

## POLICY PAPER

# POSSIBLE CHALLENGES OF HARMONIZATION OF GEORGIAN LEGISLATION WITH THE ACQUIS COMMUNAUTAIRE OF THE EUROPEAN UNION IN ENERGY SECTOR

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*The content does not necessarily reflect the view of PMC Research Center or Konrad Adenauer Foundation*

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## Introduction

European Union's (EU) strategic interest and relations with Georgia have been developing over past years. In this period, Georgia significantly deepened its ties with the EU. On the one hand, EU's strategic interest and on other hand, Georgia's considerable progress in the reforms maintained to implement EU's foreign policy initiatives in Georgia such as the European Neighbourhood Policy (ENP) and the Eastern Partnership (EaP). These initiatives are aimed at economic development, fostering democracy, equality, rule of law and strengthening human rights credentials. In general, EU-Georgia relations have been centred on three main issues: assistance to political and economic transition processes, conflict resolution and support to the development of the energy potential of the country.

Furthermore, EU and Georgia has recently signed an Association Agreement (AA) including the Deep and Comprehensive Free Trade Area (DCFTA). While it demonstrates a stronger future cooperation between EU and Georgia, Association Agreement provides a framework for a new relationship based on political association and economic integration and also sets out the requirements for Georgia to comply with EU standards and regulations for eventual membership in the EU. The AA constitutes a reform agenda for Georgia focusing on economic recovery and growth, governance and sector cooperation. Therefore, reforms and approximation process envisaged in broad range of areas including energy sector of Georgia. Within the AA, Georgia is committed to gradually approximate its legislation to the EU energy legislation and international instruments. Approximation process should be implemented in accordance with the timeline agreed by Georgia in the framework of the Energy Community Treaty. In case Georgia will not join to the EU Energy Community within two years of the entry into force of AA, it has to prepare a proposal that will define a timeline no later than three years after the entry into force of the AA for the implementation of EU Energy Directives<sup>1</sup>.

Therefore, Georgia prioritizes enhanced energy cooperation with the EU in the framework of the Energy Community Treaty. European Energy Community (EnC) unites both EU member states and third countries without membership in the EU. Currently Georgia is an observer in the (EnC) since 2007 but expresses its interest to apply for full membership. Hence, Georgia-EU discussions regarding the accession into the European Energy Community is additional challenge for Georgia to implement reforms and to harmonize its energy market and legislation in line with EnC requirements. By becoming full member of the EnC, Georgia will have closer ties with EU's single energy market. While meeting local energy demand, it is intended that liberalization of Georgian energy sector in accordance with EnC's Third Energy Package will alter faster sustainable economic growth, attract investments, increase energy security and

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<sup>1</sup> Appendix XXV, Association Agreement

financial sustainability of the sector. Part of the harmonization process involves initiating and implementing modern energy and climate legislation.

Path to EU is quite long and challenging for the country first tasting competitive world two decades ago. After the collapse of the Soviet Union, all sectors of the economy, including energy, was collapsed in Georgia. New independent state was involved in civil wars and it took many years to improve situation. After restoration of political stability and economic situation, energy sector of Georgian has undergone through a significant transformation. Notable progress has been achieved in energy sector liberalization, energy security and legal and regulatory framework. Currently, principal energy sector primary and secondary legislation in Georgia incorporates some aspects of regulation and rules in accordance with EU principles. However, complying with EnC's requirements obliges Georgia to change significantly its energy legislation and to create new market framework, which will maintain to achieve security of supply, competitiveness and sustainability goals.

Georgia's accession in the European Energy Community is a special case, while it is an isolated energy system from EnC member countries. Georgia is more integrated with the energy systems of neighboring countries' and in case of emergency situations in their energy system, these countries can help each other. In similar case, if any member of Energy Community faces serious disturbance to the energy networks that cannot be handled at the national level, EnC obliges all member states to help the state in need in the framework of the mutual assistance mechanism<sup>2</sup>. Due to the fact that Georgia is not contiguous with Europe, mutual assistance mechanism for Georgia needs to be exceptionally considered. On the other hand, joining to the EnC can lead to more transparent and clear rules of play on the energy market, greater competition and efficiency among domestic producers in Georgia in line with the principles of European energy market. However, close energy ties with neighboring countries cannot be rejected and must be taken into consideration. Among the Georgia's neighbor countries only Armenia is an observer<sup>3</sup> in the EnC, but does not verify its choice to move towards Europe. Neither Russia nor Azerbaijan express their will for possible accession in the European Energy Community. Due to the fact that energy markets in these countries are still highly concentrated and non-transparent, increasing regulations in Georgian energy market may complicate energy relations between Georgia and its neighbors. Hence, the costs and benefits of accession to the EnC must be carefully assessed in order to take into account every political, economic and social interests of the country.

There is still lack of knowledge and literature focused particularly on the possible challenges of harmonization of Georgian legislation with the EU Energy Community Acquis Communautaire and moreover on regional cooperation between neighbouring countries and with EU. Objective of the paper is to form better understanding of implementation issues related to EnC's Third Energy Package with the perspective of

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<sup>2</sup> Article 44, Treaty establishing the Energy Community

<sup>3</sup> According to the Article 96 of the Treaty establishing the Energy Community, any neighboring third country can be accepted as an observer to the Energy Community. Observers have right to participate in the meetings, make statements upon request and consequent permission by the Chair and receive any information distributed before, during and after the relevant meetings.

Georgia's integration in the European energy market. Therefore, paper aims to assess where Georgia stands and what additional requirements need to be complied for EnC's membership, to examine how Georgia's energy market will be affected and to prioritize issues that has to be taken into account during the negotiation process between Georgia and European Energy Community.

## **I. Research Methodology**

The paper is based on desk research and gap analysis of EU Energy Community Acquis and related acts of Georgian energy legislation. The research paper aims to observe legal and regulatory framework of Georgian and EU energy sector, to compare them and to identify the issues for approximation and measures to mitigate revealed gaps through outlining the need for changes applicable for the energy market of Georgia.

In particular, the paper focuses on the EU acts regarding the regulation of the four major areas: electricity, natural gas, renewable energy and energy efficiency. The paper identifies key aspects in each area that are crucial to accelerate approximation process between Georgia and EU Energy Community.

