

# SUSTAINABLE & SMART **MOBILITY STRATEGY**

Rollout of EVs charging  
infrastructure in the EU

Alternative Fuels Infrastructure  
Regulation



# The European Green Deal

- **New Growth Strategy:** EU to be climate neutral 2050 (Union- and economy-wide, net-zero)
- **2030** – reduction by **at least 55%** of (net) greenhouse gas emissions
- Binding requirement established by the **European Climate Law**
  - **EU-wide** - All Member States will have to contribute in a spirit of fairness and solidarity
  - **Economy-wide** - All sectors of the economy will play a part
  - **Domestic** - Reductions in emissions will be based on the changes made in the EU, and not on international off-setting
  - **Net** - Calculations of the reduction are based on emissions of GHG into the atmosphere minus those removed



# The European Green Deal: key strategies

## 2030 Climate Target Plan & Law

- Increasing level of ambition to at least -55% of net GHG emission reduction by 2030

## Sustainable Europe Investment, Just transition and Recovery finance

- Increase of CEF
- InvestEU in support of EGD
- Substantive focus of recovery

## New industrial strategy

- Sustainable value chain focus (batteries, hydrogen)
- Circular economy

## New transport strategy

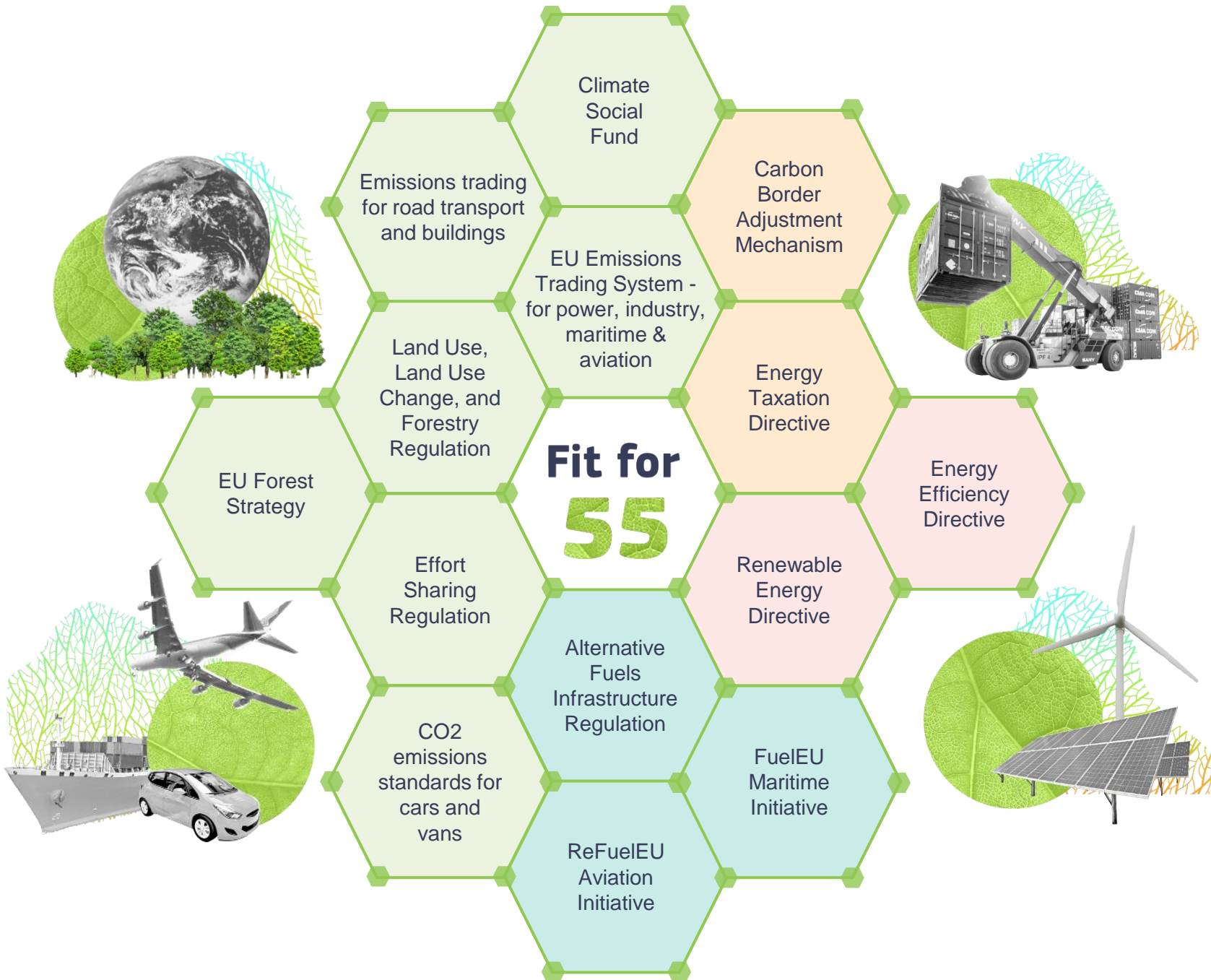
- Sustainable and smart mobility that leaves no one behind
- -90% emission reduction by 2050
- **Comprehensive approach across all modes of transport**

