



HORIZON  
REUNION

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ENERGY  
BALANCE

REUNION ISLAND

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KEY FIGURES  
2021



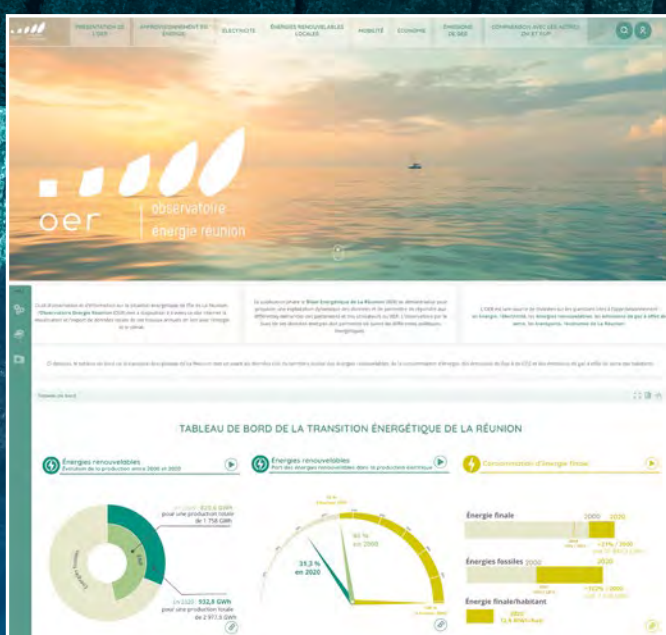
2022 EDITION



Find all the data of your Energy Balance  
on our new website

[oer.spl-horizonreunion.com](http://oer.spl-horizonreunion.com)

We wanted this tool to be dynamic  
and interactive for easy and relevant access  
to all energy data in Reunion Island!



# Key figures

## 2021

### TOTAL PRIMARY ENERGY CONSUMPTION:

16 865.7 GWh – 1 450.2 ktoe  
including 11.7% from local resources

- ◆ Energy dependency rate: 88.2%
- ◆ Energy intensity per capita: 1.7 toe/capita

### TOTAL FINAL ENERGY CONSUMPTION:

11 769.9 GWh – 1 012.0 ktoe

- ◆ Transportation: 62.5% - Electricity: 23.8% - Duty-free fuels and combustibles for agriculture and industry (excluding transportation) and butane gas: 6.5% - Heat: 7.2%
- ◆ Total electricity consumption per capita: 3 239 kWh/capita
- ◆ Total road fuel consumption per capita: 628 litres/capita

### ELECTRICITY GENERATION:

3 089.3 GWh – 265.6 ktoe

- ◆ From 2011 to 2021, electricity generation increased by 1.4% per year on average
- ◆ Peak power demand: 502 MW in January
- ◆ **Share of renewable energies: 28.2% in 2021**

	Hydropower	Photovoltaic	Bagasse	Wind power	Biogas	Bioethanol
Installed capacity (MW)	134.3	223.6	210.0	16.5	4.4	41.0
Electricity generation (GWh)	357.9	267.6	216.7	4.3	17.6	5.7
Share in the electricity generation	11.6%	8.7%	7.0%	0.1%	0.6%	0.2%

### SOLAR HEATING

- ◆ 184 790 individual solar water heaters  
= 739 160 m<sup>2</sup> = 277.2 GWh avoided
  - ◆ 51 893 m<sup>2</sup> of collective solar water heaters  
= 31.1 GWh avoided
- **308.3 GWh avoided**

### CO<sub>2</sub> EMISSIONS:

4 271 kilotons, being 4.93 tCO<sub>2</sub>/capita

- ◆ Direct emission average ratio per consumed kWh:  
**732 gCO<sub>2</sub>/ electrical kWh**

General indicators	2015	2016	2017	2018	2019	2020	2021
Energy Intensity in toe / million euros (2010 constant euros)	83.88	82.42	82.25	80.35	81.69	77.86	*
Road fuels consumption per capita (L)	611	622	630	622	629	569	<b>628</b>
Primary energy quantity necessary to produce 1 ktoe of final electricity (ktoe)	2.75	2.74	2.71	2.63	2.75	2.79	<b>2.76</b>
Primary energy quantity necessary to produce 1 ktoe of final energy (ktoe)	1.42	1.42	1.41	1.38	1.41	1.47	<b>1.43</b>
Renewable energy production (GWh)	1 043.0	1 003.8	967.2	1 078.8	951.0	931.7	<b>869.8</b>

