Council of the
European Union

Brussels, 27 March 2024
(OR. en)

8369/24
ADD 15

COH 20
SOC 243

COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	27 March 2024
To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2024) 79 final - PART 15/23
Subject:	COMMISSION STAFF WORKING DOCUMENT Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the 9th Cohesion Report

Delegations will find attached document SWD(2024) 79 final - PART 15/23.

Encl.: SWD(2024) 79 final - PART 15/23

EUROPEAN
COMMISSION

Brussels, 27.3.2024
SWD(2024) 79 final

PART 15/23

COMMISSION STAFF WORKING DOCUMENT
Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

on the 9th Cohesion Report

{COM(2024) 149 final}

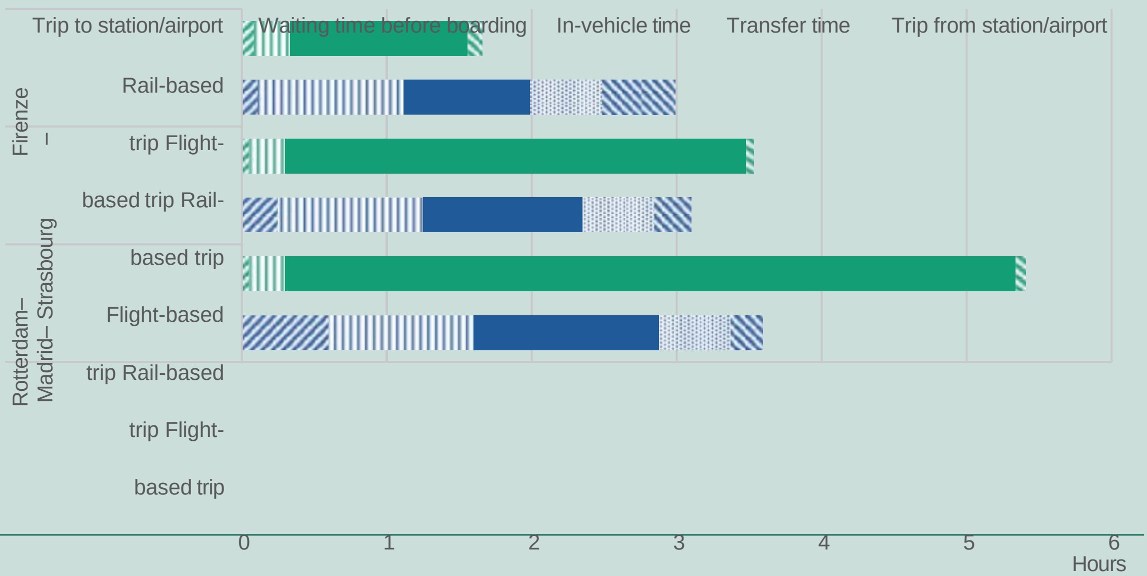
EN EN

Box 4.5 How can rail be faster than a flight?

Comparing the travel time of rail and air trips needs to go beyond time spent in a train or a plane to take account of the time needed to get to the airport or rail station, waiting times and actual departure and arrival times. People flying spend less time in a plane than rail passengers spend in a train[1], but they spend much more time travelling to and from the airport and in the airport itself. Trains can usu- ally be boarded quickly and the train stations tend to be better connected to city centres than airports. This 'out-of-vehicle' time is either fixed (waiting/ boarding) or otherwise independent of the distance of the trip (access to and from the station/airport), which means that rail tends to be faster on shorter distance trips.

This is illustrated in Figure 4.12, which compares the composition of total travel time of rail and air trips, including out-of-vehicle time[2], on three routes that are representative of different journey distances. For rail trips, the major part of travel time is in the train, so the total trip time varies closely with the distance travelled. For air trips, the in-plane time is actually shorter than the other elements, and the total trip time varies much less with the distance. On the shortest of the three routes, between Flor- ence and Rome, the time taken by rail is shorter than by air, mainly because of the long out-of-plane time of the latter. On the medium-distance route between Madrid and Granada, though traveling by rail takes longer than by air, the difference is small. On the longest route between Rotterdam and Strasbourg, travelling by air clearly takes less time because of the considerably longer time spent in the train than in the plane.

