

AVERE

The European Association
for Electromobility

EU'S PATHWAY TO ZERO- EMISSION MOBILITY - WHERE DO WE STAND?

www.ave.org





Members

Diverse network across the Continent across the entire e-mobility value chain:

OEMs, CPOs, EV users, Public Institutions, Research & Development entities, and other relevant companies.

50+ members present in 24 states

2 600+ indirect members

140 000+ EV users

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EU Policies aiming to accelerate the deployment of zero-emission mobility



Policies adopted (or about to be)

CO2 Emission standards for cars and vans

- **ADOPTED (despite German debacle)**
- **Phase-out of ICE** vehicles new sales **by 2035** all over the EU
- **55% (cars) / 50% (vans) emission reduction in 2030** compared to 2021
- **Review** of the legislation in 2026
- Strong calls for **fleet mandate**
- **Calls for LCA methodology**



Policies adopted (or about to be)

Alternative Fuels Infrastructure Regulation (AFIR) – 1/3

- **ADOPTED**
- **For light-duty vehicles:**
 - **Fleet based target**, expressed in power installed (1.3 kW) per registered BEV
 - **Distance based target** (60km) along TEN-T core and comprehensive network (maximum distance and power):
 - **By 2025, on TEN-T Core network:** 400 kW power output, at least one 150 kW recharging point
 - **By 2027, on TEN-T Core network:** 600 kW output, at least two 150 kW recharging points
 - **By 2027, on the 50% of comprehensive network/ By 2030, on the whole network:** 300 kW output, at least one 150 kW recharging point
 - **By 2035, on the whole comprehensive network:** 600 kW output, at least two 150 kW recharging points

Policies adopted (or about to be)

Alternative Fuels Infrastructure Regulation (AFIR) – 2/3

- **For heavy-duty vehicles:**

- **Distance based target** along TEN-T core and comprehensive network (maximum distance and power):
 - **By 2025, on at least 15% of TEN-T Core and Comprehensive network:** Max 120 km between recharging pools + 1,400 kW power output, at least one 350 kW recharging point
 - **By 2027, on at least 50% of TEN-T Core and Comprehensive network:** Max 120 km between recharging pools
 - TEN-T Core: 2,800 kW output, at least two 350 kW recharging points
 - TEN-T Comprehensive: 1,400 kW output, at least one 350 kW recharging point
 - **By 2030, on the whole TEN-T core and comprehensive network:** Max 60 km between recharging pools on TEN-T Core, 100km on TEN-T Comprehensive
 - TEN-T Core: 3,600 kW output, at least two 350 kW recharging points
 - TEN-T Comprehensive: 1,400 kW output, at least one 350 kW recharging point

Policies adopted (or about to be)

Alternative Fuels Infrastructure Regulation (AFIR) – 3/3

- **For users:**
 - **Price transparency measures:**
 - Addressed to charge point operators (ad hoc) and mobility service providers (contract-based payment)
 - Non-discrimination requirements reinforced also vis-à-vis mobility service providers
 - **Payments**
 - Bank card payment available at all recharging points (> 50 kW through NFC or payment terminal)
 - **Smart Charging readiness for all new recharging points**



Alternative Fuels Infrastructure Regulation (AFIR)

Importance:

Sets a framework for the **rollout of publicly accessible recharging infrastructure** in the EU, **including binding rollout targets** for member states and requirements on payment, pricing, etc.

State of play:

- **Adopted** - awaiting entry into force (+ 6 months implementation period)
- Commission target trajectory mostly maintained
- Balanced differentiation of article 5 requirements (payment etc.) between slow and fast chargers
- Extended data obligations + European Access Point
- Application foreseen from March 2024

