Republic of Nicaragua

Expression of Interest to participate in SREP

Ministry of Energy and Mines, Managua, April 11th 2014

I. COUNTRY AND GOVERNMENT AGENCY SUBMITTING EXPRESSION OF INTEREST

On behalf of the Government of Nicaragua (GRUN), the Ministry of Energy and Mines (MEM) has the honour to present this Expression of Interest to participate in the "Scaling-Up Renewable Energy Program" (SREP) of the Climate Investment Funds (CIF). The Republic of Nicaragua is a country eligible for the SREP as a D2 member of the IDB.

II. CONTEXT DESCRIPTIONS OF THE COUNTRY AND THE ENERGY SECTOR

With territory of 130.373 km², Nicaragua is the largest country in Central America and is strategically located in the centre of the Americas. The Nicaraguan population is multi ethnic and estimated at about six million inhabitants, of which 42.5% live in poverty according to the World Bank (WB)[1]. Poverty was the UN's main justification for ranking Nicaragua 129th out of 194 countries on the Human Development Index of 2012[2]. Gross national income (GNI) per capita was $1,650 USD in 2013, the lowest figure for Central America (WB). Figure 1 shows the GNI/capita levels of Central America.

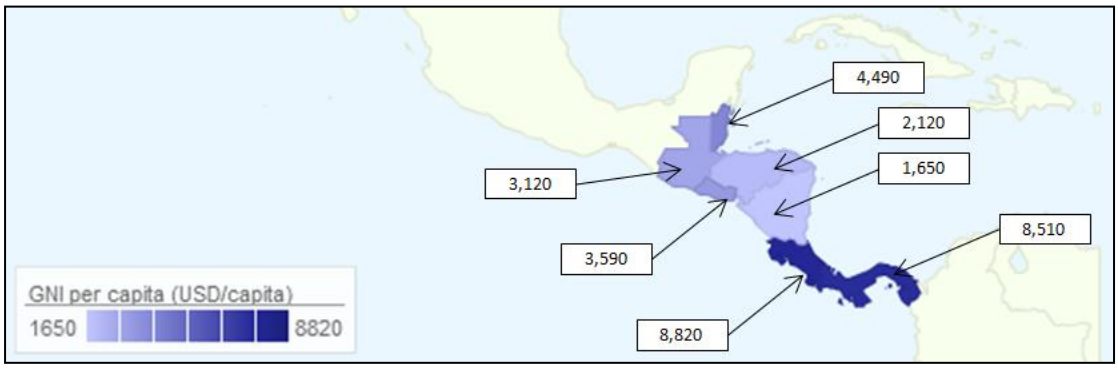

Figure 1 GNI per capita for the Central American countries. Nicaragua is situated at the lower end with $1,650 USD/capita. Costa Rica offers the regions highest figure with $8,820 USD/capita.

Due to the development policies promoted by the GRUN over the past 7 years (2007-2013), GDP trends are now more positive; from 2011 to 2012, GDP grew 5.2% to reach $10,500 MUSD (WB). This economic growth, combined with an adequate legal framework and abundant and diverse natural resources, makes Nicaragua attractive to investors; net foreign direct investment (FDI) reached $810 MUSD in 2012[3].

The constant economic and social dynamisms of Nicaragua postulate significant challenges but also great opportunities for the country's human development. Since energy is one of the principal factors for social inclusion and productivity, the GRUN has aligned its energy policy with its National Human Development Plan (PNDH). It also coincides with the UN's SE4ALL initiative[4]. The energy policy centres on the three following axes:

[1] World Bank, World Bank Open Data, 2014, www.worldbank.org

[2] UNDP, Human Development Report, 2013, http://hdr.undp.org/es

[3] Central Bank of Nicaragua, Annual report, 2012, www.bcn.gob.ni

[4] Sustainable Energy for All, www.sustainableenergyforall.org

- universal access to modern energy services;
- transformation and diversification of the energy mix; and
- energy efficiency.

Specifically, the strategy pursued by the GRUN to meet the challenges of the energy sector includes: (i) reducing the reliance on fossil fuels for electricity generation; (ii) expansion of private sector investment in renewable electricity generation and sustainable use of biomass; (iii) expansion of electricity coverage; (iv) promotion of energy efficiency programs; (v) loss reductions in the national electric system (SIN); and (vi) maximizing the opportunities presented by the interconnected Central American electric system (SIEPAC). Due to its renewable energy potential and geographic position, SIEPAC offers significant prospects for Nicaragua in the Regional Electricity Market (MER).

