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USAID ENERGY PROGRAM

# USAID ENERGY PROGRAM ANNUAL REPORT

OCTOBER 1, 2018 – SEPTEMBER 30, 2019

USAID ENERGY PROGRAM

31 October 2019

This publication was produced for review by the United States Agency for International Development. It was prepared by Deloitte Consulting LLP. The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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# ACRONYMS

<b>AA</b>	Association Agreement
<b>ADB</b>	Asian Development Bank
<b>AFD</b>	French Development Agency
<b>AGGM</b>	Austrian Gas Grid Management
<b>AYPEG</b>	Association of Young Professionals in Energy of Georgia
<b>B2B</b>	Back-to-Back
<b>BM</b>	Balancing Mechanism
<b>BoG</b>	Bank of Georgia
<b>BTU</b>	Business and Technology University
<b>CAPEX</b>	Capital Expenditure
<b>CBA</b>	Cost Benefit Analysis
<b>CEGH</b>	Central European Gas Hub
<b>CEO</b>	Chief Executive Officer
<b>CfD</b>	Contract for Difference
<b>CNG</b>	Compressed Natural Gas
<b>CoA</b>	Chart of Account
<b>CoP</b>	Chief of Party
<b>COR</b>	Contracting Officer's Representative
<b>DAM</b>	Day-Ahead Market
<b>DCFTA</b>	Deep and Comprehensive Free Trade Area
<b>DCoP</b>	Deputy Chief of Party
<b>DECC</b>	Department of Energy and Climate Change
<b>DGGF</b>	Dutch Good Growth Fund
<b>DIGSILENT</b>	Power System Software and Engineering Company
<b>DM</b>	Deputy Minister
<b>DQC</b>	Data Quality Control
<b>DRIVE</b>	Development Related infrastructure Investment Vehicle
<b>DSO</b>	Distribution System Operators
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>ECS</b>	Energy Community Secretariat
<b>EECG</b>	Energy Efficiency Centre Georgia
<b>EIA</b>	Environmental Impact Assessment
<b>EnC</b>	Energy Community
<b>EnCT</b>	Energy Community Treaty
<b>ENTSO-E</b>	European Network of Transmission System Operators for Electricity
<b>EPG</b>	Ergo-Pro Georgia
<b>EPRA</b>	Turkish Engineering Procurement Research Analysis
<b>EPSO</b>	Electro Power System Operator
<b>ESCO</b>	Electricity Market Operator
<b>ETM</b>	Electricity Trading Mechanism
<b>EU</b>	European Union
<b>FiP</b>	Feed-in Premium
<b>FIT</b>	Feed-in Tariffs
<b>FS</b>	Feasibility Study
<b>G4G</b>	Governing for Growth in Georgia
<b>GCA</b>	Gas Connect Austria
<b>GCF</b>	Georgian Co-Investment Fund
<b>GEDF</b>	Georgian Energy Development Fund
<b>GEG</b>	Gross Energy Group
<b>GEL</b>	Georgian Lari
<b>GGI</b>	Good Governance Initiative
<b>GGSC</b>	Georgian Gas Storage Company
<b>GGTC</b>	Georgian Gas Transportation Company
<b>GGU</b>	Georgian Global Utilities
<b>GHG</b>	Greenhouse Gases
<b>GIG</b>	Georgian Industrial Group
<b>GIZ</b>	German Development Agency
<b>GNCOLD</b>	Georgian National Committee of Large Dams
<b>GNERC</b>	Georgian National Energy and Water Supply Regulatory Commission
<b>GoG</b>	Government of Georgia

<b>GOGC</b>	Georgian Oil and Gas Corporation
<b>GRAM</b>	Georgian Resource Adequacy Model
<b>GRPC</b>	Georgian Renewable Power Company
<b>GSE</b>	Georgian State Electrosystem
<b>GTU</b>	Georgian Technical University
<b>GWP</b>	Georgian Water & Power
<b>HICD</b>	Human and Institutional Capacity Development
<b>HIPP</b>	Hydropower Investment Promotion Project
<b>HPEP</b>	Hydro Power Energy Project
<b>HPP</b>	Hydro Power Plant
<b>HRM</b>	Human Resources Management
<b>HVEN</b>	High Voltage Electric Networks (Armenia)
<b>IEA</b>	International Energy Agency
<b>IFC</b>	International Finance Corporation
<b>IFI</b>	International Financial Institution
<b>INL</b>	Idaho National Lab
<b>ISSET</b>	International School of Economics at Tbilisi State University
<b>IVLP</b>	International Visitors Leadership Program
<b>KfW</b>	German Government-Owned Development Bank
<b>kV</b>	Kilovolt
<b>kWh</b>	Kilowatt Hour
<b>LCR</b>	Local Content Regulations
<b>LiDAR</b>	Control Measurement Equipment
<b>LNG</b>	Liquefied Natural Gas
<b>MBA</b>	Master of Business Administration
<b>MEPA</b>	Ministry of Environmental Protection and Agriculture of Georgia
<b>MLET</b>	Market Liberalizations & Electricity Trade Program (USAID/Armenia)
<b>MO</b>	Market Operator
<b>MoF</b>	Ministry of Finance of Georgia
<b>MoLHSA</b>	Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia
<b>MoM</b>	Minutes of Meeting
<b>MoU</b>	Memorandum of Understanding
<b>MRDI</b>	Ministry of Regional Development and Infrastructure of Georgia
<b>MTAI</b>	Ministry of Territorial Administration and Infrastructure of Armenia
<b>MW</b>	Megawatt
<b>NARUC</b>	National Association of Regulatory Utility Commissioners
<b>NEA</b>	National Environmental Agency
<b>NGO</b>	Non-Governmental Organization
<b>NIRAS</b>	Consortium of Danish Company
<b>NTC</b>	New Technology Center
<b>NVE</b>	Norwegian Water Resources and Energy Directorate
<b>OPEX</b>	Operational Expenditure
<b>OTC</b>	Over-the-Counter
<b>PIU</b>	Project Implementation Unit
<b>PPA</b>	Power Purchase Agreement
<b>PPD</b>	Public-Private Dialogue
<b>PPE</b>	Property Plant and Equipment
<b>PPP</b>	Public-Private Partnership
<b>PR</b>	Public Relations
<b>PSO</b>	Public Service Obligations
<b>PSRC</b>	Public Services Regulatory Commission
<b>PURC</b>	Public Utility Research Center
<b>PV</b>	Photovoltaic
<b>QWF</b>	Qartli Wind Farm
<b>RA</b>	Resources Adequacy
<b>RCoA</b>	Regulatory Chart of Account
<b>REKK</b>	Regional Centre for Energy Policy Research, based in Hungary
<b>RES</b>	Renewable Energy Sources
<b>RES Lab</b>	Renewable Energy Sources Laboratory
<b>RIA</b>	Regulatory Impact Assessments
<b>RIWG</b>	Regional Informative Working Group
<b>RoAiD</b>	Romanian Agency for International Development

<b>SAOG</b>	State Agency of Oil and Gas
<b>SC</b>	Steering Committee
<b>SCADA</b>	Supervisory Control and Data Acquisition
<b>SDSU</b>	San Diego State University
<b>SOCAR</b>	State Oil Company of Azerbaijan Republic
<b>SoLR</b>	Supplier of Last Resort
<b>SoW</b>	Scope of Work
<b>SPP</b>	Solar Power Plant
<b>SSA</b>	Social Service Agency
<b>TAG</b>	Trans Austria Gasleitung
<b>TEİAŞ</b>	Turkish Electricity Transmission Company
<b>ToR</b>	Terms of Reference
<b>TPP</b>	Thermal Power Plant
<b>TSO</b>	Transmission System Operator
<b>TYNDP</b>	Ten-Year Network Development Plan
<b>UGS</b>	Underground Gas Storage
<b>UNDP</b>	United Nations Development Programme
<b>USD</b>	United States Dollars
<b>USEA</b>	United States Energy Association
<b>USG</b>	United States Government
<b>USoA</b>	Uniform Systems of Accounts
<b>USS</b>	Universal Service Supplier
<b>VAT</b>	Value Added Tax
<b>VRE</b>	Variable Renewable Energy
<b>WACC</b>	Weighted Average Cost of Capital
<b>WB</b>	World Bank
<b>WEG</b>	World Experience for Georgia
<b>WG</b>	Working Group
<b>WPP</b>	Wind Power Plant

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## INTRODUCTION

In October 2016, Georgia signed the Energy Community Treaty (EnCT) signaling the country's commitment to direct future energy planning and market development towards approximation with the European Union (EU). This step commits Georgia to enhance the security of energy supply by promoting the development of relevant infrastructure, increasing market integration and enhancing the gradual regulatory approximation towards the key elements of the EnCT, and promoting the use of renewable energy sources. In order to meet its strategic commitments in the energy sector, Georgia requires technical assistance and policy advice on legal, regulatory and institutional reform issues, including facilitating investment and deal structuring, engineering and environmental analyses, financial planning, and outreach, among others.

The objective of USAID Energy Program is to support Georgia's efforts to facilitate increased investment in power generation capacity as a means to increase national energy security, facilitate economic growth, and enhance national security. The project will have a significant impact on the energy market reform efforts of the Government of Georgia (GoG) to comply with the country's obligations under the EnCT. The investment objective will be achieved through the provision of technical assistance to a variety of stakeholders in the energy sector.

The purpose of USAID Energy Program is to: (1) support Georgia in energy market development per Georgia's obligations under the EnCT, (2) build the capacity of the GoG and relevant institution(s) evaluate the fiscal and long-term impacts of regulatory changes, (3) promote energy investments, primarily in variable renewable energy development, (4) support integration of non-hydro renewable energy into the power system, and (5) provide strategic advisory services to the GoG to increase Georgia's energy security.

The ultimate goal of this program is to enhance Georgia's energy security through improved legal and regulatory framework and increased investments in the energy sector. The ultimate expected outcome of this program is an energy market legal and regulatory framework that complies with the European requirements and encourages competitive energy trade and private sector investments.

## SUMMARY

USAID Energy Program has been progressively conducting its activities to achieve the goals articulated in the Year 2 Work Plan. The slow Government decision making and changes in the Government personnel directly delayed the implementation of certain activities that were deferred in Year 3. However, it is worth mentioning that the Program managed to implement several important activities which have been deferred in Year 2 from Year 1.

Successful project activities covered a broad and diverse range of areas: assisted the Ministry of Economy and Sustainable Development of Georgia to submit the new Energy Law in the Parliament of Georgia as the Program developed Regulatory Impact Assessment of the Draft Energy Law, predicting the impacts on electricity and natural gas end-user tariffs; Worked with private sector investors in wind and solar projects to remove obstacles and integrate variable renewable energy into the grid; Developed transitional plans for vulnerable customers and provided technical guidance to the GoG to address off-grid homes nation-wide by financing solar PV systems; Developed Uniform System of Accounting for the natural gas sector of Georgia, that is key to increase transparency and achieve fair tariff setting; Created Georgia-Armenia Working Group (WG) and forged meetings.

The present USAID Energy Program Annual Report details the progress in each task in reference to the corresponding areas of the Program Year 2 Work Plan.

At the close of Year 2, USAID Energy Program has completed 40 technical deliverables. Below are provided the list of key deliverables:


- “Georgia Resource Adequacy Study”
- “Concept: Communication Strategy for Energy Market Reform”;
- “Electricity Sector Reform Action Plan”;
- “Natural Gas Market Development Action Plan”;
- “Natural Gas Market Transition Plan”;
- “Electricity Market Transition Plan”;
- “Natural Gas Market Rules for an Organized Market”;
- “Enguri HPP Issues and Priorities for Energy Security and Reliability”;
- “National Environmental Requirements for Variable Renewable Energy Projects”;
- “Recommendations on Renewable Energy Support Schemes”;
- “Recommendations on Environmental Decision Procedures for Bio Gas Power Plant Project”;
- “Recommendations on Legal Procedures for Bio Gas Power Plant Project”;
- “Variable Renewable Energy Forecasting System Design and Implementation Plan”;
- “Recommendations on the Connection of Imereti WPP to the Georgian Transmission System”;
- “Comparative Analysis of the Developed Concepts for the New Electricity Market in Georgia”;
- “Midterm Report on Solar Photovoltaic System Project for Off-Grid Settlements”;
- “Survey Results and Consensus on Selected Support Schemes for Renewable Energy”;
- “Regulatory Impact Assessments of the Proposed New Energy Law on Electricity Prices”;
- “Regulatory Impact Assessments of the Proposed New Energy Law on Natural Gas Prices”;
- “Regulatory Impact Assessment of the Proposed Energy Law on Vulnerable Customers in Georgia”;
- “Recommendations on Renewable Energy Support Schemes”;
- “Renewable Energy Investor Guidebook”.



# PROJECT HIGHLIGHTS

## ENERGY SECURITY WORKING GROUP MEETING




**NEWSLETTER**  
OCTOBER - DECEMBER, 2018



**ENGURI HYDRO POWER PLANT**

Enguri Hydro Power Plant (HPP), as one of the valuable energy assets, acquires vital importance for the energy security of Georgia. In that sense, USAID Energy Program organized local and international experts' trip to Zugdidi to visit Enguri HPP. Among the visitors were Mr. Valery Vatchkov – Senior Regulatory Advisor USAID Energy Program, Mr. David Mujirishvili – Sr. Technical Adviser USAID Energy Program and Mr. Phil Hoover – H&M Engineering, Independent expert.

Enguri visit enabled the independent expert to inspect the dam and verify the required level of intervention with the focus on prioritizing the issues and activities vital for keeping the plant in the middle age. Particular emphasis was made on the importance of meeting the safety criteria in view of long-term implications. In this respect, Mr. Hoover emphasized the value of Flood Emergency Plan for the security of both the asset and population. Subsequent consideration was also given to penstock valve replacement, interior powerhouse leakage, ongoing sediment removal, unit flow measurement, spillway gate improvement and reconstruction of Vardnili.



Enguri HPP Penstock  
USAID Energy Program Experts with Enguri HPP Management  
Enguri HPP Arch Dam, Bottom Outlet

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On December 6-8, USAID Energy Program organized local and international experts' trip to visit Enguri Hydro Power Plant (HPP) in Abkhazia region. The visit was followed by the Energy Security WG Meeting on December 12, at the Ministry of Economy and Sustainable Development of Georgia (MoESD). The meeting brought together the representatives of Enguri, the MoESD and professionals with different roles in the energy sector to hear an independent expert's assessment of Enguri HPP, which remains to be the most valuable asset for Georgia's energy security.

International Hydropower Engineer Mr. Phil Hoover shared the valuable insight as a result of the dam inspection and identified the priority issues with long-term implications including the financially rational cost estimations for the continuous rehabilitation which is common for the projects similar to Enguri HPP being in the middle age.

The insights provided by Mr. Hoover at the WG Meeting received keen appreciation from Georgian industry experts. The concepts and genuine arguments offered in the presentation were deemed as valuable input capable of fostering the advocacy efforts for obtaining required support both from the government and the policymakers. As a result of the meeting, one of the stakeholders

### Newsletter

expressed gratitude in a written form towards USAID Energy Program for organizing such an informative and interesting event.

Following the meetings, the report on the main findings and prioritization approach of challenging issues was developed and disseminated among the members of the Energy Security WG.



Presentation on Enguri HPP

## ENERGY SECURITY IN THE CAUCASUS REGION IN LIGHT OF MARKET OPENING



Panel Participants: Mr. Daniel Potash, Ms. Natia Turnava, Mr. Peter Wiebler, Mr. Radu Horumba, Mr. Revaz Arveladze

On April 12, USAID Energy Program, in cooperation with the MoESD and International Energy Agency (IEA) organized conference “*Energy Security in the Caucasus Region in Light of Market Opening*”. Among the attendees were the representatives of Georgian Parliament, Prime Minister’s Office, Georgian National Energy and Water Supply Regulatory Commission (GNERC), Georgian State Electrosystem (GSE), Electricity Market Operator (ESCO), Georgian Energy Development Fund (GEDF), Georgian Oil and Gas Corporation (GOGC), Georgian Gas Transportation Company (GGTC), Energo-Pro Georgia (EPG), Telasi, etc. Dr. Robert Ichord - Senior Fellow at the Atlantic Council, Deloitte Consultant and Mr. Duncan Millard - Chief Statistician and Head of Energy Data Center, IEA were specially invited for the event. The event aimed to foster debates on the energy security issues, reinforced by rigorous analysis for evidence-based decision making.

The Deputy Minister (DM) of the MoESD Ms. Natia Turnava opened the event by underlining the importance of energy security for the country and expressed gratitude towards USAID Energy Program for rendering valuable support throughout the transition period and for targeting the essential topics such as legislation, Regulatory Impact Assessment (RIA), and energy security. Mr. Peter Wiebler, USAID/Georgia Mission Director also highlighted the significance of energy security for Georgia not only for broader security but also for the economic development of a country.



Mr. Peter Wiebler, Mission Director, USAID/Georgia

Conference participants

The conference was divided into three sessions. The first session, moderated by USAID Energy Program Chief of Party (CoP) Mr. Daniel Potash, was dedicated to welcoming remarks from high-level officials by featuring the value of the conference for creating awareness on the energy security. The second session, moderated by Mr. Murman Margvelashvili, Director, WEG, provided a platform for discussing the key aspects of energy security, anticipated uncertainties and challenges. And the third session, moderated by the Program Contracting Officer’s Representative (COR)/Energy Sector Advisor USAID/Georgia Mr. Nicholas Okreshidze, forged deliberations on the existing state of energy security, VS past and future planned state.

Among the speakers was Dr. Robert Ichord - Senior Fellow at the Atlantic Council/Deloitte Consultant who praised the vibrant discussions aimed at addressing the urgent issues in terms of the legal and regulatory framework. Dr. Ichord highlighted the progress made in the South Caucasus gas corridor, power supply and collections despite some unreliable neighbors. Another key invited guest Mr.

Duncan Millard - Chief Statistician and Head of Energy Data Center, IEA discussed the value of statistics in terms of making a valuable decision. He also referred to energy efficiency serving as a good source for peak demand and renewables that can mitigate the supply gap in Georgia.



*Dr. Robert Ichord, Senior Fellow at the Atlantic Council*

*Mr. Nicholas Okreshidze, Energy Sector Advisor, USAID/Georgia and Mr. Duncan Millard, Chief Statistician and Head of Energy Data Center, IEA*

The session was followed by a structured workshop facilitated by USAID Deputy Chief of Party (DCoP) Mr. Ivane Pirveli. Finally, in her closing remarks, Ms. Veronica Lee, Economic Growth Office Director, USAID/Georgia referred to serious geopolitical events having an impact on Georgia's energy security that forced all energy stakeholders to be vigilant. The key takeaway of the session was very optimistic as Georgia seems to be on the right path towards approximation to EU.

The following steps included the development of the parliamentary training program and public private dialogue, creation of communication strategy for new HPP and communications strategy on market reform.

## **BILATERAL OVER THE COUNTER TRADING**



*Over-the-Counter Energy Trading Training*

On March 26 - 28, USAID Energy Program in cooperation with UK based company MTX Commodities Ltd organized Bilateral Over-the-Counter (OTC) Energy Trading Training for the energy stakeholders to acquaint the mid-level professionals with the workings of day-to-day buying and selling of gas and electricity in Georgia. The event brought together the representatives of ESCO, GSE, Engurhesi LDT, Silk Road Energy, GGTC, GNERC, EPG, Asian Development Bank (ADB), Gas Trading Company, Energo Aragvi Ltd, Telasi, Infinite Energy LLC, GEDF, Galt & Taggart and Georgia Urban Energy LLC.

MTX Commodities Ltd representatives launched 3 days targeted training on the bilateral OTC Trading. The session acquired vital importance particularly in anticipation of changes, since Georgia's energy sector faces a need to understand the functioning of a trading platform which brings together both power producers and buyers who can bid live.

Initially, the training focused on the power and gas trading supported with the examples of the USA and Europe VS expected framework in Georgia. Further, the experts elaborated on typical market scenarios for power and natural gas followed by simulated Screen Trading and trading games to expose the audience to real practical examples. The hand on learning created an enormously engaging environment and enhanced the creative thinking, which was apparent during the game, having implications in a virtuous cycle of achievements and confidence.



Over-the-Counter Energy Trading Training

To create a real setting and feel the outcome of a trading deal, the audience was divided into groups of three each having one trader and one back up office representative. Such simulated training provided a virtual environment mirroring the actual trading platform which enabled participants to test and understand the functioning of the trading platform and have a real-life experience. MTX Commodities experts explained the way trading interfaces with planning and reporting, reviewed the operating mechanism involving hedging, derivatives and swaps. The last day was dedicated to reviewing the trading done during the game with accomplishments and gains. This included the award for the winner group with the highest financial indicators and the most voluminous trade results.

Lastly, USAID Energy Program DCoP Mr. Ivane Pirveli and Mr. Giorgi Giorgobiani Governing for Growth (G4G) in Georgia Energy Component Lead discussed several relevant topics such as market power in Georgia, power trading in a hydro dominated environment, risks and benefits from cross border trading, institutional gaps and overall readiness of Georgian organizations for energy trading.

The session was pivotal for the Georgian energy stakeholders as understanding the principles of a trading platform is an essential input to facilitate in-country and cross-border power and energy trading. The training finished with Q/A session with the coverage of advanced topics raised during the basic course.



**Mr. Paul Constantinou, Chief Executive Officer MTX Commodities LDT**

*“The overall impression over the two and a half days so far is how incredibly receptive and open to new ideas the people have been, as well as their interest to work together since they came from different and diverse range of companies. Seeing them working together in the trading simulations and producing big output was exciting. We have not analyzed the results at this time of the interview, but it is fair to say that there was an impressive volume of trading done in the game, with very interesting ideas and very creative questions. It was just so dynamic I was very impressed”.*



**Mr. Revaz Chikashua, Head of Analytical Department, GGTC**

*“This training and obtained information serve an initial step towards acquiring knowledge on the functioning of a trading platform. It helped a lot in terms of creating a perception over the real trading including features, hedged and energy market principles. This is ideal approach and the more we have such training, the easier will be the transition period”.*



**Mr. George Sirbiladze, Chief Specialist International Relations and Investor Relations Department, ESCO**

*“These trainings are very interesting and very important not only for ESCO but for all those engaged in the energy sector. In the light of ongoing transition process, such experience is essential, here we define not a day ahead market theme, which is more or less known, but OTC market which is currently more in need of mastering, it is remarkable to know how daily and hourly trading will work and be integrated into the platform. In general, this is very useful training”*

## USOA TRANSFER CEREMONY



*USoA Transfer Ceremony - Mr. Gagik Hovhannisyan, Mr. Peter Wiebler, Ms. Irina Milorava, Mr. Daniel Potash and Mr. Nicholas Okreshidze*

United System of Accounts (USoA) is a widely recognized practice in the United States and other EU member states. This method, aimed at enhancing the transparency through elimination of corruption and timely identification of irregularities, is broadly applied in the industries such as the energy, transportation, metal production, hotel and water sectors.

On May 21, USAID Energy Program officially transferred the USoA for the gas regulated sector to GNERC. The event took place at GNERC office.

Ms. Irina Milorava - GNERC Chair opened the official transfer ceremony. She praised the USAID/Georgia for being a reliable and faithful partner for a long time and recalled the year 2013 which marked the beginning of successful cooperation between USAID/Georgia and GNERC through Hydropower Investment Promotion (HIPP) and Hydro Power Energy (HPEP) projects. Those projects turned into the pioneers for raising awareness on the importance of USoA in the industrial entities. She proudly noted that the created link had not been interrupted, as the reason for the gathering was again the milestone achieved by GNERC with the support of USAID/Georgia. In that regard, the focus was made on USAID Energy Program experts, who prepared documents relevant for USoA, including a chart of account as well as instructions and forms required for effective application of accounting and recording.

Further, Mr. Peter Wiebler Mission Director USAID/Georgia also empathized the successful long terms cooperation between USAID/Georgia and GNERC and expressed content for sharing the moments of happiness of the company in celebrating the milestone achieved with the support of USAID Energy Program.

Lastly Mr. Gagik Hovhannisyan – Financial expert of USAID Energy Program familiarized the audience to the prominence of USoA system as one of the key contributors towards meeting the EnCT requirements in terms of creating a transparent and secure accounting system.

## ELECTRICITY GENERATION RESOURCE ADEQUACY



*Panel Participants: Mr. Daniel Potash, Mr. Nicholas Okreshidze, Mr. David Tvalabeishvili and Mr. Masood Ahmad*

On June 24, 2019, USAID Energy Program conducted Engagement Workshop for the Energy Sector Stakeholders regarding the electricity Resources Adequacy (RA) in the scope of energy security WG meeting at the MoESD.

The engagement workshop created awareness on the international practice and applied methodologies on RA. GSE agreed to cooperate with USAID Energy Program and provide the required data for the RA Study. The model of the RA, prepared by USAID Energy Program, was disseminated among the members of the Energy Security WG. Further steps and follow up actions include meeting with GSE to discuss the assumptions and input data for the RA study; the development of the RA Model for Georgia, discussions with the Energy Security WG on the Model and Preliminary Results and presentation of RA Study results to the MoESD and members of the Energy Security WG.

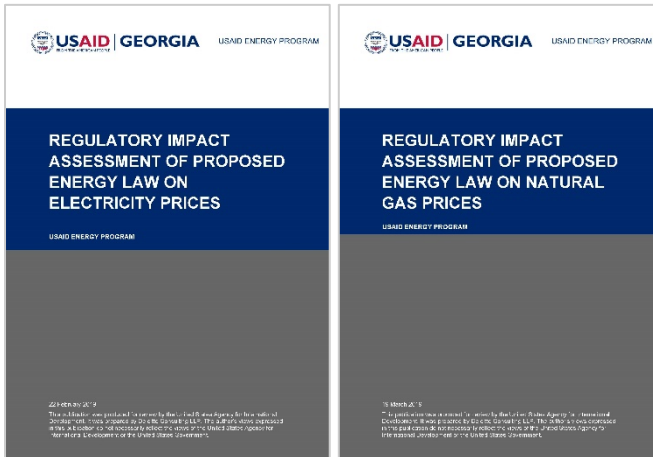


*Panel Participants: Ms. Maya Melikidze, Mr. George Chikovani, Mr. Peter Wiebler, Mr. Daniel Potash and Ms. Ana Jejelava*

Following the engagement workshop on September 10, USAID Energy Program and the MoESD prepared a presentation on “Key Findings on the Power Generation Resource Adequacy to the Government of Georgia and Energy Stakeholders.” The audience included the representatives from the Ministry of Finance of Georgia (MoF), the Parliament of Georgia, GEDF, GSE, ESCO, GNERC, donor organizations and energy sector experts. Dr. Masood Ahmad, Senior International Energy Expert joined the event via skype.

The event enabled participants to share experience and learn more about the Georgia Resource Adequacy Model developed by the Senior International Energy Expert Dr. Masood Ahmad.

## REGULATORY IMPACT ASSESSMENTS (RIAs) OF PROPOSED NEW ENERGY LAW ON ELECTRICITY PRICES AND NATURAL GAS PRICES



Cover Photos - RIAs of Proposed New Energy Law on Electricity Prices and Natural Gas Prices

Upon the request of the MoESD, USAID Energy Program drafted two RIA reports – “RIA of the proposed Energy Law on Electricity Prices” and “RIA of the proposed Energy Law on Gas Prices”. In view of available internal capabilities, the Program mobilized in-house sources and finalized reports on requested topics, which aim to reveal the pros and cons of the proposed Energy law. In addition, the respective team designed a Financial Model measuring the impact of the new Energy Law implementation on retail electricity tariffs in Georgia. The model also envisages the Total System Revenue Requirements, changes in supply and demand and the costing of Renewable Energy Sources

(RES) with and without the new draft Energy Law implementation in Georgia. The drafting process also included continuous consultation with the MoESD and introduction of required changes.

The MoESD submitted the RIA Study results developed by the Program to the Parliament as an info package of the Draft Energy Law.

## TRAINING AND WORKSHOP ON RIA OF THE DRAFT LAW ON ENERGY AND WATER SUPPLY



Training for Georgian Parliamentarians on the RIA of the Draft Law on Energy and Water Supply

On July 15-16, USAID Energy Program organized two days training for Georgian parliamentarians on the RIA of the Draft Law on Energy and Water Supply. The training aimed at introducing the RIA study results and forging discussions among the energy experts and the Government. The event took place at the Hotel Ambassador in Kachreti, Kakheti.

Mr. Roman Kakulia - Chair of the Sector Economy & Economic Policy Committee of the Parliament of Georgia opened the meeting and thanked USAID Energy Program for organizing the event.

Ms. Cynthia Rogers - Acting Mission Director USAID/Georgia also greeted the audience and acknowledged Georgia’s effort to comply with the EU regulations by preparing the new legal and regulatory framework.

Following the welcome speeches, Mr. Zaza Chikhradze – Head of Energy Reforms and Projects Department (MoESD) described that the draft law included implementation of 5 directives and one regulation. These directives are regulating the internal market organization and security of supply, whereas the regulation deals with trade. However, this is suspended until Georgia is physically

connected to energy community member countries. He also mentioned the ongoing project aimed at revealing the segments ready to operate at the market as the full opening would be tough for Georgia. The topic of Universal Service Supplier (USS) triggered much debate.

The second panel comprised of Mr. Daniel Potash USAID Energy Program CoP, Mr. Ivane Pirveli DCoP, Mr. Revaz Arveladze, Deputy Chair of the Sector Economy and Economic Policy Committee of the Parliament of Georgia and Ms. Tamar Jaliashvili –Senior Legal Advisor, USAID Energy Program. Mr. Arveladze shared his professional opinion on the draft law and offered recommendations to be introduced in the draft Law and Ten-Year Network Development Plan (TYNDP).

Mr. Ivane Pirveli DCoP of USAID Energy Program presented the results of the RIA of the draft law on energy and water supply, covering electricity and natural gas sectors.

Ms. Tamar Jaliashvili, Senior Legal Advisor USAID Energy Program also shared presentation on the transition plan for vulnerable customers, the way Draft Law on Energy and Water Supply will protect and impact the vulnerable customers.

The second day of the training was dedicated to launching the discussions among the experts and identifying the following steps. Participants suggested the introduction of changes in the draft law among which were: paying more attention to hydro power and less attention on co-generation, and Liquefied Natural Gas (LNG); changing the draft Law title as energy comprise much more than just electricity and gas, among the discussed topics were GNERC activities and energy efficiency and current imbalance mainly attributed to government's involvement.

In his closing remarks, Mr. Okreshidze, USAID Energy Program COR/Energy Sector Advisor USAID/Georgia elaborated on the government plan of gradual opening in which retail customers are the last to join the market, hence retail price increase was not expected in the near term. He also noted that the partly opened market would enable the GoG to make observation and predictions for introducing required changes in the market model.

By the end, the audience unanimously agreed that such a platform for discussions was essential for enhancing healthy discussions and encouraging the engagement of relevant parties.

## TRANSITIONAL PLAN FOR THE PROTECTION OF VULNERABLE CUSTOMERS



*Panel Participants: Ms. Tamar Jaliashvili, Mr. Daniel Potash, Mr. Nicholas Okreshidze, Mr. Gocha Shonia and Mr. Zaza Chikhradze*

On May 17, USAID Energy Program in cooperation with the MoESD, GNERC and Public Defender of Consumers Interests organized a Workshop on Transitional Plan for the Protection of Vulnerable Customers. The event took place at Tiflis Palace, Tbilisi.

Mr. Zaza Chikhradze – Head of Energy Reforms and Projects Department (MoESD) underlined the importance of focusing on the vulnerable customers in terms of meeting the EnCT requirements.

Mr. Nicholas Okreshidze the Program COR / Energy Sector Advisor USAID/Georgia also welcomed the audience and brought the attention to the immense contribution of the USAID/Georgia in creating the database of vulnerable customers starting from the year 2000 which later provided a sound basis for the development of subsidy program. Furthermore, Mr. Okreshidze stressed out the focal point of vulnerable customers in the light of anticipated changes in the energy sector and expressed hope that the implementation of the Transition Plan will resonate with the interests of vulnerable customers. And



finally, Mr. Daniel Potash - USAID Energy Program CoP greeted the audience and classified electricity and gas as fundamental needs of the society with multidimensional character therefore, requiring an effective solution in support of vulnerable customers.

The welcoming remarks were followed by presentations. The first presenter was Ms. Salome Vardiashvili Public Defender who exposed the wide audience to report on the Consumers Rights in the Energy Sector of Georgia. Among the presenters was Ms. Tutana Kvaratskhelia – Senior Analyst at World Experience for Georgia (WEG) who elaborated on the Energy Poverty and Vulnerable Consumers in Georgia. And lastly USAID Energy Program Senior Legal Advisor, Ms. Tamar Jaliashvili reviewed a Transition Plan for Vulnerable Customers in the Energy Sector.

The event was designed for engaging the respective state institutions, donor organizations and interested parties in the elaboration of the transition plan for Vulnerable Customers which will enhance coherent cooperation among the parties for the development of an effective strategy in support of vulnerable customers.

