



2. ENERGY AND OIL

#INVESTINGUATEMALA



Industry in Guatemala

General information of the country

Capital City	Guatemala
Currency	Quetzal
Exchange Rate (2013)	1US\$ = 7.86 quetzales
Official Language	Spanish
Population	15,438,384
Labor Force (2013)	5.9 Million
GDP (2013)	US\$53.8 Billion
FDI inflows (2013)	US\$1.3 Billion
Exports (2013)	US\$10.0 Billion

Source: Bank of Guatemala and National Institute of Statistics

ENERGY AND OIL

Industry in Guatemala

This sector is one of the most attractive investment sectors in Guatemala. In 2011, it managed to attract US\$300.7million in foreign investment, representing 32.2% of the FDI inflows received during that year. Renowned companies like Actis, Empresas Públicas de Medellín, Enel, AEl, Perenco, and Pacific Rubiales are present in this sector.

Guatemala's petroleum production increased to 10,945.5 barrels per day in 2011. The same year, Guatemala generated 8,927 GwH of electricity, the highest in Central America. Despite the enormous growth of this sector, it still has potential for further growth. Several studies made by the Ministry of Energy and Mining have demonstrated that Guatemala may have reserves up to 750 million barrels and the potential to generate up to 5,000 MW of electricity through hydroelectric plants.

Source: Ministry of Energy and Mining and Bank of Guatemala

ENERGY AND OIL

Industry at Glance

Total Production (2013)

Oil: 9,986.80 daily barrels

Power: 9,168.60 GWh

Production Potential

Probable reserves for up to 750 million barrels

Power: 5,000 MW through hydroelectric plants

Exports (2013)

Oil: 3,22 million barrels

Power: 639.1 MW

Foreign Investment (2013)

US\$179.1 Million

Leading companies

Perenco, Pacific Rubiales, AEI, MQuest, Empresas

Públicas de Medellín, Actis, Enel

OIL - **Why** invest in this industry?

- Mature market plus specific and clear legal framework
- Oil production (2013): 9,986 barrels per day, most of them categorized as "heavy crude oil" (with API gravities between 10 and 22.3) and "bitter" (with sulfur percentages higher than 1%), according to the Ministry of Energy and Mining. The oil production in the short run is expected to grow to 50,000 barrels a day with the new areas recently open for bidding.
- Probable reserves of up to 750 million barrels; gas reserves of 330 k/p3/day
- Excellent infrastructure in this sector, with storage capacity of up to 600,000 barrels, and a connection of 570 km (354.2 mi) of oil pipeline that links the main wells in Northern Guatemala with the Atlantic Coast, for further export.
- As of 2013, a total of 147 oil wells have been drilled.

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Guatemala mainly produces "heavy crude oil" (with API gravities between 10 and 22.3), and "bitter" (with sulphur percentages higher than 1%). By 2013, the total oil production reported by the Ministry of Energy and Mining was of approximately 4 million barrels; equivalent to around 9,986 barrels per day.

During the past 10 years, this subsector has been expanding, producing a total of 84.8 million barrels during the period of 2001-2013; and 2002 representing the best year for this sector, producing 24,671.10 barrels per day. A steady supply, combined with the high prices of hydrocarbons on international markets and proven reserves to increase production in the short and midterm represent important reasons for foreign companies to invest in Guatemala. It has made possible for renowned companies like Perenco and Pacific Rubiales to be interested in Guatemala and now these two companies own the most important oil wells in Guatemala.

The evolution of hydrocarbons in Guatemala still has high potential. Several studies elaborated by different institutions have proven the existence of oil reserves of up to 83 million barrels; but there are indicators that it might be up to 750 million

barrels; making the sector even more attractive for investment. Guatemala has yet to build a refinery plant, exporting its crude oil for further processing. This may represent another opportunity for potential investors to exploit this market in the country. It is important to mention the infrastructure of this sector that includes a pipeline of 750 km (466 mi) to transport oil to Puerto Barrios in the Atlantic Ocean for further export; and storage capacity of 600,000 barrels, which raises this sector's investment potential.