Figure 4.12 Composition of city- to- city travel time for rail and air trips on selected routes (number of hours), 2019



Note: Routes are selected to illustrate trips of different distances. Specifically, they are chosen as the routes closest to the bottom quintile, median and top quintile of the distribution of distances between urban centres. The in-vehicle time includes the taxiing Source: DG REGIO and JRC based on SABRE airline data.

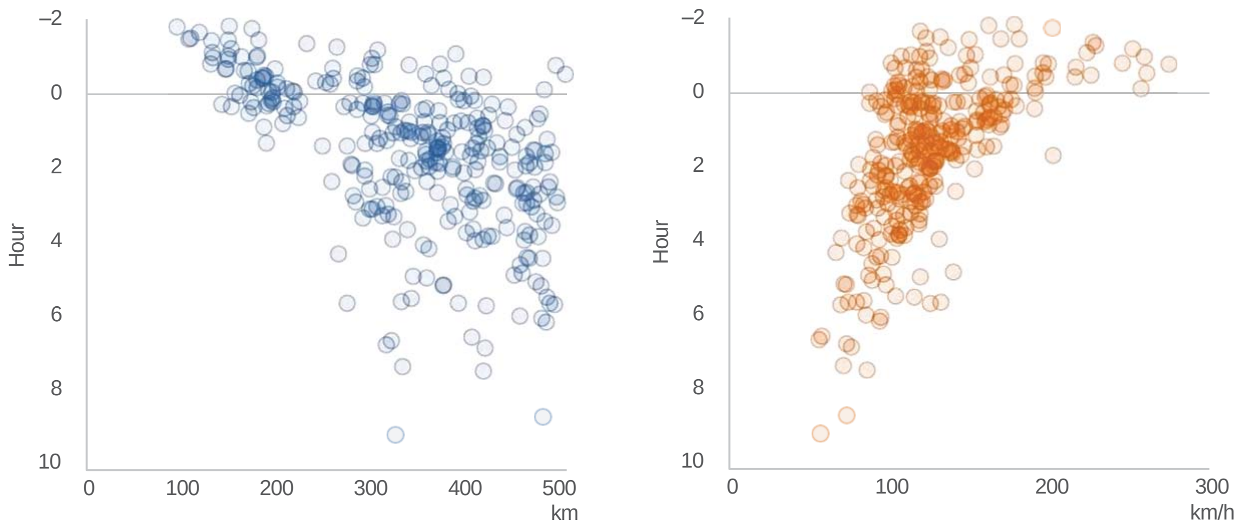
1 The only exception in the dataset is the trip by air from Rotterdam to Antwerp, the in-vehicle component of which consists of a flight between Amsterdam and Brussels.

2 The assumptions used for the present analysis are as follows. Time before boarding the first train – 15 minutes; check-in and board- ing at the departure airport – 60 minutes; taxiing is included in the flight time; transfer time at the arrival airport (this includes the time needed to disembark from the plane, wait for luggage to arrive and transfer to the location where the transport connection to the city centre departs) – 30 minutes. A flight speed of 500 km/h is assumed. If more than one connection between airports is available linking the same urban centres, the travel time for the connection with the highest number of passengers is taken.