## **REGULATORY IMPACT ASSESSMENT (RIA) OF A NEW ENERGY LAW EFFECT ON VULNERABLE CONSUMERS**



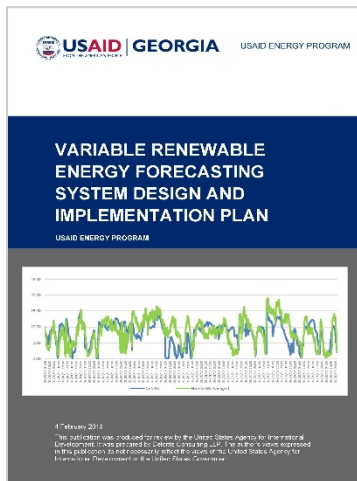
*Presentation on the RIA of a New Energy Law Effect on Vulnerable Consumers*

On September 26, USAID Energy Program offered a presentation on the RIA of a New Energy Law Effect on Vulnerable Consumers, prepared by WEG. The event took place at the premises of the MoESD. Among the attendees were representatives from the MoESD, the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia (MoLHSA), Social Service Agency (SSA), EU4Energy, ESCO, World Bank (WB), GNERC, Energy Ombudsman and GSE.

Mr. Murman Margvelashvili – WEG Director presented the results of a study with the focus on the objectives of RIA, the Energy Poverty and Vulnerable Customers, Rationale for Support, Priorities and Criteria for assessment. The study offered the alternatives of financial assistance such as Electricity or Gas Vouchers, Monetary Assistance and Tariff Subsidy to all households. Among the suggested alternatives the priority was granted to monetary compensation as the best way of assistance allowing the customer to consume the same amount of energy, but also to redistribute the costs to achieve a higher level of utility. Among the non-financial assistance, the importance was attached to protection from disconnection for those in need, energy efficiency measures (bulbs, appliances, energy efficiency buildings) and most importantly to information campaigns.

The audience found the study results interesting with certain aspect been politically sensitive. The presentation and the respective report were distributed among the stakeholders for comments and further public discourse.

## VARIABLE RENEWABLE ENERGY FORECASTING CENTRALIZED SYSTEM CONCEPTS DESIGN AND ITS IMPLEMENTATION PLAN AGREED WITH GEORGIAN STATE ELECTROSYSTEM

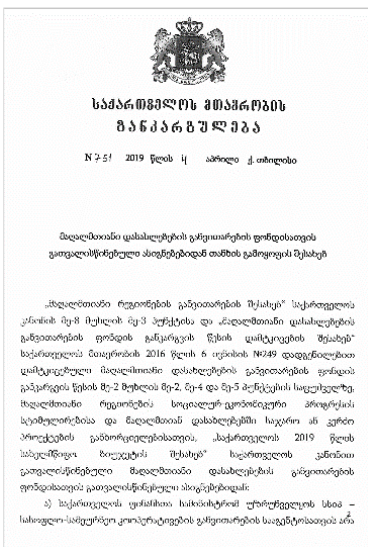


Cover Photo – VRE Renewable Energy Forecasting System Design and Implementation Plan

USAID Energy Program introduced the Variable Renewable Energy (VRE) forecasting Centralized System Concept Design and its Implementation Plan which were agreed with GSE. As a result of performed work, USAID Energy Program and GSE agreed on future cooperation for proceeding the procurement of VRE forecasting services and Control Measurement Equipment (LiDAR). Also, parties agreed that the Terms of Reference (ToR) for the procurement of VRE forecasting services would be developed in cooperation with GSE. Finally, after the development of ToR, USAID Energy Program would survey potential suppliers to identify the tentative budget for the procurement of services.

The agreement of VRE Forecasting Conceptual Design and Implementation by GSE (Hosting Agency) enabled to accomplish the first part of Contractual Obligations undertaken by USAID Energy Program. The remaining part, considering the actual implementation of the system, would be fulfilled with the procurement and launching of forecasting VRE forecasting services, which is planned in Year 3.

## THE GOVERNMENT EFFORT FOR THE ELECTRIFICATION OF OFF-GRID HOUSEHOLDS



Government Decree No. 751

On April 4, the Prime Minister of Georgia, Mr. Mamuka Bakhtadze, by signing the Government Decree No. 751 on April 4, 2019, allocated GEL 2 million from the state budget to deliver electricity to off-grid households through the installation of solar PV home systems for 207 families.

During the announcement of the news, the Prime Minister recalled USAID/Georgia and thanked for noteworthy support in the development of this project. Apart from developing the electrification concept and serving off-grid households, USAID Energy Program is involved in monitoring the PV system installation process.

To bring the electricity to the off-grid settlements, USAID Energy Program is supporting the GoG in running a project on Off-Grid Solar Photovoltaic (PV) System for Households in Georgia. The MoESD and Ministry of Regional Development and Infrastructure of Georgia (MRDI) approached USAID Energy Program with the request to advise on the viable technological options for electrification of off-grid households living in various areas of mountainous regions of Georgia without electricity over a few decades. USAID Energy Program experts advised the GoG on the most cost-effective technology for the electrification of off-grid settlements through the procurement and installation of Solar PV Systems that would be designed for each household's electricity needs and provided cost estimates.

To evaluate the costs and develop the concept, USAID Energy Program surveyed over 700 off-grid households located in remote mountainous areas of Georgia and created a database. The database was transferred to the MRDI for the procurement and installation of off-grid solar PV home systems.

## GEORGIA – ARMENIA ENERGY COOPERATION WORKING GROUP MEETING



*Discussion on Power Exchange*

USAID Energy Program in collaboration with the USAID-funded Market Liberalizations & Electricity Trade Program (MLET Armenia) organized two days WG meeting in Armenia on Dec 6-7, 2018. The meeting aimed to update the parties on the ongoing reforms in the electricity sector of Georgia and Armenia and enhance the future cooperation between the countries. Among the attendees were Ms. Natia

Turnava - the DM of the MoESD; Mr. Tigran Arzumanyan - DM of the Ministry of Energy Infrastructures and Natural Resources of Armenia; Ms. Deborah Grieser - Mission Director USAID/Armenia, Mr. Nicholas Okreshidze - USAID Energy Program COR/Energy Sector Advisor, USAID/Georgia; Ms. Marina Vardanyan, USAID/Armenia, MLET Program Manager, as well as the representatives of GSE, Electro Power System Operator CJSC (Armenia), Market Operator / Settlement Center CJSC and High Voltage Electric Networks (HVEN) (Armenia), USAID Energy Program, MLET.

DM. Mr. Tigran Arzumanyan made the welcoming remarks, followed by Mr. Zurab Ezugbaia, (GSE), Mr. Nicholas Okreshidze, USAID/Georgia, Mr. Michael Boyd, CoP, MLET and Mr. Daniel Potash, CoP, USAID Energy Program.

The two days event forged discussions on the progress made in the ongoing reforms in the power exchange, its role in the establishment of a European-type market model in Georgia and the opportunities for advancing gas and power connections that can enhance the national energy security. Each country, with a different geopolitical context, exposed some common problems in need of solutions among which the predominance was granted to the protection of the vulnerable population.

Finally, the two days WG ended with a high-level meeting with H.E. Minister of Energy Infrastructures and Natural resources of the Republic of Armenia Mr. Garegin Baghramyan which fostered dialogue among DM of the Ministry of Energy Infrastructures and Natural Resources of Armenia, DM of the MoESD and GSE Rehabilitation Manager / Chairman of the Management Board Mr. David Tvalabeishvili.

## GEORGIA - ARMENIA JOINT WORKING GROUP MEETING



*Georgia - Armenia Joint Working Group Meeting*

USAID Energy Program supported the MoESD and GSE in organizing Georgia - Armenia Joint WG meeting on Sept 23 – 24 which took place in GSE premises.

Mr. David Tvalabeishvili - DM, the MoESD, opened the meeting by drawing attention on a new draft law which would create a competitive and transparent environment for the energy sector. Mr. Hakob Vardanyan DM of the Ministry of Territorial Administration and Infrastructure of Armenia (MTAI) also greeted the audience and voiced confidence in further successful cooperation between the parties.

USAID/Georgia Mission Director Mr. Peter Wiebler empathized the value of better collaboration between Georgia and Armenia in order to enhance security and greater economic growth. He applauded the advancement made by both countries which created opportunities for cross cooperation since greater trade implied greater opportunities for long term growth of the countries and infrastructure development.

The initial deliberated topics were the status of Georgia-Armenia new interconnection project of 500 kV line with Back-to-Back (B2B) station in Ayrum (Armenia) and steps for amending the exiting Construction Agreement for new Armenia-Georgia transmission line. Parties agreed that technical Annexes to the Construction Agreement would be signed no later than the end of 2020.

Other focal topics included the planned changes in the structure of the electricity market in both countries and collaboration between the competitive markets, technical characteristics of a transmission line, the bilateral protocol between Georgia and Armenia, functioning of software and liberalization of the retail market etc. Finally, parties agreed that within a few months more concrete memorandum can be signed between the countries.

Following the deliberations, the Armenian side offered a presentation on the Electronic Power Market operation. In turn, GSE also shared a presentation with the focus on the assigned responsibility of Georgia to comply with EU regulations. The presentations were followed by questions and answers, which enabled the exchange of views and insights.

Georgian-Armenian WG also elaborated on the preparatory efforts for starting joint working on Capacity Reserves Sharing Project for which both parties expressed willingness to commence a deeper survey on capacity reserve sharing with the support of USAID and United States Energy Association (USEA).

During the meeting, the Armenian side submitted the early draft of the intergovernmental framework agreement on electricity trade prepared by MLET Program experts. The document aims to establish the basis for capacity allocation and information exchange between the energy system of Armenia and Georgia. The parties agree that the Georgian party would discuss the submitted document with respective stakeholders and provide feedback and comments in a reasonable time.

On the second day, Armenian experts broke into several groups. GNERC met Public Services Regulatory Commission (PSRC), the MoESD held meeting with the MTAI and GSE gathered with the representatives of HVEN, Electro Power System Operator (EPSO) and Market Operator (MO) / Settlement Center of Armenia. The remaining experts continued deliberations on the required changes in the Technical Annexes to the Construction Agreement for new Armenia-Georgia Transmission Line and Draft Armenia-Georgia Intergovernmental framework agreement on electricity trade.

By the end of the meeting, parties signed the Minutes of Meeting (MoM) and agreed on further steps.

## CHALLENGES

**Continued Government reorganization and personnel changes.** As reported previously, the key institutional counterpart for USAID Energy Program, the Ministry of Energy, was dissolved and folded into the MoESD in December 2017 and the Minister of the MoESD was changed in March 2018. In May 2019 the Minister of the MoESD was changed again and a new head of energy group within the MoESD was changed. The Chief Executive Officer (CEO) of GSE was changed in May 2019. Each change required some re-establishing initiatives and work plan cooperation. The government very slowly made progress in drafting the new energy law and conveying the same to Parliament, due definitely to the aforementioned personnel changes and perhaps also due to local opposition against new hydroelectric facilities. The changes and delays made it harder to make rapid progress in conducting RIAs.

**Investor Guidebook was late** as the contract deadline for the guidebook was before the Government's development of rules upon which the guidebook was based. USAID Energy Program made the guidebook shortly upon the adoption of rules and the Program ingratiated it with the new Public-Private Partnership (PPP) Agency, which expressed appreciation for the right timing and support. In August 2019, USAID requested an upgrade of deliverables and delay of guidebook turnover event to December 2019. Still, USAID Energy Program conducted an early event in September 2019 to preview and discuss the guidebook with investors. This was well received and appreciated by the Government, and investors.

**Georgian stakeholders still not aligned on the market framework.** Different entities have different visions about roles and responsibilities in the post-reform market environment. Some entities are going in different directions in ways that are not compatible, such as claiming which entity should be electricity market operator, which has still not been settled as of October 2019. Not having settled on a specific market Concept Design has prevented drafting of Market Rules and other secondary rules and regulations.

**New activities undertaken required new staff** in the areas of off-grid gasification and gas sector USoA.

**Coordination with the MoESD** was harder due to the significant downsizing (80 people to 20 people) of Ministry personnel while also taking on certain donor coordination tasks that USAID Energy Program had been doing. This coordination work affects USAID Energy Program's responsibility to update Action Plans. Also, the MoESD has had responsibility for communications about energy reform and other matters and being so shorthanded has led to problems such as opposition to new hydroelectric facilities. USAID Energy Program in Year 3 will help the MoESD with the communications strategy on market reform.

**Turkey-Georgia Working Group Meeting.** The Program still faced problems in organizing the Turkey-Georgian WG meeting in Turkey. The reason was the changes in the Georgian government, which affected the organization of the WG meeting in Turkey. The Program also experienced other uncontrollable challenges mainly having implications in the management changes in Turkey which affected the exiting networking and triggered the deferral of Georgia Turkey WG meeting in Year 3.

# PROGRESS OF ACTIVITIES

## ENERGY MARKET DEVELOPMENT (TASK 1)

### PROGRESS AGAINST THE WORK PLAN

#### ENERGY MARKETS DEVELOPMENT ACTION PLAN FOR ELECTRICITY AND GAS SECTORS & IMPLEMENTATION OF ACTION PLANS (SUB TASK 1.1 AND 1.5)

In Year 1, USAID Energy Program drafted the Energy Sector Reform Action Plan on the energy market development. The Action Plan encounters all relevant activities applicable throughout the transitional period in terms of a legal framework developed to meet the commitments of the Accession Agreement. The key legal acts concerning the energy sector, comprise both, primary and secondary legal acts pertinent under the EU Directives.

To update the electricity and natural gas action plans, USAID Energy program held face-to-face meetings with all energy stakeholders including the MoESD, GSE, ESCO, EU4Energy, GOGC, GGTC, etc. The meetings aim at obtaining information on progress made in developing/drafting primary and secondary legislation, energy market development, infrastructural development and other directions.

The updated action plans are designed to assist the GoG and other related energy stakeholders and create awareness on the progress of ongoing energy reform. In that regard, USAID Energy Program conducted three donor coordination meetings and shared the action plans with the MoESD, GNERC and other interested companies. Details are provided below.

On February 22, USAID Energy Program organized a Donor Roundtable meeting at the MoESD to provide updates on the electricity and natural sector action plans for the second year of the Program. Among the attendees were the Program COR Mr. Nicholas Okreshidze - USAID/Georgia, major stakeholders and donors.



*Donor Coordination Meeting*

On April 1, 2019, the MoESD organized a Donor Coordination meeting to detect the overlaps and gaps within the activities of different donor organizations and International Financial Institutions (IFI's) that support Georgia in energy reforms. Ms. Veronica Lee, Economic Growth Office Director, USAID/Georgia, Mr. Nick Okreshidze, Program COR / Energy Sector Advisor, USAID/Georgia, Mr. Daniel Potash, CoP, USAID Energy Program, Mr. Ivane Pirveli, DCoP and Ms. Tamuna Jaliashvili, Senior Legal

Advisor attended the meeting. Two major topics - Vulnerable Customers and Renewable Energy Support Schemes are being studied by other donor organizations together with USAID Energy Program. Hence, the meeting brought light on the details of each approach undertaken by various donors. DM. Ms. Natia Turnava asked all three donor organizations to cooperate and agree on the timeline of deliverables so that the process will have a logical sequential flow.

Renewable Energy Support Scheme topic is dealt with both by USAID Energy Program and Norwegian Water Resources and Energy Directorate (NVE). However, the details of the Norwegian project have to be further identified. It is worth mentioning that the valuable work on renewable support schemes is already conducted by USAID Energy Program under the Investor Advisory Group. The working material and deliverables of USAID Energy Program were shared with NVE Furthermore, DM Ms. Natia Turnava, expressed appreciation for the support provided by USAID Energy Program, especially in conducting RIA for the draft new Energy Law and suggested organizing meeting with particular donors to discuss the above noted issues.

On June 19, USAID Energy Program organized Donor Coordination meeting at the MoESD to update on the ongoing projects, identify missing processes and propose further assistance to the MoESD.



*Donor Coordination Meeting*

Based on provided information, the Law on Energy Performance of Buildings was submitted to the Parliament of Georgia. As for the Laws on Energy Efficiency and RES, the submission is pending.

Among the attendees were Mr. Nicholas Okreshidze – COR of the Program and Energy Sector Advisor USAID/Georgia, Ms. Lauren Russel – Economic Growth Office Deputy Director USAID/Georgia, USAID Energy Program CoP Mr. Daniel Potash, DCoP Mr.

Ivane Pirveli and Senior Legal Advisor Ms. Tamar Jaliashvili. During the meeting, USAID Energy Program presented a Transition Plan on Vulnerable Customers, which gained the interest of donors and stakeholders.

During the meeting, Mr. Nicholas Okreshidze expressed readiness to assist GGTC regarding the development of the electronic platform, representing one of the key instruments for fulfilling GGTC's responsibilities under the new natural gas grid code. The head of GGTC's legal department, Mr. Nugzar Dvali delivered a presentation providing background information about GGTC and asked donors to support in various directions such as purchasing and installing Supervisory Control and Data Acquisition (SCADA) system, conducting gasification study, odorization study or providing modern systems for odorization, calibration stand for natural gas wholesale meters and trainings for the company's labor force regarding safety measures. In its turn, GOGC supported the need for assistance in purchasing a SCADA system and additionally asked for 80 measuring equipment updates. The representative of the EBRD, Mr. David Managadze asked both GGTC and GOGC to provide an approximate cost of requested assistance. The parties agreed that GGTC would update the presentation, indicating a rough estimation of costs for each needed item.

Another topic of discussion was the electricity and gas action plan, the matrix of activities designed by the Program in consultations with the stakeholders which remains to be the subject of continuous updating. The offered matrix requires continual evaluation with the aim to identify the types of gaps for filling. The MoESD valued the document presented by the Program, however, noted that there were many other projects to be incorporated in the list. In that regard, Ms. Lee offered the support of USAID Energy Program in filling the gaps due to the shortage of staff at the MoESD. The deputy minister expressed appreciation for the created document and remarked that they would use it as a guiding document and would apply the internal resources for filling the gaps.

By the end of the meeting, the MoESD representatives noted that the ministry was willing and ready to cooperate with all donors fairly and take the leading position in making the decisions. Ms. Tea Avazashvili also noted that the MoESD deemed appropriate the design of the webpage which would be applied as a common communications platform to facilitate coordination between the donors and the MoESD. During the meeting the deputy minister, several times thanked the USAID and asked USAID Energy Program to continue effective cooperation with the MoESD.



*Donor Roundtable Meeting*

On Sept 27, USAID Energy Program participated in the Donor Roundtable meeting organized by USAID/Georgia at Tbilisi Marriot. The event aimed to forge discussions and identify the key priorities in support of Georgia's energy sector development. Among the attendees were the Romanian Ambassador to Georgia, representatives

from the Embassy of Austria in Georgia, EU4 Energy Governance, EU Delegation to Georgia, KfW, United Nations Development Programme (UNDP), WB, IFC, French Development Agency (AFD), EBRD, and USAID Energy Program.

Energy Sector Adviser / Program COR Mr. Nicholas Okreshidze opened the event by stressing out the significance of operating in a more synchronized way to enhance the coordination between the donors and other institutions.

USAID/Georgia Mission Director Mr. Peter Wiebler also welcomed the audience and empathized the critical value of donors' cooperation in support of the GoG to achieve the objectives. Mr. Wiebler brought the attention of the audience to the purpose of the event to reinforce the idea of cooperation and enhance the closer coordination among the donors.



*Donor Roundtable Meeting*

Following the welcome speech, the Program DCoP Mr. Ivane Pirveli offered presentation focusing on the situation analysis, EnCT objectives, Georgia's energy sector SWOT analysis, gap analysis and capacity building action plan of Georgian electricity market participants. The presentation also contained the main conclusions from

stakeholder analysis, the need for capacity building and commonly agreed strategy for unbundling of Transmission System Operator (TSO) and Distribution System Operators (DSO).

Ms. Tamar Jaliashvili, Senior Legal Advisor also made a presentation and introduced Gas and Electricity action plans to the audience, prepared by USAID Energy Program.

USAID Energy Program presentations were open for comments and feedback. In that regard, the audience reassessed the offered SWOT analysis and recommended a minor revision by including climate change as a potential threat and expanding the list of opportunities by adding electrified transport and increased share of renewable energy. Among the suggestions were also the extension of listed activities undertaken by other donor organizations and most importantly finding the most efficient ways of complimenting the related studies to maximize the benefit in support of Georgia's energy sector development.

Below is provided a list of deliberated topics and identified key challenges:

- USAID/Georgia proposed the creation of a common communication platform for the systematic sharing of relevant information among the donors that will greatly contribute to an efficient allocation of USAID funds to the benefit of Georgia's energy sector development;
- Need for finalization and approval of the key documents such as Draft Law on Energy and Water Supply of Georgia and Energy Sector Strategy, the absence of which is detrimental for the development of the energy sector;
- Need for enacting also the draft Law on Renewable Energy and action plan for Renewable Energy;
- The resistance of the population to infrastructure development and construction of large HPPs due to lack of communication;
- Lack of awareness among people on the benefits of anticipated changes in the energy sector, which triggers a need for a more effective awareness campaign;
- A better understanding of the real condition in the rural areas, since certain part of the population prefers firewood over the gas, hence the alternatives to gas should be selected;
- Need for more transparency in the field of vulnerable customers, especially during the transition period;
- The lack of capacity among the policymakers;
- Need for advancing better education, not only the academic field but also the activation of Vocational Educational Centres as an attempt to advance the capacity building;
- Ambassador Extraordinary and Plenipotentiary of Romania to Georgia recommended the creation of a Centre for Research which will serve as a useful instrument for Prime Minister's office for the advocacy of knowledge and data exchange. In that regard, some attendees expressed hesitation over the effective engagement of parliament in view of previous EU



experience. Hence the idea of having dedicated and trustful representative in the parliament found more appreciated among the audience;

- The GoG seems to be more focused on the electricity, therefore further emphasis required on gas to balance the focus;
- Need for collaboration with the MRDI for more coordinated actions and decisions in terms of infrastructure development;
- Georgia wants to serve as a corridor between East and West, therefore infrastructure and transport development are essential. Need for Increased investment in transport development;
- EU suggested the creation of a High-Level Advisory Group focusing both on energy and other relevant matters. The idea of distilling the high priority issues has been appreciated among the audience, however, it seemed to be associated with a certain degree of concern. Hence, the audience unanimously supported the idea for displaying an extra caution in that regard, so that decisions are made based on a collective approach in support of the energy sector development in Georgia;
- Better assessment of the financial sector of Georgia in light of exchange rate volatility;
- Austria's interest to invest in Georgia's gas sector. However, investors were not successful yet supposedly due to price competition and affordability of the sector.

Finally, the audience collectively supported the idea of pushing the GoG to enhance the achievement of goals. Following the discussions, each donor made a brief remark on their activities in support of GoG by reviewing the existing or planned projects. By the end of the meeting, all participants expressed appreciation for similar meetings which would enhance the coordination among the donors.

## **DEVELOPMENT ELECTRICITY AND GAS MARKETS TRANSITION PLANS ON VULNERABLE CUSTOMERS (SUB TASK 1.2)**

USAID Energy Program participated in the workshop “Energy Poverty and Vulnerable Customers in Georgia”, organized by WEG. The workshop brought together the representatives of the MoESD, MoLHSA, Tbilisi City Hall, GNERC, Social Service Agency and Non-Governmental Organizations (NGOs). The audience shared the EU experience in treating energy vulnerable customers, learned on support schemes and discussed the current situation in Georgia and the requirements under the draft Energy Law.

USAID Energy Program CoP Mr. Daniel Potash and Senior Legal Advisor Ms. Tamar Jaliashvili held a meeting with the AFD representatives. The discussed topics comprised: the updated action plans on Electricity and Natural Gas, the ongoing impact assessment of the reform, AFD / KfW energy Policy Based Loans (PBL) and AFD TA toward GSE, further donors' coordination in the energy sector, promotion of electricity generation from the renewable energy sources and support schemes. The parties also exchanged opinions on fund financing / supporting RES and discussed measures for the protection of vulnerable customers.

USAID Energy Program reviewed recently revised draft law on the Energy and Water Supply concerning the protection of the vulnerable population in view of the Accession Protocol requirements and EU Directives. The obtained information was incorporated into a draft document which was later applied during the workshop organized with the MoESD and MoLHSA in the third quarter of Year 2. The main objective of the workshop was to launch discussions over the existing protection mechanisms and select the most appropriate support schemes for genuine protection of the vulnerable population in Georgia.

USAID Energy Program finalized the draft on Transition Plan for Vulnerable Customers.

To develop the Transition Plans for Vulnerable Customers in Electricity and Natural Gas Sector the Program undertook the following activities:

- USAID Energy Program met the representatives of the Pension and Social Assistance Division of the MoLHSA to discuss the general number of socially vulnerable customers in Georgia and the scope of socio-economic assistance, including healthcare and education. The emphasis was also made on checking the availability of certain programs for protecting vulnerable customers through unrestricted supply of electricity and natural gas. The parties discussed the existing measures, taken by the GoG, regarding the electricity supply of vulnerable families. However, based on obtained information, similar measures are not available for the natural gas sector;

- USAID Energy Program held a meeting with the State Oil Company of Azerbaijan Republic (SOCAR) representatives to discuss the support mechanism for vulnerable customers. According to provided information, certain measures have already been implemented for the protection of vulnerable families. In that regard, the Government subsidies GEL 200 per family annually and transfers the above-mentioned amount of subsidy to the natural gas distribution companies, notably to SOCAR. No other measures are currently available;
- USAID Energy Program organized a workshop to present the Transition Plan for Vulnerable Customers and launch deliberations for prioritizing the activities to be implemented by the GoG. The event took place on May 17 at Tiflis Palace. *See highlights*

USAID Energy Program organized a skype call with Mr. Von Lowis Menar Camille and Mr. Dimitri Gugushvili from AFD including the WEG representatives Mr. Murman Margvelashvili and Ms. Tutana Kvaratskhelia. The call aimed to discuss the topic of vulnerable customers since this sensitive theme is covered both by the Program and AFD. During the discussions, AFD representatives raised the issue of possible surging tariffs for households and its impact on vulnerable customers. Besides, AFD expressed interest in the activities of USAID Energy Program related to studying vulnerable customer issues in Georgia as well as RIA results on vulnerable customers. The parties exchanged ToR and Scope of Work (SoW). USAID Energy Program also shared a report on the Electricity Market Transition Plan. The discussions revealed the possible overlap, as both the Program and AFD are focusing on the support mechanism to protect vulnerable customers, however, the Program discusses the issue in the context of RIA. The parties agreed to cooperate, share views and insights with the common aim to address the issue of vulnerable customers and deliver the comprehensive report. AFD anticipates the accomplishment of the report by the end of September. Upon finalization, AFD will share the report with USAID Energy Program. In turn, the program will also share the RIA results once the document is approved by and presented to the MoESD and other interested parties.

USAID Energy Program participated in the conference call organized by the EU4Energy to discuss coordination of planned work regarding Vulnerable Customers in Georgia. All related donor companies: AFD, USAID Energy Program and the MoESD participated in call. As a result, parties agreed to share all related information and cooperate on this topic.

USAID Energy Program participated in a kick-off meeting held by the Energy Community Secretariat (ECS) at the MoESD to discuss the “Technical Assistance on the Support in the Development of the Regulation on Protection of Vulnerable Customers in Natural Gas and Electricity Sectors in Georgia”. ECS team shared the project approach, work plan, EU Acquis on Customer Protection and Energy Poverty (with the focus on the electricity and gas, peculiarities and difference) and theoretical background of the methods to assist Vulnerable Customers.

On Sept 26, USAID Energy Program introduced the results of the RIA of a New Energy Law Effect on Vulnerable Consumers, prepared by WEG. *See highlights*

### **REGIONAL ENERGY COOPERATION (SUB TASK 1.3)**

USAID Energy Program met National Association of Regulatory Utility Commissioners (NARUC) representatives from the regional project. The objective of the project is to boost regional cooperation and identify the possible market coupling of Georgia and Armenia. USAID Energy Program created awareness on the ongoing processes in the sector and marked the role of the Program in the process. The parties exchanged views and ideas and the Program representatives were advised on the methodologies applied to enhance the development processes. By the end of the meeting a consensus was achieved on the creation of the Regional Informative Working Group (RIWG) to boost cross-border cooperation. Following the meeting a Working Group was created and the first meeting took place in Armenia on December 6-7.

On December 6-7, 2018, upon the request of GSE, USAID Energy Program in collaboration with USAID/Armenia Project MLET organized the Georgia-Armenia Joint WG meeting in Yerevan. *See highlights*

As a follow-up of joint Georgia - Armenia WG meeting, another meeting was organized on December 13, in Georgia with the initiative of GSE. Among the participants were USAID Energy Program, Armenian counterparts and the representatives of Nord Pool Consulting / Blueberries. The purpose of the meeting was to discuss the features of day-ahead, intraday and balancing markets in EU markets, planned electricity market reforms in Georgia and the possible regional cooperation between Georgia and Armenia. The Armenian delegation was represented by high level officials from MO / Settlement

Center and EPSCO. Representatives of Nord Pool Consulting and Blueberries offered presentations on organized electricity markets, such as day-ahead, intraday and balancing markets, as well as discussed market coupling concept and regional trading possibilities. Presentations were followed-up by Q&A session. The Armenian delegation was offered to hold another meeting for the broader audience.

USAID Energy Program coordinated with the representatives of Turkish software developer - MTX Commodities Ltd, Mr. Paul Constantinou, CEO and Mr. Melis Bilgic Aksari, Managing Partner to discuss the prospect of Turkey-Georgia Joint WG Meeting. The Turkish party suggested the commencement of negotiations with the Turkish Electricity Transmission company and Market Regulator Authority and come up with the subsequent steps.

Another meeting was organized with the representatives of the Turkish Engineering Procurement Research Analysis (EPRA) Mr. Ertuk Cebeci and Mr. Osman Bulent to discuss the possible working group meeting in Turkey. The EPRA agreed to discuss with the Turkish Electricity Transmission Company (TEİAŞ) the idea of reviving cooperation between the grid systems of Georgia and Turkey. However, the possibility of increment / decrement imbalance netting is the most attractive. Another important topic discussed during the meeting was the European Network of Transmission System Operators for Electricity (ENTSO-E) study. It seems that both Turkey and Georgia will benefit from emulating the leading best practices in ENTSO-E countries. There are a host of technical and regulatory issues to settle, but the Program expressed readiness to proceed in that direction. For the time being cooperation with Turkey remains challenging due to the reluctance of the Turkish side to cooperate with the Georgian party.

USAID Energy Program had several meetings with GSE's Mr. Zurab Ezugbaia - Member of Board, Managing Commercial and Legal Departments at GSE to debate the strategic vision of GSE including challenges and prospects for cooperation between USAID Energy Program and GSE. In that regard, several potential areas of future collaboration were identified:

- Assistance in the implementation of Energy Cooperation Agreement with Turkey;
- Assistance in creating a bilateral agreement for reserve sharing with Armenia;
- Support in hiring Aurora UK to make a market model agreed by stakeholders.

USAID Energy Program deliberated on the possible support to GSE regarding Forecasting System Development. GSE also revealed high interest in traveling to Armenia to discuss the border connections and market participation. Mr. Ezugbaia wants the Black Sea Regional Initiative to get deeper into the analysis of technical data. In that sense, GSE views relevant to involve the Armenian technical experts in discussions. During the meeting, the parties became familiar with the Nord Pool plan to unveil a revised market platform in December. However, Mr. Ezugbaia argues that Nord Pool's key benefits are associated with its sound positioning and subsequent trust of the international market participants, which is opposite in case of Georgian platform. He also revealed a willingness to renew the discussion with TEİAŞ regarding the cross-border interconnections and transfers capacity. Other topics discussed during the meeting were customs issue on netting power exchanges and charges tax on the net transfer.

USAID Energy Program in cooperation with the MoESD organized the Georgia - Armenia Joint WG Meeting. The event took place on Sept 23-24. *See highlights*

## **PUBLIC OUTREACH (SUB TASK 1.4)**



*Presentation on the importance of Energy Security of Georgia*

Upon the request of the Caucasus University, on December 19, USAID Energy Program organized a lecture for Master of Business Administration (MBA) students. The event contributed to creating awareness on the USAID Georgia activities aimed at enhancing the energy security of Georgia, including USAID Energy Program designed to support the GoG in the energy market development in compliance with the obligations under the EnCT.

The Program COR / Energy Sector Advisor Mr. Nicholas Okreshidze opened the meeting by empathizing the support of USAID/Georgia to Georgia's energy sector as a driver for economic development and poverty reduction. USAID Energy Program CoP Mr. Daniel Potash and Mr. Ivane

Pirveli DCoP delivered a presentation and provided a brief review of the energy sector of Georgia. The lecture created awareness of energy security. The representative of the Caucasus University expressed gratitude towards the hosting parties and expressed a desire for future collaboration.

USAID Energy Program attended "High-Level Policy Talks on the Natural Gas Market Design for Georgia" organized by the EU4Energy. The event was designed to discuss the natural gas market regulations for the enhancement of the overall natural gas market reform of Georgia. One of the focal points of the event was the Public Service Obligations (PSO) in the natural gas sector, the need for designing special PSO for Georgia and particularly in relation to vulnerable customers. The second day was dedicated to more detailed discussion on the natural gas market concept design, including the essentials and steps to be considered in establishing the regulatory framework.

USAID Energy Program attended the Public-Private Dialogue (PPD) pre-workshop designed for discussing the draft Law on Energy of Georgia. Both private sector and the Government representatives from the Electricity and Gas Sectors attended the meeting to discuss the vague parts of the draft Law for further solution.

