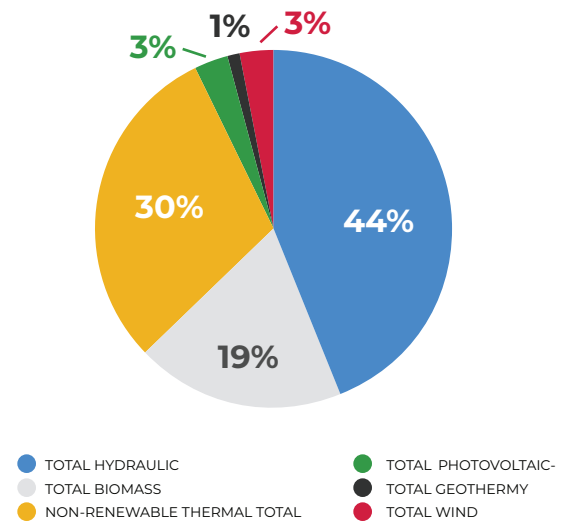




How does electricity supply work in Guatemala?

- In Guatemala **the distribution, generation and carrier of electric energy is free** when the use of public domain assets are not necessary.
- **The prices for the provision of services are free**, with exception of carrier and distribution services which are established by the National Electric Power Commission in a schedule of rates every 5 years.
- Guatemala is connected to the Regional Electricity Market (MER) through the Central American Electricity Interconnection System (SIEPAC). **Guatemala has positioned itself as the largest exporter to the MER.**
- Electric power generation capacity of **3,407 MW** and a demand of **1,914.1 MW**.
- In 2020, **75% of energy** consumed was generated by renewable sources.
- In 2019, the monthly average for the **lowest Spot price was \$US\$ 0.032 kW/h** (November) and the highest was **US\$ 0.087 kW/h** (may), according to figures from the Wholesale Market Manager (AMM).

Figure 1: Installed capacity by source⁶:



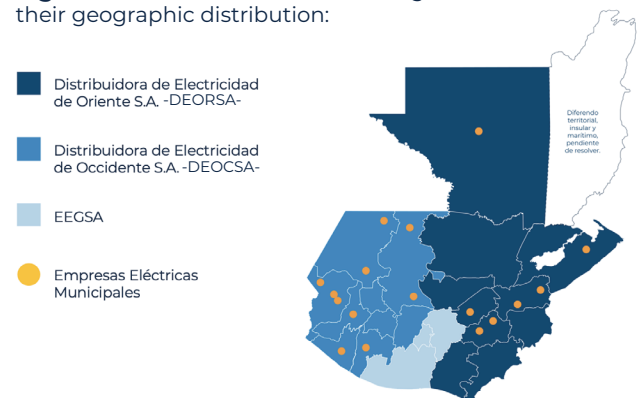
National electric system entities:

- **Ministry of Energy and Mines (MEM)**, it is the public institution that establishes the long-term vision of the subsector.
- **National Electric Power Commission (CNEE)**, MEM technical body.
- **Wholesale Market Administrator (AMM)** system operator.

Participants of the wholesale market:⁸

- **Generators:** minimum 5 MW of power.
- **Carriers:** transmission capacity of at least 10 MW.
- **Distributors:** They are the only ones who can sell electricity to regulated users and must have at least 15,000.
- **Marketers:** specialized intermediaries. They sell at least 5MW in block.
- **Large users:** users who consume electricity that contract a power of at least 100kW.
- **Renewable distributors generators:** plants that generate a maximum of 5 MW and that are connected to the distribution network.

Figure 2: main distributors according to their geographic distribution:



The electrical system is made up of:



¹ En el caso que sí se utilicen bienes de dominio público, se requiere una autorización por parte del Ministerio de Energía y Minas (MEM). Para plantas generadoras con potencia instalada menor a 5MW no se requiere esa autorización. Congreso de Guatemala. (1996). Ley General de Electricidad. Recuperado el 20 de julio de 2021 de [https://www.cnee.gov.gt/pdf/marco-legal/LEY GENERAL DE ELECTRICIDAD Y REGLAMENTOS.pdf](https://www.cnee.gov.gt/pdf/marco-legal/LEY%20GENERAL%20DE%20ELECTRICIDAD%20Y%20REGLAMENTOS.pdf)

² Por capacidad efectiva de generación se entiende la máxima capacidad neta en MW (la generación de electricidad en condiciones normales menos la cantidad necesaria para operar la planta) que puede suministrar una planta para comercialización.

