IX. ASSESSMENT RESULTS ACROSS REGIONS

Through the examination of existing regulatory frameworks and their operation in relation to accepted best practices this Assessment seeks to provide guidance and direction for further power sector reform and development in the EBRD countries of operations. One of the challenges has been to provide enough insight to the respective countries’ frameworks and operational environments while maintaining data and analysis at a level that would enable viable cross-country and regional comparisons. While acquiring information on the markets of central Europe is not difficult, that task becomes progressively more difficult as one proceeds eastwards. While we have endeavoured to include as much information as possible on the market and institutional structures the absence of data from the earlier transition countries has made comparative assessment challenging. One overarching objective is to provide a platform to understand the energy sector structures and operations in the Group C countries and to offer a model to assess them. These countries, unlike those in Groups A and B, have no umbrella framework or model that offers direct oversight of their progress. As discussed below, the EBRD countries which are EU member states and the Energy Community contracting parties and observers are part of increasingly active monitoring structures.

1. Group A Countries (EBRD Countries of Operations which are EU Member States)

a. Sector obligations/commitments for Group A countries

EU Members have committed themselves to a host of obligations, reflected in the *acquis*, including the Directives, regulations and other mandates. While subsidiarity98 remains a linchpin of the EU framework, as the recent entry into force of the Treaty of Lisbon99 and adoption of the enhanced set of energy directives set forth in the Third Energy Liberalisation Package100 indicate, the

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98 “Subsidiarity,” the legal foundation of the relations among EU Member States as established in the Treaty of Maastricht in 1992, is an organising principle, with some similarities to federalism, based on the concept that matters ought to be handled by the least centralized authority, so that only those matters that must be addressed at the regional level are so delegated. The current formulation of the concept provides:

*In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community.*

(Article 5(2) of the Treaty Establishing the European Community)

99 The Treaty of Lisbon, which came into effect 1 December 2009, creates a long-term President of the European Council and makes other changes to strengthen and streamline decision-making at the regional level. The purpose of the Treaty as stated in its preamble is to “enhanc[e] the efficiency and democratic legitimacy of the Union and to improv[e] the coherence of its action.”

100 The Third Package is made up of two directives and three regulations:

The general direction continues toward a more vertical and streamlined decision-making process under which closer integration will continue. The Third Package (entered into force in 2009 with implementation targeted for 2011), supersedes existing energy Directives and strengthens unbundling between production and supply; harmonises and strengthens the duties of national regulators, giving them enforcement and penalty powers, while increasing their autonomy. With respect to energy regulators in particular, the Third Package gives stronger and better defined powers to the regulators, including the ability to issue binding decisions on companies, take appropriate measures in cases where the functioning of the gas and electricity markets is insufficient, and impose penalties on companies that do not comply with their legal obligations or with regulatory decisions. The new legislation also provides considerable clarity on issues of removal, term, independence and budgetary autonomy which were previously left to best practice but now enshrined in mandatory requirements, including limited for cause removal, separate authority over its own budget and management for a five to seven year term, renewable only once.\(^{101}\)

In addition, the Third Package creates new regional organisations of regulators (ACER) and transmission operators\(^{102}\) to harmonise and coordinate activities.\(^{103}\) The objective of ACER is to assist the national energy regulatory authorities and to coordinate their actions as proves necessary; ACER is authorised to issue opinions and recommendations, make decisions in specific cases, and submit framework guidelines on access to electricity and gas networks.\(^{104}\) ACER promises to bring a monitoring and oversight function to energy regulation in the EU, thus facilitating the more rapid harmonisation of frameworks and ultimately, greater efficiency and transparency of trade between EU Member States.

The countries studied under this Assessment, which are the more recent entrants in the EU,\(^{105}\) have advanced in many respects faster than the other countries in which the EBRD invests in large part as a result of membership, which brings with it:

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\(^{101}\) The Third Package also brings important changes to the energy sector that relate to customer choice and to market structure and operation. In particular, the Third Package encourages ownership unbundling, i.e., separating ownership (viewed as closely related to control) of generation and supply from ownership of the transmission system operator. Minority ownership of an undertaking is allowed, as long as minority ownership does not come with decision-making rights. The idea, hotly debated during the consultation period for the Third Package, is that ownership of network, supply and generation will result in a company making commercial decisions that favour all aspects of its operations, in turn minimizing the options for third parties to enter the market. Where a transmission operator is an independent company it has no considerations regarding profits of individual supply or generation but instead looks to maximizing the profit of the operator to the benefit of the network. Though not favoured, the third legislative package includes two alternatives to ownership unbundling: the independent system operator (ISO) and the independent transmission operator (ITO) structures, both of which place strict requirements on autonomy and independence of the operator.

\(^{102}\) Regulation (EC) No. 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No. 1228/2003 is part of the Third Package and sets out rules for cross-border exchanges in electricity to secure supply, enhance competition and the development of a well-functioning and transparent wholesale electricity market. This Regulation establishes a European Network of Transmission System Operators for Electricity (ENTSO) to promote the internal market in electricity and cross-border trade, as well as development of the European electricity transmission network.


\(^{104}\) The Third Package provides that the Agency comprises an Administrative Board, a Board of Regulators, a Director, and a Board of Appeal. ACER is expected to start running in the spring of 2011.

\(^{105}\) These are: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.
Pressure to reform. Aside from Treaty obligations, these countries are subject to national reporting requirements and EC investigation and litigation.

Access to resources. EU membership includes financial support and access to training, education and institutional assistance and participation, including access to the Council of European Energy Regulators (CEER) and the European Regulators Group for Electricity and Gas (ERGEG).

These twin factors have, unsurprisingly, led the newer EU Members to progress more rapidly toward reform, consistent with the EU goals of internal harmonisation and a borderless market.

At the same time, some smaller new members have concerns about protecting their domestic energy providers, for both economic and security of supply reasons. Eighty percent of the electricity sector in Slovenia remains publicly owned. While economic exigencies led Hungary to privatise much of its generation and distribution early on, with sales to large international enterprises, the ongoing experience with MVM and long term power purchase agreements also show the difficulty in achieving reforms that reduce domestic ownership and control. As reflected in the country profiles, incumbents typically retain much of the domestic markets. Tensions between national interests and the expansionist goals of vertically integrated utility groups outside these new members (e.g. E.ON, RWE, EDF), seeking to enhance their dominance of Europe’s energy market, could lead to competition litigation and wariness in facilitating new entry in domestic markets.

In sum, the nature and content of the EU Member States’ regional commitments have made steady, but deliberate progress.

b. Regional considerations for Group A countries – electricity

Developments in the electricity sector are influenced by technical connection constraints, such as the isolation of the Baltic market from the remainder of the EU. While for historical reasons, infrastructure pointed east, new connections are needed north and west to facilitate an EU-wide borderless market, a primary goal of the Baltic States.

The size of the EU-wide region also necessitates some sub-regionalisation, which leads to debates regarding to which sub-regional market a new entry should belong. Because a few of the new entrants (Group A countries) also lie at the EU’s eastern borders, they provide the transit area from non-members to members, and must frame their markets to facilitate trade both within the EU and with their neighbours outside of the EU zone. For example, Slovenia, given its location, is participating in two of seven ERGEG’s Regional Initiatives as well as Energy Community’s “the 8th Region.”

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106 The Regional Initiatives are seven electricity markets and three gas markets within the EU, in which national regulators cooperate to harmonize rules and practices to facilitate the single internal EU market. The initiatives relevant to this study are the Baltic initiative (Estonia, Lithuania and Latvia), the Central East initiative (Austria, Czech Republic, Germany, Hungary, Poland, Slovakia and Slovenia) and the Central-South initiative (Italy, Austria, France, Germany, Greece, and Slovenia). Further discussion of the regional initiatives can be found in the ERGEG and CEER website, http://www.energy-regulators.eu. The 8th Region, consisting of (among others) Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, FYR Macedonia, Montenegro, Romania, Serbia and Slovenia, is an effort to implement a common procedure congestion management and transmission capacity allocation on a regional level. See http://www.energy-
A disparity of domestic resources among members can also lead to challenges at an individual country level that must be viewed not only at that level, but in the context of that country’s regional obligations. For example, the shutdown of the Ignalina nuclear power plant, itself precipitated in part by Lithuania’s EU membership, creates resource needs that Lithuania must address within the context of its environmental and other commitments. Bulgaria faces a similar challenge with the closure of its nuclear facility, which was a condition for the country’s EU membership. The newer members, generally speaking, are greater supporters of nuclear energy (though France, one of the originating EU Members has long supported nuclear power despite strong opposition from its neighbours) and less supportive of further environmental constraints than their more longstanding counterparts.

One common challenge faced by most Group A countries of operations relates to the use of natural gas as a power plant resource. With the majority of natural gas coming from one source – Russia – EU Members are seeking to diversify through additional infrastructure to gain access to other sources, reduce demand and increase investment in other sustainable resources. Given their location and greater dependence on Russian resources, the newer members feel a relative greater urgency in this area of security of supply, also colouring their approaches. This is discussed more fully in the gas section, though it is important to emphasise that the gas issues directly impact electricity due to the use of natural gas as power.