The Ministry of Energy and Mining of Guatemala has discovered in the Northern region of Guatemala its biggest oil deposits of the country (mainly in the department of Peten); where the most exploration and exploitation licenses have been issued to this day. Also, different bids recently done and scheduled by the Ministry for the near future are also located in Northern areas.

As a further comment, it has been proven that Guatemala has oil exploiting potential in other areas, especially in the Pacific coasts; and will be developed in the following years.

Relevant Legal Framework

The hydrocarbons subsector in Guatemala is regulated by the Ministry of Energy and Mining. Due to its importance and the impact on different topics, it is also regulated by other institutions like the Ministry of Environment and Natural Resources and the Protected Areas Commission (in case the developing area lies under one of the different "Protected Areas" of the country).

These institutions play the role of regulatory entities as is established by different laws, like the Hydrocarbons Law (Decree 109-83) and the Law for Protection and Environmental Improvement (Decree 68-86); and other related laws like the Law for Commercialization of Hydrocarbons (Decree 109-97) and the Regulation for Invitations to Submit Offers to Conclude Oil Exploration and Exploitation Contracts (Government Agreement 764-92).

Guatemala is one of the few countries in Latin America that allows private companies to extract and sell hydrocarbons in national territory. Unlike others in the LATAM region, the most important oil wells of the country are owned by renowned companies like Perenco, Pacific Rubiales, among others.



Royalties and State Participation

Oil companies are required to pay royalties to the Government, as established in the Hydrocarbons Law. These royalties are determined depending on the average API gravities of the production, according to the following criteria: starting at an API gravity of 30°, the company would have to pay royalties equivalent to 20% of the income. From this level, any additional API gravity will add 1% to the royalties and any less API gravity will reduce the royalties by 1%. It is important to mention that there is a 5% minimum royalty for all oil companies in Guatemala.

State Participation: In addition to the royalties explained above, this law also establishes the "State participation" in oil projects. This means that in every oil project in the country, the State of Guatemala must have stock participation for a private company to be able to exploit this natural resource.

This participation is directly related to the quantity of barrels produced per day by the company, and its participation is calculated over the net production, after subtracting royalties paid and other costs (including capital costs, exploration, exploitation and development, operation and administrative costs). This can go from 30% for production of less than 20,000 barrels per day to up to 90% for productions superior to 90,000 barrels per day.

Percentage	Barrels per Day
30	1-20,000
35	20,001 - 30,000
40	30,001 - 40,000
45	40,001 - 50,000
50	50,001 - 60,000
55	60,001 - 70,000
60	70,001 - 80,000
65	80,001 - 90,000
90	90,001 & up

Source: Hydrocarbons Law (Decree 109-83)

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These foreign companies that have trusted in Guatemala

P E R E N C O



Trayectoria Oil & Gas
Sede Colombia



Pacific
Rubiales Energy

Other Institutions that offer support for this sector are:



Ministry of Energy and Mining
www.mem.gob.gt



National Competitiveness
Program
www.pronacom.org



Guatemalan Chamber of
Industry
www.industriaguatemala.com

ENERGY - **Why** invest in this industry?

- Mature and experienced sector, with over 100 years operating under a defined and well regulated legal framework.
- Great development of the sector: nowadays there are 49 electricity generation companies, 5 transmission companies, 16 distribution companies and 18 sales companies operate in national territory.
- 80% of electricity generation is being possible thanks to private investment.
- Thanks to the Law of Incentives for the Development of Renewable Energy Projects around 70% of new electricity projects in Guatemala are related to renewable energy.
- There are great electricity exports opportunities to Central America through the SIEPAC (Electrical Interconnection System of Central America). By 2013, electricity exports amounted to 324.32 MW.

