

I. ACKNOWLEDGEMENTS

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II. BACKGROUND AND OBJECTIVES

The EBRD's Legal Transition Team (LTT), under the auspices of its Legal Transition Programme of the EBRD, has focused part of its work on the development of detailed analytical assessments of the state of legal reform in a number of commercial and financial sectors in its countries of operations. These assessments benchmark the legal developments in each country against international best practices, providing a clear analysis of the existing legislative frameworks and identifying gaps and future reform needs. During 2009, LTT expanded its focus to include the electricity and gas sectors.

This report provides the detail of the EBRD's first in-depth Assessment of the electricity and gas sectors in its countries of operation (the Assessment). The electricity and gas sectors in this context refer to the market for electricity and natural gas production and supply, including policy measures to promote electricity from renewable energy sources and associated efforts to institute energy efficiency measures. The focus is on electricity, natural gas, renewable energy and energy efficiency. The gas section is confined to key points that differ from the structure and operations presented for the electricity sector.

The participant countries in the EBRD's 2010 Assessment are Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic,¹ Estonia, FYR Macedonia, Georgia, Hungary, Latvia, Lithuania, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Montenegro, Poland, Romania, Russia, Serbia, the Slovak Republic, Slovenia, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

The broad objectives of the Assessment are to encourage continued reform and liberalisation of the electricity and gas sectors, improve security of supply, promote the use of renewable energy and energy efficiency in the EBRD countries of operations, and assist the private and public sectors to measure regulatory and legal risk so as to facilitate energy-targeted investment and development throughout the region. The Assessment examines whether the legal and regulatory frameworks for electricity and gas in the Bank's countries

¹ As of 23 October 2007 the EBRD no longer makes new investments in the Czech Republic, however, the Bank continues to monitor its portfolio of projects in the country. Notwithstanding this, the Czech Republic has been included in this Assessment solely for comparison purposes.

of operations are sufficiently extensive to make possible and facilitate energy sector transition and reform objectives. It measures the state of play in the energy sector with regard to status, progress, level of approximation of the legal framework to best practices, future needs and the like. In doing so, the EBRD wishes to be in a position to assess the effectiveness of its technical cooperation efforts and to identify the needs for further cooperation and assistance that the Bank could provide in furtherance of its mandate.

The specific objectives of the 2010 energy sector Assessment are:

- To provide a reliable evaluation of the legal and regulatory framework of the electricity and natural gas sectors in the Bank's countries of operations in order to encourage, support, influence and guide ongoing reforms and future legal reform efforts in those countries.
- To assist the EBRD in measuring legal and regulatory risk in its countries of operations and in specific investment activities.

The results from the Assessment are published on the EBRD website <http://www.ebrd.com/pages/sector/legal.shtml>. In addition, summaries of the Assessment appear in the EBRD's economic review, *Transition Report (2009)* and in EBRD's legal journal, *Law in transition 2010*. The glossary of main technical terms used in this Report is contained in Annex 1.

III. ASSESSMENT MODEL AND METHODOLOGY

The Assessment was conducted through questionnaires and responses, together with supplementary research and analysis. While efforts have been made to verify the data collected with all participants, in a few instances the Assessment Team did not receive direct data from a few countries (although all had repeated opportunities to provide material). The cut off date for collecting all data for the Assessment was 31 December 2009.

The Assessment Model is applicable across the wide range of political, economic and infrastructure environments in the transition region. It uses a list of criteria and principles that have broad international recognition. The Model is also adaptable, however, to the differences in sub-regions wherever possible, and offers a quantitative analysis that accommodates partial or developing frameworks.

Internationally, we are unaware of a multilateral standard embodying generally accepted best practices exists in the energy sector (unlike, for example, the telecommunications sector²). The EBRD has therefore encouraged public comment and consultation and high-level negotiation among stakeholders to elaborate and promote detailed, sound standards. This Assessment has looked to those best practices that have achieved a high degree of consensus over the years. These are drawn from international³ and regional agreements,⁴

² The World Trade Organisation Reference Paper on Basic Telecommunications Services defines a set of regulatory principles for the establishment of fair market conditions in the telecommunications sector, and by 2008 around 75 countries had formally accepted the Reference Paper.