Hence, challenges faced for the smaller new entrants include enhancing competition in a net import market with limited cross-border capacity. Countries like Estonia with domestic resources similarly lack incentives to accelerate or facilitate new entrants. As to the larger new entrants, Bulgaria is struggling to keep up with demands for market development; Poland has done well but faces the challenge of meeting environmental constraints in the face of its dependence on coal; while OPCOM, the Romanian power exchange, is one of the most liquid platforms in central and Eastern Europe, with turnover of almost 15% of all electricity consumption in June 2009.107

### c. Regional considerations for Group A countries – gas

One of the most important regional considerations for the natural gas market in the EU is security of supply. The gas supply disruption of January 2009, which resulted from the Russia-Ukraine transit crisis, revealed weaknesses in the existing import arrangements and in particular, the level of risk exposure of the Eastern part of the internal EU gas market. For historical reasons, gas markets in Central and Southeast Europe lack sufficient network integration and supply portfolio diversification. At the moment Western Europe gas flows go in two directions, allowing import and export of international gas into and from its networks. In Eastern Europe, however, one legacy of the former Soviet Union is the fact that pipelines allow gas to flow only from East to West, bringing gas from Russia but not allowing gas from the West. In addition, the area suffers from insufficient peak storage.

(footnote cont’d)

Last year's interruptions of supply have prompted renewed efforts across the Eastern European region to enhance security of supply. In particular, the South-South-East gas regional initiative (SSE GRI)\textsuperscript{108} has identified a variety of measures aimed at mitigating risks of future supply disruptions. One priority is strengthening of interconnection. Additional measures, which are to a large extent interrelated and overlapping with the priorities previously identified, include: network harmonisation, supply diversification, reverse-flow capability and market flexibility through storage, LNG and hub trading. The implementation of these measures contribute significantly to the security of energy supply in the EU as nearly half of the European transit capacities are transported through the countries of the South-South-East Region.

Steps toward diversification include:

- Liquid hubs, which can allow market participants to complement their supply portfolios in the short-term
- Adequate peak storage capacity, available to all market players, which could mitigate the effects of supply shortage or disruption in a timely and efficient manner
- Improved interconnections between markets – both along the lines of the proposal of the EU Commission’s Second Strategic Energy Review (i.e. North-South interconnection in Eastern Europe) and through new sources (mainly LNG) – and the better use of existing networks (making reverse flows possible), which could provide long-term diversification of supply and reduce substantially individual transit risks

These measures are mutually reinforcing. Importantly, in the event of a supply disruption, coordinated gas dispatching between adjacent TSOs is essential.

Specific interconnection projects that would facilitate proper market response in case of default of one supplier (and as identified by the SSE GRI) are:

- Denmark – Poland (Baltic Pipeline)
- Poland – Slovakia / Czech Republic
- Slovakia – Hungary
- Romania – Hungary
- Germany – Italy, Slovenia (Tauern Gas Pipeline) Southbound transit through Romania, Bulgaria, to Greece and Turkey (which may be upgraded for northward flows)

\textbf{d. Chart for Group A countries}

A comparative view, in ascending order, of the participant of for Group A countries is presented below. The bar graphs show, for the electricity and the gas sector, the total percentage score (to a maximum of 100%) assigned to each participant and its components. As noted, due to graphical reasons, the eight indicators which make up the Assessment Model have been coupled as follows: “institutional framework”, which is made up of indicators 1 and 2 and comprises 30% of the point-scoring potential; “market structure and access”, which is made

\textsuperscript{108} Participating countries are Austria, Bulgaria, Czech Republic, Greece, Hungary, Italy, Poland, Romania, Slovakia and Slovenia.
up of indicators 3 and 4 and comprises 26%; “tariffs and public service obligations”, which is made up of indicators 5 and 6 and comprises 22%; and “transparency and private sector participation”, which is made up of indicators 7 and 8 and comprises 22%.

### Electricity sector in Group A countries

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<th>Country</th>
<th>Institutional framework</th>
<th>Tariffs and public service obligations</th>
<th>Market structure and access</th>
<th>Transparency and private participation</th>
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### Gas sector in Group A countries

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<th>Market structure and access</th>
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e. **Trends in Group A countries**

Drivers at the EU level will be the implementation of the recently adopted Third Energy Liberalisation Package and the EU Climate and Energy Package, and the general issue of security of supply. The treatment of vulnerable populations is also a priority. The creation of a new Agency for the Cooperation of Regulators (ACER) provides an additional vehicle for harmonisation and adoption of good practices resulting from lessons learned.

In June 2009, the European Commission launched an infringement proceeding against 25 member states (all but Cyprus and Malta) for failure to comply with its legislation on developing an internal energy market, focusing, on lack of transparent, simple and inexpensive procedures to address consumer claims, lack of transparent access to cross-border electricity and gas network infrastructure and market distortion caused by regulated pricing. Attention must continue to be paid to reforms in these areas.

f. **Conclusions for Group A countries**

Overall, as expected, the Group A countries perform better than non-EU Member States. The majority of the best practices that underpin the benchmarks in the Assessment are included as part of the EU energy *acquis* and promoted through
regional cooperative bodies. Generally speaking, within Europe, the Baltic States and Southeast Europe show the greatest growth in demand for electricity, which means the development of the institutional oversight and market controls will take place in an environment seeking to repress demand and increase supply.

2. Group B countries (EBRD Countries of Operations that are Contracting Parties or Observers to the Energy Community Treaty)

a. Sector obligations/commitments for Group B countries

The Energy Community Treaty (EcT) countries, contracting parties and observers, while not obliged to adopt and follow all EU requirements, still look to the EU model as its cohesive template and, at least with respect to signatory aspirants to accession, bind themselves to much of the basic structures and best practices contained in EU mandates. While obligations on the EcT contracting parties are less demanding than for EU Members, and for observer countries commitment is entirely voluntary, the principles embodied in the EU legal framework provide a detailed blueprint, allowing for a harmonising approach among Energy Community contracting parties as well as those looking towards membership. At the same time, these countries have other influences. For Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro and Serbia, the energy systems are influenced by the centralised system previously in place. Similarly, these and other Energy Community contracting parties and observers are influenced by their relationships to the east. In addition, these countries have been the recipients, across the board though to varying degrees, of technical assistance from IFIs and other donors, bringing various levels of reform efforts to the countries and often looking outside the EU for best practice examples.

Unsurprisingly, increasing involvement in the Energy Community, which includes papers, resources and forums that offer guidance on best practices, tends to reflect the emergence of more liberalised and transparent legal and regulatory frameworks. Implementation of these is going slowly, with some policy changes, such as the adoption of a gas law in Albania, and a developing gas law in Bosnia and Herzegovina, are difficult to implement giving the limitations presented by infrastructure and supply. In this region, institutional and legal reforms at the primary law level in particular have been adopted but their implementation is lagging behind, and more time is needed to assess the effectiveness of reforms in practices.

Recent developments toward conditional approval to Ukraine and Moldova to change from observer to contracting parties demonstrate the general direction in this region toward closer and more formalised adoption of an increasingly liberalised market template; Turkey has begun similar negotiations. Transformation in status for these countries, will, for example, require them to commit to implementation of specific EU legislation by dates certain, e.g. Ukraine will have to comply with the 2003 gas and electricity directives, and at present the Government of Ukraine has entered into a Memorandum of Understanding with the European Commission on behalf of the Energy Community, with fixed dates for adhering to market opening and conforming its legislation to the Energy Community acquis.

b. Regional considerations for Group B countries – electricity

Developments in this arena are influenced by historical infrastructure limitations, market size and resources. The geographic location of the Energy Community countries – that is, between the EU and resource rich countries to the east – presents transit potential, promoting pursuit of import infrastructure. In fact, the observer Energy Community countries, with the exception of Moldova (i.e.
Ukraine, Georgia and Turkey) are noteworthy for their relatively larger size and energy strategic positions, which present opportunities for the Energy Community contracting parties and the EU internal market.

The tension noted with respect to the smaller newer EU Members between pressures to facilitate a borderless market and concerns about security of supply and the influence of large multinational companies is even more apparent among the Energy Community contracting parties and Moldova. The region is generally characterised by small systems with limited potential for market liquidity, underdeveloped generation and interconnection capacities, and lack of harmony in allocation of cross-border capacities (though, as discussed below, the latter is the subject of much work over Coordinated Auction Office (CAO), which seeks to bring harmonisation and efficiency to trading arrangements and operations). Bilateral trading remains the main form of trading, with the introduction of day-ahead markets awaiting legal and regulatory frameworks, including harmonised balancing mechanisms and congestion fees.

Importantly, participation of Moldova and Ukraine in the energy markets to their west is challenged by infrastructure limitations; Moldova borders Romania but its network is not synchronous with the European network. Development of electricity interconnections among Romania, Moldova, and Ukraine and western countries are infrastructure priorities.

c. Regional considerations for Group B countries – gas

The gas markets across the Energy Community contracting parties are small and fractured. Montenegro and Albania lack a gas market, and the gas markets in Bosnia and Herzegovina and most of the FYR Macedonia are at only the initial stage of gasification. As a consequence, there is a pressing need for further gasification in much of southern and western Serbia, and southern Croatia. The gasification of the region requires large up-front investments, both in the form of new pipelines and construction of new capacity for the markets.

It is recognised that the small size of these markets is such that it would be difficult to establish new bulk transmission lines to supply these markets alone. However, the fact that there are a number of proposals for major transmission lines which will cross the Balkan region en route to supplying major markets in Western Europe opens the possibility for spur lines to augment existing supplies to the region.

Currently the markets of the region are energy intensive. Long-term energy growth in relation to GDP growth will be affected by the changing structure of production in the economies, the adoption of more energy-efficient technologies and environmental considerations. If the infrastructure needs are met (a large caveat), natural gas could play a significant role. Availability of resources is not an issue in the medium term, as there are known large-scale gas reserves in Russia, Central Asia, the Caspian region, the Middle East and North Africa (which could supply LNG).

