THE INTERNATIONAL REC STANDARD

Country Assessment Report

Country/Region Name- Costa Rica:

Costa Rica is situated in Central America; bordered by Nicaragua, Panama and Ecuador. It has a population of 5 million and GDP worth $60 billion, growing at a rate of 2.6%.

Economic structure and activity:

Costa Rica has a mixed economic system, combining private freedom with some centralised economic planning and regulation. Its stable growth over the past few decades has been attributed to its outward-oriented strategy, based on openness to FDI and gradual trade liberalisation. Costa Rica is widely recognised as a global leader in policy implementation for environmental protection and sustainable development through its en

The service sector dominates the economy, with a 68.7% share of the nation's GDP. Tourism, particularly ecotourism is growing significantly thanks to Costa Rica's plethora of pristine rainforests, mountains and beaches. Industry contributes 19.47% to overall GDP, with the nation's manufacturing expertise including petroleum products, electronic components, furniture, paper, textiles, clothes, chemicals, pharmaceuticals, plastic goods, shoes, cigars, cigarettes, and jewellery. The agricultural sector accounts for 4.58% of GDP

(World Bank 2020)

Top private companies with RE commitments:

Generation and demand: (e.g. type, MW, TWh)

In 2018, installed capacity in 2018 reached 3,617 MW:

- Hydroelectric- 65.6% was Hydroelectric
- Thermoelectric- 15.81%
- Geothermal- 5.72%
- Bagasse- 1.45%
- Wind- 11.27%
- Solar- 0.15%

In the same year, power generation was 11.355 GWh:

- 98.6%- renewable energy
- 1.4% thermal (diesel and bunker).

The generation matrix was comprised as follows GWh:

- Bagasse- 76.67 (0.68%)
- Thermal- 158.55 (1.4%)
- Hydroelectric- 8,342.9 (73.47%)
- Solar 9.89- (0.09%)
- Geothermal- 968.57 (8.53%)
- Wind- 1,798.87 (15.84%)

In 2019, 99.15% of electricity was generated from renewable energy and is expected to reach 100% by the end of 2020.

Peak demand in 2018 was 1,716 MW on the 12th of March at 16.30 hr.

(CENCE 2018)

Electrical Interconnection and import/export:

The National Electric System (SEN as in Spanish) extends from Peñas Blancas, the border with Nicaragua, to Paso Canoas, the border with Panama, and from Sixaola in the Caribbean to Santa Cruz on the Nicoya Peninsula. The transmission grid is fully interconnected, including the connection lines with the aforementioned countries, which feed the Electric Interconnection System of the Countries of Central America or Sistema de Interconexion Electrica de los Paises de America Central for the MER. Costa Rica had a total of 2,373km of transmission lines, distributed in 1,724km of links at 230kW and 650km of 138kW as of 2017.

The (SEN) is operated and managed by a public organization called the Centro Nacional de Control de Energía (CENCE) that belongs to the Instituto Costarricense de Electricidad (ICE). The CENCE also plans the electricity system expansion. As of October 2014, the Electric Integration System for the Countries of Central America (SIEPAC, as in Spanish) enters into operation (Fig 1). The expansion of the transmission system and creation of a Regional Market (MER, as in Spanish) was supported by the previous signature of the Central American Electricity Framework Treaty, signed by the six countries of Central America at the end of the 1990s.