Figure 4.13 Difference in travel time by rail as opposed to air according to distance between city-pairs (number of hours) and average rail operating speeds, 2019

a) Distance of connections between cities- pairs

b) Average rail operating speed

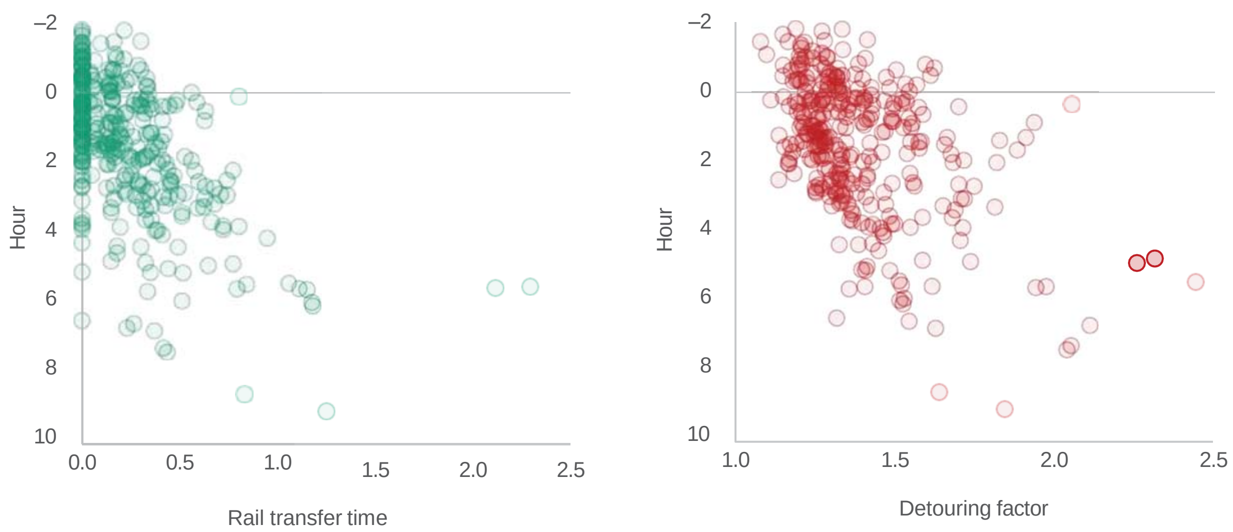


Note: Negative values on the vertical axis indicate that the total travel time by rail is less than that by air.
Source: DG REGIO and JRC based on SABRE airline data.

Figure 4.14 Difference in travel time by rail as opposed to air according to rail transfer time (hours) and the detour factor, 2019

a) Rail transfer time

b) Detour factor



Note: Negative values on the vertical axis indicate that the total travel time by rail is less than that by air.
Source: DG REGIO and JRC based on SABRE airline data.

Table 4.2 Rail operating speed, transfer time and the detour factor of rail trips

	Rail operating speed (km/h)	Transfer time (hrs)	Transfer time (% of rail trip)	Detour factor
Cross- border routes	117	0.36	7.6	1.42
Domestic routes	138	0.12	2.5	1.37
All routes	126	0.25	5.3	1.40

Source: DG REGIO.

1.1 Access to electric vehicle recharging points has increased but lags in rural regions

A transition to zero- and low-emission energy carriers (notably electricity) is needed to reduce dependence on oil and the environmental impact of road transport. This requires the development of an appropriate recharging and refuelling in- frastructure network for vehicles using zero- and low-emission energy carriers, in particular a net- work of electricity charging points, which is suffi- ciently dense to make access easy. This sub-section examines the current availability of such points in the EU and the number which are 'nearby' defined as within a drive of 10 km.

In 2022, an average of 288 charging points could be reached within 10 km of driving in the EU, up from 122 in 2020, an increase of 135 % in two years (Table 4.3). These were clustered in an aver- age of 87 charging pools[44] as against 46 two years earlier, the average number of charging points per pool increasing from 2.7 to 3.3. As a result, the average distance to the nearest charging point fell from 6.9 km in 2020 to 4.1 km in 2022, or by 40 %.

The charging points, however, are by no means evenly distribution across the EU. While most of the regions in the Netherlands, Flanders and Lux- embourg have good access to charging points, as do various regions in Sweden, Germany, Austria and Spain (Map 4.13), this is far from the case in almost all the eastern Member States and Ireland. There are large variations between regions within some countries, such as Belgium and Italy, where the north is better served than the south, and Spain, where coastal regions have better access than those inland. Across the EU, capital city regions and other regions with large cities tend, in general, to be better endowed with charging points than others.