In 2008 a Regional Gasification Study for Southeast Europe,\(^\text{109}\) commissioned by the World Bank, has proposed the concept of gas ring (EC Ring), which would link together many or all of the aforementioned import pipeline projects. The

EC Ring concept involves overlaying the branch pipelines that would arise from each separate major import transmission pipeline (existing and proposed), which together would form a ring connecting the ungasified or low gasified countries of the region (see Figure 1, where the yellow arrows show the possible gas entry points). Analysis is complicated by uncertainty over which of the proposed transmission options will materialise. The EC Ring would be a major infrastructure project, with an estimated overall capital cost of around USD 1 billion. The ring concept is appealing for incremental development; in particular, the first stage of the project should bring gas to new power stations on the Adriatic coast, an area not yet gasified, anchoring in this way the bankability of the infrastructure investment.

**Figure 1 - Energy Community Ring concept.**

With respect to observers of the EcT, the modernisation, management and control of Ukraine’s gas transport system are of particular concern for the region as well as Western Europe given its large gas supply and strategic placement. Without substantial investment in the network, Ukraine is at risk of losing its role of key transit country, with Russia increasingly keen to diversify transit away. The reconstruction and modernisation programme for 2007–2010 announced by Naftogaz Ukrainy in September 2006 (incorporating elements of previous similar programmes announced in 2003 and 2005) estimated costs of modernisation at USD 4.62 billion, most of which will have to come from external sources. The valuation of the Ukrainian transport network is a subject of political and commercial dispute, and estimates vary largely. Two interrelated factors will determine the future management and control of the transport network: (1) the underlying, unresolved conflict between Russia, which continues
to seek ownership and/or management control of the system, and Ukraine; and (2) the urgent need to modernise the network and fund its expansion.\textsuperscript{110} The Government of Ukraine’s commitment in 2009 to modernize Ukraine’s gas transmission system offers significant supply potential for Ukraine’s neighbours and for Western Europe. The commitment is specific in its scope and includes establishment of an independent gas transmission operator, business development plans that are commercial, transparent and publicly accessible, and cost reflective tariffs.

While these steps offer promise for Ukraine’s energy sector and economy, as well as for countries to Ukraine’s west, care must be taken to realise the commitments in a manner that takes account of (and maximises) regional potential.

Similar reforms in Turkey offer parallel opportunities not only for Turkey but for its neighbours and Western Europe alike. Turkey has the potential to become a vital corridor for gas to the EU. In particular, an East-West corridor would be capable of delivering considerable gas supplies from Central Asia and the Middle East to the European gas markets. This route is attractive to many European players and countries as a way to increase security of supply. In fact, two big projects – the Turkey-Greece-Italy Project and the Nabucco Project – are already partially built or in advanced status of planning. However, Turkey can serve as an “energy bridge” to Europe only if it can navigate the political interests with diplomacy and if, through regulatory and related reform measures, it establishes a climate conducive to foreign direct investment.

d. Chart for Group B countries

A comparative view, in ascending order, of the participant of the Energy Community group (contracting parties and observers) is presented below.

Albania, Montenegro, Bosnia and Herzegovina and FYR Macedonia are not included in the comparative view of the gas sector. The first three do not have a gas system yet (even though they have set up an essential gas regulatory framework), and the gas systems of the last two are not sufficiently developed to allow for a full assessment.

\textsuperscript{110}Over the years in which the conflict over control of the network has dragged on, the issue of modernisation has constantly been postponed. Mooted options for the future management and control of the transit system include:

- management by a consortium with 50-50% Ukrainian - Russian participation
- management by a consortium with German (or broader European) participation, as well as Russian and Ukrainian (possibility raised in Kiev by an E.ON Ruhrgas representative in early 2007)
- privatisation (despite lobbying by market reformers in Ukraine, it seems the least likely)
- continued management by Ukrtransgaz
Electricity sector in Group B countries

Gas sector in Group B countries

Notes: (O) stands for observers of the Energy Community Treaty. The results for Serbia do not include Kosovo.

e. Trends in Group B countries

Efforts in the area of facilitation of market transparency, congestion management, transmission capacity allocation, elimination of cross subsidisation, treatment of vulnerable customers, and increased development of renewable energy and energy efficiency are likely priorities. Harmonisation of licensing regimes and other steps to facilitate regional market development are probable near term considerations. Signatory countries will need to focus on meeting their EcT obligations, including the full opening of their markets and great market transparency.

One near term collective step the countries in this group are taking toward harmonisation and cross-market facilitation is the creation of CAO, a limited liability company owned and operated by the Southeast European TSOs and located in Montenegro, to address cross-border transfer capacity. Currently in the Southeast European region, if a trader seeks to deliver across the region, it confronts three different auction offices, with three different time horizons and requirements. Under the CAO, auctions are first coordinated along the same time horizons, using the same rules followed by assumption of unified load flow based auctions on a daily, monthly and yearly basis. The CAO has completed its dry run phase, the relevant entities are entering into a memorandum of understanding, and operations are anticipated to commence in 2011.

As a part of this coordinated effort to manage congestion and facilitated cross-border electricity trade, an eighth European sub-region was identified within which to operate under a harmonised capacity allocation approach, consisting of the
EcT contracting parties, neighbours Bulgaria, Greece, Romania, Slovenia, and the interconnections between the region and Italy. Further ties, such as the construction of transmission lines across Georgia and Turkey are underway. Given the potential for development of Georgian hydro power resources and synergies from export to the Turkish market, both Georgia and Turkey are expected to benefit from increased participation in the Southeast Europe and EU internal market.

In the case of gas increasing attention, to security of supply, resulting from threats to supply or recent interruptions as well as increased energy usage, means that the need for infrastructure development and modernisation – and supporting financing – is no longer set aside as a secondary priority.

f. Conclusions for Group B countries

Progress among the Energy Community countries varies in light of disparate sizes, resources and historical influences. The general direction toward best practices, however, continues and is likely to remain steady largely thanks to the EcT, which aims to extend the EU energy market, in particular the shared trade, transmission and environmental frameworks to the Union’s southern and Eastern European neighbours.

3. Group C Countries – (Armenia, Azerbaijan, Belarus, Kazakhstan, the Kyrgyz Republic, Mongolia, Russia, Tajikistan, Turkmenistan and Uzbekistan)

The countries in Group C (except for Mongolia) are loosely bound together by expectations of a CIS market economy following the break-up of the Soviet Union. Some countries in Group B, like Ukraine, Georgia and Moldova in particular, share a similar history of a unified energy system but for political and economic reasons are moving toward the frameworks of their Western neighbours despite having systems that are synchronous with their Group C neighbours to the East.

This group of countries is, as noted elsewhere, inconsistent, with disparate levels of development, resource and transit/trade potential. For the most part, the countries in this group have received less reform directed attention than those in Groups A and B and as a consequence are less advanced in terms of adoption and implementation of principles reflective of best practices. It is worth noting that, broadly speaking, due to regional proximity as well as possibilities for trade and regional integration with existing and developing infrastructure, Group C can be viewed, in the electricity sector, as loosely breaking into interrelated subgroups: the Caucasus (Armenia, Azerbaijan); Russia; Belarus; Central Asia (the Kyrgyz Republic, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan); and Mongolia. For gas, giving separate consideration to Russia and to areas within and around the Caspian helps understand the specifics of the region’s largest gas market.

a. Sector obligations/commitments for Group C countries

As discussed, a major factor delineating these Group C countries from the EU and Energy Community (contracting parties and observers) countries is the lack of obligation or motivation to conform to the EU or other unitary organisation’s market and regulatory framework. With no umbrella obligatory template to follow, and with sometimes starkly different resource, geographic, political and

111 See generally http://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/ELECTRICITY/Regional Market/CAO. The area is reference the 8th region to follow up on seven sub-regions within the EU identified by ERGEG for specific Regional Initiatives to develop markets within these areas.
historical backgrounds, unsurprisingly, overall this region is marked by less progress on the institutional and market front, with substantial disparities in progress and approaches from country to country. Geographical proximity and resource interdependence, such as the physical interdependence among the Central Asian Republics with respect to hydro power should drive closer cooperation among sub-groups of these countries, to transform current governmental cooperation agreements into unified institutional frameworks. At the same time, the geographic conditions in the region also present immediate challenges to regional trade that must be respected and weighted carefully in any move toward regional agreements. In addition, Group C countries are supported through individual country and regional initiatives that are project and activity specific (key one are discussed in the next sections), but also from other regional and international commitments, including: entry or aspiration for entry into the WTO (e.g., the Kyrgyz Republic’s plans to privatise and restructure Kyrgyzgaz JSC and begin the liberalisation of the gas sector); commitments to the Kyoto Protocol; bilateral pacts and relations, particularly with Russia; and participation in the Energy Charter Treaty process.

Important drivers of regulatory reform in the Group C countries are regional institutions and initiatives, as well as EU, IFI and donor driven bilateral agreements. Participation by the countries in cooperative organisations in particular demonstrates a common desire for liberalisation and harmonisation of the regulatory frameworks in this region. Some noteworthy examples include:

- Energy Charter Treaty, signed in 1994 and entered into force in 1998, is a multilateral treaty encouraging the extensive use of legal methods in solving international economic disputes. The original intention of the Treaty was to facilitate energy flows from east to west but then extended to include three other areas – investment, trade and dispute settlement. The Treaty creates rights and obligations in international law for all of its contracting parties. By 2008, most of the EBRD countries of operations ratified the Treaty with the notable exceptions of Russia and Belarus. Russia’s ratification has been conditional on reaching a consensus on the Transit Protocol, which was intended by the EU to provide for a greater certainty for participants and investors in gas commerce. For Gazprom, however, the Transit Protocol’s provisions would allow uncontrolled transit of central Asian gas to Europe, which would affect its position on the international gas market in price negotiations. The gas transit has become increasingly more important, as exports volumes, and therefore the costs of transit failures, increase. Even though there is not a clear outcome of this stalemate, the Energy Treaty remains the main legal basis for the EU to build its energy relations with the Group C countries (and with the Group B observers). Since the provisions of the Treaty have a direct application in national law, they affect to a large extent the energy policies of most of the Group B and Group C countries.

