Turkmenistan wants to retain full control over its major onshore projects and is willing to allow foreign companies only service contracts, not direct stakes in the giant field. Foreign investors would be eager to develop Turkmenistan's large gas reserves, and Turkmen might not even be able to succeed in such a large project without direct involvement of foreign investors.⁸¹ Several Western companies, such as Exxon, Chevron and Total are negotiating on exploration and commercial development of hydrocarbon resources in the Turkmen section of the Caspian Sea.⁸²

Turkmenistan has been selling gas to Russia, China and Iran, and the EU is hoping that in the future Turkmenistan could supply gas to Nabucco pipeline. Turkmenistan is aiming to increase its gas production and diversify its exports, and is interested in exporting gas to open market such as the EU.⁸³ In order to reach that goal, the accelerated development of the Caspian Sea would be of strategic importance for Turkmenistan. There is great potential for finding new oil and gas fields in the Caspian Sea. Besides, transporting Turkmen gas to European market would require laying a gas pipeline between Azerbaijan and Turkmenistan through the Caspian Sea or developing LNG facilities.⁸⁴

Turkmenistan is also looking to India and Pakistan in its search for new markets. In December 2010, Turkmenistan, Afghanistan, Pakistan and India signed an agreement on the development of trans-Afghan gas pipeline, aiming at delivering Turkmen gas to India and Pakistan through Afghanistan.⁸⁵ However, as long as the security of the project remains questionable, the construction of the pipeline is still a long way off.⁸⁶

Electricity shortages in Tajikistan – hydropower projects increase tensions in Central Asia

Tajikistan is suffering from electricity shortages during wintertime. In the spring and summer, country's hydropower plants generate enough electricity even for

export but in the autumn and winter electricity is usually rationed for several months, especially after a dry summer when the water level in reservoirs is low. This year, electricity was rationed during March–August.⁸⁷

According to Tajik officials, the power shortage problem will be permanently solved after the construction of two hydropower stations: the Sangtuda-2 hydropower station and the first generating line of the Rogun hydropower plant.⁸⁸ Sangtuda-2, a Tajik-Iranian joint venture, should start producing electricity later this year.⁸⁹ Tajikistan currently also aims to complete the construction of the massive Rogun dam, which was first started during the Soviet era. The Rogun hydropower plant is estimated to start generating electricity in 2013.⁹⁰

However, Uzbekistan has strong reservations about the Rogun hydropower project because it fears the dam will disrupt the water supplies needed for the country's large cotton sector.⁹¹ Uzbekistan has also expressed similar concerns over Kyrgyzstan's hydropower projects Kambarata-1 and Kambarata-2, saying that they will reduce the amount of water it receives.⁹² Indeed, the use of shared water resources is increasingly creating tensions in Central Asia, adding to already unsettled situation in the region.

Kazakhstan–China cooperation intensifies

Maintaining good relations with China is an important part of Kazakhstan's foreign policy. Kazakhstan aims to diversify export routes for its energy, and China is very interested in Central Asian hydrocarbons.⁹³ The energy collaboration between China and Kazakhstan is expanding to other industrial sectors as well, such as manufacturing, shipbuilding, transport, technology, and trade. Russia, the EU and the US have been competing on Kazakhstan's energy resources and the country aims to balance the situation by expanding its cooperation with various actors. Several Chinese companies have already penetrated the Kazakh energy market and oil and gas pipelines connecting the two countries and bypassing Russia have been built. Indeed, China's energy cooperation with Central Asian countries has already undermined Russian dominance on the region's energy exports.⁹⁴

⁸¹ Roberts, J.: Struggle for Central Asian energy riches. BBC News 1.6.2010; Leonard, P.: Turkmenistan gas field is now said to be world's 2nd largest. USA Today/The Associated Press 25.5.2011.

⁸² Hasanov, H.: Media: Exxon sees prospects for cooperation with Turkmenistan. Trend 25.5.2011.

⁸³ Roberts, J.: Struggle for Central Asian energy riches. BBC News 1.6.2010; Leonard, P.: Turkmenistan gas field is now said to be world's 2nd largest. USA Today/The Associated Press 25.5.2011.

⁸⁴ Hasanov, H.: Media: Exxon sees prospects for cooperation with Turkmenistan. Trend 25.5.2011.

⁸⁵ Itar-Tass 11.12.2010: Turkmenistan, Afghanistan, Pakistan sign act on trans-Afghan gas pipeline.

⁸⁶ Pannier, B.: TAPI Pipeline Signed, Sealed – Not Yet Delivered. RFE/RL 15.12.2010.

⁸⁷ RFE/RL 15.4.2011: Electricity Rationing Lifted In Tajik Capital.

⁸⁸ RFE/RL 8.4.2011: Tajik Official Blames Power Rationing On Water Shortage.

⁸⁹ Chorshanbiyev, P.: Iranian company building Sangtuda-2 HPP chooses routes to bypass Uzbekistan. ASIA-Plus 20.5.2011.

⁹⁰ RFE/RL 8.4.2011: Tajik Official Blames Power Rationing On Water Shortage.

⁹¹ Hurriyet Daily News 15.3.2011: Electricity rationed in Tajikistan, redirected to Pakistan.

⁹² RFE/RL 5.1.2010: Kyrgyz Hydropower Station To Be Operational By May.

⁹³ EIU, Kazakhstan Country Report May 2011.

⁹⁴ Muzalevsky, R.: Nazarbayev's visit to China reveals Kazakhstan's balancing strategy. CACI Analyst 2.3.2011.

Ukraine – captured energy security

By Ildar Gazizullin

Ukraine's energy inefficient economy and financially weak energy sector continue to undermine country's energy security. Russia has all chances to succeed in gaining control over Ukraine's energy assets as Kyiv is choosing short-lived solutions to address its security problems.

Current trends

The financial viability of the energy sector has become high on Ukraine's policy agenda. With energy prices reaching the pre-crisis levels in 2011, the country's energy sector and public finances have been put under pressure. Households and local utilities continue to pay gas prices that are not covering costs. The resulting financial burden is significant given that these sectors consume more gas than Ukraine's major energy intensive industries like steel and production of fertilizers.

The new government actively addresses energy policy challenges yet its decisions are heavily influenced by business interests. While this can still lead to positive outcomes for the country, limiting competition and tolerating corruption inevitably results in inefficiency.

Ukraine has decided to attract foreign investment in upstream gas sector to boost production. The country is believed to have significant unexplored gas deposits - not being utilized due to the lack of domestic technical capacity. The government is holding negotiations with the large majors (Shell, Chevron, Exxon-Mobil, Lukoil, TNK-BP) with a number memorandums of understanding being already signed. Non-conventional gas exploration is also considered. However, it remains to be seen how the entry and operation on the Ukrainian gas market will be regulated. In the past, the only tender with a foreign investor (the Vanco, which teamed up with a large Ukrainian business) in the upstream ended up to be controversial and was later contested in the court.

Another major initiative is the development of the renewable energy, which is still marginal in the country's energy mix (with the exception of large hydro). The preferential green tariffs have already attracted large investments into wind and solar. The projects are mostly related to businesses close to the government, though foreign companies have also voiced interest. Yet, this policy is hardly economically sustainable, given the supply of renewable energy comes at a high cost (subsidies per kWh are at par with the EU levels).

A long expected privatization in the power sector (electricity generation and distribution companies) will likely to be limited to domestic investors which already own some of the energy assets. (A recent privatization of the state-owned UkrTelecom, an incumbent telecom company, indicates that the strategic assets are not for open and transparent sale). Such policy may lead to the monopolization on the energy market and may not provide enough capital to modernize the

sector's capacity. The Ukrainian opposition also views the government's decision to pardon USD 3bn of debts in the gas and power sector (mostly bad debt originating from the 1990s) as a step to advance privatization and benefit businesses.

The role of IFIs and the EU in fostering energy reforms has been modest. The government is reluctant to further increase gas and electricity prices for households as required by the IMF. Ukraine has more bargaining power given a much better macroeconomic situation in the country compared to 2009. Eventually the government will be gradually bringing energy prices to full cost recovery levels as removing the practice of cross subsidies is in the interest of energy companies.

Ukraine has also high chances of failing its commitments as a member of the European Energy Community Treaty. The legislation approximation schedule is quite ambitious – most of the EU Directives have to be implemented over the two to six years. Naftogas debts and significant price distortions are some of the major impediments to the gas market reform. The Ukrainian power sector is closer to the EU standards as restructuring, privatization and institution building have already been started back in the 1990's. However, the reform was halted since the early 2000's. Besides, the implementation of the EU environmental directives in thermal generation (that predominantly uses domestic low quality coal) can undermine energy security and affordability.

The government might also be missing the importance of sequencing reform steps by prioritizing investing into physical infrastructure instead of improving regulation and changing energy market design. An LNG terminal at the Black Sea from the list of the announced national infrastructure projects is one such example. While diversifying gas supplies in the country may indeed be a prerequisite for a successful gas market liberalization, Energy Community Treaty implementation would have lead to more investment inflows and much sooner.

Finally, Kyiv and Moscow do not seem to get along as well anymore. At the start of his tenure the President Victor Yanukovich promised better relations with Russia and lower import gas prices. However, at the moment his government wants to revisit its Kharkiv agreement (fleet in exchange for cheaper gas) as Ukraine is not happy with the resulting gas prices.

There are a number things on the table being negotiated between Ukraine and Russia, but it is not clear whether there will be a new gas agreement or not. Making small fixes in the gas formula as suggested by Kyiv (targeting coal and not oil prices) will not interest Moscow, which insists on respecting the terms of the contract. While Ukraine's membership in the Customs Union could be too high price to pay for Kyiv, partnering in managing the country's gas transit system could be the solution. Given the high

level of indebtedness of Naftogas, Russia seems to be an ideal candidate for bailing out the company.

Outlook

Russian interest and presence in the Ukrainian energy sector will remain significant. It is up to Ukraine to incorporate that interest in a way that does not endanger country's security. In a market economy (which Ukraine is) regulation and not state ownership may serve public interest in a best way. The Energy Community Treaty and associated market transformation can become an effective way to make the country's energy market resilient to abuse from large companies or even states. Despite protesting against gas market liberalization in the region, Russia may agree to enter the reformed Ukrainian energy market like it did in a number of Central European countries.

Unlike barter schemes energy reforms are difficult and slow to implement. First, the same rules should apply to all market players and favoritism not tolerated. Yet, reforms could be supported by

Ukraine's large businesses (aka oligarchs), once they realize that Russia can be more successful in corrupting Ukrainian policy makers. Another challenge is that conducting energy reforms requires professional bureaucracy, which would be as difficult to achieve as fighting corruption.

