

## Argentina Sustainability Backgrounder

### Overview & Recommendations

- Rising global energy prices, increase in domestic electricity tariffs, and electricity shortages create opportunities for investment in energy efficiency and renewable energy programs.
- Resource potential, RE incentives and improvements to connectivity with national transmission lines presents an opportunity for private investment and financing to support further development of wind farms and hydropower projects.
- Opportunity for IFC to partner with government and establish program with commercial banks to finance energy efficiency and renewable energy projects.
- Recommended options include (1) energy efficiency programs using CDM rebates for industrial and public facilities, (2) cleaner production lending to commercial enterprises particularly SMEs, (3) renewable energy lending and (4) IFC/WB collaboration on rural electrification and possibility for IFC to create a vendor-financing program by partnering with solar PV companies and local banks.

**Energy security:** Argentina is a mineral-rich country well endowed with oil and natural gas. The domestic market is dependent on natural gas for approximately half its energy needs. However, in recent years there have been shortages of natural gas and diesel oil, resulting in domestic supply shortages. As a result, the trade balance of the energy sector has deteriorated, with increasing imports of fuels and falling exports of natural gas and oil.

**Implication:** *Rising oil prices and oil and natural gas shortages mean energy efficiency projects are increasingly attractive with shorter simple paybacks.*

**Electricity supply:** Total electricity coverage in Argentina is approximately 95%, however, about 30% of the rural population lacks access to electricity. Electricity shortages have been an ongoing problem due to lack of new supply and increased demand. The government imposed conservation measures starting in 2005, including rolling black-outs at peak times. In 2007, supply was restricted to large commercial and industrial users. Although energy shortages have not been repeated in 2008 – 2009, the risk of problems remains high and reliance on imported electricity a concern. Electricity-generating capacity are mainly thermal (52%) and hydroelectric (44%) with nuclear and wind making up the balance.

**Implication:** *Electricity shortages, lack of supply and increased demand present opportunity for development of alternative and renewable resources to address electricity gap.*

**Electricity market:** After years of cheap electricity prices, the government has recently increased tariffs for industrial and residential consumers. In Argentina, retail tariffs for the distribution utilities in the Metropolitan Area of Buenos Aires and La Plata city are regulated by the national regulatory agency (ENRE) while provincial utilities are regulated by local regulators. While the utilities under ENRE's jurisdiction had not been allowed to raise residential tariffs since they were frozen in 2002 as a result of the Emergency and Exchange Regime Law, some provincial regulators had recently approved additional charges to residential tariffs of between 10 – 30%. In Buenos Aires, tariffs were unfrozen in July 2008, with higher tariff increases for heavier consumers. It is hoped that higher tariffs will lead to more energy conscious consumers. Private and state-owned companies carry out generation in a competitive, mostly-liberalized electricity market, with 75 % of total installed capacity in private hands. The share in public hands corresponds to nuclear generation and to the two bi-national hydropower plants: Yacretá (Argentina-Paraguay) and Salto Grande (Argentina-Uruguay). Transportation and distribution are privately owned and managed however are highly regulated.

**Implication:** *While the government will be a key stakeholder, there is need for more private investment particularly in electricity generation.*

### RE / EE Policy:

The **National Wind and Solar Energy Rules** (Law 25,019), established in 1998, declared wind and solar generation of national interest and introduced a mechanism that established an additional payment per generated kW·h which, in 1998, meant a 40% premium over market price. It also granted certain tax exemptions for a period of 15 years from the law's promulgation. The 2007 Law (Law 26,190) complemented the previous one declaring of national interest the generation of electricity from any renewable source intended to deliver a public service. This Law also set an 8 % target for renewable energy consumption in the period of 10 years and mandated the creation of a Trust Fund to be funded by the government of Argentina in partnership with Renewable Energy and Energy Efficiency Partnership (REEEP), whose resources will be allocated to pay a premium for electricity produced from renewable sources.

**Implication:** *RE market has become more competitive with traditional power generation with the introduction of targets, tax exemptions and feed-in tariffs established to incent the private sector to develop renewable generation projects and sell electricity back to the grid.*

**The National Program for the Rational and Efficient Use of Energy (PRONUREE)** In December 2007, the Government launched the National Program for the Rational and Efficient Use of Energy (PRONUREE, Decree 140/2007). This Decree declared the rational

and efficient use of energy to be in the national interest and is also part of the energy sector strategy to counter supply/demand imbalance. The PRONUREE, under the responsibility of the Secretariat of Energy, aims to be a vehicle for improving energy efficiency in the energy-consuming sectors. The PRONUREE includes short and long term measures aimed at improving the energy efficiency in the industrial, commercial, transport, residential and service sectors and public buildings. It also supports educational programs on energy efficiency, enhanced regulations to expand cogeneration activities; labeling of equipment and appliances that use energy; improvements to the energy efficiency regulations; and broader utilization of the Clean Development Mechanism (CDM) to support the development of energy efficiency projects. The objective of the program is to reduce electricity consumption by 6% . One of the first activities defined under PRONUREE is the national program to phase out incandescent bulbs by 2011 in Argentina. The program, financed by the government, aims to replace incandescent bulbs with energy efficient compact fluorescent lamps (CFLs) in all the households connected to the electricity grid and selected public buildings. The program, which has initially undergone a pilot phase and expects to replace 5 million incandescent lamps in the next six months, foresees the distribution of 25 million lamps overall. Staff from the distribution companies will visit each household to replace the incandescent lamps and to inform residential users on the advantages of replacing the bulbs and of the efficient use of energy in general.

