



Georgia

Energy Policy Baseline

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1. INTRODUCTION

This report is part of the baseline analysis of the E-FIX project. The E-FIX project aims at triggering private finance for sustainable energy projects using innovative financing mechanisms. In the target countries of Central and South Eastern Europe as well as the countries of the Caucasus region there is considerable idle potential for sustainable energy products and services. Both potential energy project developers and financiers face diverse financing barriers. An innovative energy financing mix is needed in order to activate new source of finance and facilitate an increased implementation of sustainable energy projects. Accordingly, the objective of the E-FIX project is to facilitate the take up and intensified usage of innovative energy financing mechanisms in the energy sector.

This report provides the first analysis of the regulatory environment in which energy projects are implemented in each of the focus countries. With this part of the baseline study the E-FIX experts conduct an assessment of the energy-related policy framework in order to identify opportunities and challenges for introducing innovative financing instruments for sustainable energy projects. The material will be part of the subsequent Gap Analysis combining financing and energy baseline data.

The present report describes the energy policy framework for Georgia.

2. POLICY FRAMEWORK

2.1. OVERVIEW OF LEGAL FRAMEWORK AND POLICY DEVELOPMENT OF THE ENERGY SECTOR IN GEORGIA

Energy Sector of Georgia has undergone significant changes over the past decade, which also included the development of respective legislative framework. The main focus of the energy policy, among others, was to create sufficient energy supply for the country. After Georgia's recent accession to the Energy Community in 2017, the country has to undertake further reforms in order to achieve compliance with Energy Community Treaty requirements.

Georgia's first policy document "Main Directions of the State Energy Policy of Georgia" was adopted in 2006, in which the satisfaction of the customer demand is the main priority, which has to be accomplished through maximum utilization of local hydropower resources. Further, the document focuses on to gradually substitute imports with local thermal generation.¹ The policy document has been amended in June 2015 but the key priorities have not changed.

The policy document sets out directions that address the priorities and development opportunities in energy sector of the country and also main directions towards energy security. The policy intends to develop a long-term state vision, which will become the basis for the development of short, medium and long term strategies for 2030. Energy policy document covers the following areas:²

- Diversification of supply sources, optimal utilization of local resources and reserves;
- Utilization of Georgia's Renewable Energy resources;
- Gradual approximation of Georgian legislation to EU Energy Policy;
- Energy market development and improvement of energy trading mechanism;
- Strengthen Georgia's role as a transit route in the region;
- Generation and trade of clean energy;
- Develop and implement an integrated approach towards Energy Efficiency in Georgia;
- Improvement of service quality and protection of consumer interests.

Government of Georgia adopted Social-Economic Development Strategy of Georgia "Georgia 2020", in 2014. The goal of the present strategy is to identify the main factors hindering economic growth in Georgia and define relevant priority tasks to their elimination. The Strategy defines priorities for relevant ministries, which will be included in action plans and other documents together with relevant costs, responsible bodies and monitoring mechanisms. The actions presented in "Georgia 2020" correspond to the existing sector strategies. Within the framework of the strategy, government plans to develop policy frameworks to support economic growth of the country, namely, legislative and institutional framework for free market competition,

¹ Draft National Energy Efficiency Action Plan "NEEAP"

² Main Directions of the State Policy in Energy Sector of Georgia:
http://www.energy.gov.ge/ministry.php?id_pages=12&lang=eng

development of infrastructure and full use of transit potential, supporting investments in energy, transport and logistics, improving energy dependency and *energy efficiency*.³

One of the goals of Government of Georgia (GoG), as presented in the strategy document, is to enhance energy efficiency through relevant legislative mechanisms in accordance with international and European norms for preservation of country's energy resources. The efficient use of energy is important as a means of increasing the energy independence and rational use of resources, and can potentially decrease future costs.

Georgia ratified Energy Charter Treaty (ECT) in 1995, which entered into force in 1998 and the Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA) in 2004. By ratifying PEEREA, countries commit to formulating strategies and implementing policies for improving energy efficiency and reducing negative environmental impacts of the energy cycle⁴. One of the principles of the Protocol is that contracting parties have to cooperate and assist each other in development of energy efficiency policies and appropriate legal and regulatory framework in order to reduce barriers to energy efficiency, to improve mechanisms for EE financing and public awareness.⁵

In the framework of the Government's efforts for climate change mitigation, the importance of EE has increased. After Government ratified the UNFCCC (United Nations Framework Convention on Climate Change) in 1994 and accessed the Kyoto Protocol in 1999, several efforts and projects in fields such as renewable energy, clean development mechanism, rehabilitation of degraded land and reforestation activities have been implemented since 2003.⁶

Other significant international agreements and directives serving as the basis for legal and policy framework in the country:

- Covenant of Mayors (CoM), 2010.
- Energy Performance in Buildings Directive (EPBD) 2010/31/EU.
- Energy Efficiency Directive (EED) 2012/27/EU.
- Energy Labeling Directive 2010/30/EU.
- Protocol concerning the Accession of Georgia to Energy Community Treaty, October 2016.
- EU-Georgia Association Agreement – signed in 2014, entered into force July 1, 2016.

Protocol on the Accession of Georgia to the Treaty establishing the European Energy Community was signed in 2016. The accession into Energy Community is one of the major steps for Georgia in the process towards EU integration and its development of the energy sector. It will support the country to gradually align its energy sector regulations with the EU standards including the creation of competitive market, promotion of the use of renewable energy sources and supporting energy efficiency.⁷

³ Social-Economic Strategy of Government of Georgia "Georgia 2020":

http://www.mrdi.gov.ge/sites/default/files/social-economic_development_strategy_of_georgia_georgia_2020.pdf

⁴ Article 5, PEEREA: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:21994A1231\(53\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:21994A1231(53)&from=EN)

⁵ Article 3, PEEREA: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:21994A1231\(53\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:21994A1231(53)&from=EN)

⁶ KfW "Prefeasibility Study on Energy Efficiency Framework and Short-Listing of Municipal Buildings", 2017

⁷ KfW "Prefeasibility Study on Energy Efficiency Framework and Short-Listing of Municipal Buildings", 2017

Georgia's primary legislation in the field of Energy consists of the following laws:

- Law on "Electricity and Natural Gas", adopted in 1997;
- Law on "Oil and Gas", adopted in 1999;

Secondary legislation comprises different statutory acts, like government decrees and regulations, ministerial orders and the GNEWRC (Georgian National Energy and Water Supply Regulatory Commission) resolutions. Several important primary and secondary legal acts are as follows:

- Order #77 of the Minister of Energy of Georgia on Approval of Electricity Market Rules⁸;
- Resolution #107 on the Approval of the National Program "Renewable Energy 2008"⁹, which defines the procedure for initiating and implementing renewable energy projects in Georgia. It doesn't contain renewable energy targets or a national action plan in the sector;
- Decree #40 of the Minister of Energy of Georgia¹⁰ regulates the rules for construction, ownership and operation of HPPs and other renewable energy resources;
- Regulation #20 of GNEWRC on Approval of Electricity Supply and Consumption Rules¹¹;
- Draft Spatial Planning and Construction Code, which has been elaborated but not yet adopted;
- Draft National Energy Efficiency Action Plan (NEEAP);
- Code on Environmental Assessment, partly came into force in June 2017, part of its provisions will come into force from July 2018.

Legislative acts governing energy and environment, as well as most recent developments and efforts for further reforms, are discussed in the chapters below.