- the Black Sea Economic Cooperation (BSEC) group, which includes Armenia, Azerbaijan and Russia’s membership, along with membership of some Group B countries and two Group A countries (Bulgaria and Romania), and is directed at promoting good governance among its countries so as to facilitate trade and economic development.\textsuperscript{112}

\textsuperscript{112} The 12 BSEC Member States are comprised of Bulgaria, Georgia, Romania, the Russian Federation, Turkey and Ukraine which are littorals of the Black Sea, as well as Albania, Armenia, Azerbaijan, Greece, Moldova and Serbia.
agreements with the EU such as the EU-Azerbaijan memorandum of Understanding on Energy, signed in 2006, the Baku Energy initiative, launched in 2004, and the INOGATE programme, as well as regulatory bodies in the EU, such as CEER and ERGEG, which good practice guidance through papers and public consultations, engage in some trainings of regulators outside the EU; and in particular support efforts to link regional regulators bodies and individual regulators to improve regulatory practice.

- the Central Asia Regional Economic Cooperation Programme (CAREC), led by the Asian Development Bank, and intended to facilitate trade in target economic sectors, such as energy.

- the Energy Regulators Regional Association, which includes all the Group C countries, along with all Group B countries and the majority of Group A countries. Holding regular presidium and committee meetings on targeted subject areas critical to energy regulation, ERRA’s main objective is to increase exchange of information and experience among its members and to expand access to energy regulatory experience.

- the National Association of Regulatory Utility Commissioners, which conducts exchanges with regulatory bodies internationally and has ongoing partnerships with many of the Group C countries.

- international conferences dedicated to energy sector reform, most notably the World Regulators’ Conference, which is the only global energy conference focusing exclusively on the regulatory aspect of energy markets; the Conference brings together representatives from almost 100 regulatory authorities around the world (last held in Athens in 2009, it meets every three years).

One point worthy of note is that due to the disparities in this grouping, the focus of international assistance and investment is often divided by subgroup. In the case of Russia, a monolith in terms of energy resource, infrastructure and development, investment and reform are more progressed. Reform in Russia has tended to focus on liberalisation of the electricity sector, while reform efforts in surrounding countries often focuses on strategies to limit the monopolistic position of Russia, and diversify in order to promote security of supply. As the CAREC, Baku and Black Sea initiatives make evident, various efforts toward similar goals are underway, but these are disparate and have not resulted in concrete regional guidelines and commitments that place obligations on governments to reform. The latter are particularly necessary in Group C, where

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116 The eight CAREC countries are Afghanistan, Azerbaijan, China, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan. The CAREC initiative includes regional meetings of high level governmental officials, and in 2008 at the Seventh Ministerial Conference of CAREC countries, CAREC adopted an energy strategy; see http://www.carecinstitute.org/uploads/docs/CAREC-Regional-Cooperation-Strategy-in-Energy.pdf.
117 http://www.erranet.org
118 http://www.naruc.org/programs.cfm?c=International

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b. **Regional considerations for Group C countries – electricity**

While the EU and Energy Community countries profiled in this Assessment are generally energy importers, many of the countries in Group C are exporters, with further supply potential. Aside from oil, natural gas and uranium, one major source of power is hydro power. In some of the countries with large hydro power sources, while exports are high, the countries remain highly dependent on import during the summer and other dry periods.

**Russia**

Market reform in Russia has been steady in the electricity sector and could in some respects be used as a blueprint for its neighbours. The monopoly RAO UES (Unified Energy System of Russia) has been unbundled, and 20 of the resulting companies were privatised in 2008 — several with foreign investor participation. The reforms created six wholesale thermal power-generating companies (OGKs – which remain separate from hydro and nuclear assets) and 14 territorial generating companies (TGKs – which provide district heating as well as power). Foreign investors include E.ON and RWE of Germany (in OGK 4 and TGK 2, respectively), ENEL of Italy (in OGK 5) and Fortum of Finland (in TGK 10, plus a minority share in TGK 1). The 60% state-owned RusHydro JSC manages the vast majority of the Russian hydro power plants. The operation of the country's transmission grid remains under state control through the Federal Grid Company.

At the wholesale level, a power exchange was established in 2006. The share of electricity that is sold at non-regulated prices is increasing in stages, from 5% of the forecast balance prepared by the Federal Tariffs Service of Russia for 1 January 2007 to full liberalisation of the wholesale electricity (capacity) market in 2011. In the interim phase, the non-liberalised volumes are exchanged and paid for at regulated prices under regulated bilateral contracts.

The power exchange is complemented by a balancing market. Volumes of actual output/consumption deviation from planned amounts for each participant are sold and purchased in the balancing market. The calculations are performed one hour ahead.

Russia’s influence and role in some areas, e.g. Central Asia, to act as gatekeeper between east and west, has not brought with it parallel institutional reforms, though if leveraged, Russian could offer a valuable model of reform to many of its fellow Group C countries. As a general rule, for historical and political reasons, regulation and policy in these countries has been driven less by independent authority and open competition, and their energy sectors are more centralised. The extent to which this status quo helps or hurts the economic engines on its borders seeking to invest or increase its security of supply may influence the degree or speed of change. Belarus, for instance, is closely linked and dependent upon Russia, such that separate regulatory development is challenging.

**Central Asia**

The energy sectors of the Central Asian republics are at highly different stages of development, with Kazakhstan significantly more developed toward electricity market trade than the other countries in the region. The Kyrgyz Republic is
making some important moves in the right direction, but is being stalled by political instability. Tajikistan is in the process of making reforms but lacks a clear legal and regulatory structure to facilitate trade. Uzbekistan and Turkmenistan have thus far stayed largely out of the regional electricity market initiatives, though the participation of each is essential for a real regional market to develop. Uzbekistan houses the United Dispatch Centre, a quasi independent entity that provides dispatch authority, mainly limited to controlling the operation of a 500 kV transmission loop, coordinating cross-border power flows and regulating frequency and load reliability within Central Asia; thus it has a particularly vital role. The temptation of course is to rely on the greater developed market structure in Kazakhstan to lead and design the direction of the regional market. But while the experience of Kazakhstan must assist the overall process of creating a regional market, the importance of buy-in and active participatory input from all included republics cannot be underestimated. This is particularly true given the politics of the region.

In the Central Asian region, the Central Asian Power System (CAPS) offers the potential for expanded regional trade. Large reservoirs and hydroelectric power stations offer abundant electricity, though the use of water has become a touchstone for economic and political relations in the countries of the region and due to resource fluctuations (seasonal and other factors affecting water level). Most of the water flow in the Central Asian region comes from the Kyrgyz Republic and Tajikistan, with Uzbekistan, Kazakhstan and Turkmenistan dependent on this water flow, which can vary greatly from year to year given weather conditions. While these elements would logically promote cooperation, creation of regional institutional bodies and harmonisation of regulatory frameworks, the general presence of such resources can also affect national political interests. Water use disputes between Uzbekistan and the Kyrgyz Republic thwart efficiencies that could otherwise be developed for the benefit of the population of each.

For instance, conflicts of interest regarding water usage and rights among countries in the region affect investment into big hydro power facilities on the trans-border rivers of Amu Darya and Syr-Darya, the most important water arteries in the region. The conflict is between the “upstream” countries (Tajikistan and the Kyrgyz Republic) which control the heads of the Amu Darya and Syr-Darya rivers, and the “downstream” countries (Kazakhstan, Uzbekistan and Turkmenistan) which critically depend on the water flow from these sources.

For the Kyrgyz Republic and Tajikistan, the “upstream” countries, the construction of the hydro power stations is of crucial importance in order to overcome their deficit of electricity as both countries lack from the sufficient oil and natural gas resources necessary to provide for the electricity and heat needs of its population and economy. The Kyrgyz Republic, for example, is a net exporter of electricity (to Kazakhstan, Uzbekistan and China), 90 percent of which comes from hydro power plants. At the same time, the country is a net importer of primary energy because it lacks adequate fossil fuels, particularly oil and gas, to support automatic and industrial sectors. For the “downstream” countries, the impact of such projects on their predominately agriculture-based economies can be severe. For example, Uzbekistan, which has the biggest population among Central Asian countries with about two-thirds resident in rural agricultural areas, depends heavily on the water supplied from the “upstream” countries. Moreover, in the last several years, upstream and downstream countries have clashed over the issue of the hydroelectric facilities autumnal and winter water discharges disrupting the agriculture of the downstream states.

In 2009 both Kazakhstan and Uzbekistan announced their withdrawal from CAPS (in October and November, respectively). On the Kazakh side, KEGOC, the
company in charge of the national electricity network, complained for several months of the illegal misappropriation of electricity by Tajikistan, thus threatening Kazakhstan’s southern regions with important electric deficits. Kazakhstan withdrew from CAPS twice during the 2002-2009 period because of unauthorised extraction of its electrical energy. In particular, from the 26 of February to the 11 of March 2009, the energy system of Kazakhstan worked in parallel mode due to the imbalance of production and consumption of electricity in the region. On the 24 of October 2009, Southern Kazakhstan separated from CAPS and started working in a parallel mode. This event was followed by the official decision of Kazakhstan to definitely withdraw from CAPS.

