

# **UNDERSECRETARIAT OF RENEWABLE ENERGY & ENERGY EFFICIENCY**

Main programs and lines of work

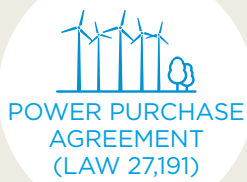
*October 2019 – V.1*





## UNDERSECRETARIAT OF RENEWABLE ENERGY AND ENERGY EFFICIENCY

### RENEWABLE ENERGY



RenovAr Program  
Corporate Renewable  
Energy PPA's legal  
framework



PERMER  
Program

### ENERGY EFFICIENCY



Promotion  
of Energy Management  
Systems

Smart Transportation  
Program  
Labeling of  
lightweight vehicles



Household  
labelling  
Public Sector

Labelling of  
electric and gas  
appliances



EDUCATION ON ENERGY SUSTAINABILITY

INTERNATIONAL COOPERATION

# RENEWABLE ENERGY

BY VIRTUE OF LAW N° 27,191,  
A MANDATORY TARGET TO  
MEET 20 % OF THE ELECTRICITY  
CONSUMPTION BY MEANS OF  
RENEWABLE ENERGY BY 2025 WAS  
SET IN THE ARGENTINE REPUBLIC.

**What do we do to achieve such mandatory target?**

## RENOVAR PROGRAM

The goal of this Program is the purchase, on a long-term basis, of renewable energy electricity. It is led by the Compañía Administradora del Mercado Mayorista Eléctrico S.A. (CAMMESA – Body Responsible for the Dispatch), on behalf of the demand and as instructed by the Government Secretariat of Energy, by means of national and international open calls for tenders for the submission of projects called 'Rounds'. In Argentina, all renewable energy purchased through these Rounds are known as Joint Purchases.

The RenovAr Program includes a scheme that coordinates different levels of guarantees (payment and sovereign guarantees) designed within the framework of the Fund for the Development of Renewable Energy (FODER, as per its acronym in Spanish). Such Fund was created by virtue of Law N° 27,191. These guarantees, together with the Guarantee Program jointly designed with the World Bank, offer a higher lever of security to the awarded projects.

A Certificate of Inclusion in the Renewable Energy Legal Framework is granted to the awarded projects. Additionally, tax credits, such as VAT advanced returns, income tax accelerate depreciations, import duties exemptions and tax certificates are allocated to the projects pursuant to Section 9° of Law N° 27,191. Such tax credits are requested by the bidders in their bids submitted in the corresponding call.

Up to now, three open call for tenders were carried out for the submission of bids. The first open call was carried out in 2016 and featured two stages (Rounds 1 and 1.5). Within the framework of Round 1, 29 projects were awarded. These projects accounted for a total capacity of 1,142 MW. Within the framework of Round 1.5, 30 projects were awarded. These projects accounted

for a total capacity of 1,280 MW. Apart from the RenovAr Program, during 2016 and pursuant to Resolution N° 202/16, 10 former agreements were adjusted. These projects accounted for 500 MW of additional renewable capacity.

Within the framework of Round 2 launched in August 2017, 88 projects were awarded. These projects accounted for a total capacity of 2,043 MW.

Round 3, known as RenovAr MiniRen, was launched in 2018 and projects have been already awarded. The aim of Round 3 was the use of available capacity in medium voltage grids of 13,2 kV, 33 kV, and 66 kV with the aim of fostering the participation of non-traditional stakeholders in the energy sector, in order to promote the development of smaller scale projects (up to 10 MW) and to avoid losses in the transportation and distribution system while stabilising the line points due to the fact that the power plants would be placed near the demand.

To sum up, up to now, 195 awarded projects located at 21 provinces which are part of the Argentine Interconnection System and that account for a total capacity of 5225,62 MW are under construction.

**References:**

[Awarded Projects Rounds 1, 1.5 and 2 \[+\]](#)

[Awarded MiniRen Projects \[+\]](#)

[Renewable Energy Dispatch \[+\]](#)

## CORPORATE PPA'S LEGAL FRAMEWORK (MATER, AS PER ITS ACRONYM IN SPANISH)

This legal framework was regulated in August 2017 by virtue of Resolution N° 281 and sets forth the scheme to purchase energy between private parties. It has been designed as an alternative scheme to the Joint Purchase Scheme. The MATER is aimed at Large Users with an annual average demand greater than 300 kW (Authorized Large User [GUH, as per its acronym in Spanish]). Pursuant to this legal framework, Large Users have the power to directly purchase energy when they deem it convenient.

