

Rail leads Europe towards energy independence

Affordable and stable energy for rail strengthens Europe's competitiveness, resilience and climate ambitions



3 REASONS WHY RAIL MATTERS FOR EUROPE'S ENERGY SECURITY

1

Rail helps reduce Europe's dependence on imported oil



Every day, rail avoids the equivalent of **367,000** barrels of oil



almost 134 million barrels of oil imports avoided each year



€11.4 billion saved in oil imports each year



55 million tonnes of CO₂ emissions prevented annually

Passenger rail avoids



81 million barrels/year

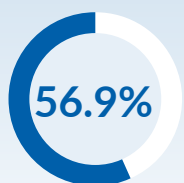
Freight rail avoids



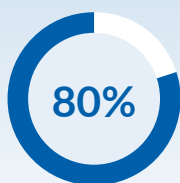
53 million barrels/year

2

Rail is already Europe's most electrified transport mode



56.9% of EU railway lines are electrified, up from 40.2% in 1990.



80% of European rail traffic already runs on electricity.

Why this matters?

This reduces Europe's exposure to oil imports and price shocks while enabling the direct use of increasingly clean, home-grown electricity.

3

Rail does more with less energy

Rail accounts for only **1.4% of transport energy use**, while carrying **419 billion passenger-km** and **378 billion tonne-km of freight** in 2023.

It is seven times more energy-efficient than road transport and 13 times more energy-efficient than aviation.



1.4% of transport energy use



7 X more energy-efficient than road transport



13 X more energy-efficient than aviation



DID YOU KNOW?

Further efficiency gains are possible through regenerative braking, automated train operation and the direct use of renewable electricity.

ENERGY CHALLENGES FOR RAILWAYS

Energy costs remain structurally high for rail

Persistently high and volatile electricity costs increase operating costs, weaken margins and investment certainty, and threaten rail's competitiveness, with particularly severe impacts reported by freight operators.

Rail traction electricity prices remain well above their pre-crisis level:

€60/MWh

Pre-crisis level

€141/MWh

Average rail electricity price (2026)



passenger
€154/MWh



freight
€139/MWh



infrastructure managers
€127/MWh

Long-term contracts support more stable and cleaner electricity supplies

Railways increasingly use Power Purchase Agreements (PPA), renewable sourcing, own generation and hedging to manage electricity costs and volatility.

Countries such as Spain and Denmark using PPAs have reported substantial reductions in electricity costs since 2022.

The **EU Electrification Action Plan** identifies high electricity prices, network charges, taxation, grid constraints and limited access to flexibility as barriers to electrification. However, its transport measures focus mainly on road, ports, ferries and inland navigation. Rail must not be overlooked in implementation.

WHAT EUROPE SHOULD DO?

1. Recognise rail as **a strategic electricity user** and as an existing driver of transport electrification.
2. Ensure that reforms to network charges and electricity taxation **lower electricity costs** for railways.
3. Facilitate rail **access to long-term renewable electricity contracts**, cross-border PPAs, hedging and demand-aggregation solutions.
4. Enable railways to participate fully in flexibility and grid services markets and ensure that **grid planning anticipates railway electricity demand**.
5. Redirect support away from fossil fuels and towards energy-efficient electric transport, ensuring a **level playing field** between transport modes.