## Strategy for energy system integration

- energy efficiency and integration of energy carriers markets
- New strategy for hydrogen
- Hydrogen alliance



# Fit for 55 (14 July 2021)



- **Implementation of European Green Deal**
- **Bringing EU policy framework in line with climate objective of 55% emissions by 2030.**
- **13 initiatives, of which 11 with direct effects on transport**

# Architecture of the package

## Pricing

**Stronger Emissions Trading System for aviation + CORSIA**

**Extending Emissions Trading System to maritime, road transport and buildings**

**Updated Energy Taxation Directive**

New Carbon Border Adjustment Mechanism

## Targets

**Updated Effort Sharing Regulation**

Updated Land Use Change and Forestry Regulation

**Updated Renewable Energy Directive**

**Amended Energy Efficiency Directive**

## Rules

**Stricter CO2 performance for cars & vans**

**New Regulation on infrastructure for alternative fuels**

**ReFuelEU: Sustainable aviation fuels**

**FuelEU: Cleaner maritime fuels**

**Supporting measure**  
**Social Climate Fund**



## Proposed approach

- **Package is based on a comprehensive set of impact assessments including the impact assessment accompanying the 2030 Climate Target Plan** (providing the costs and benefits of achieving 55% greenhouse gas emissions reductions)
- **A set of interconnected proposals, which represent a balance between :**
  - **strengthened carbon pricing:** CO2 emissions must have a price that incentivises consumers, producers and innovators to choose clean technologies.
  - **a number of regulatory measures** (new targets, standards).
  - **support measures:** **Social Climate Fund** will provide funding to Member States to support those citizens at risk of energy and/or mobility poverty.

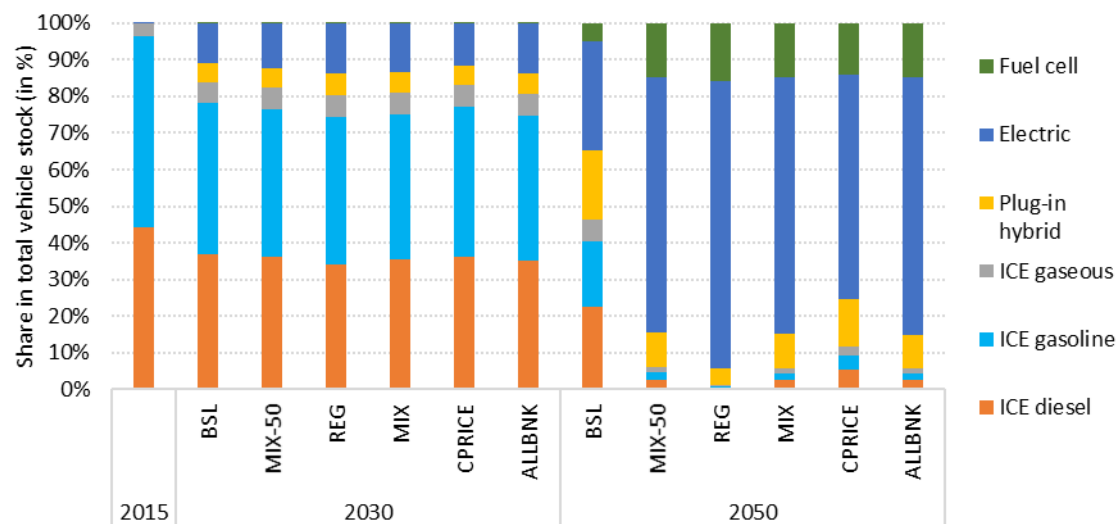
## This comprehensive and interconnected set of proposals combines:

- application of emissions trading to new sectors like **transport** and a tightening of the existing EU Emissions Trading System;
- increased use of renewable energy;
- greater energy efficiency;
- a faster roll-out of low emission transport modes and the infrastructure and fuels to support them;
- an alignment of taxation policies with the European Green Deal objectives;
- measures to prevent carbon leakage;
- and tools to preserve and grow our natural carbon sinks.