2.2. EXISTING NATIONAL AND REGIONAL LAWS AND STANDARDS

The law of Georgia on "Electricity and Natural Gas" adopted in 1997 provides main regulatory framework for energy sector in Georgia. It was amended several times in the past and currently complies with certain EU

⁸ Order #77 of the Minister of Energy on Approval of Electricity Market Rules, 2006:

<http://gnerc.org/uploads/eng/4.pdf>

⁹ Decree #107 of Government of Georgia, Apr. 18, 2008: About the Approval of the Rule to Enable the Construction of Renewable Energy Sources in Georgia: http://esco.ge/files/data/Legislation/decrees/107_final.pdf

¹⁰ Order #40 of MOE, 2014: On Approval of the Terms and Conditions for Submission and Review of the Proposals about Construction Technical and Economic Feasibility Study, Construction, Ownership and Operation of those Hydro Power Plants to the Ministry of Energy of Georgia, which are not Included in the List of Potential Power Plants in Georgia:

<http://www.energy.gov.ge/projects/pdf/pages/Order%2040%2010042014%20On%20Approval%20of%20the%20terms%20and%20conditions%20648%20eng.pdf>

¹¹ Regulation #20, GNERWC on Approval of Electricity Supply and Consumption Rules, 2008:

[http://gnerc.org/files/Acts%20in%20english/Electricity%20\(Capacity\)%20Supply%20and%20Consumption%20Rules%20Final.pdf](http://gnerc.org/files/Acts%20in%20english/Electricity%20(Capacity)%20Supply%20and%20Consumption%20Rules%20Final.pdf)

principles and requirements, concerning deregulation and market rules, but it still has no reference regarding energy efficiency or its importance. The main objectives of the law can be summarized as follows:

- Creation of markets for water supply, electricity and natural gas as well as tariff systems in Georgia by developing competition and using existing mechanisms;
- Elaboration of legal basis for the supply of electricity, natural gas and water to all categories of consumers;
- Support domestic and foreign investments in order to rehabilitate and develop the electricity, natural gas and water supply sectors;
- Support the use of local hydropower and other renewable, alternative and natural gas resources.¹²

Law of Georgia on “Oil and Gas” adopted in 1999 and later amended several times, provides the regulatory framework for the development of oil and gas resources, gas processing, oil refining and transportation activities in the country. The Law aims to:

- Create a unified legal framework for the development of oil and gas resources and oil refining, gas processing or transportation activities and to pursue unified national policy in the field of development of oil and gas resources, gas processing or transportation activities;
- Create an effective legal framework for state regulation, supervision and control of oil and gas operations, oil refining, gas processing and/or transportation activities in Georgia.¹³

The adoption of mentioned laws became the basis for development of regulatory framework in the field of energy in past, when the country had to deal with energy shortage and energy supply issues, therefore energy efficiency wasn’t envisioned as such, but nowadays as Georgia has joined energy community it has certain obligations arising from Energy Community Treaty and more attention has been drawn to the issues related to EE/RE.

Ministry of Energy of Georgia was responsible for regulation of energy sector until December 2017, when by the amendment (December 7, 2017) to the law on “The Structure, Authority and Activity Rules of the Government of Georgia” it has been officially merged with Ministry of Economy and Sustainable Development of Georgia (MOESD), the latter is now the legal successor of Ministry of Energy.

Besides, the Ministry of Economy and Sustainable Development, Georgian National Energy and Water Supply Regulatory Commission (GNEWRC) also has regulatory powers, granted by the law in setting tariffs, licensing and determining quality of power supply standards.

Main functions and authority of the commission is stipulated in its Charter.¹⁴ The commission is a legal entity of public law with special capacity, which is not controlled by any state institution. The commission is

¹²Article 1, Paragraph 2 of the Law of Georgia on “Electricity and Natural Gas”

¹³ Article 3 of the Law of Georgia on “Oil and Natural Gas”

¹⁴ Charter of Georgian National Energy and Water Supply Regulatory Commission available at: <http://gnerc.org/en/about/debuleba>

independent from state bodies and acts in accordance with defined authorities under the law of Georgia on “Independent National Regulatory Authorities” and the Law on “Electricity and Natural Gas”.¹⁵

The Law of Georgia on “Licenses and Permits” (2005) serves as an additional tool for regulating various activities carried out in energy sector requiring licensing like processing, generation, dispatching and transportation of electricity and natural gas. It also governs the activities related to excessive hazard to human life or health, involves state or public interests or is otherwise related to the use of state resources.¹⁶

Other important legal acts and regulations with regard to EE/RE in specific sectors are discussed below.

2.2.1. Standards for Buildings

Construction activities and standards in Georgia are regulated through various legal acts, government decrees and resolutions, but currently they do not include any requirements on Energy Efficiency standards in buildings. These laws and regulations are as follows:

- Georgian Law on “Construction Activities” (October 27, 2000)
- Decree #57 of Government of Georgia (March 24, 2009) about „Rules on Conditions of Issue of Construction Permits“,
- Georgian Law on “Licenses and Permits” (July 18, 2005),
- Georgian Law/Regulations on “Technical Safety” (May 27, 2014),
- General Administrative Code of Georgia (June 25, 1999),
- Georgian Law on “Spatial Arrangement and Basics of Urban Development” (June 2, 2005);
- Soviet Construction Rules and Norms – “SNIPS”;
- Decree #41 of Government of Georgia on (January 28, 2016) “Approval of Technical Regulations and Safety Rules for Buildings”.

Georgian law on “Construction Activities” provides general regulations on construction activities defining the parties in construction works. It also grants MOESD the authority to carry out the policy in the field of construction, based on this, the ministry can adopt and approve more specific subordinate normative acts related to design and construction works in the country.

Technical and Construction Supervisory Agency, the state bodies of the executive authorities of Adjara and Abkhazia Autonomous republics and respective units of the self-government authorities carry out technical supervision activities within the scope determined by legislation. Technical and supervisory agencies/divisions check the quality of construction activities and may terminate or suspend construction activities which violate respective norms, standards and contractual obligations.¹⁷

¹⁵ Article 1, paragraph 2 of the Charter of GNEWRC: <http://gnerc.org/en/about/debuleba>

¹⁶ Article 1, the Law on “Licenses and Permits”: <https://matsne.gov.ge/en/document/download/26824/52/en/pdf>

¹⁷ Georgian Law on Construction Activities in English, Legislative Herald of Georgia:
<https://www.matsne.gov.ge/ka/document/view/17338?impose=translateEn>

Technical and supervisory agencies as well as technical and supervisory divisions of different administrative units (Municipalities) in self-governing areas usually check the construction works according to the architectural design approved in advance, no EE measures are checked for quality.

“SNIPS”¹⁸, were in force until 1992 and afterwards were reintroduced by Decree #1-1/251 (18/02/2011) of Ministry of Economy and Sustainable Development of Georgia (MOESD) serving nowadays as the basis for construction activities along with the Decree #57 of Georgian Government. SNIPS set the minimum standards for construction activities in all sectors public, private or industrial. Any standards higher than SNIPS in terms of energy efficiency are applicable and acceptable in the country.

Decree #57 of Government of Georgia, sets the rules for issuing construction permits on the territory of Georgia and the conditions necessary for obtaining such permits, covering also technical information on the use of land parcels, types of buildings, supervision of building activities and the process of accepting buildings in exploitation.

Municipalities in Georgia enjoy autonomy and power in various fields of government within their administrative units, as guaranteed by the constitution of Georgia, including the activities concerning construction works. Powers and authority of self-government units are determined by the *Self-Government Code* of Georgia adopted in 2014. Each municipality or administrative unit has the power to take decisions with regard to construction activities. This is accomplished by approval of architectural project and issue of the construction permit, which is conducted by architectural department at the municipality. The same is required for reconstruction or renovations of any type of building within the administrative unit.

According to the “Self-Government Code” (February 5, 2014) authorities of Municipalities enjoy following authority with respect to the building and energy sector:

- Spatial and territorial planning of the municipality and determination of related norms and rules of procedure; approval of urban construction documents, including land use master plans, plans for the regulation of development, the rules of procedure for the use and development of the settlement territories;
- Improvement of the municipal territory and development of the appropriate engineering infrastructure; cleaning of streets, parks, public gardens and other public areas in the territory of the municipality, landscaping, and provision of external lighting;
- Issuance of construction permits in the territory of the municipality; supervision over the construction in the manner and within the scope stipulated by the legislative acts of Georgia.¹⁹

Municipalities/administrative units in the country have Supervisory Service to ensure the compliance of the implemented building projects through inspections on the spot. Any deviation from the project is subject to fine and correction of the building design. During verification process energy efficiency parameters or measures undertaken are not checked or evaluated.

In terms of building standards, three different types of ownership have to be considered:

¹⁸ SNIPS – Construction Rules and Norms, which were uniform and obligatory in Soviet Union

¹⁹ Article 16, paragraph 2 of Organic Law of Georgia “Self-Government Code”, English version available at: <https://matsne.gov.ge/en/document/download/2244429/15/en/pdf>

- Buildings owned by different municipalities and administrative units;
- Buildings like schools, police stations, hospitals - under the ownership of various ministries and other state authorities
- Private buildings

Standards for construction, renovation and reconstruction of *public buildings* are under the responsibility of respective municipalities, administrative service units or ministries and government authorities depending on the ownership type. Based on this, they can introduce any type of new EE standard or improve the existing general standard by issuing an order or a decree.

As for private-owned buildings, construction and renovation activities in such buildings are based on SNIPS and Decree of Government #57 on Construction Permits, introduction of new building standards including obligatory EE standards have to be regulated in such cases on national level, by adoption of construction code or EE law.