USAID Energy Program participated in a workshop organized by EU4Energy Governance project, which contracted consulting company REKK (the Regional Centre for Energy Policy Research, based in Hungary) to develop the methodology. GGTC, distribution licensees, suppliers and ECS representatives attended the meetings. According to REKK representatives, the proposed tariff methodology will be based on the existing methodology for defining allowed revenue (Capital Expenditure (CAPEX), Operational Expenditure (OPEX) and other regulatory cost elements), however allocation of allowed revenue will be differently managed. In particular, new tariff methodology envisages the establishment of entry-exit tariff system, transforming existing commodity charge practice towards capacity charge.

On February 22, USAID Energy Program organized a Donor Roundtable meeting at the MoESD to deliver updated information on the electricity and natural sector action plans for the second year of the Program. Among the attendees were the Program COR Mr. Nicholas Okreshidze – USAID/Georgia, major stakeholders and donors. Prior to this event, the Program held one-to-one meetings with the stakeholders (MoESD, GNERC, GSE, ESCO, GOGC, GGTC, GEDF and other donors).

During the meeting, respective team presented the action plan, followed by discussions and exchange of views. Later, the applied material was disseminated among the participants for further review and feedback.

On April 1, 2019, the MoESD arranged a Donor Coordination meeting to detect the overlaps and gaps within the activities of different donor organizations and IFI's that support Georgia in energy reforms. Ms. Veronica Lee, Economic Growth Office Director, USAID/Georgia, Mr. Nick Okreshidze, Program COR / Energy Sector Advisor, USAID/Georgia, Mr. Daniel Potash, CoP, USAID Energy Program, Mr. Ivane Pirveli, DCoP and Ms. Tamuna Jaliashvili, Senior Legal Advisor, USAID Energy Program attended the meeting.

According to the MoESD, the topic on Vulnerable Customers are covered by USAID Energy Program, the EU4Energy project and the AFD. However, USAID Energy Program is working in two different areas: 1) developing transition plan for vulnerable customers in accordance with the requirements under new draft Energy Law and adopted electricity market concept design (the order of the Minister of MoESD, December, 2018); 2) conducting RIA on identified vulnerable customer support schemes. DM. Ms. Natia Turnava requested all three donor organizations to cooperate and agree on the timeline of deliverables so that the process will have a logical sequential flow.

The MoESD updated the audience on the status of the draft law on the Energy and Water Supply and the draft Law on Energy Performance of Buildings, which were submitted to the Parliament of Georgia and passed the first hearing successfully. Submission of the Laws on Energy Efficiency and RES remains pending.

Among the attendees were Mr. Nicholas Okreshidze – COR of the Program and Energy Sector Advisor USAID/Georgia, Ms. Lauren Russel - Economic Growth Office Deputy Director USAID/Georgia, USAID Energy Program management. During the meeting, USAID Energy Program presented a Transition Plan on Vulnerable Customers, which gained the interest of donors and stakeholders.

The MoESD also elaborated on the areas of assistance such as Communication Strategy which comprise three directions: 1 Energy Reform (USAID has already drafted the concept note, hence

most likely to be implemented by the Program), 2 Energy Efficiency (implemented by KfW) and RES (NVE – on Renewable Energy Support Schemes), as well as energy strategy including electricity and gas. Another topic discussed during the meeting was the establishment of the Energy Research Centre in order to facilitate and enhance all ongoing activities during the reform process.

USAID Energy Program together with the Program COR Mr. Nicholas Okreshidze met USAID G4G CoP Ms. Natalia Beruashvili and DCoP Ms. Nino Chokheli to share the experience of G4G communication strategy and public outreach for pension reform. The meeting was aimed at understanding the pros and cons of the undertaken approach in order to enable the Program to better design the intended communication strategy for the GoG.

On May 15, USAID Energy Program and COR Mr. Nicholas Okreshidze met the representatives of the MoESD to better understanding the expectation of the GoG in terms of drafting the communication strategy for the energy reform. Mr. Chikhradze highlighted that the key principle and the main structure of the Market Concept design would not change a lot, therefore drafting the general frame of the communications strategy would be helpful. Mr. Chikhradze also referred to a contract signed between GEDF and a company Aurora, on conducting the survey and research in order to deliver the RIA of the Market Concept Design. The mentioned document will encompass information on the right timing for launching the public outreach however won't incorporate the tools and methods to be applied for the communication, therefore drafting the general communication strategy frame with the focus on these aspects will complement the market concept design.

The MoESD also referred to 5 years contract with Norwegians which includes several areas of cooperation. However, recently, upon the request of Ms. Natia Turnava, another aspect was added such as the assistance in communication, mainly referring to HPPs and Renewables. In that regard working groups have been established within the Ministry working on various topics with the support of the Norwegian experts. However, the MoESD representatives noted that Norwegians were helping in designing the communication platform for hydro plants, having more practical nature in the form of an action plan rather than a documented file. Therefore, the MoESD still searching for assistance from different donors for drafting communication strategy for renewables and for the general communication strategy. Following the meeting, USAID Energy Program drafted the Concept Note: Communication Strategy for Energy Market Reform and submitted to the MoESD for internal review.

On June 11, Ms. Veronica Lee - Economic Growth office Director, Mr. Nicholas Okreshidze Energy Sector Adviser / the Program COR together with USAID Energy Program CoP Mr. Daniel Potash, DCoP Mr. Ivane Pirveli and Communications Lead Ms. Eka Nadareishvili held a meeting with the DM Mr. Davit Tvalabeishvili, Ms. Tea Avazashvili - Head of Sectoral Development Division / Energy Reforms and Projects Department (MoESD) and Mr. George Chikovani GEDF CEO to discuss the communication strategy and electricity and gas action plans. The meeting was opened by Ms. Lee who shared the less attractive experience of USAID G4G in drafting the pension reform communication strategy which failed to deliver the desired value as it turned into a very political subject having an unfavorable impact on the end product. Ms. Lee noted that this practice revealed the negative effect of delayed outreach program paired with deficient efforts and expressed hope that this would be a lesson to be considered in the future design of communication strategy.

In that regard, Mr. Okreshidze stressed out the importance of the government commitment from the very onset of the strategy design by assigning the champion who will be authorized to take required decisions and oversee assigned communication. Although, currently the MoESD does not seem to have a clear vision of the type of communication strategy, the idea of having one comprehensive communications strategy comprising different directions prevails. The GoG plans sequential opening of the market, starting from large customers towards small business and small households. Therefore, communication strategy shall incorporate market opening stages.

During the meeting, DM several times expressed gratitude towards USAID/Georgia support and empathized further need for assistance in sharing the international experience for the adoption of an effective communications strategy. The Program COR suggested the creation of a WG in order to deliberate and design efficient and feasible strategy that would be suitable in the local context. The MoESD also suggested the inclusion of other donors in order to split the workload and keep it concurrent. The focus was made on selecting the right members especially from the government side who will be authorized to take a decision.

Another topic of discussion was electricity and gas action plan, the matrix of activities designed by the Program in constant consultations with the stakeholders which remains to be the subject of continuous updating. The offered matrix requires continual evaluation with the aim to identify the types

of gaps for filling. The MoESD valued the document presented by the Program, however, noted that there were many other projects to be incorporated in the list. In that regard, Ms. Lee offered the support of USAID Energy Program in filling the gaps due to the shortage of staff at the MoESD. The deputy minister expressed appreciation for the created document and remarked that they would use it as a guiding document and would apply the internal resources for filling the gaps.

On August 1, USAID Energy Program team together with the Program COR Mr. Nicholas Okreshidze held a meeting with the MoESD and Blueberries representatives to discuss the possible cooperation between the parties. Blueberries is supporting the GoG in the energy reform process. The parties shared the available documents including the Concept Note prepared by USAID Energy Program. Mr. Okreshidze suggested the design of work chart with the support of Blueberries what will help the government to better identify the skill set required for further training.

USAID Energy Program evaluated two technical proposals submitted by Ltd GEPRA and PMO Consulting regarding the design of Communication Strategy for the energy market opening. The winner of the bidding is Ltd GEPRA which specializes in marketing and has experience of working with USAID projects.

USAID Energy Program regularly monitored the status of the energy map with GIS-Lab- map producing company. By the end of Y1, the company requested more details on HPP locations from the MoESD. However, the busy schedule of both the MoESD and GIS-Lab caused delay in the completion of a map update. Despite the challenges, which remained outside the control of USAID Energy Program, the map was updated in the beginning of Y2.

Based on the contract, the Energy Map has to be updated in the last year of the Program, hence the preparation is underway.

## UNIFORM SYSTEM OF ACCOUNTS

In previous years, under the HIPP and HPEP projects, the USoA was developed for electric utilities, the rates of which are regulated. In 2016, GNERC approved the USoA for electric utilities and requested USAID Energy Program to develop USoA for gas sector rate-regulated entities. Following the appeal, USAID Energy Program developed an Action Plan and USoA constituent documents (instructions and policy guidance documents). The development of Action Plan was preceded with a series of meetings with the GNERC Tariff and Gas Department staff to discuss the main principles and concept planned to be incorporated in the draft instructions and decide the structure of the regulatory chart of account.

USAID Energy Program USoA Expert Mr. Gagik Hovhannisyan met Mr. Givi Sanikidze - Director of Tariff and Economic Analysis Department and Ms. Lika Gvazava - Head of Operational Expenditures' Audit Division Tariffs and Economic Analysis Department at GNERC to identify the next steps in support of the company.



*Gas USoA trainings for GNERC*

Initially, USoA has not been included in the contract of the Program. However due to its rising importance in anticipation of a competitive energy market, upon the request of the major stakeholders USAID Energy Program commenced working on the USoA. In that regard, the Program drafted a report on Accounting Guidelines for Property Plant and Equipment (PPE) used in gas transmission, distribution, supply and storage regulated activities. The report incorporated several technical regulations, draft and the existing laws and sub laws in order to ensure the reliable input of the report. The technical part of the document incorporated definition of terms, list of equipment used for transmission, storage and distribution of gas and drafting the part of the guidelines related to cost

capitalization issues. USAID Energy Program aided in performing the breakdown of assets designated for gas regulated activities and their attribution to different accounts of the drafted Chart of Account (CoA).

Finalization of the final draft was proceeded by a series of meetings with GNERC Gas Department representatives in order to agree upon the concept and structure of grouping items of PPE under certain classes incorporated in Regulatory CoA. The parties discussed the content and components of CoA PPE accounts such as Constructions, Machinery and Equipment and Transferring Assets utilized for gas distribution and transmission regulated activity, as well as the capitalization criteria and incorporated examples. Consequently, USAID Energy Program drafted the proposed amendments and distributed among the USoA team. The proposal draft was suggested for sharing with GNERC Gas and Tariff Department as a part of the working process on USoA.

USAID Energy Program organized Gas USoA training for GNERC. The aim of the training was a capacity building by introducing the concept, approaches, technical aspects and regulatory accounting treatments incorporated in USoA constituent parts. Those parts include Regulatory Chart of Account (RCoA); Instruction to the Chart of Account; a guideline on Property, Plant and Equipment; Revenue expenses and cost centers; impairment and lease; grants and contributions and reporting.

USAID Energy Program team developed presentations on the Main Concepts from PPE Guideline. The presentation for gas Transmission and Distribution utilities was held on 22 May at GNERC office.

USAID Energy Program has been closely cooperating with GNERC in preparation for official transfer ceremony of USoA for the gas regulated sector to GNERC. *See highlights*

USAID Energy Program shared revised the USoA Chart of Accounts, with the amended PPE with GNERC Tariff Department for review and acceptance. Chart of Accounts PPE part was amended based on the discussions held with GNERC last week. In view of the comments and request of GNERC, USAID Energy Program team continued working on PPE Guidelines.

During the reporting quarter, USAID Energy Program team completed several documents for GNERC on the USoA for the Gas Sector. USoA describes a set of systems, processes, policies and procedures that enable a rate-regulated entity to establish a record-keeping regime necessary to meet its regulatory obligations, and which keeps track of revenues, costs, assets and capital employed. USAID Energy Program finalized the development of USoA constituent draft documents and discussion with GNERC and rate-regulated gas utilities. As a part of the USoA development process, USAID Energy Program conducted tailored trainings for GNERC Tariff and Gas department and rate-regulated gas utilities.

## **LEGISLATION DEVELOPMENT**

USAID Energy Program has drafted numerous secondary legislative acts and developed comments on the primary legislation, including Law on Energy and Water Supply.

On October 7, the first hearing of the Draft Energy law held in Parliament of Georgia. As the MoESD is the initiator of the law, the DM Mr. David Tvalabeishvili presented the draft law on Energy and Water Supply. The key justification for the introduction of the draft law is compliance with the EU requirements under the Accession Protocol signed by the GoG. However, apart from obligations under Deep and Comprehensive Free Trade Area (DCFTA), the DM also underlined the need for more transparent and market-oriented legislation, the creation of which would be facilitated through new draft Law. The draft law was voted and approved by the committee members and adopted at the first hearing.

Based on the timeframe established by the Rules of Procedure of the Parliament of Georgia and the ongoing process, the law on Energy and Water Supply is expected to be adopted by the end of November or early December 2019.

USAID Energy Program reviewed “the Concept Design for the Georgian Electricity Market”, adopted by the Order of the Minister of the MoESD on 24 December 2018. The document constitutes the vision of the MoESD regarding the general structure, organization, and functioning of the electricity market in Georgia. According to the Order, the Concept Design provides guidelines for the implementation of reforms in the electricity sector and will serve as a basis for more detailed Market Concept Design that will be adopted subsequently to the adoption of the New Law on Energy and Water Supply.

The Program team drafted the report “Comparative Analysis of the Developed Concepts for the New Electricity Market in Georgia”. The report has several objectives: to identify the differences among “Georgian Electricity Market Concept Design” - approved by the MoESD; the “White Paper on Electricity Market Concept Design” - developed by USAID Energy Program and Market Design, defined by Nord Pool Consulting. In addition, the report focuses on the analyses of the Transitional Plan outlined in the approved market concept design, recommendations and next steps.

USAID Energy Program held several meetings with GNERC to present and discuss secondary legislation drafted by USAID Energy Program for GNERC. Upon the request of GNERC, the Program team developed two versions of the rules: Transitory Gas Market Rules, applicable for the transitional period and Day-Ahead Gas Market Rules, applicable for the period when Day-Ahead gas market is established.

Task 1 team contributed to the finalization of the report on Legal Procedures Applied to Projects Not Related to PPP Legislation.

## COMMUNICATION STRATEGY



To support the MoESD in public outreach prior to complete opening of the energy market, USAID Energy Program hired GEPRA - a marketing consulting company that will design a Communication Strategy for the Energy Market Opening.

The document will reflect the predominant attitude of affected target groups, based on which the tailored messages will be designed, followed by a suggestion for the appropriate communications tool. The document is expected to be available by the end of January 2020. The research process will be accompanied by several working group meetings, seminars and focus groups for better understanding of affected target groups with the aim to minimize resistance towards the anticipated changes in the energy sector of Georgia.

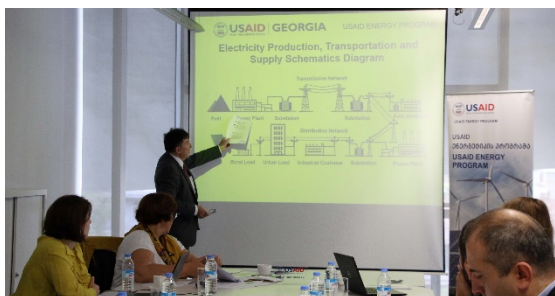


# INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING (TASK 2)

## PROGRESS AGAINST THE WORK PLAN

### REGULATORY IMPACT ANALYSIS TOOLS (SUB TASK 2.1)

In preparation of RIA trainings, USAID Energy Program diligently cooperated with the MoESD and Mr. Norberto Pignatti - RIA Expert and a professor at the International School of Economics at Tbilisi State University (ISET), to ensure the implementation of planned three trainings: 1) Pre-RIA training 2) Energy RIA Training and 3) Assessing the influence of a new draft law on energy and market opening on vulnerable customers.



Pre-RIA Training

USAID Energy Program's Senior Technical Regulatory Advisor, Mr. Valeriy Vlatchkov conducted Pre-RIA training for the MoESD. The meeting brought together the representatives of RIA department and the energy sector in order to create an improved understanding of the electricity sector functioning. To check the obtained knowledge of the participants, a tailored questionnaire was disseminated comprising of 10 questions. All participants passed the assessment check with high results.



Energy Regulatory Impact Assessment Training

On October 22, USAID Energy Program organized Energy RIA training for the MoESD. Mr. Norberto Pignatti exposed the audience to the prominence of RIA as a tool for the improved understanding of a rationale behind the reform. During the training, the audience was divided into the teams to identify the core issues in the energy sector and the likely consequences. In that regard, the audience drew a challenge tree by illustrating the major inhibiting factors. Among the referred challenges were the limited choice of suppliers, pricing not reflecting the cost of electricity, the absence of transparency, low generation capacity, vulnerable customers, lack of

infrastructure, post-soviet attitude towards having a liberalized market etc. The training was aimed at creating awareness of the value of analyzing both regulatory and non-regulatory impacts and comparing the options based on tailored evaluation criteria.



Regulatory Impact Assessment Training

On October 24, USAID Energy Program conducted RIA training on analyzing the links among the new Draft Law on Energy of Georgian, market opening and vulnerable customers. The audience comprised the representatives from the MoESD, GSE, ESCO, GNERC, Association of Young Professionals in Energy of Georgia (AYPEG), Energy Ombudsman, and WEG. From the very onset, the participants agreed that in the absence of a common definition for vulnerable customers, the reference was made towards those who would possibly be affected by a new Draft Law. The training was of interactive character therefore the participants were divided into several groups, each having a task to identify specific and operational objectives and the expected impacts on vulnerable groups.

The focus was made on identifying data required for quantifying the impact of the reform, followed by finding the corrective / mitigating measures to diminish the risk of affecting the vulnerable customers. Among the suggested mitigation measures were subsidies, single point of contact to assist the vulnerable, easy tool for price comparison, increased transparency of billing, the absence of interest on late payments etc. By the end of the training, the audience expressed gratitude towards USAID Energy Program for the efforts to build the capacity of stakeholders in the weak area and expressed interest for more trainings.

In preparation of RIA reports on Gas and Electricity on the proposed Energy law and Water supply, USAID Energy Program reviewed the legal background and developed a Financial Model to assess the impact of the new proposed Law on electricity prices.

Upon the request of the MoESD, USAID Energy Program drafted two RIA reports - RIA of the proposed Energy Law on Electricity prices and RIA of the proposed Energy Law on Gas prices. In view of the available skills and capabilities internally, USAID Energy Program mobilized in-house sources. Hence, the Program International Gas Expert Ms. Gergana Stoitcheva together with the local team finalized the first draft of these two reports which aim to reveal the pros and cons of the proposed Draft Energy Law on Energy of Georgia on the electricity and gas prices. During the drafting process, the involved staff granted particular attention to designing a Financial Model which measures the impact of the new Energy Law implementation on retail electricity tariffs in Georgia. The model also envisages the Total System Revenue Requirements, changes in supply and demand side and the costing of RES with and without the new draft Energy Law implementation in Georgia.

In the meantime, USAID Energy Program has been continuously collaborating with the GoG and stakeholders to determine other required topics for RIA. Two relevant topics such as RIA on Vulnerable Customers and RIA on Local Content for renewable energy have already been identified. In view of experience and expertise the Program has selected WEG for conducting RIA on Socially Vulnerable Customers and Georgian Renewable Energy Development Association (GREDA) for - the Local Content Requirements for renewable energy.

To further coordinate with the Government in terms of RIA topic selection, on February 13, USAID Energy Program COR Mr. Nicholas Okreshidze and the Program management discussed RIA on renewable energy support schemes with the MoESD. Representative of MoESD, Ms. Natalia Jamburidze expressed interest and support in conducting such RIA that will provide justification for the appropriate support scheme for Georgia. The parties agreed to form joint working group including the MoESD, international consultants working on Renewable Energy Law and support schemes and USAID Energy Program.

On May 10, the MoESD conveyed draft Energy Law to the Parliament, to be supplemented with RIA of USAID Energy Program collaborating with the MoESD.

USAID Energy Program hosted GREDA representatives in order to hear the first draft presentation on the Local Content Regulations (LCR) RIA. GREDA team shared already undertaken work and the planned activities within the assigned duty. It included the application and usefulness on LCR including shortfalls, Georgian content, potential strategic benefit of LCR, elements of optimal CLR policy and the following steps in the research. USAID Energy Program CoP and DCoP provided some comments and suggestions to be included in the final report for more clarification.

USAID Energy Program held continues meetings with WEG representatives to discuss the results of a draft RIA on vulnerable customers.

USAID Energy Program evaluated the technical proposals provided by PMO Business Consulting and International School of Economics at Tbilisi State University (ISET). As a result of evaluation, PMO Business Consulting has been nominated as a winner for conducting RIA on Renewable Energy Support Schemes. As a result, USAID Energy Program has started working on RIA on Renewable Energy Support Schemes together with the PMO Business Consulting. On August 2, the parties met to discuss the methodology and implementation plan for the study. The estimated period required for the assigned duty is 12 weeks. Within this time, PMO will organize meetings with the governmental institutions, power project developers, and other energy sector representatives with the aim to obtain information required for the accomplishment of the report. Throughout the project, PMO will study renewable energy support schemes and evaluate them through the application of the multi-criteria analysis. The final aspect of the assignment envisages the workshop which will enable all interested parties to hear the result on RIA study and voice their views.



*Meeting with the Parliament Members Mr. Revaz Arveladze and Mr. Roman Kakulia*

On June 12, USAID/Georgia representatives Ms. Veronica Lee - Economic Growth Office Director and Mr. Nicholas Okreshidze Energy Sector Adviser and the Program COR together with USAID Energy Program CoP Mr. Daniel Potash, DCoP Mr. Ivane Pirveli and Senior Legal advisor Ms. Tamar Jaliashvili held a meeting with the parliament members Mr. Revaz Arveladze and Mr. Roman Kakulia. The topic of discussion was the two days training of parliamentarians planned to

take place outside Tbilisi at the beginning of July. Around 20-25 people are expected to take part from the parliament, hence the list of attendees will be provided shortly. Mr. Okreshidze suggested to initially discuss the law which will be followed by the discussion of RIA on gas and electricity prices. The parties agreed that members from the MoESD and other stakeholders would be welcomed at the training. The training is planned for mid-July.

USAID Energy Program drafted the Initial Draft Event Memo of the Training on RIA of the Draft Law on Energy and Water Supply for the members of the Parliament of Georgia, planned for mid July 2019. The event will focus on the vulnerable population and vulnerable small businesses. In addition, the following topics will be covered: how vulnerable population will be impacted and protected by Draft Law on Energy and Water Supply, the plan to ensure their voices are heard, how the market will prevent vulnerable segment to exploitation, risks and challenges, the role of gas in clean energy future, how Draft Law on Energy and Water Supply will impact gas sector suppliers/customers, and the “level playing field” across energy technologies in a competitive energy market. The event will be attended by the members of the Parliament of Georgia and the energy sector experts.

USAID Energy Program has been working closely with the Public Utility Research Center (PURC) administration to accelerate the enrolment of selected participants from the MoESD and the Parliament of Georgia. The Program selected nine participants who were offered tailored online training on RIA for 6 weeks. The training started on Sept 30, 2019. The selection of the participant was an entitlement of the MoESD and the Parliament. However, from the very onset, the Program set strict terms for the selection process such as fluency in English Language and IT and involvement in ongoing or upcoming RIA processes.

## CAPACITY BUILDING (SUB TASK 2.2)



*Training on the Supplier of Last Resort Tariff Methodology*

USAID Energy Program Expert Mr. Valeriy Vlatchkov conducted a series of trainings for GNERC with the aim to aid the company in relevant skills development. In that regard, the training was organized on the Supplier of Last Resort (SoLR) Tariff Methodology for tariff setting and electricity departments. The audience found the targeted training extremely informative and interesting which ended up with Q/A session where the representatives of GNERC had a chance to hear the expert's opinion.

Mr. Vlatchkov also conducted training on MO Tariff Methodology which can be applied by GNERC to ensure the timely implementation of a methodology for calculation of tariffs for the market operator in the electricity sector targeted at increasing the competitiveness of Georgian energy sector. The discussed topics included 1) the Objectives of the Electricity Market Operator Tariff Methodology 2) Legal and Regulatory Principles for Determining the Tariffs 3) Contractual Arrangements and other topics relevant for GNERC.

The focal point of the training was the importance of creating the methodology for calculation of the tariff for Market Operator in Georgia to facilitate the functioning of the competitive Georgian power market. The audience received comprehensive information on the determination of the costs and

revenues of the market operator according to the requirements of the draft Law of Georgia on Energy and in compliance with the EU legal and regulatory framework. The parties agreed on more trainings in order to support GNERC in the creation of market operator tariff methodology and in determination of Weighted Average Cost of Capital (WACC) in the Tariff System which will require further trainings.

Mr. Valeriy Vlatchkov also offered training on the Electricity Universal Service Supplier Tariff



*Training on the Electricity Universal Service Supplier Tariff Methodology*

Methodology, which can be applied to ensure the timely implementation of a methodology for calculating the tariffs for universal service supplier for electricity sector with the aim to benefit from a competitive electricity market. The training covered vital issues such as the right of a consumer, the Right for Universal Service, Imposition of PSO, retail Tariff for Universal Service Customers and other topics vital for the tariff and electricity department of GNERC. Following the training the audience expressed gratitude towards the Program for organizing informative and educational training that will be of great value for GNERC.

From the very onset of the project, USAID Energy Program applies the tailored approach for educating the youth on the principles of the energy market functioning through various trainings. This tactic is aimed at strengthening confidence, skills and knowledge of interns and empower the youth to explore a career path in the energy field.

In that regard, Mr. Vlatchkov held a training for the Program analysts and interns on the principles of electricity supply and demand which is an essential input for better understanding the functioning of the energy market. Other topics incorporated in the presentation were:

- Classification of electric users by customer type and the level of usage;
- How to determine the most important factors impacting the demand levels at a given location and point in time;
- Interpretation a specific customer mix to determine an expected load curve for a given period of time;
- Analyzing the dispatch stacks and load curves to predict price behavior based on changes in supply and demand.

The training also included examples of the international experience from the USA, Europe, Asia and Australia. To check the knowledge, the session was followed by a test with multiple choice questions which enhanced the understanding of obtained knowledge in terms of its practical application in real settings.



*Training on the Regulatory Impact Assessment*

On March 4, USAID Energy Program offered training on RIA at the MoESD. Among the participants were the representatives from the MoESD, GNERC, WEG, the Parliament. USAID Energy Program CoP Mr. Daniel Potash elaborated on the importance of selecting the audience, how to frame an issue, how to make appropriate assumptions and how to manage the scope of work.

The focus was also made on the importance of incorporating the outside research. In that regard, the Program Energy Analysts Beka Shonia, Ketevan Gogishvili and Financial Analyst Mr. Kakhi Nemsadze discussed the methodology and approach applied within the RIA analysis, sources of information and the importance of delivering information to the audience in the most effective way. During the presentation, the Program team clarified the source of available scarce data based on

which the assumptions were made for the model applied in RIA reports. The presentation was followed by Q/A session.

On March 26 - 28, USAID Energy Program in cooperation with UK based company MTX Commodities Ltd organized Bilateral OTC Energy Trading Training for the energy stakeholders with the aim to acquaint the mid-level professionals with the workings of day-to-day buying and selling of gas and electricity in Georgia. *See highlights*

For the purpose of internal capacity building, Deloitte (USA) funded the training for USAID Energy Program aimed at enhancing the written deliverables. To avoid the harm on job performance, the training was organized after the working hours. The training was conducted by Ms. Diana Reddy - Executive Manager | Development CoE – Communication Excellence, Deloitte. The session enabled the audience to better understand the characteristics of various deliverables and tailored techniques for drafting them. The training centered around the four sweeps techniques like “Purpose - Persuasion-Packaging – Presentation” which serve as a major input for creating an impactful deliverable for clients.

The training was delivered through skype enabling the inclusion of non-local staff of the program. The Skype technology also included the option for recording the session, therefore the recording is currently available on the server.

USAID Energy Program adheres to the youth development approach by offering continues tailored training to young analysts and interns of the Program. Senior Regulatory Advisor Mr. Valeriy Vlatchkov conducted a training for the internal staff on the Electric System Operation with the focus on the following key topics: a) forecasting customer demand; b) dispatching specific units and buying power from other systems; c) adjusting schedule based on updated information d) monitoring system. Among the covered topics were ancillary services and transmission path scheduling. More trainings are planned with the aim to ensure the required skills pool.



*Training on the Metering Systems*

Mr. Valeriy Vlatchkov USAID Energy Program Senior Regulatory Advisor conducted training for the Program Youth and interns on Electric Meters and Metering. The module enabled participants to become familiar with the various types of meters found throughout the electrical system and the types of data designed to measure. The objective of the training was to describe the various categories of meters and different methodologies, smart metering, type of data measured by meters, data communication and the key factors in meter management and operations.



*Workshop on Connection to the Grid of Variable Renewable Energy*

On June 26, 2019, USAID Energy Program conducted a workshop for the Georgian Regulator, TSO and DSOs. Training focused on improving the capability of the regulator to evaluate and develop quotas and methodologies for connection into the grid new VRE generation, which can be used by GNERC to ensure timely implementation of incentive scheme for renewable energy and to ensure smooth integration of renewable energy into the transmission and distribution systems. The focal point of the training was to highlight the importance of an incentive system where the government sets the percentage or an

amount of energy, usually annually, that comes from renewable sources and then allows the marketplace to determine the cost. Participants received thorough information regarding the implementation of the EU Directive 2009/28 EC in EU member states, Renewable Portfolio Standard in the US and other countries.

The Program conducted a workshop for training the experts from the MoESD, GNERC, GSE and VRE project developers on the Connection to the grid of VRE – Issues and Recommendations. With

growing renewables shares in Georgia, improved grid integration is becoming more and more important. As the capacity of wind power generators increase is planned in Georgia for the next decades, stricter requirements regarding grid connection of wind generators are required by the system operator. The workshop focused on the issues related to reliability, safety and security of the power system related to increased shares of renewable energy into the power grid and solutions for solving these issues. The workshop also provided venue for presenting the conditions for access to the grid of variable renewable energy generators, issues in connection to the transmission and distribution grid of these generators, impacts on VRE generators on grid stability and reliability, cost allocation in VRE projects and recommendations for the TSO and DSO for granting access to the grid of variable renewable energy generators.

USAID Energy Program facilitated capacity building of the energy experts in renewable energy by identifying and defining the program for International Visitors Leadership Program (IVLP) and recommending participants to USAID/Georgia. The event is planned to take place in Year 3.

USAID Energy Program coordinates with Hersh Consulting LLC regarding the training planned to be held by Idaho National Lab (INL). The training will involve control system for real-time operations.

## MEDIA TOUR



*Media Tour – “Blue is Green”, Day 1*

USAID Energy Program together with the GEDF and GREDA organized two days Media Tour to Gudauri on June 8-9. The objective of the tailored tour was the capacity building of media representatives (TV, Radio, internet media) to create knowledge on anticipated changes in the energy sector, related opportunities and hear views and suggestions from the key journalists.

GEDF CEO Mr. George Chikovani opened the event and offered a presentation on the Energy Security and Challenges in the Energy Sector. The following presenter was Mr. Levan Vepkhvadze - Chairman of the Board of GREDA and Mr. Giorgi Abramishvili - Executive Director of GREDA who focused on the Power Generation Technologies Working on RES and the Cost of Generated Electricity.

USAID Energy Program DCoP Mr. Ivane Pirveli elaborated on the Energy Demand and Supply Outlook for Georgia: Challenges and Opportunities.

The presentations were followed by Q/A session which enabled the media representatives to obtain a basic knowledge of the energy field and inquire the Government's long-term plan to diversity in different sources in order to ensure the energy security of Georgia. One of the challenging topics triggering the massive interest of journalists was the public concern over the HPPs construction.

Journalists empathized that Georgia's energy sector was extremely sensitive topic belonging only to the state hence the Government was advocated to be the key communicator and facilitator between the investor and the population. Indeed, all journalists expressed willingness to fully support in creating awareness on the benefits of HPP though appropriate coverage, however, the foremost mediator was suggested to be the trustworthy government.



Media Tour – “Blue is Green”, Day 2

The tour offered diversity to participants by including the site visits of Hydropower plants Aragvi HPP and Dariali HPP, where journalists had a chance to visually capture the functioning of the HPP and learn on the impact of HPPs on the environment and surrounding population which is not harmful as often perceived by the population due to ineffective communication.

The two days event was mutually beneficial both for journalists and organizers in terms of sharing views and concerns. Face to face interaction with the energy experts and obtaining first-hand information would greatly contribute to securing accurate media coverage and disseminating accurate information.



Media Tour – “Blue is Green”

## STUDY TOURS

### STUDY TOUR TO ROMANIA (ELECTRICITY)



Meeting with Romanian Gas and Electricity Market Operator (OPCOM)

the areas related to the energy strategy, development of wind farms, grid integration of VRE and protection of the vulnerable customers during the market reform transition process.

USAID Energy Program in cooperation with the Romanian Agency for International Development (RoAiD) organized a study tour to Romania for Georgian Electricity Stakeholders: MoESD, GNERC, GSE, ESCO, GEDF. The trip was designed for the purpose of increasing the institutional capacity among the Georgian energy stakeholders in

The study tour also entailed high-level meetings with the Ministry of Energy of Romania and the National Energy Regulatory Authorities, as well as meetings with Electricity Transmission System Operator and Romanian Gas and Electricity Market Operator and windfarm. The tour enabled participants to broaden the understanding of competitive energy markets and share the first-hand information from Romanian energy experts.