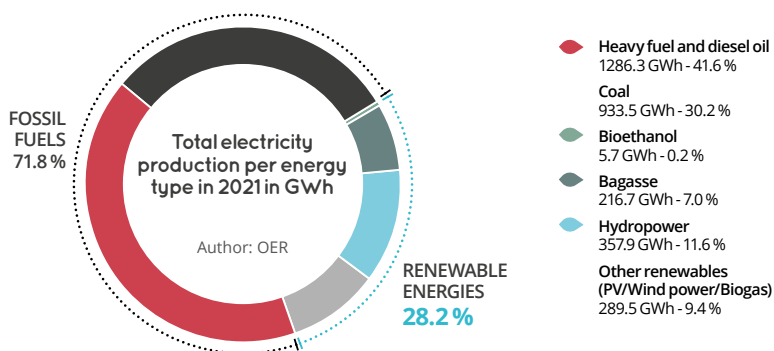
\*2021 GDP unknown



# Electricity

## 2021

**ELECTRICITY PRODUCTION: 3 089.3 GWh – 265.6 ktoe**

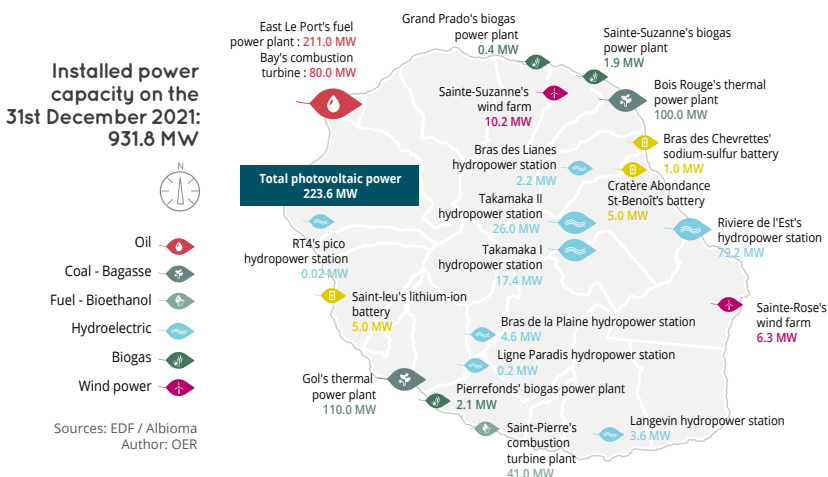


**Renewable energy penetration rate in electricity production in different non-interconnected territories (NITs) in 2021**

Guadeloupe	Martinique	Reunion Island	Corsica	French Guiana	New-Caledonia (2020)	French Polynesia (2020)
33.7%	25.7%	28.2%	34.1%	69.8%	15.6%	30.2%

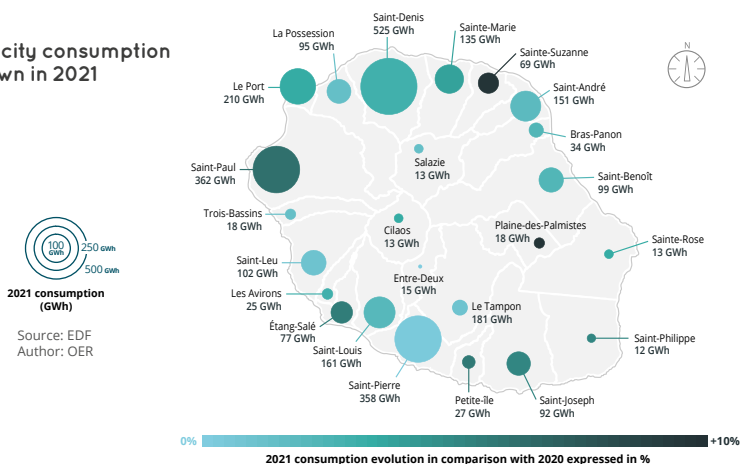
Sources: EDF Open Data for Corsica, Martinique, Guadeloupe and French Guiana, OER, OMEGA, Energy Observatory of New Caledonia, Polynesian Energy Observatory