➤ **maintaining coherence will be essential**

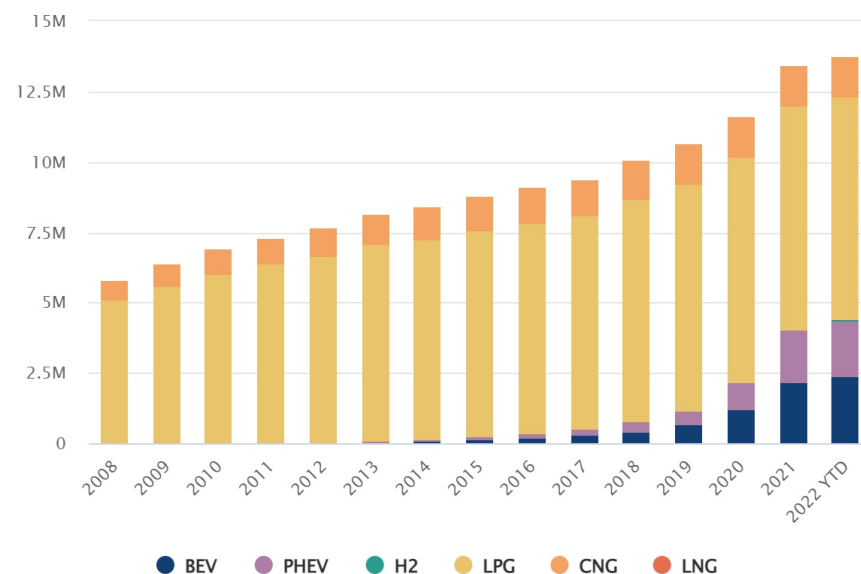
# SUSTAINABLE & SMART MOBILITY STRATEGY Road transport

Shares in the total cars stock by type of drivetrain technology in 2030 and 2050

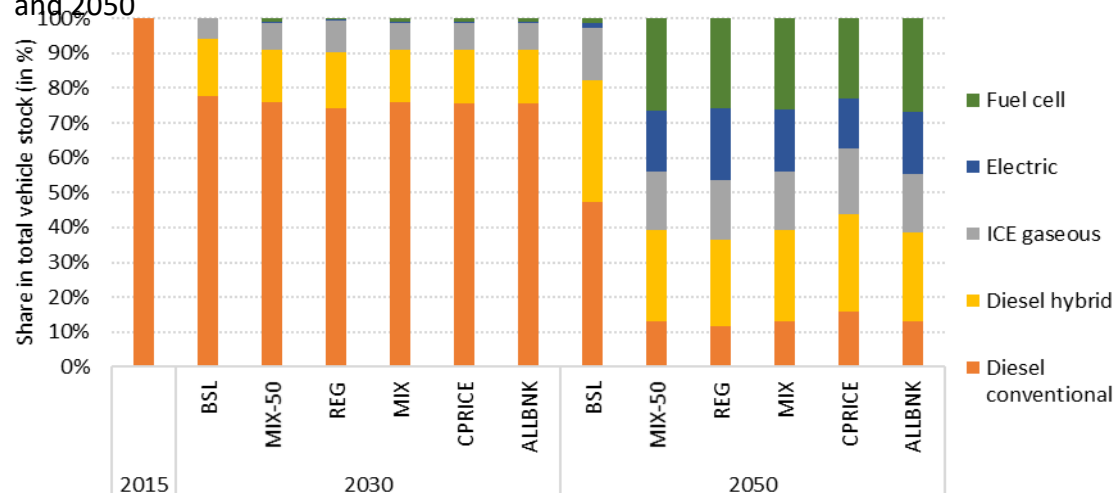


- At present, alternative fuels vehicles represent 4.96% of the total vehicle stock

Total number of alternative fuelled (BEV, PHEV, H2, LPG, CNG, LNG) passenger cars (M1) and vans (N1)



Shares in the total heavy duty vehicles stock by type of drivetrain technology in 2030 and 2050