Ukraine's governments have been consistently taking decisions that reflect extremely short-term and volatile political cycles. Revisiting Russian contracts on an annual basis is but one example. Such practice harms energy security, including the reliability of the aging energy infrastructure. The country risks to end up in a situation with no options when a time comes to make long-lasting and irreversible decisions.

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Azerbaijan and Georgia – energy transit from the Caspian to EU market: Current position and potential

By Liana Jervalidze

Georgia has been a historical route for transportation of Azerbaijani oil to the west and south east Asia from the end of XIX century. Starting from the end of XX and the beginning of XXI century Azerbaijan and Georgia together with Turkey have become a transit bridge for the Caspian oil (Azerbaijan, Kazakhstan and Turkmenistan) to the west. Currently this bridge, the so called South Caucasus Energy corridor include Baku-Tbilisi-Jeyhan oil and Baku-Tbilisi-Erzurum gas pipelines. Unlike BTC, which transports Azerbaijani and other Caspian basin countries oil to international market, BTE gas pipeline has a regional dimension as it ends in Turkey. Thus, the Caspian gas (including Azerbaijani, Kazakh and Turkmen gas) has no direct access yet to the EU market and still depends (Kazakh, Turkmen gas) on Russia's Eurasian transportation system crossing the Ukrainian and Byelorussian territories.

Having said this, the Azerbaijani gas from giant Shakh Deniz field, which is transported by BTE-South Caucasus Gas Pipeline crossing Azerbaijan and Georgia to Turkey, has been stuck in Turkey. Although Azerbaijan and Turkey have been reported to have come to agreement on the conditions of the transit of Shakh Deniz gas to the EU market in June 2009, apparently there are some unresolved issues hindering further progress in this regard. The situation is further complicated by the fact that the companies involved in the Shakh Deniz consortium also support different gas pipeline options from Turkey to the EU. These options include to upgrade the existing Turkish pipeline system and use it together with Turkey/Greece Interconnector, ITGI (Interconnector Turkey Greece Italy) and/or Adria pipeline projects connecting Greece with Italy under the Adriatic Sea to deliver Azerbaijani gas first to Greece, then onward to Italy and thereafter onward to the EU.

Another option for transporting Azerbaijani and other Caspian basin gas to the EU is the NABUCCO project strongly supported by the EU and US as a strategic option for the EU to get alternative gas by an alternative route. As it stands today¹ the NABUCCO pipeline starting in the east of Turkey as a continuation of SCP (South Caucasus Pipeline) and ending up in Austria's Baumgartner, has also been discussed for many years without no final "go ahead" yet. It is expected that the final decision on NABUCCO is to be taken by end 2011 or beginning of 2012. Because of the mentioned delays in developing the gas transportation network, the bringing to upstream of Shakh Deniz phase two has been put off for several years from 2012 to 2017.

¹ In March 2011 the Shakh Deniz consortium members started considering an option to start Nabucco in Azerbaijan in case Azerbaijan and Turkmenistan agree to interlink their gas infrastructures across the Caspian sea (Trans-Caspian pipeline), but there is no final decision yet in this regard (LJ).

New geopolitical conditionalities for the Azerbaijani gas

South Caucasus gas pipeline² was commissioned in the end 2007 to supply Georgia and Turkey with Azerbaijani gas. Since then, the relations between Azerbaijan and Turkey, formerly strong strategic partners, have worsened severely first for commercial and later for geopolitical reasons. In spring 2008 the contract³ (provisions related to setting the price) on delivery of Azerbaijani gas to Turkey through SCP expired and the parties needed to renegotiate the price. Turkey looked very much interested in preserving the price USD 120 per 1000 cubic meter on Azerbaijani gas for its domestic market.

At that time Georgia and Turkey were the only market for Shakh Deniz gas.⁴ Thus Azerbaijan was not only motivated and but also firmly decided to increase its export earnings from gas sales. In the end of long and difficult negotiations in June 2009 Turkey agreed to pay the market price for Azerbaijani gas and to compensate gradually the difference of the price in the period starting from the date when the contract expired and finishing with the date when the new contract was signed.

But new differences emerged between the parties in 2009 when the US mediated negotiations between Armenia and Turkey on the opening of the borders. These countries had ceased diplomatic relations in 1991 when Turkey supported Azerbaijan in the conflict with Armenia over Nagorni-Karabakh, an Azerbaijani territory populated by the ethnic Armenians.

The new administration of President Obama suggested and the parties agreed that Armenia and Turkey should proceed to negotiations on the opening of their borders without any preconditions⁵. Armenia and Turkey even signed a memorandum as result of these negotiations which, in the end, was not ratified by their parliaments. But nevertheless, a severe blow was ported to Azerbaijani-Turkish relations as the former considered the opening of borders between Turkey and Armenia without the settlement over Nagorni-Karabakh as an attempt of its isolation by both of its strategic partners the US and Turkey.

Azerbaijani-Turkish relations came to normal condition again when the memorandum was not ratified but the trust which existed before was definitely undermined. Azerbaijan started promoting its own conditions for gas transit and sales in Turkey and onward to the EU market. These conditions

² Another name of this pipeline is Baku-Tbilisi-Erzurum pipeline (LJ).

³ The contract provided that the parties renegotiated the price on Azerbaijani gas a year after the commissioning of the SCP.

⁴ Currently Azerbaijan has signed gas sales contracts apart from Georgia and Turkey with Russia and Iran as well (LJ).

⁵ Turkey usually set the settlement over Nagorni-Karabakh as a precondition for the opening of borders with Armenia (LJ).

encompass the agreement on sales point and access to wholesales market both in Turkey and the EU. Negotiations on these issues between Azerbaijan on the one side and Turkey and other potential buyers on the other side have been underway.

With Turkey becoming increasingly difficult on regional and transit issues, Azerbaijan started looking for alternative transportation opportunities for its surplus gas. Azerbaijan's current contracts on gas sales with Russia and gas swaps with Iran are short term, and more of convenience rather than of a strategic choice as it is looking for a direct access for its gas to EU market avoiding intermediaries. Both, Azerbaijan and Georgia are convinced there will be a demand for natural gas in EU, in particular on the eastern European gas market which wholly depends on imports from Russia. So, they expect growing interests from eastern European countries for Azerbaijani gas as an alternative resource delivered by alternative transportation network. Azerbaijan and Georgia have started considering building LNG terminal on the Black Sea as an option for Azerbaijani gas transportation to EU avoiding challenging transit routes through Russia/Ukraine and Turkey.

LNG terminal on the Black Sea

As it has been mentioned above, Governments of Azerbaijan and Georgia started studying the potential of transporting liquefied Azerbaijani natural gas from Khulevi oil terminal on Georgia Black Sea coast to Rumania. The LNG terminal project outlines were first presented at the international conference in Batumi on 14 January, 2010.

As up to now the national companies of the parties Azerbaijan, Georgia and Rumania established a joint venture – Azerbaijan/Georgia/Rumania

Interconnector – AGRI and intend to open a bid for a feasibility study shortly. Hungary also manifested its interest in this project and declared itself ready to facilitate its promotion within EU together with Rumania. According to Georgian Ministry of Energy⁶ the capacity of LNG terminal at Khulevi has been assessed at maximum 10 bcm per annum with EUR 4 bln capital cost for building of a liquefaction plant, 10% of this amount would be required for the building of a regasification terminal in Rumania.

Obviously LNG is more expensive than the gas transported by pipeline but this project has some obvious advantages. First of all it provides Azerbaijani gas, in addition to the route through Turkey, with another outlet to the EU market involving Georgia as the only transit country. In addition, SOCAR Azerbaijani Public Oil and Gas company has already under a long term lease the Kulevi terminal on Georgia's Black Sea coast, where the liquefaction plant is projected to build. Second, and no less important, it provides Rumania and Hungary with an opportunity to diversify their gas imports and become an entry point for an alternative Azerbaijani gas to the EU market delivered by an alternative route. For Georgia implementation of AGRI means strengthening its transit function and enhancing the geopolitical significance of South Caucasus Energy corridor.

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⁶ Interview with the First Deputy Energy Minister on 6 April 2010 (author).

Belarus's energy security

By Anton Lobach

Economy vs. ecology

The system of energy security is a strategic issue for any modern state. However, there has always cooperated and confronted each other two very important factors: the nature of environmental safety and economic security of the country. Belarus is not an exception, because energy costs are above to 35% of GDP. Belarus uses 36.14 billion kWh of electricity and 33.9 million Gcal of heat energy consumed per year.¹

Classic or modern: the oil against the wind and sun

In Belarus, 95% of electricity and thermal energy is generated using imported natural gas. It makes the country's growing economy too sensitive to fluctuations in gas prices. It forces us to seek alternative sources of energy.²

In 2011 Belarus imports 3 billion kWh of electricity from Russia, as well as 2.5 billion kWh from Ukraine in addition.³

Gross consumption of energy resources will increase from 37.05 in 2005 to 52.4 million tons of equivalent fuel in 2020, and including electricity – from 35 to 50.3 billion kWh, according to the estimates.⁴

Up to 25% of electric and thermal energy has to be produced from local resources by 2012. By increasing the extraction of peat (up to 3.3 million tons) and wood (up to 11 million cubic meters), which is equivalent to replacing the 3.5 billion cubic meters of gas, basically. Brown coal, shale oil, combustible organic and polymer waste, as well as construction of new thermal and hydroelectric power station on the Neman and Western Dvina, provides for involvement in trafficking in the republic reserves. Implementing the program would require investment of USD 1.3 billion.

3,150 megawatts of electric power efficient due to the introduction of modern steam units with an efficiency of at least 57%, modernization of existing equipment at the thermal power stations with the latest gas turbine technology, the transfer of steam turbines in the mode of loss of vacuum, the implementation of measures to improve the structure of electricity generation for thermal power stations, as well as decommissioning uneconomical obsolete equipment with an efficiency less than 39% is planned to be introduced in Belarus during 2011–2015.⁵ It will be spending USD 7.5 billion for this purpose, including investments in power will be total USD 5.9 billion.⁶ This will reduce the specific fuel consumption for electricity production up to 10% in the whole energy system by 2015.

These factors should cause a significant reduction in the short run in quantities of natural gas used to heat and electrical energy – from 81% in 2005 to 57–43% by 2020 in consumption of boiler and furnace fuels (CBT) – with 81 to 61–51%. The volume of the dominant supplier of energy (natural gas) will decrease from 83 to 64–57%.

