THE INTERNATIONAL REC STANDARD

Country Assessment Report

Country/Region Name: Republic of Argentina

Argentina is situated in southern half of South America; bordered by Chile, Bolivia, Paraguay, Brazil and Uruguay. It has a population of 44.5 million and GDP over $519 billion, with a negative growth rate of 2.482%.

(World Bank 2018)

Economic Structure and Activity:

Argentina has a mixed-economic system, combining some market freedom with centralised economic planning and state regulation. The service sector accounts for 55.48% of GDP, spearheaded by telecommunications, high-tech services, ITC and tourism. Industry contributes 22.97% to GDP and is dominated by the manufacturing of motor vehicles and auto parts, consumer durables, chemicals, petrochemicals, pharmaceuticals, steel production and electronics. Food processing and packing is another significant sector across the nation's manufacturing services, particularly meat packing, flour grinding, canning and flour-milling. Argentina is also well endowed with raw materials, possessing the world's third largest shale gas reserves and fourth largest lithium deposits. The agricultural sector accounts for 6.1% of GDP and is mainly based on cereal cultivation, citrus fruits, tobacco, tea and grapes for wine. Argentina also specialises in livestock farming and soy production for biodiesels.

(Statista 2018; Santander 2020)

Generation and demand[1]:

The 2019 generation was 134 TWh, thermal reached 59.8%, nuclear 5.9%, renewables 5.8% (excluding most hydro but including mini hydro <=50MW), hydro 26.4% and imports 2%. The generation is mainly controlled by private organizations as opposed to state owned entities.

The installed capacity of the generation in the country was 39.7 GW: 61.8% thermal, 27.2% hydro, 4.4% nuclear and 6.5% renewable energy. The latter represents a 74% growth with respect to 2018, totalizing 2.6 GW of installed RE capacity.

The maximum demand was 26.1 GW in January 2019.

The electricity consumption fell 3.1% compare with 2018. Residential is equivalent to 43% of the total consumption, Commercial is 29% and 28% large Users[2].

The major electricity consumers are the metals/aluminum company ALUAR, the chemical/plastic & other minerals (no metallics) industry, the non-automotive metallics products, food & massive consumption goods as well as the oil industry (exploitation and derivatives).

[1] Source: Informe Annual 2019, CAMMESA

[2] Big Users are GUMAs (Greater Big Users), self-supply companies, GUMEs (Smaller Big Users) and GUDIs (Big Users in distribution >300kW)

Electrical Interconnection and import/export:

Argentina has a unique interconnection system called Sistema Argentino de Interconexión (SADI). More than 95% of the Argentine population has access to interconnected power grids.

Electricity exchanges from Uruguay, Paraguay, Brazil and lately from Chile are available. During 2019 imports were mainly from Uruguay.

Type	Country	2019	Contribution (%)
Export (GWh)	Brazil	-261.2	100.0%
	Chile	0.0	0.0%
	Paraguay	0.0	0.0%
	Uruguay	0.0	0.0%
Total Export		**-261.2**	**100.0%**
Import (GWh)	Brazil	212.0	7.7%
	Chile	0.0	0.0%
	Paraguay	127.0	4.6%
	Uruguay	2407.4	87.7%
Total Import		**2746.3**	**100.0%**

Source: CAMMESA Annual Report 2019

Import deals with Bolivia are under negotiation. It requires the construction of a cross-border transmission line.

Market Structure:

The electricity industry is organized into three main business segments: generation, transmission and distribution.

The generation business is very competitive. Private actors own a significant share of Argentina's generation capacity, which include: the locally owned Pampa Energía, Central Puerto and YPF Luz, the US firm AES Corp, a local subsidiary of Italy's Enel, and Córdoba provincial utility EPEC.

The transmission and distribution segments are structured as regulated monopolies. The transmission system of 500 kV is owned by the Federal Government and operated by a regulated monopoly, which is a publicly listed company called Transener. The regional transmission lines are owned and operated by private monopolies that have the concession over a defined geographical area.

The lower distribution lines, are controlled by the local utilities, which also are regulated monopolies that own and operate in geographical areas under a concession contract. Some of these utilities are private companies and others are owned by provincial governments. About 35% of the population of Argentina lives in Buenos Aires metro area, and they are all served by two utilities, Edenor and Edesur that take ~40% of market share.

The distribution regulation mandates ENRE (National Electric Power Agency) to carry out a regular five-year review and adjust the rates charged by companies Edenor and Edesur following a formulae correlated to inflation index. Provincial regulators use a similar mechanism but carry out their reviews independently.