### **2.1 European Energy Community**

Energy sector liberalization process is an important development around the world in the period of the past two decades. Reforms in energy sector are mainly driven by the motivation to introduce competition, transparency and customer choice. It is believed that competition will lead more efficiency in the sector and lower system costs, while transparency will make energy prices non-discriminatory, which on its turn will maintain to decline of electricity prices and to improve services. The reforms in electricity sector in the EU was aimed to develop a single electricity market. In this context, pivotal step was creation of European Energy Community. It establishes a common development policy and regulatory framework for energy markets within the EU member states and number of third countries.

"Energy Community is about investments, economic development, security of energy supply and social stability; but – more than this – the Energy Community is also about solidarity, mutual trust and peace. The very existence of the Energy Community, only ten years after the end of the Balkan conflict, is a success in itself, as it stands as the first common institutional project undertaken by the non-European Union countries of South East Europe."<sup>4</sup> EU's energy interests and policy towards neighbouring countries was reason to establish the Energy Community between the EU and a number of third countries in order to extend the EU internal energy market to Southeast Europe and beyond.

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<sup>4</sup> European [Energy Community, www.energy-community.org](http://www.energy-community.org)

The goal of the Energy Community is to develop a single electricity market, to create a stable regulatory and market framework that will permit the efficient operation of energy markets and ensuring the security of supply of the energy. Among the members of the Energy Community are two former Soviet Union countries: Ukraine (September 2010) and Moldova (March 2010) and two more from South Caucasus - Georgia (December 2007) and Armenia (October 2011) are observers. Any other neighbouring third country can obtain an observer status and later on they can express their interest in full membership. In this case, observer and contractor countries are obliged to develop an adequate regulatory framework and liberalise their energy markets in line with the *acquis* under the Treaty. The EU Energy Community requirements are implemented over a certain period of time taking into account their specifics and conditions. Based on common practice, every country signs a protocol for accession to the EnC, which represents detailed timeline and requirements to be fulfilled in accordance with the Treaty establishing the Energy Community.

In 2009, the Treaty of Lisbon entered into force which established new legal framework and significantly enhanced EU's external dimension as an actor on the global stage. Along with various initiatives and policy recommendations, one of the main milestones of the EU Energy Community is the creation of energy strategy. EU energy strategy defines energy priorities for the following years and sets the actions to be taken in order to create market with competitive prices and secure supplies, saving energy, utilization of renewables and reducing the carbon footprint from the energy sector. Specifically, EU energy strategy goals are the following:

- To create competitive integrated energy market
- To attract investments in energy sector
- To provide secure and sustainable energy supply to customers.

Along with energy strategy, EnC has been developing energy directives since its creation in order to achieve strategy goals and to transfer market models from monopolistic to competitive structure in the electricity and gas sectors. Currently, three energy packages exist in the European Energy Community.

The first energy directive was adopted in 1996. It establishes the common rules to create a single internal energy market. This directive introduces competition and determines structure, general principles and rules related to the functioning of production, distribution, transmission and supply fields in the electricity and gas sectors in accordance with unbundling procedures. For example, energy companies operating in more than one field are required to maintain separate accounts for each market activity and keep such accounts transparent. Moreover, member states are required to create efficient mechanisms to regulate and to monitor the markets in order to prevent abusive actions in the markets. This package also introduces the concept of Third Party Access (TPA), which implies that transmission system operators cannot discriminate between system users and can refuse access to the system only on the basis of lack of capacity or where the access to the system would prevent them from carrying out their public-service obligations.

Second energy package was adopted in 2003. It deals with the issues specified in the first energy package. It further focuses on the unbundling and TPA issues and defines the need for independent regulatory authorities. In the framework of this package the member countries should fulfil public service obligations for security of supply, quality of supply, price equality and preservation of the environment. The member states are also required to protect final customers and in particular the vulnerable customers. At the same time, the second energy package reinforced the legal and the functional unbundling of transmission and distribution activities. However, in order to avoid cross-subsidies and unfair competition, the vertically integrated companies<sup>5</sup> should keep separate accounts for each market activity. The member states are responsible for ensuring the TPA implementation on a non-discriminatory basis in order to fully open the market for both non-household and household customers. Finally, member states must designate a regulatory authority.

Nevertheless, second energy package failed to maintain desired liberalized energy market. Hence, the third energy package was proposed by the European Commission and was adopted by European Parliament in 2007. The third energy package is based on the principles such as a free selection of supplier, fair prices, cleaner energy and security of supply. This package established new unbundling regime and rules, thus, brought more responsibilities for regulatory authorities in order to achieve fully competitive energy market. It also improved consumers' rights, provided a number of measures for the functioning of the internal electricity and gas market. At the same time, the third energy package allowed member states to choose between three different unbundling options in order to separate supply and production activities from electricity and gas networks. These options are:

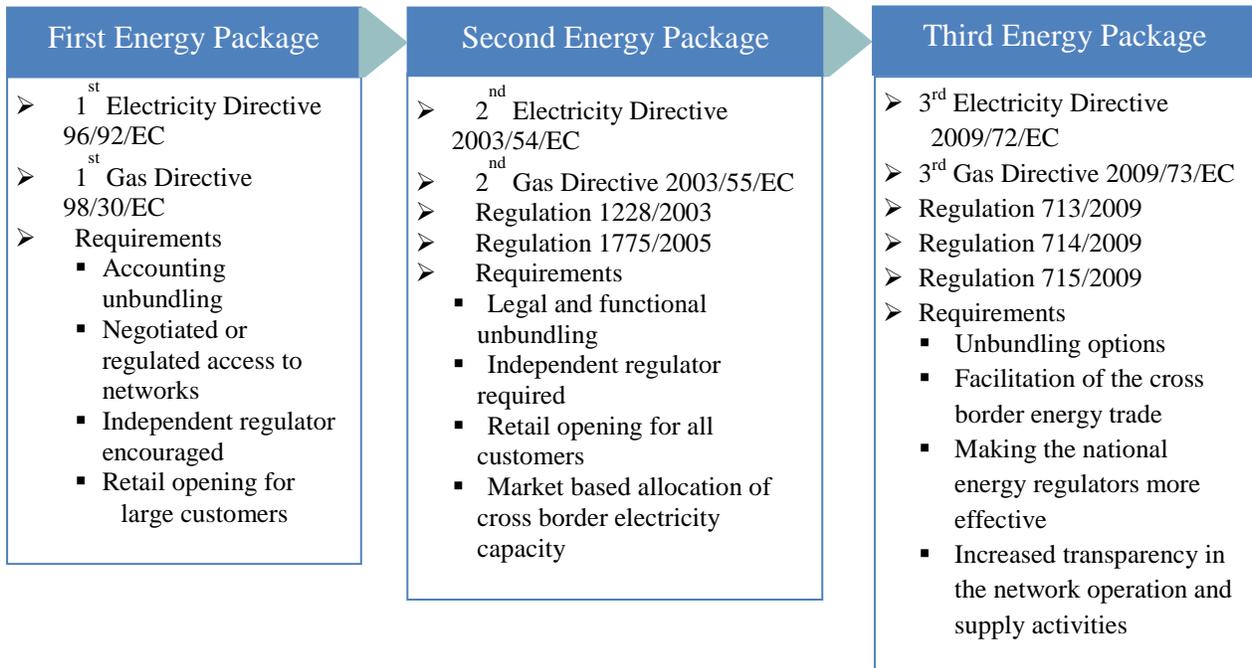
- **Full ownership unbundling:** owner of transmission network and transmission system operator should not be a part of the vertically integrated company. Vertically integrated companies must sell their electricity grids and establish separate TSOs handling operations of all networks
- **Independent System Operator (ISO):** energy company retains the ownership of its transmission networks but it is obliged to take control of the operation to a separate entity
- **Independent Transmission Operator (ITO):** energy company retains the ownership of its transmission network but must to abide by specific rules responsible for the decisions, which have a significant impact on the value of the assets of the shareholders