In this way, the GUH may choose its renewable energy provider and negotiate the purchase conditions with such provider. Additionally, the National Record for Renewable Energy Projects (RENPER, as per its acronym in Spanish) was created. According to this rule, CAMMESA is in charge of the priority of dispatch (organization of the dispatch between the different renewable power plants).

The recorded projects may request the Certificate of Inclusion in the Renewable Energy Legal Framework to obtain the tax credits provided in Section 9° of Law N° 27,191 after they have been recorded in the MATER.

Up to now, 49 projects have been given priority of dispatch by CAMMESA, which implies a guarantee of access to the electricity transportation grid that allows the generation agents to sell renewable energy on a long-term basis to the GUH. These projects account for 1,164.4 MW of capacity and they include wind and solar farms. de potencia y son de tecnología eólica y solar fotovoltaica.

**By the time the 244 awarded projects (by virtue of the RenovAr Program and the MATER) reach their commercial operation date, approximately 18 % of the electricity consumption will be generated from renewable energy.**

ARGENTINA'S GOAL IS TO INSTALL ONE THOUSAND MEGAWATTS (1000 MW) OF DISTRIBUTED GENERATION CAPACITY BY 2030.

**What do we do to foster the use of renewable energy to generate electricity in the consumption points?**

## DISTRIBUTED GENERATION

By virtue of the Legal Framework on Renewable Energy Distribution connected to the Public Electricity Grid (Law N° 27,424 and its complementary legal framework), the conditions and measures for the renewable energy electricity generation by users of the distribution grid for self-consumption and the potential feed-in into the grid of energy surpluses, as well as the obligation of the distribution utility providers to facilitate such feed-in are provided.

Different jurisdictions have acceded to such law and have started to implement it. Up to now, these following twelve jurisdictions have done so: Catamarca, Chaco, Chubut, CABA, Córdoba, Corrientes, La Rioja, Mendoza, Rio Negro, San Juan, Tierra del Fuego and Tucumán.

In order for the user-generator to request the authorisation to connect to the grid, a digital platform of public access has been launched. Up to now, 99 distribution companies have submitted their connection request, which account for 45 % of the electricity users at a national level. This web platform allows for a flexible and online communication between the user, the qualified technician and the distribution companies in any place in the country.

To facilitate the financing access for the development of this kind of projects, the Trust Fund for the Development of Distributed Generation (FODIS, as per its acronym in Spanish) has been created. The Banco de Inversión y Comercio Exterior (BICE) is the trustee of such fund.

Additionally, an incentive for the installation of distributed generation systems has been implemented by means of the granting of Tax Credits Certificates for users-generators. The request and the proceeding to obtain such certificate can be done online through the Distance Proceeding (TAD, as per its acronym in Spanish) platform.

### **References:**

[Distributed Generation \[+\]](#)

BESIDES, ARGENTINA HAS COMMITTED TO GUARANTEE THE ACCESS TO BASIC ENERGY SERVICES TO ALL VULNERABLE RURAL HOUSEHOLDS WHICH ARE NOT CONNECTED TO THE GRID BY 2020.

## **How do we guarantee universal access to energy?**

### **RENEWABLE ENERGY PROJECT FOR RURAL MARKETS (PERMER, AS PER ITS ACRONYM IN SPANISH):**

The PERMER is a project designed to provide energy to rural areas through renewable energy generation with the aim of meeting basic needs such as lighting and social communication. The project is executed through the Loan granted by the BIRF N° 8484.

Different activities have been carried out within the framework of the PERMER in the following fields of intervention:

**Households:** supply and installation of a house solar kit for each beneficiary household. This equipment allows to cover of basic needs such as fixed lighting in the households, movil lighting (flashlights), movil phones loading and AM/FM radio. Up to now, 7,000 households have received such kit.

**Schools:** in collaboration with the Ministry of Education, it is expected to provide access to the electricity service or to increase the electricity availability to schools that have already installed a kit (re-powering), so as to additionally gurarantee the connectivity. During 2019, the agreement for the installation of kits in 690 schools shall be executed.