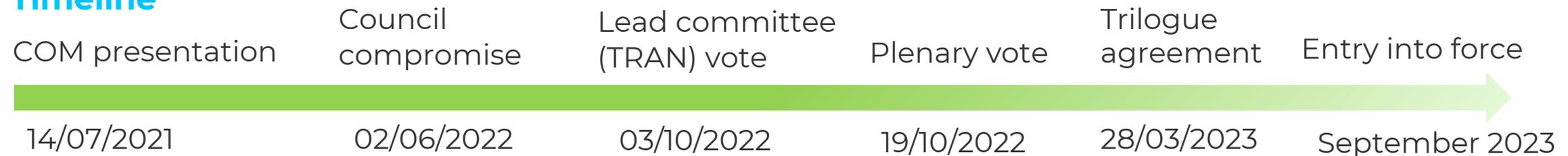
Key concerns:

- Rollout target ambition
- Payment & other technical requirements
- Retroactive effects
- Pricing & price transparency
- Implementation timeline

AVERE actions:

- **Reaction paper** finalised
- **Joint letters** with Charin, Eurelectric and others
- Active **outreach** to key policymakers in Parliament and Council
- **Event** organised in Brussels in 2022

Timeline



Policies adopted (or about to be)

Renewable Energy Directive (RED III)

- **Interinstitutional agreement (adoption delayed by France and pro-nuclear MS)**
- **Fuel Neutral Credit-trading mechanism**
included for public recharging points + allowed for private charging points
- **Electricity energy efficiency recognised** –
inclusion of implicit and explicit energy efficiency ratios (multipliers) depending on the calculation methodology