Separation of ownership methods adopted for the transmission system has not been specified for the distribution system. In other words, the distribution system operators may be a part of the vertical integrated company provided they keep their accounts separately and make legal separation. Evolution of energy packages are shown in the Figure 1.

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<sup>5</sup> Vertically integrated company owns all activities in the supply chain of energy.

**Figure 1. Evolution of Energy Packages in the European Energy Community**

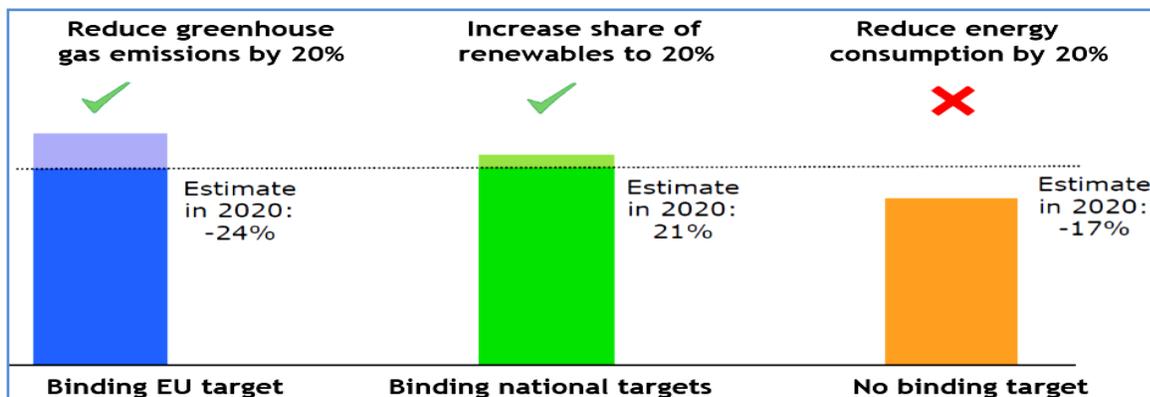


The EU energy packages demonstrate a set of binding legislations, which aim to reach the energy sector targets for 2020 through a secure, competitive and sustainable supply of energy to the economy and society in the EU. The targets, also known as the "20/20/20" targets, set three key objectives for 2020:

- 20% reduction in EU greenhouse gas emissions from 1990 levels
- Increasing share of renewable resources in the EU energy consumption to 20%
- 20% improvement in the EU's energy efficiency

Progress towards 2020 targets based on 2013 statistics is shown in the Figure 2.

**Figure 2. Progress towards 2020 targets**



Source: European Commission

## 2.2 Synopsis of Georgian Reforms in the Energy Sector

Geographical location of Georgia between Europe and Asia makes its strategic role important as a transit corridor for energy resources, generating both transit revenues and free energy. In addition to its energy transit potential, Georgia has large hydro resources that can largely contribute to the energy security and development of the country. However, Georgia covers about 65-70% of its gross energy demand by import. Hence, energy security remains among the top priorities for Georgia. In other words, the Government of Georgia aims to reduce its energy dependency on imported fossil fuels through diversification of energy resources and energy supply sources. Taking into consideration growing of local energy demand and no significant oil, gas and coal reserves, need for long-term energy policy and strategy is crucial for Georgia. It will allow Georgia to define carefully the country's priorities, action plan and comparative advantages of different energy resources that can bring increased welfare and place Georgia to best position on a regional and international level energy chessboard.

Until now, Georgia has been establishing competitive environment and setting the priorities to develop energy sector. In 2006, the Parliament of Georgia adopted a decree on "Main Directions of State Policy in the Energy Sector of Georgia". It identifies number of activities for the development of energy sector, such as to meet local energy demand, to utilize local energy resources, to achieve economic independence of the sector, to increase security of supply, to promote investment, to develop tariff policy, third party access, regional cooperation, liberalization and full deregulation of the market based on the international practice. According to the decree, the electricity market should be fully opened by 2017 implying that the margin of access of the third party to the electricity transmission and distribution networks will be reduced in stages and by 2017 it will equal to 1 kWh.

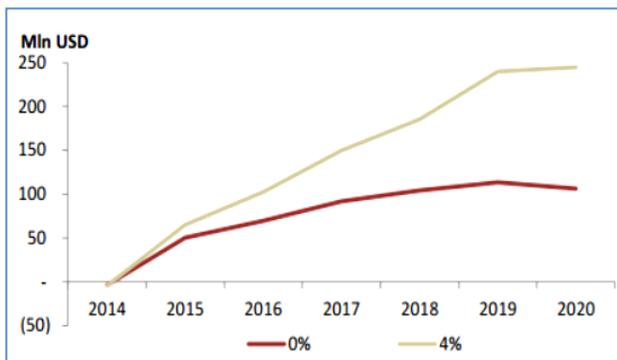
In the beginning of 2012, Ministry of Energy of Georgia (MoE) approved Georgian Electricity Market Model 2015 (GEMM 2015) and Electricity Trading Mechanism (ETM) as a core strategic document<sup>6</sup>. GEMM 2015 and ETM envisages development of Georgian electricity sector in line with EU competitive market principles and movement toward the convergence of regional energy markets with required modifications. Changes in the electricity market will maintain of proper environment for private investments in hydropower development, to integrate Georgia into European institutions, to improve Georgia's balance of energy trade by reducing the country's fuel import dependency and to increase electricity exports. These documents also define the key areas of support and steps forward in order to harmonize electricity market legislation with Turkey and South-East European countries. It also enables competitive electricity cross-border trading and establishes legal framework and commercial conditions necessary for the development of competitive, transparent and non-discriminatory electricity market in Georgia.