Renewable energy potencial	
5,000MW	Hydro power
7,800MW	Wind power
1,000MW	Geothermal energy
10,446 GWH/year	Solar energy

Source: Ministry of Energy and Mining

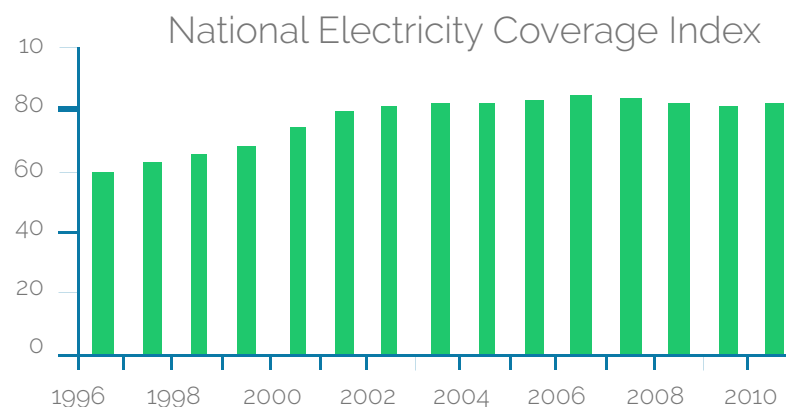
Pillar of the Guatemalan economy

The electricity subsector has shown huge dynamism in recent years. Both the national electricity supply and demand have increased homogeneously, proving the growth of the sector and the great opportunity this presents to investors.

The generation (supply) of electricity in recent years has been offered mainly through power plants (steam turbines, gas turbines and IC engines), but hydroelectric generation has become very important lately. Geothermal generation is the one with the lowest participation in recent years.

By 2010, power plants accounted for 54.6% of the National Electricity System generation, while hydroelectric plants accounted for 43.3%, and geothermal plants only 3.0%. The generation through hydropower has the biggest growth rate in recent years, going from 30% in 2005, to over 43% in 2010, mainly due to the great interest of the country in generating green energy.

The national electricity coverage rate has also presented significant improvements in recent years, from covering 60.3% of Guatemala in 1996, to 82.7% in 2010. However, at a departmental and local level, there are still very contrasting geographical areas. Departments, such as Guatemala, Quetzaltenango and Sacatepequez, have coverage rates above 93%, while others like Baja Verapaz (68.5%), Peten (51.4%) and Alta Verapaz (34.4%) are the departments with the lowest coverage rates, and where there is still much potential for growth in this industry.