Battery Technology

The key to success



Decrease in battery prices



Energy density developments



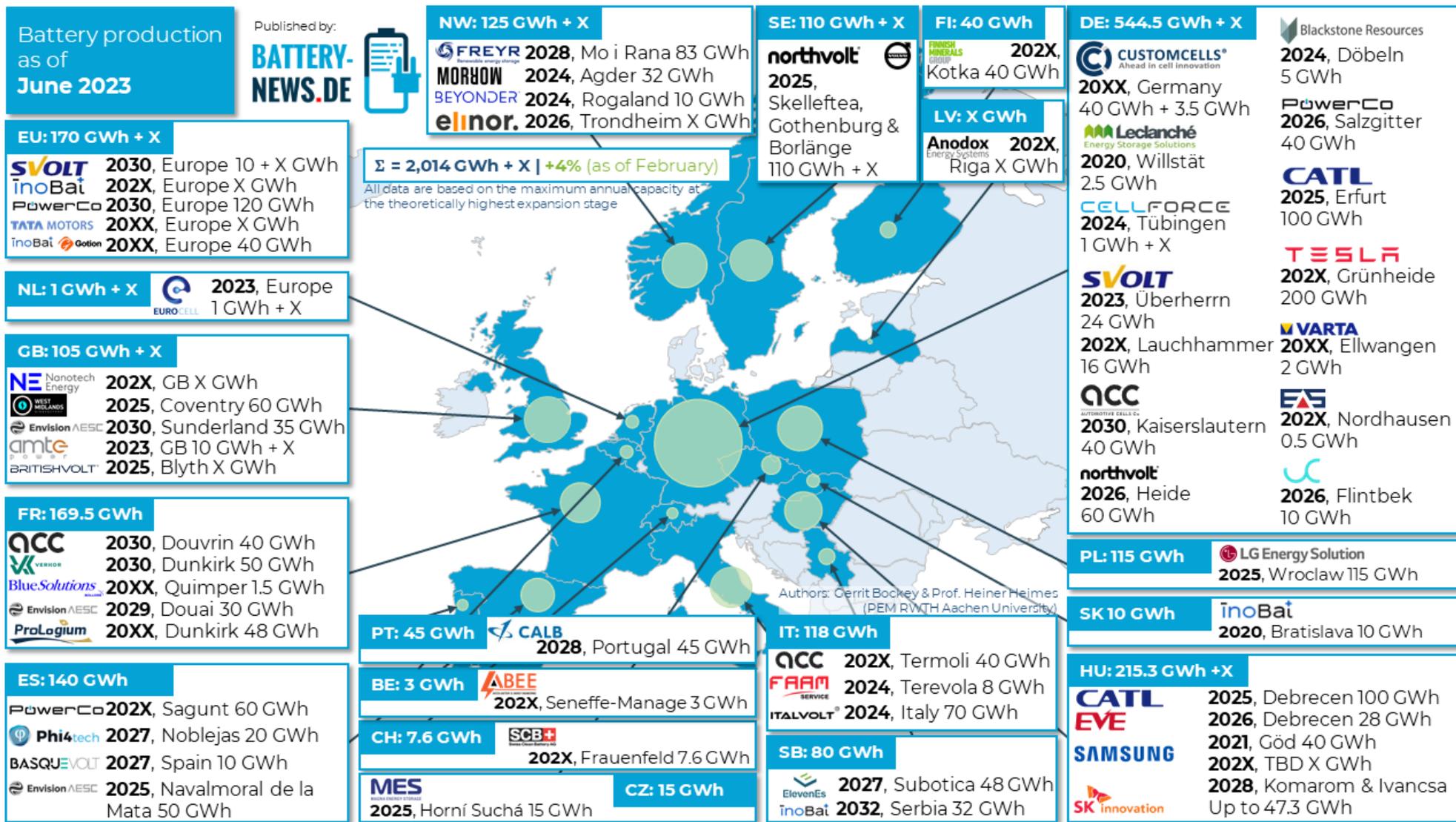
Increasing EV range



Improved charging speeds

Plus other enabling factors: e.g. charging infrastructure, raw materials

Battery production in Europe: scaling up



The EU's new Batteries Regulation

Importance:

Aims to ensure that **batteries placed in the EU market are sustainable, high-performing and safe** throughout their entire life cycle:

A lack of **harmonised framework conditions** and a level playing field, providing incentives to invest in sustainable battery production or their recycling



Strengthening the functioning of the **internal market** and ensuring a **level playing field** through a common set of rules

Some **social and environmental risks** are currently not covered by EU environmental law (e.g. materials sourcing transparency, circularity)

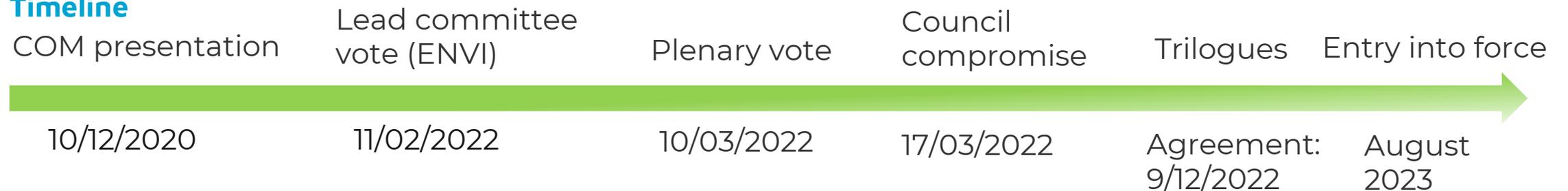


Reducing **environmental and social impacts** throughout the entire battery life cycle, promoting a **circular economy**



However, some of the proposed provisions may be **burdensome for the EU battery industry**.

Timeline



End of life I: EPR

- End of life/EPR:
 - **Extended producer responsibility** established
 - Producers to organise the collection of all waste automotive /EV batteries, free of charge through accessible collection points, end-of-life vehicle treatment and recycling facilities, etc.
 - May be met collectively through EPR organisations
 - EPR transfers in case of remanufacturing and re-use



End of life II: recycling efficiency targets

- Recycling efficiency:
 - All batteries to undergo recycling treatment.
 - **Recycling efficiencies and material recovery targets** (increasing over time) introduced, both as a total percentage of overall battery weight and for cobalt, lead, lithium and nickel specifically
 - For lithium-based batteries: 65% of weight by 2025, 70% by 2030
 - End 2027: 90% Cobalt, copper, lead and nickel, 50% lithium
 - End 2031: 95% Cobalt, copper, lead and nickel, 80% lithium