The number of charging points obviously af- fects the average distance to the nearest one (Map 4.14). This is less than 1 km in Luxembourg, most regions in the Netherlands, and some in Bel- gium and Germany, as well as in a number of cap- ital city regions. At the other extreme, the distance to the nearest charging point averages over 20 km in many regions in Poland, Romania, Greece and Lithuania, which is likely to limit the take-up of electric vehicles.

In urban regions across the EU, there was an aver- age of 620 charging points within 10 km in 2022, over twice the EU average, with the average in in- termediate regions, and more especially rural ones, being much lower than the EU average (Table 4.4). The average number of charging points per pool (3.4) was also larger than in intermediate (3.0) and rural regions (2.7), while in rural regions the average distance to the nearest charging station was 8.4 km, 5 times more than in urban regions.

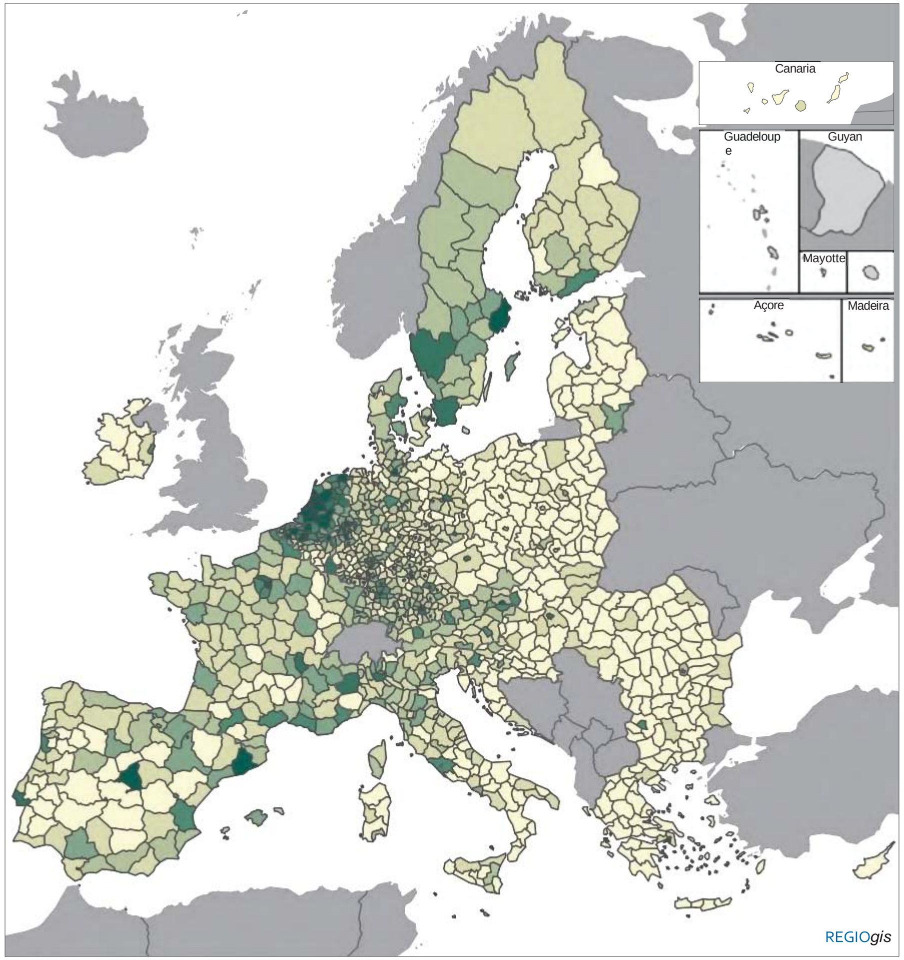
The greater availability of charging points in urban regions reflects the higher demand from a larger population living more closely together. However, the difference in availability is more than demo- graphic differences imply, indicating that this rep- resents less of a constraint on owning an electric vehicle in urban regions than in others.