**Productive Uses:** the Undersecretariat for Renewable Energy and Energy Efficiency have jointly worked with the National Institute for Agricultural Technology (INTA, as per its acronym in Spanish), in order to supply electrifiers and water pumping systems powered by solar energy, with the purpose of improving productive efficiency of Family Farmers.

**Mini-Grids:** they have been designed to foster the scheme of renewable energy supply at small communities (up to 300 families) whose households are not connected to the national or provincial grid. It is planned the construction of 5 micro-grids during 2019.

## SOLAR THERMAL ENERGY

It is intended to foster **solar thermal energy** in different types of buildings and for different purposes, such as sanitary hot water, heating, pool heating systems, and industrial processes.

For that purpose, technical documents have been elaborated so as to disclose the opportunities of use of solar energy, such as the **Solar Energy Guide** which consists of graphic data, charts and graphics for the measurement of solar systems in our country, both photovoltaic and thermal, and the manual called '**Introduction to Solar Thermal Energy and Compact Solar Thermal Systems for Sanitary Hot Water**'.

### **References:**

*[Manual of Introduction to Solar Thermal Energy](#) [+]*

*[Compact Solar Thermal Systems for ACS](#) [+]*

*[Solar Energy Guide](#) [+]*

*[Related Technical Regulation](#) [+]*

**All data on Renewable Energy can also be found at:**

[www.argentina.gob.ar/energia/energia-electrica/renovables](http://www.argentina.gob.ar/energia/energia-electrica/renovables)

# ENERGY EFFICIENCY

ENERGY EFFICIENCY IS THE SET OF ACTIONS THAT ALLOW THE IMPROVEMENT OF THE RELATION BETWEEN THE QUANTITY OF ENERGY CONSUMED AND THE GOODS AND SERVICES OBTAINED FROM ITS USE, WITHOUT AFFECTING USER'S QUALITY OF LIFE. THIS IS ACHIEVED BY IMPLEMENTING ENERGY MANAGEMENT MEASURES, INVESTING IN HIGHER PERFORMANCE TECHNOLOGIES, USING MORE EFFICIENT PRODUCTIVE PROCESSES AND IMPROVING THE BEHAVIOUR FOR A RESPONSIBLE ENERGY USE.

ENERGY EFFICIENCY COMPLEMENTS WITH RENEWABLE ENERGIES BECAUSE IT INCREASES THE SHARE OF RENEWABLE ENERGY IN THE ENERGY MIX, DECREASES THE ENERGY INTENSITY MORE QUICKLY, AND REDUCES THE TOTAL COSTS OF THE NATIONAL ENERGY SYSTEM.

ARGENTINA INTENDS TO IMPLEMENT ENERGY EFFICIENCY MEASURES WITH THE AIM OF REDUCING ENERGY DEMAND BY 8.8 % TOWARDS 2030, IN COMPARISON WITH THE CURRENT ESTIMATIONS WHICH HAVE BEEN PREVIOUSLY MADE WITHOUT CONSIDERING THESE MEASURES.

**What do we do to foster the implementation of energy efficiency actions in the consumption sectors?**



## PRODUCTIVE SECTORS

**Promotion of Energy Management Systems (EMS).** It allows the companies to set the necessary processes to improve its energy performance. This can be achieved in the following ways:

- **Resolution on Electointensive Large Users (1E-2017):** it provides the granting of subsidies which are discounted from the electricity bill issued to companies belonging to priority electointensive sectors (23 % of the electricity total industry demand), as long as such companies prove the fulfillment of a series of deliverable documents aimed at the energy management of their facilities and the improvement of the energy performance.
- **Learning Network of EMS:** the aim is to improve the energy performance of the participating organizations (10-12 per network) through a flexible and participatory methodology, in order to decrease the time and total costs of an Energy Management System implementation. The total consumption of all ongoing networks accounts for 15 % of the industrial energy consumption in our country. Additionally, there have been estimated savings of 4-7 % for electricity and of 5-8 % for natural gas for each network.
- **Awards:** those organizations which certify an Energy Management System can be granted with two specific awards: the Argentina Eficiente Prize with its different domestic categories and the acceding to the Energy Management Leadership Awards (a Clean Energy Ministerial initiative).
- **List of consultants on energy efficiency.** It convenes specialists on energy efficiency whose names are included in a list available for anyone who needs consultancy on this issue.

