

# Revised SREP Investment Plan for Honduras

## Responses to Comments and Questions from SREP Subcommittee Members

*Prepared by the Government of Honduras, the Inter-American Development Bank Group, and the World Bank Group*

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We would like to thank the governments of the United Kingdom and Switzerland for their comments and questions. Please find below our responses.

### Questions from the United Kingdom

*Q (UK1): We note the considerable reduction in the technical assistance elements of the IP. Can we assume that the previously intended beneficiaries of this assistance are now able to perform as was originally intended, or is the assistance no longer needed for other reasons? If so, what are they?*

A (UK1): The GoH has decided that the USD 1.025 M originally allocated for preparation and operation expenses should be better used in investments. The GoH is using its own resources to provide follow-up to project preparation and execution.

With regards to the reduction in the FOMPIER component, please see our responses to the first question from Switzerland.

*Q (UK2): We note that there is a significant reduction in the number of people with new access to electricity from renewable energy. The document does not provide much detail on why this is the case other than mentioning that the propose PAUE programme will provide access to 4,500 households in isolated communities in the west and south of the country. We assume that the significant reduction of beneficiaries is because the areas the programme intends to serve has low population density and the relatively long distances that the grid extension needs to cover. Is this understanding correct and could the project team provide more detail on the merits of serving these communities in the proposed manner as opposed to serving other needy communities that have higher densities and where more people may gain access to electricity?*

A (UK2): The GoH has channelled a significant amount of domestic and international resources to rural electrification since the original IP was endorsed. This includes:

- USD 12.6 M from the World Bank to support the Rural Infrastructure Program (PIR);
- USD 31.4 M from the Nordic Development Fund (managed by the Central American Bank for Economic Integration) for grid extension
- USD 6.3 M from the GoH for grid extension

In addition, the GoH is currently negotiating a USD 45 million sovereign guarantee loan operation with the Korea Eximbank (see page 20 of the Revised IP) for solar home systems.

In this context, the communities that remain uncovered by these efforts are those located in the more remote locations (such as the Mosquitia region in the Caribbean coast, and the dry corridor). SREP resources are ideal to address the needs of these isolated regions.

*Q (UK3): We note that there is a significant increase in the GHG emissions avoided under the revised plan. These figures appear inconsistent with the decrease in number people gaining access to electricity and the reduction in RE capacity from 60MW to 44MW. Please could the project team clarify?*

A (UK3): The figure on the original IP (152,424 ton CO<sub>2</sub>e/year) includes only the emission reductions corresponding to the 60MW of small hydro capacity that was foreseen, but did not consider the impact of the clean cook-stoves and the transmission infrastructure. The Revised IP figure does include the emission reductions from clean cook-stoves (199,000 ton CO<sub>2</sub>e/year) and from the ADERC – Transmission program (584,000 ton CO<sub>2</sub>e/year) (see also Table 10 of the Revised IP).

*Q (UK4): Could the project team elaborate further on the reasons for not being able to approve the resources for the FOMPIER and ERUS components of the IP?*

A (UK4): The World Bank did not conclude the preparation of the SREP Honduras project as a result of a discussion about the overall World Bank pipeline and portfolio with the Ministry of Finance, where it was decided that the IDB would be better suited to continue with the processing of the project.

*Q (UK5): Could the project team clarify whether any project preparation grant money has been spent on projects that will no longer be implemented?*

A (UK5): The USD 300,000 project preparation grant for the ERUS component was used by the World Bank for both the rural electrification and cook-stove projects. The results of the cook-stove activities were used in the design of the IDB's *Promoting Sustainable Business Models for Clean Cook-stoves Dissemination* project. Regarding the rural electrification project, the following activities were conducted:

- A Market Intelligence Report was developed to identify the various characteristics of the rural electrification market, the gaps, and the stakeholders that were operating in the space.
- On the basis of this information, and various other consultations, a report on Rural Access Business models, primarily for utilizing PV, was also prepared.
- Through various workshops and consultations held around the findings, it was possible to engage with the operators of the ongoing access projects in Honduras and devise ways to harmonize activities.