Table 4.3 Availability of nearby (within 10 km) electric vehicle recharging points and pools in the EU, 2020 and 2022

	Recharging points	Recharging pools	Recharging points per pool	Distance to nearest (km)
2020	122	46	2.7	6.9
2022	288	87	3.3	4.1
Increase 2020–2022	135 %	89 %	24 %	-40 %

Source: DG REGIO and JRC based on data from European Alternative Fuels Observatory (EAFO), Eurostat and TomTom.

32 A recharging pool is a structure in a specific location where one or more recharging points are available (see also: https://alternative-fu- els-observatory.ec.europa.eu/general-information/recharging-systems).



Map 4.13 Electric vehicle charging points within a 10-km drive, 2022

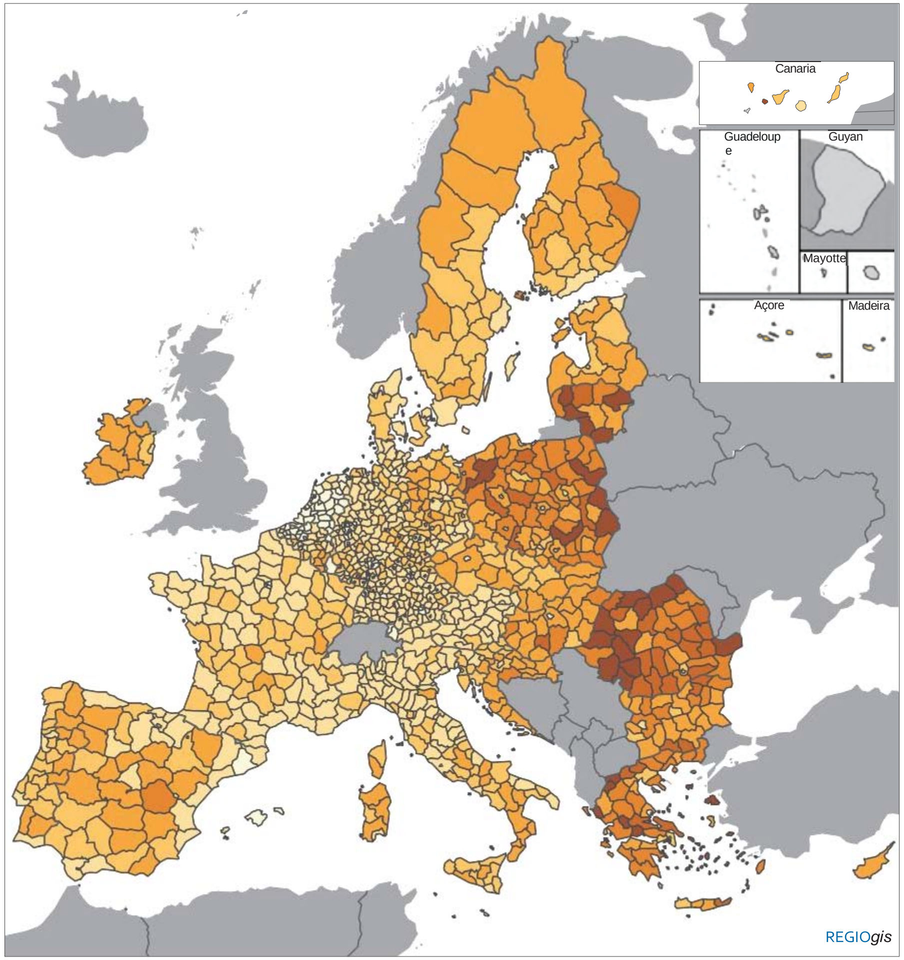
Number of points

- < 20
- 20 – 50
- 50 – 100
- 100 – 200
- 200 – 400
- 400 – 600
- >= 600
- no data

EU-27 = 287.8
Population-weighted average of figures by 1 km² grid cell.
Location data as of 31 December 2022.
Source: JRC based on data from EAFO, Eurostat and

0 500 km

© EuroGeographics Association for the administrative



Map 4.14 Distance to the nearest electric vehicles charging point, 2022

km

- < 1
- 1 – 3
- 3 – 5
- 5 – 10
- 10 – 15
- 15 – 20
- >= 20
- no data

EU-27 = 4.1
Population-weighted average distance by road of figures by 1 km² grid cell. Location data as of 31 December 2022.
Source: JRC based on data from EAFO, Eurostat and TomTom.