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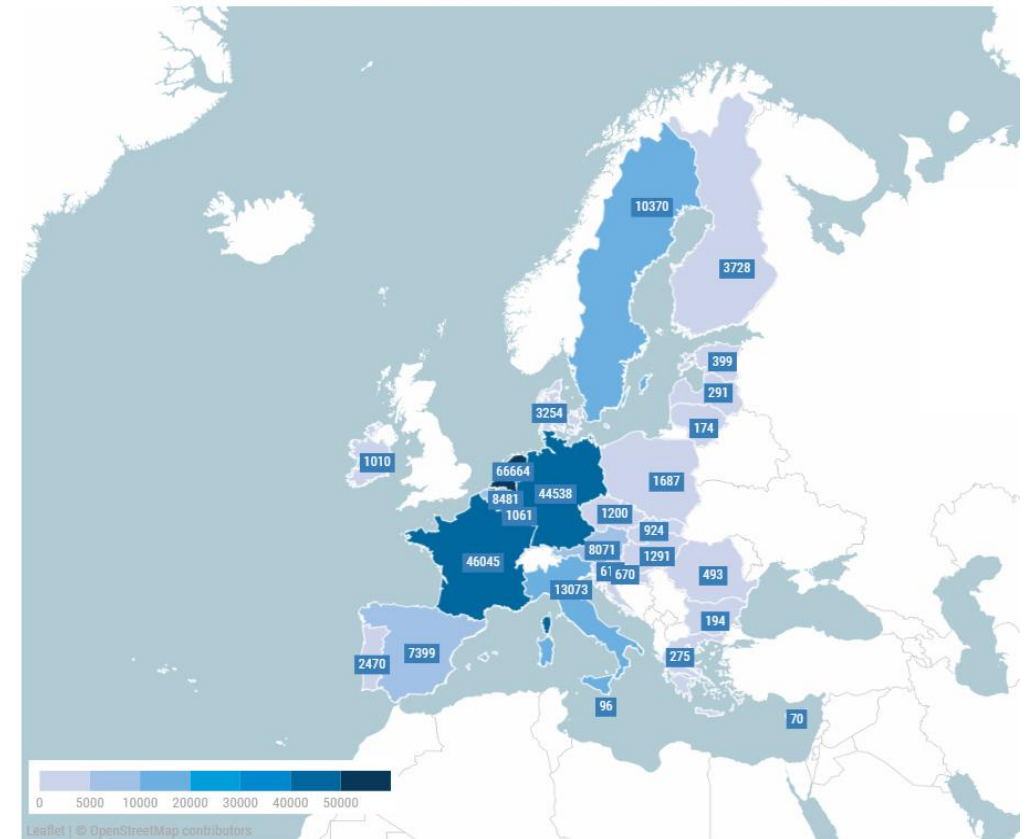
## Context

- Sufficient, fully interoperable and user friendly infrastructure is needed to support the required uptake of zero- and low-emission vehicles in all Member States
- Lack of coherence of roll-out, inter-operability and full user information and services can become an obstacle to the vehicle uptake, and to overall competitiveness
- Commission assessment (March 2021): current planning in Member States is insufficient to support required vehicle uptake
- Proposal for a complete overhaul of the current policy framework
  - Change from a Directive to a Regulation
  - Change from Member States setting targets to mandatory minimum targets
  - Strengthening of interoperability and user service requirements
  - Strengthening of reporting and monitoring

## Lack of coherence

- More than 70% of all recharging points located in three Member States
- Around 700,000 recharging points risk to be missing by 2030 in 17 Member States

EU Normal + High-Power Public Recharging Points (1-1-2021)



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# AFIR - Mandatory targets road

## Electricity Recharging LDV

Fleet based target,  
expressed in power  
installed (kW) per  
registered BEV – 1kW  
and PHEV – 0,66 kW

Distance based target  
along TEN-T core and  
comprehensive  
network (maximum  
distance and power)

## Electricity Recharging HDV

Distance based target  
along TEN-T core and  
comprehensive  
network (maximum  
distance and power)

Safe and Secure  
parkings (overnight  
recharging)

Urban nodes (in  
particular for urban  
delivery)

## Hydrogen Refuelling, HDV / LDV

Distance based target  
along TEN-T core and  
comprehensive  
network (maximum  
distance and capacity)

Urban nodes (in  
particular for urban  
delivery)



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## Operational requirements

- Ad hoc payment at all publicly accessible recharging points
- Display of ad hoc price (price per session, minute, kWh)
- Mobility service providers to provide prices and all fees available before the start of the recharging session

## Data provisions

- Operators of recharging and refuelling points to provide static and dynamic data through the National Access Points at no costs
- Static: geographic location, number of connectors, no. of parkings for persons with disabilities, contact information. For recharging only: identification codes, type of connector, current (DC or AC), power output (kW)
- Dynamic: operational status, availability, ad hoc price

## Technical specifications

- **Physical standards**
  - **Mandate to ESOs and subsequent adoption through delegated acts**
    - **Road (e.g. ultra-fast recharging and hydrogen refuelling for trucks)**
- **Communication standards (e-mobility)**
  - **Mandate to ESOs and subsequent adoption through delegated acts**
    - **Communication between vehicle and the recharging point**