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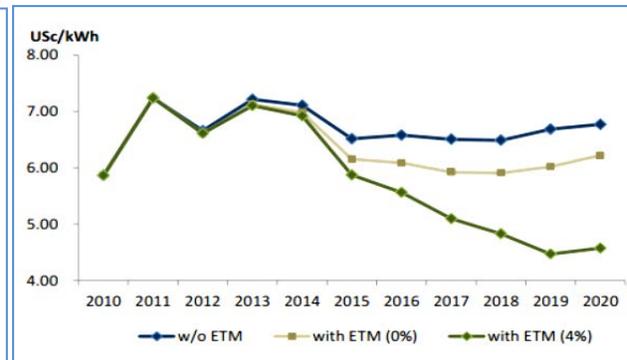
<sup>6</sup> GEMM 2015 and ETM was developed by the Hydropower Investment Promotion Project (HIPP) under financial support of USAID

The report on the impact of the electricity trading mechanism on the electricity power system in Georgia (HIPP, 2012) provides quantitative and qualitative analysis of the GEMM 2015 and ETM's long-term costs and benefits. Based on the report, assuming implementation of ETM, total benefit for Georgia is around 50 million USD per year as of 2015 in case of no escalation rate of export price. While under the assumption of 4% escalation rate of export price, total benefit, including the potential export, increases almost double in comparison with the first scenario (see Figure 3). On the other hand, ETM implementation will reduce total system cost by 10% per year in comparison to the current system (Figure 4) which in turn can lead to reduction of electricity price for tariff customers.

**Figure 3. Total costs and benefits from increasing export potential**



**Figure 4. Projected domestic tariffs with/without ETM implementation with 0% and 4% escalation rate for the potential export price**



Long-term vision, vision of Ministry of Energy sets out a strategic policy framework to address the priorities and development opportunities in the energy sector of Georgia. It comprises a set of measures and indicators, which have to ensure country's energy security and its development. It highlights new international directions, which is a consistent with the association and execution of other obligations under the international agreements. The core national energy policy directions are:

- **Diversification of supply sources and optimal exploration of local energy resources:** Through diversification of supply sources it is intended to improve national energy security. Therefore, search and exploration of the potential natural resource reserves and their rational utilization need to be fully facilitated;
- **Utilization of Georgia's renewable energy resources:** Georgia is among the leaders in the world with the per capita concentration of natural hydro resources. At the same time, it has other renewable potentials from wind, solar, biomass and geothermal resources which can be used against climate change and carbon footprint. In this regard, creation of enabling investment environment through creation of transparent and non-discriminatory legal basis is necessary;
- **Gradual approximation and later harmonization of Georgia's legislative and regulatory framework with the EU's Energy Acquis:** Georgia's will for stronger political and economic cooperation with EU can be supported by the

gradual harmonization of Georgian energy legislation with the EU Energy Acquis. It will facilitate development of competitive, secure, financially stable and sustainable energy markets in Georgia;

- **Improving energy market and energy trading mechanism:** Development of energy market and commercial relations under the competitive market principles will lead to transparent and non-discriminatory relations among market participants and improved energy trade balance of Georgia.
- **Strengthen Georgia's importance as a transit route in the region:** Georgia's strategic geographical location between Europe and Asia as a transit corridor for energy resources must be effectively utilized that will improve its energy security and economic development;
- **Georgia – regional platform for generation and trade of clean energy:** enabling investment environment for Georgia's hydro resources, infrastructure development and liberalized legal framework will turn Georgia into a regional platform for the generation and trading of clean energy;
- **Develop and implement an integrated approach to energy efficiency in Georgia:** Currently energy intensity indicator for Georgia remains higher than EU member states and other developed countries. Therefore facilitation of Demand-Side Management (DSM) in Georgia will decreasing energy intensity which will lead to economic growth and development of the country;
- **Taking into account components of environmental protection when implementing energy projects:** For energy infrastructure projects, social and environmental impacts should be also considered according to follow best international practices;
- **Improving service quality and protection of consumer interests:** In order to improve service quality and protect consumer interests, strengthening of role of the regulatory authority body is necessary. It will ensure monitoring of service quality and regulation of relations between service providers and consumers.

Along with this changes, Government approved Socio-Economic Development Strategy of Georgia (Georgia 2020) in June, 2014. Georgia 2020 describes those priorities and problems which are important to be addressed in order to benefit significant part of the Georgian population by inclusive economic growth. One of the main priorities of the strategy is the energy sector. The priority 4 states the following goal: to develop infrastructure and to maximize the utilization of country's transit potential. Stable and available energy supply is envisioned as an important factor for improving competitiveness of private sector and utilization of Georgia's transit potential. The main direction for energy policy still remains utilization of domestic energy resources and especially hydropower, in order to reduce energy import dependency and increase energy security. Also, the strategy underlines increasing FDIs through further

improvement of enabling environment and regulatory mechanisms. At the same time, the strategy paper raises the following problems in the sector: complexity of connection to the distribution network, technical limitations in the energy distribution network creates problems of stable supply and service quality and lack of competition in the “distribution business”. The main energy policy directions are:

- **Increase energy independence:** In order to increase energy independence and reduce energy imports, Government of Georgia will support local and foreign investment for the development of energy projects, focusing on local Energy utilization.
- **Increase energy efficiency:** for the purpose of energy saving and energy efficiency relevant legal framework will be created based on best international practice.
- **Develop Competitive market and simplify connection to the energy sources:** Facilitating development of competitive energy markets, Government of Georgia intends to support implementation of GEMM 2015.
- **Promotion of electricity export:** Government of Georgia prioritize accession to the European Energy Community in order to expand its export areas. In this direction, implementation of GEMM 2015 is essential together with institutional arrangements and energy efficiency standards for fulfilling EU association agreement

Implementation targets for energy sector together with economic indicators are following:

**Table 1. Economic indicators and energy sector targets under Georgia 2020**

Target	Base	2017	2020
GDP per capita (GEL)	5811.7	-	13 000
Unemployment, %	15	-	13.5
FDI (Share of GDP, %)	6.8	7-8	5-6
Electricity Production (TWh)	9.7	14	18
Access to Electricity (According Doing Business Report)	50	35	25

## II. Electricity Sector

The assessment of Georgia's electricity sector is based on the Directive 2009/72/EC concerning common rules for the internal market in electricity.