These reports contributed to shed light on the challenges and opportunities in developing off-grid solar in Honduras.

## Questions from Switzerland

*Q (CH1): We noticed the reduction of FOMPIER which was set up to strengthen the RE Policy and regulatory Framework by 50%.*

*Q (CH1a): How is this justified with regards to the still modest value of its RISE index for RE (42)?*

A (CH1a): Since 2011, when its SREP IP was endorsed, Honduras has made substantial progress in terms of the legal framework for renewable energy, and in terms of the incentives and regulatory support. The [2016 RISE Report](#) (based on 2015 data) recognises these strengths (it provides a score of 100 to the legal framework). The [Climatescope](#) report (also based on 2015 data), which focuses on the conditions for clean energy investment (considering the enabling framework; financing and investment; value chains, and greenhouse gas management), also recognises the country's progress: it ranks Honduras in the eight place within a set of 58 countries in different regions of the world, and distinguishes it as one of the five top scorers in terms of the improvement from the previous year. This progress is also reflected by the unprecedented uptake of renewable energy during the last few years.<sup>1</sup>

The country still needs to further refine its policy and institutional framework to ensure an adequate large-scale integration of RE into the grid. The low overall score given by the 2016 RISE Report to Honduras reflects the weaknesses it identifies in terms of planning; the attributes of the financial and regulatory incentives; network connection and prices; counterparty risks; and carbon pricing and monitoring.

The decision by the GoH and the IDB to reduce by half the level of support to the FOMPIER component of the IP is due to the progress Honduras has achieved during the last years. It is also due to other efforts being made in parallel to drive progress in this domain (see next question).

*Q (CH1b): What progress was made by Honduras according to the RISE index since its original assessment?*

A (CH1b): The [Pilot Report](#) of RISE, published in 2014 with 2013 data, gave Honduras a score of 58 in the renewable energy pillar, whereas the 2016 Report produced a score of 42, as previously mentioned.

Both scores, however, are not comparable with each other, since the RISE methodology was revised after the publication of the pilot report. In reality, the policy and institutional framework for RE improved between 2013 and 2015, and also between 2015 and today:

The government has established the following strategic lines: (i) strengthening of the sector's institutional capacity and regulatory framework; (ii) enhancing of the financial sustainability

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<sup>1</sup> The latest [Global Status Report](#) produced by REN21 recognises Honduras as one of the 5 top countries in terms of investments made in new renewable power and fuels relative to annual GDP. Also, [PV Magazine](#) has recognised Honduras as the first country in the world surpassing the threshold of 10% of electricity coming from Solar Photovoltaic in 2016.

and operational efficiency; and (iii) adoption of energy policies aimed at ensuring a secure supply of electricity maximizing the use of renewable energy sources.

In particular, during 2015-2016, Honduras has strengthened the institutional framework and the capacities of a new regulator, system operator, power agents and the head of the power sector, enabling the participation of nonconventional renewable energy sources.

The IDB has supported the GoH in this process: It approved in 2014 and subsequently disbursed two programmatic policy loans focused on the reform of the power sector, with a combined amount of USD 170 million.<sup>2</sup> The Bank has also approved a set of non-reimbursable technical cooperation activities to strength the institutional capacities of power sector stakeholders, with a combined amount of USD 1.3 million, out of which USD 950,000 are directly linked to renewable energy.<sup>3</sup> An additional technical cooperation (with a budget of USD 0.7 million) is currently in preparation and seeks to help the GoH in improving the financial sustainability of the power sector.

***Q (CH2): Extension of ADERC (grid-connected RE development):***

***Q (CH2a): To what extent can the planned transmission investment be directly and exclusively linked to investments in RE generation (i.e. not being just an extension of the ordinary grid)?***

A (CH2a): The planned transmission infrastructure under the Revised IP has been identified by independent engineering studies<sup>4</sup> as the critical infrastructure needed to ensure the adequate integration into the grid of both past and future RE generation capacity. Honduras added in 2015 111% of installed capacity in NCRE in a single year, and this trend is expected to continue during the coming years.