Over the past seven years, the GRUN has accelerated its electrification efforts and achieved a significant improvement in the electricity coverage rate. Nicaragua's electricity infrastructure nonetheless still presents major challenges to overcome; at year-end 2013, 76.2% of Nicaraguan households were electrified, i.e. an estimated 1.4 million people did not have access to electricity. This represents a major barrier to economic development and also indicates that the electrification target agreed by the Central American countries through SICA (90% coverage in all countries by 2020[5]) remains distant for Nicaragua. For the rest of Central America the coverage rate ranges from 82% in Guatemala to 99% in Costa Rica[6]. Figure 2 shows the development of the Nicaraguan electricity coverage rate.

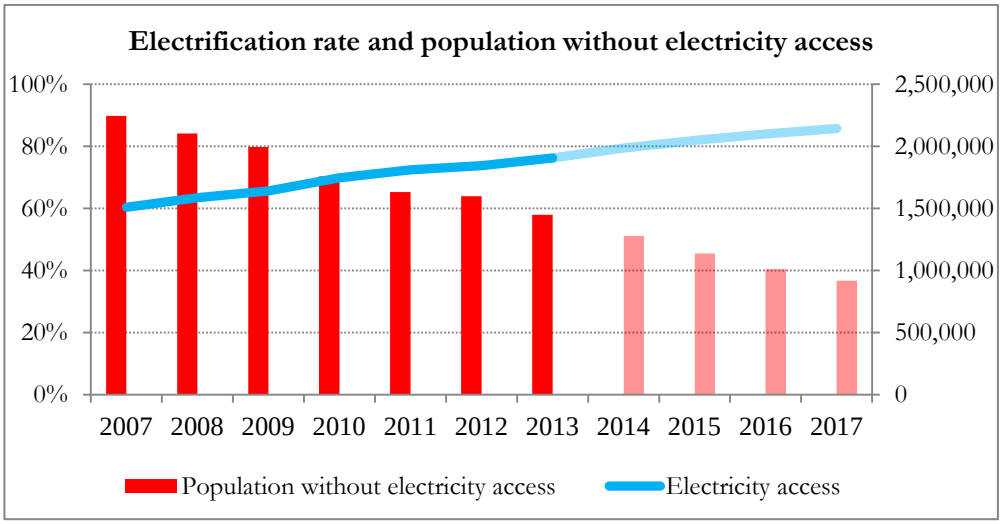

Figure 2 Electrification rate in Nicaragua and number of people without access to electricity. The electrification rate is shown on the left axis and the number of Nicaraguans without access on the right axis. For 2014-2017 projections are shown[7].

Note that the overall coverage rate hides large variations between rural areas and urban centres, areas that are connected to the SIN and those that are supplied by isolated systems, etc. In general terms, the coverage is close to 100% in cities, 40-60% in most rural areas, and 20-0% in parts of the Autonomous Caribbean Regions and the department of Jinotega. In summary, the majority of the 1.4 million people who do not have access to electricity live in rural areas.

In terms of the transformation of the energy mix, the efforts are reflected in Figure 3, which shows the increasing renewable energy share of the total electricity generation mix.

[5] Central American Integration System (SICA), Sustainable Energy Strategy 2020, Objective B.A.1.

[6] SIEED-OLADE, Data base - Electricity, 2014, http://www.olade.org/es/productos/siee