There is a state program for development of alternative energy in Belarus. State Concern "Belenergo" buys electricity produced by organizations based on alternative sources of energy at the rate of 300% of the price of electricity serving the standard fare. This is intended to encourage the introduction of new technologies and develop alternative energy sources.

However, despite all the efforts being made only these factors are not sufficient to ensure economic security.

Despite the fact that since 1992, "The Concept of Sustainable Development" is an integral part of the international political agenda and must be taken into account in the strategies of each country. Today, unfortunately, this is more a tribute to political correctness, rather than a real program of action. The reasons for this are clear. And it is primarily market fundamentalism (the principle of "Profit above all else").

Since any energy is always expensive source of energy, it inevitably begins to advance economic security to environmental.

After using all available resources rises the question about other sources of energy. And then begin to think seriously about nuclear power.

Nuclear power energy safety and risks

Nuclear power is based on a chain reaction of uranium. In the process of energy production it does not bear a direct impact on the ecology and the environment. But there is a risk of force majeure, in the event which merits of nuclear power becoming a disastrous shape.

Occurrence at Fukushima drew attention to one of the most important problems associated with nuclear energy – safety and risks. Risk of damage to the containment of a nuclear reactor was estimated as one to one million for each reactor per year. Common was the view that the consequences of a nuclear catastrophe there could potentially be serious, but the probability of this is extremely small... We see that the math is not always relevant in this aspect.

Belarus and nuclear power station plans

Despite the efforts made by people, electricity remains the most costly economic factor constraining economic growth.

In connection with a substantial load on the energy economy of the country the government of Belarus has decided to build its own nuclear power plant.

The question about nuclear power security is of particular importance in Belarus. Indeed, in 2011 celebrated 25 years since the catastrophe at the Chernobyl nuclear power plant. And despite the fact that geographically plant was located on the territory of Ukraine, the Belarusian lands and communities were severely affected by the Chernobyl nuclear power plant.

¹ Data from the Ministry of Energy of the Republic of Belarus.

² Message of the President of the Republic of Belarus Alexander Lukashenko to the Parliament and belorussian people. 24.04.2011.

³ <http://www.interfax.by>. An interview with Interfax-West "Assistant Secretary of Energy of Belarus Lyudmila Zenkovich 04.02.2011.

⁴ The development strategy of national power. Sergei Tkachev, Vladimir Timoshpolsky. Journal of the Science and Innovation "Number 11 (57) 2007. (Special Issue).

⁵ http://www.belta.by/ru/all_news/economics/V-razvitiye-energositemy-Belarusi-planiruetsja-vlozhit-75-mlrd-za-5-let_i_526724.html.

⁶ Speech by Minister of Energy of Belarus Alexander Ozerets by the Council of Ministers 05.10.2010.

Belarus is particularly closely related to issues of environmental safety, in this connection.

A characteristic feature of the Chernobyl reactor was an open channel-type heavy-duty protection only fuel cells. Ignalina nuclear power plant in Lithuania is exactly the same. That is why the requirement for EU about its closure, from the point of view of experts, is absolutely justified.

Modern nuclear power plants have three levels of external protection, in contrast to the Chernobyl and others like her. The first circuit: the shell of fuel cells to prevent the release of gaseous fission fragments. Second: the case reactor itself (Chernobyl reactor was not the case). The third path: the concrete protective cover over the station itself which has the strength to withstand a direct hit by an airplane. Chernobyl reactor did not have such bell.

Therefore, if there is a rupture of the primary circuit and melt, as happened in Chernobyl, all the pieces must be localized inside the metal case on the second line of defense, according to experts' view. The estimated probability of an accident at a reactor such as Chernobyl is 10 thousand years whereas in more sheltered stations this probability is much smaller. There an explosion can occur within 1 billion years.

No one can predict the end or the beginning of the design life will crash, but the severity of the impacts varies dramatically. For example, in 1978 in the U.S. nuclear power plant there was an accident of the reactor with a molten core. But thanks to several levels of security background radiation in the county remained within normal limits and the population did not have otseylat.

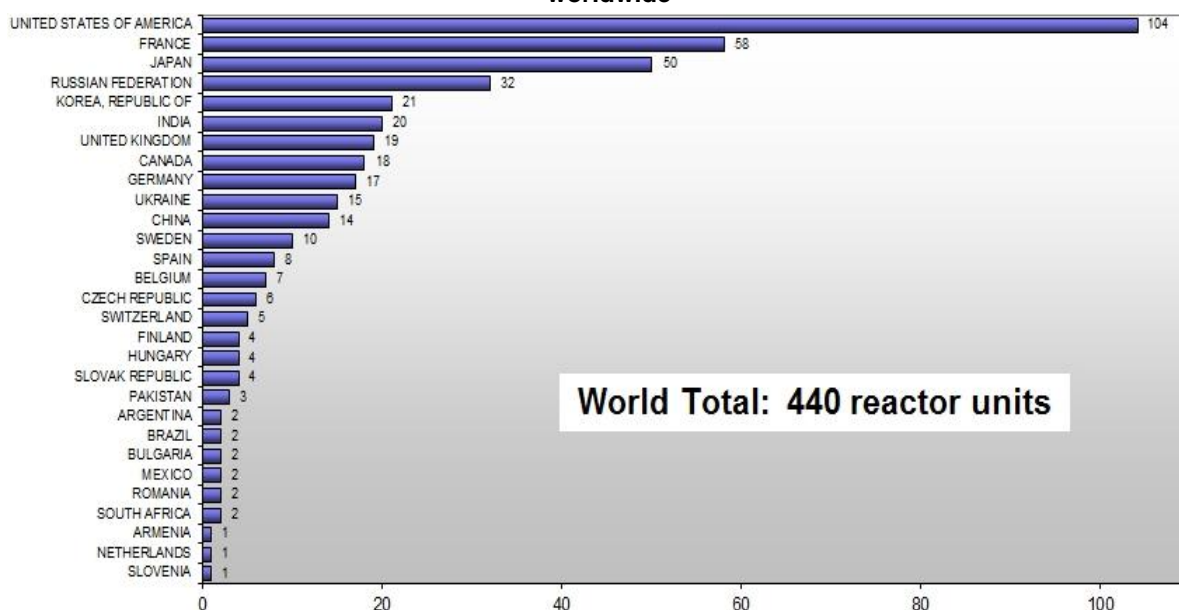
Belarus plans to build station with three levels of external protection and passive protection system, which protects the reactor from melting and the release of nuclear fuel. According to the Joint Institute for Energy and Nuclear Research, it is economically feasible to build two or three units with total capacity of about 2 MW. According to specialists, it would take about USD 3 billion.

According to various estimates, the output of nuclear power stations on the settlement will eliminate the purchase of 3.6–4.2 billion cubic meters of gas. It is one fifth of the current energy balance of Belarus.

Attitude towards nuclear energy still remains ambiguous. Nuclear power stations are being built in South Korea, China, Iran, Brazil, and Romania. However, the Austrian public in due time made the closure of nuclear power plants built. Actively nuclear power is used

in the United States, France, Japan and other countries, as shown in Figure 1. 27 European countries received 31% of electricity and 14.6% of primary energy from nuclear power plants in 2010. Europe has seen a growth of nuclear power stations over the past 8 years. Countries that had previously halted construction of nuclear reactors (Germany and Sweden) or completely abandoned their nuclear programs (Italy and Poland), start thinking seriously about lifting the moratorium, the abolition of restrictions and deterrent penalties.⁷

Figure 1 Number of reactors in operation worldwide



Note: * Long-term shutdown units (5) are not counted; ** In the World Total there are also 6 reactors in operation in Taiwan, China.
Source: <http://www.iaea.org/cgi-bin/db.page.pl/pris.oprconst.htm>.

Atom has never been completely safe. Just such problems as growing demand for energy, the depletion of hydrocarbon reserves and climate change, have no easy solutions. Nuclear power solves all these problems.

In today's world, when designed and operated efficient technologies for energy production from renewable sources, nuclear power plant construction is excessive and not sufficiently justified by the risks.

Thus, any decision on the construction, operation or closure of existing nuclear power plants is not simple and straightforward. There are always different points of view. And the economic factor has while prevailed over the ecological ones.

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⁷ <http://be.wikipedia.org>.

Kazakhstan electricity sector reform

By Meruert Makhmutova

Kazakhstan is one of the first countries of former Soviet Union that has developed functioning electric power market. As a result of the reforms in the 90th the following milestones were reached¹:

- Division of power sector into competitive entities and regulated monopolies;
- Large scale privatization of generation;
- Creation of the Kazakhstan Electricity Grid Operating Company (KEGOC);
- Formation of regional distribution companies (RECs).

The Concept of further development of market relations in the Kazakhstan power sector was approved in February of 2004. The Kazakhstan Electricity Law was passed in July 2004. Thus it was provided framework for power market development.

The Ministry of Industry and New Technologies (MINT) is the policy making body. The Agency for the regulation of Natural Monopolies (AREM) deals with economic regulations and sets transmission tariffs. Competition Protection Agency (CPA) regulates competitive issues on electricity market. State Electricity Supervision Committee under the Ministry of Industry and New Technologies provides supervision and control over the implementation of technical requirements.

State owned electricity companies such as KEGOC, Kazakhstan Wholesale Electric Power Market (KOREM), Samruk-Energo, managed by National Wealth Fund Samruk-Kazyna. Large power stations: Ekibastuzskaya GRES-2, Zhambylskaya GRES, Bukhtarminskaya GES, Shulbinskaya GES, Ust'-Kamenogorskaya GES, Shardarinskaya GES, Almatyenergo (or Almaty Power Consolidated, APC), in whole accumulating 28 percent of generation capacity, are managed by Samruk-Energo. Shulbinskaya GES and Ust'-Kamenogorskaya GES are under the concession holding by AES Corporation till 2015. Also Samruk-Energo is working on construction of Moinakskaya GES and reconstruction of Shardarinskaya GES.

Kazakhstan privatized most of its power sector with the exception of high voltage transmission². Around 97% of power plants in Kazakhstan are privately owned. There are 66 power stations³, including five hydroelectric plants. This represents an installed capacity of approximately 19,400 MW, and available output 15,300 MW. At the moment, 85.5 percent of Kazakhstan's electricity comes from coal-fired plants and 8.7 percent from hydroelectric sources (Table 1). The coal fired plants are located in north coal producing regions. Hydroelectric facilities are located mostly along the Irtysh River. The southern

regions of Kazakhstan don't have an enough energy resources and electricity consumption covered by import from the Kyrgyz Republic.