# Strategic rollout plan

- Tools: the 2020 **Sustainable Transport Forum (STF)** Recommendations for recharging point tenders and summary Handbook to help all public authorities
- Further plans for STF ‘public-authorities’ sub-group. Aim: European toolbox grouping best practices on a thematic basis:
  - ✓ best practices guide for permitting and grid connection procedures
  - ✓ development of useful templates, tools, standard contract provisions
  - ✓ recommendations for recharging infrastructure rollout for specialized and captive fleets
- New dedicated Knowledge Platform for public authorities - part of **the European Alternative Fuels Observatory (‘EAFO’)**

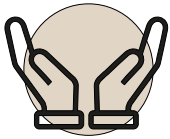
# Green Deal Funding and Investments



**30%** of all European Union funding for climate measures



**37%** of The Recovery and Resilience Facility to projects that fight climate change (large share for sustainable mobility)



**Just Transition Fund** €7.5 billion  
**Social Climate Fund** € 72.2 billion



**Other instruments:** Connecting Europe Facility (Alternative Fuels Infrastructure Facility, Innovation Fund, Horizon Europe, Structural Investment Funds etc. to support decarbonisation of transport



## Which funding instrument for which project type?

Components	Manufacturing (batteries – fuel cell)	Infrastructure distribution	Fleets	Clean Fuels production	Operations
RRF					
InvestEU					
EIB					
		ERDF – CF - JTM			
		CEF			
Horizon EU ( <i>i.e. Clean Hydrogen – Waterborne - Clean Sky - EU Rail</i> )					
	Innov. Fund		Innov. Fund	Innov. Fund	
			Modernisation Fund		



# AFIF Alternative Fuels Infrastructure Facility

H2 / Elec

General Envelope

Cohesion Envelope

30%

50%

## AFIF – UNIT COSTS

- Publicly accessible **recharging stations** dedicated
  - To **LDV** with a min power output of **150 kW**.
  - to **HDV** with a min power output of **350 kW**.
- **Grid connection** with a min power capacity of 600kVA.

## AFIF – ZERO EMISSION %

- **Electricity** recharging stations for:
  - public transport;
  - IWW & maritime vessels;
  - port vehicles & equipment;
  - airport ground operations
- **Hydrogen** Refuelling Stations for:
  - LDV and/ or long haul HDV;
  - for public transport;
  - IWW & maritime vessels;
  - port vehicles & equipment;
  - railways