**INSTALLED POWER CAPACITY: 931.8 MW**



**ELECTRICITY CONSUMPTION: 2 806 GWh – 241.2 ktoe**

**Electricity consumption per town in 2021**



**Comparison of the electricity consumption per capita in different NITs (MWh)**

Guadeloupe (2020)	Martinique (2020)	Reunion Island (2021)	Corsica (2020)	French Guiana (2020)	New-Caledonia (2020)	French Polynesia (2020)
3.89	3.82	3.18	5.94	3.23	11.66/2.77*	3.30

Sources: EDF Open Data for Corsica and French Guiana, OER, OMEGA, Local community of Martinique, Energy Observatory of New Caledonia, Polynesian Energy Observatory  
\*exclusive of metal industry and mining



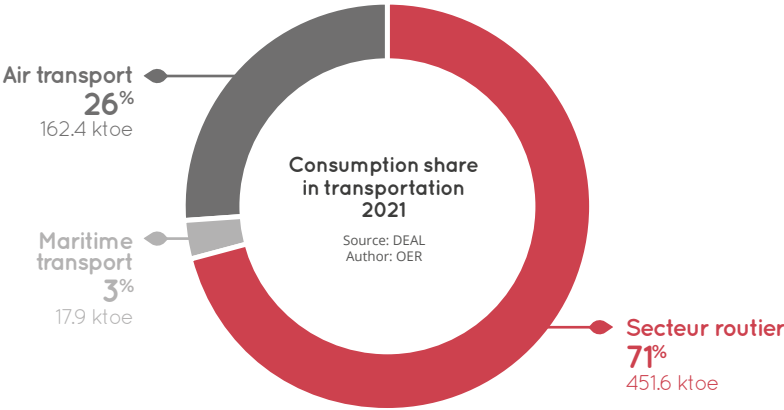
# Transportation 2021



## FUEL CONSUMPTION:

617 176 tons of fossil fuels and 631.9 ktoe

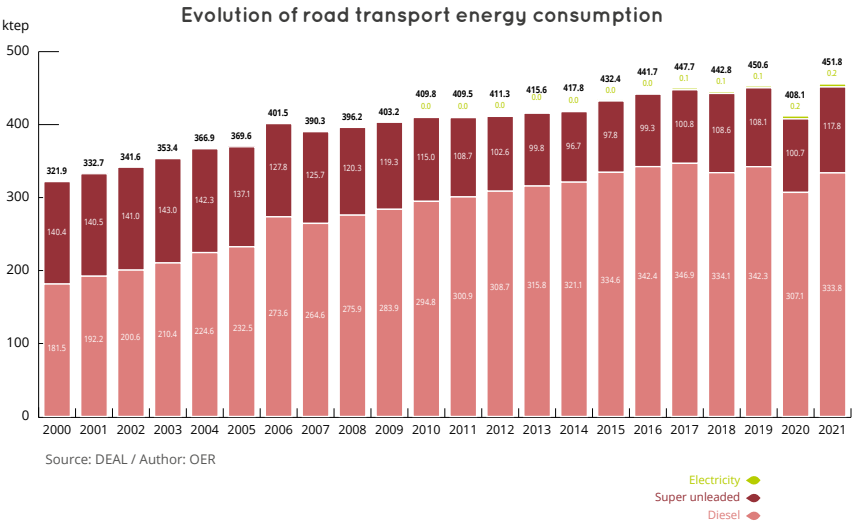
(Electric vehicles excluded)



## CONSUMPTION IN ROAD TRANSPORT SECTOR:

444 828 tons and 451.8 ktoe

(Electrical vehicles included)



## ELECTRIC AND HYBRID TRANSPORTATION DEVELOPMENT

Cumulative number of electric and hybrid cars since 2006:

	2006	2010	2015	2016	2017	2018	2019	2020
Hybrid cars	38	685	3 122	3 897	4 635	5 592	7 095	9 649
Plug-in hybrid cars	0	0	105	215	379	528	633	939
Electric cars	0	6	227	334	589	921	1 439	2 508
Electric motorcycles	0	0	0	0	0	0	7	49
TOTAL	38	691	3 454	4 446	5 603	7 041	9 174	13 145

Sources: Automobile department file until 2011, Car dealers from 2013 to 2015, RSVéRO since 2016 – Author: OER. The data for the year 2021 are currently being validated following recasting work by the Central Automobile File. The last data presented are those of the year 2020.