Most of Georgia’s Building stock consists of Soviet era buildings, which lack any EE standards. Due to rising energy prices, homeowners have introduced certain EE measures to their homes individually, through the technologies available on the market, such as, double glazed windows and doors, insulation materials, central heating systems, solar panels, etc.

Various international donor organizations have been active in promoting EE/RE standards and providing loans for homeowners as well as businesses to invest in EE measures mentioned above. EBRD, within the framework of its “Caucasus Energy Efficiency” program has supported Georgian banks through “Energocredit” to finance EE/RE projects in the country. Extensive technical assistance was also provided within the program to help local banks develop bankable investment projects and invest in equipment like boilers, double glazed windows, insulation materials, biomass stoves, solar thermal water heaters, cooling and heating pump systems. Free advice and energy audits were offered to the companies planning on EE investments. Subsidy component of 10-15% was offered to homeowners as well as corporate sector for introduction of EE/RE measures financed through local banks. Extensive public awareness campaigns were held throughout the program implementation through regional seminars and local workshops in understanding the benefits of EE for the country.

Currently, there is no unified approach towards EE in construction field, therefore even new buildings do not have sufficient standards of energy efficiency although developers are voluntarily trying to promote such standards in their newly constructed buildings.

Draft Spatial Planning and Construction Code, including the new standards, has been elaborated but not yet adopted by the parliament. The draft was been published on the website of parliament of Georgia for public review in November, 2016. The Code aims to regulate and settle the norms related to spatial planning and construction activities for the whole country. The Code will also regulate any legal relations regarding the issues related to spatial planning and construction activities.²⁰

Article 87 of the latest draft version of the Construction Code makes reference on EE requiring that a “maximum level of energy efficiency must be achieved through orientation, respective architectural-planning structures, insulation of surrounding constructions and the use of energy efficient materials and equipment”;

²⁰ Website of Ministry of Economy and Sustainable Development: <http://www.economy.ge/?page=ecopolitic&s=27>

The use of RE sources and materials in design and construction activities are envisioned by Article 88 of the draft.

In order to improve the technical regulation of construction activities, parts of the International Building Code (IBC) were translated into Georgian by USAID's EPI project and it was approved by the Government of Georgia as the Construction Safety Rules in the January of 28, 2016.

Spatial Planning and Construction Policy Department of MOESD is working on the translation of the Eurocodes (Unified System of European Building Standards). The following parts of the Eurocodes are already translated: Eurocode "Basis of structural design", Eurocode 1 ("Actions on Structures") Eurocode 2 (Design of Concrete Structures), Eurocode 7 "Geotechnical Design, Eurocode 8 (Design of Structures for Earthquake Resistance). The Eurocode 3 (Design of Steel Structures) is being translated at present.

As part of the ongoing reforms in the country, Georgia has to fulfill the requirements set by the EU building directive 2010/31/EU on energy performance of buildings (EPBD), which has to be implemented by 30 June 2019. The EPBD promotes the improvement of the energy performance of buildings, taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness. Member States have to take necessary measures to ensure that minimum energy performance requirements for buildings or building units. The directive lays down the requirements for the application of minimum energy performance levels at new and existing buildings as well as methodology for calculation of energy performance of buildings in general. In the light of the reforms it is necessary to develop and adopt technical regulation on energy audits, energy performance certification for new/existing buildings and technical regulations on EE in buildings.

2.2.2. Energy Efficiency Laws and Standards

Georgia currently does not have any primary or secondary legislation with regard to Energy Efficiency. Draft Law on Energy Efficiency was elaborated in 2008 with cooperation of Ministry of Energy and the NGO "World Experience Georgia" (WEG) but its revision was abandoned by the government of Georgia, therefore this law was never adopted.

Energy intensity is especially high in transport sector and households in Georgia. Most of the buildings constructed during Soviet era are currently outdated and without any consideration of any EE measures. While the energy intensity and tariffs are increasing, the introduction of energy efficiency measures becomes vital for the country. At present, most households in urban areas use natural gas for heating, but the wood remains the main heating source in rural areas despite access to natural gas.

Despite the lack of legislative framework, various policy measures have been adopted in recent years, envisioning gradual transformation to energy efficiency measures and the preparation of necessary legal basis for the introduction of new standards. These measures also include public awareness activities.

Ministry of Energy's document on "Main Directions of State Policy in the Power Sector of Georgia" ²¹ provides following steps for improvement of energy efficiency in the country:

- a) the improvement of energy efficiency in industrial and domestic spheres, creating a sound legislative basis and institutional framework for the improvement of energy efficiency in the country;
- b) the study, and putting into operation of measures necessary for the use of thermal and co-generation systems, and renewable sources of energy.

According to the Social-Economic development strategy - "Georgia 2020", rational use of energy resources ensuring environmental safety and sustainability, is one of the main principles for economic policy. It is envisioned to facilitate the improvement of energy efficiency and create respective legislative framework in accordance with international and EU requirements.²²

Since June 2016, DANIDA program "Support to Energy Efficiency and Sustainable Energy in Georgia, 2015-2019" provides assistance to the GOG for:

- Elaboration of New National Energy Efficiency Building Code to support introduction of minimum EE requirements in public buildings;
- Labeling of energy related products;
- Development of methodology for monitoring and reporting;
- Development of national grid code regulation and standards to enable electricity from RE sources to feed into the national power grid.

The latest draft version of code on "Spatial Planning and Construction" already gives reference to Energy Efficiency and Renewable Energy Sources. According to the draft, maximum energy efficiency has to be achieved during construction process. Article 87 of the code refers to EE: "maximum level of energy efficiency must be achieved through orientation, respective architectural-planning structures, insulation of surrounding constructions and the use of energy efficient materials and equipment";

As to the old buildings, number of projects has been implemented with the aim of refurbishment and renovation of public buildings mainly related to installation of EE lighting, central heating in kindergartens, schools, municipal offices, etc., partly financed through grants and international donors. There is still lot of energy saving potential in such buildings as implemented measures are not sufficient. Energy Certification system is not yet enforced in the country, some buildings do have energy certificates but as a result of refurbishment by various donor projects.

Tariffs on electricity increased since January 2018 and the new rule for calculation of tariffs (so-called step tariff) for energy consumption was introduced. According to the new rule, the more electricity is used by a

²¹ In depth Review of Energy Policies and Programs Georgia, Energy Charter Secretariat:

http://www.energycharter.org/fileadmin/DocumentsMedia/IDEER/IDEER-Georgia_2012_en.pdf

²² Social-Economic Development Strategy for Georgia – "Georgia 2020":

http://www.mrdi.gov.ge/sites/default/files/social-economic_development_strategy_of_georgia_georgia_2020.pdf

household, the higher tariff applies. This must serve as a motivation for individual consumers to introduce energy efficient measures to their homes and save as much energy as possible.

Government policies and measures promoting investment in EE include the following programs as well:

- Low Emission Development Strategy (LEDC) by USAID and Government of Georgia;
- NEEAP – National Energy Efficiency Action Plan (EBRD)
- Covenant of Mayors

Program purpose and objectives of LEDS as according to the Ministry:

- Support Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy;
- Support and facilitate private-sector investments in energy efficiency and green buildings;
- Promote and facilitate investments in energy efficiency and green buildings in private sector;
- Build the capacity of the Government to develop and implement a national low Emission Development Strategy.²³

The aim of the strategy is to provide long-term viable plan for reduction of GHG emissions. In order to ensure management of the processes, USAID funded the “Enhancing Capacity for Low Emission Development Strategies” (EC-LEDS) project.²⁴ Georgia and the United States are working together to plan and manage the economic development of the country with lower GHG emissions²⁵. Through the program, it is planned to improve Energy efficiency in Georgian Municipalities, and develop clean energy solutions as well as certification system in the country.²⁶

The government of Georgia is currently developing country’s first NEEAP as required by EED (Article 24).

The NEEAP is the strategic document identifying significant energy efficiency improvement measures and expected energy savings in the most energy intensive sectors.²⁷

The document sets long term (20-year) goals and short term (5-year) targets in 11 thematic environmental areas including climate change. Draft NEEAP presents overview of energy sector and target developments in the country, providing as well, the policy measures which have to be implemented in relation with EED and EPBD.²⁸

²³ Government Policies and Measures Promoting investments for EE and RE, MOE, D. Sharikadze 2015 available at: <https://www.iea.org/media/workshops/2015/platformistanbul2015/GovernmentPoliciesandMeasuresPromotingInvestmentsforEEandREFocusonGeorgia.pdf>

²⁴ USAID: <https://www.usaid.gov/georgia/environment>

²⁵ EC-LEDS, Enhancing Capacity for Low Emission Development Strategies: <https://www.ec-leds.org/countries/georgia>

²⁶ World Bank, Energy Efficiency Financing Option Papers for Georgia, September 2016: <http://documents.worldbank.org/curated/en/825761475845097689/Energy-efficiency-financing-option-papers-for-Georgia>

²⁷ KfW “Prefeasibility Study on Energy Efficiency Framework and Short-Listing of Municipal Buildings”, 2017

²⁸ Draft NEEAP

The Ministry of Energy of Georgia requested assistance from the EBRD with the development of the first NEEAP as set out in Directive 2006/32/EC.²⁹

Draft version from 2017 of the NEEAP foresees policy measures in a total of 7 different areas of intervention (6 according to different sectors, 1 for horizontal measures).