0 500 km

© EuroGeographics Association for the administrative

Table 4.4 Availability of nearby (within 10 km) electric vehicle recharging points and pools by urban- rural typology, 2022

	Recharging points	Recharging pools	Recharging points per pool	Distance to nearest (km)
EU-27	288	86.6	3.3	4.1
Urban	620	182.8	3.4	1.6
Intermediate	82	27.5	3.0	4.4
Rural	23	8.4	2.7	8.4

Source: DG REGIO and JRC based on data from EAFO, Eurostat and TomTom.

1.2 Hydrogen refuelling points are currently concentrated in a small part of the EU

Hydrogen made from renewable energy is also a source of energy with potential to power vehicles in a clean and efficient way. It is envisaged as a significant part of the future fuel mix for transport, at the same time enhancing energy security and reducing dependence on oil, GHG emissions and air pollution[45]. Hydrogen refuelling points currently cover only a small part of the EU, being concen- trated in north-western Member States, with 63 % of them located in Germany and another 25 % in France and the Netherlands and none in eastern Member States (Map 4.15). The importance of hy- drogen for freight transport is illustrated by the fact that many of the refuelling points are located along inland waterways connecting the large ports of Rotterdam, Le Havre and Antwerp with major cities (Paris, Brussels) and conurbations (the Ruhrgebiet).

2. The challenges of a just transition

Achieving a just and equitable climate transition is a critical challenge. While the shift to sustainabil- ity offers the potential for new jobs and economic growth, there are also significant potential costs, particularly for workers in fossil fuel industries and low-income households.