[7] ENATREL, Avances Informativos, 2013, www.enatrel.gob.ni

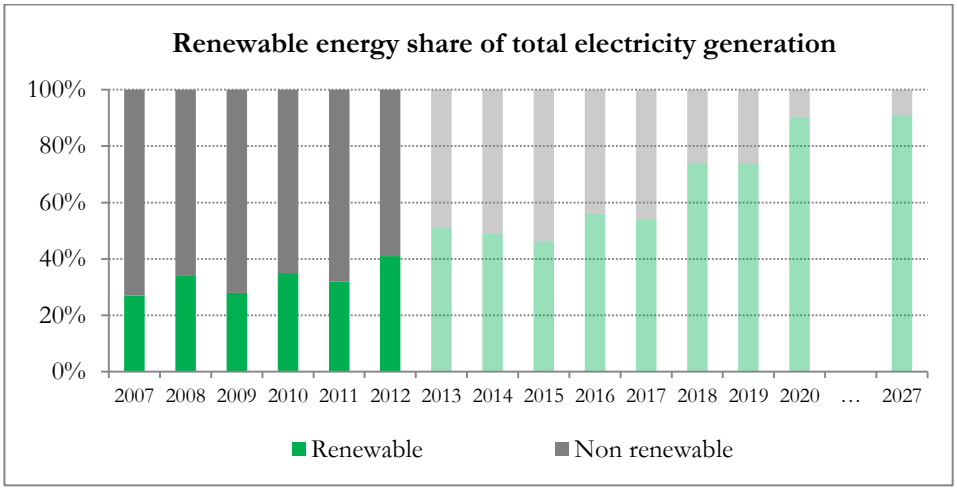

Figure 3 Renewable share in the electricity generation mix. MEM's projections are shown for the period 2013-2027.

The GRUN is committed to the transformation of the energy generation mix and has thus set ambitious goals for the use of the country's untapped renewable resources: the goal is to reach 91% renewable share by 2027. As shown in Table 1, considerable potential for renewable electricity generation remains; the country currently exploits only 10.2% of its potential. Reaching renewable generation potential will require ambitious financing programs, policies and regulatory measures. The regulatory framework for renewable energy is outlined in more detail in chapter IV.

Generation type	Estimated potential (MW)	Installed capacity (MW)	Exploited potential (%)
Hydroelectric	2,000	104.80	5.2%
Geothermal	1,500	153.54	10.2%
Wind	800	186.00	23.3%
Biomass	200	115.80	57.9%
Solar PV	1,000[8]	1.38	0.1%
TOTAL	**5,500**	**561.52**	**10.2%**

Table 1 Renewable energy potential and the percentage presently being exploited.

In addition to the large-scale use of renewable resources for electricity generation, the GRUN has initiated the strategic planning of renewable energy for domestic and productive uses. Approximately 900,000[9] Nicaraguan households cook with firewood on traditional stoves, adversely affecting the national health and environment. Firewood consumption reached 44.4% of the total final energy consumption in 2012, surpassing oil. Consequently, the MEM developed the Firewood and Charcoal Strategy (ENLCV) of Nicaragua for 2012-2022 and is now finalizing a National Program for Sustainable Use of Firewood and Charcoal for 2014-2022, which will promote and facilitate the access to modern energy services for cooking and productive uses.

III. RATIONALE FOR SELECTED SECTORS FOR SREP FUNDING

The PNDH for 2012-2016 establishes the strategic policy framework for the sustainable development of the country. The policies therein aim to address Nicaragua's main environmental challenges, many of which are related to electricity access and the energy mix, including; dependency on fossil fuels, deforestation, climate change, poverty and fragile urban and rural

[8] Estimation based on 5.28 kWh/m²/day insolation (NASA, 2014) and the exploitation of 1% of the national territory (roofs and land areas that are not exploited for productive uses).

[9] MEM, Annual Energy Balance, 2012

infrastructure. This section explores possible sectors in the energy landscape where SREP resources could assist Nicaragua in overcoming these challenges through provisions of financial and/or strategic support.

Sector 1. :	**Geothermal energy**

Nicaragua has the highest estimated geothermal potential of Central America. The exact potential is unknown, but has been estimated at 1,500 MW. Regrettably, only 10% of this is exploited despite a number of private developers having shown interest in investing. The sector's major challenge is to mobilize private venture capital, which is needed in the early stages of geothermal exploration to confirm the resource potential and commercial viability of new fields. To attract private investments, public sector participation is necessary to decrease the private risk capital share and inspire greater investor confidence. In particular, several medium and low enthalpy areas need to be brought from recognition to pre-feasibility stage, in accordance with the Geothermal Master Plan presented in chapter VI.2.

If Nicaragua is to reach its ambitious 91% renewable energy share goal by 2027 (and 95% by 2030 according to the preliminary SE4ALL Action Plan goals) without compromising safety of supply, it is crucial to increase the share of stable geothermal based power generation to counter other intermittent renewable resources. SREP resources could enable the Nicaraguan state to actively move forward with new geothermal explorations and leverage much needed private investments for the sector.