³ One important example is the Energy Charter Treaty. Its fundamental aim is to strengthen the rule of law on energy issues by creating fair and transparent rules to be observed by all participating governments, thereby mitigating risks associated with energy-related investment and trade. Signed in 1994, the Treaty entered into force in 1998. Belarus and Russia have signed but not ratified it, while both Serbia and Montenegro are yet to sign.

⁴ These include, among other things, the following EU Directives and Regulations in the energy sector, which are accompanied by Interpretive Notes: Directive 2003/54/EC (Electricity Directive); Directive 2003/55/EC (Gas Directive); Regulation (EC) No. 1228/2003 and the Revised Guidelines on Congestion Management (CMG); Regulation (EC) No. 1775/2005 (access to the gas network); Council Directive 2004/67/EC (security of gas supply); Directive 2005/89/EC (security of electricity supply); Note of the Directorate-General for Energy and Transport of the European Commission on Unbundling; Note of the Directorate-General for Energy and Transport of the European

treatises and papers by IFIs,⁵ aid organisations,⁶ leading sector experts⁷ and regional regulatory groups.⁸ These general principles form the benchmarks by which to measure energy regulatory development. A summary of the applicable benchmarks and indicators is provided in this section; further elaboration of these, along with a more detailed explanation of the weightings system applied, is provided in section VIII.

1. Benchmarks

The benchmarks against which the country data is measured are:

- clear, coherent and targeted policy, supported by primary legislation that sets out the rights and obligations of different sector participants and supplemented by consistent secondary legislation (all publicly accessible)
- a solid institutional framework of regulation in the form of an energy regulator, ideally independent but at least sufficiently separated from industry and from policy-making
- a liberalised electricity market, or a framework that supports steady movement towards such a market, and a framework in the gas sector that supports a wholesale market
- non-discriminatory, third-party access to the existing network
- the effective separation of the network business from (commercial) generation and supply activities
- the elimination of cross-subsidies and promotion of cost-reflective tariffs
- a fair, equitable and transparent licensing procedure
- a dispute resolution and appeal process that is efficient and accessible
- a transparent framework that holds the regulatory authority accountable
- public service obligations that are carefully targeted to support vulnerable customers, rural or outlying customers, environmental protection and security of supply, while not impeding liberalisation.

(footnote cont'd)

Commission on Distribution; Note of the Directorate-General for Energy and Transport of the European Commission on Exemptions. Explanations for the rationale behind these rules provide helpful insight into the core principles underlying them, and can be found in Jones and Webster (2006), Albers et al (2005) and Bertoldi et al (2006).

⁵ For example, P. Moffatt and V. Haralampieva (2008), “Core principles for effective power sector reform”, *Law in transition online*, EBRD; World Bank (2006), “Handbook for evaluating infrastructure regulatory systems”.

⁶ See R. Archer (2007), “Autonomy-authority-accountability-ability: key characteristics of regulatory authorities”, USAID.

⁷ See, for example, World Resource Institute, National Institute of Public Finance and Policy and Prayas Energy Group (2004), “Electricity governance toolkit”, Washington, D.C., World Resource Institute; see Cubbin and Stern (2005), “Regulatory effectiveness and the empirical impact of variations in regulatory governance”, World Bank Policy Research Working Paper No. 3535.

⁸ NARUC Principles (1991); CEER Regulatory Benchmarking Standards for South East Europe Regional Electricity Market (2003) WG SEEER Discussion Paper, Brussels; ERGEG Good Practice Guidelines in the electricity and gas sectors, issued periodically and updated, see http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS; G8 Meeting of Energy Ministers; Round Table of Energy Regulators; G8 Summit (2009).

2. Indicators

Eight indicators are distilled from the benchmarks, each assigned a points value, and the composite score from all indicators is used to assess each sector participant (to a maximum of 100). The most fundamental criteria (regulatory authority and independence) receive the greatest weightings.