Over the last years, Georgian electricity sector has gone process of deregulation. The state owned Electricity Company has been unbundled into generation, transmission and distribution companies and the generation and distribution sector is mostly privately owned. While several EU requirements are already met much remains to be done both in the legal and regulatory and in the market structure areas.

Georgia is among leaders in the worlds in terms of per capita concentration of hydro resources. However, country utilizes only 18% of its hydro resources. Today, about 80% of electricity generation comes from hydro power and only 15% - from coal and gas fired plants. Due to significant spring and summer peaks in river flows Georgian electricity sector is still not self-sufficient resulted in electricity import from neighbouring countries, mainly from Russia. Furthermore, Turkish electricity market is the main export market for newly build Georgian HPPs in the region due to its increasing electricity demand and high electricity prices.

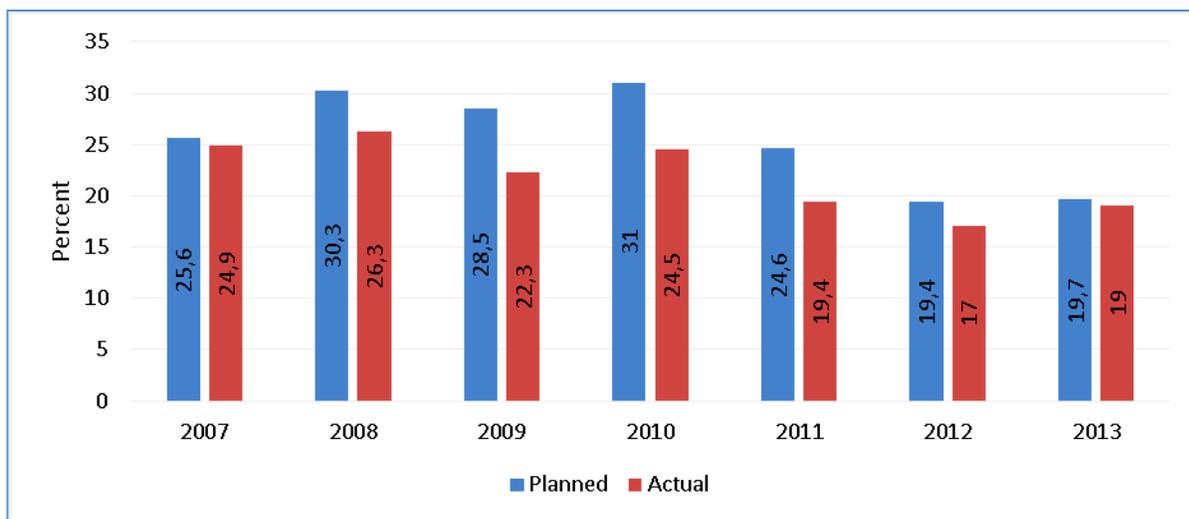
Promotion of competition in the electricity market is one of the main pillar of EU Energy Acquis. According to Electricity Directive Member States are obliged to ensure fair and non-discriminatory treatment among electricity market participants and service providers regarding either rights or obligations. In order to secure competition and the supply of electricity at the most competitive price, EU member states and national regulatory authorities should facilitate cross-border access for new suppliers of electricity from different energy sources as well as for new providers of power generation.

One of the fundamental requirements of the EU legislation in terms of approximation process is unbundling. According to the Electricity Directive in the absence of effective unbundling there is a risk of discrimination among market participants. Therefore, it imposes obligations for member states to ensure ownership unbundling of these activities. Today level of unbundling is not sufficient in Georgia. State-owned JSC "Georgian State Electrosystem" (GSE) is conducting electricity dispatch in Georgian. At the same time, GSE owns major part of transmission facilities. At the same time, distribution companies operating in Georgia (JSC "EnergoPro" and JSC "Telasi") exercise not only distribution but also generation and supply activities. In order to comply with Third Energy Package requirements, Georgia should ensure to unbundle these activities based on the options presented in the Energy Directive. However, Georgian may use derogation procedures for this issue.

The third-party access and market opening are another primary requirements of the Electricity Directive which states that *"Implementation of system of third party access to the transmission and distribution systems should be ensured based on published*

tariffs, applicable to all eligible customers and applied objectively and without discrimination between system users". In Georgia third-party access is ensured by the Georgian Law on Electricity and Natural Gas and the Market Rules under which transmission and distribution system, electricity distribution or dispatch licensees are obliged to wheel through their network under the tariff established by the regulatory authority, electricity of those parties, who under the Electricity Law are eligible to sell power directly to the consumers<sup>7</sup>. At the same time, market openness index is still quite low. According to Georgian National Energy and Water Supply Regulatory Commission (GNERC) actual market opening in 2013 was 19% while it was planned to be 19.7% (See Figure 5).

**Figure 5. Planned and actual market opening in Georgia**



Source: GNERC

### III. Natural Gas Sector

The assessment of the gaps between Georgian electricity sector and Third Energy Package requirements is based on the following EU Energy Acquis: Directive 2009/73/EC concerning common rules for the internal market in natural gas and Regulation 715/2009 on conditions of access to the natural gas transmission networks.