The electricity production and consumption fell significantly since independence (Figure 1). Since Kazakhstan was a republic in the Soviet Union until 1991, its energy sector was part of the state-owned and vertically integrated Soviet energy system. Due to economic crisis after the collapse of Soviet Union in the beginning of 90th energy consumption fell almost twice to minimum in 1999 – 50.3 billion kilowatt-hours (Bkwh). As a result electric power generation's share in the industrial output fell in three times: from 15.7 percent in 1995 to 4.7 percent in 2009.

Robust economic growth since 2000 has helped boost generation to 82.3 Bkwh in 2010 (6.2% decrease comparing to 1990) and consumption to 83.6 Bkwh (25.2 percent decrease comparing to 1990).

Deficit of energy generation in the beginning of 90th converted into surplus in 2003 when Kazakhstan's domestic electricity generation exceeded its consumption (Figure 2). Since country has more than enough electricity to support its own demands, it has been able to export electrical energy to Russia.

KEGOC is 100 percent government owned transmission company. Kazakhstan built two north-south and north-west transmission lines (first in 1997 and the second in 2009) and connected its southern and western regions with main energy resources in north and decreased dependence from neighboring countries. There are 29 regional distributing companies.

Low energy tariffs are the main reason for underinvestment, high commercial and technical losses, and lack of energy conservation⁴. The introduction of maximum electricity tariffs has allowed the Government to begin the full-scale renovation of energy facilities. This would improve the situation of high levels of equipment degradation in the electric power industry.

The electric power industry remains a key factor in Kazakhstan's industrial development and economic growth. Kazakhstan's new Accelerated Industrial Innovation Development Program (2010–2014) identifies the energy sector as one of its priorities in the overall plan to diversify the economy and significantly increase the country's GDP by 2015. According to the Ministry of Industry and New Technologies, power generation will increase a demanding 30 percent to 2015. Nevertheless the following challenges remain:

- The ageing of Kazakhstan's generating equipment are 70 per cent, electrical network – 65 per cent, heat network – 80 per cent.

¹ Makhmutova M., Akhmetova A. Electricity Sector of Kazakhstan: How to Raise Effectiveness and Attract Investment for Modernization. Public Policy Research Center. Almaty.

² ADB (2005), Electricity Sector in CAREC countries. A Diagnostic Review of Regulatory Approaches and Challenges.

³ KEGOC 2010 report available at www.kegoc.kz.

⁴ Central Asia: Decay and Decline. Crisis Group Asia Report № 201, 3 February 2011.

- Loss of large energy in transmission and distribution over the national distribution lines.
- Attracting of huge investments for financing for new generation facilities remains questionable.

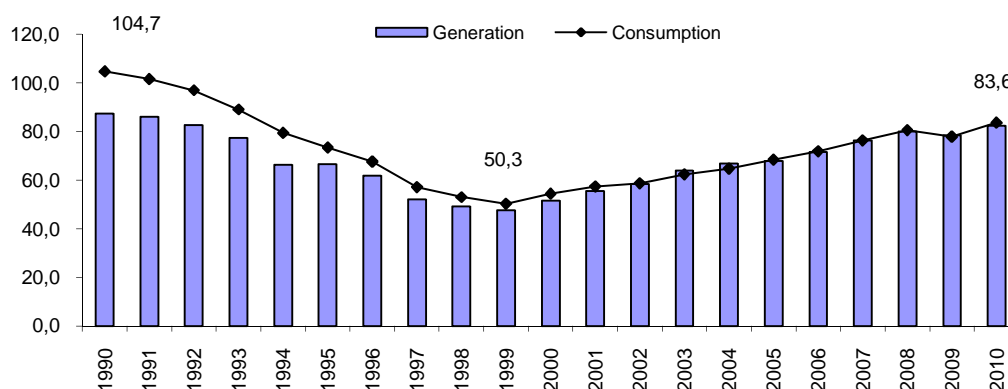
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Table 1 Electricity generation by types of stations

	2004 г.		2007 г.		2008 г.		2009 г.	
	Billion kilowatt-hours (Bkwh)	Share, %	Generation, Bkwh	Share, %	Generation, Bkwh	Share, %	Generation, Bkwh	Share, %
Electricity generation, total	66.6	100.0	76.4	100	80.0	100.0	78.4	100.0
Coal-fired plants	56.3	84.5	64.4	84.3	68.5	85.5	67.0	85.5
Heat power station, working on gas and black oil (mazut)	2.3	3.4	3.9	5.0	4.1	5.2	4.5	5.7
Hydroelectric stations	8.0	12.1	8.1	10.7	7.4	9.3	6.9	8.7

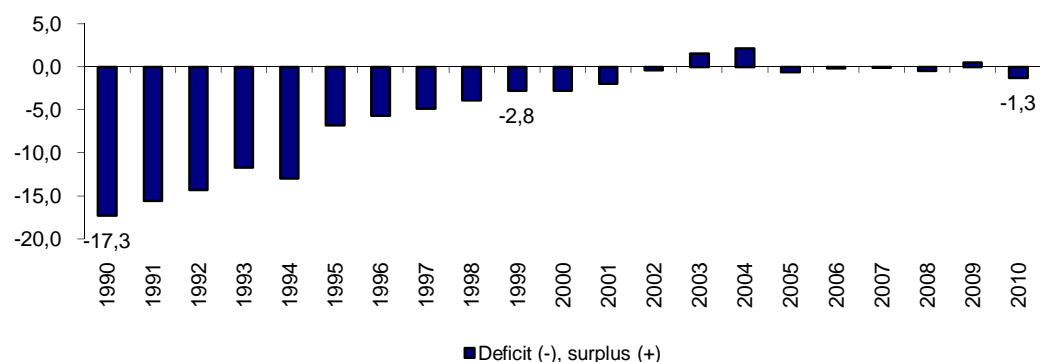
Source: KEGOC

Figure 1 Electricity generation and consumption in 1990–2010, billion kWh



Source: Agency of Statistics of the Republic of Kazakhstan, Ministry of Industry and New Technologies

Figure 2 Deficit and surplus of electricity in 1990–2010, billion kWh



Source: Agency of Statistics of the Republic of Kazakhstan, Ministry of Industry and New Technologies

Energy security – Georgian perspective

By Murman Margvelashvili and George Mukhigulishvili

Energy security means reliable and sustainable provision of energy at affordable price and acceptable quality. In short term energy security is defined by the probability of sudden changes in supply or demand and the ability of energy system to react efficiently. Long-term energy security is linked to timely investments to supply more of own energy, and other supporting measures to reduce the probability and adverse effects of external supply disruptions. The requirements of sustainable economic and social development and environment protection limit the scope of security measures. Here we briefly review the current and prospective factors of Georgia's energy security.

Georgia's energy mix

Georgia does not have significant oil & gas reserves. As a result, about 65% of country's primary energy supply is from external sources. Imported natural gas constitutes about 45% of total energy supply while imported oil products constitute about 25% of energy mix. Own hydro generation is sufficient for internal demand and constitutes 20–25% of total energy supply and the rest is fuel wood.

Georgia is situated on important geopolitical crossroads of the continent, major energy transmission lines and pipelines go through the country. South Caucasus Pipeline (SCP) connects Caspian Shah Deniz gas field to Turkey. The Baku Tbilisi Ceyhan (BTC) oil pipeline connects the offshore oil fields in the Caspian to the Turkish coast and further European markets. Western Route Export Pipeline Baku-Supsa (WREP) also serves for supply of Azeri oil by tankers to global markets. Georgian railway provides a corridor for transporting petroleum

products and crude from Azerbaijan, as well as Kazakhstani and Turkmenistan to the Black Sea. North-South main gas pipeline serves for export of Russian gas to Armenia.

These transport routes involve many international stakeholders and provide to Georgia relative political security as well as transit revenue and own energy. Currently about 60% of Georgia's current domestic gas demand is provided from in-kind gas transit fees from SCP and North-South gas pipelines.

Current state of energy security

Sabotage on Russian territory of the natural gas transmission pipeline and the main electricity transmission line, serving for energy export to Georgia, in severe winter of 2006, resulted in energy crisis for almost two weeks. Russian-Georgian war in 2008 didn't create much of energy disruption and major energy infrastructure was damaged, however the risks were extremely high. This was preceded by almost quadruple increase in the price of imported gas over previous three years. These developments have indicated a serious need for strengthening Georgia's energy security and urged the actions for diversifying energy supply sources.

There has been a significant improvement in Georgia's energy security standing over the last several years. In difference with the situation of 2006, together with development of Shahdeniz field in Azerbaijan more gas became available to Georgia both as in-kind fee for the transit over SCP, and also for direct purchase from Azerbaijan. Georgia has reoriented its gas purchases and has concluded a long term agreement with SOCAR to supply the gas at fixed price as well as to supply gas in emergencies.

The portion of Russian gas in energy balance is now limited to in-kind fee for transit to Armenia.

Georgia has become self sufficient in electricity due to hydro plant rehabilitation, though with one important comment: most of electricity production comes in summer when the demand is low, while in winter the hydro potential is insufficient for covering the demand and gas fired thermal plants or import need to come on line. Major concern is related to Enguri/Vardnili hydro

OIL & GAS EXPLORATION & TRANSPORTATION

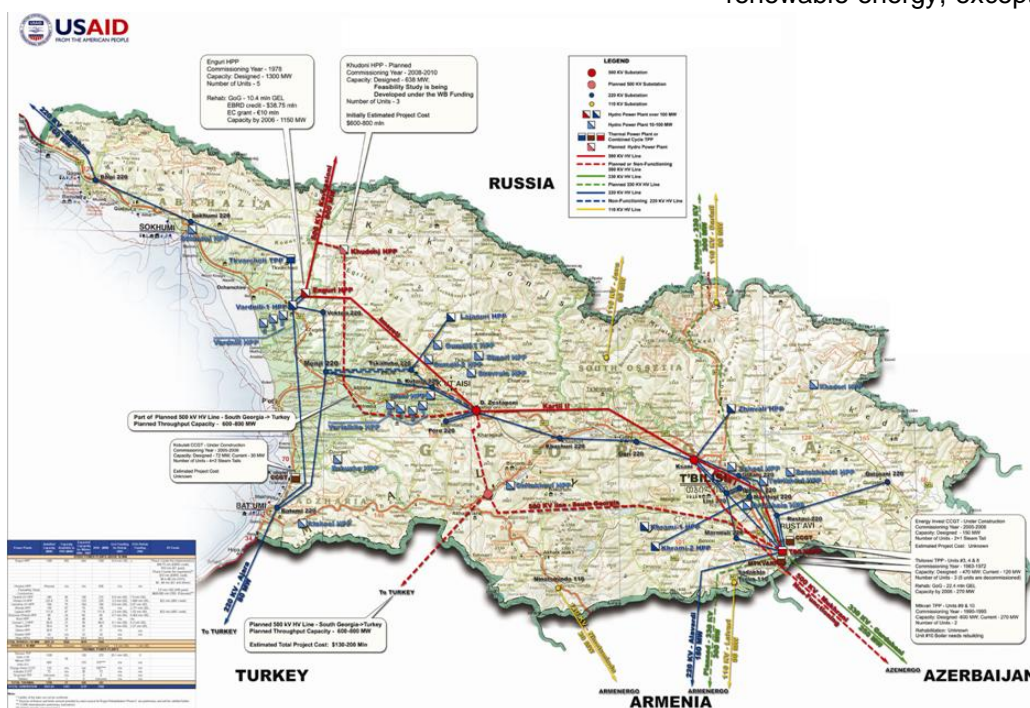


power plant cascade. It is a key contributor to Georgia's electricity generation and therefore major factor of energy security. The power house and switchyard are located on the territory occupied by Russia, while the dam and reservoir are on the territory controlled by Georgian state. This can result in serious energy problem in case of political escalation with Russia who already occupies 20% of Georgian territory.