Uzbekistan benefits from prime geographic location as many areas of the Kyrgyz Republic and Tajikistan are supplied with electricity through power lines that cross the Uzbek territory. In particular, the Kyrgyz Republic depends on lines traversing Uzbekistan to supply electricity from its Jalalabad Province to its Osh and Batkent regions. Uzbekistan has often exploited its key role of transit country by raising its transit tariffs and thus making difficult profitable exchanges between countries, in particular between Tajikistan and Turkmenistan. Uzbekistan’s position with respects to the CAPS is also influenced by the problems arisen from water management issues in the region, demonstrating that from the point of view of negotiating energy agreement across regions, water rights issues and corresponding issues of social support and economic development are vital considerations.

Armenia and Azerbaijan

In the Soviet Era the Armenian electricity system was designed and developed, in addition to meeting internal demand, to supply electricity to neighbouring countries: Georgia, Azerbaijan and Turkey. After the collapse of the Soviet Union, the Armenian electricity sector suffered from a dramatic decline in domestic demand and the abrupt termination of exports. In recent years, thanks to economic recovery and a profound restructuring of the sector (in 1997 generation, transmission and distribution companies were separated from the vertically integrated public monopoly), the electricity market has been revitalised and the export market has recovered. Between 2000 and 2006, annual electricity exports to Georgia varied between 200-660 GWh/year, though exports ceased in 2007. In late 2007, Turkey and Armenia concluded an agreement on electricity cross-border trades, under which Armenia would initially supply 1.5 TWh per year to Turkey. The agreement has not yet been implemented. A special export agreement was signed with Iran in 1998 to exchange electricity flows between the two systems under a “non-profit” regime. Under this agreement, Armenia is allowed to import electricity from Iran during peak load periods (winter months), exporting an equivalent quantity during off-peak periods (summer months, which are peak loads in Iran).

In the Caucasian region there is a large unused cross-border transmission capacity, which in fact offers a strong rationale for the creation of a regional market, despite the presence of political tensions that would need to be overcome.

Mongolia

Though part of CAREC and ERRA, Mongolia often stands relatively alone in this Group, in large part due to having a small population that is spread out across a large territory and limited resource potential. Still, Mongolia has made enormous strides in terms of reforming its framework and is a good example of a country that has utilised the regional fora benefits its energy sector.
c. Regional considerations for Group C countries – gas

In light of the breadth of the third grouping and in particular the different sources of gas supply in this grouping, regional considerations for natural gas must be broken down into sub-regions. Within Group C, key regional gas consideration fall into two broad groupings, those stemming from dominance of Russia and the Russian natural gas pipeline system on the one hand and natural gas imports from the Caspian region and their transport routes on the other.

In the Caspian region there are major gas exporters (most notably Turkmenistan) that have large-scale production and export programmes, one big producer (Uzbekistan) with a production mostly destined to the internal market, and two countries (Azerbaijan, the only one on the west side of the Caspian Sea, and Kazakhstan) that have only recently become net exporters but have considerable export potential. The 1999 natural gas discovery of Azerbaijan's Shah Deniz field has boosted the region's natural gas export prospects. The Shah Deniz field, thought to be the largest natural gas discovery worldwide since 1978, is being developed for export to Turkey. The infrastructure that will be built to deliver this natural gas has helped to renew international interest in the region's natural gas.

So far, in addition to problems related to the unresolved legal status of the Caspian Sea, natural gas exports from the Caspian region have been hindered by geography. The majority of the Caspian Sea region's natural gas reserves are located on the east side of the Caspian, in relatively remote areas. The contribution of the Caspian region to global gas supply will depend on the level of investment in exploration and production, and on the availability of reliable routes to international market on commercial terms. A significant role in determining overall volumes of gas available for export will be played by the region’s own demand, which has been steadily growing for the last decade as a result of gas subsidised prices and largely inefficient energy use across the region.

To the East of the Caspian Sea, with the exception of a low-capacity pipeline from Turkmenistan to Iran, all international routes for east Caspian producers are through the Russian pipeline network. The Central Asia – Centre pipeline system consists of four main export pipelines (known as SATS-1, 2, 4 and 5), running in parallel to join the Russian pipeline network at Alexandrov Gai. This is the most important artery for export of gas from Central Asia (primarily from eastern Turkmenistan and southern Uzbekistan). There is also a western branch, the SATS-3 pipeline, which runs from Turkmen Caspian Sea territories to the north. The eastern branches meet with the western one in Kazakhstan; from there the pipelines run north where they are connected to the Russian natural gas pipeline system.

Thanks to the design of the former Soviet Union’s network system, built on geographically centralised principles, Russia’s effort to prevent substantial trading links being formed without its participation have been largely successful. This gives Russia's Gazprom a largely dominant role in the region, which has allowed, until recently, the gas giant to buy gas from Central Asian countries (Turkmenistan, Kazakhstan and Uzbekistan) at prices well below the international level. However, due to Russia’s strong need to make its own gas balance, the prices offered by Gazprom for Central Asian gas exports have risen significantly in the last 3 years, and are likely to rise further. In March 2008, Gazprom and the heads of the national oil and gas companies from Turkmenistan, Kazakhstan and Uzbekistan announced that trade in Central Asian gas would, from 2009, take place at ‘European level prices’ (in terms of netback).
To the West of the Caspian Sea, the South Caucasus Pipeline (or Baku-Tbilisi-Erzurum Pipeline), which brings gas from the Shah Deniz offshore gas field in the Azerbaijan Caspian Sea to Turkey, entered into operation in late 2006. The pipeline runs parallel to the Baku-Tbilisi-Ceyhan pipeline oil through Azerbaijan and Georgia. The current pipeline capacity, which amounts to 7.8 bcm/y, has been dimensioned to support the first phase of Shah Deniz field development. An expansion of the South Caucasus Pipeline has been decided at the end of 2008 to increase capacity to 16-20 bcm/y by 2012. This is linked to second phase development of Shah Deniz.

Given the anticipated increase in Caspian natural gas production and export, there are currently numerous proposals on the table either to strengthen and expand the existing pipeline network (Russian system, South Caucasus Pipeline), or to build new pipelines. Because many of the proposed projects are competing for the same sources of gas, it is clear that not all projects under study will go ahead. The main proposals, shown in Figure 2, are:

**“Southern Corridor” Pipelines**
- Trans-Caspian options
- Expansion of the South Caucasus Pipeline
- Nabucco
- Greece-Italy Interconnector
- Trans-Adriatic Pipeline
- White Stream

**Pipelines to Russia:**
- Enhancement of the Central Asia-Centre Pipeline system
- Caspian Coastal Pipeline

**To China:**
- Turkmenistan-Uzbekistan-Kazakhstan-China Pipeline

**To Pakistan/India**
- TAPI (Turkmenistan-Afghanistan-Pakistan-India) Pipeline
- South Europe Gas Ring Project, which aims at bringing natural gas from the Caspian Sea, Middle East and Southern Mediterranean countries to Europe through Turkey and Greece
The Nabucco project is intended to connect European markets with gas supplies from the Caspian region and Middle East.\textsuperscript{119} With a projected transport capacity up to \SI{31}{bcm/y}, Nabucco is intended to open up a fourth supply corridor for natural gas into Europe (in addition to gas from Norway, Russia and North Africa) and allow the transit countries to benefit from supply diversification. Following a development phase until the end of 2009, construction is envisaged in two stages from 2010, with the pipeline becoming operational in its first stage from 2013. The \SI{3300}{km} long pipeline will run from Erzurum in Turkey via Bulgaria, Romania, and Hungary to Baumgarten, a major natural gas hub in Austria; it will be connected with the Tabriz–Erzurum pipeline and with the South Caucasus Pipeline, connecting Nabucco Pipeline with the planned Trans-Caspian Gas Pipeline. The Nabucco project is included in the EU Trans-European Energy Network programme and a feasibility study for the Nabucco pipeline has been performed under an EU project grant. Construction of the pipeline is expected to begin in 2010 and is planned to be finished in 2014. It is estimated to cost around \texteuro{7.9} billion.\textsuperscript{120}

The Turkey-Greece-Italy Interconnector (TGII) project aims to link Turkey to Greece and then Italy, as an exporting route for gas from the Caspian region. A tri-lateral agreement was signed by Turkey, Greece and Italy in July 2007 that set up the overall commercial and legal framework for the TGII. Volumes of gas

\textsuperscript{119} The Nabucco Pipeline Company was established in 2004, with six equal shareholders: OMV (Austria), MOL (Hungary), Transgaz (Romania), Bulgargaz (Bulgaria), BOTAS (Turkey), and since February 2008 RWE (Germany). The company leading the project is OMV.

\textsuperscript{120} Nabucco Gas Pipeline Project Company, Press Conference, 29 May 2008, reported by Reuters UK.
supplied along the TGII are expected to rise to 11 bcm per year in 2012, with 8 bcm supplied to Italy and the remainder to Greece.

The Trans Adriatic Pipeline (TAP) is a project being promoted by the Swiss Elektrizitäts-Gesellschaft Laufenburg (EGL) and Norway's StatoilHydro. EGL signed an agreement in February 2008 with StatoilHydro to establish an equal joint venture to develop, build and operate the TAP. A final investment decision is anticipated in the second half of 2009, with the earliest date for completion being 2012. TAP is intended to link Southeast Europe and Italy, where EGL operates large natural gas-fired power plants.

The White Stream Pipeline project is an initiative to bring Caspian gas across the Black Sea from Georgia to Romania (either directly, or via the Ukrainian region of Crimea). The project, which was formerly known as the Georgia-Ukraine-European Union (GUEU) pipeline, would by-pass both Russia and Turkey. It foresees an initial capacity of 8 bcm per year, potentially rising to 32 bcm. It has generated some interest and political support, notably from Ukraine, but sources of natural gas and commercial sponsors still remain unclear. The Azerbaijan government made a strong push in October 2009 for this project, with the goal of diversifying its gas exports and transporting its gas to Europe without having to go through Turkey, which currently monopolises transit routes.