### **References:**

[Promotion of Energy Management Systems \[+\]](#)

[Energy Efficiency Guide for electric engines \[+\]](#)

[Joint Resolution 1E-2017 \[+\]](#)

[Successful Cases on Energy Management \[+\]](#)

[Learning Network Brief \[+\]](#)

[Argentina Eficiente Award \[+\]](#)

## TRANSPORTATION SECTOR

**Smart Transportation Program.** It is a public-private alliance aimed at the implementation of energy efficiency and climate change mitigation measures in the freight transportation sector. The participation in this program is voluntary and it affects transportation companies, handlers, chambers, federations, suppliers of technologies and efficiency services, universities, and related government departments.

**Labelling of lightweight vehicles.** It is a tool designed with the aim of including efficiency as a variable at the time of purchasing vehicles of up to 3,500 kg. Its implementation is mandatory and progressive. From June 2019 to June 2020, all vehicle offer shall feature an informative label identifying the consumption of fuels in litres per each 100 kilometres driven, and besides the quantity of CO2 emitted. By April 2021, all vehicles shall feature this label, since it will be used for comparative purposes.

**Efficient driving in all drivers' license.** The aim of this measure is to include efficient driving concepts when granting licenses all over the country and to develop regulatory content for obtaining licenses and renewal courses.

#### **References:**

[Transportation Initiatives and Projects \[+\]](#)

[Vehicle Labelling \[+\]](#)

[Guide for efficient management of automotive freight transport \[+\]](#)

## PUBLIC SECTOR

**Rational and Efficient Energy Use in Public Buildings Program (PRONUREE, as per its acronym in Spanish).** The aim is to decrease the level of consumption in the buildings owned or rented by the National Public Administration through the implementation of energy efficiency measures, the inclusion of energy management criteria, and awareness building for the staff as regards the rational use of the resources. For this purpose, an IT tool has been designed to support its implementation through guides, online and in-person training courses focused at improving the energy management skills of Energy Managers. All tools developed for this program are available for provincial and municipal governments should they want to work on this line of action.

**Public Procurement.** Consideration of EE criteria at the time of purchasing energy consuming equipment through the National State portal named [www.compr.ar](http://www.compr.ar). During 2018 and 2019, framework agreements have been reviewed, as well as catalogues and recommendation sheets for: lamps and LED tubes, fluorescent tubes, and appliances.

#### **References:**

[Rational and Efficient Energy Use in Public Buildings Program \(PRONUREE, as per its acronym in Spanish\) \[+\]](#)

## RESIDENTIAL SECTOR

**National Program on Household Labelling.** The aim is to include the Energy Efficiency Label as a tool to provide information to the end-user on the energy services of a household and when buying or selling a real property, assessing a new project or making adjustments in existing households. For its implementation, an IT application was developed, pilot tests were carried out in several bioclimatic zones in order to determine the respective letter- based scales. This initiative also includes the determination of standards for social housing. Due to the improvement of the efficiency standards in buildings, the energy demand may be potentially reduced by 50%.

#### **References:**

[Houshold Labelling National Plan\[+\]](#)

[Carpentry Labelling \[+\]](#)

## LABELLING OF ELECTRIC AND GAS APPLIANCES

Design of regulations on labelling and minimum standards for energy consuming goods and appliances:

**Mandatory Labelling** with minimum standard of energy efficiency: fridges and freezers, washers, incandescent lamps, halogen bulbs and air conditioners.

**Mandatory Label without minimum standard:** gas appliances, boilers, gas and electric water heaters, heaters, ballasts, three-phase and single-phase induction motors, TVs, microwaves, Stand-by.

**Voluntary Label:** electric pumps, portable and under-bench electric ovens, ceiling fans, standing fans, wall fans, dishwashers, LED lamps.

**References:**

[Labelling Program \[+\]](#)

## ENERGY EFFICIENCY PLANNING

**Energy Efficiency National Plan:** this plan sets the strategy to achieve the national goals on energy efficiency through the implementation of policies, programs and tools for that purpose. It is implemented in a participative way with the main sectoral stakeholders involved, in order to design a consensus-based plan in terms of social responsibility and aggregate targets. This process will end in 2020 and will contribute to appraise the impacts of the suggested measures through follow-up variables and indicators, as well as its prioritisation.