Natural gas is the most used energy resource in Georgia. In 2012, natural gas constituted 43% of Georgia's total primary energy supply. Natural gas in Georgia is used also for electricity generation, especially for winter months. Around 20% of electricity generation in Georgia comes on natural gas fired TPPs<sup>8</sup>. However, Georgia does not have significant oil and gas reserves and imports about two thirds of the primary energy supply to satisfy local energy demand. Taking into consideration its strategic geographic location, Georgia serves as transit corridor for energy resources

<sup>7</sup> Article 46<sup>1</sup>

<sup>8</sup> Electricity Market Operator, [www.esco.ge](http://www.esco.ge)

that generates both transit revenues and energy for the country. Currently almost all natural gas is imported from Azerbaijan (90%) and Russia (10%)<sup>9</sup>. Full dependency on natural gas imports, also lack of suppliers hinders competitive natural gas market development in Georgia. However this problem is not specific only for Georgia. Directive 2009/73/EC states that *"Natural gas is mainly, and increasingly, imported into the Community from third countries. Community law should take account of the characteristics of natural gas, such as certain structural rigidities arising from the concentration of suppliers, the long-term contracts or the lack of downstream liquidity. Therefore, more transparency is needed, including in regard to the formation of prices."* Taking into account this approach, Member States are obliged to ensure provision of real choice for all consumers of the EU, competitive gas prices, higher standards of service, security of supply and sustainability.

The main issue in Georgian natural gas market is unbundling of monopolistic activities (Transmission and Distribution) from competitive (supply and production). Currently SOCAR and its subsidiaries own wholesale supply companies in Georgia, as well large share of the distribution network and retail sale activities. This creates vertically integrated undertaking with monopolistic power and hence limits competition. Unbundling of distribution system operators from retail supply activity is also another issue. Almost all DSOs in Georgia are at the same time retail suppliers, while in this regard EU directive explains: *"Where the distribution system operator is part of a vertically integrated undertaking, it shall be independent at least in terms of its legal form, organization and decision making from other activities not relating to distribution"*<sup>10</sup>. So DSOs in Georgia should be at least legally unbundled from supply activities. Georgian Law on Electricity and Natural Gas defines supply<sup>11</sup> and distribution<sup>12</sup> activities independently and thus seem to be closer to EU requirements. However, being distribution system operator does not prevent from being supplier at the same time. Hence, Georgia should monitor the vertically integrated undertakings not to *"take advantage of its vertical integration to distort competition"*<sup>13</sup> in the market. However, gas supply activity is not regulated and DSOs, at the same time providing supply service and being monopolies in specific regions, have free choice to set deregulated end-user price. Suppliers, and DSOs providing supply service, are free to set price for all business entities and all household customers who have connected to the distribution network after 2008.

Lack of transparency is another important issue for Georgian natural gas market development. Currently the level of transparency in the market is insufficient, creating advantage to the supplier as a result of well-known economic paradigm of asymmetric information. Long-term gas contracts with South Caucasus Pipeline Company and SOCAR are confidential to the market players. Also data on the wholesale natural gas

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<sup>9</sup> Georgian Oil & Gas Corporation, [www.gogc.ge](http://www.gogc.ge)

<sup>10</sup> Article 26, DIRECTIVE 2009/73/EC

<sup>11</sup> Person, who purchases and sells natural gas to other suppliers and/or customers

<sup>12</sup> Receiving natural gas from one or more supply points, exploitation of distribution networks and provision of natural gas within a specific distribution sector to customers at the request of the supplier

<sup>13</sup> Paragraph 3 of the Article 26, DIRECTIVE 2009/73/EC

prices are not published properly. So very first step of the restructuring natural gas market is to make transparent gas market and allow customers to compete for more cost-effective supplier.

Non-discriminatory access to the transmission and distribution pipelines is also main pillar for ensuring competitive relations on the natural gas market. In this regard, Georgian legislation guarantees third party access - any owner of the pipeline network is obliged to permit access to the customer on a non-discriminatory basis and predefined tariff methodology approved by Georgian National Energy and Water Supply Regulatory Commission (GNERC).

Based on the best EU member countries' practices it is advisable that to be established independent transmission system operator in the Georgian gas market. LTD "Georgian Gas Transportation Company (GGTC)" is currently operating transmission network in Georgia on an independent basis, however it does not own pipeline network and for capital investments and network development the company is dependent from the directives of Georgian Oil and Gas Corporation (GOGC) - one of the main wholesale supplier of natural gas in Georgia. Therefore, GGTC's current functions should increase and become more independent from GOGC. GGTC should have an authority independently plan network development planning and present it to the GNERC as it is defined in the Directive 2009/73/EC<sup>14</sup>: *"Every year, transmission system operators shall submit to the regulatory authority a ten-year network development plan based on existing and forecast supply and demand after having consulted all the relevant stakeholders.*

To improve energy security of the country, technical performance of the natural gas system and commercial transactions it is necessary that Georgia build natural gas storage. Natural Gas consumption is very seasonal in Georgia; consumption in summer months is approximately 5 times less compared to the winter months. These create opportunities for country to store gas during summer times and supply it during winter times. Additionally currently commercial balancing is performed by SOCAR, due to the seasonal diversities and relatively stable flows from transit. Creating storage will further optimize commercial transactions for the gas market.

Customer satisfaction is one of the indicators of health natural gas market. Engagement of customers in market functioning is a key issue in successful market functioning. While customer satisfaction is an important indicator, it should be monitored. According to Natural Gas Market Directive National regulatory authorities are encouraged to collect the data on customer satisfaction. The table 2 list all indicators of customer satisfaction in accordance with the directive and describes situation in Georgian regarding those indicators.

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<sup>14</sup> Paragraph 1 of Article 22, Directive 2009/73/EC

**Table 2. Legal obligations related to the indicators in natural gas sector as described in Directive 2009/73/EC**

TOPIC	INDICATOR	OBLIGATION	STITUATION IN GEORGIA
<b>Customer Satisfaction</b>	Customer complaint	Art. 41 (j)	Data on customer complaints are only partially collected. No analyses is provided.
<b>Retail Market Outcomes</b>	End-user prices	Art. 41 (j)	Data is collected by Georgian regulatory authority but is not published and analyzed appropriately.
	Price spread <sup>15</sup>	Art. 41 (j)	
<b>Market Structure</b>	Separate branding from the supply branch	Art. 26.3	No real unbundling is on place. NRA regulates only part of the natural gas supply sector. No effective competition law and competition agency exists to prevent monopolies from taking advantage of their position.
<b>Market Condition and DSO services</b>	Switching rates	Art. 41 (j)	Usually, only one supplier, DSO at the same time, provides supply service in a concrete area. Legislation in this regard is not concrete.
	Delays in switching process	Art. 3.6 (a)	
	Connection time - time between a connection being requested by a customer and completed	Art. 41 (m)	Georgia DSO are in charge of recording this data.
	Average time until repair	Art. 41 (m)	
	Disconnection rates	Art. 41 (j)	
	Maintenance services	Art. 41 (j)	

<sup>15</sup> Spread is the difference between the highest and lowest comparable offer to household customers at a concrete time.