Enhancement and modernisation of the Central Asia-Centre Pipeline system has been a longstanding priority for Gazprom. In addition to the plans for a Caspian Coastal Pipeline described above, the Russian desire to reinforce this corridor as the main export route for East Caspian gas. On 20 December 2007, Russia, Turkmenistan and Kazakhstan agreed to construct a new pipeline (Caspian Coastal Pipeline) parallel to the existing SATS-3 line. The pipeline will be built between Belek compressor station in Turkmenistan and Alexandrov Gay compressor station. Capacity of the new pipeline will be 20 bcm a year, with 10 bcm supplied each by Turkmenistan and Kazakhstan. Construction of the pipeline is expected to start in early 2010.

After signature of a General Agreement on Gas Cooperation between China and Turkmenistan in April 2006, the construction of an eastern export route for Turkmenistan gas (Turkmenistan-Uzbekistan-Kazakhstan-China Pipeline) advanced rapidly in the 2007-2009 period. The rationale for this export route are a production sharing agreement for the China National Petroleum Corporation (CNPC) to develop reserves in eastern Turkmenistan, and a 30-year gas sale and purchase agreement for up to 30 bcm/y signed in July 2007 between China and Turkmenistan. The pipeline starts in Saman-Depe carrying natural gas from the Bagtuyarlyk gas fields on the right bank of Amu Darya in Turkmenistan. The pipeline enters Uzbekistan in Olot and runs across Uzbekistan to southern Kazakhstan parallel to the existing Bukhara–Tashkent–Bishkek–Almaty pipeline. The second line of the pipeline starts in Kazakhstan, and from there it runs to Alashankou in China, where it is connected to the West–East Gas Pipeline. The pipeline was inaugurated on 14 December 2009 in a ceremony in Saman-Depe during Hu Jintao's visit to Turkmenistan with the leaders of Turkmenistan, Uzbekistan and Kazakhstan.

The idea of a southern export route for Turkmenistan (Turkmenistan-Afghanistan-Pakistan-India Pipeline (TAPI)) gas gained momentum again following the overthrow of the Taliban regime in Afghanistan in 2001. A

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121 It will be linked with the branch line from western Kazakhstan, to be commissioned in 2011, which will supply natural gas from the Karachaganak, Tengiz and Kashagan gas fields.
technical and economic feasibility study, funded by the Asian Development Bank and completed in 2003, found that the pipeline would be advantageous compared to LNG imports and could be supported by demand from Pakistan alone. Afghanistan would benefit from transit fees. The study estimated the cost of the pipeline at USD 3.3 billion, but this estimate was raised in 2008 to USD 7.6 billion. The 1,680 kilometres pipeline would run from the Dauletabad gas field to Afghanistan. From there TAPI would be constructed alongside the highway running from Herat to Kandahar, and then via Quetta and Multan in Pakistan. The final destination of the pipeline will be the Indian town of Fazilka, near the border between Pakistan and India. First deliveries are provisionally scheduled for 2015; this would require pipeline construction to begin no later than 2010.

Russia’s gas dominance in the region is behind many of the above initiatives, as diversification and security of supply lead concerns in the region and beyond given that about 25% of the natural gas consumed in the EU is provided by Russia (and over 75% of this comes through Ukraine). Ongoing disputes between Russia and Ukraine regarding transit prices and Ukrainian debt mean that the current structure poses considerable risks to security of supply. The January 2009 dispute between European countries and Russia regarding supply failures (all via the Ukrainian route) is representative.

d. Chart for Group C countries

A comparative view, in ascending order, of Armenia, Azerbaijan, Belarus, Russia, Mongolia and the Central Asian republics is presented below.

Mongolia, Tajikistan and the Kyrgyz Republic are not included in the comparative view of the gas sector. The first one does not have a gas system, and the gas systems of the last two are not sufficiently developed to allow a full assessment.

Electricity sector in Group C countries

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e. Trends in Group C countries

Security of supply will be an important factor for undertaking reforms in the energy sector, as the exporting countries balance their interests between the large presences on their borders. Internal development of infrastructure and expansion of services are also likely priorities for many of these countries.

One growing influence is China, which currently has significant investments in Central Asia, e.g. investment in oil resources in Kazakhstan. Given China’s proximity, growing energy needs and economic strength, its participation is increasing and will increase its influence in the region.

f. Conclusions for Group C countries

The energy sectors in this group of countries, and indeed the overall economic and political structures, vary greatly. Given the lack of the unifying pressure of EU accession, disparity in speed of progress among these countries is likely to continue. A key challenge will be persuading the political leadership to undertake and implement reforms that are in the best interests of their nations. With such political engagement and acceptance, the potential for progress is great.

X. RENEWABLE ENERGY SOURCES/ENERGY EFFICIENCY

1. Overview

The area of renewable energy and energy efficiency is characterised by a wide variety of authority and competencies among regulators. This situation is exacerbated by unclear division of responsibilities between energy regulators and governmental bodies charged with environmental and related issues. Responsibilities are typically diffused over ministries, system operators, market operators, regulator and other agencies charged with specific environmental issues (and others). With respect to the energy regulators’ role, a worrying trend is apparent. In a majority of countries, the regulators have only limited responsibilities in the renewable energy and energy efficiency sectors, and express limited knowledge about policy matters in these areas. Traditionally, regulators and their staffs are likely to come from a background in and familiarity with technical, engineering issues associated with electricity and gas production and transmission, and not an environmental focus. At the same time, policy attention to renewable energy and energy efficiency issues has meant that Ministries and other government arms often claim the issue within their jurisdiction.
Certainly the same pattern displayed with respect to progress in general for the most part repeats itself in the renewable energy and energy efficiency arena: the EU countries, bound to an array of specific legislative obligations, can focus more on implementation of region-wide initiatives and progress more rapidly. Energy Community countries, bound to fewer requirements are generally behind their EU neighbours but moving on a path forward. Finally, the third group, Group C, are not subject to a unifying template and have further to go.

Overlaid on this regulatory status are the differences, displayed elsewhere on the global front, between developed and developing countries, between countries with resources (renewable and otherwise) and have-nots.

2. **Group A countries**

Generally speaking, the Group A countries assessed here, while having to comply with a variety of legal obligations, have found compliance with obligations such as emission reductions relatively easy, because the base year starting point by which they are measured is a time when they were much more industrially based. One can thus anticipate from this group a growing challenge to meet reduction and efficiency goals going forward over time as their economies grow. Countries like Poland with dependency on sources such as coal or peat will face the technical challenges of using these resources within the parameters allowed in terms of emissions, in a cost-efficient manner. Countries dependent upon gas imports can see environmental concerns as a part of a larger security of supply issue, providing additional impetus for development of domestic renewable resources and increased energy efficiency.

All of these issues will be played out in a legal environment of each country developing National Action Plans to meet the requirements of the EU’s Climate Change Package, with its 20-20-20 goals (20% reduction in greenhouse gas emissions, 20% increase in energy efficiency and 20% share of renewables), and to comply with specific legislative directives and regulations regarding labelling, building performance and other EU mandates. The EU seeks to lead on the issue of climate change, with even more ambitious targets likely.

Hence, the countries in this assessed group will focus on achieving their targets and requirements. Bulgaria, for example, recently announced plans to bolster, with EU financial assistance, its energy efficiency (like many of the newer EU Members, its energy intensity levels are high compared to the EU-15, creating low hanging fruit in the search for avenues for improvement). Sourcing 9.4% of its energy from renewables in 2005, its EU target requires a 16% level by 2020.

3. **Group B countries**

The Energy Community countries confront similar conditions and considerations, with generally (although not uniformly) less developed economies than their western neighbours. The availability of resources and potential resources varies, from Albania’s existing high percentage share (28.6% in 2005, given its reliance on hydro) to minimal existing renewable reliance in countries such as Moldova and Ukraine (3.2% and 1.5%, respectively). Countries with high renewable potential, e.g. Georgia, in respect of its hydro power resources, will be looking to exploit these resources both domestically and for export.

The integration of EU and Energy Community regulatory goals and methodologies is reflected in, for example, Article 9(8) of the EU’s new directive on renewables, Directive 2009/28/EC, which expressly provides: “Member States and the Community shall encourage the relevant bodies of the Energy Community Treaty to take, in conformity with the Energy Community Treaty, the measures which are necessary so that the Contracting Parties to that Treaty can apply the provisions on
cooperation laid down in this Directive between Member States.” Currently, for example, the Energy Community is having a study completed on the current state of renewable energy in the Energy Community countries; the impact of the new renewable directive on Energy Community countries, achievable targets for 2020, and the costs of meeting those targets, and a task force is investigating and will propose the modalities for possible adoption of the directive within the EcT.123 The Energy Community countries submit implementation plans explaining how they will meet their Treaty obligations, and the Energy Community Secretariat reviews implementation of Treaty obligations by the Contracting Parties.

In sum, a path exists for development of regulatory continuity, unity and development, with greater challenges, such as the lack of easily accessible, accurate and consistent data upon which to measure progress, as well as greater avenues for quick results, such as reduction in high energy intensity rates. Efforts will be needed to correct subsidies hindering development of renewable energy, to assure adequate support schemes, such as feed-in tariffs, mandatory take off requirements and grid connection preferences and certificate of origin mechanisms; and to streamline regulatory frameworks, through, e.g. development of licensing, concession and permitting procedures focused on renewable energy promotion and identification of appropriate environmental impact assessment approaches.

4. Group C countries

The third group generally presents a different picture – newly developing countries with no binding regional impetus for renewable energy and energy efficiency, and, further divided, within this group, between resource rich and importing countries.