Topics

- Financial schemes adapted to geothermal exploration
- Resource potential studies for both high and low enthalpy areas

Sector 2. :	**Rural electrification**

Even if all the electrification goals of the PNESER (see chapter VI.1) are met, 14% of the Nicaraguan population – close to one million inhabitants – will remain without access to electricity (see Figure 2) in 2020. Through the PLANER initiative (see chapter VI.5) the GRUN is devising a long-term strategy for bringing electricity to this part of the population, which largely live in regions where the only techno-economically viable electrification model is isolated installations, mostly with solar photovoltaic (PV) technology. Execution of the solar PV components of the PLANER will require substantial funding that is currently not in place, as well as private-public models to which SREP could provide catalytic seed funding.

Topics

- Funding of solar PV installations for rural electrification
- Financing of rural energy service companies (ESCOs)

Sector 3. :	**Access to modern energy services for cooking and productive uses**

Continuing the strong commitment and political will to achieve sustainable development and promote improved quality of life, the GRUN promotes sustainable use of wood through the ENLCV. According to MEM, approximately 60% of the total population cooks with firewood on traditional stoves; this is detrimental to health and the environment. Aware of the challenge, the MEM is in the process of promoting a National Firewood and Charcoal Program for 2014-2022. One of the objectives of the Sustainable Energy Strategy 2020 of the SICA is to distribute a million improved cook stoves by 2020. As these require 20-40% less fuel, the initiative will contribute to the reduction of firewood consumption in the region by 10%.

Topics

- Facilitate the adoption and transfer of 400,000 improved cook stoves
- Promote climate friendly technologies in SMEs that use wood in productive processes

Sector 4. :	Small scale hydro power

The interconnection of distributed generation from scattered small hydroelectric developments (less than 1 MW) at medium and low voltage levels would be beneficial for the transformation of the generation mix, as well as for grid stability and power quality. The resource potential is available, but can only be exploited if a number of commercial, regulatory and technical challenges are addressed. Among others, the current tariff structure, lack of skilled locally based personnel to operate the plants, technical interconnection issues etc., are factors that add up to an unfavourable investments climate for small scale hydro power. One concrete obstacle to the replication of small-scale hydro developments in Nicaragua that SREP could help to diminish is financing. Financing terms above ten years for small-scale hydro are not available, and interest rates are generally too high for returns on investments to be satisfactory.

Topics

- Long-term funding for small scale hydro power developments
- Legal and regulatory framework for small-scale distributed generation

Sector 5. :	Biogas for domestic and productive uses

Considering that agriculture and livestock are two of the main economic activities in Nicaragua and that there has been an increase in urban solid waste generation, it is of strategic value to assess the feasibility of exploiting the waste for biogas generation. For these reasons, the MEM has developed action plans for the promotion of biogas from waste as an alternative source of renewable energy.

Topics

- Support existing biogas promotion initiatives
- Develop a market mechanism, policies and regulatory framework that allows a progressive consolidation of the biogas sector

Sector 6. :	Thermal uses of solar energy

Nicaragua has high solar energy potential, which can be exploited for heating water in different sectors of the country: health (hospitals), tourism (hotels) and industries. Furthermore, the availability of the sun throughout the country provides the additional opportunity to promote the decentralized use of solar energy for productive uses to promote rural development. Specifically, the GRUN seeks to facilitate the adoption and transfer of clean technologies for domestic and productive uses of solar energy, among which are: Solar thermal systems for water heating or steam generation, solar PV systems (with wind) for: irrigation pumping, pumping drinking water, cooling systems and communication.