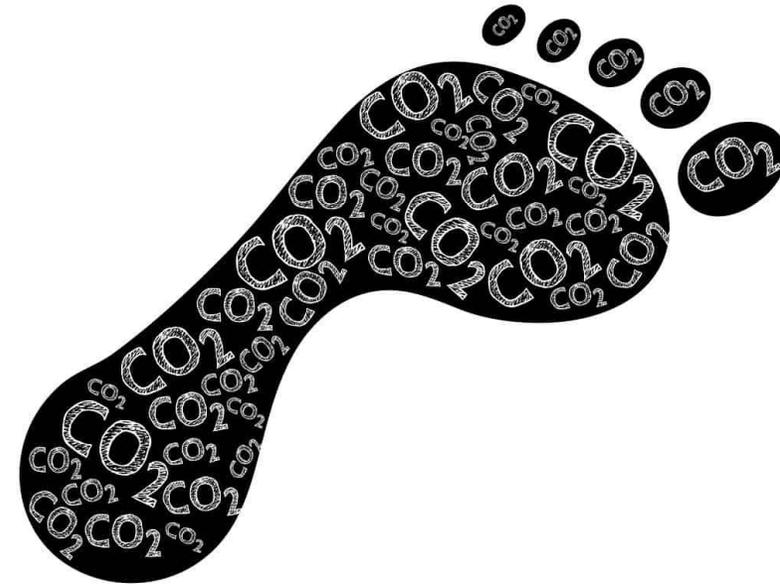
Recycled content

- As of 2028, **batteries' technical documentation to contain information about the amount of recycled cobalt, lead, lithium or nickel** in active materials, for each battery model and batch per manufacturing plant
- Increasing **recycled content minimum targets** to apply from 2031 and 2036 (16/26% cobalt; 85/85% lead, 6/12% lithium and 6/12% nickel)
- Includes manufacturing scrap, but not manufacturing waste



Carbon footprint declaration

- Batteries to come with a **carbon footprint declaration** from 18 months after entry into force
 - Metric: *“kg of carbon dioxide equivalent per one kWh of the total energy provided by the battery over its expected service life”*
 - Methodology/metric to be set out by the Commission in a delegated act within 6 months of entry into force
- Batteries to be classed in **performance classes** by 18 months after entry into force
- **Maximum thresholds** to apply from 36 months after entry into force



Battery passport and labelling

- **Labelling**
 - Batteries to be **labelled** with their identification and main characteristics via a printed/engraved **QR-code**
 - Various **labels** on lifetime, charging capacity, collection, hazardous substances and safety risks introduced
- **Battery Passport and electronic exchange system**
 - Electronic record (“**battery passport**”) to be created for each individual battery placed on the market, containing information on basic characteristics of each battery type and model from 42 months after entry into force
 - Commission to create a “European Electronic exchange system” for battery information to allow easy data exchange on these basic characteristics



Data

- Industrial and electric vehicle batteries will have to contain a **battery management system (BMS)** that stores the data needed to determine the state of health and expected lifetime of batteries
- Relevant **data to be made available** (updated at least daily, read-only and paying due respect to IP of manufacturers)
 - to the the end-user or *“any other third party acting on his behalf”*
 - for *“evaluating the residual value of the battery, facilitating the preparing for re-use, repurpose, remanufacturing, and for making the battery available to independent aggregators”*



Due Diligence

- The Battery Regulation includes obligations to put in place **supply chain due diligence schemes** to monitor and mitigate adverse environmental/social impacts by 24 months after entry into force
- Encompasses both **suppliers in the chain and their subsidiaries or subcontractors**
- **Industry-led due diligence schemes** may be recognised by the Commission if found to be equivalent
- SMEs (yearly net turnover <40 mil. EUR) exempt



Timeline

- The Battery Regulation has been adopted and published in the Official Journal of the EU – entry into force mid-August
- It remains a technical and complex file adding **many new requirements on industry** which will **take time to implement**
- Added uncertainty as many key pieces of the regulatory framework will be supplemented at a later stage through **secondary legislation**



To wrap up

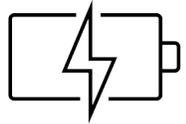


Badly needed harmonization of the single market for batteries. World-leading ambition for sustainability, due diligence and safety.

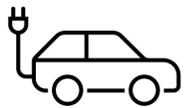


Potential for burdensome requirements slowing down development of the sector in Europe through prescriptive design requirements, and potentially unrealistic timeline.