Remaining strong dependence on imported gas, pronounced seasonality of Georgia's vast hydro potential and threat to control of key energy assets are the most important challenges to Georgia's energy security. In order to cope with these challenges Georgia needs to develop internal energy resources, diversify further energy supplies and seek the ways for more political stability in the region.

Internal resources

By far the hydro electric potential is the main prospective resource of domestic energy. According to various estimates there is a possibility to economically develop about 20–30TWh of annual generation. The Georgian government program "Renewable Energy 2008" has initiated energetic action in this direction and there is a big number of large and medium projects already in development.



In 2010 Georgia has already achieved a level of 1.3TWh of net electricity export, however further development requires reliable external market and possibility of seasonal electricity exchange to compensate for summer excess and winter deficiency of domestic electricity. This urges the development of transmission interconnections with neighboring countries as well as development for long term reliable and transparent arrangements that might start as bilateral contracts but eventually should lead to more stable regional market structures. Turkey is considered as most promising market for Georgian electricity at least in medium term.

Ongoing construction of 500/400kV transmission line with back-to-back DC connection substation in Akhaltsikhe, rehabilitation of existing interconnections with Armenia (220kV) and Azerbaijan (330kV) and construction/rehabilitation of additional lines show a strong development in this direction. With this construction of new transmission capacity Georgia tries to open up the new possibilities for renewable electricity trade and exchange with neighbors. This can become more relevant since recent Fukushima accident and growing concern over climate change caused by greenhouse gases.

Georgia has own resource of brown coal which is estimated at 300mln tonnes. There is already use of brown coal in industry and ongoing construction of small CHP Plant in Tbilisi that signifies the start of coal utilization in power sector for security and economic development reasons.

There is a vast untapped potential of Energy Efficiency (EE) and Renewable Energy (RE) in Georgia that have to be incorporated in energy security improvements. The economically achievable annual potential of renewable energy sources (RES) can be estimated as: small hydro – 5 TWh¹, wind – 5 TWh, biomass – 3–4TWh, solar – 60–120 GWh, geothermal – 0.8 TWh². However, the share of renewable energy, except big hydro, is still only a few percent in Georgia's energy balance. At the same time energy intensity of Georgian economy is high and the amount of specific energy needed to produce goods and services in Georgia is 2–2.5 times higher than in Western countries. It is estimated that energy efficiency measures can provide up to 20% of energy saving in the country.

Up to now Georgia has been slow in development of EE & RE, but recently especially after the pledges by Georgian president at Cancun 2010 conference and Tbilisi joining the Covenant of Mayors, there is a visible trend towards development of these internal reserves. Adoption of RE & EE legislation would be a strong factor in support of developing these resources. Development of this resource offers the potential for cooperation in this field with neighboring countries that are facing the similar challenges.

Georgia continues to explore its oil & gas reserves. A new development of 21st century shale

¹ <http://www.minenergy.gov.ge/index.php?m=249&lang=eng>.

² Renewable Energy Potential in Georgia and the Policy Options for Its Utilization (WEG), 2008.

gas can become an additional and even most important source of energy. This potential resource needs to be evaluated and developed over a coming decade, however preliminary rough estimates indicate that in case of success the scale of the resource can be comparable to some most successful shale gas plays in the US.

Another major development is the expected construction of gas storage facility in Ninotsminda oil field. The gas storage will allow to store more than 300 million cubic meters of gas. The pre-construction design study has been completed last year and the construction preparations are going to start soon.

Energy transit

The concept of Southern energy corridor adopted and promoted by European Commission provides major opportunities to increase Georgia's energy security both in terms of additional in-kind transit revenue as well as political support that will strengthen the protection against political risks facing the country.

The near term significant development is expected with further development of Shahdeniz gas production (stage 2) scheduled for 2017. It will tripling overall production from the field and delivers an additional 16 bcm of gas for transit over SCP therefore increasing the transit revenue to Georgia. 5–10 bcm/y additional gas will be available from Turkmenistan off-shore fields developed by Petronas even sooner if TCGP is implemented timely.

Nabucco – the flagship project of southern corridor is developed to connect the world's richest gas regions – the Caspian region, Middle East and Egypt – to the European consumer markets. It will carry about 32 bcm of gas annually. The concurrent project – White Stream has been conceived to transport gas from Caspian via Georgia over the bottom of the Black Sea directly to the markets of Eastern Europe. Together with Nabucco, White Stream will provide an essential link for Europe to gas resources in the Caspian and will contribute to security of gas supply by providing a complementary export route with diversification benefits for both

producers and consumers. The project will be developed in stages with initial throughput of 8 bcm to 32 bcm per year.

There is an active discussion of Azerbaijan-Georgia-Romania Interconnection Project (AGRI), the project plans to supply 6–8 bcm of liquefied Azeri gas to Europe by Black Sea tankers to Romania annually. The feasibility of the project is still under examination.

All the above projects have the potential to contribute to energy security and political stability of Georgia and relate it closer to energy security of the EU.

Conclusions

Lack of own oil & gas reserves, excess of hydro potential and tense political relationships with Russia define the current picture of Georgia's energy security.

There are three main directions for Georgia's energy security: 1. Developing internal energy resources, 2. Developing the regional energy exchange and cooperation, 3. Developing country's capacity for international energy transit, especially in the context of Southern Corridor. All three directions are productive grounds for international cooperation and can provide economic, security and environmental benefits to participants. This development shall be supported by creation of transparent legal and regulatory framework of western standards.

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Energy security in Moldova – a long road ahead

By Alex Oprunenco

Undoubtedly energy security is one of Zeitgeist issues of the modern times. A series of factors contributed to the rise of this issue: Climate change, rocketing commodity prices, heightening political and international struggle for energy resources and use of access to these resources as a proxy of geopolitical influence. For certain countries, such as the Republic of Moldova, the lack of energy security may pose a development threat as it affects both political stability and economic competitiveness of the country.

Special case of Moldova: wrong endowment, wrong geography?

If you look at the drivers behind Moldova's energy (in)security you would wonder how all of them could coincide in the case of this small country, landlocked country. Three specific predicaments for Moldova's appear crucial: domestic resource endowment / energy generation, geography / lack of diversification, and technology / low share of renewable and of energy efficiency.

Indeed, let's take energy endowment / local production, first. Prior to independence (1991) Moldova was part of the former Soviet Union and was massively supported by cheap energy imports from Russia. Certainly, situation started to change since Moldova declared independence in August 1991. Firstly, as the outcome of the internal strife, the Transnistrian region, home to Cuciurgan power plant with capacity to both cover power domestic needs and offer some exports, broke away. Secondly, for some time Moldova could still receive some cheap natural gas from Russia. This 'bonanza' ceased in 2006 when Gazprom started to calibrate its price policy along with Russia's geopolitical imperatives¹ and apply European prices to its neighbours. In the aftermath of the succession of price hikes, Moldova has been paying European price for Russian gas since 2011, meaning a more than three-fold increase in five years².

As the result Moldova has had to sustain combination of the falling local production, both due to secession of Transnistrian region and lack of investments in domestic generation capacities, and rising prices, change of Gazprom price policy and rocketing oil prices on the global markets since the second half of 2000's. Furthermore, Moldova is the most energy imports' dependent country in the region (Table 1). Main energy resources in use are: natural gas (around 40%), petrol and its derivatives (over 30%), and electricity (over 10%)³.

¹This remark does not imply that former Soviet Union republics should receive favorable price treatment.

² There is ongoing dispute with respect to debts for Russian gas accumulated by Transnistrian region, which is de jure part of Moldova and whose gas network is owned by the Moldova-Gaz stock company (co-owned by Gazprom, majority stake, and Moldovan Government).

³Data from National Bureau of Statistics of Moldova, Energy Balance, 2010.

Table 1 Level of energy imports' dependency, by country, 2008

Country	Energy imports, net (% of energy use)
Albania	45
Armenia	73
Bulgaria	48
Georgia	64
Latvia	60
Moldova	97
Slovakia	65

Source: *World Development Indicators, World Bank.*

This 'endowment' predicament is further compounded by geography. As former part of Soviet Union Moldova was closely integrated into the common energy infrastructure (gas and power) and the consequences cannot easily shed. In fact, it means that there is technical capacity to import natural gas only from Russia, while westwards power connections are severely limited by the technical differences between European (ENTSO-E) and former Soviet power grids (IPS). Moreover, Moldova not only receives all of its natural gas from single source, Russia, the transit of this gas also goes only via one country, Ukraine. In other words, Moldova can suffer not only if it has political or economic rift with supplier, but also if transit country is in conflict with supplier. This was exactly the case in winter of 2009 when Ukraine was involved in spat with Russia over the gas prices and Moldova was effectively cut from supply of Russian gas (that time the needs were covered from Ukrainian reserves).

The third crucial predicament is technology gap expressed as low energy efficiency and low share of renewable energy in the country's energy balance. In fact, as much as energy efficiency is concerned Moldova again fares below regional standards (Table 2), despite the fact that normally lack of cheap energy resources should lead to more efficient use of them.

Table 2 GDP per unit of energy used (constant 2005 PPP \$ per kg of oil equivalent), by country, 2008

Albania	11
Armenia	5.8
Bulgaria	4.6
Georgia	6.6
Latvia	7.9
Moldova	3.1
Slovakia	6.1

Source: *World Development Indicators, World Bank.*

Furthermore, although the Government declared development of the renewable energy sources as strategic goal in energy policy, too little has been

achieved so far. The share of renewable energy has been hovering these years around 3% of total energy balance, nowhere close to the official goal of 10% by 2010.