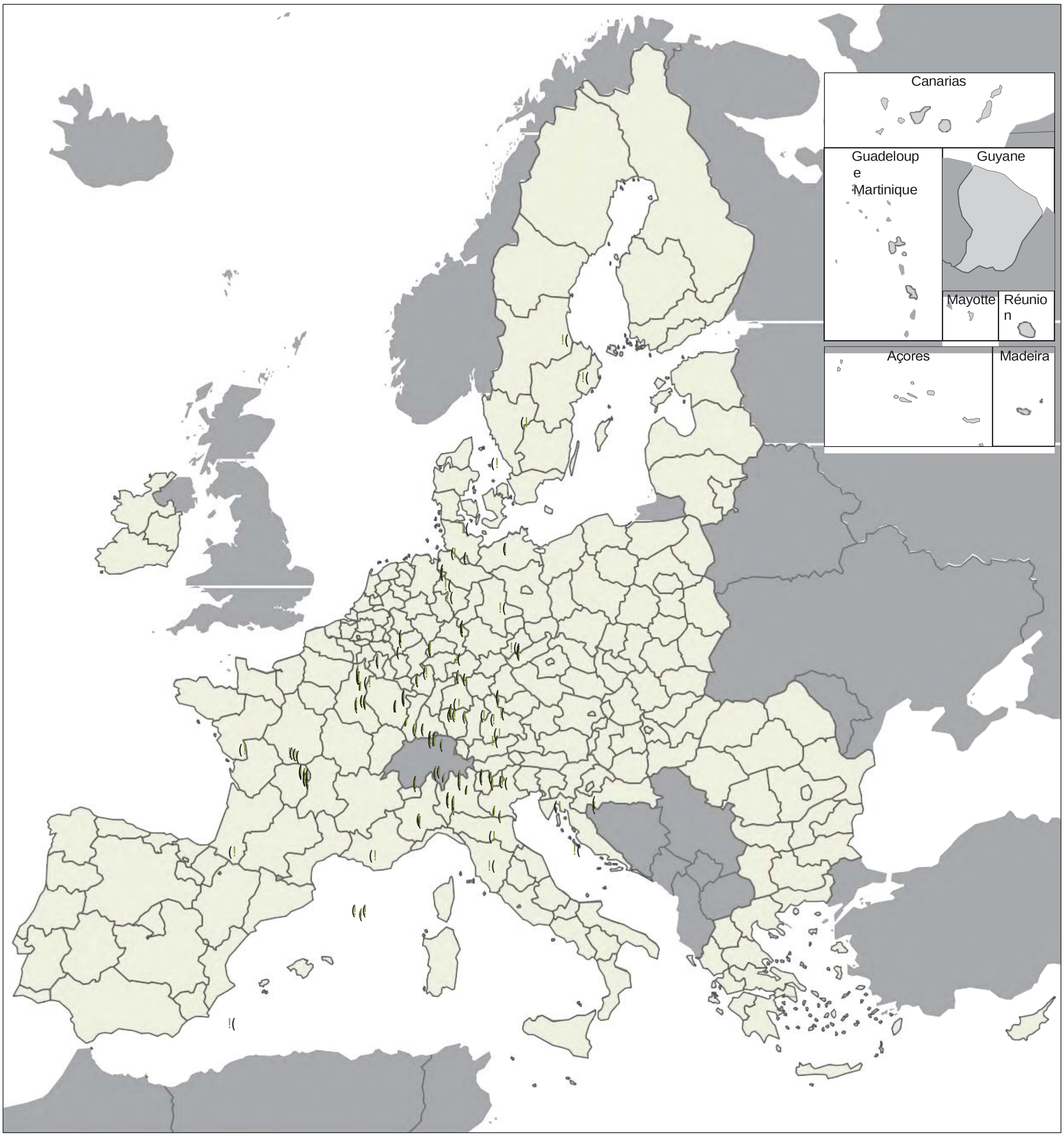
The transition away from fossil fuels will neces- sitate restructuring in some sectors with inevita- ble job losses, potentially affecting workers (and their families) with limited skills or opportunities to relocate. In addition, the costs associated with implementing climate-friendly technologies and policies could affect lower-income households disproportionately, exacerbating existing social in- equalities, if no access to support to implement energy-efficient solutions is provided to them.

At the same time, the green transition also provides promising opportunities for job creation. By 2030, an estimated 2.5 million new high-quality jobs could emerge in the EU, particularly in renewable energy and other sustainable sectors[46], with workers hav- ing the chance to acquire new skills and to take up employment in the sectors concerned, as well as new employment opportunities for underrepresented groups such as women and young people through reskilling and upskilling.

To ensure a just transition, it is essential that poli- cies are responsive to these changes, and measures are designed to realise the opportunities that arise. This is particularly important in less developed re- gions, which tend to be less prepared for the transi- tion to a climate-neutral economy and are likely to have more difficulty in reaping the potential ben- efits. Therefore, the Commission provides support with the JTF (Box 4.6) to EU regions worst affected by the transition to climate neutrality. The JTF sup- ports the economic diversification and reconversion of the territories concerned, as well as upskilling

33 https://transport.ec.europa.eu/transport-themes/clean-transport/clean-and-energy-efficient-vehicles/green-propulsion-transport/hydro- gen-and-fuels-cells-transport_en.

