



AFIR Alternative Fuels Infrastructure Regulation

20 December 2023

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December 2019 European Green Deal

The EU will:



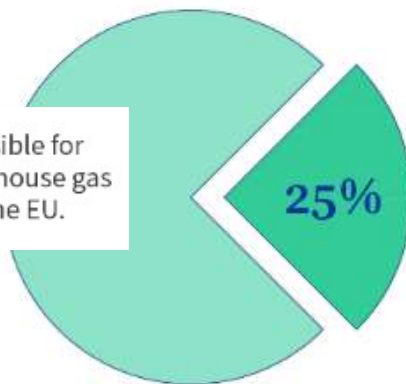
Become
climate-neutral
by 2050

*"The European Green Deal is our new growth strategy.
It will help us cut emissions while creating jobs."*

Ursula von der Leyen, President of the European Commission



Transport is responsible for almost 25% of greenhouse gas (GHG) emissions in the EU.



MOBILITY

Roll out cleaner, cheaper and healthier forms of private and public transport.



December 2020 Smart & Sustainable Mobility Strategy



greenhouse gas emissions in transport by 2050



Reducing its dependence on fossil fuels



By 2030, there will be at least 30 million zero-emissions cars and 80 000 zero-emission lorries in operation.



By 2030, there will be at least 100 climate-neutral cities in Europe. Scheduled collective travel under 500 km should be carbon neutral **by 2030** within the EU.



Zero-emission large aircraft will become ready for market **by 2035**.

Making alternative choices available



All large and medium-sized cities put in place their own sustainable urban mobility plans **by 2030**.



Traffic on high-speed rail will double **by 2030**. **By 2050** rail freight traffic will double.



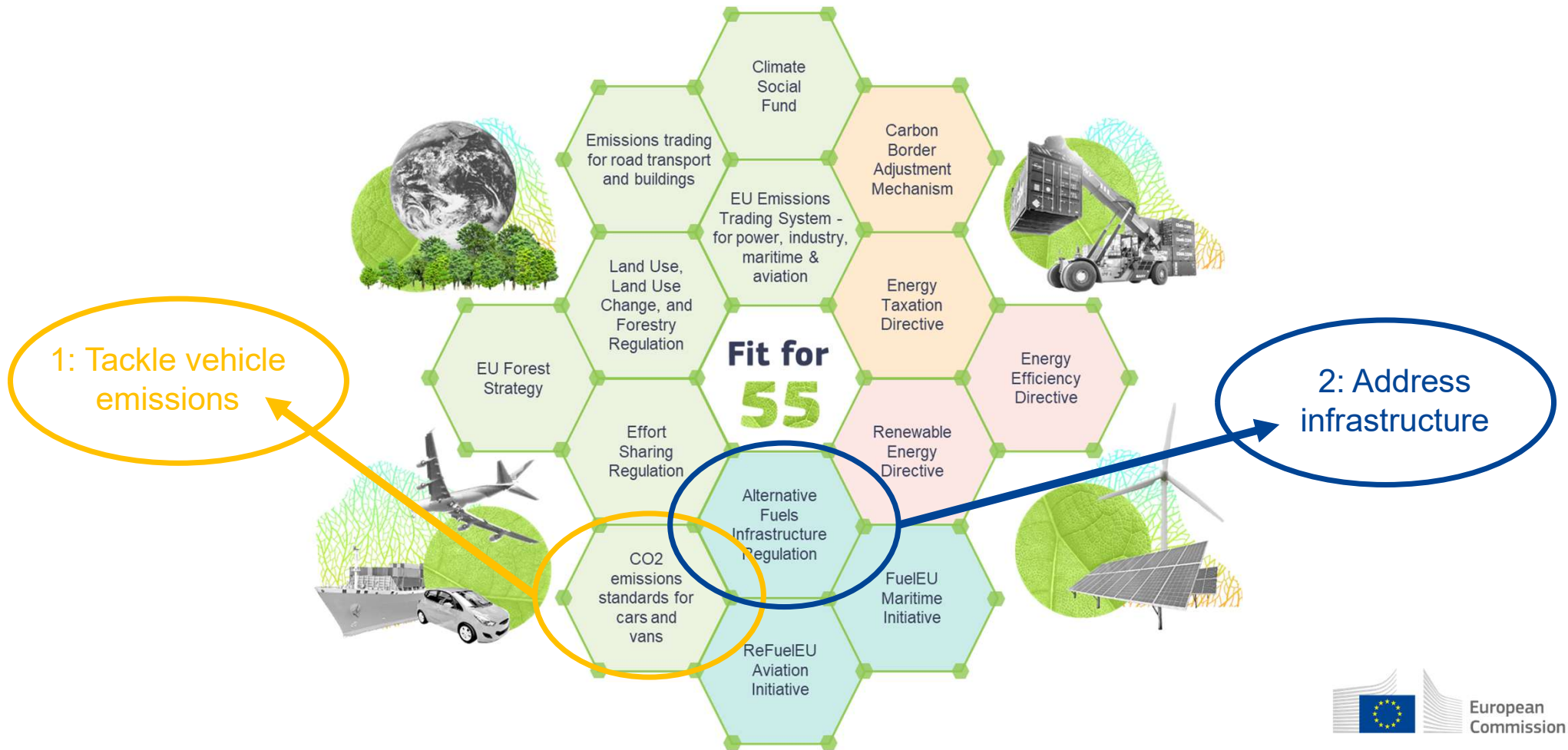
Transport by inland waterways and short sea shipping will increase by 25% **by 2030**.