Topics

- Baseline studies and study investment prospects
- Investments in solar thermal energy

SREP involvement in any of these five proposed sections will contribute to achievable, climate friendly, equitable, inclusive, lasting, measurable and poverty reducing social benefits for the Nicaraguan population. Nicaragua lags behind all of the Central American countries on important indicators such as electrification rate, energy intensity and relative poverty, but the GRUN considers that significant and sustainable progress – hand in hand with economic growth – can be achieved through ambitious renewable energy investments. Concretely, SREP funding would:

1. catalyze the attraction of venture capital to early stage geothermal developments. Nicaragua must exploit more of its geothermal resources if the 90% renewable energy by 2020 target is to be met, but investors are hesitant to move in unless the GRUN participates in explorations, for which external funds are required. In summary, SREP investment in geothermal exploration can give a high MW/$ and MWh/$ return;

2. bring modern electricity services to a portion of the more than 900,000 Nicaraguans that are not considered in current electrification schemes and that largely coincide with the most marginalized parts of the Nicaraguan society;
3. significantly improve the living conditions of an estimated 3.6 million Nicaraguans (60% of the population) that are exposed to hazardous indoor environments caused by firewood cooking on traditional cook stoves – this particularly harms women and children. Improvement of cook stoves would also help to decrease deforestation;
4. promote new small scale hydro power developments, thus increasing the renewable energy share;
5. foster the eco-system for bioenergy systems and prepare for the replacement of 10% of Nicaragua's gasoline usage and 5% of its diesel usage with ethanol by 2020 in line with the country's commitment; and
6. promote the exploitation of solar thermal energy for productive uses to drive rural development.

IV. ENABLING POLICY AND REGULATORY FRAMEWORK

Nicaragua's constitution states that national sovereignty sits with the people and is exercised through democratic instruments by which the people can freely participate in the construction and improvement of the cultural, economic, political, and social systems of the nation. The right to freedom of expression is enshrined in the constitution and exercised, among others, by a handful of independent television channels and two independent newspapers that are distributed daily throughout the country.

The current structure of the Nicaraguan electricity market was born in 1998 when the vertically integrated state-owned energy institution was unbundled and largely privatized. The new scheme was enacted through Law 272 of the Electricity Industry, which led to the creation of a wholesale market based on contracts between generators, distributors and end users. As a general practice, prices are monomial and represent both capacity and energy payments. This contract market is complemented with a spot market that allows the balance of supply and demand through a market clearing mechanism for un-contracted energy that is based on merit order dispatch. The basic precepts of the Nicaraguan energy legislation aim to ensure free competition, attract private capital and promote efficiency, and confer a great deal of openness to the market.

Since these reforms were enacted, electricity generation has been carried out by both public and private companies in the context of free competition, with the Nicaraguan Energy Institute (INE) as regulator. Distribution was privatized in 2000, leaving transmission as the only sector under state governance through its ownership of ENATREL.

The SIN is a well-defined network that covers most of the western and central parts of the country, transporting around 99% of electricity. The remaining 1% originates in island systems where legislation allows agents to generate, transmit and distribute under tariffs that are subject to approval by the INE. The Nicaraguan state maintains the responsibility and commitment to electrify rural areas, where the distribution companies have not displayed interest in operating.

In summary, the electricity sector of Nicaragua meets the basic conditions that many investors look for: (i) the roles of policymaker, regulator and entrepreneur are separated, (ii) the regulatory structure promotes efficiency by separating the institutions that function as natural monopolies from those that are competitive, (iii) an appropriate regulatory entity is established, (iv) public agents operate under regular business models, and (v) the GRUN remains committed to the nation's long-term sustainable economic development through the use of renewable resources and the promotion of universal access to electricity.

These reforms and institutional achievements have resulted in a regulatory regime that is very attractive to investors. This is reflected in the scores obtained in the ClimateScope study of

2013[10]. In two of ClimateScope's four categories – *Enabling Framework* and *Clean Energy Investment and Climate Financing* – Nicaragua achieved the best scores of all countries in Latin America, positioning the country as the overall best country in Central America – and the third best in all of Latin America – to invest in clean energy. The scores were based on stability, predictability, transparency, efficiency, ambition and political longevity.

The best testament to ClimateScope's assessment being in line with reality is that $1,367 MUSD were invested in renewable energy projects in the country between 2007 and 2012. Figure 4 shows how these investments were distributed.

