

KEY FIGURES ON ENERGY IN FRENCH POLYNESIA: 2019 EDITION

FOCUS ON PRIMARY ENERGY CONSUMPTION

Primary Energy Consumption (PEC) represents all unprocessed, directly exploited or imported energy products. In French Polynesia, mainly crude oil and its derivatives, hydraulic power and solar radiation PEC is expressed in tonnes of oil equivalent (toe), unit that allows the different energies to be compared in relation to their intrinsic characteristics.



350 millions litres of hydrocarbons were imported in 2019 in French Polynesia.



93,8% is the dependency rate. It indicates the share of energy that a country must import for its primary energy consumption.



Road transport and electricity generation are the main sectors of CEP in French Polynesia

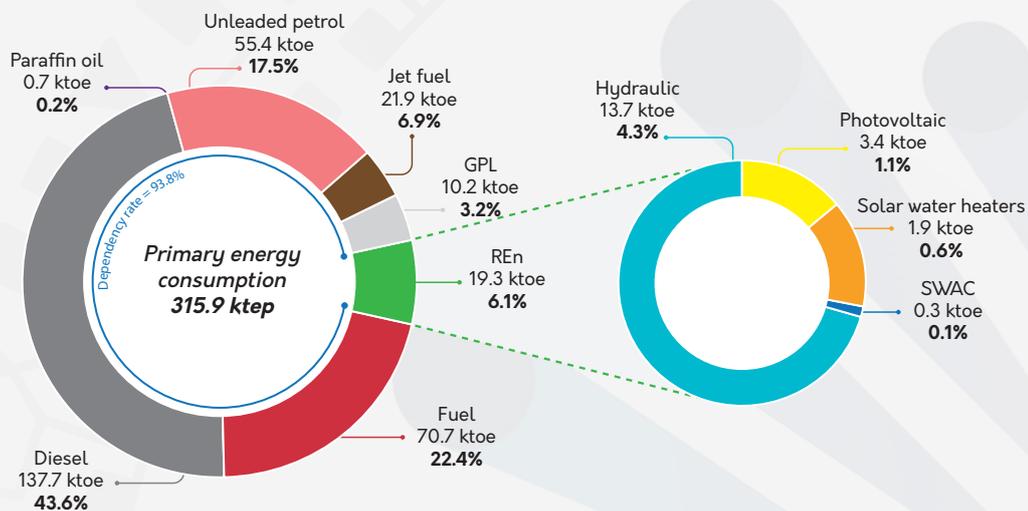


Figure 1: Primary energy consumption in French Polynesia in 2019

FOCUS ON ELECTRICITY IN FRENCH POLYNESIA

Electricity production in French Polynesia is still heavily dependent on fossil fuels despite the development of renewable energy sources (REn). Electricity production and consumption are unevenly distributed over the territory as they are correlated with the geographical distribution of the population. Tahiti, where most of the Polynesian population is concentrated, will account for 71% of French Polynesia's electricity consumption in 2019.



493 GWh is the production of electricity of net thermal origin related to the combustion of fuel oil for Tahiti and diesel in the islands.



28.8% is the penetration rate of renewable energies in the electricity mix, thanks in particular to the production of hydroelectricity and electricity from photovoltaic sources.



Hydroelectricity accounts for 23% of the electricity mix in French Polynesia. It is the first renewable energy source in French Polynesia with an installed capacity of 49.3 MW.



Solar water heaters produce hot water using solar energy. In 2019, the electricity consumption saved is approximately 22 GWh, i.e. 3% of electricity consumption.



The photovoltaic sector is expanding from 4.7 GWh in 2010 to 40 GWh in 2019. **It now accounts for 5.8% of the electricity mix in French Polynesia.** Installed capacity is 41.1 MWp in 2019.



Sea Water Air Conditioning technology also avoids the generation of electricity. This technology enables the production of 3.5 GWh of renewable air conditioning in 2019

FOCUS ON GREENHOUSE GAS EMISSIONS

By definition, greenhouse gases (GHGs) are gaseous components naturally present in the atmosphere that absorb the infrared radiation emitted by the earth's surface and contribute to the greenhouse effect. The increase in their concentration in the atmosphere is one of the factors causing climate change. The study carried out considers the greenhouse gases set out in the Kyoto Protocol:

- **Carbon dioxide (CO₂)** from burning fossil fuels
- **Methane (CH₄)** is mainly produced in the sectors related to waste and agriculture.
- **Nitrogen prototoxide or nitrous oxide (N₂O)** mainly from nitrogen fertilisers and certain chemical processes
- **Sulphur hexafluoride (SF₆)** used in electrical transformers.
- **Two halocarbons (HFCs and PFCs, including CF₄)** are refrigerant gases used for air conditioning and aerosol propellants.