Pricing to reflect environmental impact



The internalisation of external costs of transport at the latest **by 2050** will ensure that those who use transport will bear the full costs rather than leaving others in our society to meet them.

July 2021 Fit for 55 Package



The infrastructure challenge

3

INTEROPERABILITY

- eMobility communication protocols
- New standards for emerging technologies (ERS, wireless charging, V2G etc.)

2

USER-FRIENDLY INFRA

- No uniform payment method
- Untransparent pricing
- Lack of information (location, availability, prices)

1

MORE INFRA

- Range anxiety
- Charge anxiety



The EU's answers

Energy Performance of Buildings Directive

1 Recharging at private premises (home, office)



2 Recharging at publicly accessible recharging points at private premises (semi-public)

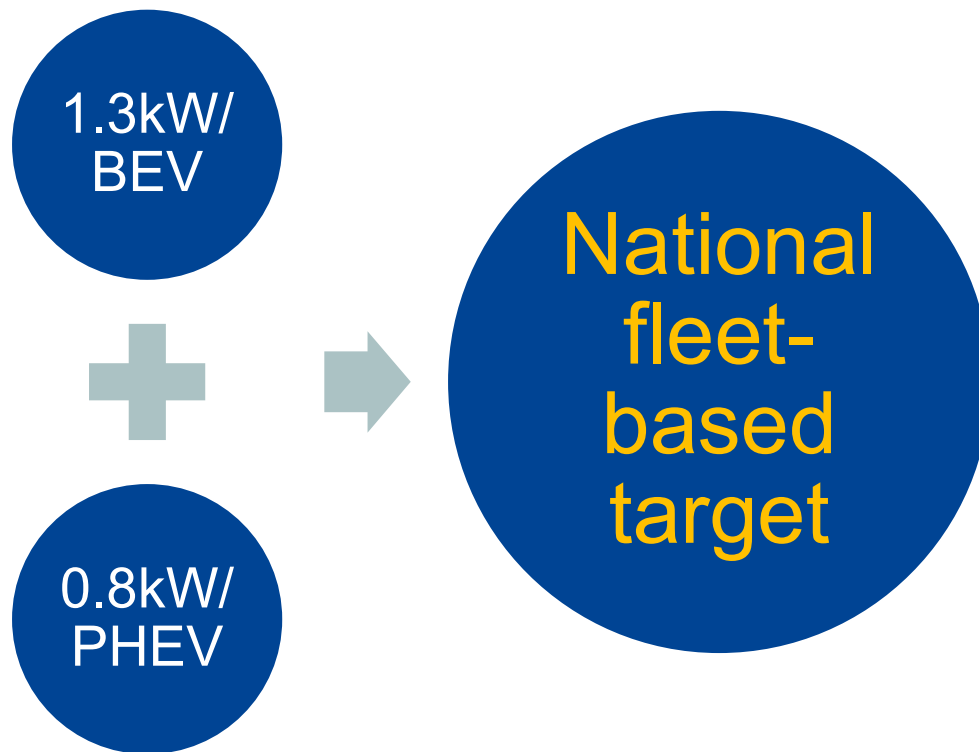


3 Public recharging (public domain)



Alternative Fuels Infrastructure Regulation

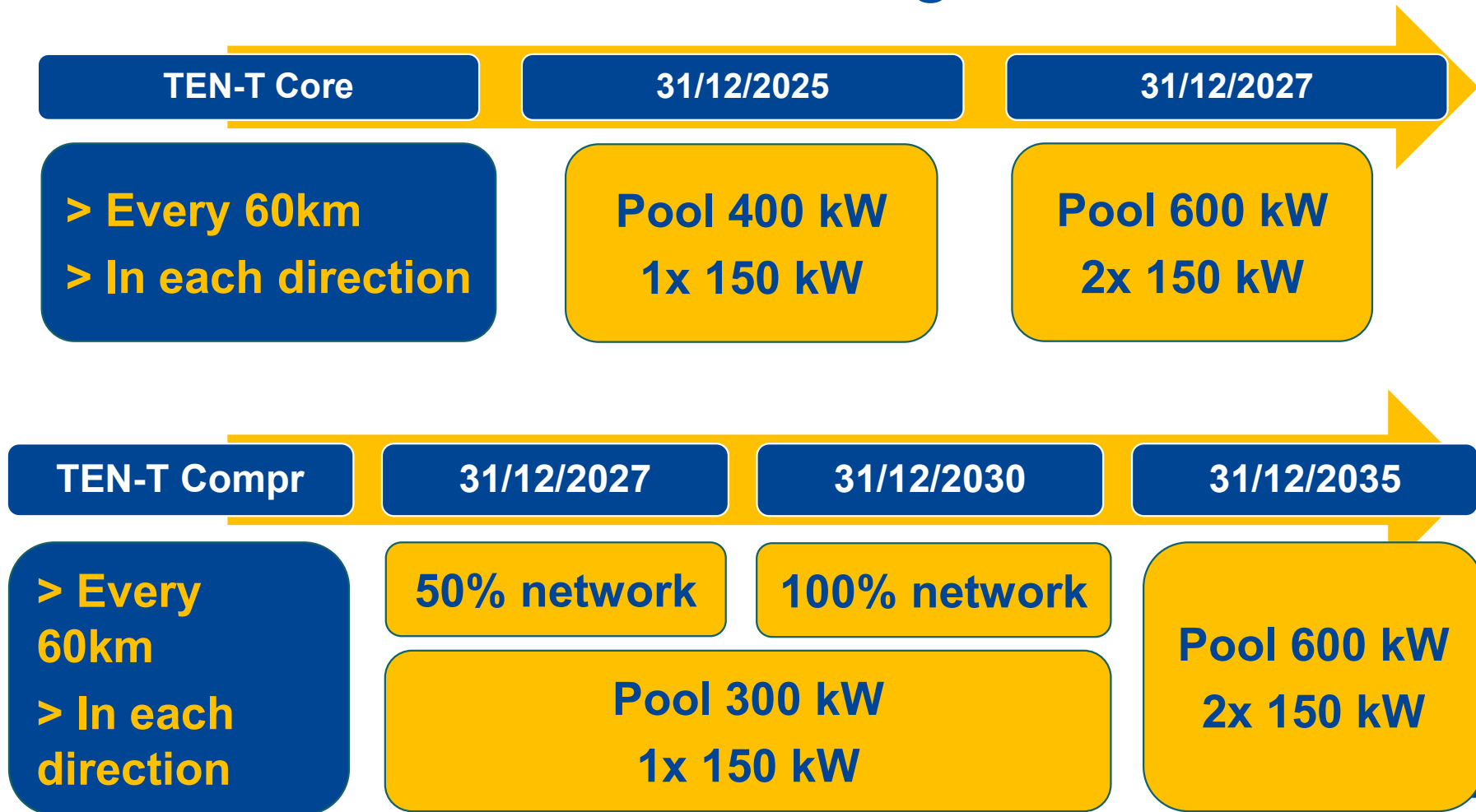
Sept 2023 AFIR fleet-based target for LDV CPs