What's already in place?



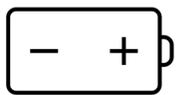
A strong framework for the deployment of widespread and user-friendly **public recharging infrastructure** across member states



Reinforced and clear **CO2 standards for cars and vans**, giving certainty to policymakers, industry and consumers about the decarbonisation trajectory



Incentives for charging **renewable energy** under RED II



A harmonised framework for **battery** production in Europe, ensuring batteries are safe and sustainable and guaranteeing a level playing field

Upcoming policies

CO2 standards for HDVs

- **Ongoing**
- **Proposed 90% emission reduction targets by 2040** - not enough: AVERE advocates for 100%
- Increased target trajectory ambition (45% for 2030) – no target for 2028 and for 2030
- Inclusion of almost **all type of trucks** – vocational missing
- Phase-out target for **urban buses by 2030**
- No current scope for e-fuels
- **Still a lot of loopholes (small OEMs clause, exemption for urban buses, weather arguments, etc)**



CO2 Standards for Heavy Duty Vehicles

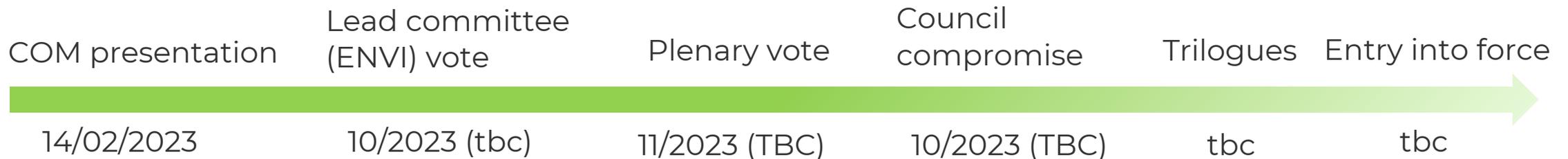
Importance:

Sets **fleet-wide CO2 emission reduction targets for truck and bus manufacturers**. May extend in scope to cover smaller trucks, which are currently not covered, and may set a phase-out date for ICE sales.

State of play:

- **Commission** presented the proposal on 14 February 2023
- Polarised debate in **Parliament** and **Council** to be expected

Timeline



Key concerns:

- Scope expansion to cover all trucks and buses
- Securing a phase-out date (2035 the latest)
- Strong pre-2035 trajectory
- Closing loopholes (e.g. ZLEV incentive)

AVERE actions:

- Response to **Commission study** in 2021
- **Consultation** response submitted
- **Position paper** published
- Active outreach to decision-makers
- **Event** organised

Weights and Dimensions Directive

Importance:

Revision of the current Directive with the aim of better **reflecting specificities of e-mobility**, notably need for higher weights and dimensions limits to account for ZEV drivetrains and batteries.

State of play:

- **Commission** presented its proposal in July 2023

Key concerns:

- Equal treatment of EVs
- Weight limits/battery weight impact
- Abolition of reference to non-ZEV trucks
- Harmonising rules for cross-border traffic
- Timely implementation/transposition

AVERE actions:

- **Public consultation response** submitted
- **Position paper** published
- **Reaction paper** published

Timeline



Upcoming policies

Energy Performance of Buildings Directive (EPBD)

- **Ongoing**
- **Would set rules for charging points at private locations (multi-unit buildings & non-residential)**
- **Pre-cabling and charging points deployment targets for new, renovated and existing buildings**
 - Residential vs non-residential?
- **Ambitious right-to-plug:**
 - Less admin barriers + other co-owners cannot block you from installing a charging point?
 - Link with AFIR?
- **Clear definitions of pre-cabling, etc**
- **Creation of fire safety guidelines**



Energy Performance of Buildings Directive

Importance:

Modernizes the EU's framework climate legislation on buildings, notably including targets to roll-out **pre-cabling and charging infrastructure in residential and non-residential buildings**, either new or renovated.