Responsible Government Department:

The Federal Government through the Secretary of Energy, today under the Ministry of Economy sets public policy over most of the power & utilities sector. The power markets regulator is ENRE which supervises market functioning, grants access to the transmission system and regulates the utility rates, and the general concessions in the capital city and metropolitan area of Buenos Aires.

CAMMESA (Compañía Administradora del Mercado Mayorista Eléctrico) is a private nonprofit company owned by agents of the wholesale electricity market (80%) and by the Secretary of Energy (20%) who is the controlling shareholder. It is in charge of the operation of the SADI, the monitoring of economic transactions and settlement among the agents and the billing, collection and finance of market funds. Since January 2020, Cammesa has taken the role of fuel procurement for most of the thermal power plants dispatching in the grid.

IEASA (Integración Energética S.A.) is a state-owned energy company (former Enarsa) mostly focused on the gas market. Its direct participation in the electricity sector is limited.

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

A competitive wholesale electricity market was created under the 1992 Electricity Regulation Act (Law N° 24065) and also an independent system operator, CAMMESA, to oversee it.

According to this Law, wholesale electricity deals can occur either via a bilateral contract or on the spot market. Contracts were negotiated directly between a generator and a distributor or a large consumer. However, after several amendments, currently only large users (≥300 kW) are enabled to directly contract electricity with renewable power producers in the term market for renewable energy (Term Market for Renewable Energy, Mercado a Término de Energía Eléctrica de Fuente Renovable MATER). These represents 15-20% of annual energy sales.

The rest of the transactions are done at a fixed seasonal price calculated by CAMMESA every six months, as part of its joint purchase mechanism, to supply distribution companies (almost 80% of annual electricity) and other large users that have not exercised the right to opt-out and migrate to the MATER. The joint purchase mechanism include the renewable contracts from the RenovAr program.

The Resolution SE No. 1281/2006 implemented the PLUS Energy Service which brought new thermal generation capacity, basically natural gas plants with secured fuel availability, to cover the excess over 2005 base demand of large users. All the new thermal plants under this service were contracted.

For the time being, and under the validity of Resolution No. 95/2013, the term market (direct agreements between generators and big consumers) is suspended with the exception of the PLUS Energy Service and the purchase of energy through renewable PPAs within the framework of Resolution 281-E / 2017.

The Resolution No. 31/2020 of the Ministry of Energy approved a new remuneration mechanism for generation, cogeneration and self-generation, conventional and renewable, that act without having an electric power supply contract. A new remuneration scheme is introduced that provides that the sums paid by CAMMESA to the wholesale market (MEM) agents will be nominated and paid in Argentine pesos. The values established in Argentine pesos will be updated on a monthly basis based on a formula that includes the variation in the Consumer Price Index (IPC) and the internal wholesale price index (IPIM) published by INDEC. However, the aforementioned

adjustment has never been applied because on April 2020 this monthly adjustment has been halted until further notice.

Environmental Legislation for RE:

The Law 27.191 (2015) and presidential decrees 513/16 and 882/16 established new mandatory rules and renewable energy targets on distributors and large users of electricity (those with average annual demand greater than or equal to 300 kW). These users can remain in a joint purchasing mechanism organized by CAMMESA or leave this mechanism (which is defined as "opting out") and be required to meet certain renewables purchasing targets.

The obligation sets a minimum consumption of renewable energies according to the following percentages of the total: 8% from 2017 to 2018, 12% from 2019 to 2020, 16% from 2021 to 2022, 18% from 2023 to 2024 and 20% from 2025.

This regulation defines that the mandate can be fulfilled in three ways:
a) generating its own electricity through the figure of "autogenerador" (self-generator),
b) contracting directly with a renewable generator (through the MATER),
c) Or, as previously mentioned, remaining in the joint purchasing mechanism organized by the Government.

To ensure compliance with the law, the regulator carries out annual audits and penalizes those users who do not comply with the obligation.

The joint purchasing mechanism described in letter c) is carried out through renewable energy tenders organized by CAMMESA. As defined in Decree 513, these auctions must be technologically neutral and have a maximum price of US $ 113 / MWh. The Government to date has implemented a tender program called RenovAr, in which framework Round 1 and 1.5 have been developed in 2016, Round 2 in 2017, and Round 3 in 2019. The awarded projects have a Certificate of Inclusion in the Regime of Promotion of Renewable Energies granted by the Authority (Secretary or Undersecretary).

On the other hand, those users that decide to leave the joint purchasing mechanism authomatically comply with the obligation through the signing of contracts with renewable generators of the Term Market for Renewable Energy (MATER), defined previously in letter b), and must conduct their transactions privately with the generators according to the requirements of Resolution 281-E / 2017. This resolution also creates a National Registry of Electric Power Generation Projects of Renewable Source (RENPER) administered by the Direction of Renewable Energies. The regulation requires that all renewable energy projects be registered in the RENPER, available in this link.