The study conducted by the Polynesian Energy Observatory identifies two types of greenhouse gases:

- **So-called territorial or direct emissions** are associated with greenhouse gases produced directly on the Polynesian territory. For example, vehicle or power plant exhaust gases are considered direct emissions.

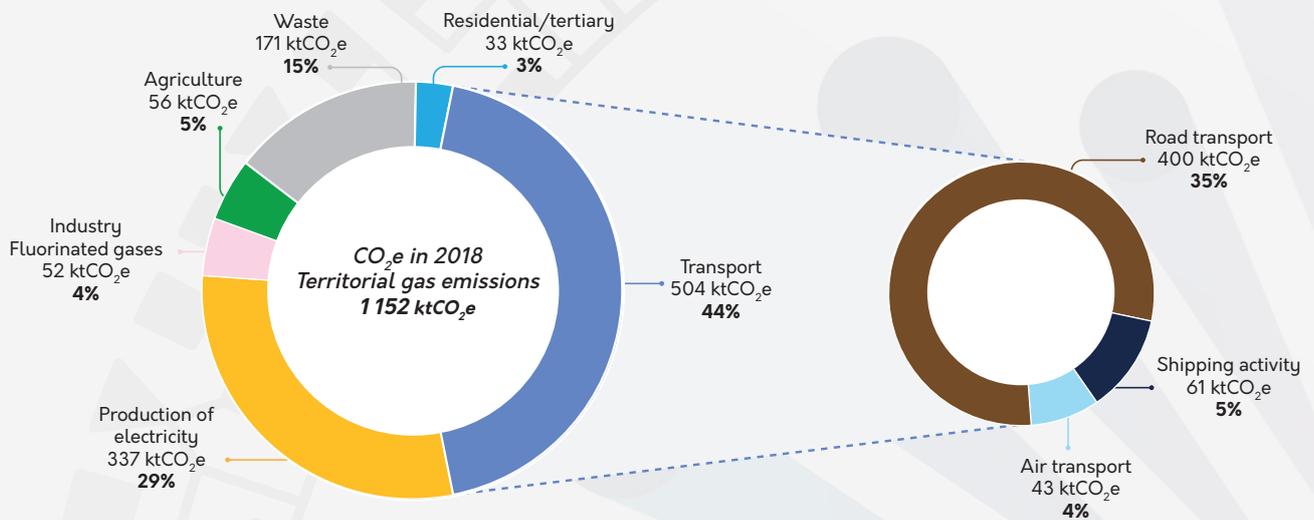


Figure 2: Territorial CO₂e emissions by source in 2018

- **Emissions of imported (or indirect) GHGs** related to the intermediate consumption of enterprises or for final household use. They also include emissions related to the manufacture and transport of products to the Polynesian territory

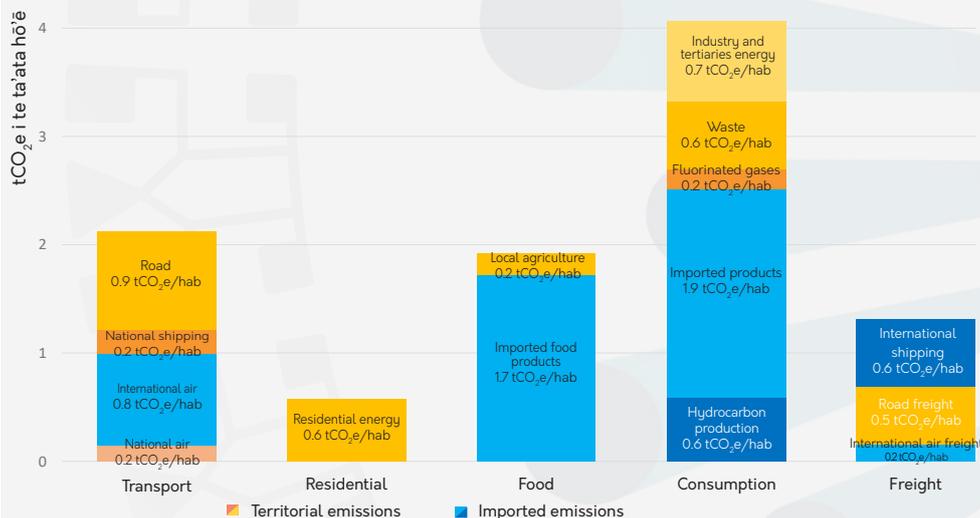


Figure 3: Carbon footprint per capita and per sector in 2018

The carbon footprint of a Polynesian is 10.0 tCO₂e per lIf imported and territorial emissions are added together, we obtain the carbon footprint, which represents the quantity of greenhouse gases (GHGs) induced by a country's domestic final demand (household consumption, investment), whether these goods or services are produced domestically or imported.