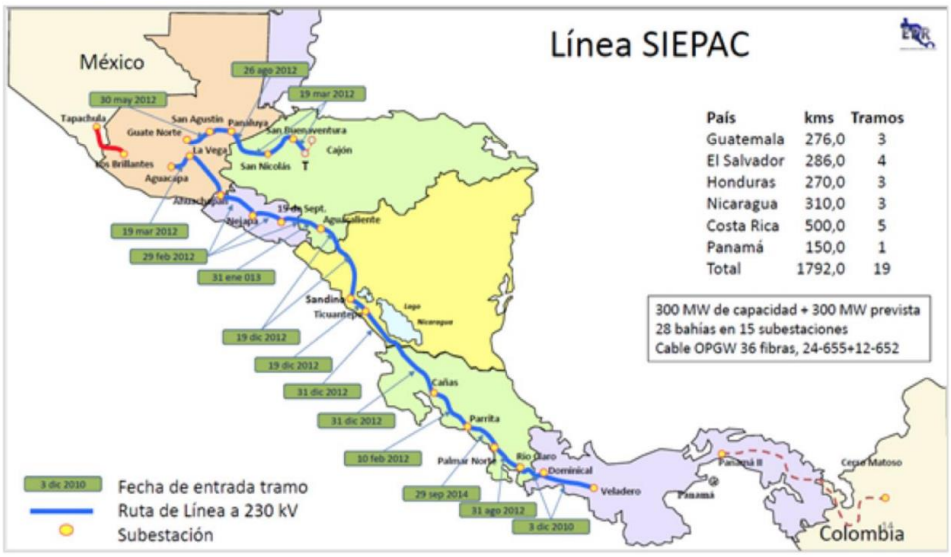

Figure 1. SIEPAC transmission line.

During 2018, Costa Rica exported 308 GWh and imported 66GWh from the country's members of the MER.

Market Structure:

The electricity market comprises of three different activities: generation, transmission and distribution. These activities are mainly concentrated in the public entity called ICE. The distribution sector involves ICE's subsidiary CNFL (Compañía Nacional de Fuerza y Luz) and some small municipal utilities and cooperatives. ICE is the largest supplier of electricity, but beyond that the state-owned company also, by law, is the sole buyer of electricity from independent producers. Companies responsible for the distribution (ICE also distributes electricity itself) can only buy electricity from ICE.

The Costa Rican government plays a very prominent role in the power sector, in the policy, planning and regulatory areas, and in sector operations. Cooperatives and municipal utilities can generate electricity to sell to users located in the geographic area of their concession, all

new generation must be approved by the MINAET (Ministry of Environment, Energy and Telecommunications). In addition, they can sell the surpluses to ICE or among themselves.

Two laws approved in 1990 (Law 7200) and in 1995 (Law 7508, amending Law 7200, that introduced entry competition for private generation) allowed for up to 30% participation of IPPs in the market with a generation capacity below 50 MW. This decision was mainly aimed at spurring the development of RE plants supported through PPAs (Power Purchase Agreements) with ICE. Every company that wants to generate electricity must be owned at least 35% by Costa Rican investors. Private generation of electricity contributes around 13 % of SEN total generation in 2018.

Responsible Government Department: (include key contacts)

Ministry of Environment and Energy or Ministerio de Ambiente y Energia (MINAE) is responsible for the nation's energy agenda. It produces guidelines, ensuring legal compliance with regulations related to the activities of the energy sector. This is in order to promote evaluation, measurement and monitoring of the works, activities and projects in MINAE's purview.

ARESEP (Public Utilities Regulatory Authority) is the power industry regulator, setting all public tariffs for all Costa Rican electricity consumers by using cost-of-service pricing. It also supervises compliance with laws and regulations.

The General Comptroller of the Republic or Contralor General de la Republica (CGR) is a constitutional body and auxiliary of the legislative assembly overseeing the use of public funds to improve the management of the public treasury and contribute to political and citizen control.

The National Center for Energy Control or Centro Nacional de Control de Energia (CENCE) directs and manages the operation of SEN to meet the country's demand in electricity and make effective energy exchanges, such as importing and exporting, with the Regional Electricity Market or Mercado de Electricidad Regional (MER).

Existing/Planned Energy Legislation: (is there a CPO)

The Decree Law 449 – passed in 1949 established the creation of the ICE with the purpose, among others, to develop the rational use of the energy sources that the country owns, especially the hydraulic.

The Law 7200 - established a cap in the generation market of 15 % of the whole Costa Rican generation system for private companies under Build-Own-Operate (BOO) contracts to sell energy to ICE. It also sets a limit of 20 MW per plant. -The Law 7508, establishes a cap of another 15 % for private companies wishing to develop Build-Own-Transfer (BOT) projects with ICE. The limit is 50 MW per plant. -The Law 8345 sets the possibility for the small municipal utilities and cooperatives to generate their own electricity.