Source: Guatemala's Electric Energy Commission

Electric Power Transmission

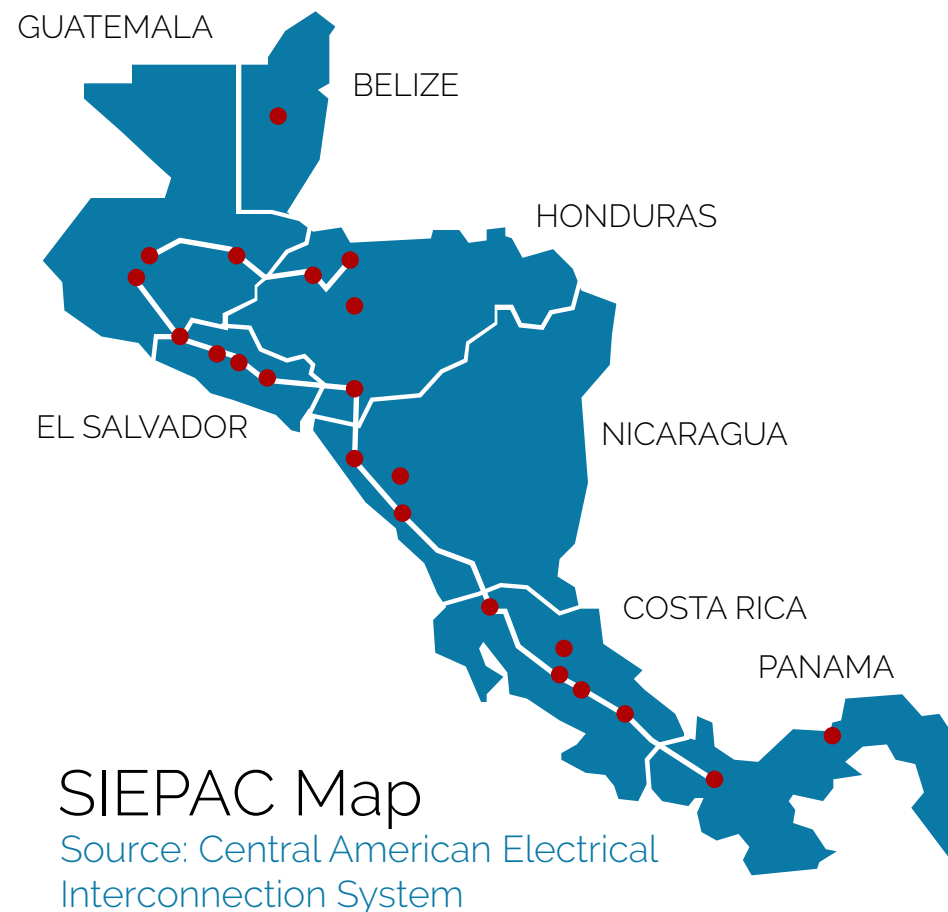
The electricity transmission system in Guatemala comprises all installations where high-voltage electricity is received and distributed to different points for Distributors and Large Users to divide it to the Main System and Secondary Systems. Currently 5 companies participate in the electricity market area.

The electricity transmission system is distributed as follows: 71.15 km (44.2 mi) of transmission lines of 400 kV, 691.21 km (429.5 mi) of 230 kV, 311.8 km (193.7 mi) of 138 kV, and 2,724.85 km (1,693.1 mi) of 69 kV.

Similarly, Guatemala participates as part of the Electric Interconnection System of Central America (SIEPAC), which is the first regional electric transmission system that aims to strengthen the Central American electricity network.

The project consists of the design, engineering and construction of a transmission line of 1,790 km length of 230 kW and 28 access bays in 15 substations across all 6 Central American countries.

The ultimate goal is to have a reliable and safe power transmission up to 300 MW. In Guatemala, the project has an approximate length of 282.8 km (175.7 mi) in three total tranches. In addition, the project currently has a total of 664 towers and three substations: Aguacapa, North Guatemala and Panaluya.