EE measures in buildings are closely linked with public sector measures. The measures cover standards for labelling schemes in appliances as well as consumer information programmes and training, includes also green procurement methods and regulation for efficient lighting. All measures are closely related to implementation of EED and EPBD. It is estimated that the implementation of the standards will enhance 19GWh savings in 2020 and 422GWh in 2025.³⁰

Draft NEEAP also includes following measures with regard to energy efficiency:

- Improvement of lighting systems in public buildings;
- Improvement of the data on the public building stock, lighting, and energy consumption;
- Pilot projects for low-energy public sector buildings and renovation of administrative buildings to demonstrate the potential costs and benefits.
- Efficient lighting systems in public buildings.
- Improvement of the EE in central government-owned public buildings.
- Green Procurement on Energy Efficiency.
- Transport and vehicle system improvement – envisioning mandatory periodic tests for technical reliability³¹

NAMA

Georgia started working on Nationally Appropriate Mitigation Actions (NAMA) after joining the Mitigation Momentum project, since 2014. NAMA represents Georgia's national climate change mitigation strategy and is part of ongoing LEDS.³²

Within the framework of EU Association agreement, Georgia has certain responsibilities regarding mitigation activities, promotion of energy efficiency and restructuring energy supply markets. NAMA as part of LEDS concentrates on the renovation of public buildings and on creating the structures and the capacity, which eventually, will enable the country to undertake respective reform of standards in its building sector. Goal of NAMA is to develop experience in energy efficient refurbishment of buildings and to support Energy Service Companies (ESCOs)³³.

²⁹ Government Policies and Measures Promoting investments for EE and RE, MOE, D. Sharikadze 2015 available at: <https://www.iea.org/media/workshops/2015/platformistanbul2015/GovernmentPoliciesandMeasuresPromotingInvestmentsforEEandREFocusonGeorgia.pdf>

³⁰ KfW "Prefeasibility Study on Energy Efficiency Framework and Short-Listing of Municipal Buildings", 2017

³¹ Draft NEEAP, p. 42-46

³² Mitigation Momentum: http://www.mitigationmomentum.org/partner_countries_georgia.html

³³ NAMA for Energy Efficient Refurbishment in the Public Building Sector in Georgia, 2015: <http://www.mitigationmomentum.org/downloads/NAMA-proposal-for-energy-efficient-refurbishment-in-the-public-building-sector-in-Georgia-October-2015.pdf>

NAMA consist of two phases. The first phase is a readiness program to build capacity in the Georgian government/municipalities to plan and implement energy efficient renovation. Several components will be implemented through technical assistance:

- Characterization of the building stock, including energy audits, and prioritization for renovation;
- Capacity building in preparation of terms of reference and evaluating tenders for energy efficient renovation of buildings for different building types and finalizing contracts;
- Capacity building in writing terms of reference for energy performance contracting and evaluating responses to such terms of reference and finalizing agreements;
- Preparation of long-term programs for energy efficient renovation of different type/functions of buildings and training for financing as well as management of energy performance contracting for municipalities and central government representatives;
- Training for financing and managing energy performance contracting for both municipalities and central government representatives³⁴

The second phase envisions building experience in the process of renovation and the use of energy performance contracting in this process. This phase will also include significant outreach and communication to ensure wide dissemination of the results.

Covenant of Mayors

The Covenant of Mayors was launched in 2008 in Europe with the aim to gather local governments voluntarily committed to achieving and exceeding the EU climate and energy targets.³⁵ The Ministry of Energy has been actively involved in promotion of Covenant of Mayors. The aim of the Covenant of Mayors is to support energy efficiency and reduction of emissions in signatory cities as well as enhance the utilization of renewable energy sources. It is envisioned to reduce emissions at least up to 30% by 2030.

Memorandum of Understanding was signed between the Ministry of Energy and the Ministry of Environment and Natural Resources Protection of Georgia. The Memorandum envisages supporting municipalities in preparation of the SEAPs and in facilitation of relations with donor organizations to develop projects which will be outlined in the SEAPs. Through the implementation of Sustainable Energy Action Plans and utilization of renewable energy sources Georgia will contribute to the global process of the development of clean environment.³⁶

Major cities of Georgia and municipalities (23 towns) signed the agreement and the majority of them elaborated sustainable energy action plans (SEAP). Tbilisi joined the Covenant of Mayors in 2010 and as a

³⁴ NAMA for Energy Efficient Refurbishment in the Public Building sector in Georgia, 2015:

http://www.mitigationmomentum.org/downloads/NAMA-proposal-for-energy-efficient-refurbishment-in-the-public-building-sector-in-Georgia_-October-2015.pdf

³⁵ Covenant of Mayors website: <https://www.covenantofmayors.eu/about/covenant-initiative/origins-and-development.html>

³⁶ Government Policies and Measures Promoting investments for EE and RE, MOE, D. Sharikadze 2015 available at: <https://www.iea.org/media/workshops/2015/platformistanbul2015/GovernmentPoliciesandMeasuresPromotingInvestmentsforEEandREFocusonGeorgia.pdf>

result, 2011-2020 Sustainable Energy Action Plan (SEAP) was developed for the city. SEAP of Tbilisi has three main directions related to reform of transport sector implying the decrease of private vehicles and encouraging low emission cars by means of various restrictions and incentives, increase energy efficiency of buildings by introduction of modern technologies like boilers, solar energy systems, biomass and improvement of municipal infrastructure sector covering waste and water management systems, electricity and gas distribution networks and green spaces.³⁷

Government supports the import of energy efficient cars since the beginning of 2017, as an incentive, the excise tax was decreased to almost 60 % on hybrid vehicles compared to regular non-hybrid cars. Electric cars are completely exempted from this tax. Rise on fuel prices and this initiative from the government encourages population to purchase more hybrid cars, the number of such cars has significantly increased over the past years.

There are number of other projects implemented by different donor organizations supporting small and medium sized businesses in purchasing energy efficient equipment.

At the end of 2016, 150 new energy efficient buses were purchased through a loan from EBRD. Tbilisi municipality plans to increase the number of buses in the coming years and gradually replace remaining old, inefficient transport, which is one of the main sources of air pollution in the city.

Georgia is a Non-Annex 1 country under the UN Framework Convention on Climate Change (UNFCCC) and does not have a binding commitment to reduce CO₂ emissions. Despite this, the country has made voluntary commitments to reducing GHG emissions and Tbilisi SEAP is a first real step towards this. Tbilisi municipality is trying to contribute to reduction of emissions with support of international donor projects.

The Product Safety and Free Movement Code of Georgia (2012) represents the main legal act regulating the labelling of products and sets minimum requirements for information to be provided for product circulation. The code doesn't give any reference with regard to energy labelling. Within the framework of approximation of Georgian legislation with the EU directives, all relevant legal acts will have to be amended with respect to EE, including the mentioned code.

Georgia undertook obligation to implement various directives after having signed the Protocol concerning the Accession to the Treaty establishing the Energy Community. The directive 2012/27/EU on energy efficiency and directive 2010/30/EU on energy labelling have to be implemented by the end of 2018, while the directive on energy performance of buildings 2010/31/EU by end of June, 2019.

Other ongoing activities and reforms in the field of Energy Efficiency are addressed in sub-chapter 2.3 of this report.

2.2.3. Renewable Energy Laws

Georgia has favorable geographic and natural conditions for RE development. Hydro resources are most important means of providing electricity to the country. Georgia has become one of the main exporters of electricity to other neighboring countries after reaching certain level of sustainability in satisfying local

³⁷ SEAP of Tbilisi: http://mycovenant.eumayors.eu/docs/seap/1537_1520_1303144302.pdf

energy needs. Besides operating large HPPs, there are small and medium sized plants operating either on regular basis or seasonally now in the country.

At present, there is no primary law dedicated to renewable resources in Georgia, certain provisions mentioning importance of renewables and the rules for licensing and construction of HPPs are specified in various laws regulating energy and construction activities. In this view, it is noteworthy to review the stipulations provided in the law on “Electricity and Gas”.