***Q (CH2b): We have in particular strong concerns about the proposed use of SREP funding for the “strengthening the interconnection capacity with MER. Please justify to what extent this will favor RE.***

A (CH2b): Given the growing integration of Honduras into SIEPAC, the integration of RE into the grid needs to be seen in a regional context. Moreover, electricity integration has been demonstrated as one of the strategies to increase the participation of NCRE, especially from variable renewable energy technologies.

In the specific case of Honduras, wind and PV development is concentrated in the Southern part of country, and the transmission system of this region is directly interconnected with El

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<sup>2</sup> Programmatic Support for Structural Reforms in the Electricity Sector (HO-L1070). Loan Proposal. See [www.iadb.org/Document.cfm?id=39269790](http://www.iadb.org/Document.cfm?id=39269790).

<sup>3</sup> *Institutional Strengthening for Energy Sector Stakeholders* (HO-T1184); *Support to Cañaveral - Rio Lindo Hydropower Complex Rehabilitation*, which aims to strengthen the capacities of ENEE’s new Business Unit for power generation (HO-T1210); *Renewable Energy Resource Assessment in the Bay Islands* (HO-X1030).

<sup>4</sup> A study on balancing reserves and voltage control for renewable integration in Honduras was conducted by Pacific Northwest National Laboratory (funded by the US Department of State). In addition, a technical and economic assessment for wind and solar penetration in the power grid in Honduras was carried out by a consortium of Ecofys, Energynautics and Quantum.

Salvador and Nicaragua. As the result of the rapid development of solar photovoltaic and wind projects in the last two years in the country, the regional regulator (CRIE) and the system operator (EOR) for the SIEPAC have requested that Honduras strengthens the interconnection capacity with MER to avoid disturbances in the regional grid. Due to this reason, investments related with the development of variable renewable energy for a total amount of USD 92 million have been identified. These investments will allow Honduras to strengthen its capacity to increase the share of NCRE. Therefore, the transmission infrastructure to strengthen the interconnection capacity, while favouring regional integration, will have a key role in supporting the integration of NCRE.

*Q (CH2c): We would like to recall our comment regarding ADERC at the occasion of the submission of the original Investment Plan, as follows:*

*“The IP foresees heavy investments into the power transmission infrastructure (\$56.5 million incl. \$4 million from the SREP) which seem to be in the traditional large grid long distance high voltage field (although not clearly specified). We would like to emphasize that transmission and/or distribution infrastructure should be conceived taking into account the specificities of connecting electricity generation from RE to the grid. Since the sources of power in the case of RE are much smaller and more numerous than with traditional power generation, the grid connections and development should be adapted. We would expect more local (medium voltage) distribution networks, rather than long distance high voltage transmission lines. Also, the specific issues with regard to grid protection should be addressed, as well as the grid control and management issue.”*

A (CH2c): Most of the PV and wind capacity that has been added into the grid (see table 17 from the Revised IP) has been in utility-scale power plants with capacities higher than 20 MW, with distributed generation capacity having a minor role. Moreover, in a limited geographical area, there is a concentration of more than 400 MW in NCRE capacity. This has led to the imperative need to develop large transmission infrastructure to strength the transmission system not only in the area of the projects but also in other areas where transmission bottlenecks were identified. For instance, the big concentration of large PV projects affects the dispatch of electricity in the northern region of the country, where a 50 km transmission grid of 230 kV needs to be upgraded from 138 kV and two substations need to be updated, in order to enable the participation of NCRE to continue growing. As mentioned above, the investment needs for transmission have been evaluated by independent and professional firms specialized in the integration of NCRE.

*Q (CH2d): With the submission of the ADERC project proposal we expect that the nature of transmission equipment to be co-financed with SREP funding will be clearly traceable to RE investments.*

A (CH2d): This request is noted.