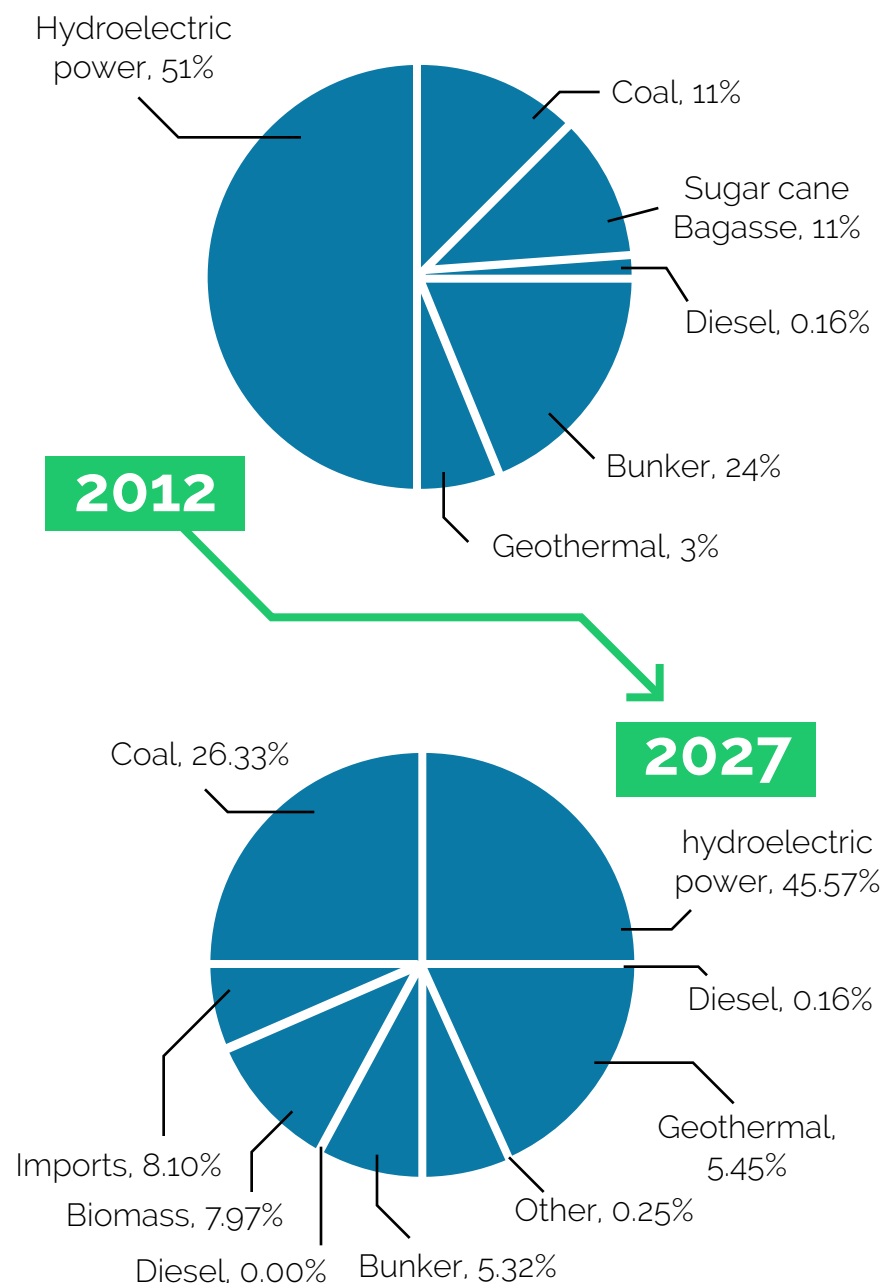


Change in the Electric Power Generation Matrix

Currently, electricity regulators (led by the Ministry of Energy and Mining) have been making significant efforts to transform the energy matrix so that the vast majority of Guatemala's energy is being produced via renewable energy and rely as little as possible on fossil fuels. This opens the opportunity to establish significant investments in renewable energy projects.

With this change in the energy matrix it is expected that in a period of 15 years (from 2012-2027), the country's fossil fuel energy production decreases in 18.68% and an increase of power generation based renewable energy is expected. It seeks to increase the production from coal, biomass and geothermal based, and seek to maintain (or possibly even increase) the production of energy from hydroelectric plants. This expected change in the energy matrix, coupled with the benefits presented by the Incentives for the Development of Renewable Energy Projects Law, present a great investment opportunity for Guatemala.

Source: Ministry of Energy and Mining



Energy Transmission Expansion Plan

Energy Transmission Expansion Plan

The Ministry of Energy and Mines (MEM) presented a plan to expand the electricity transportation system, which seeks to fully meet in 10 years (2012-2021) the needs of the country, identifying critical points in the system and solving its deficiencies through new transmission lines, substations and other necessary infrastructure. The Plan is divided into five prioritized rings: Metropacífico, Hydraulic, Atlantic, East and West. Also, it will include the realignment and strengthening of the Main and Secondary Transportation System networks. This will open the opportunity for investments of up to US\$500 million in secondary systems.

There is an opportunity of investment for some US\$500 million in secondary cabling systems to transport energy.