In May 2022 there are **264 functioning public power points** for electric vehicles in Reunion Island.



# Primary supply

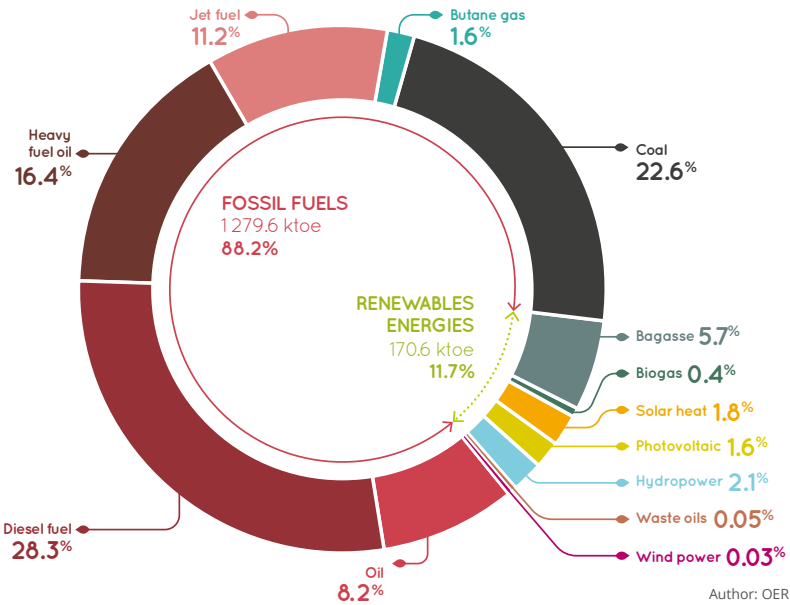
## 2021

PRIMARY ENERGY SUPPLY:  
16 865.7 GWh meaning 1 450.2 ktoe

			2021
IMPORTED FOSSIL RESOURCES	Oil*		118.4
	Diesel fuel*		410.1
	Heavy fuel oil		237.1
	Jet fuel*		162.4
	Butane gas*		23.8
	Coal		327.7
	Subtotal		1 279.6
IMPORTED RENEWABLE RESOURCES	Bioethanol		0.7
RENEWABLE AND RECYCLED RESOURCES	Biomass	Bagasse	82.1
		Biogas	5.7
		Bioethanol	0.7
		Wood	nd
	Sun	Solar heat	26.5
		Photovoltaic	23.0
	Water	Hydropower	30.8
	Recovery	Waste oils	0.7
	Wind	Wind power	0.4
	Subtotal		170.6
			TOTAL 1 450.2

\* Corresponding to the stock removals from the SRPP

Consumption share of primary energy consumption in 2021



Evolution of the energy dependency rate from 2000 to 2021

2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
84.7%	87.1%	87.5%	88.3%	87.2%	86.2%	86.8%	86.1%	86.6%	87.0%	87.2%	87.5%	87.0%	88.2%

Author: OER.

Comparison of the energy dependency rate in the different NITs

Guadeloupe (2020)	Martinique (2020)	Reunion Island (2021)	Corsica (2020)	French Guiana (2015)	New Caledonia (2020)	French Polynesia (2020)
92.7%	92.5%	88.2%	86.1%	82.4%	96.9%	93.4%

Sources: GEC for French Guiana, OREGES from Corsica, OER, OMEGA, Local community of Martinique, Energy Observatory of New Caledonia, Polynesian Energy Observatory