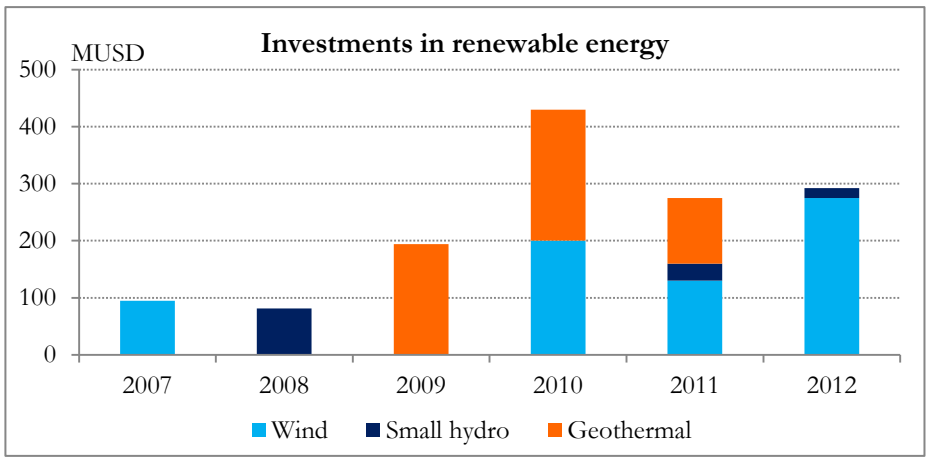

Figure 4 Investments in renewable energy in Nicaragua, including asset finance, corporate finance, equity investments and venture capital. The numbers are from ClimateScope.

Nicaragua has created a special legal framework to encourage investment in renewable energy: Law 532 for the Promotion of Electricity Generation with Renewable from 2005 provides a set of stimuli that aim to encourage the development of new renewable energy projects and the expansions of existing renewable energy fuelled plants, with no discrimination between scales or technologies. The fiscal incentives stipulated in Law 532 are: (i) exemption from payment of VAT during construction; (ii) exemption from payment of import duties (DAI) during construction; (iii) exemption from payment of income tax during the first seven years of operation; (iv) exemptions from municipal taxes over ten years; (v) exemption from all taxes for exploitation of natural resources for a period of five years after the start of operation; and (vi) exemption from stamp tax (FTT) on the construction, extension or operation of the project for a period of 10 years. There are also other specific laws for renewable energy sub sectors.

The Nicaraguan legal framework is designed to attract international investment and support private initiatives, whether related to renewable energy or other purposes. Through Law 344 on the Promotion of Foreign Investment, investors are offered fundamental guarantees, such as the free conversion of currency, freedom to repatriate capital and profits, full protection of property rights, patents and trademarks, with no discrimination against foreign investors.

With respect to electricity prices, Nicaraguan end users pay the highest rates for electricity in Central America when averaged over the commercial, industrial and residential sectors, as Figure 5 shows. The sector specific figures do not favour Nicaragua either; as an example, Nicaraguan residential users pay 154% and 310% of what their counterparts in neighbouring countries Costa Rica and Honduras pay respectively (ClimateScope).

[10] IDB / MIF - Bloomberg NEF, ClimateScope, 2013, http://www.fomin.org/climatescope/2013/

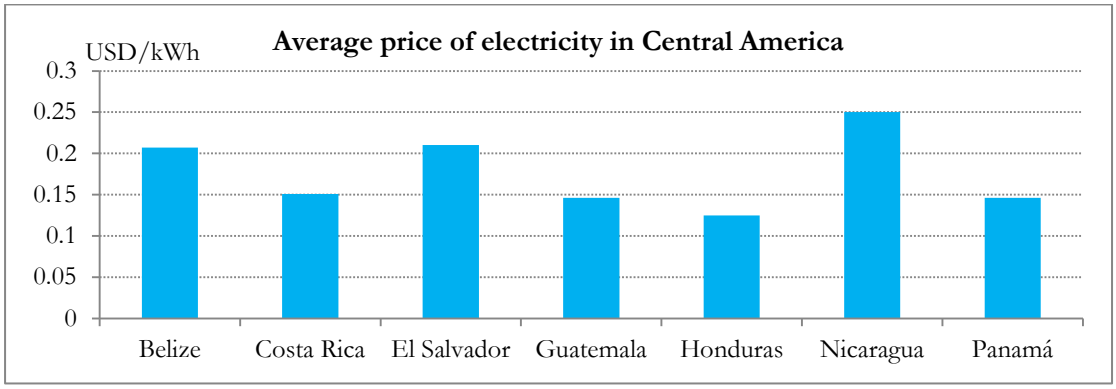

Figure 5 End users pay more for electricity in Nicaragua than in any other Central American country. Prices are averaged over the three sectors: commercial, industrial and residential.