### STUDY TOUR TO ROMANIA (GAS)



*Meeting with the Ministry of Energy of Romania*

With the support of the RoAid, USAID Energy Program arranged another study tour to Romania for Georgian Gas stakeholders represented by GOGC, GGTC, GNERC and State Agency of Oil and Gas (SAOG). Among the participants were USAID/Georgian COR Mr. Nicholas Okreshidze, USAID Energy Program DCoP Mr. Ivane Pirveli and USAID Energy Program Gas Sector Expert Ms. Gergana Stoitcheva. Georgian

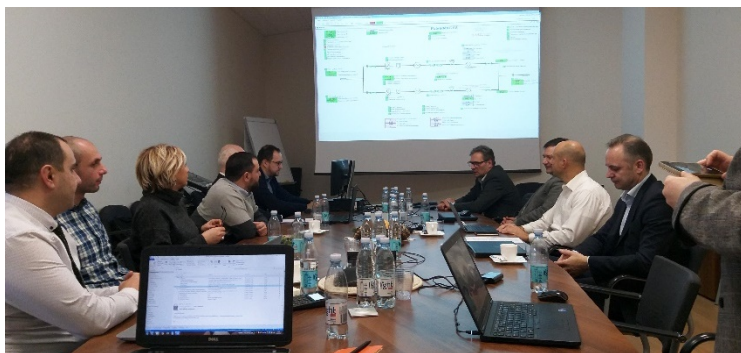
gas experts were given an opportunity to obtain valuable input that can be incorporated in the local context for facilitating the enhancement of Georgia's energy sector.

In the frame of the study tour, a series of relevant meeting were organized with the National Energy Regulatory Authority of Romania, the Ministry of Energy of Romania, the National Agency for Mineral Resources, OPCOM - Romanian Gas and Electricity Market Operator and ROMGAZ and TRANSGAS. The meetings served as platforms for interacting with technical operators of the national gas and the main suppliers in Romania who provided technical information vital for creating a trading platform.

The tailored tour offered Georgian stakeholders a chance to understand the functioning of natural gas value chain, including the production of natural gas, its transportation and power generation.

### STUDY TOUR TO LITHUANIA

USAID Energy Program facilitated linkages between GGTC and the natural gas experts in Lithuania followed by two days study tour to Lithuania organized with the support of a Program. GGTC experts and USAID Energy Program representatives had a chance to interact with the Natural Gas Transmission System Operator (Amber Grid) and share their experience of transition from the Soviet standards to new regulations. The tour was designed in a way that enabled Georgian delegation to gain insights for the enhancement of Georgia's gas sector.



*Meeting with the Natural Gas Transmission Operator (Amber Grid)*

Amber Grid shared the practice on the functioning of the platform and the user manual for an electronic information system. Among the discussed topics were the technical service of infrastructure, the characterization of odorizing equipment, the functioning of Information Exchange System and Gas Metering Automatized System. The study tour exposed Georgian experts to technical information on the natural gas balancing issues,

virtual delivery point in the transmission network and natural gas quantities allocation at entry and exit points.

The visit turned to be valuable for GGTC since it enriched the local experts' understanding of the natural gas sector performance in a competitive environment that will add the flexibility and proactivity in meeting the demands of a new market model. Most importantly, the company brought back ideas



on how to improve the existing gas market and ensure a smooth transition to a competitive market model.

## STUDY TOUR TO AUSTRIA



*Study Tour to Austria*

On September 16-19 USAID Energy Program organized a study tour to Austria for the Georgian gas sector representatives. Among the participants were the specialists from GGTC, GOGC, GNERC, Georgian Gas Storage Company (GGSC). The tour aimed at sharing the experience of Austrian gas experts to understand the functioning of Austrian gas infrastructure. The Program COR Mr. Nicholas Okreshidze, DCoP Mr. Ivane Pirveli accompanied Georgian delegation on the study tour.

The kick-off meeting was held with the Central European Gas Hub AG (CEGH) representing a leading hub for gas trading in Central and Eastern Europe. As an operator of the Virtual Trading Point, CEGH shared the experience of opening the gateway for trading in the entry/exit zone of the Austrian market. The same day Georgian delegation also met Austrian Gas Grid Management (AGGM). The company performs the functions of the market area manager in the Austrian market area East as well as the distribution area manager in the Austrian distribution areas East, Tyrol, and Vorarlberg. In addition, AGGM supports the functioning of the gas market throughout the Federal territory of Austria as an independent system operator. Professionals from AGGM were open for questions and inquires which enabled Georgian gas sector representatives to learn about the functioning of Gas Grid in Austria. Two more presentations were delivered by representatives of Gas Connect Austria (GCA) and Trans Austria Gasleitung (TAG), which operate as a TSOs in Austrian gas market. From Georgian delegation, Mr. Teimuraz Gochitashvili presented natural gas sector of Georgia, the main infrastructural, security of supply and market development challenges and opportunities. The presentation was followed with discussion between Georgian and Austrian colleagues, sharing knowledge and experience.

GCA is a central hub in the European natural gas network, which makes a substantial contribution to the natural gas supply in Austria and other countries including Germany, France, Slovenia, Croatia, and Hungary. As for Trans Austria Gasleitung GmbH, it represents a Transmission System Operator in Austria and the main artery of the natural gas network in central Europe. Both meetings turned out to be valuable for the local experts as many technical details were discussed and articulated during the meeting.

The following day of the study tour was also saturated with interesting meetings with the ECS, Austrian Energy Regulatory Authority (E-Control) and consulting company Wagner and Eilbing who had the experience of working in Georgia. ECS welcomed Georgian delegation and asked to share the recent developments in the Gas sector of the country as well as status of the new Energy Law.

All meetings delivered high value to Georgian experts in terms of better understanding the functioning of a competitive gas market. Austrian Energy Regulatory Authority shared the experience of how the regulator must strengthen competition and ensure that this does not compromise the security of supply and sustainability. Among many technical details, local experts learned about Entry / Exit tariff setting in Austria, regulatory accounting of costs and development of regulatory methods.

The last day of the tour exposed Georgian delegation to another set of interesting meetings. Georgian experts were given a chance to learn directly from the Austrian Energy Agency which globally offers answers for the future of energy. The agency focuses on promoting energy efficiency and renewable energy sources between the poles of competitiveness, climate and environmental protection, and supply security. The company shared the experience of developing strategies for sustainable and secure energy supply and coordinates the various measures in the areas of mobility, energy saving, construction & renovation, and renewable energy. Prospects of the decarbonization of Austrian energy system, including producing hydrogen appeared to be interesting discussion topic between the representatives of the Agency and Georgian delegation.

And lastly, the meeting was held with Austrian legal firm Schonherr which offers a full service in environmental and energy regulatory matters. In the light of anticipated changes in Georgia's energy market in terms of approximation to EU regulations, the meeting was very informative. The Legal experts of Schonherr shared their experience of how the firm offered first-rate legal advice in the matters of constitutional and administrative law, particularly regarding environment and energy. The firm presented case studies in developing security of electricity supply rules in Georgia and gas sector secondary legislative acts in Moldova, concerning unbundling of network activities.

## STUDY TOUR TO NETHERLANDS

To support the energy sector representatives in creating a knowledge pool essential for a competitive energy market, USAID Energy Program organized a study tour for GSE in the Netherlands. The training focused on submarine power cables, the application of which has seen a dramatic increase in various sectors.

The study tour included the meetings with respective TSO representatives, submarine power cable course designed by leading international company DNV.GL and visit to high voltage lab.



*Study Tour to Netherlands*

The designed course addressed and highlighted the entire submarine cable life cycle, providing participants with a holistic view and sound understanding of submarine power cables and their accessories.

The study tour offered a unique opportunity to gain access to knowledge on the operation of submarine power cables. The team became aware of the methods applied for designing a cable system, including cable accessories, marine survey, and cable routing. The training also focused on failure investigation and

essential repairs. The tour offered a unique opportunity to see how experts operate, inspire towards change and connect different issues. They learned, in a more concrete way, how health, safety and environmental issues are all interrelated to cable operation.

GSE representatives provided the positive feedback about the study tour and stressed out the importance of the established links with the leading specialists in the industry.

## ENERGY INVESTMENT OPTIMIZATION (TASK 3)

### PROGRESS AGAINST THE WORK PLAN

#### INVESTOR ADVISORY GROUP MEETINGS (SUB TASK 3.1)



*Investor Advisory Group Meeting*

To assist the GoG in creating an enabling environment for new generating facilities and favorable investment climate, USAID Energy Program initiated the establishment of Investor Advisory Group to identify and address specific challenges in energy sector investment. USAID Energy Program holds quarterly meetings with the representatives of the MoESD GNERC, ESCO, GSE, PPP Agency, energy sector business leaders, investors, renewable energy developers, members of the financial community and other relevant civil sector organizations. Meetings provide a venue for sharing views and debating the existing challenges with the energy sector stakeholders and renewable energy developers.

To assist the GoG in creating an enabling environment for new generating facilities and favorable investment climate, USAID Energy Program initiated the establishment of Investor Advisory Group to identify and address specific challenges in energy sector investment. USAID Energy Program holds quarterly meetings with the representatives of the MoESD GNERC, ESCO,



*Mr. George Chikovani, GEDF CEO and Mr. Ivane Pirveli, USAID Energy Program DCoP*

Georgia. Lastly, Ms. Tamar Murtskhvaladze - USAID Energy Program Senior Energy Investment presented Renewable Energy Support Schemes and surveyed participants on Renewable Energy Support Schemes.

On December 28, USAID Energy Program organized the Investor Advisory Group Meeting at the MoESD to discuss the Law of Georgia on PPP and related secondary legislation. Mr. Zaza Chikhradze - Head of Energy Reforms and Projects Department presented the Law of Georgia on PPP, followed by Mr. Levan Vepkhvadze - General Director of Georgian International Energy Corporation / GREDA Board Chairman who elaborated on the Demand of Local Component, as a Possible Precondition for Promoting Renewable Energy Sources in



*The Second Investor Advisory Group Meeting*

Requirement in Georgia as a Possible Prerequisite for the RES's State Support". USAID Energy Program discussed several topics such as, the 'Investors Opinion', Survey Results on Renewable Energy Support Schemes; financial, fiscal and economic issues, technical issues and tax incentives.

The second Investor Advisory Group Meeting was conducted on February 13 at the MoESD. The workshop aimed to assist the GoG in the creation of an enabling environment for new generating facilities and favorable investment climate.

General Director of Georgian International Energy Corporation / GREDA Board Chairman Mr. Levan Vepkhvadze exposed the audience to the topic of "Local Content

Overall, USAID Energy Program presented analysis and recommendations on 17 Incentive Mechanisms. GEDF CEO Mr. George Chikovani highlighted the significance of the initial analysis of Renewable Energy Support Schemes and stressed out that the assistance of the Program in that respect was timely and appropriate, capable of delivering high value.

On February 13, USAID Energy Program, with the initiative of the DM of the MoESD Ms. Natia Turnava, organized Investor Advisory WG Meeting at the MoESD. Representatives from the MoESD, ESCO, GSE, GNERC, GEDF, GREDA, USAID/Georgia, and USAID Energy Program attended the meeting. The event aimed to assist the GoG in the formation of an enabling environment for new generating facilities and favorable investment climate.



Panel Participants: Mr. Daniel Potash, Ms. Veronica Lee, Mr. George Chikovani and Mr. Gocha Shonia

On April 19, the MoESD, GNERC, GSE and USAID Energy Program organized Investor Advisory Group Meeting at the MoESD. The Georgian energy sector stakeholders and renewable energy developers shared views on the existing challenges regarding the transposition of “EU Network Code on Establishing a Network Code on Requirements for Grid Connection” in Georgia. The created platform encouraged discussions on Renewable Energy integration into the Georgian system and the Guidebook for VRE projects development. The audience comprised the representatives from the MoESD, GEDF, USAID/Georgia, GNERC, GSE, ESCO, Georgian Water & Power (GWP), JSC Caucasus Wind / Solar Company, Georgian Renewable Power Company (GRPC), New Technology Centre, Georgian Global Utilities (GGU), Green House, Solar House, Energo Aragvi, LLC Silk Road Energy, LLC Eastern Power Corporation, LLC Infinite Energy, LLC Hydro Development Company, LLC Energy Solutions, LLC TESLA, EU Georgian Business Council, Solo Development, EPG, Ltd Engurhesi, ADB, Qartli Wind Farm (QWF), LLC Clean Energy Group, GREDA and LLC Xinjiang Xinhua Hydropower Investment.

On behalf of the USAID/Georgia, Ms. Veronica Lee - Economic Growth Office Director expressed confidence in Georgia’s potential to reinforce energy security through investment in RES.

Mr. Zviad Gachechiladze - Deputy Director of Electricity Department, GNERC discussed the Legal and Regulatory Requirements related to “Transposition of EU Network Code on Establishing a Network Code on Requirements for Grid Connection in Georgia”. Mr. Irakli Darchiashvili, Head of System Stability and Analysis Unit from GSE opened the second part of the event and elaborated on the Analysis on Renewable Energy Integration into the Georgian Electrosystem and introduced DlgSILENT (Power System Software and Engineering Company) study results.



Panel Participants: Ms. Ana Jejelava, Ms. Tamar Jaliashvili, Ms. Nino Gvazava and Ms. Tamar Murtskvaladze

The second panel was distinguished by a female dominance where USAID Energy Program Senior Environmentalist Ms. Nino Gvazava, Senior Legal Advisor Ms. Tamar Jaliashvili, Energy Regulatory Advisor Ms. Ana Jejelava and Energy Investment Optimization Lead Ms. Tamar Murtskvaladze deliberated on the draft Guidebook for VRE development in Georgia. USAID Energy Program experts explained the content of the guidebook which would assist the developers to navigate through the national requirements for the development of VRE project.

On September 12, with the support of the MoESD, PPP Agency and GEDF, USAID Energy Program organized Investor Advisory Group Meeting at the MoESD. The main discussed topics were Renewable Energy Investors Guidebook and Pricing to Support the Development of the VRE in Georgia.



Meeting Participants

Mr. Zaza Chikhradze, MoESD

On behalf of the USAID/Georgia, Mr. Nicholas Okreshidze – Energy Sector Advisor, voiced confidence in Georgia’s potential to reinforce energy security through investment in renewable energy sources and empathized the value of “Renewable Energy Investors Guidebook”.

Ms. Nino Gvazava, USAID Energy Program Senior Environmentalist presented the “Renewable Energy Investor Guidebook”. The following step envisages the uploading of an interactive version of the Guidebook on the GEDF website and publishing hard copies.



Ms. Ana Jejelava, Energy Regulatory Advisor, USAID Energy Program

In the second session Ms. Ana Jejelava, Energy Regulatory Advisor discussed the “Pricing to Support the Development of VRE in Georgia”. The focal point of the study is to suggest benchmarks for the MoESD, the MoF and PPP Agency support schemes allocation methods and pricing of VRE projects. The session ended with Q/A which revealed a high interest of the audience over the debated topics. Hence, USAID Energy Program proposed to organize further meetings with the participation of PPP Agency and other stakeholders.

In addition, the Program initiated **Workshops and Trainings** for the MoESD, GSE, ESCO, GNERC, renewable energy developers and other stakeholders.



Workshop on VRE Integration into the Grid

USAID Energy Program organized Workshop on VRE Integration into the Grid at the MoESD. Mr. Zviad Gachechiladze, Deputy Director of the Electricity Department, GNERC overviewed the General Rules and Procedures for Connection to the Transmission Network with the focus on connections procedures, connections offer, connections costs and

proposals to Grid Code amendments. The following speaker was Mr. Valeriy Vlachkov, USAID Energy Program Senior Regulatory Advisor who elaborated on the recommendations for TSO in the process of grid access of new VRE generation. Lastly, Ms. Nino Gvazava, Senior Environmentalist, USAID Energy Program familiarized the audience with the development of VRE projects in compliance with Environmental Legislation.

USAID Energy Program conducted training on improving the capability of the regulator to evaluate and develop quotas and methodologies for connection into the grid new VRE generation, which can be used by GNERC to ensure timely implementation of an incentive scheme for renewable energy and to ensure smooth integration of renewable energy into the transmission and distribution systems.

To assist renewable energy investors / developers in the guidance of initial steps for the project implementation and for the preparation of documents for its bankability, USAID Energy Program described detailed procedures and rules on the project implementation process, based on the existing legislation.

On May 4, 2018, the GoG adopted the Law on PPP, which defines the PPP model as an agreement between a public-sector institution / municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in design, financing, building and operation of a project. The law admits the selection of a private partner through direct negotiations only in the energy sector.

The decree N426 dated August 17, 2018, on 'Approval of the Rules of Developing and Implementing Public-Private Partnership Projects', sets detailed instructions for identification, initiation, preparation, implementation and post-implementation stages of PPP project. The PPP Law and corresponding by-law N426 are applicable for energy projects as well.

Moreover, the development of power generation projects not meeting the PPP criteria and in the meantime are developed by the initiative of a developer are subject to decree N515 on "Rules and Conditions of Submitting to the Ministry of Economy and Sustainable Development and Reviewing the Proposals on Conducting the Construction Feasibility Study (FS), Construction, Ownership and Operation of those Power Plants which are not Public-Private Partnership Projects', dated October 31, 2018".

Most projects need guidance on application, power purchase, interconnection and related technical and procedural requirements. The Project intends to help developers navigate the GoG processes quickly and transparently through providing appropriate legal recommendations and guidance to transverse the development process. For this reason, USAID Energy Program developed a document on 'Legal Procedures Applied to Projects Not Related to PPP Legislation'.

The findings of the document are valuable for the developers willing to construct, own and operate the power plants in Georgia. In addition, the document details the main procedures related to obtaining approval from the GoG and requirements faced by developers in terms of meeting the rules and regulations set by the legislation.

With growing attention to climate considerations, alternative VRE sources are gaining prominence. Deployment of VRE sources contributes to meeting growing energy demand sustainably. The latter is associated with many environmental and social benefits.

Although, electricity generation from VRE reduces carbon emissions and air pollution, it still may harm the environment and pose challenges to local communities. Therefore, the development of VRE power should be done in an environmentally and socially sustainable manner.

The national environmental legal framework is designed to ensure the observance of a sustainable pathway. The main act setting requirements for projects with possible impacts on the environment is the 'Environmental Assessment Code'. The code details procedures for the Environmental Impact Assessment (EIA). It prescribes the rights and responsibilities of a developer during the environmental decision-making process.

Apart from the 'Environmental Assessment Code', several sub-legal acts provide environmental quality standards to be met by those projects not falling under the EIA procedure.

To meet the National Environmental Requirements, USAID Energy Program developed a report on the "National Environmental Requirements for VRE Projects" to provide an overview of the steps to be undertaken at the initial stage of implementation of VRE projects. Familiarization with the guidebook enables any developer to have a clear understanding of environmental regulations setting requirements for the projects with potential environmental impact.

USAID Energy Program identified and analyzed specific challenges and delivered results to the energy investors and stakeholders. In view of interested parties' concern, USAID Energy Program evaluated the key challenges potentially hindering the development of renewable energy projects in Georgia. The Program provided a report on "Analysis of Identified Issues and Barriers Addressing Renewable Energy Development". The document describes VRE related issues identified during the discussions with Georgian energy sector stakeholders and renewable energy developers. It also includes the evaluation of factors hindering the development of renewable energy projects, followed by possible solutions.

## RENEWABLE ENERGY SUPPORT SCHEME (SUB TASK 3.2)

In Year 1, USAID Energy Program supported the MoESD in the identification of Renewable Energy Support Schemes. In that regard, in Year 2 USAID Energy Program conducted both Investor Advisory Group Meetings and individual meetings with various stakeholders to discuss the possible incentive schemes that might be reflected in the relevant secondary legislative acts. The incentives aim to promote the development of non-hydro renewable projects and respond to the challenges of a new energy market.

TYPE OF INCENTIVES	TOP SCORE
Improved net metering regulation	8 0 3 2 2 8
Network Connection	8 1 0 2 1 4 8
Tax exemptions (Value Added Tax (VAT), Import duties for Renewable Energy)	7 3 3 1 1 1 7
Feed in Tariffs (FiTs)	7 3 1 0 0 5 7
Soft Loan	6 3 2 1 2 2 6
Corporate Power Purchase Agreements (CPPAs)	6 0 0 5 2 3 6
Government Power Purchase Agreements (GPPAs)	6 1 1 1 5 2 6
Public Private Partnership (PPP)	6 0 2 1 4 2 6
Priority dispatching to the grid for Renewable Energy	6 2 0 1 2 5 6
Land Purchase Price and Exclusive land rights	6 1 1 3 1 3 6

Survey Results

To select the top support mechanisms, USAID Energy Program surveyed the renewable energy developers and other energy stakeholders. The survey results revealed the most imperative incentives in view of the developers which comprise the Improved Net Metering Regulation (8 scores); Network Connection (8 scores); Tax Exemptions (7 scores); and Feed-in-Tariffs (FiT) (7 scores).

USAID Energy Program experts analyzed the incentive mechanisms and provided recommendations. The respective report incorporates the evaluation and recommendations on 17 support mechanisms. The team revealed 'Highly Recommended', 'Recommended' and 'Not Recommended' support mechanisms. The top

three 'Highly Recommended' incentives which were proposed by the experts are Tax exemptions (Value Added Tax (VAT), import duties for renewable energy); Net Metering Improvement; and Network Connection.

Both reports and feedback obtained from related workshops were delivered to the government officials, investors and stakeholders. Parties agreed to assist the MoESD and other Public Entities to Implement selected support scheme, once the renewable energy scheme(s) are agreed upon.

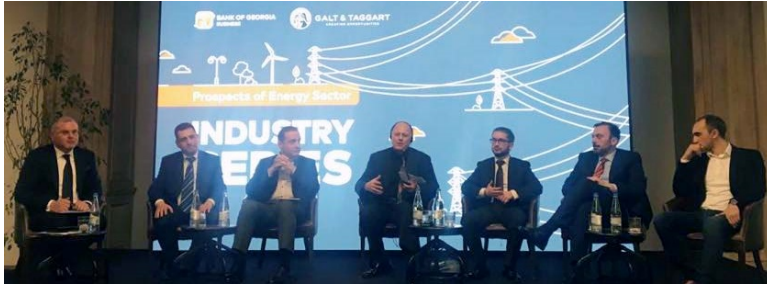
In that regard, USAID Energy Program conducted a meeting with the representatives of NVE and MoESD on March 20, at the MoESD. During the meeting, the parties exchanged information regarding the delivered support to the MoESD. The Program learned that the MoESD tasked NVE to develop Rules and Regulations on Renewable Energy Support Mechanisms. In particular, Feed in Premium (FiP), Contract for Difference (CfD), FiT and Green Certificates.

The MoESD requested USAID Energy Program to collaborate with NVE and provide technical assistance including RIAs on the above-mentioned incentives. The secondary legislation on 'Support Mechanisms to Promote Renewable Energy in Georgia' should be enacted, 12 months after the adoption of the Law of Georgia on 'Promotion of Renewable Energy Development'.

USAID Energy Program has started working on the RIA on Renewable Energy Support Schemes together with the PMO Business Consulting. PMO will study renewable energy support schemes and evaluate them through the application of the multi-criteria analysis. The final aspect of the assignment envisages the workshop which will enable all interested parties to hear the result on RIA study and voice their views.

On February 22, the leading investment banking and investment management services company in Georgia "Galt & Taggart" organized a conference on the Prospects of Energy Sector in Georgia. Among the attendants were USAID/Georgia / Program COR Mr. Nicholas Okreshidze, USAID Energy Program CoP Mr. Daniel Potash, DCoP Mr. Ivane Pirveli, VRE Integration lead Mr. Valeriy Vlachkov, Energy Investment Optimization Lead Ms. Tamar Murtskhvaladze and Financial Analyst Mr. Kakhi Nemsadze.

The first session was dedicated to discussions on financing energy projects. Ms. Turnava highlighted that the new Renewable Energy Law was under the revision by the GoG. The law considers "must run" principle for wind and solar energy and obligates the development of Renewable energy support mechanisms. However, Power Purchase Agreements (PPAs) could not be cancelled totally, it will work for large projects. For small and medium projects, alternatively, to the PPAs, FiPs will be established. This approach is believed to motivate investors to develop renewable energy, especially wind and solar.



*Conference on the Prospects of Energy Sector in Georgia*

During the discussions, some panelists expressed appreciation towards USAID Energy Program for supporting the GoG in the transition period. Firstly, Ms. Turnava showed gratitude for the appropriate and well-timed support of the Program in the Electricity and Gas RIAs, which is of high priority for the GoG. Mr. Giorgi Abramishvili from GREDA also

emphasized the importance of Incentive mechanisms for renewable energy development and referred to USAID Energy Program's valuable contribution by creating a list of Renewable Energy Incentive Mechanism and recommendations. He also recalled the survey results discussed during the Investor Advisory Group Meeting organized by the Program, which revealed the need for support mechanisms.

CoP, Mr. Daniel Potash shared the view of panelists over the relevance of Incentive Mechanisms for Renewable Energy and even explained the negative outcome of the wrong incentives which can bring uncertainty in VRE forecasting.

*Find the Livestream of the event on the link below:*  
<https://www.facebook.com/www.bm.ge/videos/372401873490145/>

USAID Energy Program attended the discussions of a new draft Law of Georgia on Promoting the Production and Use of Energy from Renewable Sources. The MoESD DM Ms. Natia Turnava opened the discussion and underlined the value of upcoming Law in terms of supporting renewable energy.

USAID Energy Program participated in the second conference organized by Galt & Taggart regarding the ongoing reforms in the energy sector.

The panel related to renewable energy and support mechanisms comprised Mr. Daniel Potash - USAID Energy Program CoP, Mr. George Abramishvili - GREDA Director; Mr. David Managadze - EBRD; Mr. Zurab Kokosadze - Director of Corporate Banking Department Bank of Georgia (BoG). Mr. Potash elaborated on the incentive schemes, tax exemption, FiT etc.

USAID Energy Program received an email from Galt & Taggart expressing the appreciation for contribution in the panel and hope for further cooperation.

### **SUPPORTING ENERGY INVESTMENT PROJECTS (SUB TASK 3.3)**

Within the frame of renewable energy investment projects promotion, USAID Energy Program supports the selected 10 small and medium-sized VRE projects. In that regard, USAID Energy Program conducted several meetings with the representatives of GEDF, to provide updates on the current status of the ongoing renewable energy projects. GEDF provided updated data on advanced Renewable Energy projects, 6 Wind Power Plant (WPP), 1 Solar Power Plant (SPP) and 1 biomass power project planned to be launched between 2021-2022. The projects are currently subject to negotiation between GSE and the MoESD. Among them, 4 WPP – Imereti 1 WPP (100 MW), Nigoza WPP (50 MW), Tbilisi WPP (50 MW) and Kaspi WPP (50 MW) were promised with the offtake tariff 6.5 \$ cents for first 10 years (9 months for each year).



**Table 1: Renewable Energy Projects**

#	Project Name	Status of the project	Developer	Installed Capacity (MW)	Estimated Annual Generation (Net GWH)	Estimated investment (USD)	Status on PPA	Tariff	Region	Status on Excess to the Network	MoU Signing date	Date of Commence (planned year)
1	Imereti 1 WPP	Feasibility Study	Infinity Energy	100	287.55	\$ 165,000,000.00	Approved from MoF	6.5\$Cents/kWh for first 10 years, 9 months within each year	Imereti	Under negotiation with GSE/MOESD	N/A	2021
2	Nigoza WPP	Feasibility Study	GEDF; Calik	50	258.75	\$ 82,400,000.00	Approved from MoF	6.5\$Cents/kWh for first 10 years, 9 months within each year	Shida Kartli	Under negotiation with GSE/MOESD	N/A	2021
3	Tbilisi WPP	Feasibility Study	Georgian Renewable Power Company (BOG)	49.5	199.94	\$ 81,200,000.00	Approved from MoF	6.5\$Cents/kWh for first 10 years, 9 months within each year	Qvemo Kartli	Under negotiation with GSE/MOESD	N/A	2021
4	Kaspi WPP	Feasibility Study	Georgian Renewable Power Company (BOG)	50	204.8	\$ 78,000,000.00	Approved from MoF	6.5\$Cents/kWh for first 10 years, 9 months within each year	Shida Kartli	Under negotiation with GSE/MOESD	N/A	2021
5	Taba WPP	Feasibility Study	Anadolu Group	20	60.77	\$ 20,500,000.00	Under the negotiation with MOESD, PPP Agency and MoF		Mta-Sabueti	Under negotiation with GSE/MOESD	N/A	2020-2021
6	Zestaponi WPP	Pre-Feasibility Study	GEDF, Geokraft	50	162	\$ 6,500,000.00	N/A	N/A	Imereti		N/A	2021-2022
7	Udabno Solar PP	Feasibility Study	GEDF, Solar Power Georgia	5	6.8	\$ 4,500,000.00	N/A	N/A	Kakheti	Approved by GSE	N/A	N/A
8	Borjomi Hybrid Biomass	Final Feasibility	NTC	10		\$ 10,200,000.00	Under the negotiation with MOESD and GEDF		Samtskhe-Javakheti		N/A	

### **NEW TECHNOLOGY CENTER**

New Technology Center (NTC) LTD requested USAID Energy Program to review the Feasibility Study of an ongoing project on the “Establishment of Hybrid Energy Station in Borjomi Municipality for Achievement of Green Status by the City”. The developers requested recommendations and expertise in the preparation of the project’s summary in pursuit of fundraising opportunities for both short-term and long-term project goals.

For that purpose, USAID Energy Program held a meeting with the Deputy Mayor of Borjomi Mr. Buba Beridze, Biomass Developer Mr. Zaal Kheladze, NTC and Crowne Plaza Hotel Director of Sales Ms. Ketevan Nadareishvili.

The parties discussed the general condition in terms of the energy program development in biomass and its implementation. It included the details of biomass project such as the location of Boilers, heat pumps, buffer tanks, as well as their technological details. The Hotel seems keen on buying biomass heat instead of using gas-fueled heat. Also, the hotel expressed willingness to invest USD \$1 million component of \$10 million construction cost. The Lithuanian government is also willing to invest USD \$5 million, and GEDF is ready to invest \$4 million.

Before the visit, USAID Energy Program delivered technical assistance by revising the feasibility study and offering Recommendations to Promote Funding Opportunities of the Project Hybrid Energy Station in Borjomi Municipality for Achievement of Green Status by The City. The report includes recommendations for the development of a diagram reflecting the commercial structure of a project based on appropriate financial examples and aided in drafting a teaser summary. The offered assistance greatly facilitated the company in the provision and dissemination of appropriate documentation among the donors and IFI. In addition, USAID Energy Program facilitated linkages with the Dutch embassy and Consortium of Danish Company (NIRAS) to enhance their further possible cooperation.

The NTC is on the stage of negotiations with GEDF regarding the potential co-financing the project as the subject of PPP.

### **GEORGIAN RENEWABLE POWER COMPANY (GRPC)**

USAID Energy Program conducted 2 working meetings with the representatives of GRPC. In total seven wind power projects were considered out of which 5 projects were selected for further development. Full wind measurements are available for 3 projects -Tbilisi WPP, Kaspi WPP and Tkibuli WPP. Tbilisi WPP and Tkibuli WPP are among the Program’s 10 selected projects. The measurements revealed that 2 projects were facing acing issues. GRPC got approval from the MoF and the MoESD on offtake tariff for the first 10 years, 6.5 \$ cents per kWh for 9 months for each year for Tbilisi and Tkibuli WPPs projects. Based on the measurements, the company predicts that the capacity factors for Tbilisi WPP will be 35-39% and for Kaspi WPP 40-45%.

As for the solar projects, GRPC is running several SPP projects among which are: Kaspi SPP (50 MW), Marneuli SPP (50 MW) and Telavi SPP in Kakheti region. Based on GRPC studies, the

company referred to the presence of a stronger capacity in Kakheti for solar development compared to other parts in Georgia however, the weak distribution grid, owned by EPG, was mentioned as a hindering factor.

There are two meteorological towers installed at Tbilisi wind farm which are expected to remain operational till the commencement of wind turbine installation planned in May 2020. According to the designed wind farm layout, the location of meteorological towers coincides with the proposed location of the wind turbine, thus meteorological towers should be dismantled to change its location. The developer proposes to change the location of the meteorological towers and continue the measurement of meteorological parameters including the wind speed. This would provide necessary input for wind parameter forecasting proposed by USAID Energy Program.

The developer asked USAID Energy Program to review the existing EU practice of installing wind energy farms on the protected territories e.g. Natura 2000. The program team agreed to explore the implemented wind energy projects and share the findings. The ongoing 50 MW Kaspi WPP, is located close to the Emerald site. The developer also requested USAID Energy Program to assist in providing examples of implemented wind energy projects on the sites of the same importance in EU countries.

The study on “Wind Energy and Specially Protected Areas”, offers recommendations of mitigation measures based on the EU examples to minimize the environmental impact of wind energy.

Wind power is the most VRE source currently available (barring hydro power) with an important contribution to mixing the energy sources required to offset over-reliance on fossil fuels with the associated outputs of Greenhouse Gases (GHGs), notably carbon dioxide (CO<sub>2</sub>). However, just as with any form of energy generation, wind energy can also have an adverse impact on the environment which should be avoided or minimized.

