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Climate Action Enhancement Package: Belize

Energy Efficiency Mitigation options

Methodology and Workplan

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- Background and document review at national, regional and international levels.
- Interviews with officials from the energy area and related institutions
- Interviews with energy utilities, especially in the power sector.
- Request for information and various clarifications from government officials, as well as from the companies interviewed.
- Identification of mitigation options, linked to energy efficiency that reveal the greatest viability and feasibility according to a set of predefined criteria
- Estimation of potential penetration percentages according to the defined criteria

Background and information sources

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- National Energy Framework
- IDB - The Energy Sector in Belize – 2014
- Third National Communication - 2016
- Sustainable Energy Action Plan 2014-2030
- Energy Report Card Belize – 2017
- Inception Workshop Results
- NDC – 2016
- Technology Needs Assesment – 2018
- OLADE – NAMA Concept Note - 2019

Main measures proposed

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Sector	Action or Measure	Impact	Energy avoided	Reference year	GHG Emissions avoided - Tons CO2e
1. Power Supply	T&D losses reduction	Reduce from 12% to 10%	21000 Mwh	2019	3570
2. Households	Lighting	Reduce at to 50% with the introduction of LEDs	15278 Mwh	2019	2.597
3. Households	Cooking	Improvement in cooking equipment - 20%	220 TJ LPG	2019	13.882
4. Households	SWH	Replacement of electric water heating	31303 Mwh	2019	5.222
5. Commercial	Space Cooling	Improvement 25% efficiency	63750 Mwh	2019	10.837
6. Tourism	SWH	Replacement of electric water heating	4943 Mwh	2019	840
7. Street Lighting	Replacement of current equipment	LEDs penetration up to 40%	10394 Mwh	2019	1.767

Summary of proposed measures and related topics

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Suitability for enhanced NDC	Option	Potential	Timeline	Impact on GHG mitigation	Main Barriers / Requirements for its development	Main Strengths
Medium	T&D losses reduction	At least 21 GWh yearly avoided	Mid to long term	Reduction on the power generation	Investment implement ation.	Reduce power generation. Avoid fossil fuel imports.
High	Household s Lighting	30% power avoided in lighting energy service.	Short to mid term	Related with fossil fuels generation avoided.	Reduce poverty. Improve income distribution.	Reduce power generation. Avoid fossil fuel imports.
High	Improve Cooking efficiency	20% increase in efficiency.	Short to mid term	Reduce LPG consumption.	Economic and financing support.	Reduces imports of LPG.
High	Solar Water Heaters (Household/Tourism)	According to assumptions, at least 86Gwh yearly saving	Mid to long term	Reduction on the power generation.	Costs of the devices. Need economic and financing support. Promotion and regulation.	Increment Renewable participation
Medium	Space Cooling.	At least 64 GWh yearly avoided	Mid to long term	Reduction on the power generation	Need promotion of Commercial activities.	Reduce power generation.
High	Street Lighting	At least 30/40% reduction on power	Mid to long term	Reduction on the power generation.	Implement direct actions by the Government	Improve street security. Acts as demonstration

Main conclusions and final remarks

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- *All the measures proposed in different sectors, energy services and levels are considered viable and feasible.*
- *Main barriers are economic and financing ones.*
- *Macroeconomics enabling conditions are key issues.*
- *Public policies that are oriented to overcome the barriers that all of them present and creates enabling conditions, are needed.*

¡¡MANY THANKS!!

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