Article 1, paragraph 2 of the Law on “Electricity and Natural Gas” highlights the importance of “supporting predominant use of local hydropower and other renewable, alternative and gas resources”, while Article 3 of chapter II: “National Policy in Electricity and Natural Gas Sectors” “promotes expansion of the extraction of energy resources, giving priority to the use of renewable (alternative) energy sources, and supporting energy-efficient measures related to the increase in generation efficiency”. Same article mentions importance of environmental protection in the energy sector.

Government program on “Main Directions of the State Policy in Energy Sector of Georgia” (2015) emphasizes the importance of support and development of legislative framework and necessary infrastructure for boosting RE development in the country.

Main directions for promotion and development of renewable resources are set out in the state program “Renewable 2008” including the rules for construction of HPPs under 100 MW. It also provides incentives for investors with fixed prices and guaranteed power purchase agreements.

Since the adoption of the program certain progress has been made in terms of reconstruction of small and medium sized hydro power plants. Government of Georgia signed more than 15 memorandums of understanding on construction/operation and ownership of HPPs. Different donors like USAID, KfW, EBRD, EIB, NIF have been funding various activities including research and policy analysis, renovation activities, training and more³⁸.

Draft Spatial Planning and Construction Code gives reference to the use of Renewable Energy Sources and Materials (Article 88), stating that such materials and sources have to be used at the time of design and construction activities. Use of renewables according to the draft code implies:

- Passive use of solar energy;
- Active use of solar energy (solar water heaters, combined water supply systems, solar batteries);
- Use of Wind power;
- Geothermal heating/cooling and hot water supply systems;
- Other systems with opportunity of using efficiently renewable energy sources.

In 2016, there were several amendments made to the law on Electricity and Natural Gas as well as the Rules for Electricity Supply and Consumption, introducing *net metering* system. As a result, retail customers owning small HPPs up to 100 KW can connect to the distribution network and sell excess electricity to

³⁸ In depth Review of Energy Policies and Programs Georgia, Energy Charter Secretariat, 2012:
http://www.energycharter.org/fileadmin/DocumentsMedia/IDEER/IDEER-Georgia_2012_en.pdf

distribution licensee with the tariff set by the regulatory commission (GNEWRC). Application procedures, time frames for finalization of works for connection and the respective fees are regulated by GNEWRC.³⁹

JSC “Georgian Energy Development Fund” (GEDF) is founded by the Ministry of Economy and Sustainable Development of Georgia, 100% of its fund shares are owned by the state. The mission of the Fund is to promote country’s energy potential and facilitate investment process in renewable energy projects by preliminary research activities, feasibility studies, environmental impact assessments, and searches for potential investors.⁴⁰

Wind Power

Construction of first Wind power plant “Kartli” finalized in 2016 co-financed by EBRD and EU4Business Green for Growth Fund - GGF. WPP was constructed by the subsidiary of "GEDF" and "Oil and Gas Company of Georgia" - "LLC Kartli Windfarm". The installed capacity of wind power plant is 20.7 MW. It generates 88 million kWh of electricity. The wind power plant includes six turbines, with capacity of 3.45 MW each.⁴¹ During the first 10 years of operation the generated electricity will be purchased by ESCO for the fixed tariff of USD 6.89 cent per kWh.

GEDF, together with Turkish Energy Holding “CALIK Enerji Sanayi Ticaret A.S.” is developing two more wind hydro power plants one in Shida Kartli region – Nigoza WPP (installed capacity of 50 MW) and Central WPP (150 MW) in Imereti region.⁴²

In the Government strategy document for 2016-2025 it is foreseen to develop several other WPPs, the technical parameters and locations will be identified in near future.

Solar Energy

Total potential of annual solar energy in Georgia is estimated to be 108 MW. In most regions of the country there are more than 250 sunny days a year. Annual radiation of sun varies depending on the location between 1250 -1800 kWh/m²⁴³.

Over the past decade significant developments have taken place in terms of solar energy projects in the country owing to the public awareness campaigns undertaken by different international donor projects in cooperation with local government units. This has been also supported by the growing number of technologies now available on Georgian market and introduction of *net metering* provision to the Georgian legislation.

In 2016, Solar systems were installed in Tbilisi International Airport with the capacity of 316 KW (40% of electricity demand for the building) and Ilia State University (capacity 34 KW covering 15% of demand). The project was implemented with the help of Japanese company “Itochu Corporation”. The project envisaged

³⁹ Report on Compliance with the Energy Community Acquis, Energy Community Secretariat, 2017:

https://www.euneighbours.eu/sites/default/files/publications/2017-08/ECS_Georgia_Report_082017.pdf

⁴⁰ Georgian Energy Development Fund website: <http://gedf.com.ge/About-company>

⁴¹ EU4Business website: <http://www.eu4business.eu/success-stories/georgia-brings-first-wind-farm-stream-thanks-green-growth-fund>

⁴² Georgian Energy Development Fund: <http://gedf.com.ge/news>

⁴³ Georgian National Investment Agency website: <https://www.investingorgia.org/en/keysectors/energy>

the construction of the solar thermal system with the solar collector area of 72 sq.m and water tank capacity of 2250 liters at Gori Military Hospital.

Solar thermal project was introduced also in Gori military hospital, enabling the latter to reduce up to 70 % electricity and natural gas consumption for heating water for its several buildings (infectious disease ward, laundry and kitchen), decrease energy bill and reduce CO₂- emissions into atmosphere. The project was funded by BP exploration.⁴⁴

Government of Georgia signed memorandum of understanding with JSC “Caucasus Sun Company” in 2017 envisioning the implementation of technical-economic research for construction of solar electricity generation systems in Georgia. It is planned to construct the solar power plants in Gldani, Kaspi, Akhaltsikhe, Gardabani and other areas with capacity of 50 MW.⁴⁵

GEDF is developing solar power plant in the region of Kakheti, village Udabno with the capacity of 5 MW.⁴⁶

Biomass

Biomass has a significant potential for development in Georgia through agricultural and forest residues. 70% of Georgian population still uses firewood in rural areas for heating, despite the availability of natural gas in most areas. Most of the firewood used by the population is obtained illegally. Development of biogas technologies in Georgia started since 1993 with the assistance of GTZ (German Technical Cooperation Agency), allowing Georgian engineers and experts to study new designs of technologies and adapt them to local climate and economic conditions.⁴⁷

There are several companies, research institutes and engineers producing biogas technologies in Georgia, among them, Ltd Bioenergy.

Draft Energy Strategy of Georgia for 2016-2025, elaborated by the Ministry of Energy, envisions feasibility study for the construction of Biogas power plant in village Krtzanisi, Gardabani. The installed capacity of power plant will be 2 MW.⁴⁸

According to the amendments in Law on “Electricity and Natural Gas” made (December 12, 2014), Ten Year Network Development Plan has been developed by Transmission System Operator – JSC “Georgian State Electro System” (GSE). GSE is one of the largest transmission companies (there are three other transmission licensees in Georgia) providing the electricity transmission from hydro, thermal and wind power plants to power distribution companies (JSC Telasi, JSC Energo-Pro Georgia) and direct customers (large companies). The Network Development Plan envisions strengthening the country’s transmission network infrastructure and ensuring reliable and high quality services for consumers. The aim of the mentioned 10 year plan is to develop sustainable, reliable, economical and efficient transmission system providing security, reliability and high quality of the network; the construction of new transmission lines,

⁴⁴ Energy Efficiency Center website: http://www.eecgeo.org/en/project_BP_new.htm

⁴⁵ <http://cbw.ge/economy/perspectives-constructing-solar-power-stations-georgia/>

⁴⁶ Georgian Energy Development Fund website: <http://gedf.com.ge/project/18-saqartvelos-mzis-kompania>

⁴⁷ Biogas Production, OECD: <https://www.oecd.org/env/outreach/36203835.pdf>

⁴⁸ Draft Energy Strategy of Georgia for 2016-2025, Ministry of Energy:
<http://www.energy.gov.ge/show%20news%20mediacenter.php?id=600&lang=geo>

generation sources and their connection to the Grid. It is foreseen to integrate renewable energy sources to the network.⁴⁹

Georgia has good potential in development of geothermal energy generation systems as it has respective sources of geothermal waters, but currently its use is very limited. Draft Energy Strategy of Georgia also envisions gradual replacement of old and outdated CHPs with new 500 MW plants which will run on imported gas. It is also planned to construct coal CHP in Tkibuli with installed capacity of 150 MW, which on one hand will support reduction of electricity and gas imports and on the other hand, increase local employment opportunities.