November 4, 2009 -The municipal government of Buenos Aires is set to pass an energy efficiency law, the city's press office said in a statement. No further details could be found.

**Implication:** Opportunity for IFC to partner with government and establish program with commercial banks to finance energy efficiency projects.

### RE Opportunities:

**Wind:** The Argentine Patagonia region, has a very large wind potential. The Chubut Wind Power Regional Center (CREE) estimated the theoretical potential for the region at 500 GW of electricity generation. However, this large potential is still largely unexploited. One of the reasons for this underdevelopment is that existing tariffs and incentives do not make wind power development attractive enough yet. However, the main deterrent to wind power development in the region has been the lack of transmission lines that connect the Patagonia region with the National Interconnected System. The completion of the Choele-Choel-Puerto Madryn high voltage line, the first section of *Línea Patagónica*, under the framework of the *Plan Federal de Transporte de Energía Eléctrica* eliminated this bottleneck in March 2006.

Nevertheless, wind power has increased significantly in Argentina during the last decade. Total operating wind power capacity in 2005 was 26.6 MW, shared by 13 plants. This is still only about 0.05% of the theoretical potential of wind energy in Argentina. The distribution of number plants and total capacity is:

- Buenos Aires Province: 6 plants, 6,100 kW
- Chubut Province: 4 plants, 17,460 kW
- Santa Cruz Province: 1 plant, 2,400 kW
- La Pampa Province : 1 plant, 1,800 kW
- Neuquen Province : 1 plant, 400 kW

**Hydro-Power:** Argentina's hydroelectric potential is being exploited only partially. While the identified potential is of 170,000 GW-h/year, in 2006 hydroelectric production amounted just to 42,360 GW-h. There are also untapped mini-hydropower resources, whose potential is estimated at 1.81 % of overall electricity production (in contrast with its current 0.88 %).

**Implication:** Resource potential, RE incentives and improvements to connectivity with national transmission lines presents an opportunity for private investment and financing to support further development of wind farms and hydropower projects.

**Rural electrification:** On November 11, 2008, the World Bank approved US\$50 million to support the **Renewable Energy in the Rural Market Project** (PERMER), an innovative program providing clean energy to rural communities in Argentina. Through this new initiative, more rural communities will be receiving reliable electricity using renewable energy technologies. An additional 15,500 new solar home systems will be built, and 140 thermal systems and some 630 solar PV systems will supply electricity to rural schools.

Goals of the program are:

- Provide rural areas of the participating provinces with reliable electricity supply using renewable energy technologies, when feasible;
- Produce studies of energy alternatives;
- Promote green business operations for rural energy in Argentina; and
- Facilitate private sector participation in the provision of electricity in rural areas by improving provincial government capacities to regulate private sector participation

**Implication:** Opportunity for IFC/WB collaboration and possibility for IFC to create a vendor-financing program by partnering with solar PV companies and local banks.

**Carbon finance:** As of November 2009, there are six energy-related registered CDM projects in Argentina, with expected total emissions reductions of 1,155,127 tons of CO<sub>2</sub>e per year. Out of the six projects, there is just two large scale projects, the 10.56 MW Antonio Morán wind power plant in the Patagonia region and the Central Termica Patagonia power station, Comodoro Rivadavia, that converts existing open cycle gas turbine to combined cycle. Production of electricity from biomass waste in the Aceitera General Deheza, methane recovery and electricity generation from the Norte III-B landfill and Gallego, Rosario landfill and methane capture and destruction from the Las Heras landfill in Mendoza are the four small scale existing projects.

**Implication:** The institutional framework exists for carbon finance, therefore CDM opportunities should be developed with existing IFC clients.

#### Key Contacts:

- **Argentina Renewable Energies Chamber:** The Argentine Renewable Energies Chamber is a non-profit trade association that represents the biofuels industry in Argentina as well as the renewable energies sectors such as wind, solar and hydro. It is the premier coordinating body, interacting with a broad range of actors from the public and private sectors as well as academia. <http://www.argentinarenovables.org/ingles/>
- **Renewable Energy Businesses in Argentina:** This site provides a directory of manufacturers, retail sales, wholesale suppliers and service businesses by product type: <http://energy.sourceguides.com/businesses/byGeo/byC/Argentina/Argentina.shtml>
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