- **Regulatory independence – maximum score 15 points:** this indicator assesses the institutional framework in order to measure a regulatory authority's degree of freedom from industry, government and other interests.
- **Regulatory authority – maximum score 15 points:** the more independent the regulatory authority, and the more autonomy it has to decide the framework tariffs, the more likely is the development of a market economy that supports competition and cost-reflective prices.
- **Market framework – maximum score 14 points:** this indicator assesses the degree to which competition is possible, as well as the actual degree of competition in the market.
- **Network access – maximum score 12 points:** this assesses the network options available to new market entrants. Without access to a stable network that is able to handle increases in capacity, new producers cannot sell their product (within or beyond a country's borders) and new customers may be restricted.
- **Tariff structure – maximum score 12 points:** a liberalised market requires that energy enterprises receive a fair price for the energy produced, distributed and supplied.
- **Public service obligations – maximum score 10 points:** it is widely accepted that some energy services (particularly transmission) are monopolies and therefore require regulation that includes public service and public protection components.
- **Transparency and accountability – maximum score 12 points:** without transparency and accountability, any regulatory and policy framework can be subject to abuse, misinterpretation or disregard.
- **Private sector participation – maximum score 10 points:** this indicator is mostly concerned with the viability of the existing legislative and regulatory framework for bringing in new investment.

Although the indicators are the same for electricity and gas, several subcomponents vary in order to accurately reflect the differences between the two sectors. These differences are small and, where applicable, are noted in the Assessment.

3. Country/regional groupings

The EBRD countries of operations are divided into three separate groupings:

- Group A: These are EBRD countries of operations which are EU Member States. They are measured against each other because each is subject to corresponding legal commitments. The EU countries covered are only the newer members (2005 and 2007 entrants) which are EBRD countries of operations.⁹ These countries are held equally to a set of rules¹⁰ and guidelines, themselves developed from international best practices and elaborated over time by CEER (Council of European Energy Regulators) and ERGEG (European Regulators Group for Electricity and Gas) in the form of guidelines and position papers.
- Group B: The Energy Community contracting parties,¹¹ which grouping includes all the South East European countries, along with the observers to the Energy Community Treaty (EcT), which are Moldova,¹² Georgia, Ukraine and Turkey. These are in one grouping to reflect the common rules under which each is bound and the common objectives to which each has committed, pursuant the EcT.¹³ Energy Community contracting parties and observers are also part of an international meeting forum, the Athens Electricity Forum and the Gas Forum, which bring together international IFIs, aid organisation and donor perspectives on regulatory, policy and market best practices in the energy sector and advise the Energy Community on steps to be taken to bring about greater reform.
- Group C: This Group includes Mongolia, Armenia, Azerbaijan, Belarus, Kazakhstan, the Kyrgyz Republic, Russia, Tajikistan, Turkmenistan, and Uzbekistan. Many of these countries are Russian speaking and all, except Mongolia, are members of the Commonwealth of Independent States (CIS).

⁹ These are: Bulgaria; Estonia; Hungary; Latvia; Lithuania; Poland; Romania; Slovak Republic and Slovenia. As noted, the Czech Republic is provided for comparison purposes.

¹⁰ These include mandatory rules on: (a) market opening (currently full opening on gas and electricity; all customers can choose and switch their supplier), (b) unbundling (in particular, separation between transmission/distribution and other activities; currently, legal separation), (c) access to the grid (regulated TPA, non-discriminatory and transparent rules, ideally cost-reflective), (d) an independent regulator, and (e) articulated regulatory with respect to tariff methodology and fixing.

¹¹ There are seven “contracting parties.” These are Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and UNMIK. These are the signatories of the Treaty establishing the Energy Community and by signing have committed to adjust their laws to accommodate key provisions of the EU framework on energy, consistent with the timeframe set forth in the Treaty establishing the Energy Community. Observers by contrast have not made this commitment formally, though all have indicated a willingness to move in this direction in the future; for most, at a slower pace that recognises some of the additional limitations these countries face, such as for instance, limited infrastructure development, non-synchronous zones, and differences in the stages of market development.

¹² On 1 May 2010 Moldova became the eight full fledged member of the Energy Community Treaty.

¹³ All have indicated a desire to become contracting parties to the Treaty establishing the Energy Community, and in the case of Turkey, also a member of the EU.