According to the article 3 of the directive 2009/28/EC on the use Renewable Energy Sources, each member state has the obligation of increasing the share of renewables in gross final consumption of energy by 2020. Article 4 of the directive requires member states to develop national renewable action plans, which will set out “Member States’ national targets for the share of energy from renewable sources consumed in transport, electricity and heating and cooling in 2020, taking into account the effects of other policy measures relating to energy efficiency on final consumption of energy. The same article also calls for adequate measures to be taken to achieve these national targets, including cooperation between local, regional and national authorities”.⁵⁰

Draft National Renewable Energy Action plan has yet to be developed for Georgia, the initial priorities and objectives for utilization of renewable resources are presented in draft Energy strategy document prepared by Ministry of Energy, but this document is also currently under revision and date of its adoption is not known.

2.2.4. Related laws or standards impacting energy sector development

Development of energy sector has immediate impact on environment; therefore environmental laws/regulations have to be considered in the process of ongoing reforms in the country.

Protection of environment and safe use of natural resources is guaranteed by the Constitution of Georgia. Besides primary and secondary legal acts in the field of environment, Georgia is a party to other international agreements binding the country to certain obligations related to environmental aspects.

The Law on Environmental Protection adopted in 1996 established general framework of environment protection principles. It regulates wide range of issues related to the preservation of environment, elaboration of environment registers and implementation of monitoring activities.

The *Ministry of Environment Protection and Agriculture* is now responsible for development and implementation of national policies and strategies. Ministry is responsible for monitoring of air pollution, preservation of natural resources and public awareness activities.

⁴⁹ State Electrosystem website: <http://www.gse.com.ge/communication/news/2015/ten-year-network-development-plan-of-georgia>

⁵⁰ Directive 2009/28/EC: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0028&from=EN>

The parliament of Georgia adopted Environmental Assessment Code in 2017, which partly came into force in January 2018. The code requires for environmental impact assessments (EIA)⁵¹ for avoiding adverse impacts on environment due to certain activities (discussed below) as well as strategic impact assessments (SEA)⁵² to examine and generally forecast impact on environment and human health. The ministry identifies the needs for both types of assessments.

Certain activities are subject to obligatory environmental impact assessments, including crude oil and gas refineries, construction of hydropower plants (2 to 5 MW), thermal power plants (with heat output of 2.20 MW and more), dams, high voltage overhead electrical power lines (35 KW or more), and construction of electrical substations with a voltage of 110 KW or more, construction and operation of installations for the surface and/or underground storage of fossil fuel, liquid and/or natural gas with a capacity of 100 cubic meters, installations for energy production using the power of wind and/or sea waves, infrastructure and other projects.⁵³

According to the code, competent bodies in the areas of environmental assessment are Government of Georgia, Ministry of Environment Protection and Agriculture as well as Ministry of Labor, Health and Social Affairs.

Before preparation of EIA, the person, according to the code, is obliged to file a scoping application along with scoping report to the Ministry for review and approval. After approval of the application, EIA must be prepared and presented to the Ministry, which has to ensure the involvement of the public in the review process. Having considered respective public reviews/comments, the Minister makes environmental decision.

The Department of Environmental Impact assessment is responsible for issuing respective permits and monitoring the implementation of conditions in the permits, as well as preparation of conclusion on revocation of such permits.

Law of Georgia on “Licenses and Permits” (2005) specifies the types of licenses needed for implementation of various activities characterized with excessive hazard to human life and health, relates to the use of state resources and involves state or public interests. According to the law generation, transmission and dispatching of electricity, natural gas and other activities require respective license and permit including environmental permit.

Law of Georgia on “Ambient Air Protection” (1999) regulates the issues related to the ambient air pollution with harmful substances, types of the pollution, and procedures of limitation of emissions. It also sets the emission ceilings for harmful substances for a certain time period. According to the article 18, the values of emissions have to be determined once in every 5 years by the quality standards on environmental protection, which is developed by the Ministry of Labor, Health and Social Affairs in agreement with the Ministry of Environment Protection and Agriculture.

⁵¹ EIA – a procedure for the identification and examination of potential impacts on the environment, based on respective studies, for the planned activities having significant effect on the environment

⁵² SEA – a procedure to examine and generally forecast potential impacts on the environment and human health

⁵³ Annexes I and II of the Environmental Assessment Code of Georgia

Article 19 of the same law includes the requirements of EU directives⁵⁴ and specifies the values, types and listings of the limit values of concentrations of harmful substances in ambient air, which have to be determined under a Joint Order of the Ministry of Labor, Health and Social Affairs of Georgia and the Ministry of Environment and Natural Resources Protection.

In the light of reforms, it is noteworthy to mention that the Ministry of Environment Protection and Agriculture has developed second National Environmental Action Plan (NEAP-2) for the years 2012-2016 envisioning future steps in priority areas which are identified as:

- Water resources;
- Ambient Air Protection;
- Waste and Chemicals;
- Black Sea;
- Biodiversity and protected areas;
- Forestry and land resources;
- Mineral resources and climate change;
- Nuclear and radiation safety;
- Policy integration

NEAP-2 also covers issues related to environmental impact assessment and permitting, enforcement, environmental education and public awareness, monitoring, the scientific basis for decision-making and the need for geo-informational systems.⁵⁵ The document is developed every 5 years, as according to the Law on Environment Protection, NEAP-3 for 2017-2012 is now under elaboration.

In view of climate change, Georgia is a non-annex party I party of the UNFCCC implying that the country is responsible for preparation of national communications (NC) and biennial update reports (BURs). NCs provide information on greenhouse gas (GHG) inventories, measures to mitigate and to facilitate adequate adaptation to climate change. National communications are prepared once in every four years⁵⁶.

UNDP has provided assistance to Georgian government with the funds from the Global Environmental Facility (GEF) to elaborate third national communication to UNFCCC published in 2015. National communications cover information on climate change strategy, GHG emissions by sector, vulnerability and adaptation assessment as well as climate change impact on different regions of Georgia.⁵⁷

Kyoto protocol was ratified by Georgian parliament in 1999, by which the country requested different donor organizations to assist in development of CDM mechanisms. Several projects have also been implemented within the scope of clean development mechanism.

⁵⁴ Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe and Directive 2004/107/EC on Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air

⁵⁵ English version of National Environmental Action Plan 2:

https://www.preventionweb.net/files/28719_neap2_eng.pdf

⁵⁶ National Reports from Non-Annex I parties: <https://unfccc.int/national-reports-from-non-annex-i-parties>

⁵⁷ Georgia's Third National Communication UNFCCC:

http://www.ge.undp.org/content/dam/georgia/docs/publications/UNDP_GE_EE_Third_National_Communication_to_UNFCCC.pdf

Energy consumption is high in transport sector in Georgia and continues to grow. Therefore it has direct impact on the quality of air especially in Tbilisi. Majority of fuel used is gasoline, diesel and natural gas. Transport fleet has grown significantly over the past years especially in Tbilisi, resulting in high emissions of CO₂. Air pollution is high due to the low quality fuel used by the transport network. There is also no legal framework for fuel quality control in the country. There is a Government Decree on “Approval of Quality Standards for Gasoline” (December 2004) specifying for maximum level of lead in petrol, which has to be gradually reduced from 0.013 to grams per liter to 0.005 grams as of the year 2013.

Most of the vehicles imported in Georgia are second-hand and quite old (more than 10 years) and they’re not checked in terms of quality while being imported.

Within the framework of the Covenant of Mayors, *Tbilisi Sustainable Action Plan* has been developed covering the period of 2011-2020, providing overview and analysis of existing situation and problems related to energy consumption and emissions in the city with respective measures for improvement. According to SEAP, Tbilisi Municipality is planning to introduce new and effective transport management system like new minibuses and trams, extension of subway system and private car discouraging actions. It is also foreseen to conduct public awareness campaigns in order to encourage the use of public transport.⁵⁸

Requirements of the EU Directive No 2009/40/EC on road worthiness for motor vehicles and trailers have been incorporated in respective Georgian legislation and regulations of GoG planning to introduce technical inspection on safety of vehicles in Georgia. First phase of the technical inspection already started at the end of 2016 for trucks and travel buses, which will be followed by the state owned vehicles (as of July 2018) and the all the rest vehicles will have to pass technical inspection starting from 1st of January 2019. After full enforcement of the technical inspection the owners will be obliged to check their vehicles for safety as well as emissions. This will result in improvement of road safety as well as quality of air.