- Target to be met on **31 December of every year**
- “Sunset clause”: target no longer applies once share of BEV in national LDV fleet reaches 15%

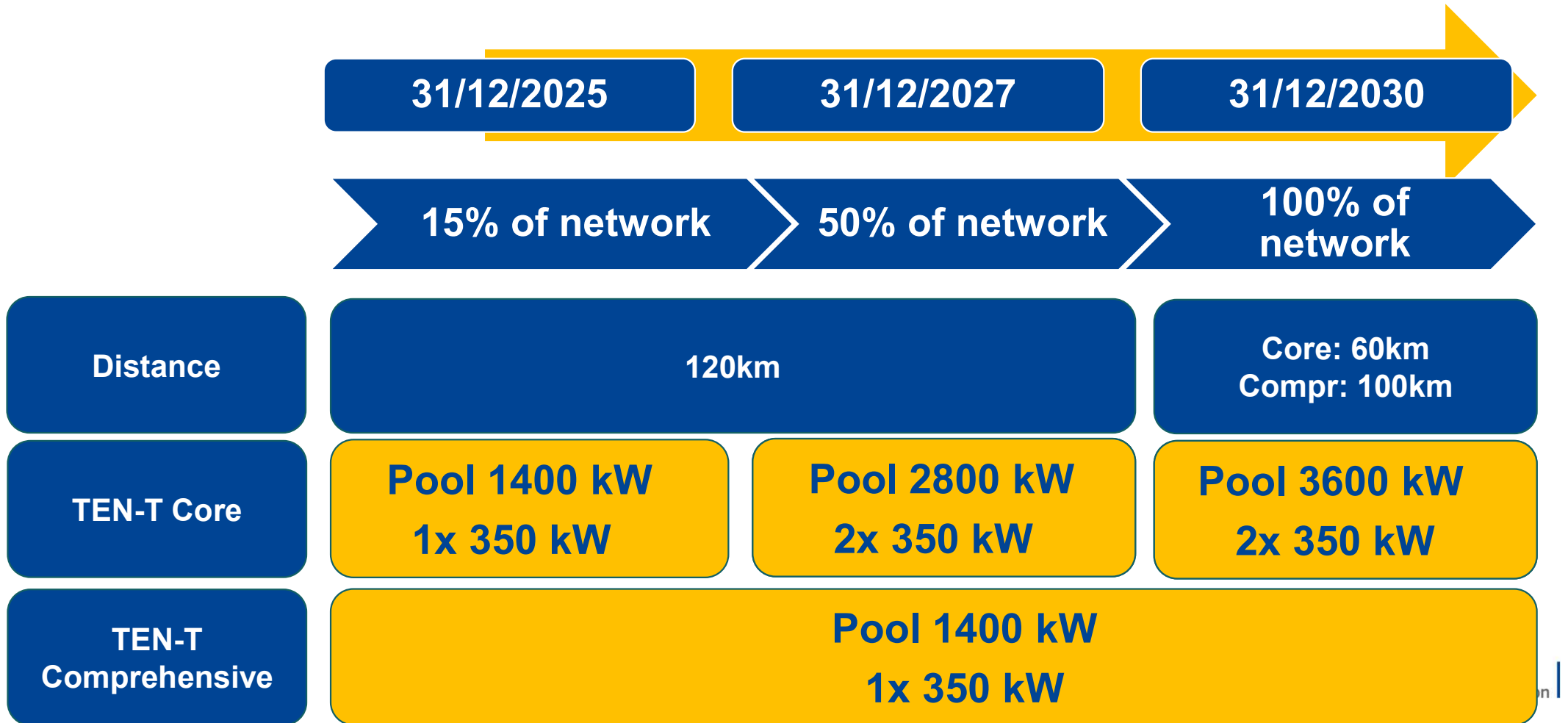
MORE INFRASTRUCTURE

TEN-T distance-based targets for LDV CPs



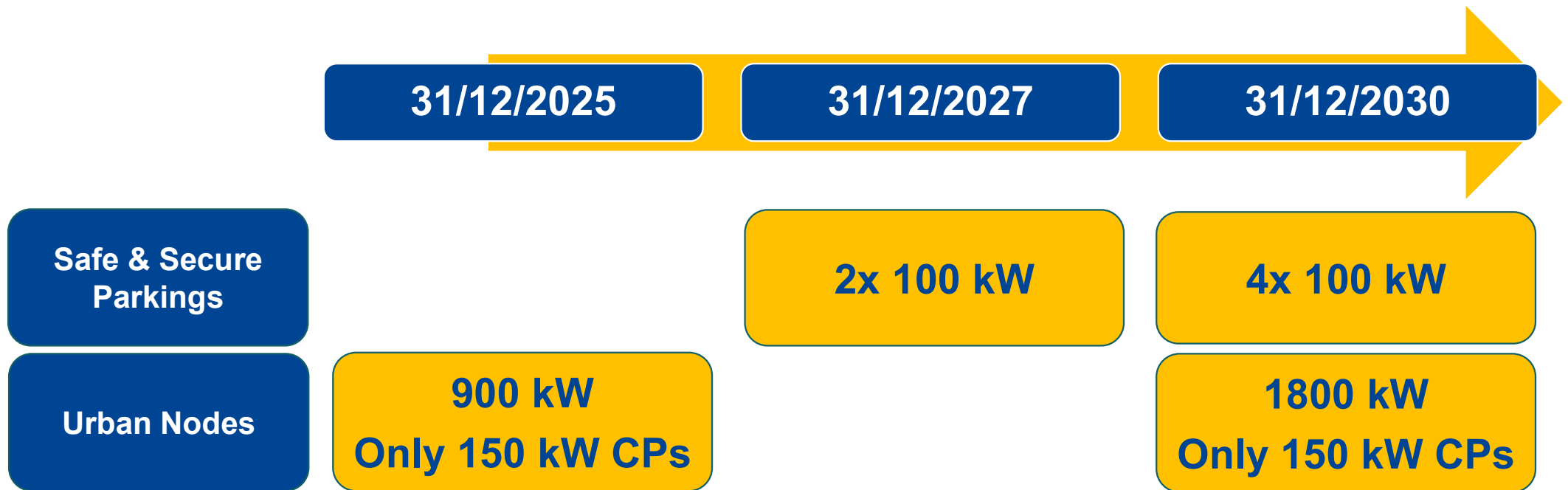
1. MORE INFRASTRUCTURE

TEN-T distance-based targets for HDV CPs



MORE INFRASTRUCTURE

AFIR location-based targets for HDV CPs



MORE INFRASTRUCTURE

Art 6, Hydrogen refuelling (LDV & HDV)

31/12/2030

Distance

200 km

TEN-T Core

1 t/day capacity, 700 bars

Location
Urban Nodes

1 refuelling station (no size
req.)

- **Derogations** - reduced capacity on roads with less than 2,000 HDV/day
- **Trajectory and future development** – TEN-T comprehensive network and liquified hydrogen

Art 8, Liquefied methane, road

- Member States shall ensure until 1 January 2025 that an appropriate number of publicly accessible refueling points for LNG are put in place
- At least along the TEN-T core network, in order to allow LNG heavy-duty motor vehicles to circulate throughout the EU, where there is demand
- Unless the costs are disproportionate to the benefits, including environmental benefits.