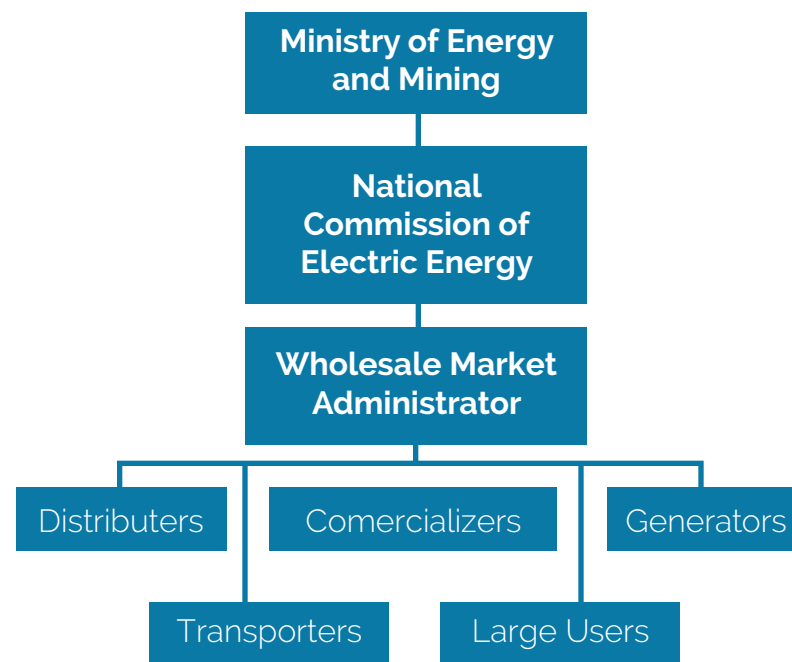


Legal Framework

The electricity subsector in Guatemala is clearly defined and regulated. The main regulators are: the Ministry of Energy and Mining (as the policymaker), the National Energy Commission (as its regulator) and the Wholesale Market Administrator (as the national operator of the Interconnected National System and administrator of its transactions). From these 3 bodies are derived, then, generators, transporters, distributors, large users and marketers, who are governed by these three entities.

Regarding the specific legal framework of the subsector, it is mainly governed by the Electricity Law (Decree No. 93-96) and its regulations, which states that in the country the electricity generation is free and no State authorization is required. It will only be required when the generation exceeds 5MW, for which the Ministry of Energy and Mining will be in charge of the authorization. The same concept applies to the transportation of electricity.

Other important laws form the legal framework for this subsector are: Regulation of the Wholesale Market Administrator (Governmental Agreement 299-98), Social Tariff Law for the Electric Power Supply (Decree 96-2000), and the Law of Incentives for the Development of Renewable Energy Projects (Decree 53-2003).



Source: Ministry of Energy and Mining

Some foreign companies that have trusted in Guatemala:



Incentives for this sector

- Incentives for the Development of Renewable Energy Projects Law (Decree 53-2003).

This Law provides incentives for municipalities, the National Electrification Institute (commonly known as INDE, for its acronym in Spanish), joint ventures, individuals and legal entities to engage in renewable energy projects. The incentives offered in the country with this law are:

- Tax exemption for up to 10 years. It includes the Value Added Tax (VAT) charges and consular fees on imports (specifically for the machinery and equipment used in the project) during the preliminary stage and construction.

- Exemption of income tax for a period of up to 10 years.

- Exemption of a specific tax denominated Tax on Enterprises and Agricultural Businesses, for a period of up to 10 years.

- It is a sector with a lot of potential: According to the National Commission for Electric Energy, the national electric coverage still faces the challenge of bringing electricity to 3 million Guatemalan people, which would imply investments of around US\$ 500 million, with high return on investment.

Other Institutions that offer support for this sector are:



Guatemala's Electric Energy Commission
www.cnee.gob.gt



Guatemalan Chamber of Industry
www.industriagate.com



Wholesale Market Administrator
www.amm.org.gt



Ministry of Energy and Mining
www.mem.gob.gt



National Competitiveness Program
www.pronacom.org

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