³ Administrador del Mercado Mayorista. (2021). Capacidad instalada 2020. Recuperado el 20 de agosto del 2021 de https://www.amm.org.gt/portal/?page_id=145

⁴ La demanda firme es la demanda de potencia calculada por el AMM que debe ser contratada por cada distribuidor, exportador o Gran Usuario.

⁵ El precio Spot hace referencia al valor del costo marginal de corto plazo de la energía en cada hora, o en un periodo que define la CNEE, establecido por el AMM como resultado del despacho, el costo de agregar un MWh en un hora determinada.

⁶ Elaboración propia con datos del Administrador del Mercado Mayorista.

⁷ Según el artículo 39 de la Ley General de Electricidad, únicamente los transportistas, distribuidores, generadores y comercializadores son catalogados como agentes.

⁸ Existe una empresa estatal, el Instituto Nacional de Electrificación, la cual, en la lógica de holding, tiene empresas separadas (requerimiento en la Ley General de Electricidad) que participan en igualdad de condiciones que el resto de agentes en cada actividad de la cadena.

⁹ Energuate. (s.f.). Áreas de distribución. Recuperado el 20 de septiembre de 2021 de https://www.energuate.com/area_de_cobertura

How can I access the electric power service in Guatemala?

The energy market is made up of the regulated market and the wholesale market (free market), there are three figures as a user of the electricity system:



1. Regulated user

- The regulated market is made up of authorized distributors that have defined obligatory service zones, areas and users of the electricity service with a contracted power of less than 100 kW (residential, commercial and industrial).
- The location determines the distribution company that will provide the service.
- **The cost of energy for a regulated user for 2020 was USD \$ 0.16. A similar comparison in Costa Rica was USD \$ 0.22, USD \$ 0.19 in El Salvador, USD \$ 0.24 in Nicaragua, USD \$ 0.22 in Honduras, and USD \$ 0.20 in Panama.**



2. Large user

- It is an industrial consumer with a contracted power greater than 100 kW, it is not to price regulation and the supply conditions will be freely agreed with a generator or marketer. The price, quantity, and terms are freely agreed through a contract between the participants of the Wholesale Market. **The cost of electrical energy for this user can range from USD \$ 0.085 (8.5 US cents).**
- The large user has two alternatives for participation in the Wholesale Market:
 - Large participating user: is directly responsible for commercial operations with the whole sale market.
 - Large user with representation: operates through a contract with a trading company.



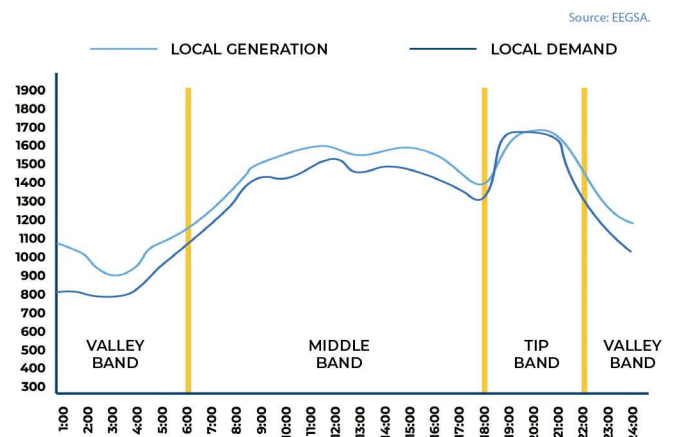
Self-producing user with surplus energy:

- User who has a generation plant to supply his consumption.
- Surplus energy that you do not consume is injected into the grid through its connection to the distribution system with a bidirectional meter and are incorporated into your bill as a positive balance for up to three accumulated months.

Finally, since the generation of electrical energy is free, there is the possibility of simply being a self-producing user and complementing different technologies without connecting to the SNI.

Hourly band: there is a special rate that promotes the use of energy in the valley band period. The most expensive period is during the peak band.

Figure 3: hourly band by demand of SEN.



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