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COMMENTS ON THE DRAFT NATIONAL RENEWABLE ENERGY ACTION PLAN

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17 August 2018

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DATA

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ACRONYMS

CO₂	Carbon Dioxide
CoM	Covenant of Mayors
DSO	Distribution System Operator
EnCT	Energy Community Treaty
EU	European Union
EV	Electric Vehicle
GNERC	Georgian National Energy and Water Supply Regulatory Commission
GoG	Government of Georgia
GSE	Georgian State Electrosystem
GWh	Gigawatt-Hour
kV	Kilovolt
kWh	Kilowatt-Hour
MoESD	Ministry of Economy and Sustainable Development of Georgia
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting, and Verification
MW	Megawatt
NREAP	National Renewable Energy Action Plan
PPA	Power Purchase Agreement
PV	Photovoltaic
SEAP	Sustainable Energy Action Plan
SECAP	Sustainable Energy and Climate Action Plan
TSO	Transmission System Operator
TWh	Terawatt-Hour
TYNDP	Ten-Year Network Development Plan
USAID	United States Agency for International Development
USD	United States Dollar
V	Volt
VAT	Value Added Tax
VRE	Variable Renewable Energy

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INTRODUCTION

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

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 legal and regulatory framework that complies with European requirements and encourages competitive energy trade and private sector investments.

BACKGROUND

The GoG signed the Protocol on the Accession European Union (EU's) EnCT in October 2016. The Accession Protocols provide specific requirements for the GoG to complete in order to comply with the EnCT.

The EU Renewable Energy Directive, 2009/28/EC, contains specific obligations of the Member States including the development and adoption of a National Renewable Energy Action Plan (NREAP). Under the Accession Protocol, the GoG must also fully comply with the Directive. The main goals of the NREAP are to: 1) establish targets for renewable energy penetration within the energy sector, 2) to establish a detailed action plan that will result in the country meeting its renewable energy targets.

The table below provides comments from USAID Energy Program on the draft NREAP developed in March 2018.

COMMENTS ON DRAFT NATIONAL RENEWABLE ENERGY ACTION PLAN

#	Draft NREAP Reference	Text of the Action Plan	Suggested modification or comment
1	General	Not applicable	The plan lacks a 1) budget, 2) identified capable resources, 3) specific deliverables, 4) deadlines, 5) identified responsible persons and 6) consequences for non-compliance. The plan appears to be more general guidelines or policy statement than secondary legislation.
2	Section 1.1 - Page 7	“The average annual electricity generation potential of wind in Georgia is estimated to be 4 TWh with an installed capacity of 1,500 MW.”	Georgia has tremendous wind power potential. The estimate of 1500 MW seems far too small. The GoG has already signed Memorandum of Understanding (MoUs) totaling more than 1,200 MW with estimated annual production of 4.7 TWH. USAID Energy Program has also identified at least 60 MW of additional wind power sites. There are 588 MW of solar Photovoltaic (PV) farms under MoUs with the GoG with an estimated annual production of 908 GWH. The plan should recommend that new studies on the potential for wind power and solar PV be updated.
3	Section 1.1 – Page 8	“Due to the geographical location of Georgia, solar radiation is rather high. In most regions of the country there are 250 – 280 sunny days annually with approximately 6,000 – 6,780 hours of sunlight per year.”	<i>There is an average of 2112 hours of sunlight per year (of a possible 4383) with an average of 5:46 of sunlight per day. It is sunny 48.2% of daylight hours. The remaining 51.8% of daylight hours are likely cloudy or with shade, haze or low sun intensity. See: www.georgia.climateps.com/sunlight.php</i>
4	Section 4.1, Page 14 first paragraph	“The GoG has set forth legislative frameworks supporting facilitate the utilization of the renewable energy potential. Currently, there is not yet a dedicated renewable energy law in Georgia, but measures supporting the development of renewable energy are include in number of associated policies.”	“include” should be replaced by “included”
5	Section 4.1, Page 14, third paragraph	“It is also worth noting that the United States Agency for International Development (USAID) is in the process of launching a new three-year energy programme in Georgia to support the development of energy market in the country. The USD 7.5 million programme aims: <ul style="list-style-type: none"> to contribute to the development of commercial electricity opportunities in Georgia; to optimize energy-related investments; to help the country integrate with the renewable energy network; and to provide strategic consultation assistance to the GoG in terms of increasing energy security.” 	USAID Energy Program started in December 2017. The main tasks of the program are focused on: <ol style="list-style-type: none"> 1) Energy market development; 2) Institutional strengthening and capacity building regarding competitive energy markets and cross-border electricity trade; 3) Energy investment opportunities; 4) Grid integration of Variable Renewable Energy (VRE); 5) Strategic advisory assistance to the GoG to increase energy security.