Customers' ability to change supplier is one of the key issues in the directive 2009/73/EC. Customer switching is not a focus of any law or decree in Georgia. As mentioned, distributor system operator and supplier are split in Georgian law on electricity and natural gas and DSO should provide distribution service at the request of the supplier. Despite such definition, distribution and supply services are usually provided by one vertically integrated undertaking and customers have no choice to change their supplier. While the directive focuses on the freedom in changing supplier, it also pays a particular attention to vulnerable customers in this regard. However, the directive does not exact definition of the "vulnerable customer". Each member state has its own definition of this term, if any. In some cases the definition of vulnerable customer is related to the energy sector while the definitions could be non-energy related. However, having the latter definition does not mean that the customers do not get any energy support. Government of Georgia regulates defines the vulnerable customers based on their income and value of property and provides allotments and vouchers. While the natural gas sector is subsidized, vulnerable customers do not get any kind of additional support compared to usual customers.

#### **IV. Energy Efficiency**

Energy efficiency sphere in the European Energy Community is regulated by the Directive 2006/32/EC on end-use energy efficiency and energy services, Directive 2010/31/EU on energy performance of buildings and Directive 2012/27/EU on energy efficiency. Directive 2006/32/EC provides indicative targets, financial mechanisms and legal framework in order to create conditions for the development market for energy services and improvement of energy efficiency measures to final customers. On the other hand, Directive 2010/31/EU establishes common framework for a methodology for calculating the integrated energy performance of buildings. It sets minimum requirements for the energy performance of buildings together with energy certification of buildings and promotion of close to zero-energy buildings. Because there is no particular regulation in Georgian legislation or regulation related to energy efficiency and energy performance of the buildings, this section of the paper outlines main aspects of Energy Efficiency Directives and provides possible directions for the harmonization of Georgian legislation with EU Energy Aquis.

Under this Directive 2012/27/EU Member states are required to develop National Energy Efficiency Action Plan (NEEAP) regarding the current and future development of the energy services market. NEEAP should incorporate measures to develop a long term strategy for renovation of buildings and national energy efficiency targets expressed as an absolute level of primary energy consumption in 2020. The Directive is not legally binding document while it brings Member State's effort to reduce energy consumption

by 20% for 2020. These targets should be calculated taking into account any circumstances affecting primary energy consumption<sup>16</sup>:

- Remaining cost-effective energy-saving potential;
- GDP evolution and forecast;
- Changes of energy imports and exports;
- Development of all sources of renewable energies, nuclear energy, carbon capture and storage;

Currently, Georgian legislation does not incorporate neither any regulation, nor energy efficiency law or NEEAP related to these issues. In addition, buildings in Georgia are mostly built during Soviet time and demonstrating low energy efficiency level. On the other hand, building standards have not improved sufficiently comparing to the recent boom in the construction sector. Therefore, adoption of law on energy efficiency and NEEAP together with renovation of old building and improving building standards will be required from Georgia to harmonize with this directive.

According to Article 7 of the Directive 2012/27/EU, energy distributors or retail energy sales companies operating in the territory of Member States are obliged to save energy in energy distribution and supply amounting to 1.5% savings from their energy sales to final consumers by volume. As an alternative to setting up an energy efficiency obligation scheme described above, Member States may opt to take other policy measures to achieve energy savings among final customers. At the same time, National energy regulatory authorities from member states should provide incentives for grid operators to make available system services to network users permitting them to implement energy efficiency improvement measures. Member States shall ensure that network operators are incentivised to improve efficiency in infrastructure design and operation, and that tariffs allow suppliers to improve consumer participation in system efficiency, including demand response, depending on national circumstances. Recently, GNERC adopted incentive based tariff regulation which enables distribution companies to decrease their operational costs, and improve service quality. These requirements enable network companies operating in Georgia to reduce losses in the network through energy saving measures and renovating grid infrastructure.

This Directive also requires Member States to promote energy audit for all final consumers and develop support mechanisms to encourage them to conduct energy audit. In other words, Member States should develop programs aiming to increase awareness on the benefits from energy audits. In this direction, Georgia lacks from the experience and supporting programs. Public awareness on energy audit and energy efficiency in general is very low.

Furthermore, Article 9 imposes obligation for Member States to ensure installation of individual electricity and gas meters for all final customers in order to accurately measure their electricity consumption and provide real time information on their bills.

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<sup>16</sup> Article 3 of the Directive 2012/27/EU

Member States shall also ensure that final customers receive all their bills and billing information for energy consumption free of charge and that final customers also have access to their consumption data in an appropriate way and free of charge. Individual metering of end-users in Georgia is not complete. However, initialization process of individual metering for electricity and gas is intended to be finish by 2015.

According to Article 3 of the Directive 2010/31/EU Member States should adopt a methodology for calculating the energy performance of buildings. This methodology can be adopted at national or regional level and should take into account certain elements such as:

- Thermal characteristics of a building
- Heating insulation and hot water supply;
- Air-conditioning installation;
- Built-in lighting installation;
- In-door climatic conditions.
- Cooling elements.

In addition, Member States are also required develop a system for the energy performance certification of buildings. It should provide information on the energy performance of a building and recommendations for cost improvements. Lastly, the Directive 2010/31/EU imposes Article 9 puts an ambitious requirement. According to its Article 9 all new buildings shall be nearly zero-energy consumption buildings<sup>17</sup> by 31 December 2020 by households. On the other hand, this criteria should be fulfilled by 31 December 2018 in the case of new buildings occupied and owned by public authorities.

Up to date, such methodology for calculating energy performance of buildings does not exist in Georgia. Therefore, this methodology can be used as a good example to introduce minimum energy performance standards for buildings. It will be key measures for the new and existing buildings to undergo major renovations. The Government of Georgia shall decide on the procedures of issuing the energy performance certificates.