Art 9, Shore side electricity supply maritime

- Minimum shore-side electricity supply for seagoing container and passenger ships to be provided in maritime ports
- Targets only for larger ports if certain minimum conditions are met, based on:
 - types of vessels: seagoing container ships / seagoing ro-ro passenger ships and high-speed passenger craft / cruise ships
 - average annual number of port calls in last three years (container vessels more than 100 calls, RoRo more than 40 calls, cruise more than 25 calls)
 - gross tonnage of those calls of ships above 5000 GT
 - ships at anchorage within a port area are not counted
- If conditions met >> ports to install shore-side power output sufficient to satisfy at least 90% of demand (port calls) by 2030

Art 10, Shore side electricity supply IWW

- **TEN-T core inland waterway port**
 - 1 installation by 2025
- **TEN-T comprehensive inland waterway port**
 - 1 installation by 2030

Art 11, Liquefied methane, maritime

- Member States shall ensure that an appropriate number of refuelling points for LNG are put in place at **TEN-T core maritime ports** referred to in paragraph 2, to enable seagoing ships to circulate throughout the TEN-T core network by 1 January 2025. Member States shall cooperate with neighboring Member States where necessary to ensure adequate coverage of the TEN-T core network.
- Member States shall **designate in their national policy frameworks TEN-T core maritime ports** that shall provide access to the refueling points for LNG referred to in paragraph 1, also taking into consideration actual market needs and developments.
- Member States to **assess the provision of other alternative fuels** (hydrogen, methanol, battery electric) in their National Policy Frameworks.

Art 12, electricity supply stationary aircraft

- **TEN-T core and TEN-T comprehensive airports:**
 - All contact stands used by commercial air transport operations by 2025
 - All remote stands used by commercial air transport operations by 2030
- **Exemptions for airports** with less than 10,000 annual flight movements to provide electricity at remote stands
- Electricity to come from the electricity grid or from electricity generated on site from renewable sources

AFIR payment methods and price transparency

Easy payment

- Ad hoc payment by means of **EU-wide used payment instrument** issued by EBA-registered payment institution at all new publicly accessible recharging points
 - $P \geq 50\text{kW}$: payment card readers / contactless (NFC)
 - for $P < 50\text{kW}$: + internet-based payments, e.g. via safe and specifically generated QR code
- *Retrofitting of existing points $P > 50\text{kW}$ along TEN-T by 1 January 2027*

Fair, transparent and easily comparable prices

- CPOs to charge reasonable, easily and clearly comparable and transparent prices; no discrimination between ad hoc price and contract-based price, nor between different MSPs
- at $P \geq 50\text{kW}$: ad hoc price shown; at $P < 50\text{kW}$: ad hoc price made easily available
- At $P \geq 50\text{ kW}$ only price per kWh and occupancy fee are allowed
- CPOs & MSPs to make prices and components/fees known prior to start of recharging session

eMobility data ecosystem

- **Operators of recharging / refuelling points to make static and dynamic data available through Application Programme Interface (API) at no costs**
 - Static Data: geographic location, number and type of connectors, current (DC or AC), max power output of station and points (kW), vehicle type compatibility, no. of parkings for persons with disabilities, CPO ID code and contact information, opening hours, 100% renewable electricity supply contract
 - Dynamic data: operational status, availability, ad hoc price



Consumers can **easily find** recharging/ refuelling infrastructure, know in advance if it is technically **operational and free for use**, and what **price** they can expect to pay

Reporting

- National Policy frameworks (Art 14)
 - Member States to draft National Policy Frameworks (draft by 1.1.2025, final version 1.1.2026)
 - Detailed Target setting in line with mandatory targets
 - Measures to support the roll out of that infrastructure
 - Development of detailed strategies for the use of clean fuels in waterborne transport and aviation
 - Iterative process with Commission
- Reporting (Art 15 – 18)
 - National progress reports (details in annex I) every two years
 - Reports on smart and bidirectional recharging every three years
 - Annual reporting on electric vehicle uptake and deployment of recharging points to ensure compliance with fleet-based targets
 - Mechanism to ensure that targets are reached