6	Section 4.1 Page 14, Table 5	“Overview of all policies and measures”	<p>The Energy Community Treaty adopted by the Parliament is driving significant change in the legislative framework for power markets for which renewable energy plants must participate – this is requiring GoG to adopt a new Energy Law, revise its electricity grid code and grid connection rules, and several other documents. The Treaty should be mentioned in the list. New mechanisms, such as contracts-for-differences are suggested to replace the existing system of PPAs.</p> <p>With the passage of the PPP Law and the secondary legislation related to energy infrastructure will modify the existing process of negotiating prices for proposed RE plants. This is not mentioned in the document.</p>
7	Section, Page 16, Table third row	Column 1 – “Main Directions of the State Energy Policy of Georgia”	This is repeat of the same identified document listed on the page 15 Section: Strategies and Plans, row 1
8	Section 4.2.1 (j), Page 27	<p>“(Is net metering possible?)” and “A consumer with micro generation can benefit from net metering within a month. With regards to balancing out excess energy, it is done on monthly basis. The net excess energy provided onto the grid by the micro generator is carried over to next month’ bill as kWh credits that can be consumed by the consumer in that particular month. In case there is still surplus generation at the end of the year the consumer has the right to claim financial remuneration that equals the opportunity cost (weighted average purchasing price for electricity set by Georgian National Energy and Water Regulatory Commission (GNERC) of a supplier (i.e. Distribution System Operator (DSO)).”</p>	<ol style="list-style-type: none"> 1) Net metering applications are growing rapidly over the last six months – request for installations in the MWs. 2) GNERC is contemplating the modification of net metering regulations, among other things, to allow an entity to have net metering at multiple sites. 3) Utility personnel are ill-equipped to handle net metering requests and metering equipment is not readily available and lastly many 10 kV to 380 V transformers are in very poor shape and need replacing. 4) Municipalities personnel need support in understanding the building design requirements for solar PV and how to properly address design requests 5) Imbalance settlements within balancing groups must be performed on an hourly basis for generating production
9	Section 4.2.2, Page 30, second bullet	<ul style="list-style-type: none"> • “The Georgian Transmission System Operator (TSO) aims to carry out a comprehensive study under international consultancy for wind energy integration into the grid. The project outcome will be an examination of allowed wind connection capacities in each transmission grid node over a 10 year period based on the specific and objective conditions of Georgian power system, taking into account the energy policy goals of the country. As a result, capacity limits will be determined for each connection point in the Ten-Year Network Development Plan (TYNDP) and also certain technical requirements might be proposed to the grid code.” 	<p>German company Digsilent is producing a feasibility study on the level of VRE to be integrated on the system. Initial results were provided to Georgian State Electrosystem (GSE) that shows significant level of VRE could be added to the system at any node without any need for additional operating reserve. Final results are due within few months.</p> <p>But the GoG has signed MoUs for 1206.6 MW of new wind power projects and 588 MW of solar PV. A selection process is needed, such as reverse auctions, to identify which power plants are prioritized in a transparent process.</p>
10	Section 4.3 - Page 52	Specific questions for financial support for investment:	Several support schemes exist in Georgia:

		<ul style="list-style-type: none"> • What is granted by the scheme? (subsidies, capital grants, low interest loans, tax exemption or reduction, tax refunds) • Who can benefit from this scheme? Is it specified for certain technology(/ies)? • Are applications continuously received and granted or are there periodical calls? If periodical, could you please describe the frequency and conditions? 	<ol style="list-style-type: none"> 1) Negotiated prices in Power Purchase Agreements (PPAs) above average market price; 2) VAT refund; 3) Interconnection capacity (for selected projects); 4) Net metering of Renewable Energy; 5) Contract for Difference (surcharge of public service obligation) is considered in the draft Law of Georgia on Energy; 6) Land Purchase Price & Exclusive land rights. <p>The USAID Energy Program team has prepared proposal for renewable energy support schemes to GoG. The USAID Energy Program will support to Ministry of Economy and Sustainable Development of Georgia (MoESD) and/or other public entities to implement selected support schemes after their identification.</p>
11	Section 4.2.1 - Page	"List of existing national and, if applicable, regional legislation concerning authorization, certification, licensing procedures and spatial planning applied to plants and associated transmission and distribution network infrastructure"	Deficits in administrative procedures and spatial planning - (authorization, certification and licensing procedures)
12	Section 4.2.9 – Page 48	"There are no current plans in place for the use of new large biomass, solar, or geothermal facilities in district heating and cooling systems though there is significant technical potential for geothermal facilities in certain parts of Georgia."	The measures described in NREAP for district heating and cooling appear insufficient. For achieving the goal of renewable energy for heating and cooling would deserve more policy attention. For the most part, these policies don't exist in Georgia.
13	Section 4.4 – Page 54	"There are plans to require feasibility studies of district heating using waste heat from natural-gas fired power plants which may result in a support scheme for district heating using renewable energy sources, but nothing is currently in place."	Details about the support schemes for district heating and cooling are missing in NREAP.
14	Section 4.5 – Page 54	"Support schemes to promote the use of energy from renewable resources in transport applied by the Member State or a group of Member States"	Details about the support schemes for transport are missing in NREAP. Why support schemes for renewable energy in transport sector are not applicable for Georgia?
15	Section 5.1 – Page 62	"Table 11: Estimation of total contribution (installed capacity, gross electricity generation) expected from each renewable energy technology in Georgia to meet the indicative 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity 2018-2020"	GoG has presented a very ambitious NREAP in terms of the planned renewable energy trajectory especially for the solar and wind generation. This would require a substantial improvement of the network infrastructure development and electricity network operations as compared to the measures currently existing in the NREAP. Stating that GSE develops a TYNDP isn't a solution.
16	Section 5.3 – Page 64	Promotion of electric vehicles: The expected cost represents estimated infrastructure costs for charging stations at EUR 4,000 per charging station and an expected requirement of 850 - 900 charging stations required through 2020. The costs do not represent the system costs in terms of electricity costs, capital	Electric Vehicles (EVs) will save 14.7 tons 2018-2020. This relates to about 3,000 cars, which is too few considering current fleet is 600,000 vehicles. And you don't need 850-900 charging stations, that's too many. We recommend more EVs and fewer charging stations.

		costs / subsidies / tax breaks for electric vehicle purchases, or other ongoing maintenance costs of infrastructure.	
17	Section 5.4(b) - Page 65	<p>“At the time of development of the NREAP, 23 cities of Georgia had signed the Covenant of Mayors (CoM), the EU initiative that makes the signatories meet and exceed EU’s 20% CO₂ reduction objective by 2020. Therefore, within the year following their signature, a Sustainable Energy Action Plan (SEAP) outlining the key actions that the local authorities plan to undertake should be submitted to the European Commission. From sixteen CoM signatories only eleven have developed SEAPs, five cities which have joined CoM recently committed themselves to adopting an integrated approach to climate change mitigation and adaptation. They are required to develop within two years of accession, a Sustainable Energy and Climate Action Plan (SECAP) with the aims of cutting CO₂ emissions by at least 30% by 2030 and increasing resilience to climate change.”</p>	<p>Inconsistencies in the numbers – 23 or 16 signatories.</p> <p>If a large effort of this plan implementation is to be done by staff of the municipalities, why is there only one municipality that has adopted a SECAP?</p> <p>There is a huge risk of non-implementation of the NREAP at the municipal level – what risk mitigation measures exist to ensure sufficient funds and proper personnel are in place?</p>
18	Section 5.4 Page 65- 66	<p>Do you have a monitoring system, including indicators for individual measures and instruments, to follow-up the implementation of the REAP? If so, could you please give more details on it?</p> <p>Currently there is no such monitoring system. As part of implementation of this action plan, a Monitoring, Reporting, and Verification (MRV) system is proposed (see Annex 2).</p>	<p>No Annex 2 was available. And no Annex 1 was referenced.</p> <p>What are the consequences for not complying with the NREAP?</p> <p>How will this MRV system be funded? How can it be made sustainable? How many people will be hired in order to cover the entire country?</p>

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