The factors and issues influencing renewable energy and energy efficiency development in this group are similar to those faced by developing nations globally, including identification of nationally appropriate and achievable climate change mitigation commitments and actions, risk management strategies, technology development and transfer, and financial resourcing.

The difficulty of achieving consensus on substantive actions in these areas in the absence of regional organisations with common approaches and binding commitments is exemplified by the delay in the timetable set in the Bali Action Plan roadmap calling for parties to the United Nations Framework Convention on Climate Change to establish a further protocol beyond the commitments embodied in the Kyoto Protocol in 2005 at the 15 Conference of Parties in Copenhagen in December 2009. Instead, the meeting in Copenhagen extended work on any legally binding commitments for another year.

The actions of large developing emitters such as China and India to engage in various voluntary national actions while eschewing binding agreements, mandatory targets and timetables probably presents a more attractive template to this third group. Efforts could concentrate on mechanisms to refurbish existing infrastructure and develop new resources. Uzbekistan, for example, possesses 70% of the gas in Central Asia, 30% of the oil, 20% of coal and 14% hydro potential. It also has an immense potential for solar energy. Currently energy independent, reduction in its intensity of use for environmental purposes requires regulatory impetus, including rational prices. Overhaul and renovation of existing power plants and network could have strong beneficial impacts, demonstrating the potential effect of infrastructure investment,

123 http://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/RENEWABLES/Acquis#steps.
which in turn, could be encouraged through a more transparent and predictable legal and regulatory framework.

In sum, the challenges this region faces are immense, but so is its potential.

XI. CONCLUSIONS AND RECOMMENDATIONS

1. General conclusions

Overall, regulatory risk is diminishing across EBRD countries of operations and investment opportunities are on the rise.

As expected, in general, Group A countries perform better than non-EU Member States because the majority of the best practices that underpin the benchmarks in the Assessment are included as part of the EU energy *acquis*; similarly, because Energy Community contracting parties have committed to comply with certain EU requirements, the Assessment anticipates higher performance on the benchmarks from these countries as well. In the absence of a unified framework for the reform, Group C countries have varied systems, at varied stages of development, with limited harmonisation across national frameworks.

2. Implication for policy and recommendations

Considerable reforms in the EBRD energy sectors are evident, with liberalisation and transparency promoted, at least on paper, in the majority of EBRD countries. In Central Asia and some Caucasus countries though, the absence of a regulatory authority limits the ability of reforms, as some separation from the government has proved integral to the success of market opening, the introduction of an investment climate for non-incumbents, and movement toward cost-reflective tariffs.

From a policy perspective, as countries navigate toward reforms (albeit at different speeds), one or more overarching agreements regarding the benchmarks of sound regulatory practice would aid the process toward reform. Fundamentally, national action, in isolation of a regional framework or regional agreement, is likely to have a flawed and haphazard result. In Southeast Europe, national reforms have been circumscribed and defined by regionally driven guidelines, standards, advisory and interpretive notes and in some cases, rules with regional institution building as a cornerstone of regional market development. While experiences in one region should not be transferred wholesale to another region, experiences elsewhere offer important lessons.

Such agreements could be memorialised in an MOU among EBRD countries of operations, or other such collectively negotiated documents. As part of such agreement, individual plans that articulate how the countries plan to move toward these benchmarks would ensure a common path trajectory among all these countries. Along the same lines, the umbrella commitments to which the Energy Community contracting parties have entered, and the observers are on the cusp of entering, has proven a good driver of reform, albeit one that is supported through promises of additional funds and the hope of eventual EU membership. For the EU countries, this path is already paved by the older EU countries, and the EU Directives and regulations to which new member states must adhere.

The real difficulties lie beyond the EU and Energy Community (including its observers), to the third grouping of countries, over which there is no framework agreement or target framework agreement. Reaching such agreement, either over the region overall, or perhaps more appropriately given the diversity within this
group, among countries in sub-grouping of this region (for example, Central Asia, the Caucasus could each form separate groups), would serve to drive forward reforms and offer an anchor for investors, IFIs and donors as they assess regulatory risk.

At all times, agreements must be structured in a manner that offers broad applicability but also is able to incorporate the particular geographic, historical, political and economic backgrounds.

Any regional agreement on benchmarks and reform targets is intended as a vital step in the process of reform and not an end to reform efforts. Taking the Energy Community as an example, voluntary MOUs should be viewed as first steps toward later acceptance of mandatory targets. Steady but slow steps are best because they allow the time necessary for building blocks to develop, and hold, in the face of inevitably (and largely predictable) challenges. In this respect it is useful to look a little closer at the genesis of the Energy Community.

The Energy Community itself, for instance, was born of a long series of regional initiatives, with increasing regional targets, responsibilities and ultimately, requirements developed over time. To understand the current status, it is necessary to look back a decade. The underpinnings of the regional market development initiatives began around 2000, but the first regional group formation to support the process occurred in 2002 through what is known as the Athens Forum. The European Commission spearheaded the creation of this Forum, with active support from IFIs and donor agencies. Several EU countries were leaders in promoting the process, notably Greece, which committed to running the Forum itself, and Austria, which now hosts the Energy Community Secretariat, with leadership at high government level. Most of the non-EU nations in the SEE region and Greece signed the Athens Memorandum of Understanding of 2002 (2002 MOU), which was a non-binding agreement to take several steps towards the creation of such a regional market and its eventual integration into the EU’s internal energy market. Under the 2002 MOU, the signatory nations pledged to “devote their best endeavours” to create the following institutions that would operate their respective (national) segments of a regional electricity market:

- A State Energy Authority, placed within a government ministry, with the primary purpose of ensuring the secure provision of energy at competitive prices;
- An Electricity Regulatory Authority, completely independent of the interests of the electric power industry, that would be responsible for monitoring the electricity market;
- Transmission System Operators, to manage the flow of energy across the nation’s electrical system and ensure the reliability of that system; and
- Distribution System Operators, to maintain the distribution system, ensure its ability to meet demand and, if necessary, expand it.

The signatory nations also agreed to “endeavour” to take several steps to promote regional trade, including: (1) the development of action plans to carry

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124 The 2002 MOU was signed by Albania, Bosnia and Herzegovina, Bulgaria, Croatia Greece, Macedonia, Romania, Turkey and Yugoslavia, as well as the United Nations Interim Mission in Kosovo (UNMIK). The European Commission also signed the 2002 MOU as a sponsor, and Austria, Hungary, Italy, Moldova and Slovenia signed as “observers.”

125 Parallel obligations for gas were added in 2003.
out tariff reforms and identify infrastructure needs; (2) the implementation of cross-border trade tariffs and congestion management systems; (3) the adoption of an authorisation procedure for the construction of new generation capacity; (4) the implementation of grid codes that share common elements across the region; and (5) the adoption of the EU’s guidelines for cross-border trade and transmission. To perform much of the work involved in creating a regional market, the signatory nations created a Ministerial Council, made up of the Energy Ministers of each nation. This Council would make strategic decisions concerning the regional market, advise the Athens Forum (which continued to meet throughout the process of creating the Energy Community), and, if necessary, formally endorse the Forum’s conclusions. A Permanent High Level Group (PHLG) was also created and given the mission of supporting the Ministerial Council and ensuring that its decisions were carried out. Although the 2002 MOU stressed that it was not legally binding on the signatory nations, it called on the PHLG to assess the voluntary commitments contained within the 2002 MOU, for the purpose of proposing a legally binding document. While the 2002 MOU focused on national action, early on it was recognised that such national mandates could not be achieved without a regional framework to support it.

It is important to recognise the importance of stakeholder participation to drive forward regional reforms, and also IFI and donor support for measures to move forward the regional market, including national and regional components of assistance. These various groups then all came together through the Athens Forum, which has met at least twice a year since 2002. In December of 2003, after several benchmarking studies to determine the progress made by the signatory nations in carrying out the commitments listed in the 2002 MOU, most of these nations, along with some new partners, three entered the Athens Memorandum of Understanding of 2003 (2003 MOU). Like the 2002 MOU, the 2003 MOU was not binding but the signatory nations clearly indicated their desire to replace it with a legally binding agreement as soon as possible. The 2003 MOU went further than the 2002 MOU and asked the signatory countries to adopt by June of 2004 a regional energy strategy identifying the principles which would govern the anticipated regional market and to set a time table for its implementation. In particular, these countries were also expected to adopt the rules relating to the market structure, network access and the operation of electric power systems contained in the European Union’s Directive 2003/54/EC.

126 The Ministerial Council was a formal group of Ministers who could act with authority granted at the highest levels. They were expected to meet only occasionally, and only for the most important policy matters. The PHLG was to be its support and research group, mostly made up of lower level government officials who reported to their Ministries and could meet more often to get the work done. In concert with the establishment of these two key regional bodies made up of government officials from all the participating nations, the regulators were also called upon by the European Commission to create a regional group. They did this through an existing organisation called the Council of European Energy Regulators (CEER), which was itself a voluntary group made up of regulators from the European Union Member States. CEER created a subgroup within its organisation in order to support the SEE regional electricity market process. This subgroup included CEER members and representatives of all South East European regulatory authorities (and the Ministries where regulatory authorities did not yet exist). Led by EU Members Greece and Italy, this group, called the CEER Working Group for South East Europe Energy Regulation (CEER WG SEEER) met to discuss regulatory issues that arose as the regional energy market developed. As part of its work, the CEER WG SEEER put forth, through a collaborative internal process, important position papers on issues such as market design, standards of minimum regulatory competencies, inter-state compensation mechanisms for the trade of electricity, and the like. Around the same time, the European Commission also asked the system operators to organise a group. In parallel with steps taken by the regulators, the organisation of EU Transmission System Operators (TSOs), ETSO, formed a subgroup called SETSO that extended beyond the EU Member borders into non-EU Member States in SEE. Just as the regulators designed papers through a collaborative process, SETSO did the same, including important TSO benchmarking reports, minimum standards for TSOs, and input into market design and compensation mechanisms.
system, ensure the system’s ability to meet the demand placed on it, and ensure that there was no discrimination among system users. The 2003 MOU provided that these TSOs were to be legally separated from the rest of their associated undertakings and be managed separately; it also incorporated requirements of Directive 2003/54/EC to appoint a regulatory authority which would ensure effective competition, proper functioning of the market, and independence of all interests in the electric industry.