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<sup>17</sup> “nearly zero-energy building means a building that has a very high energy performance and requires , The nearly zero or very low amount of energy”, Paragraph 2 of Article 2, Directive 2010/31/EU

## V. Renewable Energy

The main legal document regulating development of the renewable energy in the EU is the Renewable Energy Directive 2009/28/EC. It is a common framework to promote renewable energy sources (RES) and to establish binding targets for member states to increase share of renewables in their energy consumption up to 20% by 2020 and a 10% goal for the use of renewables in transport sector. Currently, Georgian energy legislation does not incorporate any regulation on renewable energy. State Program “Renewable Energy 2008” approved by the Government of Georgia is the only document, which provides rules to enable construction of renewable energy power plants in Georgia. Therefore, this part of the paper outlines main aspects of EnC’s Renewable Energy Directive and provides possible directions for the harmonization of Georgian legislation with EU Energy Acquis.

According to electricity balances, promotion of renewable energy sources (RES) in terms of hydro is well-established in Georgia. Recent energy projects which are under construction are mostly related to hydro power plants (HPPs) amounting to 522 MW of installed capacity in total together with about 70 perspective HPP projects. There is only one wind power plant project with 20 MW of installed capacity while other renewables are not supported enough at the state level. However, wind potential is estimated to be about 1450 MW generating 4 TWh annually and solar energy potential – 108 MW<sup>18</sup>.

The Georgia Law on Electricity and Natural Gas<sup>19</sup> provides only short and limited definition renewable energy sources. Furthermore, country does not have particular law on RES which is not sufficient to support development of RES in Georgia in large extent. Therefore, no legal or regulatory support of RES hinders establishment of specific feed-in tariffs mechanism for different renewable energy sources, green certificates or tax exemptions allowing emissions reductions in Georgia. In order to comply with the requirements of the Renewable Energy Directive, Georgia requires to develop and adopt law on renewable energy sources.

According to Article 3 of the Renewable Energy Directive, each Member States has a mandatory target to increase share energy from renewable energy sources in their gross final consumption for 2020. All countries should increase the RES share by a certain given flat rate plus additional effort depending on the country’s GDP per capita<sup>20</sup>. In order to achieve these targets Member States must encourage energy efficiency and energy savings through various support schemes and measures of cooperation between different Member States and with third countries. This requirement can be easily achieved in Georgia while structure of Georgian energy system is dominated by HPPs. On the other hand, target for transport sector (10%) must be

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<sup>18</sup> Ministry of Energy of Georgia

<sup>19</sup> Paragraph z<sup>22</sup> of Article 2,

<sup>20</sup> Principles for calculating national overall targets are presented in the the Articles 5 to 11 of the Renewable Energy Directive

investigated further in addition to the examination of RES technical potential in Georgia to set measures and key actions in the National Renewable Energy Action Plan (NREAP).

Adoption of the NREAPs is a mandatory requirement of the Renewable Energy Directive for Member states<sup>21</sup>. The action plans set targets for the share of energy from renewable energy sources in transport, electricity and heating and cooling for 2020. NREAPs also take into account the effects of other energy efficiency measures on final energy consumption implying that there will be less energy required from RES if reduction in final energy consumption is higher than the target. These plans will also establish procedures for the reform of planning and pricing schemes and access to electricity networks, promoting energy from renewable sources. Harmonising of its legislation with the Renewable Energy Directive, Georgia also needs to develop national renewable energy action plan. Development of such NREAP requires comprehensive research and study to evaluate recent energy consumption trends and project its future development.

Renewable Energy Directive also enables member states to define guarantee of origin for electricity, heating and cooling produced from renewable energy sources. Guarantee of origin is used for the purposes of providing information on bills to final customers about share or quantity of energy from renewable sources in an energy supplier's energy mix. According to the paragraph 2 of Article 15 "Member States shall ensure that a guarantee of origin is issued in response to a request from a producer of electricity from renewable energy sources. Member States may arrange for guarantees of origin to be issued in response to a request from producers of heating and cooling from renewable energy sources. Such an arrangement may be made subject to a minimum capacity limit. A guarantee of origin shall be of the standard size of 1 MWh. No more than one guarantee of origin shall be issued in respect of each unit of energy produced". Based on Georgian legislation, all types of energy sources are treated similarly. Therefore, this requirement should be also considered in the development process of the renewable energy law for Georgia.

According to the Article 16, Member States are obliged to build appropriate transmission and distribution grid infrastructure ensure that operators provide for priority access for the RES. At the same time Member States shall require transmission system operators (TSO) and distribution system operators (DSO) to provide any new producer of energy from renewable sources wishing to be connected to the system. In this context, role of Georgian National Energy and Water Supply Regulation Commission (GNERC) should be monitoring for non-discriminatory and transparent charging for transmission and distribution tariffs electricity from renewable energy sources. At the same time, GNERC should monitor TSO and DSO in order to identify any discriminative treatment of RES suppliers regarding grid connection costs and timetable.

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<sup>21</sup> Article 5 of the Renewable Energy Directive

## Conclusion and Recommendations

Georgia aims to further deepen relationship with EU which should be considered important policy decision for the long-term development of the country. New cooperation possibilities for Georgia is expected to support reforms in broad range of areas which will accelerate economic growth, faster democratization processes and maintain eventual membership of EU. In this direction harmonization of Georgian energy sector with European Energy Community is a promising long-term strategy to ensure sustainable development of energy sector, security of supply and competition. As an observer country in the EnC, Georgia expresses its interest to become full member of the Energy Community. In this case, Georgia will be required to harmonize its energy legislation and create new market frameworks in line with EU Energy Acquis. Taking into consideration country specific issues such as isolated energy system from EnC member countries, obligations with energy companies operating in Georgia, approximation processes will be challenging. However, in some cases Georgia is able to request for derogations specific issues for certain period of time. This will allow Georgia to implement EU Energy Acquis sequentially not harming public and energy companies' interests.

### Key recommended actions

Based on the study following actions are recommended in order to foster harmonization process between Georgia and EU Energy Community:

- to unbundle competitive activities (generation and supply) from natural monopoly activities (transmission and distribution) in the electricity and natural gas sector based on the options presented in the EU Energy Acquis
- to implement competitive energy trading mechanism in order to encourage competition in the market
- to increase transparency in the electricity and natural gas sectors
- to define vulnerable customers in order to subsidize their energy bills
- to develop and to enforce National Energy Efficiency Action Plan (NEEAP)
- to develop and to enforce National Renewable Energy Action Plan (NREAP)
- to develop and to enforce Renewable Energy Law
- to develop and to enforce Energy Efficiency Law
- to develop energy audit for old and new buildings
- to conduct study to estimate technical and economic potential of renewable energy sources in Georgia

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