



U.S. Embassy—Mexico City Renewable Energy Factsheet

Important Facts:

- Mexico has enormous renewable energy potential: as much as 24,300 MW in solar, 40,268 MW in wind, and 40,000 MW in geothermal, in addition to excellent possibilities for biofuels.
- Mexico is a net exporter of electricity to the United States and has the potential to export considerably more, particularly from wind, if regulation and financing are in place and transmission capacity can be expanded.
- Mexico currently generates 23% of its electricity through renewable and clean fuel sources, including hydroelectric and geothermal. Per Mexico’s climate change law, 35% of the country’s electricity must come from renewable sources by 2024.

Renewable Energy in Mexico: enormous wind, solar, hydro and geothermal resources

Mexico has an installed effective capacity to generate 14,501 MW from renewable sources (wind, solar, hydraulic, geothermal, and biomass). This represents 23% of total installed capacity according to ProMexico, the Mexican government agency in charge of strengthening Mexico’s trade and investment abroad.

Mexico has 258 renewable electricity generation stations in operation or under construction. Close to 75% of Mexico’s capacity is concentrated in the states of Oaxaca, Baja California, Tamaulipas, and Veracruz.

Mexico’s estimations is that installed capacity from renewable sources will increase by 20,544 MW by 2026.

Wind and hydraulic sources are projected to account for 58.6% and 27.3% of this increase, respectively, including public service, self-supply, and small-scale generation.



Source of energy	Potential capacity	Installed capacity
Hydropower	53,000	11,707.0
Wind	40,268	1,289.0
Geothermal	40,000	823.0
Biomass	83,500-119,498	645.0
Solar	24,300*	37.0
Total	241,068-277,066	14,501.0

*Estimated potential capacity for 2030.
Source: SENER, CRE and CFE, 2013.

Mexico Attracts Foreign Investment in Renewable Energy

Mexico has an excellent geographic location and extensive renewable resource potential, making it an attractive destination for foreign investment. Between 2003 and 2012, Mexico received approximately USD7.343 billion in renewable energy investments, mainly in the states of Oaxaca and Baja California. The main investor countries were Spain, the United States, Denmark, and France.

FOREIGN DIRECT INVESTMENT IN THE RE INDUSTRY IN MEXICO

Year	Projects	USD million	Jobs created
2012	4	1,442	306
2011	5	1,853	880
2010	4	947	226
2009	4	1,024	343
2008	3	912	177
2007	1	104	1,367
2006	1	311	95
2003	1	750	102
Total	23	7,343	3,496

Source: FDI Markets (FDI)

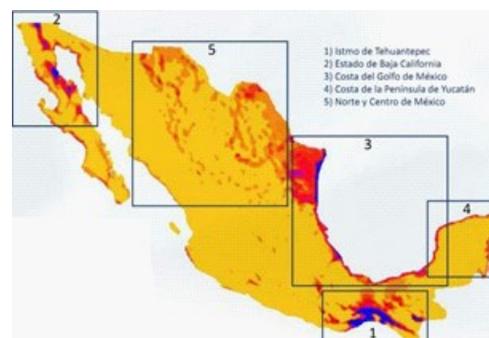
Transnational equipment suppliers and project developers consider Mexico an attractive destination for renewable energy investment. Furthermore, Mexican companies have diversified their business dealings with the sector with small-scale projects, equipment manufacturing, and marketing.

MAIN RE COMPANIES WITH PRESENCE IN MEXICO



Mexico has the world’s highest growth in wind energy, and is ranked #20 in the world

The installed capacity of wind energy reached 1,289 MW in 2012 of which Mexico’s Federal Electricity Commission (CFE) operates 7%. Concessionaires operates the rest under self-supply schemes. Mexico has a 40,268 MW wind power potential. However, currently only 3.2% of that capacity is utilized. The regions with most wind energy capacity are: The Isthmus of Tehuantepec (Oaxaca), La Rumorosa (Baja California), Coast of the Gulf of Mexico, in the North and Central Regions, and the Yucatan Peninsula.



Mexico leads Latin America in solar energy production

Mexico is among the top five most attractive countries in the world for investing in solar photovoltaic energy projects, surpassed only by China and Singapore. This is because the country is part of the “sunbelt” with radiation above 5 kWh per square meter per day. The estimated potential capacity for solar energy is 24,300 MW. Furthermore, Mexico has the largest manufacturing base of photovoltaic modules in Latin America.

Mexico has a total installed capacity of 66.8 MW in solar photovoltaic projects, mainly in rural and industrial electricity supply applications. Several projects are under construction that will have a total installed capacity of 141.66 MW. Some



of the leading photovoltaic energy developers are Abengoa, Abener, DelSol Systems, Microm, and Iberdrola.

PHOTOVOLTAIC MODULE MANUFACTURERS 2012

COMPANY	ANNUAL PRODUCTION CAPACITY (MW)	LOCATION
Jabil	45.0	Chihuahua, Chihuahua
Kyocera	150.0	Tijuana, Baja California
Sanyo	75.0	Monterrey, Nuevo León
ERDM Solar	30.0	San Andres Tuxtla, Veracruz
Solartec	12.5	Irapuato, Guanajuato
Total	312.5	

Source: BNEF, Updated on February 2013.

In September 2013, a 30 MW photovoltaic (PV) plant in Baja California Sur, Aura Solar, began operations, making it one of the largest solar plants in Latin America. In November 2013, SENER announced the integration of the Mexican Center of Innovation in Solar Energy. The Center includes 88 institutions of which 67 are research centers and 21 are Mexican and international companies. The new Center will update the solar potential data of Mexico as well as develop 50 research projects.

Mexico has a large riparian system, capable of much greater “Small Hydro” production

Currently, hydropower is Mexico’s main source of clean energy, accounting for approximately 18.5% of the country’s overall electricity generation. The estimated potential is 53,000 MW, according to CFE. In 2013, the CFE recorded an installed capacity in operation of 11,707 MW, distributed in 72 stations, including stations of 30 MW or less. The private sector has 17 stations distributed in seven states and with a total capacity of 152 MW, 1.3% of total hydro installed capacity. The National Commission for Energy Efficiency (CONUEE) estimates that southern states have the potential to produce over 400 MW through small hydro projects.



Geothermal sources generate 1.3% of power but has greater potential

Mexico is the world’s fourth largest geothermal energy producer. According to ProMexico, Mexico’s installed geothermal capacity is 824 MW, currently operating in four geothermal fields: Cerro Prieto (570 MW) in Baja California, Los Azufres (192 MW) in Michoacán, Los Humeros (52 MW) in Puebla, and Las Tres Vírgenes (10 MW) in Baja California Sur. However, recent estimations report Mexico’s geothermal potential at 40,000 MW. Exploitation of a fifth geothermic field in Jalisco, Cerritos Colorados, with an estimated potential of 75 MW, is expected to begin at some point in 2014. In Michoacán, Alstom established the Geothermal and Renewable Energy Cluster to improve technological development in the region, working with public sector. In addition, Alstom has a geothermal turbine manufacturing plant in Morelia to supply the local and foreign markets.