In general terms, the high electricity prices represent a major barrier to social development; this drives changes in the generation mix as prices are expected to fall as fossil fuel based generation is substituted by renewable energy. Meanwhile, the GRUN provides certain electricity subsidies. These are directed to lower-income consumers and rural electrification and are designed to achieve broader social equity and national goals. The subsidies are explicit, transparent and have the necessary funds.

V. INSTITUTIONAL AND TECHNICAL CAPACITY

Despite having few subsectors of clean energy technology (local developers and engineering services do exist) and a need to strengthen the human resources in state institutions, academia and the private sector, both at management and technical levels, Nicaragua can point to a strong track record in developing renewable energy projects. The history of renewable energy projects in Nicaragua in recent years is shown in Table 2, which indicates the GRUN's commitment to its energy strategy and its ability to dispatch projects and bring them to terms.

Project	Commissioning year	Installed capacity (MW)	Technology
AMAYO 1	2009	40.0	Wind
AMAYO 2	2010	23.1	Wind
San Jacinto Tizate 1 (amplification)	2011	38.0	Geothermal
San Jacinto Tizate 2 (amplification)	2012	38.0	Geothermal
Blue Power	2012	39.6	Wind
EOLO	2012	44.0	Wind
Hidropantasma	2013	12.0	Hydro
ALBA Rivas (testing)	*2014*	*40.0*	*Wind*
Larreynaga (final phase)	*2014*	*17.0*	*Hydro*
El Diamante	*2014*	*5.0*	*Geothermal*
CASUR	*2016*	*24.0*	*Biomass*
Montelimar	*2017*	*30.0*	*Biomass*
TOTAL		**350.7**	

Table 2 History of renewable energy projects completed with the participation of the private sector. Projects in italics are under construction.

The GRUN considers that its institutions are fully capable of taking on any of the potential programs described in chapter III. This is not only based on the aforementioned track record, but also relates to the existing programs and partnerships that are described in chapter VI.

Through these, SREP support can complement and draw upon existing organisms and personnel that have experience in organization and implementation for all of the six proposed sectors.
For rural electrification projects, MEM and ENATREL have been responsible for planning and executing various programs financed by multi donor partnerships. Future programs could largely use the PNESER structure (see chapter VI.1) as it is scheduled to end in 2017. Between 2010 and present, the PNESER has been responsible for an estimated 6% increase in the electrification rate. Government institutions are also extensively involved in current firewood initiatives; an estimated 3,000 Nicaraguans will be trained in topics of energy usage, environment and health in 2014 by a union of the Ministries of Education, Health and Environment & Natural Resources (MINED, MINSA and MARENA).
Nicaragua also possesses human capacity in the geothermal and small hydro sectors. While many recent developments in these technologies have had foreign owners, Nicaraguan personnel have been involved on all management levels and in all blue-collar tasks. The San Jacinto Tizate amplifications are examples of such partnerships. Bioenergy appears to be the weakest of the six sectors, yet a small production capacity (12-000 liters/month) and some know-how does exist through strategic cooperation with organizations such as SNV, and the biodigestor programs mentioned in chapter VI.4.
With respect to potential risks, Nicaragua has a modern regulatory regime and energy, and well functioning energy institutions, along with a favourable trajectory of renewable energy projects as discussed in chapters II and IV. Therefore, it is estimated that the main risks associated with projects presented for funding by SREP are external – the heavy dependence on petroleum makes Nicaragua vulnerable to its price fluctuations; destabilization due to possible migration of drug/gang cultures from the northern neighbours, etc. – or general; difficulties in creating sustainable economic schemes for rural electrification projects, etc.

VI. EXISTING DEVELOMPENT PROGRAMS OF MDBs AND ASSOCIATES

This section briefly presents a selection of renewable energy-related initiatives that are supported by development agencies, MDBs and other multilateral organizations. Generally, SREP participation and resources have the option to provide strategic support and funds as well as relating to these programs in a number of other ways: extending their scope; prolonging their timeframe; taking advantage of their human capacities and organizational structures when they end; funding commercial spin-offs; leveraging and triggering additional funding; providing micro finance loans, to mention a few examples.