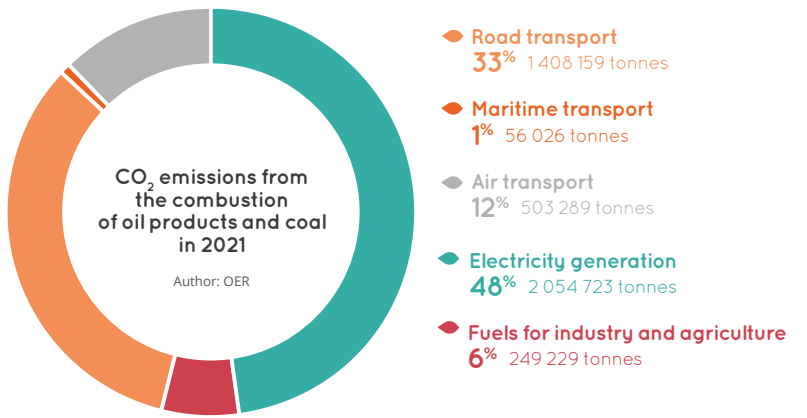


# Greenhouse gases

## 2021



### CO<sub>2</sub> EMISSIONS FROM THE COMBUSTION OF ENERGY PRODUCTS IN REUNION ISLAND IN 2021\*



Total of CO<sub>2</sub> emissions from the combustion of oil products and coal: **4 271 kilotons.**

#### Direct CO<sub>2</sub> emissions per capita

- Direct emissions from electricity generation: **2.37 tCO<sub>2</sub>/capita**
- Direct emission from all types of transportation: **2.27 tCO<sub>2</sub>/capita**
- Emissions from fuels for agricultural, industrial and residential-tertiary sectors: **0.29 tCO<sub>2</sub>/capita**

**One inhabitant of Reunion Island = 4.93 tCO<sub>2</sub>**

(Emissions due to the combustion of fossil fuels only)  
\*Simplified methodology of the GHG Emission Inventory

### Comparison of the mean direct emissions ratio per kWh in different NITs Direct emissions average ratio per kWh consumed gCO<sub>2</sub>/kWh

Guadeloupe (2019)	Martinique (2020)	Reunion Island (2021)	Corsica (2020)	French Guiana (2019)	New Caledonia (2020)	French Polynesia (2020)
703	575	732	564	468	1 022/813*	536

Sources: EDF Open Data for Corsica and French Guiana, OER, OMEGA, Local community of Martinique, Energy Observatory of New Caledonia, Polynesian Energy Observatory  
\*Exclusive of metal industry and mining



# Energy economics

## 2021

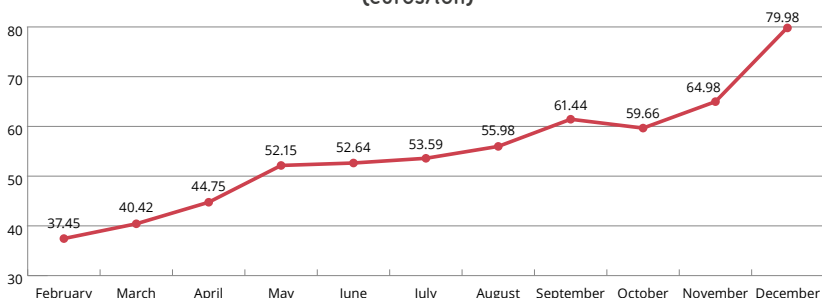
### HIGHLIGHTS OF THE YEAR 2021

#### Comparison of coal import costs (€/ton)

January 2021: 100 €/ton

December 2021: 190 €/ton

Evolution of the average monthly price per ton of CO<sub>2</sub> in 2021  
(euros/ton)