It is worthwhile to mention that Moldova's Energy strategy aims at closer integration in European energy market and convergence to European standards in energy efficiency and use of renewable energy. Indeed, the new EU's energy strategy sets ambitious targets for further decarbonisation of the energy production and energy saving. If developments in Moldovan and European energy sectors will continue at current pace the gap between Moldova's declared goals and reality will only get wider and will transform current goals of integration and convergence in a mission impossible.

To sum up, lack of energy security (domestic generation and diversification of supply) make Moldova vulnerable in face of eventual political pressure, while technological undercuts competitiveness of Moldovan companies which are poised to have more expensive energy inputs and costs in local production activities.

In search of solution: a light in the end of tunnel...

There appears to be certain degree of understanding of the main risks and drivers by the Moldovan Government. The National Energy Strategy (2007–2020)⁴ outlines however vaguely several risks and challenges, although strategy is based on sectoral approach and clearly lacks holistic vision. At the same time, since 2010 Moldova has been member of the European Energy Community Treaty and process of legislative approximation to the EU's acquis in this area proceeds apace. The legislative process however refers mostly to the market rules and standards, and can only partly facilitate arrival of investments and know-how needed to increase energy security and jump-start development of domestic energy sector.

From the standpoint of the previous section the approach to enhancing of national energy security should be three-pronged. Firstly, domestic production capacity should be developed. Given Moldova's natural endowment such a progress can be achieved only in small-scale hydro-power generation and renewable energy resources⁵ (of which biomass has the biggest potential, but also solar and wind energy) development both for power and thermal power generation. Furthermore, such approach would be in line with the goals of the new EU energy strategy, with much less focus should be put on development of generation capacities using natural gas or other 'dirty'

fuels for power generation. As part of the EU approximation process in the field such options as linking to the EU Emission Trading System and introduction of green certificates scheme should be taken into account.

Secondly, more attention should be paid to energy efficiency and saving with the aim at modernizing equipment and production process (both in energy production and in non-energy sector) and buildings; as well as improvement of transport infrastructure with the view of cutting losses. Tariff policy favouring energy-savers, i.e. consume less – pay less per unit consumed, may also be helpful.

Last but not least, diversification of gas supply will remain a thorny issue. Although accession to the Energy Treaty Organization accompanied by significant internal market liberalization ushers way for stronger interconnection of Moldova's power grid and gas distribution networks with those of Romania (part of larger EU networks) will ease the pressure they would still have limited impact. In the case of power supply the problems of compatibility between two systems would persist, and there still would be need for important investments in order to ensure Moldova's switch from fSU's IPS to EU's ENTSOE. In the case of gas network building reverse connection between Moldova and Romania in current circumstances could serve only as a temporary back-up option in the case new 'gas wars' occur in the western CIS, but would not be able to serve as a reliable substitution for Russian gas (due to limited Romanian production capacity). And Moldova still has to attract funds to accomplish even this connection.

All in all, it is clear that energy security will remain a thorny issue for Moldova for many years ahead. Easing this challenge will often require some costly investments which would not necessarily pay back any time soon. However, some of these, such as investing in energy efficiency and renewable energy, appear to be 'win-win' solutions and will help not only mollify dependency on energy imports, but also increase economic competitiveness of domestic companies.

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⁴It is being revised currently.

⁵ For more information see National Program for Renewable Energy Resources Development (2003-2010).

Azerbaijan – energy power in the region

By Gulmira Rzayeva

Oil & politics

Azerbaijan is located in one of the most volatile, vulnerable and geopolitically complicated regions in the world – in the South Caucasus and next to the Caspian Sea; it is squeezed between Russian and Iran and is next door to Turkey. Afghanistan and Iraq are not far away. There are internal factors, but possibly the main driver for the volatility of the region is the emerging and intersecting political and economic interests of the big powers – Russia, the US, Turkey and Iran – in the wake of the collapse of the USSR. Since then Azerbaijan has been one of the most independent-minded of the CIS states, pursuing a diversified energy policy which seeks to deal simultaneously with Russia and Iran, Turkey and Europe.

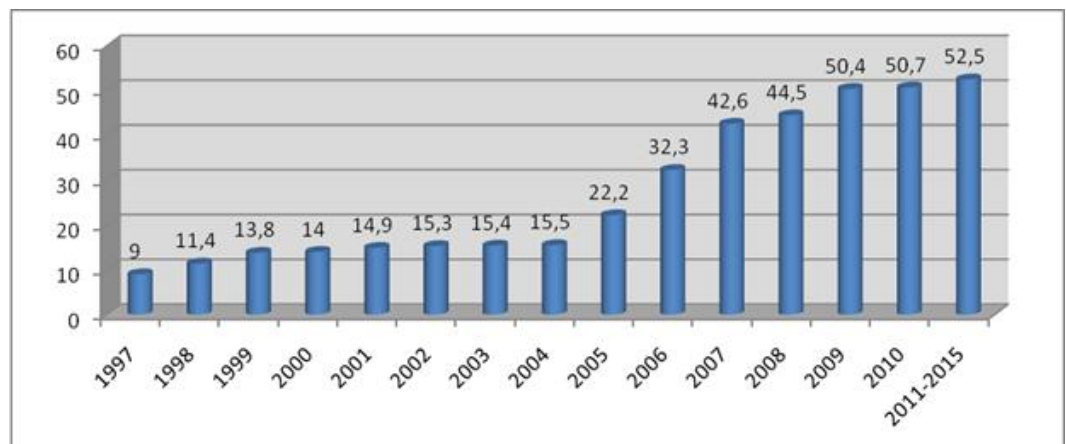
Since the transition to independence in 1990–91 Azerbaijan has become one of the richest among the post Soviet ("FSU") states, earning billions of dollars from oil exports, and thus far has maintained an effectively balanced and diversified energy security policy. In the early years the main goal for the country was to use oil production to maintain independence – and to do this through achieving direct access to international markets. To achieve these aims the government and industrial partners launched two major oil projects. These two "contracts of the 20th century" – resulting in the Azeri, Chirag and deep water Guneshli field project (ACG) and Baku-Tbilisi-Ceyhan (BTC) project – have been unqualified successes. Azerbaijan now has full access to international oil markets and the country receives very significant revenues as a result. This opened up the Caspian reserves to world markets for the first time in 80 years; for we should always remember that in its "first oil boom", from 1890 to 1918, Baku exported most of its oil via Georgia and the Black Sea and it was the second biggest oil producer in the world after the US (in fact in 1912 over 20% of the Shell company's global production went via this route and to markets as far away as Singapore).

Since September 1994 the Azerbaijan International Operating Company (AIOC) has invested 8 billion Euros, in the 30-year contract to develop the three ACG fields, whose total reserves are estimated at 3–5 billion tonnes. Azerbaijan has taken great care to assure that multiple foreign powers and companies have a stake in the expected oil boom, for both economic and geopolitical reasons. Azerbaijan will get

80% of oil revenues – projected to be roughly EUR 80 billion – over the contract term.

Since independence around USD 33 billion has been invested in the country's hydrocarbon sector, and it is expected that total investment in that sector will surpass USD 60 billion by 2030¹. The export infrastructure provides commercially attractive and safe export to the international oil market not only for Azerbaijan, but also for other countries of the Caspian basin. In 2009 an average of 100,000 barrels per day of Kazakh oil were transported from Baku to the Black Sea² – making Azerbaijan a bridge between wealthy Central Asian states and the West. Up to date oil and oil products sourced from Azerbaijan have been exported to 33 countries in the world, including the USA, UK, Italy, Israel even Singapore.

Figure 1 Oil production in Azerbaijan (million tonnes)



Source: SOCAR

Gas & markets

So, Azerbaijan is generally satisfied with the results of its oil policy and in particular with the amount that it has been exporting to world markets; it now wishes to maintain this situation for as long as possible. However, the situation with gas is much more complicated. It is well known that for gas export to be successful and economically profitable there needs to be a strong bond between production and consumption; without some guarantee of demand it does not make sense to supply. Since 2007 up to date Azerbaijan has become a significant gas exporter country. Today countries neighboring with Azerbaijan, such as Russia, Georgia, Turkey and Iran, benefit from the contribution that Azerbaijani gas has made to their energy security.

¹Azerbaijan State Statistic Committee.

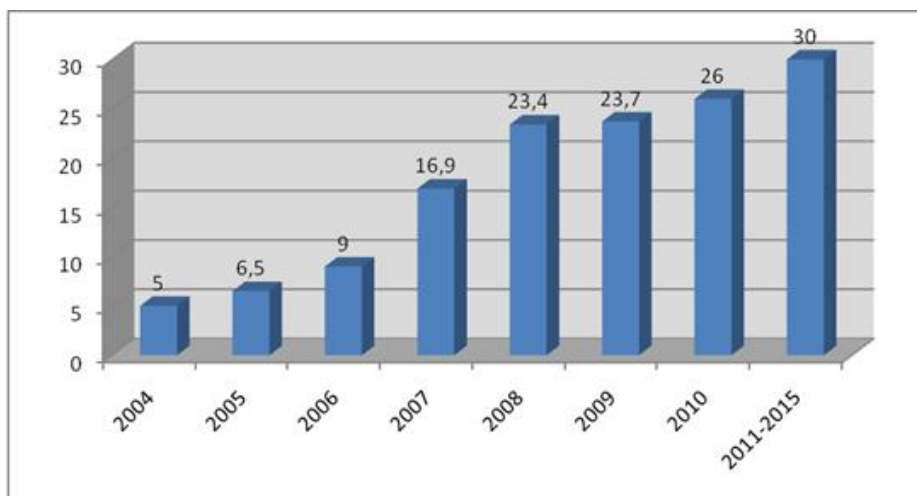
²http://www.azernews.az/en/Oil_and_Gas/29002-Kazakhstan_seeks_to_resume_BTC_oil_exports.

One of the early exploration projects in the Azerbaijani sector of the Caspian focused on what is now known as the Shah Deniz field, in the spring of 1999 a consortium led by BP Amoco and Statoil discovered that this was a supergiant field, containing mainly natural gas – accompanied by significant volumes of liquid condensates. According to the proved estimates this field contains 1.2 trillion cubic meters of gas and 300 million tonnes of condensate; so far USD 4 billion has been invested in exploration and development of first stage of the field. Up to USD 20 billion will be invested in development of the second phase of Shah Deniz. From 2007 up to date 100 billion cubic meters (bcm) of gas was extracted in the country, of them 21 bcm have been exported to the nearby markets. If Azerbaijani policy during the first phase of Shah Deniz was mainly driven by political and geopolitical challenges, in respect of the second phase (SD-2) the country seeks to give top priority to commercial principles – in particular as the government has to guarantee the reimbursement of all costs to investors.