Art 14, National policy frameworks

- By 1 January 2025, Member States have to submit draft national policy frameworks, consisting of
 - Specification of national mandatory targets and identification of measures to achieve them
 - Targets and deployment strategies for alternative aviation fuels, decarbonisation of maritime port services, alternative fuels for shipping (maritime and inland), battery and hydrogen trains
 - Specific aspects to be addressed include:
 - Recharging and refuelling infrastructure for captive fleets
 - Recharging and refuelling infrastructure not accessible to the public (incl. for HDV)
 - Recharging and refuelling infrastructure in urban nodes
 - Deployment of high-power recharging points
 - Measures to promote bi-directional charging, access for persons with disabilities and to remove barriers with regards to planning, permitting and procuring

Art 14, National policy frameworks

- Further aspects to be considered include
 - All transport modes relevant in each Member State to be adequately considered in the NPFs
 - Take into account interests of regional authorities and stakeholders
 - Where necessary, Member States shall cooperate with neighbouring Member States
 - Member States shall engage the public in the preparation and make public their draft NPFs
- Commission to assess the draft NPFs within 6 months and may issue Member State specific recommendations in particular with respect to level of ambition and adequacy of policy measures
- Member States shall take due account of recommendations and submit final NPFs by 1 January 2026

Art 15, Reporting (by Member States)

- Member States shall submit progress reports on the implementation of the NPFs starting on 1 January 2028 and every two years thereafter
- Reporting shall include the information as listed in annex I
- Regulatory authorities of Member States shall assess by 30 June 2024 and every three years thereafter how electric vehicles (smart recharging and bi-directional charging) can contribute to the flexibility of the electricity system and issue recommendations. Member States shall take into account those recommendations and adopt corresponding measures under the national policy frameworks
- Commission to issue further guidance and templates for NPFs and progress reports (Art 16)

Art 17, Review of national policy frameworks and progress reports

- By 1 January 2027 the Commission shall assess the NPFs and submit a report on this assessment to the European Parliament and the Council
- The Commission shall assess the national progress reports (Art 14(1)) and where appropriate issue recommendations to Member States that will update their progress reports within 6 months after having received those recommendations
- By 1 January 2029 the Commission shall assess the national progress reports and submit a report on this assessment to the European Parliament and the Council
- The Commission will publish and regularly update information on the national targets and objectives for all relevant infrastructure for all modes

Art 18, Progress Tracking (fleet based target)

- By 31 March of every year, Member States shall submit the number of electric vehicles registered and recharging points and their power output deployed on 31 December of the previous year following the data template in annex III
- If the Commission finds that a Member State is at risk of failing to meet the national fleet based targets:
 - The Commission requests the Member State concerned to take corrective actions
 - Three months after receipt the Member State notifies to the Commission the corrective measures

Final Articles

- Art 24, Technology Readiness report on HDV by 31 December 2024 and Review by 31 December 2026 (and then every 5 years)
- Art 25, Directive 2014/94/EU is repealed the date AFIR comes into force (Annex IV sets out how references to that Directive are construed)
- Art 26, AFIR comes into force on the twentieth day following that of its publication in the Official Journal of the European Union but date of application 6 months later

The regulation shall be binding in its entirety and directly applicable in all Member States

Next steps

- **AFIR application: 13 April 2024**
- Commission Guidance on **interpretation of AFIR**
 - Ensure common application/interpretation in all Member States
 - Based on input from 60+ stakeholders and Member States via STF
 - To be published on MOVE website; expected before AFIR date of application
- Commission Delegated and Implementing Acts on **Data**
 - Additional data categories, data format, frequency, quality and technical requirements on API
- Commission Delegated and Implementing Acts on **new standards**
 - Complementing Annex II (ISO 15118, wireless recharging, ERS, ...)
 - Governance framework for ISO 15118 and EU PKI ecosystem

Thank you



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