IV. RENEWABLE ENERGY SOURCES AND ENERGY EFFICIENCY

Measures to promote the development and use of renewable energy and energy efficiency deserve targeted attention, separate from the analysis and approach offered for conventional energy, because not only do they promote sustainable approaches to energy development, but they are characterised on a geo-political level by the need for environmental and supply security, and on an operational and regulatory level by unique characteristics such as grid access and cost. So, for example, the importance of energy efficiency and renewable energy has resulted in the development of specific targets regionally in the U.S. and EU, as well as in individual states and countries, along with changes in the governing legal frameworks and guiding principles to remove barriers to energy efficiency and renewable energy use. Initial support mechanisms are viewed as spurring technology development and reducing expensive up-front costs that often come with new renewable energy initiatives.

Increasing concern regarding climate change resulting from emissions, along with growing energy use around the world and concerns regarding energy security, means that any evaluation of electricity and gas sectors must include attention to whether the existing frameworks also promote renewable energy and energy efficiency. Energy efficient measures are directed at finding ways to reduce energy consumption and save energy, while the promotion of renewable energy is directed at reducing carbon emissions and, optimally, at the same time finding new, indigenous, sustainable ways to produce energy.

In consideration of the importance of renewable energy and energy efficiency as we proceed into the 21st century (in which new emerging markets are increasing global energy use and overall carbon emissions), the EBRD launched the Sustainable Energy Initiative in 2006¹⁴, focused on enhancing energy efficiency in the industrial power and municipal infrastructure sectors, developing renewable energy, and supporting the development of the carbon credit market in its places of operation. In 2008, the EBRD adopted its latest Environmental and Social Policy, which articulates EBRD policies on sustainability, emphasising that EBRD's mandate to foster transition to market-based economies and promote private entrepreneurship is inextricably linked to its commitment to sustainable development.¹⁵ So too, the European Commission has adopted new Directives and regulations to promote sustainable energy initiatives.¹⁶

¹⁴ See <http://www.ebrd.com/country/sector/energyef/sustain.htm>.

¹⁵ See <http://www.ebrd.com/about/policies/enviro/policy/2008policy.pdf>.

¹⁶ The new renewable energy sources Directive was published on 26 March 2009. The full text is available at: <http://register.consilium.europa.eu/pdf/en/08/st03/st03736.en08.pdf>. Importantly, it makes clear that the development of renewable energy sources is a core priority for the internal market in the EU. With this in mind, the renewable energy sources Directive creates various legal structures to encourage investment in renewable energy. For instance, while the existing EU energy *acquis* requires non-discriminatory access to the grid and thus prohibits priority access or reservation of capacity, the renewable energy sources Directive holds that renewable energy is an exception to the standard rule. Article 16 provides that Member States shall take steps to enhance their networks to accommodate the development of new renewable energy sources and ensure that when dispatching electricity generating installations, transmission system operators give priority to generating installations using renewable energy sources as permitted by the secure operation of the national electricity system and based on transparent and non-discriminatory criteria. A similar effort underpins energy efficiency measures. At the end of 2006, the EU pledged to cut its annual consumption of primary energy by 20% by 2020. To achieve this goal, the European Commission is working to mobilise public opinion, decision-makers, and market operators and to set minimum energy efficiency standards and rules on labeling for products, services and infrastructure.

The World Bank has developed a renewable energy toolkit that, *inter alia*, identifies the importance of overcoming barriers to renewable energy development, including in the legal and regulatory spheres.¹⁷ As these are consistent with EBRD's sustainability policies and initiatives, the key common points are summarised here:

- The need for adequate legal frameworks in order to enable independent power producers to sell into common power grids/networks
- The importance of non-discriminatory pricing rules that avoid penalising smaller and/or intermittent renewable energy, such that these are de facto discouraged
- The significance of introducing streamlined licensing and/or permitting rules to avoid unnecessary cost or delay, and to reassess zoning restrictions that may place undue bureaucratic requirements on potential investors; similarly, interconnection requirements should be assessed and streamlined where possible to facilitate entry to the market by small entrants with limited resources

Over a decade ago, most countries joined an international treaty — the United Nations Framework Convention on Climate Change (UNFCCC) to develop international agreements on steps to reduce global warming (ratified by 192 countries). Following upon this, a majority of nations adopted the Kyoto Protocol. The major distinction between the Protocol and the Convention is that while the Convention encouraged industrialised countries to stabilise GHG emissions, the Protocol commits them (currently 37 countries) to do so.¹⁸ While the December 2009 conference in Copenhagen (the 15th Convention of the UNFCCC) did not result in mandatory obligations that would follow Kyoto (which requires a next phase of agreement post 2012), initiatives in promotion of renewable energy and energy efficiency continue to align internationally.