## AFIF – LOW EMISSION %

- **LNG** refuelling stations supplying inland waterway and maritime vessels

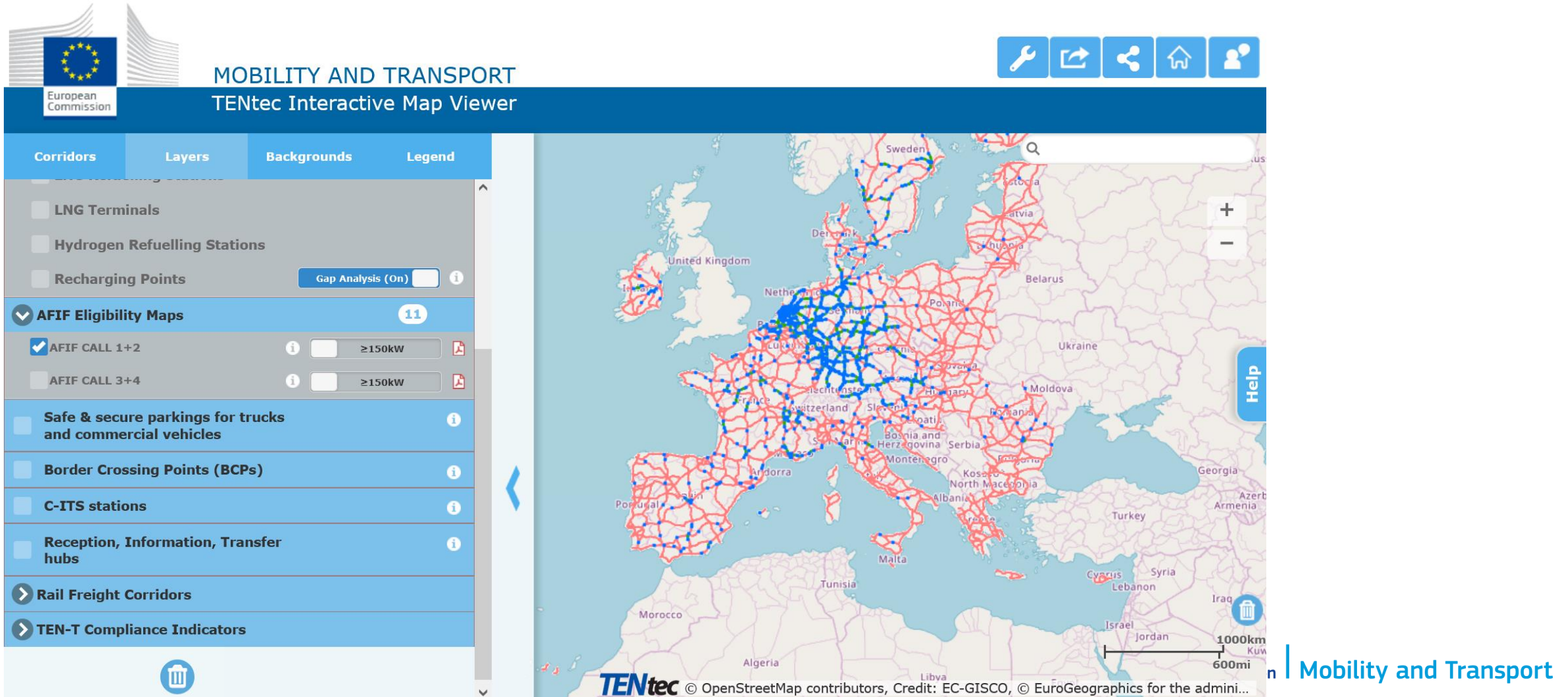


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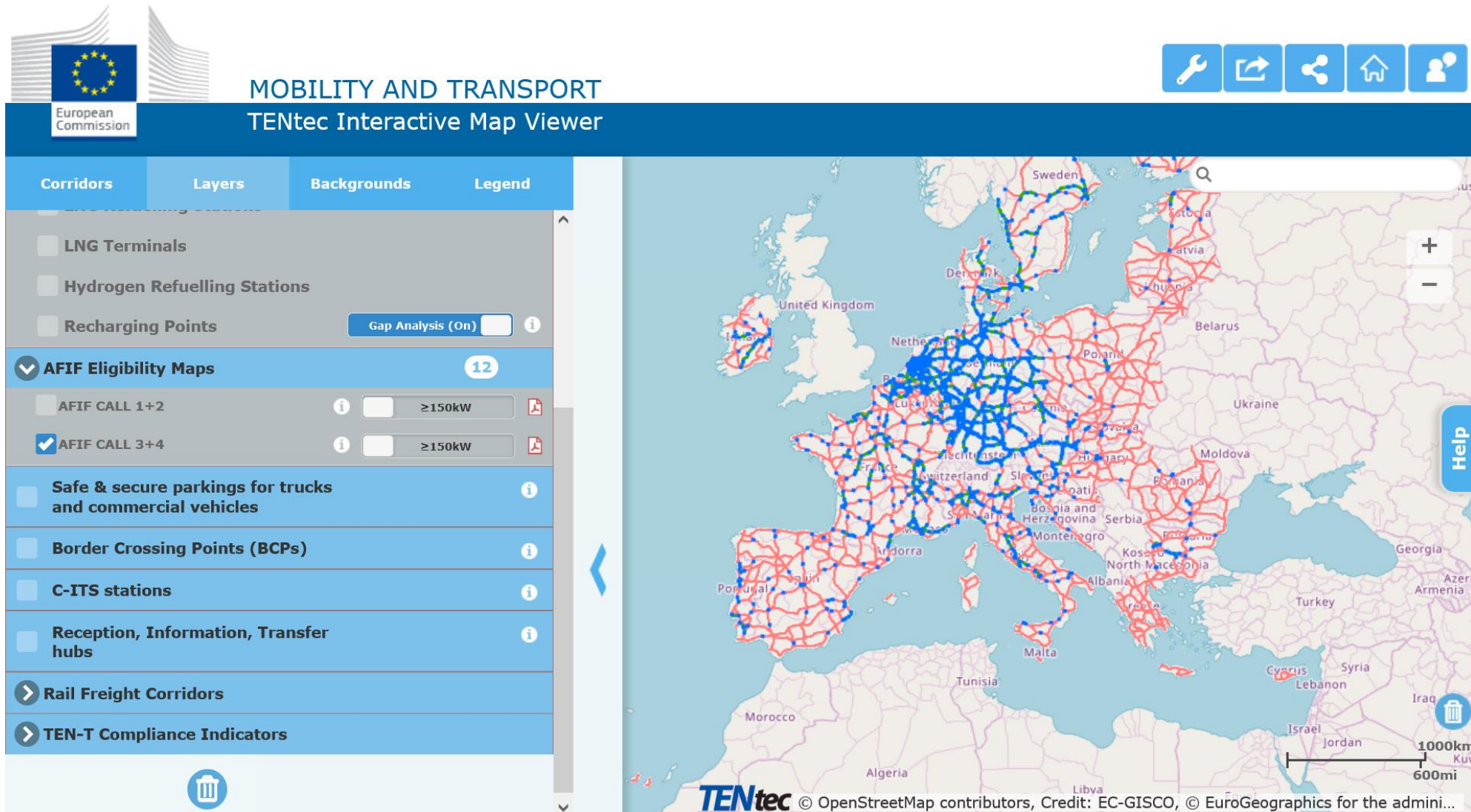
# AFIF Eligibility $\geq 150\text{kW}$ call 1+2