## ALT ENERGY

USAID Energy Program met Mr. Irakli Tavberidze, CEO of ALT Energy, developing 3 MW Gardabani Thermal Power Plant (TPP) project. The main fuel resources of TPP are agricultural residuals and plant Amaranth.



hence the developer lost the exclusive rights on the land. Therefore, Mr. Tavberidze plans to reapply for the development of the project and request exclusive on 250 ha land for producing Amaranth. The project considers a gradual development of 2 MW, plus an additional 1 MW with further extension potential. The estimated total cost of the project is USD 4 ml. Mr. Tavberidze shared the project business plan with USAID Energy Program and requested assistance in providing recommendations and guidelines on environmental issues as well as guidelines on the project development step.

In support of VRE projects, USAID Energy Program team met Gardabani Biothermal developer Mr. Irakli Tavberidze, from Alt Energy and transferred reports on the “Legal Procedures Applied to Biogas Power Plant Project” and “Recommendations on Environmental Decisions Procedures for Biogas Power Plant Project”.

Appreciation Letter from ALT Energy

USAID Energy Program Received an acknowledgment letter from General Director of Alt Energy, appreciating for the assistance performed and continuous support from the program.

## INFINITE ENERGY

Within the frame of renewable energy investment projects promotion, USAID Energy Program held several meetings with Mr. Tornike Bakhturidze - CEO of Infinite Energy and Mr. Kremsimir Condic, CEO of Ivicom Holding, developing 100 MW Imereti 1 WPP.

The major challenges faced by the company are the provision of justification for PPA to the GoG and integration to the 500-kV network system, owned by GSE. Infinite Energy shared studies on Cost-Benefit Methodology for Optimal Design of WPP Imereti Connection and Conceptual Design - Technical Description. Mr. Bakhturidze also requested the Program to assist in the development of

## RA report and recommendations on wind price estimation on Georgian electricity price and network integration.



Appreciation Letter from Infinite Energy

In that regard, the Program developed a report on Recommendations on Connection of Imereti 1 WPP to the Georgian Transmission System. The document contains technical, environmental and legal aspects, as well as the analysis of alternative options of Infinite Energy for Imereti 1 WPP for connection to the Transmission Network. USAID Energy Program analyzed three options for the connection and made recommendations for the connection of Imereti 1 Wind Power to the power system of Georgia. The report concludes that the connection of Imereti WPP to the nearest 500 kV network is more efficient compared to the connection through 36 km overhead line 220 kV to substation Khashuri 220/110 kV. Also, this option has a less environmental impact and low levels of power losses and voltage drops.

The Program held discussions with GSE and other stakeholders regarding the connection issues which might be perceived as vital factors for the initiation of an amendment to the Network Rules setting specific limits for new generation unit and consumer active power capacity in case of deep connection to the transmission line. GNERC decision dated as of July 25,

2019, sets the lower limit of connection capacity, dependent on the voltage of transmission line. This brings clarity to the potential investors and developers of wind and solar power plants as well as to new consumers willing to be connected to the transmission line.

On April 1 and September 27, USAID Energy Program received acknowledgment letters from the Executive Director of Infinite Energy, Mr. Tornike Bakhturidze, praising the Programs' contribution to increasing investor confidence and bringing more transparency to the energy sector. As noted, the 100 MW WPP Imereti 1 project received approval on offtake tariff for the wind energy in the amount of 6.5 \$ cent/kWh for the first ten years, 9 months within each year.

Upon the request of VRE developers and energy sector stakeholders, USAID Energy Program prepared a presentation on VRE Support Mechanisms and Prices for the Investor Advisory Group. The discussed topics prompted the high interest of PPP Agency. Hence the Chairman Mr. Alexandre Revia requested to share the formula of (Levelized Cost of Energy (LCOE)) to calculate electricity prices for the ongoing projects. As demanded, the Program provided a simple LCOE excel model to PPP agency. The model reflects information on the discount rate used by the LCOE formula, which is the WACC from GNERC.

Additionally, Mr. Revia informed that PPP Agency was working on the benchmarking of the energy security criteria for the ongoing Renewable Energy Projects. He asked USAID Energy Program to assist in finding an appropriate tool for assessing the Energy Security criteria of the renewable energy projects, and in evaluating the project's vitality in terms of the country's energy security.

As a result, the Program conducted a study on "Pricing to Support Development of the Variable Renewable Energy in Georgia", which reviews the VRE support schemes applicable under the EU Third Energy Package and reference prices on electricity under such support schemes. The research includes legislative analysis, power market comparison, electricity price review for solar and wind projects in EU and Eastern Europe for 2018. This study offers recommendations to the MoESD, MoF and PPP Agency on the methods for allocation of support schemes and pricing to VRE projects in Georgia. The report includes an analysis of the competitive procedures on support schemes and proposes capacity auctions for VRE. As for the support scheme tariff determination, three alternative pricing methods were suggested.

## OFF GRID SOLAR PV SYSTEM PROJECT FOR HIGH MOUNTAIN HOUSEHOLDS

The MoESD and the MRDI approached USAID Energy Program with the request to advise on the most viable technological options for electrification of 400 off-grid households that live in various areas of mountainous regions of Georgia without electricity over a few decades. The Program experts advised the MoESD and MRDI on the most cost-effective technology for the electrification of off-grid

households through the procurement and installation of Solar PV Systems that would be designed for each household's electricity needs and provided cost estimates.

After careful review, the GoG considered the recommendation and decided to spend GEL 2 million to install the SPPs in the inhabited areas without electricity. *See highlights*

As a result, on May 25, the MRDI, announced a consolidated tender on the procurement of Solar PV systems with installation and warranty services.

To evaluate the costs and develop the concept, USAID Energy Program surveyed over 700 off-grid households located in remote mountainous areas of Georgia to evaluate households' electricity needs and created a database. The database was transferred to the MRDI and MoESD for the procurement and installation of off-grid solar home systems.

The primary data revealed the following main findings:

- The average income of the surveyed population is about GEL 400, with the main source of income of animal industry, farming and monthly pension. Despite the hard-social conditions of residents, population is willing to pay for electricity in amount of GEL 15-20 per month;
- Technological solutions can provide electricity at a relatively reasonable cost per household by using solar;

Based on the obtained database, USAID Energy Program developed a Midterm Report on Solar PV System Project for Off-Grid Settlements. The report contains information on the possible scenarios of the project development, technical characteristics as well as data base on off-grid settlements.



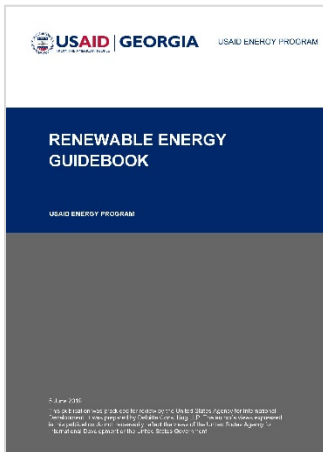
*Visit to Off-Grid Villages*

In that regard, the Program conducted a site visit to the off-grid villages - Mghebriani, Didi Chvarebi and Okiani in Gori Municipality. The delegation comprised the representatives of the MRDI Ms. Mzia Giorgobiani - DM; Mr. Giorgi Tsinadze - Head of Departments and Ms. Nino Kvernadze - Head of Department; the representatives of USAID/Georgia: Ms. Veronica Lee - Economic Growth Office Director, Mr. Nicholas Okreshidze - Energy Sector Advisor / the Program COR; Mr. Konstantine Tavzarishvili - Mayor of Gori Municipality and USAID Energy Program team. The purpose of the trip was to visit the households without access to electricity grid, assess the community needs and create awareness of the project. For that reason, the DM and Mayor introduced the concept of the project to the local population which is aimed at making a better quality of life rather than encouraging the migration to cities.

The introduced new project found great appreciation among the community, moreover, the residents showed gratitude towards the endeavor of the Government and the Program and expressed hope for its timely implementation.

With the request of the MRDI, USAID Energy Program hired subcontractor Energy Efficiency Centre Georgia (EECG). Under the activity, the EECG is responsible to monitor the implementation of the project. In particular, EECG's also is assisting MRDI in several areas such as drafting rules of application and maintenance of the PV systems, trainings for installers and local population and /or representatives of local municipalities.

## RENEWABLE ENERGY INVESTOR GUIDEBOOK



Report on Renewable Energy Investor Guidebook

'Renewable Energy Investor Guidebook' represents a pivotal document aiding renewable energy project developers to navigate Georgia's project development process, including leading practices and roadmaps to address technical, administrative / regulatory, and financial issues. It details all necessary procedures for the successful implementation of renewable energy projects in Georgia since the adoption of PPP Law. Several workshops were dedicated to the topic of PPP Law / related secondary legislation, and 'Renewable Energy Investor Guidebook'.

For that purpose, the meetings were held with the MoESD, GEDF, PPP Agency and VRE Developers. The guidebook should be subject of periodic review and update.

The development of an interactive web-based Guidebook is planned in Year 3. The animation will reflect all steps and procedures incorporated in the document. Finally, the product will be transferred to the MoESD, PPP Agency and GEDF.

# GRID INTEGRATION OF VARIABLE ENERGY RESOURCES (TASK 4)

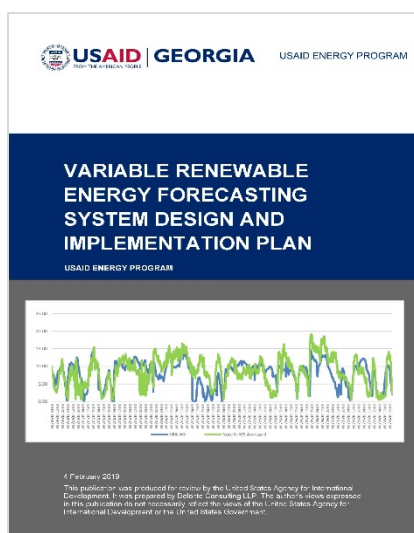
## PROGRESS AGAINST THE WORK PLAN

The production of power from the variable renewable resources that would be appearing on the Georgian grid is linked to the weather. However, implicit difficulties in the weather forecasting lead to challenges in the production forecasting of variable energy resources.

To facilitate more renewable energy integration into the transmission network, USAID Energy Program supports the development and implementation of the Wind Power Forecasting system. This, in turn fully complies with preliminarily determined condition set-in the Ten-Year Network Development Plan (TYNDP) 2018-2028 for VRE integration to the network regarding the Wind Power Forecasting.

In support of the development and implementation of the forecasting system, in Year 1 USAID Energy Program performed the following activities:

- Studied the Available Models and Methodologies for Forecasting;
- Performed an initial Survey of Forecasting Service Providers;
- Created WG and Launched the Forecasting of wind speed in test mode to study the National Environmental Agency's (NEA's) capability on forecasting the wind speed;
- Assessed the infrastructure providing the required data input for a forecasting system;
- Assessed the legislation authorizing GSE access and / or retrieval of information required for the forecasting system.



*Report on VRE Forecasting Concept Design and Implementation Plan*

With the above-listed endeavours, USAID Energy Program formed the essential basis for developing the 'VRE Forecasting Concept Design and Implementation Plan' in Year 2. Concept design is the development phase of the VRE forecasting system, in which USAID Energy Program attempts to fully comprehend a problem and uncover the solution. It usually incorporates the development of a concept comprising both technical feasibility and estimated costs of the development. The Implementation Plan complements the Concept Design and examines the options and solutions for the most efficient implementation of the Concept Design. The Centralized VRE forecasting System, implemented through the provision of forecasting services by the third party and operated by the GSE (Hosting Agency of VRE Forecasting) was identified by USAID Energy Program as a viable and feasible option.

Also, the aim of drafting the Concept Design and Implementation Plan was to ensure the sound basis for discussions with GSE, NEA and other stakeholders in terms of selecting the most efficient development and implementation of

Wind Power forecasting in Georgia. While GSE is proposed to be the VRE forecasting System hosting agency, VRE forecasting Centralized System Concepts Design and its Implementation Plan were introduced and agreed with the GSE.

The presentation covered the following key topics:

- VRE forecasting centralized approach implementation through the forecasting service provision; the implementation of the system with Wind Power Forecasts;
- The engagement of GSE in data exchange with VRE forecasting service suppliers and the assessment of provided services;
- The existence of control measurements to ensure reliable data input for forecasting models employed by VRE forecasting service providers; and
- Procurement of Control Measurement Equipment (if respective funds remain) after the procurement of the VRE forecasting Services.

The agreement of VRE Forecasting Conceptual Design and Implementation by GSE (Hosting Agency) enabled to accomplish the first part of contractual obligations undertaken by USAID Energy Program and shifting to the remaining part, considering the actual implementation of the system.

As a part of VRE Forecasting Implementation, USAID Energy Program drafted ToR and has started preliminary discussions on the draft ToR on VRE forecasting content with GSE. GSE acceptance of draft ToR was preceding the announcement of the bidding process led by Deloitte Washington Procurement Team. The Request of Proposals was distributed among 6 potential vendors of VRE forecasting services, identified in Year 1, who were given a deadline of October 8, 2019 for the submission of proposals. Overall 4 potential vendors responded to the call.

The tentative date for the start of forecasting services is the end of November 2019. However, before this, two vendors should be selected, followed by signing the Contract and Non-Disclosure Agreement and establishing a data exchange platform. Those are necessary actions to start the provision of services in a Trial- Model Training mode.

The procurement of services from two vendors are agreed with GSE and considered for timesaving and benchmarking. USAID Energy Program would handle payments within the 11-months. Respectively, in case one vendor fails to maintain specific accuracy values during the provision of services, the existence of two vendors would mitigate the risk of wasting time for the selection of another vendor.

Furthermore, the existence of several suppliers of forecasting services is a common practice amongst the different TSO. Like for Energy Net or 50 Hertz, the five different vendors are delivering the forecast of wind power. This approach is utilized to benchmark the performance of different vendors and represents a practice according to which the simple average of two or more forecast is more accurate than the forecast delivered from one vendor.

The process of signing the contract with two selected vendors and launching the provision of services can be considered as a starting point for the Implementation of forecasting system. The period to be devoted to complete implementation counts 11-months i.e. until the 15<sup>th</sup> of October 2020. During this period, USAID Energy Program would monitor the performance of the vendors, work with GSE to improve reliability and quality of required data input and identify essential infrastructure to improve the preciseness of forecasts.

With these forecasting services, GSE will know where, when, and how much electricity will be produced by each wind power plant. This, in turn, helps GSE achieve a more efficient allocation of resources for unit commitment congestion management and grid stability. Overall the technical assistance and capacity building proposed to GSE would allow the increased penetration level of wind and solar farms to the transmission network of Georgia.

The connection of wind generation to electrical power systems influences the system operation point, the load flow of real and reactive power, nodal voltages and power losses. The rising impact of wind power generation in power systems forces system operators to extend grid connection requirements to ensure its accurate operation. USAID Energy Program examined the ability of the new GEDF- Çalik 50 MW wind farm to be connected to the Gori Substation kV and prepared recommendations for Infinite Energy on the connection of Imereti 1 wind power plant to Georgian Transmission System. USAID Energy Program held discussions with GSE and other stakeholders on the connection issues, which can be perceived as one of the factors for the initiation of an amendment to the Network Rules. These rules set specific limits for the new generation unit and consumer active power capacity in case of a deep connection to the transmission line. More specifically, with the GNERC decision #17, dated July 25, 2019, the lower limit of connection capacity was set dependent on the voltage of transmission line. This brings clarity to potential investors and developers of wind and solar power plants as well as to new consumers willing to be connected to transmission line.

The commencement of forecasting services provision will be the most important task for the beginning of Year 3. Later USAID Energy Program plans to ensure its operability and sustainability through drafting amendments to the existing Network Rules and supporting the signing of the MoU between the USAID/Georgia and GSE. To some extent, the drafting amendments was covered by USAID Energy Program through recommended amendments to Network Rules regarding the data requirement to ensure the operability of forecasting system.

USAID Energy Program presented the findings of the study to GNERC and GSE. It concentrates on the new grid code development process and preparation of proposals for changing the legislation to include the integration of the VRE to the grid. USAID Energy Program conducted training for GNERC on Recommended Changes of Legislation for VRE Integration, which can be used by GNERC to ensure the timely introduction of changes in the legal and regulatory framework implementation of

wind power forecasting for variable renewable energy and to ensure smooth integration of renewable energy into the transmission and distribution systems.

After the coordination meeting with GSE and GNERC parties agreed that provided recommendation would be more needed in Year 3. For instance, after launching the forecasting services, the existing draft might be amended with data requirement and specifications to be identified during the provision of services.

The establishment of a data exchange platform might remain challenging in Year 3 for the implementation of forecasting system. To achieve and maintain the accuracy of forecasting, real time data should be transferred to the provider of forecasting services. In this regard, USAID Energy Program agreed on close collaboration with GSE in supporting the timely establishment of a data exchange platform. Launching forecasting services might reveal additional problems regarding the data exchange, its reliability and quality. Data Quality Control (DQC) is also requested under the forecasting services. After launching the forecasting services, the results of DQC will be utilized to supplement justification on control measurement and procurement of LiDAR, as well as to identify the required infrastructure for the improvement of forecasting accuracy.

Pursuant to the international practice, regulatory financial information must be relevant, reliable, comparable, verifiable, transparent and comprehensive. To ensure the coherence of data, avoid double counting and detect anti-competitive effects, the US, Canada, Asia, and Some EU countries have developed and implemented the so-called Uniform System of Accounting. USoA describes a set of systems, processes, policies and procedures that enable a rate-regulated entity to establish a record-keeping regime necessary to meet its regulatory obligations, and which keeps track of revenues, costs, assets and capital employed.

In previous years, under the HIPP and HPEP, the USoA was developed for electric utilities, the rates of which are regulated. In 2016, GNERC approved the USoA for electric utilities and requested USAID Energy Program to develop USoA for gas sector rate-regulated entities. Following the appeal, USAID Energy Program developed and officially transferred the USoA for the gas regulated sector to GNERC. The Program contributed to the development of Gas USoA through drafting instructions and providing capacity building. *See highlights*



*Inspection of Enguri Hydro Power Plant*

Sustainable operation of Enguri HPP is among the predominant options for the energy security and hence is granted the highest priority in the electricity sector. Even without complex geo-political setting, the Enguri Project latent deficiencies, maintenance history and age create considerable challenges. Although most of these challenges have been addressed, the project will constantly remain in need of continues repairs, characterising for HPPs of similar age. Together with the International Expert Mr. Phil Hoover, USAID Energy Program performed a visual inspection of Enguri HPP. The respective team had site visits of dam, powerhouse and switchyard and held meetings with Enguri HPP management and Enguri Project Implementation Unit (PIU). The visits resulted in a report



incorporating the list of outstanding issues to be addressed during post-Rehabilitation of Enguri HPP Phase IV.

USAID Energy Program participated in one-day workshop on Hydro Power and Dams Sustainable Development. USAID Energy Program Senior Technical Advisor Mr. David Mujirishvili, offered a presentation on Enguri HPP Inspection, Issues, and Priorities for Energy Security and Reliability (*see more details Task 5*)

To facilitate renewable energy, sustainability, and energy security, large-scale renewable energy projects must be developed with significant private investment. In that regard, USAID Energy Program contributed to the development of a draft "Investor Guidebook" through providing a brief description of the Requirements and Procedures on Connection to the Transmission network. This document was developed based on the active Network Rules. The report was supplemented with more detailed information embedded in the Excel file where each line item referenced with the Network Rules. (*see more details in Task 3*)

# STRATEGIC ADVISORY ASSISTANCE TO THE GOG TO INCREASE ENERGY SECURITY (TASK 5)

## PROGRESS AGAINST THE WORK PLAN

USAID Energy Program initiated the creation of Energy Security WG to foster the discussions on the comments provided by the participants on the critical and timely issues for Georgia's Energy Security during the first Energy Security WG Meeting.



Enguri Hydro Power Plant

Deliberations at the Energy Security Workshop revealed that sustainable operation of Enguri HPP is among the predominant options and hence is granted the highest priority in the electricity sector. However, Enguri HPP has seen poor maintenance for the last few years, neither technical problems have been addressed. Therefore, repairs of the main structures and facilities will claim not only significant funds but also cause the shutdown of the plant for several months. In the light of growing electricity consumption in Abkhazia, such background creates an urgent need for a sustainable solution of energy allocation between Abkhazia and the rest of Georgia.

Following the consultation with USAID/Georgia, USAID Energy Program organized international energy experts' visit to Enguri HPP to identify the most reliable and cost-effective solution. Before visit, the Program Team has been engaged in the constant review of related materials and desk studies of Enguri HPP rehabilitation. The Desk Study helped to perform the overall assessment of hydro-technical units, mechanical equipment, electrical equipment, system substation and operation and maintenance of the plant. *See highlights*

USAID Energy Program met Mr. Malkhaz Tskvitishvili, Enguri HPP Rehabilitation Project Manager and Mr. Kilasonia, Financial Director of Enguri HPP to discuss issues regarding the operation and maintenance of the Enguri HPP, as well as outstanding rehabilitation elements of the power plant and the status of Phase IV of the power plant rehabilitation project. The civil works, hydromechanical and electromechanical works, requirements for the landslide monitoring system, update on the current status of the penstock operating valves and possible solutions for their rehabilitation were also among the discussed topics.

On December 6-8, USAID Energy Program organized the local and international experts' trip to visit the Enguri HPP. Among the visitors were Mr. Phil Hoover from H&M Engineering, Mr. Valeriy Vlatchkov – Senior Regulatory Advisor, USAID Energy Program and Mr. David Mujirishvili, Sr. Technical Advisor, USAID Energy Program. The international experts (Mr. Hoover and Mr. Vlatchkov) had a chance to visit the HPP Dam, power-house and related hydrotechnical facilities.

The purpose of the visit was to perform the overall assessment of the Enguri HPP Dam and write a brief report with a prioritized list of maintenance works. *See highlights*

The visit was followed by the Energy Security WG Meeting which took place on December 12 at the MoESD. It provided a unique venue for bringing together the representatives of the Enguri, the MoESD and other experts with different roles in the energy sector with the aim to expose them to an independent expert's assessment of the Enguri, which remains to be valuable asset in terms of Georgia's energy security. *See highlights*

USAID Energy Program attended the conference on the Hydro Structure Safety and Renewable Energy Development organized by the GNCOLD. Mr. David Mirtskhulava, chairman of the GNCOLD highlighted the importance of dam safety and particularly emphasized the value of introducing the Law on the Safety of Hydro Structures. The second part of the meeting was dedicated to discussions on renewable energy issues, sources and energy security.

Upon the request of the MoESD, USAID Energy Program has commenced working on a “Study of Alternatives for Pipeline Gas for Rural Settlements in Georgia” to assess the GoG’s gasification policy, evaluate the current situation and provide recommendations based on the leading international practices. Within the scope of this task, USAID Energy Program’s COR and DCoP met the DM of MoESD, Ms. Natia Turnava and representatives of SOCAR (State Oil Company of Azerbaijan Republic) and GGTC to discuss the roles and responsibilities of USAID Energy Program, GGTC and SOCAR. SOCAR will assess the “virtual pipeline” option versus pipeline gas. Based on the pilot project, conducted in Sairme resort for commercial customers, SOCAR has already obtained experience of providing gas by trucks equipped with Compressed Natural Gas (CNG) tanks to the local network (“virtual pipeline”). Therefore, the company will assess other locations and provide technical and economic figures for “virtual pipeline” option. GGTC’s main role is to provide information on the existing network infrastructure, database of settlements without access to gas, while USAID Energy Program’s main goal is to evaluate various heating technologies and energy sources and their applicability in certain locations.

In December 2018, the MoESD choose three locations as a case study for comparative analysis and shared with USAID Energy Program. These locations are: Mestia townlet, three villages located close to each other in Borjomi (Sakire, Tadzrisi, Dgvari) and village Atskuri located in Borjomi. During the reporting period, USAID Energy Program reviewed the neighboring and European countries in relation to gasification level and fuel mix for heating purposes. The analysis will serve as background information for the overall study. Additionally, USAID Energy Program’s international expert sourced information related to district heating facility operating on biomass. The case is based on the real-life project from Bansko, Bulgaria and can be compared to the case of Mestia, as both locations represent winter skiing resorts. USAID Energy Program team plans to visit the selected locations for further analysis and develop recommendations and corresponding report for the MoESD.

On March 5, 2019, USAID Energy Program held a discussion with Ms. Thea Khitarishvili - Senior Manager at the IEA regarding the participation of IEA in the Roundtable on Energy Security in the Caucasus Region in Light of Market Opening. Ms. Khitarishvili named two representatives from IEA for participation in the event. The first participant is Mr. Duncan Millard - IEA Chief Statistician and Head of IEA Energy Data Center. Prior to joining the IEA, he was a Chief Statistician for the UK Department of Energy and Climate Change (DECC). Under his leadership DECC received three Royal Statistical Service awards for Excellence in Official Statistics. The second participant is Mr. Doug Cooke - Founder and Principal, Majura Energy Consulting. Majura Energy Consulting in providing strategic energy policy analysis and advice focusing on energy security, stationary energy market development, international energy engagement, and related governance and regulatory issues. Throughout the reporting period the respective team remained engaged in the administrative and other related processes in order to ensure the smooth execution of the event.



*Workshop on Hydro Power and Dams Sustainable Development*

On January 25, USAID Energy Program participated in the one-day workshop on Hydro Power and Dams Sustainable Development. The event was organized by the EBRD, with the support of the MoESD and the MEPA. The event brought together the stakeholders of hydropower and dams to rethink on the crucial importance of enhancing the Georgian regulation framework for the hydro sector. It provided a venue for discussing Dam & Public Safety and the significance of building a regulatory framework for flood management and public hydro safety. Another relevant topic discussed during the meeting was building of a regulatory framework for sanitary flows downstream of the hydro facilities and finding the ways of building, financing and operating a hydrometeorology monitoring and forecasting network at national scale.

Among the presenters was USAID Energy Program Senior Technical Advisor Mr. David Mujirishvili, who offered a presentation on the Enguri HPP Inspection, Issues, and Priorities for Energy Security and Reliability. The presentation covered priorities for the effective functioning of the Enguri HPP such as meeting dam safety criteria, flood analysis and planning, penstock valve replacement, interior

powerhouse linkage, ongoing sediment removal, and reservoir debris removal. Mr. Paata Tsintsadze - Energy Expert who elaborated on dam safety legislation will share the respective piece of legislation with USAID Energy Program experts for comments.

The workshop was expected to facilitate the definition of a roadmap of actions that could help advance Georgian regulation and facilitate the creation of a cooperative synergy between Georgian hydro sector stakeholders. An important objective, by initiating this process, will be the implementation of a platform for regular dialogue between Georgian hydropower and dam professional and to organize yearly professional symposiums.

USAID Energy Program worked on the organization of the one-day Conference in cooperation with the MoESD and IEA on the Energy Security in the Caucasus Region in light of the Energy Market Opening". The purpose of the event was to raise awareness of energy security in the context of overall national security of Georgia. In view of Georgias's high dependence on the external sources of gas, discussions on the energy security in the Caucasus Region are of high importance both from national and international perspectives. Similarly important were the deliberations on the energy security related issues considered under 2016 Accession Protocol to the EnCT, on the new Draft Law on Energy addressing the Energy Security, energy transmission, construction of gas storage, the role of international organizations and regional actors in the South Caucasus - Black Sea region. The goal of the event was to improve understanding and reach more consensus among the Energy Security WG members on the new energy security challenges, associated with the market opening in Georgia.

In view of Georgia's high dependence on external sources for gas and electricity, discussions on energy security in the Caucasus Region both from national and international perspectives was of high value. The event took place on April 12, 2019 at *Sheraton Grand Tbilisi Metechi Palace, Tbilisi*.

Mr. George Chikovani, CEO of GEDF requested USAID Energy Program to aid in conducting the study to determine the adequate level of local resources in total demand. According to provided information, the MoF requested GEDF to provide justification for the construction of new power plants. The main research question was to identify the required minimum share of domestic energy in total system demand that is acceptable from the security of the electricity supply point of view. The study required dealing with complex issues such as regional electricity prices, imported energy price forecast, system reliability, geopolitical context, security of supply standards, etc.

USAID Energy Program commenced dealing with the requested task and organized follow up meeting with GEDF representatives to discuss the Resource Adequacy report. GEDF CEO Mr. George Chikovani expressed gratitude towards the Program effort and noted that the preliminary results of the study were very interesting however relatively general which triggered the need to take the study to the next level with the aim to respond to two major questions such as 1) "what is the required installed generation capacity for Georgia to meet its highest pick demand over the one year time frame - 70%, 80%, 90%, 100% or over 100%? and 2) what would be the economic implications of planning reserve margin, showing the trade-off between reliability event costs and system capital costs".

On April 12, USAID Energy Program, in cooperation with the MoESD and IEA organized conference "Energy Security in the Caucasus Region in Light of Market Opening". See *highlights*

USAID Energy Program created the Event Memo and combined the key messages of the Conference on Energy Security in the Caucasus Region in Light of Market Opening held on April 12, 2019, in order to obtain the feedback and determine further required actions. The following steps include the development of respective training program and PPD for the Parliament of Georgia, as well as the organization of another full day workshop separately for gas and for power. The following steps also envisage providing support to the GoG in the development and design of the communications strategy for separate target groups.

USAID Energy Program has been negotiating with GEDF and international expert regarding the RA on the justification of the need for an adequate level of local power generation to explain that Georgia should not build the strategy based on electricity imports, rather develop the state energy strategy based on the study, conducted by USAID Energy Program. It is planned to draft the report with reasonable justification however the level of justification should be clarified by GEDF. Consequently, USAID Energy Program needed to amend the work plan in order to add a report on resource adequacy as a deliverable under the Energy Security component.

USAID Energy Program, together with the invited experts Dr. Robert Ichord, Deloitte Consultant, Senior Fellow at the Atlantic Council and Mr. Duncan Millard, Chief Statistician and Head of Energy Data Center, IEA held a meeting with GSE. The parties discussed the energy system of the country,

cross-border trade with the neighboring countries like Turkey, Azerbaijan, Armenia, and Russia. In addition, developing cross-border transmissions lines were discussed as well as future projects aimed at developing the internal market and cross border trading.

Dr. Robert Ichord and Mr. Duncan Millard held a meeting with GEDF representatives with the aim to discuss the ongoing project on renewable energy sources and the Government approaches to provide more effective incentive mechanism for increasing the generation from renewable energy sources with the focus on wind and solar.

USAID Energy Program conducted data gathering for the RA Report under the request of the GEDF. The Study comprised an overview of the international experience on resource adequacy studies and presented the analysis on the necessity of the local generating capacity to meet the power demand. Hence, the team has requested data from several energy sector entities and companies: GOGC, GTGC and GSE.

USAID Energy Program and international senior energy expert Dr. Masood Ahmad worked on the observations on the RA for Georgia, including forecasting supply and demand, RA leading practices in the U.S., Europe, and Georgia's initial analysis. It is planned to create a multi-disciplinary WG for resource adequacy. The results were presented by Dr. Masood Ahmad at the Engagement Workshop for the energy sector stakeholders and Energy Security WG members.

USAID Energy Program's international expert and local staff worked on the further development of the Georgian Resource Adequacy Model (GRAM). The main work was devoted to data validation and scenario analysis. USAID Energy Program team with the guidance of the international expert Dr. Masood Ahmad conducted the RA study: Methodology of the model and the primary data was shared with GSE. In addition, USAID Energy Program team conducted data analysis to refine key assumptions on hydrology and peak demand growth. Electricity generated from run-of-river and storage plants were analyzed for the years of 2007-2018, while for peak demand analysis GSE's recent TYNDP (2019-2029) was examined.

Per stakeholders' request, USAID Energy Program sent a draft RA report and GRAM, prepared by USAID Energy Program with the guidance of the international subject matter expert Mr. Masood Ahmad to the MoESD and GEDF for review and comments.

USAID Energy Program's team and international expert Dr. Masood Ahmad met with GSE's team led by Mr. Giorgi Amuzashvili, member of the board at GSE and Mr. Archil Kokhtashvili, Chief of Electrical Regimes and Development Service. Dr. Ahmad presented GRAM, the main assumptions of the model and preliminary findings. GSE representatives provided feedback and promised to take further review on the main assumptions. GSE representatives pointed out that they were modelling electricity generation through the PLEXOS software and the results of GRAM model and PLEXOS model should be consistent. Therefore, using the same data set is crucial to avoid significant discrepancies between these modelling approach. GSE representatives also asked to share the methodology of GRAM to be fully involved in the study process. USAID Energy Program updated RA Report based on the comments provided by GSE.

USAID Energy Program organized Armenia-Georgia Joint WG Meeting on September 12-13, 2019. High officials from both Georgia and Armenia participated in the WG meeting. *See highlights*

USAID ENERGY PROGRAM  
საერთაშორისო ენერჯეტიკის პროგრამა

კითხვები	C1	C2	C3	C4	C5
1. საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
2. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
3. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
4. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
5. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
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7. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
8. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
9. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
10. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					
11. თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.					

C1: თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.  
C2: თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.  
C3: თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.  
C4: თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.  
C5: თქვენს აზრით, საერთაშორისო ენერჯეტიკის პროგრამის მიერ დაგეგმილი შეფასების საფუძველზე, საქართველოს ელექტროენერჯეტიკის მოთხოვნილებების მართლმართებით შეფასების შესახებ, თქვენს აზრს გთხოვთ.