2.3. LATEST NATIONAL AND REGIONAL ACTIVITIES AND EFFORTS FOR THE REFORM OF STANDARDS

Georgia ratified the accession agreement to the Energy Community of Europe in 2017, which is perceived as one of the major steps for the country in the process towards EU integration and development of its energy sector. Within the framework of the agreement, number of reforms will be implemented in the country related to approximation of Georgian legislation with EU requirements, including the creation of competitive market, enhancement of energy security, use of renewable energy sources and advancement of energy efficiency.

Legal and regulatory framework on energy efficiency and renewable energy sources is yet to be developed in Georgia. In the light of accession to the Energy Community, the country has to meet the requirements of

- Directive 2010/31/EU on energy performance of buildings (EPBD) by 30 June 2019;

⁵⁸ Sustainable Action Plan, City of Tbilisi for 2011-2020:

http://mycovenant.eumayors.eu/docs/seap/1537_1520_1303144302.pdf

- Directive 2012/27/EU on energy efficiency (EED), amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, which has to be implemented by 31 December 2018.

Several projects are ongoing with the aim of transforming existing legislation in the field of energy with the aim of meeting the requirements set out in EU directives, funded by international donors.

“Eastern Europe Energy Efficiency and Environment Partnership” (E5P) is currently supporting Georgia through DANIDA (Danish) program “Support to Energy Efficiency and Sustainable Energy in Georgia”, which started in 2015 and is planned to be completed in 2019. The first phase of the program envisions the development of Georgian legislation and regulation to enable electricity from renewable energy sources to feed into the national power grid, including the development of energy efficiency building codes (EE codes) and labelling of energy efficiency levels on products. The second phase supports the demonstration of energy efficient building design in practice through energy renovation of public buildings and associated awareness raising campaigns and training of energy auditors.⁵⁹

Draft Spatial Planning and Construction code has been developed by Ministry of Economy and Sustainable Development with the assistance of mentioned DANIDA. It is currently under revision in parliament but not yet adopted. The latest version was published at the end of 2016.

In the light of implementation of EED, Georgia has developed draft of its first National Energy Efficiency Action Plan (NEEAP) with technical assistance of EBRD in collaboration of national and international experts, ministry of energy, ministry of economy and other government authorities. The latest draft version from 15 February 2017 of the NEEAP foresees policy measures in a total of 7 different areas for intervention (6 according to different sectors, 1 for horizontal measures). EE measures in buildings present one of these areas of intervention and are closely linked with public sector measures. The nature of elaborated measures varies from standard and labelling schemes in appliances to consumer information programmes and training to green procurement methods and regulation leading to efficient lighting. All measures are all where possible and required closely related to the EPBD.

One of the core measures for EE in buildings is the above described “EPBD transposition and enforcement: standards and norms and labelling schemes in buildings”. It is estimated that the implementation of the standards will enhance 19GWh savings in 2020 and 422GWh in 2025.

In the light of regional activities and efforts for reform of existing standards, it is noteworthy to mention KfW “Prefeasibility Study on Energy Efficiency Framework and Short-Listing of Municipal Buildings” implemented by FICHTNER Management Consulting and a team of local experts. Six month project, starting from August 2016, was initiated by the City of Batumi Municipality together with KfW. The project covered two main components. First component envisaged the selection of min. 30 municipal buildings in the city of Batumi for analysis of possible energy efficient interventions and development of an investment plan, while the second component covered legal analysis of existing EE framework and the possibility of adoption of new standards on energy efficiency in buildings.

⁵⁹ Danida Open Aid: <http://openaid.um.dk/en/projects/DK-1-251184>

As a result of the analysis, a blueprint for voluntary EE standards for new buildings in the City of Batumi was developed. To ensure that these standards are financially interesting for developers and architects, 3 types of reference buildings (kindergarten, commercial building and multi-storey-residential building) were analysed to show the difference in costs and savings when constructing buildings according to current practice and according to higher EE standards. As a result, the prefeasibility study presents system of standards applied in Germany as a European best practice example and a blueprint of voluntary EE standards for new buildings in Batumi, such as EnEv (German Energy Saving Directive) and Din 18599 on energy efficiency in buildings⁶⁰.

The Spatial Planning and Construction Policy Department of the Ministry of Economy and Sustainable Development is carrying out the project on implementation of the Construction Codes (EuroCodes) developed by the European Committee of Standardization in Georgia.

Eurocodes are currently being translated into Georgian. European standards (together with National Annexes) will replace the existing Soviet-time construction rules and norms in Georgia.

USAID is currently implementing 3 year energy program in Georgia, which focuses on supporting the country in energy market development as according to the Energy Community Treaty. The goal of the program is to increase the energy security of the country by improved regulatory and legal framework and increase investments in energy sector. USAID Energy Program (UEP) will assist the GOG in building the capacity to promote energy investments, (primarily in variable renewable energy development), support integration of non-hydro renewable energy into the power system, and provide strategic advisory services to the Georgian government to increase the energy security of the country. UEP will also support the GoG in further integration of renewable energy project and will continue to promote cross-border trade in clean energy between Georgia, Armenia and Turkey.⁶¹

Draft Energy Development Strategy of Georgia (2016-2025) has been elaborated by the Ministry of Energy. It focuses on approximation of Georgian legislation with the EU standards, improvement of environment for investments, utilization of local energy resources, enhancing the transit, support of energy efficiency, training of personnel, development of respective infrastructure for sustainable distribution and dispatching network. MOESD, being the legal successor of ministry of Energy, is now responsible for further reform of the standards and development of respective energy policy in the country.

2.4. STATE, REGIONAL, MUNICIPAL AUTHORITIES RESPONSIBLE FOR ENERGY/EE/RE POLICY DEVELOPMENT.

Various state authorities and ministries, international donor projects as well as NGOs are participating in the development of EE/RE policy in the country. This chapter reviews the roles and functions of different stakeholders on national level responsible for respective policy activities.

⁶⁰ KfW “Prefeasibility Study on Energy Efficiency Framework and Short-Listing of Municipal Buildings”, 2017

⁶¹ USAID Energy Program: <https://ge.usembassy.gov/usaaid-energy-program/>

Until recently, the Ministry of Energy (MOE) was responsible for development of national energy policy directions as well as drafting respective policy regulations and documents, which were submitted to the parliament of Georgia for approval. As of December 2017, MOE has been officially merged with the Ministry of Economy and Sustainable Development of Georgia. The website of former Ministry of Energy is still active: www.energy.gov.ge.

The Ministry of Economy and Sustainable Development (MOESD) as a legal successor of MOE is now responsible for respective energy policy development as well as elaboration of short, medium and long-term energy strategies through respective departments. MOESD is also responsible for development of policy in the field of spatial planning and construction activities in the country as well as respective monitoring activities, which is carried out by the Spatial Planning and Construction Policy Department. Technical and Construction Supervision Agency has the authority for issuing special construction permits and related supervision activities of the buildings and public infrastructure in the highest risk category. Website of the ministry: www.moesd.gov.ge.

Georgian National Energy and Water Supply Regulatory Commission (GNEWRC) is a legal entity of public law. The commission is independent from state bodies and acts in accordance with the respective authority granted by the Law of Georgia on “Independent National Regulatory Authorities” as well as the law on “Electricity and Gas”. GNEWRC is responsible for development of new standards for transparency and independence in the tariff setting process, create tariff setting methodology and improve the reliability of energy and water supply in the country, regulate the activities of licensees, law capacity power plants, market operators and suppliers. Its main responsibility is to set and regulate the tariffs for electricity generation, transmission, dispatch, distribution as well as gas transportation, distribution, water supply and sewage systems. Website of the commission: <http://gnerc.org/en/home> .

The Ministry of Regional Development and Infrastructure (MRDI) is responsible for development of infrastructural projects like construction and renovation of roads and highways, water supply and waste management systems, elaboration of regional policy programs and strategies of infrastructural development and respective coordination activities. Website of the ministry: www.mrdi.gov.ge.

The Ministry of Environment Protection and Agriculture is responsible for the development of environmental policy framework and regulations as well as the agricultural sector in the country. The ministry elaborates Strategic Environmental Assessments, National Environmental Action Plans (NEAP) as well as National Communications (NC) with respect to UNFCCC. It also takes decisions on the issue of respective permits and decisions on implementation of renewable energy projects. Website of the ministry is under development, but certain information can be still found: www.moe.gov.ge.

The Municipal Development Fund of Georgia was established in 1997 and is under the supervision of MRDI. The Fund is cooperating with all large investment banks and financial institutions operating in Georgia.