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**MOBILITY STRATEGY**



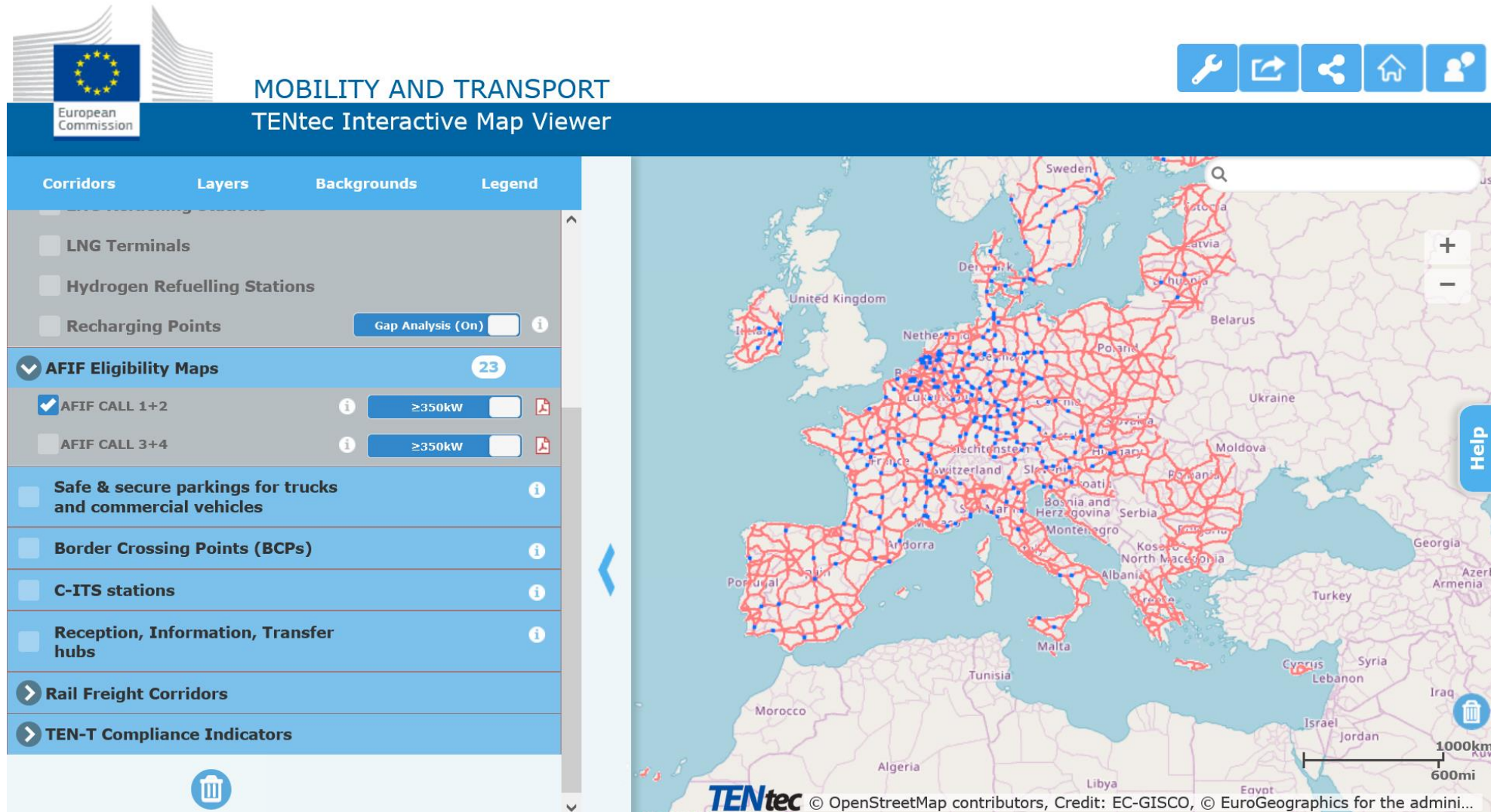


# AFIF Eligibility $\geq 150\text{kW}$ call 3+4

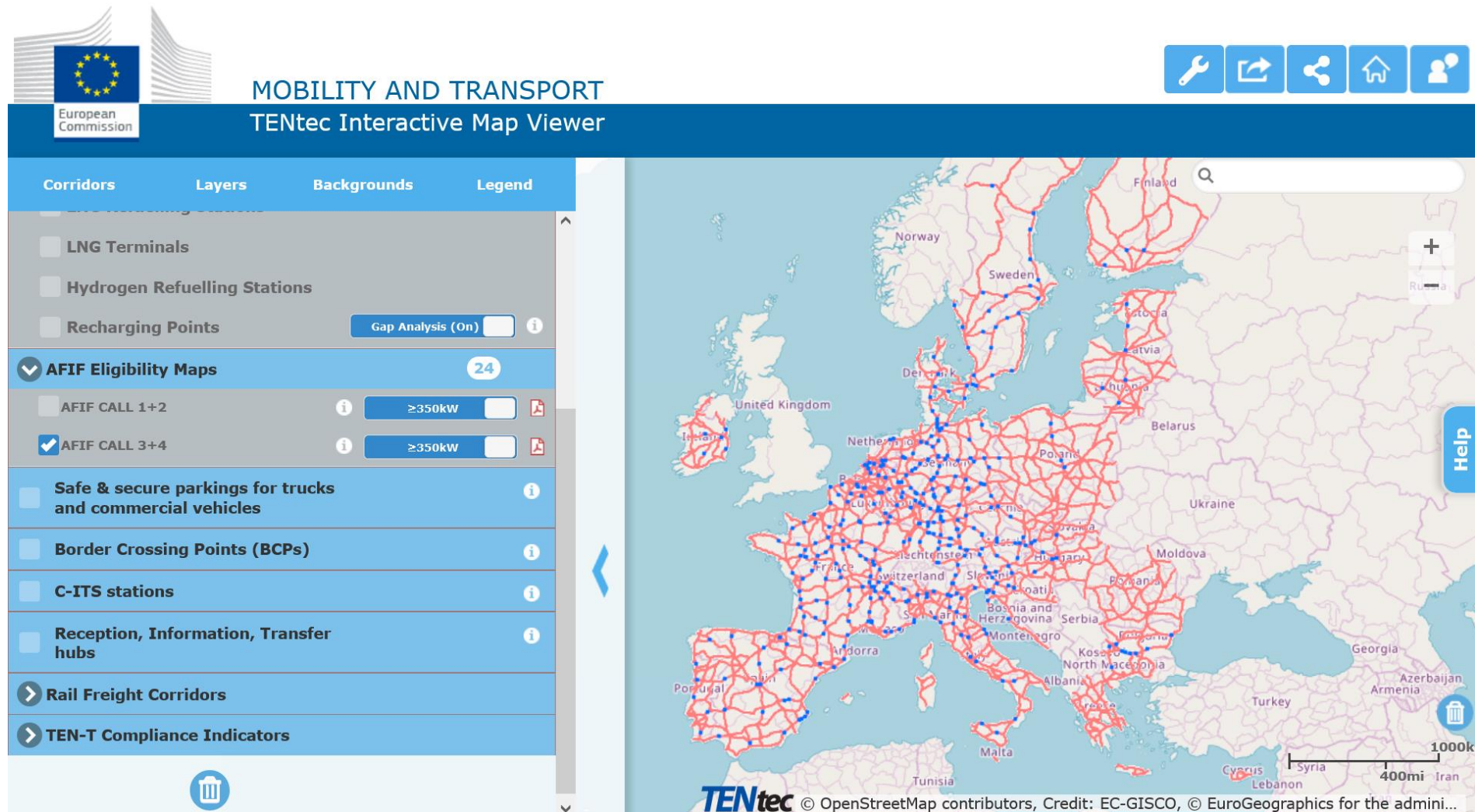




# AFIF Eligibility $\geq 350\text{kW}$ call 1+2



# AFIF Eligibility $\geq 350\text{kW}$ call 3+4



# Challenges for e-mobility

- **Local challenge - inefficient electricity network leading to capacity constraints**
- **For national governments: need for strategic support to e-mobility at national level**
- **For local authorities: need for efficient planning tools, faster permit and well planned procurement**
- **For all stakeholders: broad-based cooperation between all public and private sector market players throughout the whole value chain, bringing together automotive and energy sectors to provide digitised user services**





# SUSTAINABLE & SMART **MOBILITY STRATEGY**

Thank you