Eligible renewable plants are all those connected to the SADI with COD[3] after January 1ST, 2017 regardless their contractual regime (joint purchase mechanism, self-generation, MATER contracts), excluding hydraulic power with a capacity greater than 50 MW. CAMMESA monthly calculates the RE percentage reached adding the eligible plants generation and dividing the obtained result by the demand from the wholesale market (MEM). The obligation annual balance is delivered not later than February 10th of each year.

The renewable energy regulation related to self-generation, defined in a), is ruled through the Law n° 27.424, decree PEN 986/18 nd resolution SGE 314/18, which includes users upto 2 MW.

In 2019, unconventional renewable generation represented 8.7% of total market demand.

[3] COD: Commercial Operation Date

RE Market Potential:

Argentina hosts one of the most desirable wind corridors in the world, situated in Patagonia. Average wind speeds of more than 6 m/s in around 70% of Argentine territory, with a capacity factor of 35% or higher. Solar energy is another promising option for developers. Average solar irradiation levels are generally high across the nation, but most notably in the north west where the nation receives 6 kWh/m2 per day. Furthermore, there are 14 geothermal basins within Argentina obtaining significant reserves for power generation, which could be converted into an installed capacity of up to 1,600 MW (Think Geoenergy 2018).

Argentina has recently been sighted as one of the most attractive markets to invest in renewable energy (Forbes 2019). In 2015, the Ministry of Energy and Mining, serving under President Mauricio Macri, aimed to diversify the nation's power mix, de-risk the renewables sector and promote international investment. In particular, the drafting of an RPS of 20% renewable share of generation by 2025 boosted renewable energy growth. In 2019, Argentina rose to 9th globally and 1st in South America in Ernst and Young's Renewable Energy Country Attractiveness Index (EY 2019).

		Unidad	ENE-DIC 2018	ENE-DIC 2019
POTENCIA INSTALADA		MW	38,538	39,704
Hidráulica	Hidráulica	MW	10,790	10,812
Térmica	C. Combinados (*)	MW	11,034	11,245
Térmica	Turbina a gas (*)	MW	7,237	7,396
Térmica	Turbovapor	MW	4,451	4,251
Térmica	Motor Diesel	MW	1,808	1,653
Nuclear	Nuclear	MW	1,755	1,755
Renovables	Eólica	MW	750	1,609
Renovables	Biogas	MW	23	44
Renovables	Biomasa	MW	0	2
Renovables	Solar	MW	191	439
Renovables	Hid. Renovable	MW	498	498

Source: CAMMESA Annual Report 2019

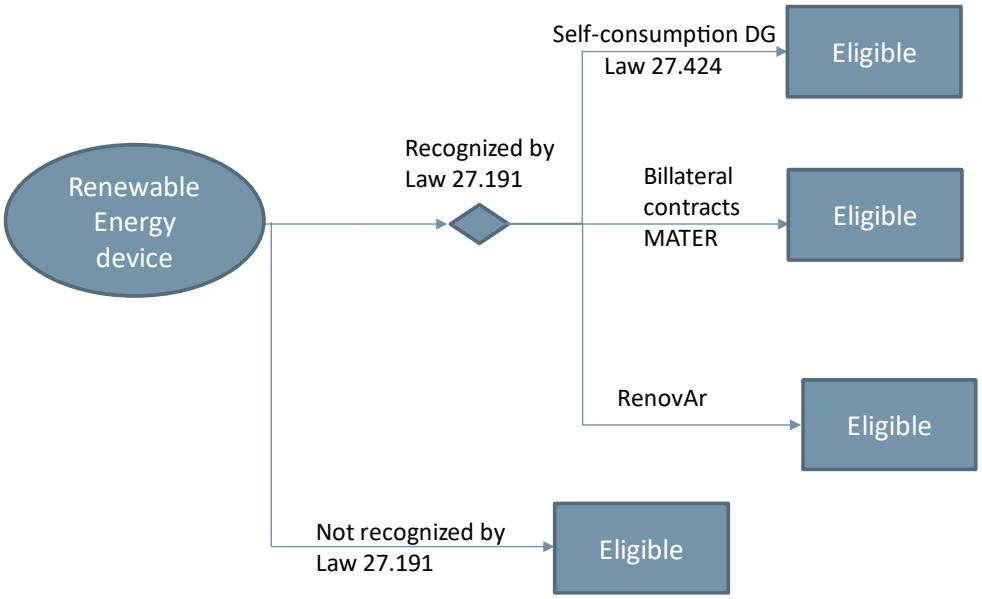
(Ministry of Foreign Affairs and Worship 2012; PWC 2017)