In December of 2004, the Ministerial Council approved the Tirana Declaration, under which the signatory countries to the MOUs would create a Southeast European Regulatory Board for Electricity and Gas (Board). The Board was to facilitate coordination and consultation between the regulatory authorities of each of the signatory countries, as well as to supervise the integration of regulation throughout the region. The Board would also monitor the region’s energy supply and draw up guidelines on market design, licensing procedures and other market authorisations. Membership of the Board was to consist of the heads of the regulatory authorities that each state had designated in response to the 2003 MOU. The Tirana declaration set a clear target: it stated that it would go into force one month after its adoption by the Ministerial Council.

Flowing from the Tirana Declaration, in which formal steps were taken to further institutionalise the regional process, negotiations began for the development and signing of a region-wide Treaty. Around this time too, the emphasis shifted from electricity to energy (including gas), though electricity would continue to be the primary emphasis up until the present day, when gas is starting to take centre stage.

In 2005, most of the nations which had entered into the 2003 MOU signed the Treaty establishing the Energy Community. Unlike the earlier MOUs, this Treaty requires, rather than simply requests, the signatory nations to take action aimed at creating this market, including (as discussed elsewhere) the adoption of the EU standards for market rules, environmental protection and renewable energy. It is also forward thinking, providing that the energy acquis to which these states are bound through the Treaty may be expanded with the passage of new legislation; bans the use of customs duties and quantitative restrictions on the import and export of energy between Energy Community members; and allows the institutions of the Energy Community to take measures to ensure that each signatory nation’s market is compatible with the regional market.

The process has not been easy and without dissent. Significantly, Turkey decided not to sign the EcT, though it remains an Observer to the process. Moreover, many goals have taken far longer to reach than anticipated. A standard market design has been, for instance, in the works for years but has not yet been achieved, and only recently has agreement on the coordinated auction office appeared evident, after many years of negotiations. The market framework is in place, but the market itself is only budding. Despite this, overall, the progress toward a common goal of liberalisation is remarkable.

The Energy Community process has several defining characteristics:

127 Memorandum of Understanding of the Regional Energy Market in South East Europe and its Integration into the European Community Internal Energy Market, 2003 (2003 MOU). The 2003 MOU was signed by Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Serbia and Montenegro, Macedonia, Romania, Turkey, UNMIK, and the European Community. Austria, Italy and Greece signed as “political participants to the process.”
At an early stage, the goal was twofold: to agree on minimum national requirements and to support these through the creation of regional organisations with representatives from each country that would be part of the regional market.

The goal was realised first through voluntary agreements and voluntary organisations, themselves formed after significant negotiation and meeting at a political and technical level.

Voluntary agreements were gradually expanded to include increasingly reform minded provisions directed at regional trade.

Neighbouring countries were included with differing roles in order to promote as much buy-in and as seamless a market structure as possible. Multiple actors within the energy sectors of each state were included: governments, operator and regulators.

Southeast Europe has the benefit of strong leadership from the EU and collaborative commitment from donors.

The countries of Southeast Europe had a distinct incentive to follow the EU: the hope of EU membership. Moreover, regional rules already established by the EU were used as a basis for the regional initiatives. This is one of the only regions in the world where a ready-made body of regional rules already existed that could be used as a template for regional market reform in a neighbouring area.

Not surprisingly, the experiences from the examples of regional energy market initiatives around the world demonstrate that the clearer the set of responsibilities attributed to each regional institution vis-à-vis the national institutions, the easier the course of development – though it must be recognised that regional market development is always a stop and start process, with successes and setbacks, requiring a long-term commitment. The Southeast Europe process demonstrates how regional institutions can evolve as they assist the leadership of the regional energy market. For instance, the Ministerial Council and the PHLG themselves changed in structure and authority with advancements in the market (with the Treaty came new mandates and a somewhat different membership); correspondingly, new regional institutions also metamorphosed from less well defined organisations (with the Treaty came the ECRB, which had its operational roots in the CEER WG SEEER).

3. Summary

The Assessment reveals that the European Union Member States have embraced international best practices and the principles embodied in the EU legal framework and are moving steadily toward broad-based reform of their energy sectors, including the promotion of renewable energy and energy efficiency. Challenges remain to secure real competition on the wholesale and particularly the retail side, facilitate customer switching, and improve the investment climate. With respect to renewable energy and energy efficiency integration in particular, much more work and political commitment are needed, though this is on the rise and real change has occurred in the last five to ten years in particular. While this is true inside and outside the EU, an important difference is that the EU countries receive significant pressure from the European Commission to bring forward reforms in the energy sector generally and most recently in the renewable energy and energy efficiency sectors in particular. Such pressure takes the form of EU Directives and regulations, national reporting requirements and EC investigations as well as carrots of financial support. Regulatory development in particular benefits from the work and supporting papers issued by CEER and ERGEG, both
regulatory bodies that promote regulatory reform consistent with best practices, including through use of public consultations and publicly issued discussion papers and sector guidelines.

Overall, institutional changes predate, to greater and lesser degrees, actual changes in market operation. Here too, efforts to promote renewable energy and energy efficiency are taking hold, though at a slower pace overall than for Group A countries, and with varied effect and limited integration. Best practices in energy regulation among the Energy Community contracting parties, and the observers, are further encouraged through increasing relationships with the EU internal market and its supporting institutions, such as ERGEG, the European Network of Transmission System Operators (ENTSO-E and ENTSO-G), the Southeastern Europe Transmission System Operators (SETSO) and others. These steps are relatively new, however, and movement is comparatively slower as a consequence.

Beyond the EU and the Energy Community, policy and regulatory development could be described as inconsistent. The energy sectors of these countries, and indeed the overall economic and political structure, vary greatly from country to country. As a general matter though, in these countries regulation and policy are driven less by independent regulation and open competition, and their energy sectors are more centralised than in the EU and Energy Community.

The general conclusion of the Assessment is that where sectors perform lower than the EBRD average and in particular low for their grouping, it is critical that additional steps are taken to improve regulatory autonomy and authority and to put in place a coherent regulatory framework underpinned by principles of transparency, non-discrimination and liberalisation. Without autonomy, pressure from industry, operators and government, the regulator is unable to curb market abuses and take measures to end subsidised, operators in sectors that may have been closed to competition for a long period of time. Other factors such as Third Party Access, unbundling, public consultation, public hearing, dispute resolution and appeal mechanisms are important supporting steps that make possible a sound regulatory framework consistent with best practices.

The main recommendations of this Assessment are:

- Reforms in the EU need to continue, with additional emphasis on developing frameworks in support of renewable energy and energy efficiency, including strengthening the role of the regulator in developing and implementing any such framework. Additional work in the EU through ACER, which is to be based in Slovenia, to improve harmonisation of national frameworks within the EU and with their neighbours to the East is recommended.

- In the Energy Community, among the contracting parties, important institutional reforms have been realised and continue to be realised; the challenge now is to move toward implementation so that real market advances can be realised. The Coordinated Auction Office is among the most promising of the steps being undertaken, with a trial underway and the real-time run planned for 2010.

- For the Energy Community observers, the move toward the Energy Community framework marks a significant step forward, particularly given the strategic and resource importance of these countries, particularly Ukraine and Turkey. Attention must be given to addressing infrastructure limitations, synchronising and developing the regulatory framework in support of market opening and cross border trade of electricity, and the natural gas transport across national boundaries.
Where no regulator exists (Azerbaijan, Belarus, Central Asia other than Kazakhstan) it is critical that regulators are put in place, and remain subject to fixed institutional frameworks developed from best practices. The energy sector in the region suffers from high turn-over among regulators and Ministry officials who are in charge to setting and implementing policies for reform. Such turn-over presents challenges to the process of reform, which requires certainty and predictability.

4. Commitment of the EBRD to its countries of operations

Internationally, in the energy sector, unlike some other sectors such as telecommunications,\textsuperscript{128} no multilateral agreement binds all EBRD countries of operations to certain identified general principles. The absence of such an agreement is regrettable. Sector development overall would be improved by a negotiated agreements by which all countries voluntarily committed themselves. The EBRD encourages the initiation of a process of public comment, public consultation and high level negotiation among stakeholders to develop and bring such a multilateral agreement based on sound international best practice into force.

As part of its commitment to its countries of operations, the EBRD looks forward to building upon the conclusions of this Report through stimulation of policy dialogue among stakeholders on elements of an efficient power sector reform. The EBRD can play an important role in initiating public comments and facilitating consolidations of the results of the Assessment. A core aspect of this work is to encourage regional integration through harmonised and transparent frameworks that in turn make possible regional trade, in particular with respect to the Group C countries where challenges and potential alike are the greatest.

\textsuperscript{128} The LTT led an assessment in 2008 of the telecommunications sector in its countries of operation (at that time, this covered 29 countries, including the Czech Republic). In the telecommunications sector, an international agreement, namely the World Trade Organisation, issued a Reference Paper that formed the basis of standards used in the 2008 EBRD Telecommunications Assessment at http://www.ebrd.com/pages/sector/legal/telecoms/assessment.shtml.