Within the Scope of the study “Alternatives for Pipeline Gas for Rural Settlements in Georgia”, USAID Energy Program has been engaged in the data collection process in order to determine the energy consumption in village households. Based on the obtained information, the Program analyzed the capital, operational and maintenance costs of biomass-fired heating plants for supplying small cities in Georgia with heating energy. This will contribute to the reduction of green gas emissions and environmental protection by converting the heating with direct burning of wood into alternative heating sources with solid biomass.

Survey Template

USAID Energy Program worked on the report regarding the gasification study of three selected remote villages in Georgia. For this purpose, the respective team collected information on gas infrastructure in Georgia, including maps of a gas grid and its technical data, and alternative ways of

gas supply to the villages. Furthermore, information was obtained on possible heating alternatives for the settlement with varying viability.

In support of the gasification study, USAID Energy Program team contacted the National Statistics Office of Georgia to check the availability of survey results on the households' energy consumption in the villages provided in the report. In the absence of the requested study, USAID Energy Program prepared a survey questionnaire to evaluate the existing condition in the villages without access to gas and check the willingness of the population to be connected to a grid. The concept of conducting surveys in Mestia and Borjomi municipalities was agreed with Mr. Davit Sharikadze, MoESD.



*Daba Mestia Survey*

In that regard, USAID Energy Program traveled to Daba Mestia and surveyed 80 households, 30 hotels and hostels, and 16 municipal buildings. Obtained data were used for designing the graphs to enhance the visualization of a current state in terms of energy consumption in remote villages. The survey provided information on the most applied sources of energy for heating, the approximate amount of consumed energy and respective expenses. A similar survey will be conducted in 2 villages near Borjomi: Atskuri and Tadzrisi. Obtained information will provide primary data for identifying the best heating alternative in remote villages in Georgia.

On February 13, the Program had a meeting with the MoESD to discuss the on-going energy end-use survey and next steps with Ms. Elene Goksadze, acting head of the analytical and planning division. Parties agreed to have a joint meeting with GGTC and SOCAR Georgia Gas representatives once survey will be finalized.

USAID Energy Program Team was approached by GGTC regarding to the gasification study. In addition to original work plan, GGTC has asked USAID Energy Program and USAID Georgia to help them in conducting Cost Benefit Analysis (CBA) on delivering pipeline gas to off-grid rural areas. Parties agreed to discuss this issue in detail during the coming week.

On May 23, USAID Energy Program together with the Program COR Mr. Nicholas Okreshidze held a meeting at GGTC to discuss the gasification study and share information on gasification of high-altitude villages. The meeting was attended by Mr. Jaba Khmaladze General Director GGTC, Mr. Nugzar Dvali – Deputy Head of Legal Department (GGTC); Mr. Jaba Khmaladze General Director GGTC; Mr. George Shemozashvili – Chief Engineer, Mr. George Demetrashvili – Deputy Head of Gasification Department and Mr. Bachuki Zakalashvili – Project Accounting Head. GGTC requested USAID Energy Program assistance in categorizing the villages based on physical and financial characteristics and in identifying those villages where the alternatives would be more feasible. The parties agreed to share requested information that would provide valuable input for the studies.

USAID Energy Program team continued working on rural gasification study. In the reporting period, the team focused on developing dataset that is needed for analysis.

USAID Energy Program met GGTC to discuss the details of gasification study, namely the issue of the gasification costs estimation. It is essential for USAID Energy Program to have adequate gasification cost estimates in order to develop a credible cost-benefit analysis for the gasification study. Among the attendees were the General Director of GGTC - Mr. Jaba Khmaladze, including the technical and engineering staff, and representatives of three contractor companies. The parties agreed on the method for cost estimation and discussed the possibility of USAID Energy Program subcontracting one of the GGTC trusted contractors to produce the gasification cost estimates. USAID Energy Program together with Ms. Crissy Godfrey, Senior Energy Sector Expert met Mr. David

Tvalabeishvili –DM, MoESD. DM stressed out the Governments' effort to render the final version of the Energy Strategy with revisions by end of September with the anticipated passage in October. in that regard, Mr. Tvalabeishvili requested USAID Energy Program to provide respective comments on the document and aid in the translation. During the meeting, DM also informed about the decision of the government to ensure the presence of a market operator. He also added that full market opening anticipated by January 1, 2020, will require preliminary evaluation of Balancing Mechanism (BM) and Day-Ahead Market (DAM) rules.

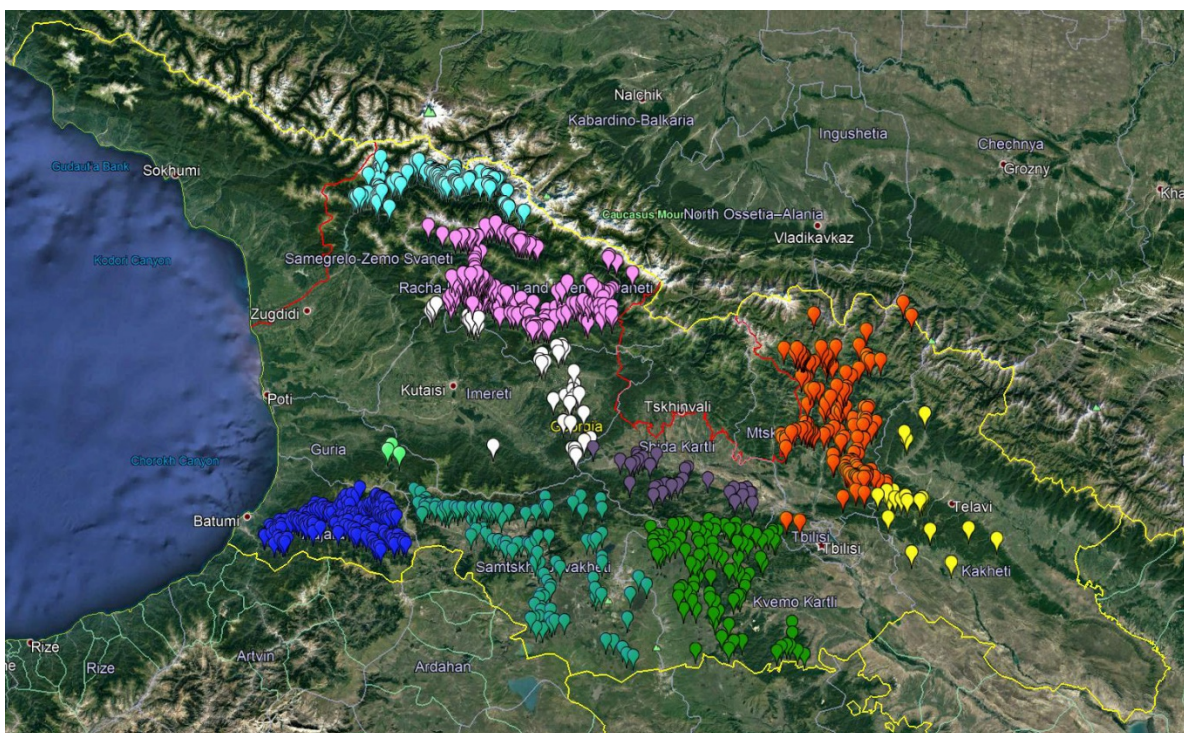


Meeting with HICD and GGTC

USAID Energy Program participated in the meeting between Human and Institutional Capacity Development (HICD) 2020, GGTC and USAID/Georgia. The meeting aimed to present the main findings and recommendations prepared by Policy and Management Consulting

Group (PMCG) consulting, a subcontractor of HICD 2020 project. Among various recommendations related to improving Human Resources Management (HRM), internal organizational communications system and IT performance, the importance of developing an electronic platform to fulfil requirements under the Natural Gas Grid Code was underlined. The director of GGTC, Mr. Jaba Khmaladze, stressed the need of timely assistance in developing an electronic platform, as it should be fully functional by the end of 2020.

USAID Energy Program together with the Program COR Mr. Nicholas Okreshidze held two meetings (on 1-2 August) at the MoESD to discuss the gasification of high mountainous villages. Among the participants were Mr. Davit Sharikadze, Ms. Elene Goksadze and Ms. Marita Arabidze from the MoESD, Mr. Jaba Khmaladze, Mr. Nugzar Dvali, Mr. Giorgi Kapanadze, Mr. Giorgi Demetrashvili and Mr. Bacho Zakalashvili - GGTC, Mr. Zurab Kelikashvili – the Ministry of Environmental Protection and Agriculture of Georgia (MEPA), Mr. Giorgi Dididze –MRDI and Mr. Revaz Geradze – GNERC.



Map of High Mountain Villages, USAID Energy Program

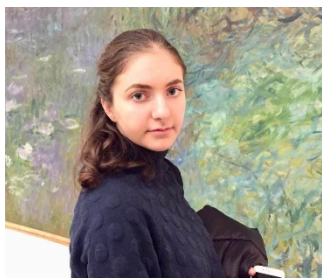
Following the series of meetings, USAID Energy Program completed the map of high mountain villages, using the data provided by the MRDI. The Program edited the map to reflect only villages

having 10 or more residents and highlighted 950 villages which are distributed within 39 municipalities in Georgia. Currently, the program is working on a methodology which will assist to correctly cluster villages and calculate gasification cost for each cluster. The updated map was sent to Mr. Giorgi Kapanadze and Mr. Giorgi Demetrashvili (GGTC) for their review and to provide pipeline gas cost estimates.



# CROSS CUTTING

## GENDER EQUALITY



*Ms. Ketevan Uchaneishvili*

USAID Energy Program remains dedicated to youth development and career enhancement through continues internship programs for students. In Year 2 USAID Energy Program hired Ms. Ketevan Uchaneishvili - last year student at the Free University of Tbilisi with a major in International Relations with Euro-Atlantic concentration. Ms. Uchaneishvili had experience of internship in the US Embassy in Tbilisi, the local online media platform Tabula and NGO led by the US Peace Corps.

Internship at USAID Energy Program offered structured work experience related to her career goal in the Public Relations (PR) paired with the opportunity to practice communication and teamwork skills. Working among the Program experts exposed her to various challenges not only in the communication field but also in the energy sector. Thus, she was given the opportunity to attend different trainings offered by the program experts and learn the basics in the energy sector. In addition, attending the events together with the major stakeholders enhanced her networking skills while establishing a network of professional contacts. Working for USAID Energy Program exposed Ms. Uchaneishvili to professional settings which will greatly contribute to her future career development.



*Ms. Ketevan Gogishvili*

In the light of the energy specialist's scarcity in Georgia, USAID Energy Program offers the internship program to students in order to create a pool of future experts, with a particular focus on the female engagement in the sector. The Program hired an intern Ms. Ketevan Gogishvili a student from Georgian Technical University (GTU). During the internship, she has turned into a part of a big professional team, who exposed her to hands-on experience and characteristics of the energy sector. Ms. Gogishvili obtained valuable work experience and knowledge which helped her to explore the career path in the energy field.

Internship at the Program made Ms. Gogishvili more marketable at Georgia's competitive jobs market by growing her confidence and visibility. Therefore, upon the accomplishment of internship Ms. Gogishvili was directly hired by Black Sea Group – a company engaged in the HPP construction and related activities.

USAID Energy Program remains committed to supporting youth by offering capacity building in line with the evolving Georgia's energy market needs to create a stronger applicants' pool.

USAID Energy Program continues supporting the engagement of females in the energy sector who have already broken the stereotypes by adopting the non-traditional roles in the various fields of the energy sector.



*Ms. Ana Bitsadze*

A particular focus of the project is the enhancement of female internship in the energy program. Throughout the project, the Program has hired several successful and smart females who were given an opportunity to work with the professionals and master their skills in the energy field.

Knowledge dissemination is one of the commitments of the Program, which is apparent on a daily basis, by exposing the interns to the activities of a professional team aimed at contributing to the development of a sustainable and competitive energy market.

In Year 2 the Program hired a female intern from ISET Ms. Ana Bitsadze. She was given a unique opportunity to participate in the working group meetings and obtain firsthand information from the energy experts, support in conducting research through data mining and be a part of the international professional team.

This approach remains to be essential part of the Program, therefore search for potential female candidates for the internship will remain a dynamic process through the lifespan of the Project.

Another successful intern of the Program is Mr. Misha Odisharia providing support to the whole team in support of the project tasks accomplishment. On Sept 19, GSE organized an exam in the energy



Mr. Misha Odisharia

filed aimed at selecting the smart candidates out of 70 applicants. The exam usually includes both oral and written examinations to check the basic knowledge of the sector. With this approach, GSE selects the future staff members who are exposed to tailored lectures and experience of the energy experts. Mr. Misha Odisharia went through the tough examination steps and finally was selected among the 70 candidates. USAID Energy Program will continue contributing to supporting the young candidates to join the energy sector which is in apparent need of fresh experts.

## YOUTH SKILL DEVELOPMENT AND CIVIL PARTICIPATION

USAID Energy Program welcomes the influx of fresh ideas and perspectives through youth skills development, in that regard the internship program will remain effective throughout the life of the Program. In Year 2, the Program hired four interns who demonstrated unremitting willingness to face the challenges and master the energy field. During the internship, the students were offered tailored trainings by giving meaningful work under the supervision of experts. This approach greatly facilitated the creation of a strong skills pool. In Year 2 the Program hired three interns as analysts to further deepen their knowledge in the energy sector.

USAID Energy Program organized lecture for MBA students of the Caucasus University to create awareness on USAID/Georgia contribution to the energy sector development. *See more details in Task 1, Public Outreach.*



Conference "Energy and Environment"

On March 14, the Energy and Telecommunications faculty of GTU hosted the second Scientific Conference "Energy and Environment" with the aim to enable the student to present their studies to a large audience of energy experts and thus facilitate the employment opportunities for future energy specialists. Among the guests were the DM of the MoESD Ms. Natia Turnava, representative of the energy Academy, Telasi, GSE, Sakrusenero, Gross Energy Group (GEG) and Blauenstein Georgia.

USAID Energy Program young analysts Ms. Ketii Gogishvili and Mr. Beka Shonia also had an opportunity to be among the participants of the conference, which served as a platform for discussing various topics related to the energy and environment.

Ms. Gogishvili offered a presentation on the Solar Power and associated challenges, trends, and achievements. She also elaborated on the solar PV module prices for different years by technology and manufacturer state, total installed costs for utility-scale and residential solar PV systems, as well as, levelized cost of electricity from utility-scale solar PV projects and cumulative grid-connected capacity. Another presenter Mr. Shonia talked on the electricity markets, electricity trading system, competitive market benefits, its effect on VRE investments and future tariff prediction due to market change.

USAID Energy Program encourages the youth skills development and participation in various events that will expose youth to professionals and facilitate the creation of relevant linkages in the sector.

On May 29, USAID Energy Program attended the Youth Energy Conference organized by G4G at Ilia State University. The event was dedicated to creating awareness on the challenges and opportunities of the new electricity market model, on the importance of sustainable energy for sustainable development and security, the role of energy security and block chain and its potential application in

the energy sector. The event was also of interactive nature where the Program Youth had a chance to inquire and obtain answers on various questions.

As a part of youth skills development, USAID Energy Program mobilized internship program for university students in Year 2 to build their professional skills and capacity to participate in USAID Energy Program supported energy (electricity and gas) market development. It included institutional strengthening and capacity building regarding the competitive energy markets and cross-border electricity trade, energy investment optimization, grid integration of VRE and assistance to Increase Energy Security, policy reform formulation, advocacy and PPD. Also, during the reporting period USAID Energy Program designed a youth program to build the students' capacity to effectively advocate for reforms.

**Table 2: Utilization of Interns**

Name of Intern	Internship period	Task	Supervisor
Mikheil Odisharia	October 11, 2018 - April 11, 2019	Task 3, 4	Tamar Murtskhvaladze, Davit Mujirishvili
Ana Bitsadze	March 18, 2019 - June 17, 2019 August 20, 2019- November 19, 2019	Task 1	Ivane Pirveli
Ketevan Uchaneishvili	April 22, 2019 -August 21, 2019	Task 2	Eka Nadareishvili
Giga Dzirivelishvili	September 16, 2019 - December 16, 2019	Task 1	Ivane Pirveli

One of the key priorities for USAID Energy Program is to enhance the capacity building of interns. For that purpose, throughout Year 2, USAID Energy Program experts have been conducting trainings on various topics.

All presentations were followed by Q/A (questions and answers), where participants were given a chance to clarify ambiguities regarding the complex terminology or functioning of the electricity market.

## ENVIRONMENTAL EVALUATION

Through Year 2, all deliverables produced across the tasks underwent preliminary environmental screening. The intention of the exercise was to reveal if the recommendations proposed within the reports had potential to have direct or indirect impact on the environment once implemented. In total 17 deliverables were reviewed. The results of the screening demonstrated no need for further in-depth analysis. The judgement was based on the fact that recommendations or conclusions under the deliverables did not consider any direct activities imposing risks to the components of the environment.

## COLLABORATION WITH OTHER DONOR FUNDED PROJECTS

USAID Energy Program closely cooperates with other donors participating in the development of Georgia's energy sector. Cooperation details during Year 2 are as follows:

**EU (European Union):** USAID Energy Program works with EU4Energy, implemented by the ECS, to support the GoG in reform making process, to ensure implementation of obligations undertaken by EU-Georgia Association Agreement (AA) and EnC Accession Protocol.

**Danish International Development Agency:** USAID Energy Program, Norwegian Water Resources and Energy Directorate and "NVE-NIRAS" (consortium of Danish Company "NIRAS") experts will cooperate in the development process of a draft law on Enhancing Energy Production from Renewable Energy Sources and in performance of RIA following the intensive PPD. It was also agreed that USAID Energy Program will participate in organizing the workshop committed to the above-mentioned topics.

**NVE (Norwegian Water Resources and Energy Directorate)** - under the Norwegian grant program, NVE will assist the GoG in the development of a regulation on Renewable Energy Support Mechanisms, in particular, FiP, CfD and improved net metering. USAID Energy Program will collaborate with NVE and provide technical assistance including RIAs on renewable energy support mechanism and stakeholder workshops.

**IFC (International Finance Corporation):** USAID Energy Program works with IFC to cooperate in the development of Electricity Market Transitional Plan and Natural Gas Market Transitional Plan. USAID Energy Program also introduced IFC to upcoming changes and the activities of USAID Energy

Program in support of VRE in Georgia. IFC shared their experience, knowledge and challenges in pursuing VRE programs.

**WB** (World Bank): USAID Energy Program actively collaborates with WB in assisting the GoG in the development of a competitive energy market. USAID Energy Program will support WB's consultants by guiding and providing information on Electricity and Gas Market Concepts and Electricity Trading Mechanism (ETM).

**UNDP** (United Nations Development Program): USAID Energy Program met UNDP Project on Biomass Promotion to obtain information on the existing and potential non-hydropower VRE projects and their developers in Georgia. As a result, the list of VRE projects was updated and existing information collected and specified.

**ADB** (Asian Development Bank): USAID Energy Program works with ADB on identifying the existing and potential VRE projects in Georgia. The ADB has expressed interest in financing rooftop solar projects across Georgia.

**NARUC** (National Association of Regulatory Utility Commissioners) and **USEA** (United States Energy Association): USAID Energy Program met representatives of NARUC Black Sea Regulators Initiative and the USEA. The aim of the initiative is to harmonize regulations for cross-border energy trading in the region. The USEA is particularly concentrating on analyzing the possibility of supplying cross-border energy balancing services.

**KfW** (German Government-Owned Development Bank): USAID Energy Program held several meetings with a meeting with Mr. Hans Rieck - Director Sector Coordination South Caucasus, Energy-Transport and Ms. Nino Shanidze - Senior Project Coordinator at KfW to discuss the electricity market reform, gas market concept and Underground Gas Storage (UGS). Parties also discussed the areas of assistance to be provided by KfW in organizing a study tour in Germany (tentative) for the decision-makers from the MoESD and energy sector stakeholders.

## CROSS CUTTING AND PROGRAM MANAGEMENT MEETINGS



USAID Energy Program held meeting with Mr. Levan Samadashvili, CoP of Good Governance Initiative (GGI) and Ms. Marika Gorgadze DCoP of GGI to create awareness on the Program activities particularly in relation to RIA. GGI also

introduced their plans and assigned obligations in RIA field. The parties agreed on possible future cooperation.

USAID Energy Program International Communications expert Mr. Andrzej Klimczyk met Ms. Sophie Kiladze - Chairperson of the Human Rights and Civil Integration Committee. During the meeting, parties discussed gender issues, the role of women in society and vulnerable customers. Ms. Kiladze informed that the Parliament amendments are expected concerning the laws on violence against women, domestic violence and domestic crime. In addition, parties agree to hold another meeting on the vulnerable customers at the beginning of 2019.

On September 18, USAID Energy Program attended the opening of Renewable Energy Sources Laboratory (RES Lab). GNERC in cooperation with Business and Technology University (BTU) presented the idea of the RES Lab. The mission of the RES Lab is to review the challenges within the energy sector, conduct studies and create a discussion platform for the energy sector stakeholders. The members of the RES Lab will be energy sector stakeholders both from the governmental and private sector. The membership will not be based on financial contributions, but an intellectual and academic partnership. GNERC will conduct a working meeting of the RES Lab in October 2019, where the first topic of the research will be selected by the members.

## ANNEX 1: COMPLETED AND ONGOING ACTIVITIES

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
<b>Task 1: Energy Market Development</b>					
<b>1.1. Energy Markets Development Action Plan for Electricity and Gas Sectors</b> Indicator #10, #16	<b>1.1.1. Support to the Steering Committee and WGs.</b> USAID Energy Program will support the Steering Committee (SC) and WG meetings established during Year 1 of the program. The WGs will include representatives from the MoESD, GNERC, GSE, ESCO, GOGC, GGTC and other stakeholders	At least 4 meetings, Meeting Minutes	1. Donor Coordination Roundtable - Conducted 2. Donor Coordination meeting- conducted 3. Donor Round table - conducted	October 2018 – September 2019	3 meetings - conducted  Note: the fourth meeting will be held in year 3
	<b>1.1.2. Annual Electricity Sector Action Plan.</b> Support the SC in developing / updating Action Plan for the electricity sector reflecting reforms and activities needed to be implemented	Updated Action Plan	Action Plan approved by USAID	October 2018	Done
	<b>1.1.3. Annual Natural Gas Sector Action Plan.</b> Support the SC in developing / updating Action Plan for the natural gas sector reflecting reforms and activities needed to be implemented	Updated Action Plan	Action Plan approved by USAID	October 2018	Done
<b>1.2. Electricity and Gas Markets Transition Plans</b> Indicator #10	<b>1.2.1. Electricity Market Transitional Plan.</b> Support the SC in developing Transitional Plans for the electricity market that aims minimum negative impacts on vulnerable consumers and small businesses	Proposed Electricity Market Transitional Plan	Transitional Plan approved by USAID	October 2018 – December 2018	Done
	<b>1.2.2. Natural Gas Market Transitional Plan.</b> Support the SC in developing Transitional Plans for the natural gas market that aims to minimize negative impacts on vulnerable consumers and small businesses	Proposed Natural Gas Market Transitional Plan	Natural Gas Market Transitional Plan approved by USAID	October 2018 – December 2018	Done
	<b>1.2.3 Joint Workshop on Vulnerable Consumers</b> Support / organize joint workshop of the MoESD and MoLHSA related to identification of the state policy on vulnerable consumers including gender impact	1. Workshop 2. Workshop on Vulnerable customers RIA - conducted	1. Minutes approved by USAID 2. Workshop - conducted	October 2018	Done
<b>1.3. Regional Energy Cooperation</b>	<b>1.3.1. Facilitating Energy Cooperation with Armenia.</b> Support regional WGs with Armenia on competitive market reforms with appropriate donors and stakeholders from both countries	3 meetings in Georgia and 2 meetings in Armenia (optional in Armenia)	1. Meeting in Armenia – conducted 2. Meeting in Georgia – conducted 3. Meeting with Armenia in Georgia - conducted	October 2018 - September 2019	2 meeting in Georgia and 1 meeting in Armenia _conducted Note: two meetings deferred to year 3

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
	<b>1.3.2. Facilitating Energy Cooperation with Turkey.</b> Support regional working groups between Georgia and Turkey on energy cooperation	2 meetings in Georgia; and 2 meetings in Turkey (optional in Turkey)	Pending	November 2018 - September 2019	Deferred to Year 3
<b>1.4. Public Outreach</b> Indicator #6, #8	<b>1.4.1. Implement Outreach Programs.</b> Coordinating USAID Energy Program's outreach activities and preparing necessary materials on the reforms	4 press releases	1. Press release on Bilateral OTC Energy Trading Training 2. Press Release on official transfer ceremony of USoA to GNERC	October 2018 – September 2019	2 press releases – done 2 deferred in year 3
	<b>1.4.2. Consensus Building.</b> Working closely with market participants, donors, IFIs, GoG representatives to gain consensus on action plans and/or implementation issues of electricity and gas sector reforms	4 meetings and meeting minutes	1. Donor coordination round-table - Conducted 2. Donor coordination meeting - conducted 3. Donor Round table-conducted	October 2018 – September 2019	3 meetings conducted, Note: 4th meeting deferred to year 3
<b>1.5. Action Plan and Transition Plan Implementation</b> Indicator #10	<b>1.5.1. Legislative Development.</b> Support the MoESD, GNERC and other GoG stakeholders in developing primary and or secondary legislation	Drafts / comments / recommendations delivered to stakeholders • Electricity sector: as minimum, draft and / or advise on 7 primary and / or secondary legislation; • Natural gas sector: as minimum, draft and / or advise on 5 primary and / or secondary legislation including laws, amendments to laws, rules and regulations that will be identified under the Action Plan and Transition Plan. (20 in electricity, 10 in gas; over 3-year total)	<b>Electricity:</b> 1. Forecasting system design and implementation plan 2. Comments on Draft Law of Georgia on Promoting the Production and Use of Energy from Renewable Sources 3. Summary on energy law 4. Comparative analysis of the developed concepts for the new Electricity Market in Georgia 5. Electricity Market Transition Plan (on vulnerable customers) (Draft) 6. Methodology for setting the supply tariff for the USS and calculating corresponding remuneration for the service provider (Draft) 7. Methodology for setting the supply tariff for the SoLR and calculating corresponding remuneration for the service provider (Draft) 8. Market operator tariff methodology (Draft) 9. Third Party open access outline	October 2018 – September 2019	Done

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
			10. VRE Guidebook (Draft) <b>GAS:</b> 11. Natural gas transitory market rules (Draft) 12. Supplier of Last Resort tariff methodology for Gas (Draft) 13. Unified system of Accounting <b>(16 report)</b> 14. Natural Gas Market Transition Plan (on vulnerable customers) (Draft) 15. Market Operator Tariff Methodology (Draft)		
	<b>1.5.2. Strengthen the Enabling Environment for Energy Trading.</b> Provide support to the GoG such as organizing stakeholder reference group meetings	Meeting minutes, presentations	MTX trading company Conducted OTC trading training	October 2018 - September 2019	Done
	<b>1.5.3. Developing the Uniform System of Accounts (USoA) for the Natural Gas Sector.</b> Support GNERC in developing Chart of accounts, accounting policies and guidelines and financial reporting forms	General Accounting Policy and Procedures for Georgian Regulated Gas Sector Companies Concept and Principles	Submitted to USAID	September 2019	Georgian version submitted to GNERC
		Accounting Guidelines for Georgian Regulated Gas Market Companies Contribution and Grants	Submitted to USAID		Georgian version submitted to GNERC
		Accounting Guidelines for Georgian Regulated Gas Market Companies Lease	Submitted to USAID		Georgian version submitted to GNERC
		Accounting Guidelines for Georgian Gas Market Rate Regulated Companies	Submitted to USAID		Georgian version submitted to GNERC
		Accounting Guidelines for Georgian Gas Market Companies Revenues, Cost Centres and Expenses	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector	Submitted to USAID		Georgian version submitted to GNERC

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
		Companies Accounts 1000 – 1999			
		Regulatory Chart of Accounts and Instructions the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 2000, 2100 – 2199	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 2200-2299	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 2300 – 2699	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 3000-6999	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to The Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 7000-7399	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 7400-7499	Submitted to USAID		Georgian version submitted to GNERC
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 7500-7999	Submitted to USAID		Georgian version submitted to GNERC



Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
		Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 8000-9999	Submitted to USAID		Georgian version submitted to GNERC
		Reporting Forms for Georgian Gas Sector Companies	Submitted to USAID		Georgian version submitted to GNERC
<b>Task 2: Institutional Strengthening and Capacity Building</b>					
<b>2.1. RIA tools</b> Indicator #9, #12	<b>2.1.1. Conduct RIA on Draft Energy Law Focusing on Electricity Sector.</b> USAID Energy Program provide technical assistance to local institutions to perform RIAs	RIA Report, Workshop on presenting results	1. RIA on Electricity Prices - approved by USAID and submitted to MoESD. 2. Workshop in Kachreti-conducted	October - December, 2018	Done
	<b>2.1.2. Conduct RIA on Draft Energy Law Focusing on Natural Gas Sector.</b> USAID Energy Program provide technical assistance to local institutions to perform RIAs.	RIA Report, Workshop for presenting results	1. RIA on Gas Prices - approved by USAID and submitted to MoESD	October - December, 2018	Done
	<b>2.1.3. Conduct RIA on Local Content Requirements for Renewable Energy Projects.</b> USAID Energy Program provide technical assistance to local institutions to perform RIAs	RIA Report, Workshop for presenting results	Subcontracted GREDA; First milestone was presented; The final deliverable and workshop will be done in year 3	June 2019 – November 2019	Deferred to Year 3
	<b>2.1.4. Conduct RIA on the Renewable Energy Support Scheme.</b> USAID Energy Program provide technical assistance to local institutions to perform RIAs	RIA Report, Workshop for presenting results	Subcontracted PMO; First two deliverables were submitted to USAID Energy Program	October 31, 2019	Deferred to Year 3
	<b>2.1.5. Conduct RIA on Socially Vulnerable Customers</b>	RIA Report, Workshop for presenting results	1. RIA of Proposed Energy Law on Vulnerable Customers approved by USAID 2. Workshop - conducted	Sep-19	Done
	<b>2.1.6. Conduct RIA</b>	RIA Report, Workshop for presenting results	Deferred to Year 3	Sep-19	Deferred to Year 3
	<b>2.1.7. RIA Training Plan</b> Update the training plan for RIA	Updated RIA training plan	RIA Training Plan - submitted to USAID	Oct-18	Under revision by COR

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
	<b>2.1.8. In-Country RIA Training</b> USAID Energy Program will deliver in-country trainings for the selected institution(s)	As minimum, 7 in-country trainings, event memos	<ol style="list-style-type: none"> <li>1. Training on Policies and Regulation of Energy Industry (Pre-RIA training) - October 19, 2018</li> <li>2. Training on the Energy RIA – October 22, 2018;</li> <li>3. RIA Training on the Impact of a draft Energy Law and Market Opening on the Vulnerable Customers – October 24, 2018</li> <li>4. Regulatory Impact Assessment Training – March 4, 2019</li> <li>5. RIA training for parliamentarians of Georgia – July 15, 16, 2019</li> <li>6. The workshop on Regulatory Impact Assessment on proposed draft law on Energy and Water Supply on vulnerable customers in Georgia – September 26, 2019</li> </ol>	October 2018 - September, 2019	6 RIA trainings-Done Note:7th training is deferred to Year 3
<b>2.2. Capacity Building</b> Indicator #8, #9, #15	<b>2.2.1. In-Country Training.</b> USAID Energy Program will deliver in-country trainings for the selected institution(s)	At least 5 in-country trainings, event memos	23 training in Technical energy field, 7 training in clean energy. Totally: 30 trainings	October 2018 - September, 2019	Done
	<b>2.2.2. Training Plan.</b> Update the training plan, aiming the increase capacity of energy entities to operate under new market model and conduct respective trainings	Updated training plan	Updated	Training Plan - October 2018; Event memos - September, 2019	Done
	<b>2.2.3. Study Tours.</b> Organize international study tours for USAID Energy Program counterparts, focusing on countries and challenges (such as RIA) that best match Georgia's priorities and align with USAID Energy Program's in-country training plan	4 study tours	<ol style="list-style-type: none"> <li>1. Romania Electricity- done</li> <li>2. Romania Gas - done</li> <li>3. Lithuania - done</li> <li>4. Austria - done</li> <li>5. Netherlands (Energy Security) - done</li> </ol>	October 2018 - September, 2019	Done
<b>Task 3: Energy Investment Optimization</b>					
<b>3.1. Investor Advisory Group</b> Indicator #11, #15, #16	<b>3.1.1. Collect and Analyse the barriers.</b> Identify and address specific barriers to energy sector investment for the advisory group and analyse those issues in preparation of presenting results to the advisory group. Perform Quarterly meetings of a stakeholder	List of identified issues and analyses_ Report on Analysis of identified issues and barriers addressing to renewable energy development	Report on Analysis of identified issues and barriers addressing to renewable energy development - Submitted	September 27, 2019	Done