34 Cedefop (2021).



Map 4.15 Hydrogen refueling stations, 2023

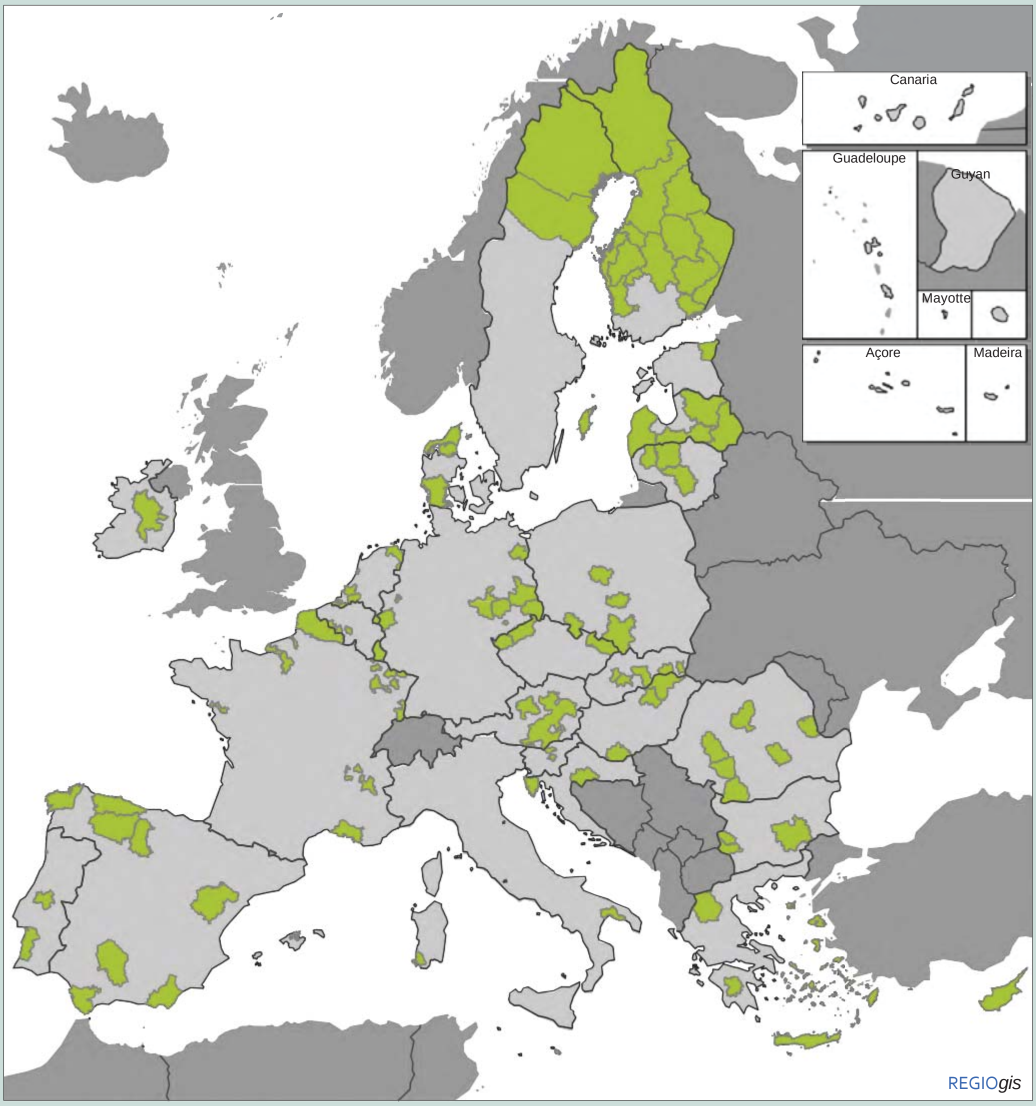
Refuelling stations

Situation in June 2023. Source:

REGIOgis

0 500 km

Box 4.6 A just transition to climate neutrality



Map 4.16 JTF territories included in approved territorial just transition plans (Dec. 2023)

JTF territory included in approved territorial just transition plans

0 500 km

The Just Transition Fund (JTF) supports regions that rely on fossil fuels and high-emission industries in their green transition. The fund alleviates the so- cio-economic costs triggered by climate transition, supporting the economic diversification and recon- version of the territories that are highlighted in Map 4.16. Member States have identified these ter- ritories in their territorial just transition plans.

The JTF is one of the three pillars that make up the just transition mechanism. The other two pillars are a dedicated programme under ‘InvestEU’ and a pub- lic sector loan facility.