**Useful Energy National Balance (BNEU, as per its acronym in Spanish):** The BNEU is a study that provides the necessary data to know which energy sources is used by different industrial activities, what for such energy is consumed (uses) and how the energy is consumed (equipment and energy efficiency). It consists of an analysis based on a statistical survey that provides essential information to the National and Provincial States so they can optimise public policy design aimed at improve energy efficiency in the each consumption sector. The design of the Useful Energy Balances at a sectoral level for the residential, industrial and transportation sectors has already begun. Altogether, these three sectors consume 84 % of the final energy of the country.

- **Industrial BNEU:** 5,000 surveys to industrial facilities all over the country with sectoral and provincial representativeness.
- **Residential BNEU:** 40,000 surveys of urban households all over the country through the National Survey on Household Expenditures (ENGHo, as per its acronym in Spanish) of the National Institute of Statistics and Censuses (INDEC, as per its acronym in Spanish)..
- **Transportation BNEU:** 45,000 surveys of carriers and drivers in Petrol Stations.

## EDUCATION AND PROMOTION ON ENERGY SUSTAINABILITY

Design of educational programs at all levels of education through different projects, with the purpose of teaching on the responsible and efficient energy use and of training on technical skills in the society. The National Strategy on Education for Energy Sustainability has been approved by the provincial ministers of Education all over the country, during the 93° Assembly of the Federal Council of Education.

The main lines of work are the following

- **Texts and teaching material** delivered to all schools all over the country.

- **Teachers' training**

- **Teachers' Training Seminars:** aimed at principals, area supervisors, teachers at Teachers' Training Institutes in all the provinces in our country..
- **Virtual Training for Teachers from all over the country:** in cooperation with the National Institute for Teachers' Training under the Ministry of Education, Culture, Science and Technology of the Nation.

- **Technical Skills in the Society**

- **Existing Skills in Provincial Technical Equipment:** training courses for professionals working at the Education, Environment and/or Energy departments of all provinces in the country, with the aim of developing skills on the design, implementation and follow-up of public policies on education for the energy sustainability.
- **Training of Technical Skills in the Society**
  - *Training of skills at Universities:* it improves the teaching on energy efficiency in strategic courses such as the Bachelor's Degrees in Engineering and Architecture.
  - *Training of skills on technical and professional education:* setting of the guidelines for the inclusion of energy sustainability topics at Technical Secondary Schools, Technical and Professional Training Institutes, and Technical Tertiary Schools all over the country.

**References:**

[Office of Education](#) [+]

[Connect with Energy – EDUC.AR](#) [+]

**All data on Energy Efficiency may be also found at:**

[www.argentina.gob.ar/energia/ahorro-y-eficiencia-energetica](http://www.argentina.gob.ar/energia/ahorro-y-eficiencia-energetica)

## AREAS OF INTEREST FOR COOPERATION

### STRENGTHENING AND CAPACITY BUILDING

*Setting liaison and potential cooperation nexuses with scientific and technological fields at all levels: international, national and sub-national.*

*Creating spaces for the cooperation in basic and applied science, innovation and technological development.*

*Strengthening the competence through training programs, as well as by means of the sharing of good experiences and good practices.*

### FINANCING MECHANISMS

*Managing funds to foster the deployment of renewable energy and energy efficiency in different ways and sectors.*

*Fostering the sharing of experience with governmental stakeholders and private sector stakeholders aimed at the scheming of risks reduction mechanisms.*

*Developing incentive mechanisms for the acquisition of technologies that promote the self-generation (alternatives of co-financing).*

### DEVELOPMENT OF EMERGING TECHNOLOGIES AND DEMO PILOT TESTS

*Facilitating the sharing with specialised companies.*

*Designing pilot experiences for emerging technologies (e.g., smart meters, smart grids, demand-response, telemanagement systems, etc.) or of poor national dissemination to acquire applied knowledge and to create demo successful cases.*

*Fostering the scanning of data that allows for the assessment, monitoring and optimization of electricity consumption.*

*Assessing co-generation potential and energy integration in individual industries and/or industrial hubs.*

*Contributing to the development of energy technologies with high potential in the Argentine Republic (e.g. geothermal, tidal energy).*