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
	group to provide 360° critique of the energy project development and investment process and to propose and evaluate process improvements				
	<b>3.1.2. Support to the Investor Advisory Group.</b> Organize / participate in investor advisory group meetings to identify and address the investment challenges in the sector	4 meetings, meeting minutes	4 quarterly meeting - conducted	During Advisory Group meeting	Done
	<b>3.1.3. Assist the GoG in drafting secondary legislation,</b> clear and transparent rules, administrative and licensing procedures, and simplified permitting requirements to expedite approvals from the multiple institutions involved in energy project development	Advice on Administrative and Licensing procedures developed for signing the MoU's and acquiring power generation site development rights by investors	1) Legal Procedures for Renewable Energy Power Plant Projects Development- done 2) Recommendations on Environmental Decision Procedures for Renewable Energy Power Project -done 3) Renewable Energy Guidebook - done	April, 2019	Done
	<b>3.1.4. Address process</b> deficiencies, including improving the capability of the regulator to evaluate and develop quotas and methodologies for "queuing" new energy generation projects and the capability of the transmission and/or the DSO on the process for grid access	Two in country trainings, Memos with recommendations	1.TSO Training - Training on recommendation for Transmission system operator in the process of grid access of new VRE generation - conducted on May 22 2. Training on improving the capability of the regulator to evaluate and develop quotas and methodologies for connection into the grid new VRE generation - conducted on June 26, 2019	May, 2019	Done
	<b>3.1.5. Provide Trainings and Technical Assistance to the GoG Counterparts</b>	At least 2 Trainings	1. Training workshop regarding guidebook for potential energy developers - conducted on April 19 2. Workshop - development of VRE projects in compliance with environmental legislation - conducted on May 22	May, 2019	Done

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
3.2. Renewable Energy Support Schemes Indicator #11, #16	3.2.1. Selected support schemes. Survey and form consensus of Renewable Energy developers on the preferred support schemes	Survey results and consensus	Survey results and consensus - approved by USAID	March, 2019	Done
	3.2.2. Support to the MoESD and Other public entities to implement selected support schemes assist the counterparts in developing enabling environment and promoting the new schemes after their identification	Recommendations	Report on Recommendations on Renewable Energy Support Schemes Approved by USAID	September, 2019	Done
3.3. Supporting Energy Investment Projects Indicators #1, #2, #3, #4, #5, #11, maybe #15, #16	3.3.1. Support the preparation of Feasibility Studies. USAID Energy Program's technical, legal, economic and environmental experts will advise developers as they complete feasibility studies and related analyses towards commercial financing requirements	Comments / Recommendations at least for 3 feasibility studies	Report on Wind energy and specially protected areas - approved by USAID (Tbilisi WPP, GRPC)	September, 2019	Done
			Report on Wind energy and specially protected areas - Approved by USAID (Kaspi WPP, GRPC)		Done
			Recommendations on environmental decision procedures for Bio Gas Power Plant Project Approved by USAID - (ALT Energy)		Done
	3.3.2. Contractual Framework. Several developers requested support in reviewing and suggesting improvements in the draft PPAs and draft interconnection agreements provided to them for signing. USAID Energy Program will provide assistance to developers on the contractual framework when requested	Comments / Recommendations at least for 3 businesses	Recommendation on the connection of Imereti WPP (Infinite Energy) to the Georgian transmission system - Approved by USAID	September, 2019	Done for 1 Business. For other business differed in year 3
	3.3.3. Assist with the Regulatory Approval, Interconnection, and Institutional Issues. Provide guidance to project developers in the process of applying for interconnection to the grid	Guidelines / Recommendations	Legal Procedures for Bio Gas Power Plant Project - Approved by USAID (ALT Energy)	September, 2019	Done
Enabling Environment for VRE to Transmission Grid Integration (for all WPPs) through helping GSE in better forecasting wind and solar electricity generation			Will be finalised in year 3		
3.3.4. Provide Support on Financing. Assist VRE developers to attract financing, by providing support on project documentation	Guidelines / Recommendations at least for 3 businesses	Workshop was conducted in September (under the frame of Investor Advisory Group Meeting);	September, 2019	Will be finalised in year 3	

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
	and targeted introductions to appropriate sources of finance		the report is ready, will be submitted in year 3) (Tbilisi WPP (GRPC))		
			Workshop was conducted in September (under the frame of Investor Advisory group IAG meeting); the report is ready, will be submitted in year 3) (Kaspi WPP (GRPC))		Will be finalised in year 3
			Workshop was conducted in September (under the frame of Investor Advisory group IAG meeting); the report is ready, will be submitted in year 3) (Udabno SPP (Solar Jam Jama))		Will be finalised in year 3
			Workshop was conducted in September (under the frame of Investor Advisory group IAG meeting); the report is ready, will be submitted in year 3) (Kvernaki SPP (Gori Solar))		Will be finalised in year 3
			Workshop was conducted in September (under the frame of Investor Advisory group IAG meeting); the report is ready, will be submitted in year 3) (Imereti WPP (Infinite Energy))		Will be finalised in year 3
			Workshop was conducted in September (under the frame of Investor Advisory group IAG meeting); the report is ready, will be submitted in year 3) (Gareji SPP (Sun House))		Will be finalised in year 3
			Recommendations to promote funding opportunities on the project Hybrid Energy Station in Borjomi Municipality for Achievement of Green Status by the City - Approved by USAID (New Technology Center)		Done

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
	<b>3.3.5. Develop Guidebook.</b> Develop a guidebook to assist project developers navigate Georgia's project development process, including leading practices and roadmaps to address technical, administrative/regulatory, and financial issues	Guidebook developed	Renewable Energy Investor Guidebook approved by USAID; The interactive web based guidebook is ongoing, transfer ceremony is scheduled in December 2019 (is considered in year 3 workplan)	April, 2019	Will be finalised in year 3
	<b>3.3.6 Support GoG to Power Off-grid homes.</b> Develop financing and project implementation scheme to bring power for off-grid homes across Georgia	Donor meetings, project support schemes, promotional strategies	Minutes - done; Mid-Term Report on solar photovoltaic system project for off-grid settlements - done; EECG was hired. First and second deliverables were submitted to USAID Energy Program	September, 2019	Will be finalised in year 3
<b>Task 4: Grid Integration of Variable Energy Resources</b>					
<b>4.1. Support the development of legislation</b> Indicator #10	<b>4.1. Provide on demand support</b> through developing recommendations on needed changes to the legislation for VRE integration	Recommendations	Draft report on VRE forecasting data requirement developed. GSE will decide potential fields of support regarding amendments to the network rule	September, 2019	Will be finalised in year 3
<b>4.2. Capacity Building</b> Indicator #9	<b>4.2 Provide training</b> to relevant stakeholders on the recommended changes to legislation for VRE integration as well as for the Guidebook	2 Trainings	1. Training-workshop for developers on VRE forecasting data requirement- performed 2. Training Workshop on possible amendments in Grid Code were performed for representatives of GNERC	September, 2019	Done
<b>4.3. On demand - describe Pros and Cons of Systems</b>	<b>4.3. On demand - describe Pros and Cons</b> of centralized forecasting systems vs decentralized systems or support analysis for determining the proper option for GSE to either select purchasing software or procuring services	Analysis	Described in VRE Forecasting Conceptual Design and Implementation plan report. Approved by USAID and submitted to GSE	April, 2019	Done
<b>4.4 Procurement of Forecasting System</b>	<b>4.4. Procurement of the forecasting and measurement equipment for forecasting</b>	Tendering process for the selected option; VRE forecasting conceptual design delivered and accepted by GSE	Procurement procedures are in process	Sep-19	Will be finalised in year 3
<b>4.5. Identification of new, required</b>	<b>4.5. Identification of new, required infrastructure, adequate works and</b>	Report on required infrastructure, works and	VRE forecasting conceptual Design Report recommend control	Start at September 2019 – will be	Will be finalised in year 3

Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
infrastructure to increase forecasting accuracy	expenses to increase the forecasting accuracy	assessment of cost to increase the forecasting accuracy	measurement through the Lidar equipment. Further assessment of required infrastructure would be identified after launching the VRE forecasting system	Continued in Third Year	
<b>Task 5: Strategic Advisory Assistance to the GoG to Increase Energy Security</b>					
5.1 Ad Hoc Assistance to the GoG	5.1. Provide on demand assistance to the GoG in addressing the Energy Security related issues	Ad hoc reports: Report- Georgia Resource Adequacy Study	The report on Resource Adequacy - Submitted	September, 2019	Done
5.2. Gasification Study	5.2. Gasification Study. USAID Energy Program will conduct study on GoG's gasification policy, assessing current situation and providing recommendations based on leading international practices	Report with recommendations	3 locations- visited, survey - conducted. Initial draft for three locations were prepared. In July GGTC approached USAID Energy Program to conduct the study for all high mountainous villages (totally more than 900 locations). Several meetings held at MoESD and GGTC. USAID Energy Program subcontracted the local engineering company to provide cost estimates. The study will be finalized in year 3	October 2018 - February 2019	Will be finalized in year 3
5.3 Enguri HPP Performance Assessment Indicator #9, #13	5.3 Enguri HPP Performance Assessment. The Program will conduct study assessing technical and civil engineering issues related to the dam, powerhouse, the operation and maintenance and plant management	Report with recommendations, meeting minutes, presentation	Enguri HPP Issues and Priorities for Energy Security and Reliability - approved by USAID	December 2018 – February 2019	Done
5.4. Updated List of Critical and Timely Energy Security Issues Indicator #13	5.4. Updated List of Critical and Timely Energy Security Issues. Follow-up workshop will be devoted to update list of energy security issues and to identify specific topics that will be addressed	Updated list of energy security issues, workshop, meeting minutes	List - updated	November 2018	Done
5.5. Energy Security Working Group for the Electricity Sector Indicator #13	5.5. Energy Security Working Group for the electricity sector. In-depth analysis of selected electricity security topic (s)	Concept Note for Working Group; meeting minutes, analysis of issues and recommendations	1. Findings on Enguri HPP site inspection 2. Conference Energy Security in the Caucasus Region in Light of Market Opening - conducted 3. Engagement workshop for Energy sector stakeholders regarding electricity resource	December 2018 – May 2019	Done

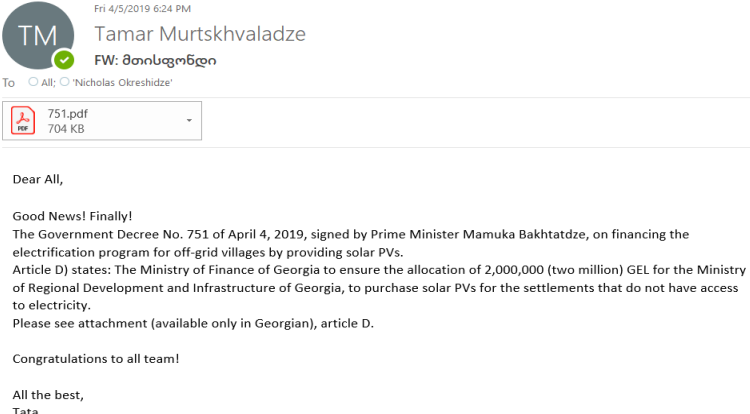
Task / Indicator	Activities	Expected Outputs	Progress	Work Plan Proposed Timing	Status
			adequacy in the scope of energy security working group meeting-conducted		
<b>5.6. Energy Security Working Group for the Natural Gas Sector</b> Indicator #13	<b>5.6. Energy Security Working Group for the natural gas sector.</b> In-depth analysis of selected natural gas security of supply topic (s)	Concept Note for WG; - meeting minutes, analysis of issues and recommendations	Conference Energy Security in the Caucasus Region in Light of Market Opening - conducted	December 2018 – May 2019	Done
<b>5.7. Study Tour</b>	<b>5.7. Study Tour</b>	Trip report	Trip to Netherlands (Note: This study tour was listed also under task 2 above)	September, 2019	Done

**Note 1:** Some of the activities have been deferred and/or remain ongoing due to changes in the main counterpart. Among the activities are also those, which have initially been designed in a way to remain in progress.

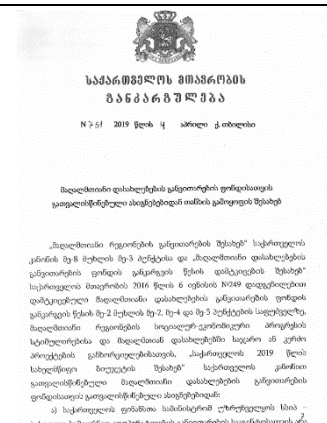
**Note 2:** Certain titles of deliverables do not exactly coincide with the titles provided in the work plan, since the content of deliverable enabled to specify the title.

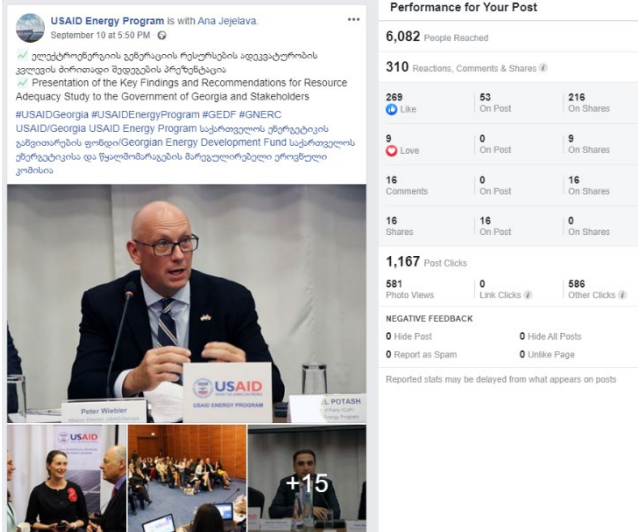


## ANNEX 2: ANNUAL PMP INDICATOR RESULTS

Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
<p><b>1. Generation capacity supported by United States Government (USG) assistance that has achieved financial closure</b></p> <p><i>Short Clarification:</i> This indicator measures the quantity of GHG emissions reduced or sequestered as a result of Energy Efficiency, Renewable Energy and climate change projects and policies facilitated by USAID Energy Program</p>	 <p><u>0.5 MW ((According to the Government Decree No. 751 of April 4, 2019, GoG allocated 2 000 000 GEL to purchase solar PVs for off-grid settlements)</u></p> <p><b>Annual Result: 0.5 MW / target -10 MW</b></p> <p><i>Comment: Due to Energy sector ongoing reforms the government delayed the Renewable Energy Projects MoU signing procedures. 4 wind projects got approval on offtake Tariff and MoU signing procedures are ongoing</i></p>	<p><b>10</b> (MW)</p>	<p><b>50</b> (MW)</p>
<p><b>2. Energy generation capacity installed or rehabilitated as a result of USG assistance</b></p> <p><i>Short Clarification:</i> This indicator measures the quantity of clean energy generation capacity that will be added to the Georgian power system as a result of USAID Energy Program assistance.</p>	<p><b><u>Annual Result: 0</u></b></p>	<p><b>10</b> (MW)</p>	<p><b>50</b> (MW)</p>
<p><b>3. Projected GHG emissions reduced or avoided through 2030 from adopted laws, policies, regulations, or technologies related to clean energy as supported by USG assistance</b></p> <p><i>Short Clarification:</i> This indicator measures the quantity of GHG emissions reduced or sequestered as a result of laws, regulation and policies facilitated by USAID Energy Program over the 3 years of the project.</p>	<p>2529.45</p> <p><b><u>Annual Result: 2529.45 Metric Tons</u></b></p>	<p><b>60,000</b> (Metric Tons CO<sub>2</sub>e)</p>	<p><b>190 000</b> (Metric Tons CO<sub>2</sub>e)</p>

Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
<p><b>4. GHG emissions, estimated in metric tons of CO<sub>2</sub> equivalent reduced, sequestered, or avoided through clean energy activities supported by USG assistance</b></p> <p><i>Short Clarification:</i> This indicator measures the quantity of GHG emissions reduced or sequestered as a result of clean energy projects and policies facilitated by USAID Energy Program.</p>	<p><b><u>Annual Result: 0</u></b></p>	<p><b>0</b> (Metric Tons CO<sub>2</sub>e)</p>	<p><b>3100</b> (Metric Tons CO<sub>2</sub>e)</p>
<p><b>5. Amount of investment mobilized (in USD) for clean energy as supported by USG assistance</b></p> <p><i>Short Clarification:</i> This indicator measures the amount of funds in USD that are forecasted to be invested in new clean energy projects such as in new wind and solar PV farms.</p>	<p><b><u>Annual Result: 750 000 (According to the Government Decree (available only in Georgian) No. 751 of April 4, 2019, GoG allocated 2 000 000 GEL to purchase solar PVs for off-grid settlements)</u></b></p> <p><b><u>Comment: Due to Energy sector ongoing reforms the government delayed the Renewable Energy Projects MoU signing procedures. 4 wind projects got approval on offtake Tariff and MoU signing procedures are ongoing</u></b></p>	<p><b>20 000 000</b> (USD)</p>	<p><b>80,000,000</b> (USD)</p>




Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
<p><b>6. Number of individuals reached through outreach campaigns</b></p> <p><i>Short Clarification:</i> This indicator measures the number of people that will be reached several avenues employed by USAID Energy Program, including through mass media, social media, and events.</p>	<ol style="list-style-type: none"> <li>Facebook view – 67 000</li> <li>558 persons (from all trainings)</li> </ol> <p><i>Comment: Official Transfer Ceremony of the Uniform System of Accounting for the Gas Regulated Sector (held on May 21, 2019) and Conference on Energy Security in the Caucasus Region in light of Market opening (held on April 12, 2019) were covered by mass media (radio, print media, social media and different platforms of communications)</i></p> <p><b><u>Annual result: 67 558 persons</u></b></p> 	<p><b>3500</b> (Number of People)</p>	<p><b>10 000</b> (Number of People)</p>
<p><b>7. Number of people receiving USG supported training in technical energy fields</b></p> <p><i>Short Clarification:</i> This indicator measures the number of people within an organization by topic (energy security, energy markets, energy forecasting, etc.) and by gender.</p>	<ol style="list-style-type: none"> <li>Training on Policies and Regulation of Energy Industry (Pre- RIA training) – October 19, 2018, Participant 18 (Male - 5, Female - 13)</li> <li>Training on the Energy RIA – October 22, 2019, Participant 16 (Male - 8, Female - 8)</li> <li>RIA Training on the Impact of a draft Energy Law and Market Opening on the Vulnerable Customers – October 24, 2019, Participant 27 (Male - 11, Female - 16)</li> <li>Georgian Energy Security Workshop – December 19, 2018, Participant 8 (Male - 2, Female - 6)</li> <li>Electricity Supplier of last resort Tariff Methodology – January 23, 2019, Participant 9 (Male - 6, female - 3)</li> <li>Electricity Universal Service Supplier Tariff Methodology training for GNERC – January 30, 2019, Participant 9 (Male - 6, female - 3)</li> <li>Market Operator Tariff Methodology training for GNERC – February 6, 2019, Participant - 7 (Male - 5, female - 2)</li> <li>Regulatory Impact Assessment Training – March 4, 2019, Participant 18 (Male - 8, Female - 10)</li> <li>Training on the Third Party Open Access – March 13, 2019, Participant 12 (Male - 7, Female- 5)</li> <li>Bilateral Over-the Counter Energy Trading training – Three-day training – March 26-28, 2019, Participant 66 (Male - 35, Female - 31)</li> <li>Training on USoA for Gas companies – May 6, 2019, Participant 11 (Male - 8, Female - 3)</li> <li>Training on USoA for Gas companies – May 7, 2019, Participant 9 (Male - 6, Female - 3)</li> <li>Training on USoA for Gas companies – May 8, 2019, Participant 10 (Male - 7, Female - 3)</li> <li>Workshop on Transition Plan for Vulnerable Customers – May 17, 2019, Participant 35 (Male - 13, Female - 22)</li> <li>Presentation on Property Plant and equipment, Impairment of fixed Assets and lease – May 22, 2019, Participant 17 (Male - 9, Female - 8)</li> <li>Introduction of the USoA for gas Regulated Sector – May 20, 2019, Participant 15 (Male - 9, Female - 6)</li> <li>Introduction of the USoA for gas Regulated Sector – May 23, 2019, Participant 18 (Male - 10, Female - 8)</li> </ol>	<p><b>25</b> (Number of People)</p>	<p><b>40</b> (Number of People)</p>

Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
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18. Presentation of guideline on accounting for Revenues, Cost and Expenses. Presentation of reporting forms and instructions to reporting forms – May 24, 2019, Participant 15 (Male - 8, Female - 7)
19. Media Tour/Training on the anticipated changes in the Energy Sector – June 8, 9, 2019, Participant 38 (Male - 18, Female - 20)
20. Engagement Workshop for Energy Sector stakeholders regarding electricity resources adequacy in the scope of the Energy Security Working Group Meeting – June 24, 2019, Participant 38 (Male - 25, Female - 13)
21. RIA training for parliamentarians of Georgia – July 15, 16, 2019, Participant 32 (Male - 19, Female - 13)
22. Presentation of the Key findings about power generation resource adequacy to the government of Georgia and stakeholders – September 10, 2019, Participant 46 (Male - 25, Female - 21)
23. The workshop on Regulatory Impact Assessment on proposed draft law and water supply on vulnerable customers in Georgia – September 26, 2019, Participant 26 (Male - 8, Female - 18)
24. Study Tour to Romania (Gas) – 18 - 25 November 2018, Participant 9 (Male - 7, Female - 2)
25. Study Tour to Lithuania – 17, 18 December 2018, Participant 5 (Male - 4, Female - 1)
26. Study Tour to Austria – 16 - 19 September 2019; Participant 9 (Male - 9, Female - 0)
27. Study Tour to Netherlands – 16 - 19 September 2019; Participant 3 (Male - 3, Female - 0)

ENERGY PROGRAM TRAINING/EVENTS DATABASE								
Name of the event	Place and City of the event	Date of the event	Duration of the Event	Number of the participants	Number of the female participants	Number of male participants	List of the Organizations presented among them how many from Governmental, NGOs, Businesses	
Training on Policies and Regulation of Energy/Industry (Pre-Regulatory Impact Assessment (RIA) training)	MoESD, Tbilisi, Georgia	October 19, 2018	1 day	18	13	5	MoESD	
Training on the Energy/Regulatory Impact Assessment (RIA)	MoESD, Tbilisi, Georgia	October 22, 2018	1 day	16	8	8	MoESD	
Regulatory Impact Assessment (RIA) Training on the Impact of a draft Energy Law and Market Opening on the Vulnerable Customers	MoESD, Tbilisi, Georgia	October 24, 2018	1 day	27	16	11	MoESD	
Energy Security Working Group Meeting	MoESD, Tbilisi, Georgia	December 12, 2019	1 day	38	11	27	USAID Georgia, MoESD, GNERC, ESCO, GSE, GOGC, WEG, Parliament, EBRD, EPC, EU, Ester Power	
Investor Advisory Group Meeting	MoESD, Tbilisi, Georgia	September 6, 2018	1 day	30	10	20	MoESD, GNERC, GSE, ESCO, JSC, Green Energy, Parliament of Georgia, NTC, EPC, New Technology Center, Infinite Energy SAGA, GREDA, REC, Energet Aragon	
Georgian Energy Security Workshop	UEP	December 19, 2019	1 day	8	6	2	Caucasian University, USAID Georgia, UEP	
Investor Advisory Group Meeting	MoESD, Tbilisi, Georgia	December 28, 2019	1 day	35	14	21	MoESD, GNERC, GSE, GEDF, ESCO, Green Energy, JSC, New Technology Center, Infinite Energy, GREDA, Energo Aragon, Helios Energy, Stylis Ltd, International Energy Corporation, EA Solar, Lean Energy Group Georgia, ADB, EU Georgia Business Council, Sun House, SGI Frontier Capital	
Electricity Supplier of last resort Tariff Methodology	GNERC	January 23, 2019	1 day	9	3	6	GNERC	
Electricity Universal Service Supplier Tariff Methodology	GNERC	January 30, 2019	1 day	9	3	6	GNERC	
Market Operator Tariff Methodology	GNERC	February 6, 2019	1 day	7	2	5	GNERC	
Investor Advisory Working Group Meeting	MoESD, Tbilisi, Georgia	February 13, 2019	1 day	25	13	12	MoESD, ESCO, GSE, GNERC, GEDF, GREDA	
Roundtable for Energy Reforms Action Plans	MoESD, Tbilisi, Georgia	February 25, 2019	1 day	15	8	7	MoESD, ESCO, GSE, GNERC, GEDF, GREDA, GOGC, GGTIC, USAID Georgia	
Regulatory Impact Assessment Training	MoESD, Tbilisi, Georgia	March 4, 2019	1 day	18	10	8	MoESD, GNERC, WEG, Parliament	
Training on the Third Party Open Access	GNERC	March 13, 2019	1 day	12	5	7	GNERC	
Bilateral Over-the Counter Energy Trading training	GEG office, L. Mikeladze Str., Tbilisi, Georgia	March 26, 2019	3 days	66	31	35	ESCO, LTD Makstania 2019, Enguheri LTD, Cerbenus Frontier, Silk Road Energy, Balkan Hydro Power, GGTIC, Energo-pro, EPG, GSE, ADB, Eastern Power Corporation, GGU Group, Gas Trading Company, Energo Aragon Ltd, Georgian Energy Development, GEC, GSE, Telasi, Infinite Energy LLC, Galt and Taggart, MTX, Infinite Energy, LLC, Eastern Power Co, Eastern Power Corp, MTX commodities, GNERC, GSE, Galt and Taggart, GGTIC, Energo-pro, EPC, ESCO, Enerpro Georgia, GNERC, ESCO, Enguheri, Cerbenus Frontier, Silk Road Energy, Qant Wind Farm LLC, GEDF, ADB, Energo-Aragon Ltd, Telasi, GSE	
		March 27, 2019		57	27	30	GSE, GSE, EPC, Telasi, ESCO, Enguheri, Cerbenus Frontier, Silk Road Energy, GGTIC, GNERC, ADB, EPC, Energo-Pro, Enetreprize Georgia, LLC-Finawit, GPRC, GEDF, Georgian Urban Energy LLC, Galt and Taggart, JSC Darial Energy, Telasi, Infinite Energy LLC, Eastern Power Corp, MTX commodities	
		March 28, 2019		55	26	29	MoESD, GNERC, GSE, GEDF, GOGC, GGTIC, MPDI, IDPI, Enguheri, Telasi, EPC, Socar, TBC capital Energo Georgia, Cerbenus frontier, Infinite Energy, Clean Energy, GREDA, EEC, WEG, Eastern Power Corporation, Darial Wind Farm, Energy Umbudman, Gnoold, NCCO, Sakrebulo, Mubertec, EUREnergy, CEIN, Khv, Debata	
Conference on Energy Security in the Caucasus Region in light of Market opening	Sheraton Grand Metechi Palace	April 12, 2019	1	91	38	53	MoESD, GNERC, GSE, GEDF, GOGC, GGTIC, MPDI, IDPI, Enguheri, Telasi, EPC, Socar, TBC capital Energo Georgia, Cerbenus frontier, Infinite Energy, Clean Energy, GREDA, EEC, WEG, Eastern Power Corporation, Darial Wind Farm, Energy Umbudman, Gnoold, NCCO, Sakrebulo, Mubertec, EUREnergy, CEIN, Khv, Debata	

**Annual Result: Participant- 526 (Male - 281, Female - 245)**



Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
<p><b>8. Number of promotional plans, campaigns and materials developed and implemented to electricity and gas sectors reforms, and optimize energy investments</b></p> <p><i>Short Clarification:</i> This indicator measures the outreach material developed by USAID Energy Program the support the program tasks including energy market development, promotion of new RE investment and energy security improvement for Georgia.</p>	<ul style="list-style-type: none"> <li>Press Release - 2</li> <li>Success Story – 2</li> <li>Newsletter – 2</li> <li>Folder</li> <li>One Pager/Leaflet</li> <li>Notebook</li> <li>Pen</li> <li>Pencil</li> <li>Bag</li> <li>Cup</li> </ul>  <p><b>Annual result: 13</b></p>	<p><b>6</b> (Number)</p>	<p><b>24</b> (Number)</p>
<p><b>9. Number of institutions with increased capacity to implement regulatory impact assessments and/or other analysis</b></p> <p><i>Short Clarification:</i> This indicator measures the number of institutions that USAID Energy Program has trained and have the capability to develop RIAs for new legislation.</p>	<ul style="list-style-type: none"> <li>MoESD - <b>Training on Policies and Regulation of Energy Industry (Pre-RIA training)</b> – October 19, 2018</li> <li>MoESD - <b>Training on the Energy RIA</b> – October 22, 2019; Participant 16</li> <li>MoESD, GSE, Energy Ombudsman, AYPEG, ESCO, GNERC, WEG – <b>RIA Training on the Impact of a draft Energy Law and Market Opening on the Vulnerable Customers</b> – October 24, 2019</li> <li>MoESD, GNERC, WEG, Parliament – <b>RIA Training</b> – March 4, 2019</li> <li>MoESD, GNERC, Parliament of Georgia, WEG, EU4 Energy, Energy Academy, GTU - <b>RIA training for parliamentarians of Georgia</b> – July 15, 16, 2019</li> <li>MoESD, MoLHSA, Social Service Agency (SSA), EU Delegation, GNERC, WEG, ESCO, USAID/Georgia, ECS, EU4 Energy, WB, AFD – <b>The workshop on RIA on proposed draft law and water supply on vulnerable customers in Georgia</b> – September 26, 2019</li> </ul> <p><b>Annual Result: 16 Institution</b></p>	<p><b>2</b> (Number)</p>	<p><b>2</b> (Number)</p>

Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
<p><b>10. Number of laws, policies, regulations, or standards addressing clean energy formally proposed, adopted, or implemented as supported by USG assistance</b></p> <p><i>Short Clarification:</i> This indicator measures the number of legislative acts supported by USAID Energy Program and adopted by the GoG, GNERC or other relevant institution that support clean energy development</p>	<ol style="list-style-type: none"> <li>1. Recommendations on Environmental Decision Procedures for Bio Gas Power Plant Project</li> <li>2. Legal Procedures for Bio Gas Power Plant Project</li> <li>3. Comments on Draft Law of Georgia on Promoting the Production and Use of Energy from Renewable Sources</li> <li>4. Renewable Energy Investor Guidebook</li> <li>5. Legal Procedures for Renewable Energy Power Plant Projects Development</li> <li>6. Wind Energy and Specially Protected Areas</li> <li>7. National Environmental Requirements for VRE Projects</li> </ol> <p><b>Annual Result: 7</b></p>	<p><b>6</b> (legislative acts)</p>	<p><b>10</b> (legislative acts)</p>
<p><b>11. Number of financial institutions, investment companies and/or private investors exposed to non-hydro RE opportunities as supported by USG assistance</b></p> <p><i>Short Clarification:</i> This indicator measures the number of financial institutions contacted by USAID Energy Program where the non-hydro Georgian Renewable Energy plants are promoted.</p>	<p>Development Related infrastructure Investment Vehicle (DRIVE), Dutch Good Growth Fund (DGGF); NIRAS, GCF</p> <p>Infinite Energy (Support to Imereti WPP for connection to the transmission grid)</p> <p><b>INDIVIDUAL MEETINGS WITH DONOR ORGANIZATIONS</b></p> <p>As noted above, the project funding could be as follows: 25% - by the GoG and the remaining 75% - subject to grant funding from potential IFI's and Donor organizations. In order to assist the GoG in obtaining remaining funds, USAID Energy Program and EECG discussed the financing possibilities at a Donor Organization's Meeting at the MoESD. Later, the individual consultations were organized with the Embassy of Czech Republic, German Government-Owned Development Bank (KfW), Caucasus Environmental NGO network (CENN), Embassy of Romania, EU Delegation, Green Climate Fund (GCF) and World Bank (WB).</p> <p>USAID Energy Program and EECG set up meetings with the following donor organizations:</p> <ul style="list-style-type: none"> <li>• The Embassy of Czech Republic: The embassy mainly supports the Small and Medium Size Enterprises (SME) to address the issues from the economic perspective. Although the plan is to enhance the installation of PV systems for guest houses, some agricultural plants might be considered as well.</li> <li>• EU Delegation: Mr. Andrzej Bartosiewicz created awareness of the project among the representatives of multi-donor fund e5p (Eastern Europe Energy Efficiency and Environment Partnership). The fund has about USD 1 mln left from the year 2018 and may provide required reserves, however the request should be made at the GoG level.</li> <li>• WB: The WB is running the Regional Development (RDP) and Infrastructure Development (IDP) projects. There is a high likelihood of attracting financial support for off-grid solar PV projects within the RDP. However, several requirements should be met: 1) justification that the concept design is the best solution for project implementation; 2) project sustainability; 3) the GoG must contribute at least 50% of the total cost; 4) the request should be made at the GoG level, in particular, Municipal Development Fund under the MRDI.</li> <li>• Embassy of Romania: The ambassador H.E Mr. Radu-Liviu Horumba promised to discuss this issue to the Romanian Agency for International Development (RoAid). However, in accordance with the RoAid procedures, this may take some time.</li> <li>• GCF: GCF representatives exhibited interest in the project. GCF is usually dealing with larger scale projects, however the prospect for adding an energy efficient stoves, individual water supply, sewage and water heating systems remain as an alternative. Hence, the request for a grant in amount of USD 1 mln could be an option.</li> </ul> <p><b>OUTCOME¶</b></p> <p>With the technical assistance of USAID Energy Program, NTC has developed teaser (Annex 2) and diagram (Annex 3) for the project on "Establishment of Hybrid Energy Station in Borjomi Municipality for Achievement of Green Status by the City". As a result, the documents are ready for dissemination among the donors and International Financial Institution (IFI) organizations.¶</p> <p>In parallel, USAID Energy Program held a meeting with Ms. Maia Todria, Economic Policy Officer at the Embassy of Kingdom of Netherlands to explore the funding options from the Development Related Infrastructure Investment Vehicle (DRIVE) &amp; Dutch Good Growth Fund (DGGF). The Embassy not only expressed willingness to provide technical support to biomass projects but also promised to introduce the project to DRIVE program and several biomass producers in Georgia supported by the embassy.¶</p> <p>Communication was also established with Mr. Niels Bahnsen from Consortium of Danish Company (NIRAS) who expressed interest in further discussions on Borjomi biomass distributed energy project from a climate financing perspective.¶</p> <p>USAID Energy Program mediated NTC with the Dutch embassy and NIRAS in order to establish further possible cooperation.¶</p> <p><b>Annual Result: 5 Institutions</b></p>	<p><b>3</b> (number)</p>	<p><b>10</b> (Number)</p>
<p><b>12. Number of research, analytical and white papers conducted including modern modelling and planning tools, among others</b></p> <p><i>Short Clarification:</i></p>	<ol style="list-style-type: none"> <li>1. Recommendations on RE Support Schemes</li> <li>2. Survey results and consensus on RE support Schemes</li> <li>3. Report "Recommendations of the Connection of Imereti WPP to the Georgian Transmission System"</li> <li>4. Report on VRE forecasting system design and implementation plan</li> <li>5. Recommendations to Promote Funding Opportunities of the Project Hybrid Energy Station in Borjomi Municipality</li> </ol>	<p><b>4</b> (Number of documents)</p>	<p><b>10</b> (Number of documents)</p>

Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target																																																																																																																																																																																																																																																												
<p><i>This indicator measures the research, analytical and white papers developed by USAID Energy Program relating to variable renewable energy development in Georgia.</i></p>	<p>6. Midterm Report on Solar Photovoltaic System Project for Off-Grid Settlements            7. Study on Pricing to Support Development of the Variable Renewable Energy in Georgia            8. Analysis on Identified Issues and Barriers Addressing to Renewable Energy Development</p> <p><b>Annual Result: 9 (documents)</b></p>																																																																																																																																																																																																																																																														
<p><b>13. Number of critical energy security issues identified and addressed</b></p> <p><i>Short Clarification:            This indicator measures the number of critical energy security issues approved by USAID and addressed by USAID Energy Program</i></p>	<p>1. USAID Energy Program conducted and Enguri Study-Visual Inspection of Dam, power house, switchyard Electrical and Mechanical Equipment, and identified 17 priority issues in need of urgent solution and made prioritization of issues challenging the Reliability of Enguri HPP and Safety Operation. The priority issues were divided on six groups with detailed description on each issue, need, timing and speculative cost estimate for the implementation.            2. USAID Energy Program conducts study on GoG's gasification policy, assessing current situation and providing recommendations - In progress, 3 locations- visited; survey - conducted. (Initial draft)</p> <p><b>Annual Result: 18 (Issues)</b></p>	<p><b>2</b> (Number of Energy Security Issues)</p>	<p><b>5</b> (Number of Energy Security Issues)</p>																																																																																																																																																																																																																																																												
<p><b>14. Percentage of energy traded on the competitive market by 2020</b></p> <p><i>Short Clarification:            This indicator measures the amount of competitive trading in the electricity sector as indicated as the average monthly percent of competitive sales versus total retail sales in the sector.</i></p>	<p>19 % of Total market (October- End of August)</p> <table border="1" data-bbox="499 692 1480 1121"> <thead> <tr> <th>Direct Customers - Electricity Consumption (mln. kWh)</th> <th>October 2018</th> <th>November 2018</th> <th>December 2018</th> <th>January 2019</th> <th>February 2019</th> <th>March 2019</th> <th>April 2019</th> <th>May 2019</th> <th>June 2019</th> <th>July 2019</th> <th>August 2019</th> </tr> </thead> <tbody> <tr><td>Georgian Manganese</td><td>95</td><td>85</td><td>104</td><td>107</td><td>98</td><td>111</td><td>101</td><td>105</td><td>103</td><td>102</td><td>89</td></tr> <tr><td>Georgian Water &amp; Power</td><td>15</td><td>14</td><td>14</td><td>15</td><td>13</td><td>14</td><td>14</td><td>14</td><td>16</td><td>16</td><td>16</td></tr> <tr><td>Geo Service</td><td>16</td><td>10</td><td>0</td><td>0</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>BFDC Georgia</td><td>34</td><td>45</td><td>41</td><td>22</td><td>18</td><td>29</td><td>29</td><td>54</td><td>63</td><td>58</td><td>58</td></tr> <tr><td>Kutaisi Investments</td><td>8</td><td>4</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>Geo Maintenance</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>9</td><td>15</td><td>15</td></tr> <tr><td>Energo-Pro Georgia</td><td>-</td><td>-</td><td>-</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.05</td><td>0.1</td><td>0.1</td><td>0.1</td></tr> <tr><td>Rustavi Steel</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>12</td><td>14</td><td>14</td><td>14</td></tr> <tr><td>Geosteel</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>10</td><td>11</td><td>11</td><td>11</td></tr> <tr><td>Rustavi Azot</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>27</td><td>27</td><td>28</td><td>17</td></tr> <tr><td>Heidelbergcement Georgia</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>18</td><td>19</td><td>20</td><td>19</td></tr> <tr><td>IT Lab</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>15</td><td>14</td><td>14</td><td>12</td></tr> <tr><td>GTM Group</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>8</td><td>7</td><td>9</td><td>9</td></tr> <tr><td>Chiaturamanganum Georgia</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>9</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>JSC14 Rusalloys</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>7</td><td>2</td><td>6</td><td>9</td></tr> <tr><td>BLOCKPOWER</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>26</td><td>25</td><td>26</td><td>23</td></tr> <tr><td>RMG Cooper</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>6</td><td>6</td><td>6</td><td>6</td></tr> <tr><td>Direct Customers' Consumption - 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<p><b>15. Number of people trained in clean energy supported by USG assistance</b></p> <p><i>Short Clarification:            This indicator measures the number of attendees of training events held by USAID Energy Program, are members of working groups supported by USAID</i></p>	<p>1. Training on recommendation for Transmission system operator in the process of grid access of new VRE generation - May 22, 2019, Participant 23, (Male - 16, Female - 7)            2. Workshop on development of VRE projects in compliance with environmental legislation - May 22, 2019, Participant 23, (Male - 16, Female - 7)            3. Workshop on Renewable Energy investors' guidebook for potential energy developers – May 22, 2019, Participant 23, (Male - 16, Female - 7)            4. Renewable Energy (VRE) Generation –training on improving the capability of the regulator to evaluate and develop quotas and methodologies for connection into the grid new VRE generation June 26, 2019 - Participant 12, (Male - 10, Female - 2)            5. Wind Power Forecasting for power System Operations – July 3, 2019 - Participant 11, (Male - 10, Female - 1)</p>	<p><b>10</b> (Number of attendees)</p>	<p><b>40</b> (Number of attendees)</p>																																																																																																																																																																																																																																																												

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<p><i>Energy Program or are counterpart staff seconded to USAID Energy Program.</i></p>	<p>6. Recommended Changes of Legislation for VRE forecasting – July 26, 2019 – Participant 6, (Male – 6, Female – 0)            7. Discussion on changes of legislation for Variable Renewable Energy (VRE) – September 19, 2019, participant – 6, (Male – 6 Female - 0)</p> <table border="1" data-bbox="589 347 1733 906"> <thead> <tr> <th data-bbox="589 347 1025 368">PROGRAM TRAINING/EVENTS DATABASE</th> <th data-bbox="1025 347 1106 368">B</th> <th data-bbox="1106 347 1187 368">C</th> <th data-bbox="1187 347 1267 368">D</th> <th data-bbox="1267 347 1348 368">E</th> <th data-bbox="1348 347 1429 368">F</th> <th data-bbox="1429 347 1509 368">G</th> <th data-bbox="1509 347 1590 368">H</th> <th data-bbox="1590 347 1733 368">I</th> </tr> <tr> <th data-bbox="589 368 1025 419">Name of the event</th> <th data-bbox="1025 368 1106 419">Place and City of the event</th> <th data-bbox="1106 368 1187 419">Date of the event</th> <th data-bbox="1187 368 1267 419">Duration of the Event</th> <th data-bbox="1267 368 1348 419">Number of the participants</th> <th data-bbox="1348 368 1429 419">Number of the female participants</th> <th 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Sakruzenego, Akberies, EU Energy, GENI, KIV, Deloitte, NATO, ADB, EBRD, Embassy of Romania, USAID/G4G</td> </tr> <tr> <td data-bbox="589 496 1025 588">Investor Advisory Group Meeting</td> <td data-bbox="1025 496 1106 588">MoESD, Tbilisi, Georgia</td> <td data-bbox="1106 496 1187 588">April 13, 2019</td> <td data-bbox="1187 496 1267 588">1</td> <td data-bbox="1267 496 1348 588">65</td> <td data-bbox="1348 496 1429 588">14</td> <td data-bbox="1429 496 1509 588">21</td> <td data-bbox="1509 496 1590 588"></td> <td data-bbox="1590 496 1733 588">MoESD, GEDF, USAID Georgia, GNERC, GSE, ESCO, GWP, JSC Caucasus WindSolar company, GRPC, New technology center, GSI, Greenhouse, Solar House, Energo Aragvi, LLC Silk road energy, LLC Eastern Power Corporation, LLC Infinite Energy, LLC Hydro Development company, LLC Energy Solutions, LLC Tesla, EU Georgian Business Council, Solo Development, EPG, Enguhs HPP, ADB, Qantl Wind Power, Namakhvani, GREDA, LLC Xinjiang Xinhua Hydrocooper Investment.</td> 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Corporation, Darial Wind Farm, Energy Ombudsman, Dincolid, NCCO, Sakruzenego, Akberies, EU Energy, GENI, KIV, Deloitte, NATO, ADB, EBRD, Embassy of Romania, USAID/G4G	Investor Advisory Group Meeting	MoESD, Tbilisi, Georgia	April 13, 2019	1	65	14	21		MoESD, GEDF, USAID Georgia, GNERC, GSE, ESCO, GWP, JSC Caucasus WindSolar company, GRPC, New technology center, GSI, Greenhouse, Solar House, Energo Aragvi, LLC Silk road energy, LLC Eastern Power Corporation, LLC Infinite Energy, LLC Hydro Development company, LLC Energy Solutions, LLC Tesla, EU Georgian Business Council, Solo Development, EPG, Enguhs HPP, ADB, Qantl Wind Power, Namakhvani, GREDA, LLC Xinjiang Xinhua Hydrocooper Investment.	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<p><b>16. Number of institutions with improved capacity to address clean energy issues as supported by USG assistance</b></p> <p><i>Short Clarification: This indicator measures the number of institutions with increased capacity to address clean energy issues as a result of USAID Energy Program assistance.</i></p>	<ul style="list-style-type: none"> <li>Investor Advisory Group Members (MoESD, GNERC, GSE, GEDF, ESCO, Green Energy, Georgian Industrial Group (GIG), New Technology Center, Infinite Energy, Energo Aragvi, Helios Energy, Stuky Ltd, International Energy Corporation, EA solar, Lean Energy Group Georgia, ADB, EU-Georgia Business Council, Sun House, SGI Frontier Capital. - <b>Investor Advisory Group Meeting</b> - December 28, 2019</li> <li>Investor Advisory Group Members - <b>Investor Advisory Group Meeting</b> - (MoESD, ESCO, GSE, GNERC, GEDF, GREDA) - February 13, 2019</li> <li>GNERC- Electricity Supplier of last resort Tariff Methodology - January 23, 2019, Electricity Universal Service Supplier Tariff Methodology – January 30, 2019; Market Operator Tariff Methodology – February 6, 2019; <b>Training on the Third Party Open Access</b> – March 13, 2019</li> <li>MoESD, GNERC, GEDF, Infinite Energy, GSE, GRPC, QWF - <b>Workshop on VRE integration into the grid</b> – May 22, 2019</li> <li>MoESD, GNERC, GEDF, Infinite Energy, GSE - <b>Renewable Energy Quota System and methodologies for connection into the Grid of VRE Generation</b> – June 26, 2019</li> <li>GSE, Infinite Energy, QWF, Georgia Global Utilities - <b>Wind Power Forecasting for power System Operations</b> – July 3, 2019</li> <li>GNERC - <b>Recommended Changes of Legislation for VRE forecasting</b> – July 26, 2019</li> <li>GSE, GNERC - <b>Discussion on changes of legislation for VRE</b> – September 19, 2019</li> </ul>	<p><b>2</b> (Number of Institutions)</p>	<p><b>6</b> (Number of Institutions)</p>																																																																																																																																																



Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
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The event provided a unique venue for discussing Law of Georgia on "Public and Private Partnership" and its secondary legislation. Additionally, participants had an opportunity to discuss incentive mechanisms for Renewable Energy, as well as, to summarize their opinions.</p> <p><b>What were the topics of the discussion?</b></p> <p>The major topics of discussion included 1) Review of Law of Georgia on Public and Private Partnership, 2) Local Content Requirement (LCR) as a Possible Incentive for Promoting Renewable Energy Sources in Georgia, 3) Review of Renewable Energy Support Schemes, 4) Survey on Renewable Energy Support Scheme.</p> <p><b>Who participated in the event (Disaggregated by gender)?</b></p> <ol style="list-style-type: none"> <li>Number of participants: 35</li> <li>Number of male/female participants: 21 male, 14 female</li> <li>List of the organizations/institutions: MoESD, Georgian National Energy and Water Supply Regulatory Commission (GNERC), Georgian State Electrosystem (GSE), Georgian Energy Development Fund (GEDF), Electricity Market Operator (ESCO), Green Energy, Georgian Industrial Group (GIG), Green Energy, New Technology Centre, Mirko Energy, Georgian Renewable Energy Development Association (GOREDA), Energo Georgia Hydro Energy, Sky 1 LTD, International Energy Corporation, EA Solar, Loan Energy Group Georgia, Asian Development Bank (ADB), EU-Georgian Business Council, Sun House, GGF Frontier Capital.</li> </ol> <p><b>What was the achievement of the event?</b></p> <p>The meeting focused on new regulations for renewable energy project development under the PPP law; the need of non-hydro Renewable Energy development, which will support challenges of a new energy market; need for optimal utilization and support mechanisms for development of Renewable Energy resources.</p> <p><b>Were there any further steps or follow up actions developed?</b></p> <p>Further steps/actions: As a next step, the draft Georgian Law on Renewable Energy will be discussed for the next meeting; more meetings are planned to discuss the specific issues of interest on Renewable Energy support mechanisms. The participants agreed on the future collaboration.</p> </div> <div style="width: 45%;">  <p><b>USAID ENERGY PROGRAM</b></p> <p><b>EVENT MEMO</b></p> <p><b>Event Name:</b> Investor Advisory Working Group Meeting</p> <p><b>Date &amp; Place:</b> 13 February 2019 Ministry of Economy and Sustainable Development of Georgia (MoESD) Office, Tbilisi, Georgia</p> <p><b>Event Description:</b></p> <p><b>Shortly describe the purpose of the event</b></p> <p>USAID Energy Program held Investor Advisory Group Meeting to discuss the existing issues and challenges on the renewable energy support mechanisms with the stakeholders with the aim to assist the Government of Georgia in creation of enabling environment for new generating facilities and favourable investment climate.</p> <p><b>What were the topics of the discussion?</b></p> <p>The major topics of discussion included 1) The Local Content Requirement in Georgia as a Possible Incentive for the Renewable Energy Sources State Support 2) USAID Energy Program, adopted as Support Schemes 3) Financial, Fiscal and Economic Issues, 4) Technical Issues and 5) The Legal Aspects Overall, USAID Energy Program Presented analysis and recommendations on 18 incentive Mechanisms.</p> <p><b>Who participated in the event (Disaggregated by gender)?</b></p> <ol style="list-style-type: none"> <li>Number of participants: 28</li> <li>Number of male/female participants: 12 male, 13 female</li> <li>List of the organizations/institutions: MoESD, Electricity Market Operator (ESCO), Georgian State Electrosystem (GSE), Georgian National Energy and Water Supply Regulatory Commission (GNERC), Georgian Energy Development Fund (GEDF), Georgian Renewable Energy Development Association (GOREDA), USAID Georgia, USAID Energy Program</li> </ol> <p><b>What was the achievement of the event?</b></p> <p>The event enabled participants to discuss the importance of renewable energy support mechanisms and which will aid the Government of Georgia to plan further steps for creating an enabling environment for new generating facilities and favourable investment climate.</p> <p><b>Were there any further steps or follow up actions developed?</b></p> <p>Further steps/actions: As a next step, the follow up meeting will be organized in March 2019.</p> </div> </div> <p><b>Annual Result: 38 (institutions)</b></p>		
<p><b>17. Number of laws, policies, regulations, or standards to enhance energy sector governance formally proposed, adopted, or implemented as supported by USG assistance</b></p> <p>Short Clarification: This indicator measures the number of legislative acts. (not related to clean Energy programs) supported by USAID Energy Program and adopted by the GoG, GNERC or other relevant institution</p>	<ol style="list-style-type: none"> <li>Natural gas transitory market rules</li> <li>Summary on energy law</li> <li>Comparative analysis of the developed concepts for the new Electricity Market in Georgia</li> <li>Electricity Market Transition Plan (on vulnerable customers)</li> <li>Natural Gas Market Transition Plan (on vulnerable customers)</li> <li>Market Operator Tariff Methodology (electricity)</li> <li>Market operator tariff methodology (Gas)</li> <li>USoA-General Accounting Policy and Procedures for Georgian Regulated Gas Sector Companies Concept and Principles</li> <li>USoA-Accounting Guidelines for Georgian Regulated Gas Market Companies Contribution and Grants</li> <li>USoA-Accounting Guidelines for Georgian Regulated Gas Market Companies Lease</li> <li>USoA-Accounting Guidelines for Georgian Gas Market Rate Regulated Companies</li> <li>USoA-Accounting Guidelines for Georgian Gas Market Companies Revenues, Cost Centers and Expenses</li> <li>USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 1000 – 1999</li> </ol>	<p><b>12</b> (Number of legislative acts)</p>	<p><b>24</b> (Number of legislative acts)</p>

Indicator	Y2, Annual Cumulative Result (October 1, 2018 - September 30, 2019)	FY2 Target	3-year Cumulative Target
	<ul style="list-style-type: none"> <li>14. USoA-Regulatory Chart of Accounts and Instructions the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 2000, 2100 – 2199</li> <li>15. USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 2200-2299</li> <li>16. USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 2300 – 2699</li> <li>17. USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 3000-6999</li> <li>18. USoA-Regulatory Chart of Accounts and Instructions to The Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 7000-7399</li> <li>19. USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 7400-7499</li> <li>20. USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 7500-7999</li> <li>21. USoA-Regulatory Chart of Accounts and Instructions to the Regulatory Chart of Accounts for Georgian Regulated Gas Sector Companies Accounts 8000-9999</li> <li>22. USoA Reporting Forms for Georgian Gas Sector Companies</li> <li>23. Gas USoA Reporting forms</li> <li>24. Forecasting system design and implementation plan</li> <li>25. Transmission system connection fee methodology</li> <li>26. Methodology for setting the supply tariff for the USS and calculating corresponding remuneration for the service provider</li> <li>27. Q&amp;A on Methodology for setting the supply tariff for the SoLR and calculating corresponding remuneration for the service provider</li> <li>28. Third Party open access outline</li> </ul> <p><b><u>Annual Result: 28</u></b></p>		

## ANNEX 3: DONOR COORDINATION MATRIX

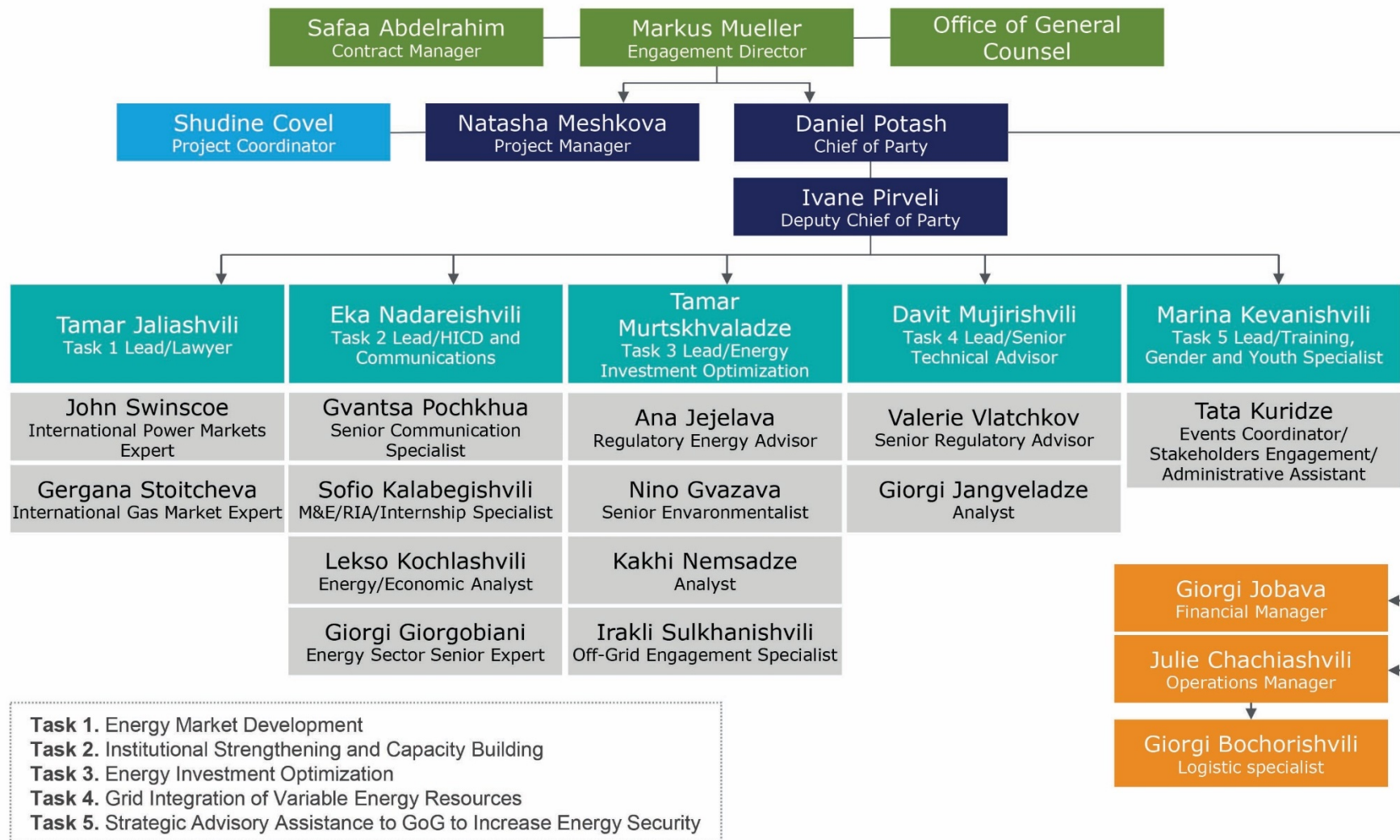
#	Donor	Donor Project Title/Implementer	Time Frame	Contact Person/Role	Contact Information	Donor Funding	USAID Energy Program Supported Area
1	EU	EU4Energy Governance, IEA	2017-2021	Murman Margvelashvili, Senior Adviser	<a href="mailto:m.margvelashvili@weg.ge">m.margvelashvili@weg.ge</a>	USD 100 K	Energy Strategy Development
2	EU	EU4Energy Governance	2017-2021	Svitlana Karpyshyna, Deputy Head of Unit/Renewables and Energy Efficiency Expert; Kati Sandroshvili, Regional Coordinator	<a href="mailto:Svitlana.Karpyshyna@energy-community.org">Svitlana.Karpyshyna@energy-community.org</a> ; <a href="mailto:keti.sandroshvili@energy-community.org">keti.sandroshvili@energy-community.org</a>	N/A	Supporting GoG in accomplishment of the obligations under the EU - AA
3	EU	East Invest 2 Project	2015-2018	Christian Gessl, Key Expert on Policy	<a href="mailto:c.gessl@ueapme.com">c.gessl@ueapme.com</a>	USD 500 K	ETM Development
4	EU	Legislative Impact Assessment, Drafting and Representation Location	2015-2018	Katerina Velichkova, RIA Expert	<a href="mailto:katerina.velichkova@gmail.com">katerina.velichkova@gmail.com</a>	EUR 175 K	Market Reform. ETM Development
5	EU	Technical Assistance to the GoG for drafting Law on Energy Efficiency	2015-2018	David Managadze	<a href="mailto:managadD@ebrd.com">managadD@ebrd.com</a>	N/A	Draft Law on Energy Efficiency
6	EBRD	Development of a sustainable and green hydropower sector in Georgia	2018 -	Manuel Antunes-Vallerey, Renewable Energies, Senior Engineer	<a href="mailto:manuel.antunes@edf.fr">manuel.antunes@edf.fr</a>	N/A	Provide assistance through Policy Dialogue and Capacity Building
7	KfW	Construction of the Natural Gas Storage	2019 -	Hans Rieck	<a href="mailto:Hans.rieck@kfw.de">Hans.rieck@kfw.de</a>	EUR 150 M	Energy Security
8	KfW	Fiscal Policy adjustment loan	2018-2021	Hans Rieck	<a href="mailto:Hans.rieck@kfw.de">Hans.rieck@kfw.de</a>	EUR 200 M	Energy sector policy measures
9	KfW	Construction of UGS Gas; Policy measures	2018 -	Nino Shanidze, Senior Project Coordinator	<a href="mailto:nino.shanidze@kfw.de">nino.shanidze@kfw.de</a>	N/A	Energy Security
10	GIZ (German Development Agency)	GIZ Legal Program	2017-2018	Lika Akhobadze	<a href="mailto:liana.akhobadze@giz.de">liana.akhobadze@giz.de</a>	N/A	RIA National Framework
11	EBRD	Nenskra Hydropower Project Implementer-Co Investment Fund	2017 -	Choi Byoung-Seub, CEO & President	<a href="mailto:bschoi2004@gmail.com">bschoi2004@gmail.com</a>	USD 230 M	ETM Development
12	EBRD	TA to the MoESD for drafting Energy Efficiency Law	2017 - 2018 -	Marita Arabidze, Deputy Head of Energy Dep. MoESD	<a href="mailto:M.Arabidze@energy.gov.ge">M.Arabidze@energy.gov.ge</a>	EUR 60 K	Supporting GoG in accomplishment of the obligations under the EU - AA
13	EBRD	Rehabilitation of Inguri Hydro Power Plant	2018 -	David Managadze	<a href="mailto:managadD@ebrd.com">managadD@ebrd.com</a>	EUR 28 M	Energy Security, ETM Development
14	KfW	Extension Transmission Network Georgia II	2016-2019	Nino Shanidze, Senior Project Coordinator	<a href="mailto:nsharashidze@imf.org">nsharashidze@imf.org</a>	EUR 420 K	Encourages competitive energy trade and private sector investments
15	USAID	G4G	2014-2019	Natalia Beruashvili CoP	<a href="mailto:nberuashvili@g4g.ge">nberuashvili@g4g.ge</a>	USD 19.3 M	Supporting reforms in the energy sector of Georgia
16	USAID	HICD 2020	2015-2020	Eka Leonidze	<a href="mailto:eleonidze@ingl.com">eleonidze@ingl.com</a>	USD 7.5 M	Human and Institutional Capacity Building
17	USAID	ZRDA Activity in Georgia	2017-2020	Brian King, CoP, Katy Chumburidze, DCoP	<a href="mailto:bking@zrda.ge">bking@zrda.ge</a> ; <a href="mailto:zrda@zrda.ge">zrda@zrda.ge</a>	USD 20 M	Promotion of inclusive and sustainable economic growth in target regions

#	Donor	Donor Project Title/Implementer	Time Frame	Contact Person/Role	Contact Information	Donor Funding	USAID Energy Program Supported Area
18	USAID	NARUC-BSRI Integration of the Electricity Balancing Market	2018-2020	Grizelle Wray, Senior Program Manager; Emiliya Bagirova, Program Officer	<a href="mailto:gwray@naruc.org">gwray@naruc.org</a> <a href="mailto:ebagirova@naruc.org">ebagirova@naruc.org</a>	N/A	Development of the electricity trading platform, regulation of renewable energies and quality of service
19	USAID	NARUC-BSRI TYNDP	2018-2020	Ben Morano, Program Officer	<a href="mailto:bmorano@naruc.org">bmorano@naruc.org</a>	N/A	TYNDP
20	USAID	Good Governance Initiative in Georgia (GGI)	2015-2020	David Smith, CoP	<a href="mailto:DvdbrSmith@aol.com">DvdbrSmith@aol.com</a> Tel: +(995) 598 24 77 47	EUR 16.6 M	Development of the electricity trading platform
21	ADB	Georgian State Electrosystem Corporatization and Electricity Market Reforms Program	2018 - 2019	Adnan Tareen, Team Leader; Inga Pkhaladze, Program Coordinator	<a href="mailto:atareen@adb.org">atareen@adb.org</a> <a href="mailto:ipkhaladze@yahoo.com">ipkhaladze@yahoo.com</a>	N/A	Electricity Market Reforms
22	IFC Infra Ventures	Clean Energy Invest Namakhvani HPP	2018 - 2021	Elene Ghubianuri	<a href="mailto:nana.gurgenidze@namakhvani.com">nana.gurgenidze@namakhvani.com</a>	USD 700 M	Development of the electricity trading platform
23	Norwegian Government	Market Coupling with Turkey	2017 - 2022	Westgaard Kirsten Winther	<a href="mailto:Kwe@nve.no">Kwe@nve.no</a>	USD 3,863 M	Support in Electricity Trading
24	Consortium of NVE - NIRAS	Institutional Cooperation	2017 - 2022	Westgaard Kirsten Winther; Fonnelop Jon Erling	<a href="mailto:Kwe@nve.no">Kwe@nve.no</a> ; <a href="mailto:Jef@nve.no">Jef@nve.no</a>	USD 4 M	Drafting Renewable Energy Law, Capacity Building
25	Danish Internat. Dev. Agency DANIDA	Sustainable and Inclusive Energy Growth	2016 2020	Bidzina Chkonia CoP	<a href="mailto:biz@niras.dk">biz@niras.dk</a>	EUR 2.13 M	Supporting GoG in accomplishment of the EU - AA obligations
26	WB	SESA of Development Scenarios for El. Sector Implementer Stucky, SEEC	2016 - 2018	Tea Avazashvili	<a href="mailto:tavazashvili@moesd.gov.ge">tavazashvili@moesd.gov.ge</a>	USD 750 K	Environmental and Social Assessment
27	WB	Transmission Grid Strengthening Project	2014-2020	Joseph Melitauri, Senior Operations Officer	<a href="mailto:jmelitauri@worldbank.org">jmelitauri@worldbank.org</a>	USD 61.88 M	Development of the electricity trading platform
28	NEFCO	EU Twinning Project for GNERC	2018	Bo Nyhus, Senior Investment Manager	<a href="mailto:bo.nyhus@nefco.fi">bo.nyhus@nefco.fi</a> tel. +358 10 6180 665	EUR 5.14 M	Introducing renewables and alternative sources of energy supply in public buildings in Georgia
29	UNIDO	Reducing GHG Emissions through Improved Energy Efficiency in the Industrial Sector in Georgia	2016 - 2019	Marco MATTEINI, Industrial Development Officer; Nino Lazashvili, National Project Manager	<a href="mailto:M.Matteini@unido.org">M.Matteini@unido.org</a>	EUR 800 K	Supporting GoG in accomplishment of the obligations under the EU - AA
30	EU	EU Twinning Project for GNERC	Planned in 2018	N/A	N/A	N/A	Development of smart metering regulatory framework

## ANNEX 4: ADVISORS UTILIZED

#	Name of Expat	Area(s) of Focus	GoG Institutions
1	Ruben Abrahamyan	Energy Market Development (Task 1)	MoESD, GNERC, GSE, ESCO
2	Ankit Patel	Energy Investment Optimization (Task 3)	MoESD, GEDF, VRE Developers, Renewable Energy Investors
3	Masood Ahmad	Strategic Advisory Assistance to the GoG to Increase Energy Security (Task 5)	MoESD, GEDF, GSE
4	Gergana Stoitcheva	Energy Market Development (Task 1) & Strategic Advisory Assistance to the GoG to Increase Energy Security (Task 5)	GNERC, MoESD, GOGC, GGTC, Gas Market Players (MPs)
5	John Swinscoe	Energy Market Development (Task 1) & Strategic Advisory Assistance to the GoG to Increase Energy Security (Task 5)	MoESD, GNERC, ESCO, GSE
6	Gagik Hovhannisyanyan	Energy Market Development (Task 1)	GNERC, Regulated Enterprises
7	Jake Delphia	Energy Market Development (Task 1)	MoESD, GNERC, GOGC, ESCO, GSE, GGTC
8	Andrzej Klimczyk	Institutional Strengthening and Capacity Building (Task 2) & Energy Market Development (Task 1)	Embassies, MoESD, IFIs
9	Valeriy Vlatchkov	Grid Integration of Variable Renewable Energy Resources (Task 4), Energy Investment Optimization (Task 3) & Energy Market Development (Task 1)	GNERC, GSE, MoESD

# ANNEX 5: USAID ENERGY PROGRAM ORGANIZATIONAL CHART



- Task 1.** Energy Market Development
- Task 2.** Institutional Strengthening and Capacity Building
- Task 3.** Energy Investment Optimization
- Task 4.** Grid Integration of Variable Energy Resources
- Task 5.** Strategic Advisory Assistance to GoG to Increase Energy Security

**USAID Energy Program**

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