Existing/Planned Certificate Systems:

Currently, there is no Energy Attribute Certificate System in place in the country. However, the Undersecretariat of Renewable Energy have launched a consultancy project, funded by the World Bank, to determine how to implement a Renewable Energy Certificates scheme (RECs). The study is expected to be released by the end of 2020. However, in direct discussions with the relevant government officers they have indicated that there is no intention of the government to participate or interfere with the potential operation of the I-REC system in the country. They have also mentioned that it is unlikely that I-RECs can be used to prove compliance under the Renewable Energy Law (Law Nº27.191).

I-REC initially proposed to start a pilot project issuing I-REC certificates for RE devices that have been commissioned or began commercial operations after January 1ST, 2017 that have been built

with the purpose of honoring MATER contracts (letter 'b' as described in the previous section) and those renewable devices not recognized by Law 27.191. After analysing the requests from RenovAr generators, the I-REC Secretariat has considered extending the eligibility criteria to include these projects given that the ownership of environmental attributes have not been transferred to Cammesa, nor any other party, in the long term purchase agreements. The following diagram reflects the updated eligibility criteria for I-REC issuance in Argentina.



The I-REC Central or Local Issuer, in the first instance, would be in charge of verifying the device information provided by their owners or their relevant agents (registrants).

The Central or Local Issuer can verify the device production in the following websites: link1 or link2.

Extent of Engagement with Government:

Under the World Bank's Partnership for Market Readiness (PMR), the Government of Argentina is in the process of identifying and developing policies which will support the achievement of its NDC (Nationally Determined Contributions) pledges. Argentina's Draft Market Readiness Proposal (MRP) outlines a number of potential strategies aimed at reducing GHG emissions. The proposed policy which most directly addresses the need to increase the use of renewable energies, is the Renewable Energy Certificates Scheme (RECs). However, an implementation of a mandatory REC scheme to support the current regulation is so far unlikely.

Contacts with government include meetings with the team led by [redacted], [redacted], and recently with the CEO of [redacted]. [redacted] was invited to participate in the issuance but did not express interest to date.

Expected response from Government:

According to I-REC representatives meetings with the Government (Secretary of Energy), the proposed structure operates as a voluntary mechanism without interfering with the existing regulation.

Any other Relevant Information:

The I-REC Standard Secretariat has been actively reviewing the Argentian market for more than a 2-year period and has spoken with local stakeholders about the concept behind the market creation: final consumers, generators and consultancy firms. The I-REC Standard, as part of the broader consultation process, has only received positive remarks and has had the country report reviewed and checked by a number of stakeholders before being presented to the board. There is not stakeholder, either market party or government authority, that has expressed concern related to the implementation of the market. That said, as this is defined as a pilot project, the Secretariat will remain in close coordination with the government and various stakeholders to ensure it is meeting their expectations and local demands, particularly regarding the presence of a local Issuer to avoid foreign currency surcharges in official transactions.

It should be noted however that, during the consultation process for this document, one of the largest national generation companies inquired about how a consumer should be able to make a claim of 100% RE if the consumer is also required to purchase electricity under the MATER mechanism. Even though redemption and claim requirements are generally outside of control of I-REC Standard, the Secretariat provided two forms of potential adherence to such a claim:

1. They consume 100% of their real consumption with I-RECs. In this scenario the requirements to comply with the purchase obligations as defined in the law and coordinated via MATER could be provided by the contracted generator and the end-user would still need to purchase, to the same or another generator, certificates above what is required under MATER to meet 100% of their actual consumption.

2. They consume I-RECs only for the portion of electricity above what is required under MATER. In this case the end-user would assume the requirement to purchase, say 16% RE in 2021, would count towards a renewable electricity claim and as such only purchase I-RECs for the remaining 84%.

While both of these visions are defensible, the I-REC Standard does not have requirements on the reporting of RE claims and as such does not make a formal decision related to the validity of either of these two mechanisms.

I-REC Standard Foundation led consultation with generators

The I-REC Standard local team reached out to 22 stakeholders and market players in the Argentinian market. These market players, many generators, represent more than 50% of the total production in the MATER. The stakeholders included large consumers, legal and consultancy advisors in the electricity sector and the government. All of the stakeholders understood the mechanism of the I-REC Standard and they also suggested, in the case of generators, that they would (9 of 12) make use of I-RECs as soon as they are available. In general the stakeholders also had strong preferences on the future issuer for Argentina, a topic with the secretariat is reviewing in more detail.

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