SUSTAINABLE & SMART MOBILITY STRATEGY

Rollout of EVs charging infrastructure in the EU

Alternative Fuels Infrastructure Regulation

Aleksandra Klenke, DG MOVE B4

Transport Community 7 Dec 2022 Brussels
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 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 carries markets
- New strategy for hydrogen
- Hydrogen alliance

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

<table>
<thead>
<tr>
<th>Pricing</th>
<th>Targets</th>
<th>Rules</th>
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<tbody>
<tr>
<td>Stronger Emissions Trading System for aviation + CORSIA</td>
<td>Updated Effort Sharing Regulation</td>
<td>Stricter CO2 performance for cars &amp; vans</td>
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<tr>
<td>Extending Emissions Trading System to maritime, road transport and buildings</td>
<td>Updated Land Use Change and Forestry Regulation</td>
<td>New Regulation on infrastructure for alternative fuels</td>
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<td>Updated Energy Taxation Directive</td>
<td>Updated Renewable Energy Directive</td>
<td>ReFuelEU: Sustainable aviation fuels</td>
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<td>New Carbon Border Adjustment Mechanism</td>
<td>Amended Energy Efficiency Directive</td>
<td>FuelEU: Cleaner maritime fuels</td>
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### 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**
At present, alternative fuels vehicles represent 4.96% of the total vehicle stock.
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 competiveness

• 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
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)
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
<table>
<thead>
<tr>
<th>Components</th>
<th>Manufacturing (batteries – fuel cell)</th>
<th>Infrastructure distribution</th>
<th>Fleets</th>
<th>Clean Fuels production</th>
<th>Operations</th>
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AFIF Alternative Fuels Infrastructure Facility

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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<th>H2 / Elec</th>
<th>General Envelope</th>
<th>Cohesion Envelope</th>
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<tr>
<td></td>
<td>30%</td>
<td>50%</td>
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AFIF Eligibility >=150kW call 1+2
AFIF Eligibility $\geq 350\text{kW}$ call 1+2
AFIF Eligibility >=350kW 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
Thank you