Environmental Legislation for RE:

The country has promoted the usage of RE since the creation of the ICE in 1949. This has been strengthened by the latest launch of a governmental decarbonization plan.

Existing/Planned Certificate Systems: (purpose, extent)

There is no EAC system operating in the country. The I-REC standard will be implemented to operate without restrictions because the regulation allows it. The issuer of the rest of the world, the Green Certificate Company (GCC), will operate as a local issuer until to find a Costa Rican company to act as I-RECs local issuer. The information to verify the registration and the generated volumes of the devices will be the one publicly annually provided by the CENCE through the following links:
https://apps.grupoice.com/CenceWeb/CenceDescargaArchivos.jsf?init=true&categoria=3&codigoTipoArchivo=3008

There is also monthly information available in:
https://apps.grupoice.com/CenceWeb/CenceDescargaArchivoMes.jsf?init=true&categoria=3&codigoTipoArchivo=3007&fecha_inic=ante;

however, this needs to be more disaggregated to verify the month generation for each device registered in the I-REC system. The CENCE is willing to make changes in order to make this report more useful for different stakeholders. In addition, there is a renewable energy statement issued by the CNFL called "Galardon de Energía Renovable". This statement is given to their customers and establishes the percentage of RE in the energy matrix at certain period of time required by the costumer. It is recommended to follow the development of this "Galardon" in order to identify potential way of future cooperation.

RE market potential:

Grupo ICE does not foresee an expansion of demand for electricity beyond current capacity but will look to add geothermal resources as existing facilities reach the end of their expected life span. No new state-owned additions to the system are therefore expected until 2027, when ICE will review the need to expand fleet of electrical generators. In the future, ICE will most likely de-emphasize further expansion of hydroelectric power in favour of more wind, solar, and geothermal capacity. Part of the reason is that the hydro facilities are located far from the population centres and require significant infrastructure investment to transport the electricity they generate to the national grid. In conjunction, hydropower can be a unreliable source of electricity during the drier months of the year.

Recommended Generation Expansion Plan for 2019–2026

No.	Name	Company	Technology Type	Installed Capacity	Estimated	Estimated Total Investment
1	San Rafael	H. Solis	Hydroelectric	7	2021	27
2	Rio Bonilla 1320	H. Solis	Hydroelectric	6	2021	22
3	Rio Bonilla 510	H. Solis	Hydroelectric	6	2021	24
4	Borinquen I	Grupo ICE	Geothermal	55	2026	424
			Total	**74**	**—**	**497**

H. Solis – Constructora Hernan Solis S.R. Ltda. Group ICE – Instituto Costarricense de Electricidad or Costa Rican Institute of Electricity.
Source: Fitch Solutions, Costa Rican Institute of Electricity.

Fig. 1. Recommended generation expansion projects (Fitch 2019).

Market risks and challenges:

The Costa Rican electricity sector is highly exposed to regulatory interference risk, given the lack of clear and transparent electricity tariff schedules. Distribution companies propose electricity tariffs for end users to the regulator annually, while regulatory and political interference affected the tariff adjustment process in recent years. Tariffs are set using two mechanisms: through the quarterly adjustment of variable costs of fuel in place since 2013 and an ordinary tariff review that considers operating cost.

(Fitch 2019)

Extent of Engagement with Government: (brief summary of any contact already made with the national government regarding certification in general and I-REC)

The idea of implementing the I-REC Standard was welcomed by the Vice-minister of Energy and Environment, [redacted]. He supports the idea that I-REC starts operating in a voluntary basis because it will help to position the country as a place to manufacture almost zero carbon emissions products or process. The meeting was held at the end of July 2019 and I-REC representative attended together with representatives of CMI Energia from Costa Rica. In addition, [redacted] has suggested to arrange a seminar together in order to make stakeholders aware of this certification

Expected response from Government:

Current Environmental Reporting in Energy:

Most of the companies involved in the electricity market have their own reports, most of them based on the information provided by CENCE. Environmental regulation is overseen by the Secretaria Técnica Nacional Ambiental (SETENA).

(SETENA https://apps.grupoice.com/CenceWeb/CenceMain.jsf

Any other Relevant Information:

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