In 2017 when SD-2 phase will come on stream the gas production may proceed to reach as much as 55 bcm per annum; and so – with a projected national consumption of 15 bcm – up to 40 bcm of gas output will be available for export. From 2017 the country's main aim is to access the most lucrative, stable and the best legally regulated market – the EU market and establish its position there for long run. Azerbaijani State Oil Company SOCAR is currently conducting negotiations with all the potential buyers within the Southern Gas Corridor, which includes the Nabucco, ITGI and TAP projects; the country and the Shah Deniz project will make its strategic choice by determining the most valuable commercial offers and in particular long-term viable transit and transportation tariffs.

Azerbaijan as all the other gas producer and gas exporter countries is keen to have an access to a lucrative and stable market but it does not want to rely on a single national market. The country's target is to have multiple buyers locally as well as more widely. Azerbaijan wants to be important for the EU as energy state but not a monopolist energy exporter. In accordance with its diversification strategy, Azerbaijan has made efforts to widen its export options and to access as many markets and evacuation routes as possible; it can only progress by being an exporter, but it does not have direct access to open sea.

Figure 2 Gas production in Azerbaijan (billion cubic meters)



Source: SOCAR

Azerbaijani gas is seen as key to the Southern Gas Corridor concept; without it none of Nabucco, ITGI, TAP (possibly also White Stream) can be implemented. This was made very clear in the Memorandum of Understanding signed between Azerbaijan and European Commission during an official visit on January 13 by Commission President José Manuel Barroso to Baku where Azerbaijan is stated “as a substantial contributor to – and enabler of – the southern gas”. This new supply route will enhance the energy security of European consumers and businesses.

Recent development regarding the signing of the Memorandum of Understanding between SOCAR and Greece's national gas company DEPA, showed political support of Azerbaijan for ITGI and TAP. It is clearly stated in the Memo that the “SOCAR-DEPA gas sale contract to Greece, via Turkey, will serve, among others, as a breakthrough movement for the establishment of direct energy links between Azerbaijan and Greece” and most importantly “an official opening of the Southern Corridor”. Thus, the Southern Corridor might start with ITGI and TAP instead of Nabucco. The EU should encourage the ITGI and Nabucco consortiums to work together in securing Azerbaijani gas so that both projects can come on stream within the Southern Corridor, starting with ITGI southward in a first phase and then follow Nabucco's original planned route northwards to Austria in a second phase. In any case it is vital for Azerbaijan (and the Shah Deniz project) that sales routes are available for the additional SD-2 volumes.

After 2017 Azerbaijan may have significant additional export potential and as the country has not a direct access to open sea it still has to decide how best market its gas. In accordance with Azerbaijan's strategy for diversifying energy markets and export routes, the country is seeking to enter new markets not only within the region, but also distant huge and growing markets such as those in Asia, including India and China. Given the increasing importance of global

LNG trade, Azerbaijan is considering whether there are options to diversify its energy exports through LNG and has already launched a project named AGRI whose aim is to look at how Azerbaijani liquefied gas can be delivered to world markets via the Black sea. Though still challenged by difficult economics, the recent announcement by the Turkish government of a "Bosporus canal" project makes LNG export from the Black Sea a lot more credible. Azerbaijan has also suggested to deliver up to 5 bcm annually to Ukraine; and especially if the Bosporus canal proceeds it is very likely that country will want to diversify its energy sources by building a regas terminal on the Black Sea.

Conclusion

Azerbaijan clearly aims to become one of the main players in the European gas market after 2017 when Shah Deniz 2 will come on stream. However, Azerbaijan is a new and small player, which has to make its way in a highly competitive market. It neither expects special political treatment, nor any monopolistic position. SOCAR's target is to access multiple buyers, multiple pipelines, and multiple

transportation routes both inside and outside the region. Azerbaijan wants to gain importance to the EU as an energy state – it wants to build a reputation as a reliable supplier and commercially focused partner rather than as a player of ultimately pointless geopolitical games. In the long run Azerbaijan needs to diversify its economy away from oil & gas dependence, and to do this it needs to find sophisticated, innovative, long term economic partners.

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Armenia – the energy security or the failed diversification

By Sevak Sarukhanyan

The energy crisis in Armenia at the beginning of 1990-s immediately after the collapse of the USSR came to prove that failure of the energy system might be caused not necessarily by the absence of the power generating capacities, but by the impossibility of the fuel imports. The energy supplies through the territory of Azerbaijan were halted ensuing the conflict in Nagorno-Karabakh, and since the early 1990s the only supply route remaining was the one through Georgia, which had been suffering a political crisis and disintegration. Though in Armenia never an official energy strategy has been adopted, since 1990-s, the need of diversification of the routes of natural gas import and construction of new electricity-generating units became central elements of the national energy policy. The diversification policy included several ambitious projects:

1. Construction of a gas-pipeline from Iran¹;
2. building a new unit at the Armenian Nuclear Power Plant with capacity of 1000 MW;
3. construction of the 5th unit at Hrazdan Thermal Power Plant with capacity of 440 MW² and installation of a new gas turbine unit with capacity over 300 MW at Yerevan Thermal Power Plant³;
4. construction of new hydro power plants (200–400 MW).

Though the new energy projects looked ambitious for Armenia and some of them have almost been successfully realized, the natural gas and the nuclear energy will remain the key components of the national energy system, giving a chance to say that the diversification policy has partly failed, because of the economic and political risks of dependence on natural gas and nuclear energy.

The Russian “Iran-Armenia” pipeline

The main question which should be asked for understanding the importance of the Iran-Armenian gas-pipeline must be – why it has been constructed?

Here can be several answers and among them the mains are: 1) for diversification of the Russian gas import, 2) for diversification of transit routes of gas import, lessening Armenia's dependence from Georgia. It should be mentioned that the Armenian government has never made a clear statement on the aims of the pipeline, so these two points have been only issues for discussions among experts. Anyway from the beginning of the pipeline's construction Russian giant “Gazprom” livened up its attention to the Armenian-Iranian energy cooperation and succeeded in negotiations with the Armenian government on Russia's participation in the project. As a result Gazprom bought the Armenian part of the pipeline at 2006 and, according to the same deal, the 5th Unit of the biggest Hrazdan heat power-plant, which was

proposed to use the Iranian gas for producing electricity for exporting it to Iran among the deal “gas instead of electricity”. After getting control over these 2 capacities, Russia became a determinative actor in Armenian-Iranian energy deal and, in some mean, changed the Armenian government as the main partner of Iran in Armenia's energy market. Possibilities, given by the involvement in Armenian-Iranian energy cooperation, has been used by Gazprom for pressing the perspectives of the Armenian-Iranian energy cooperation: the construction of the Iran-Armenian gas pipeline finished at 2008 but nor Gazprom's Armenian branch ArmRusgazprom, nor Hrazdan power-plant have been buying the Iranian gas as, according their arguments, they didn't need it. The first Iranian gas entered Armenia only after the end of the modernization of the state-owned Yerevan heat power-plant at 2010, which started buying the Iranian gas for producing electricity and exporting it to Iran.

As to the minimizing of Georgia's role for the transit of the natural gas to Armenia, the Iran-Armenia pipeline nominally solved this problem, offering a possibility to import maximum 2.3 billion cubic meters of natural gas to Armenia in a situation when the domestic consumption reached its maximum in 2008 – 2.1 billion cubic meters. At the time a question of the price for the Iranian gas is still open for Armenia: according to the ongoing Armenian-Iranian contract Armenia pays for 1 cubic meter of the Iranian gas 3 kWt/h of electricity. The perspective when the transit of the Russian gas through the Georgian territory to Armenia stops will make the Armenian side buy the whole gas needed for domestic consumption from Iran and a new contract between the countries must be signed. Today there is no clear idea how much Armenia will have to pay for the Iranian gas, and this somehow lessens the importance of the pipeline.

The Georgian itself pipeline keeps several problems for Armenia:

- the technical condition of the pipeline is unsatisfying, as no serious investments has been made after the collapse of the USSR for its modernization,
- the perspectives of a new Russian-Georgian conflict seem at least theoretically possible and if a new war starts the functioning of the pipeline may stop,
- Azeri company SOCAR plans to buy the Georgian part of the gas-pipeline Russia-Armenia⁴.

SOCAR's plans look dangerous for Armenia because of the ongoing Armenian-Azeri conflict over Nagorno-Karabakh. Of course it will be hard for SOCAR to stop the transit of Russian gas to Armenia and proclaim that it is done due to political reasons, but technical reasons can be used: the functioning of

¹ Completed at 2008.

² Completed in the middle of 2010.

³ To be completed at the end of 2011.

⁴ Helena Bedwell - Azerbaijan and Georgia in Talks Over Sale of Pipeline // Jan 21, 2011, <http://www.bloomberg.com>.

the pipeline can be stopped with a purpose of its modernization which practically can take long months, collapsing Armenia's heat energy system.

The new nuclear power-plant and who is going to pay

The second strategically important issue of Armenia's energy security is the construction of a new unit of the Armenian NPP instead the acting one, which is going to be closed at 2016. December 3, 2009 the Government of Armenia approved the draft resolution to establish a closed joint-stock company "Medsamorenergoatom" CJSC to build a new unit for the Armenian NPP. The Russian company Atomstroyexport and the Armenian Ministry of Energy and Natural Resources incorporated this CJSC with equal shares for each. As announced at the Government session, the new unit with the capacity of 1,060 MW and operational lifetime of 60 years will be equipped with a Russian-made reactor. According to the Armenian Prime Minister Tigran Sargsyan, "The political decision is made. We endorse the establishment of a joint venture with our Russian partners in equal shares."⁵

The Armenian-Russian accord on construction of a new nuclear unit can be regarded one of the major economic achievements of the Armenian government in recent years, which became possible thanks to wisely drawing on the Russian interests in the region. What will be the real cost – mostly mean the political one – of this achievement for Armenia will be clear only after the construction of the plant. The project, planned to start at 2011, will cost USD 5–7 billion according to the preliminary estimates.

In 2009 it was supposed that "Atomstroyexport" will provide half of the project financing through "Medsamorenergoatom", while Armenian government will likely get a loan from Russia to cover the financing of the other half.