VI.1 PNESER

To achieve its electrification goals, in 2010 the GRUN established its flagship program PNESER (Spanish acronym for National Program for Sustainable Electrification and Renewable Energy). The program's overarching objective is to reduce poverty through addressing Nicaragua's lack of electricity in rural areas, insufficient transmission and grid infrastructure, system inefficiencies, high dependence on fossil fuels, and lack of investment in renewable sources. The PNESER is a multilateral program that has received a total of $419 MUSD and is supported by the IDB, BCIE, EIB, NDF and EU/LAI and others. The PNESER will end in 2017.

VI.2 Geothermal Master Plan and cooperation with ICEIDA

Cooperation between the MEM and the Icelandic International Development Agency (ICEIDA) allowed the implementation of the 5 year (2008-2012) Geothermal Capacity Building Project (GCBP). The aim of GCBP was to support Nicaragua to improve the usage of geothermal resources for electricity production. Among other recommendations, the GCBP recommends updating the Geothermal Master Plan and developing multiple sites in the coming years. SREP could help to accompany the implementation of the master plan and catalyze investments in a

technology that is strategic in a country where the combination of intermittent renewable energy generation and non-dispatchable loads are set to cause challenges.

VI.3 National Program for Efficient and Sustainable Use of Firewood

The National Program for Efficient and Sustainable Use of Firewood and Charcoal is currently being finalized, as the implementation of the ENLCV. It comprises baseline studies, pilot projects, development of technical norms and test centres, among others, and is connected to the Regional Program for Sustainable Usage of Firewood for 2014-2022. Both the regional and national programs are supported by the World Bank, the Global Alliance for Clean Cook Stoves and several MDBs. These efforts link to the proposed Sector 3.

VI.4 Biodigestor Programs

Through the food production program "Zero Hunger" that the GRUN launched in 2007, 800 biodigestors were built and installed at household level. The effort has been followed by further biodigestor installations, among others the USAID's Millennium Challenge Account (MCA) which has installed 260 digesters. HIVOS, IDB, MIF and SNV are currently implementing a program to accelerate the deployment of biodigestors; the goal is to install 8,000 digesters by 2016. SREP could form alliances with these mechanisms.

The organisms mentioned in the following are not programs per se; they are plans and organizations on more integral levels that SREP could form partnerships with. PLANER is a long-term rural electrification plan that would serve for SREP collaboration with Sector 2, whereas the SE4ALL and IRENA frameworks could help to monitor and analyze any SREP involvement.

VI.5 PLANER

PLANER is the Spanish acronym for National Rural Electrification Plan, which is currently being elaborated for the period 2014-2024. The general objective of PLANER is to establish an annual investment program for electrification efforts that complement the PNESER and continues to stand when the PNESER ends. Specifically, PLANER seeks to develop plans for electrification through individual renewable energy based systems, mini-grids and micro/mini hydro power plants, sustainable electrification models for isolated systems, and grid extensions.

VI.6 SE4ALL

Nicaragua participates in the UN's Sustainable Energy for All (SE4ALL) initiative with the support of the IDB and IRENA. Through SE4ALL, Nicaragua is committed to contribute to the three overall objectives for 2030: (i) ensure universal access to modern energy services, (ii) double the rate of improvement in energy efficiency and (iii) double the share of renewable energy in the energy mix. Nicaragua underwent a Rapid Assessment and Gap Analysis, and launched its SE4ALL National Action Plan in November 2013. Nicaragua is now in the process of finalizing this plan, in order to determine the specific objectives and the indicators to monitor these. 2015, 2020 and 2030 will be the three major milestones. This monitoring framework would, together with the SE4ALL Global Tracking Framework, be a good basis for the SREP to assess the direct impact of its contributions.

VI.7 IRENA

Nicaragua is a voluntary member of the International Renewable Energy Agency (IRENA). With the support of IRENA, Nicaragua has developed a Renewable Readiness Assessment (RRA), which is a holistic assessment of the conditions for the development and implementation of renewable energy projects in the country and the actions needed to improve them. Nicaragua is presently developing a RRA Action Plan aligned with the SE4ALL 2030 objectives in order to accelerate the adoption of renewable energy technologies by 2020. Specific indicators and milestones of this process would add to SREP's options for assessing its support.