Source : Agence Trésor France

### COST OF FOSSIL RESOURCES IMPORTATIONS

Total of fossil resources importations in 2021: **1 112.1 ktoe**

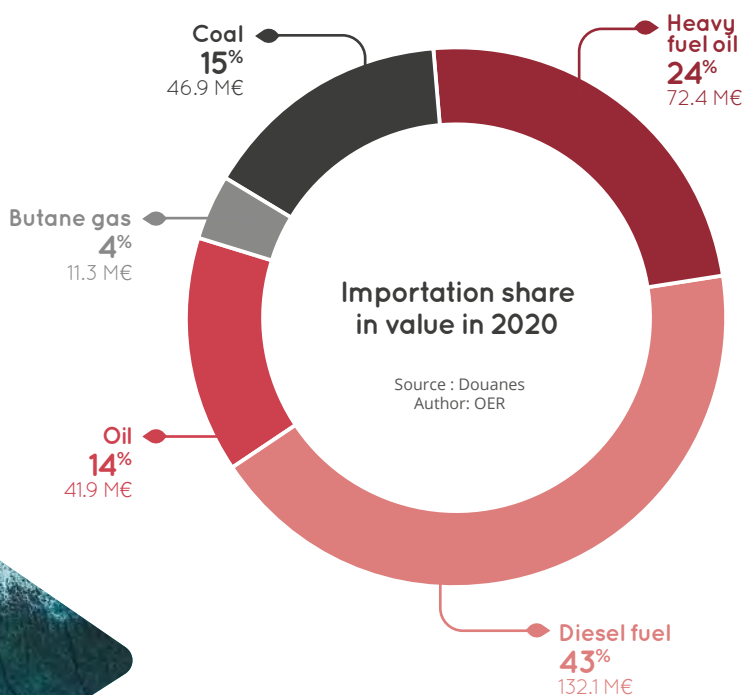
Due to a change in procedures for the publication of statistical data by Customs, the data for 2021 concerning the value of imported resources and tax revenues related to imports of fossil resources could not be accessed.

As a reminder, in 2020, the total imports of fossil resources: **1 032.2 ktoe** for a total value of imports of **304.6 million euros**.

#### Origin of the most imported resources:

- The coal comes from South Africa
- The diesel fuel comes from Singapore

Tax revenue from fossil resources importations in 2020:  
**266.2 million euros**





# Glossary



## **Bagasse:**

Sugar cane residue obtained after grinding. Bagasse can be used as a biofuel.

## **Energy dependency rate:**

Shows the proportion of energy that an economy must import. It is defined as net energy imports divided by primary energy consumption.

## **Energy intensity:**

Measures the energy efficiency of the country's economy. The higher the intensity, the more the country consumes.

## **Final energy consumption:**

Total energy consumed by end users (households, services, industries, transport and agriculture).

## **Non-interconnected territories (NITs):**

Refers to the French territories that are not connected to the continental electrical grid due to their geographical remoteness. Reunion Island, Guadeloupe, Martinique, French Guiana and Corsica are referred as NITs.

**PV:** Abbreviation for photovoltaic systems

## **Penetration rate of renewable energies:**

Share of renewable energies in total power generation.

## **Primary energy consumption:**

Primary energy consumption measures the total energy demand and covers consumption of the energy sector itself, losses during transformation and distribution of energy and final consumption by end users. The primary energy consumption provides a measure of the energy independency rate.

## **Necessary Primary energy quantity to produce 1 ktoe of final energy:**

This is a conversion factor to go from electricity to primary energy. It is a coefficient that enables the addition of electricity power and primary fossil energies in energy balance.

**Rated capacity:** Net power output available on the power grid.

## **Ton of oil equivalent (toe):**

Energy unit equivalent to the energy released by burning one ton of crude oil. It is an energy unit that is used to compare energy from different sources.

For more information, search for the technical energy balance (in French) on our website!

**[oer.spl-horizonreunion.com](http://oer.spl-horizonreunion.com)**



# Reunion Island Energy Observatory

The Reunion Island Energy Observatory, OER (Observatoire Energie Réunion), hosted by the company Horizon Réunion, is part of the energy strategy led by the regional council and the partners of the island's action on energy policy.

Being an observation and information tool regarding the energy state of Reunion Island, the observatory comes from the wish of the different partners to provide them with a specific instrument to support energy management actions and develop renewable energies as well as measure the impact of these actions.

## Horizon Réunion

Since 2013, the local public company Horizon Réunion has supported Reunion Island towards electric self-sufficiency, serving communities, territories and its inhabitants.

Formerly called Energies Reunion, the company changed its name on 12 February 2019, following the opening of its corporate purpose to new skills regarding the environment, biodiversity and climate. Its role: to support local authorities in the development of concrete projects regarding energy, solidarity and sustainability challenges.

   [www.spl-horizonreunion.com](http://www.spl-horizonreunion.com)

### Observatory's partners for 2014-2021:



SPL Horizon Réunion  
XX 2022

Directeur de publication : Matthieu Hoarau

Imprimeur : Graphica - Conception graphique : Facto Saatchi & Saatchi

ISSN : XXX

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