But the future negotiations between Armenian and Russian governments showed, that there are some problems for getting even the half of money from Russian part. At August 20, 2010 during the official visit of the Russian president Dmitri Mededev to Armenia Roastom's head Sergei Kirienko and the

Armenian Minister of energy Armen Movsisyan signed an agreement on "Technical and financial cooperation for the construction of new nuclear power-plant in Armenia". During his press-conference S.Kirienko said, that Russia is ready to pay only 20% of the total construction cost and the other part should be found by "Medsamorenergoatom" in an independent way⁶.

This can be considered as a viable change in the project, as the Armenian part should look for additional donors for the power-plant. It should be a big problem for Yerevan, as 1) the Armenian government cannot become a serious investor for USD 5–7 billion project with an annual state budget of little more than 3 billions, 2) because of the closed Turkish-Armenian border the export of the produced at the future NPP electricity to the biggest Turkish market looks impossible, which threatens the attractiveness of the Armenian NPP project for potential investors.

After August, 2010 the Armenian Ministry of Energy and natural resources and the Government too started negotiations with European, Chinese and American donors for getting money for the construction. Though the Deputy-Minister A.Galstyan declared in October, 2010 that there is a huge interest among the possible donors⁷ there are no real events and agreements, proving his words. The donor-conference, planned to be organized at April 2011, failed. At the same time Armenian Energy Minister's declaration that Armenia will not shut down the functioning power plant in 2016 if it has not another one almost built⁸, seems to be fact, proving that the new plant will not be built soon. Theoretically Ministers's words may mean that if Armenia never gets enough money for a new unit, the acting old one – which got a lot of security concerns⁹ – will never been closed.

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⁶ Radio Liberty – Armenia // <http://www.azatutjun.org/articleprintview/2133108.html>.

⁷ <http://news.am/rus/news/33361.html>.

⁸ Россия может построить новый атомный энергоблок в Армении до 2017 года // Документ: <http://www.regnum.ru/news/1375054.html>.

⁹ Paul Brown - EU halts aid to Armenia over quake-zone nuclear plant // The Guardian, Wednesday 2 June 2004, Marianne Lavelle and Josie Garthwaite - Is Armenia's Nuclear Plant the World's Most Dangerous? <http://news.nationalgeographic.com/news/energy/2011/04/110412-most-dangerous-nuclear-plant-armenia>.

⁵ <http://www.regnum.ru/news/1231523.html>.

NGOs in Kyrgyzstan and their role in immediate peace and stability operations after the 2010 June inter-ethnic conflict in the south of Kyrgyzstan

By Aida Alymbaeva

What are they, NGOs in Kyrgyzstan?

While building an independent post-Soviet Kyrgyzstan in early 1990s, there was risk of the country's return to the former communist authoritarian regime and this had forced Western countries to support the establishment of civil society organizations, including NGOs in the country. The NGOs were primarily seen by donors as players in maintaining a system of checks and balances and bearers of a new value system – democratic. Therefore, civil society organizations, including NGOs, were regarded as the key institutions in ensuring democracy and thus, they were given much attention and backing from Western donors.

During the last two decades from early 1990s till 2011, known as the era of the last two semi-authoritarian regime rulers, Askar Akaev and Kurmanbek Bakiev, NGOs served as the guards of democratic values such as freedom of speech, demonstrations and association. They monitored government actions in political spheres – elections, policy-making and government appointments and protested against their policies when they violated democratic norms. In such protests, a few NGOs joined the oppositions movements created at various stages of political development in the country. Although the members of opposition movements were changing with some of them leaving the political arena and new actors appearing, many NGOs remained committed to the principals of social equality, democracy and rule of law.

In Kyrgyzstan, NGOs have also succeeded in gaining a reputation as the most important players in the social sphere. Most NGOs provide valuable services in the healthcare, education, environment, and social safety net sectors, thus acting as a substitute for government in providing social services. The number of NGOs, according to the Kyrgyz Justice Ministry as of January 2011, has reached 7726 (2804 foundations, 4263 public associations and 659 non-for profit legal entities). However, the existence of a large number of NGOs does not necessarily represent a guarantee of their sustainability. NGOs remain largely dependent on donors' funding while government, businesses and NGOs members are unable to donate funds for their activities yet. Although as the sector, NGOs have become very vibrant and diverse domain, only a quarter of all registered NGOs in Kyrgyzstan are active. Yet, active NGOs continue providing monitoring, advocacy, training, human rights protection, environmental and other wide range of social services to their communities. As a result, NGOs have become an important and sometimes influential actor in political and social domains.

Inter-ethnic conflict in the south of Kyrgyzstan of June 2010

The interethnic conflict between ethnically Uzbek and Kyrgyz citizens had inflamed in Osh city in the south of Kyrgyzstan on June 10 and two days later carried on in Djalal-Abad Province. This conflict was a tragedy for the country, during which around 470 people lost their lives, about 2,800 houses were damaged and many businesses destroyed. International and local human rights organizations reported massive human rights violations against detainees kept by law enforcement bodies. This factor, among others, has led to many citizens, especially ethnic Uzbeks, fleeing Kyrgyzstan to other countries and largely Russia. The conflict has been the question for interrogation by four different commissions such as the National Commission, International Commission, Kyrgyzstan's Ombudsmen Office and the Kyrgyzstan's Parliamentary Commission. The main reasons of this conflict are interpreted to be complex, including poverty, unemployment, especially among young people, low access to government positions in law enforcement bodies, prosecutor's office, tax, customs, courts and other central government offices, restricted access to policy making for ethnic Uzbeks, and political power gap created after the overthrow of former President Kurmanbek Bakiev that led to the power struggle among various national political actors.

Immediate post-conflict peace and stability operations initiated and run by NGOs

The inaction, inability as well as the reduced legitimacy of interim government and self-governing bodies in Osh and Djalal-Abad provinces to control situation in the aftermath of the inter-ethnic conflict, had forced NGOs to quickly mobilize their and external resources, launch urgent initiatives and ad-hoc structures (e.g. a Regional Humanitarian Forum) for undertaking humanitarian actions, restoring the rule of law and initiating peace building endeavors.

A Regional Humanitarian Forum (RHF), a network of 17 NGOs working in Osh and Djalal-Abad provinces, was created to unite resources of NGOs for joint coordination of humanitarian assistance, post-conflict reconciliation, exchange of information and ensuring transparency in providing government assistance (e.g. housing loans) to the victims. Local authorities understanding their incapacity to urgently and efficiently render the social services to the victims have approached NGOs to become their partners in post-conflict reconciliation process. A Memorandum of Understanding was signed between the RHF and the State Directorate for Reconstruction and Development of Osh and Djalal-Abad Provinces, a newly created government agency. Since the conflict started, the

RHF members have been closely monitoring activities of the Directorate. NGOs believe that if there would be no any monitoring assistance from NGOs over activities of the Directorate and other public agencies, the government, which still remains highly corrupted and mono-Kyrgyz, would have been unjustly distributing the public funding for building houses among ethnically Kyrgyz and Uzbek residents, allocating loans for businessmen or lacking a transparent process in selection of contractors for a large housing projects. The RHF also successfully lobbied to include in resolutions of the Directorate the interests of various vulnerable groups such as children, who lost their parents in the June events, families who lost their breadwinners and businessmen, who lost their businesses.

One of the urgent and highly demanded services, which were subsequently provided by NGOs, was the legal assistance in preparation of documents to the Real Estate Agency for lost or damaged houses, the Passport Office of the Internal Ministry for lost identity cards, courts to defend interests both of Uzbek and Kyrgyz victims and papers for other government institutions. The example of one local NGO – Center for Assistance in International Protection, which provided legal assistance to more than 4,000 people from two ethnic groups, Kyrgyz and Uzbeks since the conflict inflamed, demonstrates that NGOs were able to provide legal assistance to a wide group of peoples. NGOs also opened several free telephone hotlines worked 24 hours within several months to deliver legal advice for people from the affected areas.

While international NGOs were busy with and quite slow in mobilizing their resources for humanitarian assistance, local NGOs were first institutions to start organizing humanitarian aid in northern provinces and distributing them to the affected areas. Moreover, the reduced legitimacy of central and local governments led to only NGOs being allowed to penetrate Uzbek residential areas (mahallya) for distribution of humanitarian assistance within the first post-conflict days. Overall, NGOs remained to be reliable mediator between the law enforcement bodies, self-governing and central government structures and the community members, especially of Uzbek ethnicity, in promoting many issues related to health, safety, human rights, children and housing issues - the primary security issues.

Due to the inability of Kyrgyz mass media outlets to rapidly and fully cover the conflict and post-conflict situation in the south of Kyrgyzstan, NGOs were first entities at the spot to disseminate information among local communities about medical, humanitarian, legal, psychological and other assistance provided to the victims and local community members by government, donors and other actors such as volunteer groups created by ordinary people and business companies. For this purpose, NGOs were also able to organize mobile groups in different districts of Osh in order to distribute information first hand because Internet, TV and radio outlets were idle within the first two weeks after the conflict has started.

When many human rights violations were committed by local police against detainees, many NGOs continued calling for reform of police structures in the country, an initiative they had been advocated for a long time. As a result, NGOs have been elected as the members of the Advisory Board at the Kyrgyz Internal Ministry and are currently working on the strategy for reforming of this Ministry. Moreover, several ethnically Uzbek policemen were recruited, including a female policewoman, by the Osh City Police Office. The Internal Ministry has declared that it will recruit more policemen among ethnically Uzbek and other minorities in the country.

The psychological (post-trauma) assistance rendered by local NGOs to the victims was very considerable. NGOs opened a few hotlines for psychological assistance, organized private consultations and medical treatment for the victims. They were able to invite psychologists from previous conflict zones such as Russian experts, who worked in the Northern Caucasus, Russia. They also organized rehabilitation medical treatment for a variety of groups such as children, parents of children, local journalist or school teachers in Bishkek and Issyk-Kul provinces.

NGOs also remained a good communicator and service-provider of programs by international donors. It would be much more difficult to have a wide coverage of international donors' peace building activities in the south of Kyrgyzstan without support and assistance of local NGOs.

Conclusions

When there was a lack of state power and inability of central and local government to quickly react to the post-conflict situation in the southern Kyrgyzstan in summer 2010, the NGOs, which suffer from chronic lack of funding for their social projects, were able to rapidly mobilize their limited resources – financial, human, information and networking – in order to address the urgent security issues such as safety, health, housing, food, information and human rights. NGOs were first institutions appeared at the spot to report a situation in the conflict zone, first to demand for rapid humanitarian assistance and first to render humanitarian, legal, psychological and other social assistances to the community members. If there was a lack of such active and community-oriented actor – NGOs, it seems it would have been harder to guard and promote security, still vulnerable in the conflict zone, but existing.

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