This Assessment includes consideration of how renewable energy incentives are incorporated into the individual regulatory and policy frameworks and how energy efficiency is integrated into the sector operation. Though the Assessment does not offer an in-depth review of the renewable energy and energy efficiency frameworks in each country, and cannot offer specific benchmarks or indicators for renewable energy and energy efficiency development, as these must be a subject for further study and evaluation, the Assessment provides an overview of the policy and legal frameworks, the regulatory involvement and international commitments to which each of its countries of operations are engaged. The goal is to contextualise energy sector reform within the growing priority of renewable energy and energy efficiency, understanding that this growth will offer changes to the energy sector market and operation in the years to come.

In the EBRD countries of operations which are EU Member States, the frameworks have been recently, or are in the process of being adjusted to incorporate renewable energy and energy efficiency incentive structures largely as part of national efforts to conform to EU requirements. In other countries of EBRD operations, renewable energy and energy efficiency development tend to be even more incipient, and at this moment in time, not yet sufficiently advanced to support standardised benchmarks or their supporting indicators.

¹⁷ See <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf> and http://siteresources.worldbank.org/EXTENERGY2/Resources/toolkit_book_final.pdf?resourceurlname=toolkit_book_final.pdf. See the World Bank, *RE Toolkit: A Resource for Renewable Energy Development* (2008) at www.worldbank.org. The Toolkit reviews the status and cost of renewables and looks at the differences in types of renewable energy and incentives, together with other issues.

¹⁸ See http://unfccc.int/kyoto_protocol/items/2830.php. The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. 184 Parties of the Convention have ratified its Protocol to date. The detailed rules for the implementation of the Protocol were adopted at COP 7 in Marrakesh in 2001, and are called the "Marrakesh Accords."

V. DATA GATHERING

1. Source

The information used in this Assessment is drawn from:

- The three questionnaires sent by the EBRD to the regulatory authorities and/or relevant ministries in the Bank's countries of operations in June - July 2009.
- Local expertise and personal interviews with authorities and ministry officials or follow up correspondence with individual authorities and ministry officials conducted by local experts and consultants.
- Desk research from public documents and source materials, including primary legislation, regulations and other secondary legislation, policy statements and energy strategies, among others.

While the majority of regulators were approached comprehensively in some cases, regulators or relevant government officials failed or refused to respond; in these cases, the Assessment Team relied on public documents, source material and local expertise, including laws, regulations, policy statements and energy strategies, to fill in the required data.

2. Questionnaires and responses

The Assessment was conducted by use of questionnaires and responses, together with supplementary research and analysis. Three questionnaires were developed, one each for: (1) electricity; (2) gas; and (3) environmental energy issues related to promoting renewable energy and energy efficiency. Each questionnaire was designed to address the benchmarks and incorporated indicators, and is attached as part of Annex I to this Assessment. Because this Assessment focuses on energy regulation, the questionnaires were sent as a first step to the regulators only (or the key ministry in charge of energy, where no energy regulator exists). In a good number of countries, the regulatory authorities handle electricity and gas matters, but do not have specific authority over incentives related to renewable energy or energy efficiency; in many of these jurisdictions, upon the request of the regulator, the environmental questionnaire was then sent to the designated governmental institution. Efforts have been made to get approval from all participants for the data; in a few cases the Assessment Team did not receive direct data from the countries though all have had repeated opportunity to provide material. Many of the questionnaires were completed in full by participant regulatory authorities and governmental authorities.

Additional opportunity to comment by participant countries was provided in the form of review of country profiles developed as part of the Assessment. A draft of the country profile for each EBRD country of operations was sent to the national regulatory authority and ministry as appropriate, for review and comment prior to publication. To ensure maximum participation and involvement of the countries, the EBRD and its consultants followed up directly with the relevant contacts in each country of operations to encourage and discuss comment, and emphasise the value of direct feedback from the countries.