The objective of the fund, is to support strengthening institutional and financial capacity of local government units, investing financial resources in local infrastructure and services, improving the primary economic and social services for communities, developing renewable energy (midget power plants and geothermal) sources, creating sustainable economic basis for refugees, rehabilitating irrigation and drainage systems

and etc. MDF is extensively cooperating with international financial donor organizations like WB, USAID, KfW, SIDA and EBRD. More information can be found here: www.mdf.org.ge.

Tbilisi municipality

Tbilisi Municipality is one of the signatories of the Covenant of Mayors and has committed to reduce at least 20% of CO₂ emissions by 2020 as well as raise public awareness on EE/RE and promote energy efficient projects. Within the framework of the Covenant of Mayors, Sustainable Action Plan of Tbilisi has been elaborated (SEAP) envisioning wide variety of reforms in different sectors like transport, infrastructure, construction, street lighting, waste management and others. Municipality has also been involved in renovation of kindergartens in Tbilisi with new and EE equipment like PVC windows/doors and heating systems. More information of activities and services of municipality can be found on the website: <http://www.tbilisi.gov.ge/?lang=en>

Energy Efficiency Centre (EEC) has been operational since 1998 funded by EU in the country within the framework of TACIS project, involved in various projects including the assistance in drafting NEEAP, training and certification of private sector energy auditors and public awareness activities in energy efficiency. EEC is a supporter of Covenant of Mayors since 2014.⁶² Website: <http://eecgeo.org/index.htm>.

World Experience for Georgia (WEG) has been actively working on the energy policy and environmental issues since 2006. WEG contributes to the successful development of Georgia, through the promotion of effective and sustainable policy, primarily in the energy field. It has been involved in various projects including the preparation of different studies on climate change and environment as well as energy reforms. WEG elaborated the chapter on “Mitigation” of Georgia’s Second Biennial Update Report for UNFCCC. Additional information on ongoing projects can be found on WEG website: <http://weg.ge/en>.

Caucasus Environmental NGO Network (CENN) is a non-governmental organization established in 1998, working to protect environment across South Caucasus, by combating climate change and supporting sustainable resource management through various initiatives and programs. Website: www.cenn.org.

⁶² Energy Efficiency Center: <http://eecgeo.org/en/projects.htm>

3. CONCLUSION

The present report reviews existing legal and policy framework in energy sector of Georgia including most recent developments in energy efficiency and renewable energy policy.

Chapter 2 of the report is dedicated to *Policy Framework* which is divided in several sub-chapters. Sub-chapter 2.1 gives an overview of existing laws and regulations in the field of energy including primary and secondary legislation. The primary law regulating the energy sector is the law on “Electricity and Natural Gas” adopted in 1997, which was amended several times and currently involves some of the EU requirements in particular, deregulation and liberalization of the energy market. Secondary legislation comprises the government regulations, decrees, orders of ministries and resolutions by GNEWRC.

Due to the reforms in energy sector, both including power and gas, the country became the exporter of electricity after being dependent on imports from Russia. Improvement of energy security was crucial for the country after its independence, therefore most of the government policy reforms focused on the utilization of local hydro resources to create adequate supply of electricity. The establishment of National Energy and Water Supply Regulatory Commission (GNERWRC) as an independent regulatory institution in 1997 was also part of the successful reforms in energy sector. Nowadays, GNEWRC is responsible for development of new standards for transparency and tariff setting process, creating tariff setting methodology and working on improving the reliability of energy and water supply in the country.

Sub-chapter 2.2 reviews the existing national and regional laws and standards including EE/RE developments in construction, transport and other sectors, as well as developments in energy policy.

As Georgia has reached certain level of stability in energy sector, more attention has been drawn towards energy efficiency and renewable energy resources by the Government. There is no legal framework regulating Energy Efficiency and Renewables in the country, but the importance of EE/RE has been stressed by the government in its energy policy documents and strategies (Main Directions of State Energy Policy of Georgia).⁶³

Despite the lack of EE/RE legislation, the government has taken certain steps to support the use of alternative energy sources. This has been accomplished by several amendments to the law on *Electricity and Natural Gas* as well as the Rules for Electricity Supply and Consumption introduced in 2016, concerning net metering system. As a result of amendments, the owners of small HPPs (up to 100 KW) are able to connect to the distribution network and sell excess electricity to distribution licensee. It is noteworthy that first WPP “Kartli” has been built and put in operation in Georgia (Gori) in 2016. Several solar system projects have been implemented with the support of international donors.

Government strategy document for 2016-2025 envisions further extension of RE projects in the country, with special focus on WPPs and solar power plants.

The report finds that, the National Renewable Energy Action Plan (NREAP) has yet to be developed by the government, meaning that the requirement set by the EU Renewable Energy directive 2009/28/EC is not yet

⁶³ Main Directions of State Energy Policy of Georgia first adopted in 2006 and amended in 2015 to include the points on importance of energy efficiency and utilization of local renewable energy sources

fulfilled. The adoption of such plan would create unified approach for further utilization of renewable energy sources in the country.

Sub-chapter 2.3 discusses the main findings on the latest activities and efforts for reform of existing standards, which is carried out by the support of different donor organizations.

Sub-chapter 2.4 of the report provides information on state, regional and municipal authorities responsible for energy, energy efficiency and RE policy development with references to their websites and overview of authorities in this field. The report finds that currently, primary responsibility for energy policy development lies with the Ministry of Economy and Sustainable Development of Georgia, as it has been merged with Ministry of Energy. The process of reforming the ministry is still ongoing.

In terms of meeting environmental regulations of EU, the *Environmental Assessment Code* has been developed and put in force recently in Georgia. It is broader than previous law on *Environmental Impact Permits* (which is no longer in force), providing for need and procedures of elaboration and approval of the Environmental Impact Assessments as well as Strategic Environmental Assessments for activities impacting human health and environment. The code also includes improved approach towards the participation of public in decision-making process for revision of mentioned documents. Main parts of the Code will come into force as of July 2018.

National Energy Efficiency Action Plan (NEEAP) hasn't yet been adopted and is under revision. Currently, there is also no Construction code yet in force in the country, which would include EE requirements for buildings. Construction sector is regulated by Soviet technical regulations - SNIPS as well as other laws and secondary acts on Construction, without any reference to general EE requirements. It is up to private developers to use certain Energy Efficiency materials or introduce EE standards in the new buildings at the time of construction. Public buildings owned by ministries and municipalities are also in great need of rehabilitation in terms of energy efficiency. Certain activities have been implemented to improve the situation existing in public buildings with the help of different donors, but these measures are not sufficient to reach adequate energy efficiency levels. It is noteworthy to mention that there is no labelling system for EE materials and products in the country, but EE products with respective EU labelling can be found on the market as they're mostly imported from other countries and the population is somewhat aware of benefits of EE products through various donor funded awareness campaigns.

As there is no overarching legislation on energy efficiency or renewable energy sources in the country, the activities in this direction do not have unified approach and are spontaneous. It is important that future energy policy of the country reflect specific targets for achievement of energy efficiency in different sectors. As a starting point, the government should facilitate adoption of the NEEAP and Construction Code and take actions to implement other EE supporting measures. Coordination between different government bodies, ministries, self-government units and international donor organizations should also be maintained in the process of developing and implementation of respective programs.

4. ANNEXES

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4.2. ANNEX B

NEEAP	National Energy Efficiency Action Plan
GOG	Government of Georgia
ECT	Energy Charter Treaty
PEEREA	Protocol on Energy Efficiency and Related Environmental Aspects
UNFCCC	United Nations Framework Convention on Climate Change
COM	Covenant of Mayors
EPBD	Energy Performance of Buildings Directive
EED	Energy Efficiency Directive
GNEWRC	Georgian National Energy and Water Supply Regulatory Commission
MOESD	Ministry of Economy and Sustainable Development
MOE	Ministry of Energy
MRDI	Ministry of Regional Development and Infrastructure of Georgia
MDF	Municipal Development Fund
GEDF	Georgian Energy Development Fund
EEC	Energy Efficiency Center
WEG	World Experience Georgia
CENN	Caucasus Environmental NGO Network
EU	European Union
USAID	United States Agency for International Development
KfW	Kreditanstalt für Wiederaufbau
UNDP	United Nations Development Program
EBRD	European Bank for Reconstruction and Development

EE	Energy Efficiency
RE	Renewable Energy
SNIPS	Soviet Technical Regulations for Construction
LEDS	Low Emission Development Strategies
NAMA	National Appropriate Mitigation Actions
SEAP	Sustainable Energy Action Plan
CO ₂	Carbon dioxide
EIA	Environmental Impact Assessment
SEA	Strategic Environmental Assessment
GHG	Greenhouse Gas Emissions
CDM	Clean Development Mechanism



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