State of play:

- **Council:** Member States found a compromise in October (see summary) but many Member States do not find the compromise ambitious enough
- **Parliament:** Report passed in plenary in March.
- **Trilogues** ongoing

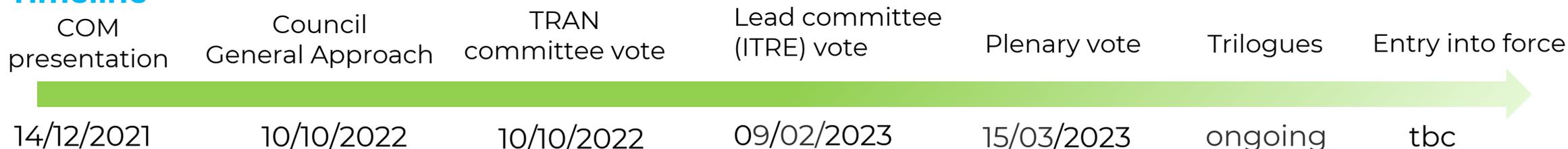
Key concerns of AVERE:

- Include existing buildings
- Establish the right definitions (pre-cabling, etc)
- Include HDV
- Strengthen right to plug
- Address fire safety

Main issues of divergence:

- **Including existing buildings** in the scope
- Setting ambitious pre-cabling target vs pre-ducting (myth of the cost of pre-cabling, scarcity of resources, etc)
- An ambitious **right-to-plug**
- Including HDV
- Mandating V2G

Timeline



Upcoming policies

Industrial policy:

- **Critical Raw Material Act - ongoing**

- Ensuring the EU's access to a secure, diversified, affordable and sustainable supply of critical raw materials
- **Production and recycling benchmarks** for certain strategic raw materials
- **Simplified regulatory and administrative procedures** for critical raw materials projects
- Focus on **circularity and recycling**
- Reinforced **international partnerships**

- **Net-Zero Industry Act - ongoing**

- **Streamlining rules and permitting** for projects of strategic importance
- **Tweaks rules in terms of subsidies**
- Puts a strong emphasis on **re-skilling and up-skilling** through European Net-Zero Academies
- Give more **flexibility through regulatory sandboxes** to accelerate the uptake of new disruptive technologies needing scaling up, testing and approval.
- Does not provide financial support

Critical Raw Materials Act

Importance:

This initiative will aim to **reinforce EU monitoring capacities** and **strengthen both the EU value chain** – through the identification of mineral resources and raw materials projects in the EU's strategic interest, with strong environmental protection – **and EU external policies on CRMs.**

State of play:

- **Commission** presented proposal in March 2023
- **Public consultation** closed in late November 2022

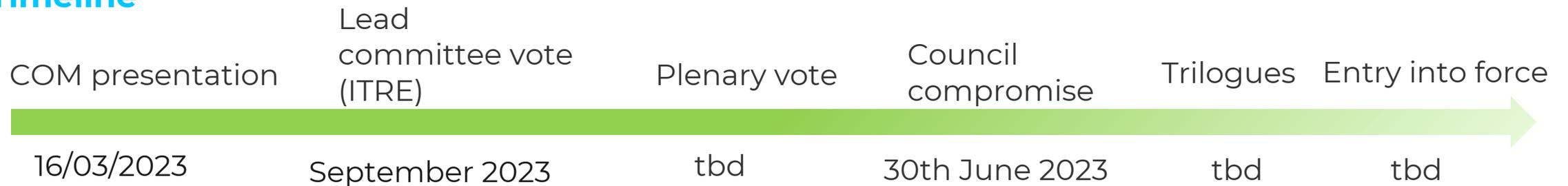
Key concerns:

- Securing a steady supply of CRMs for EVs
- Reinforcing monitoring provisions
- Establishing a global level playing field
- Strengthening EU autonomy and resilience
- Keeping openness to international trade

AVERE actions:

- **Consultation response** submitted
- **Position paper** finalised
- AVERE **outreach** with amendments

Timeline



Net-Zero Industry Act

Importance:

Aims to **strengthen EU industrial policy** in sectors deemed critical for the Green Transition. To be understood notably as an EU response to the US Inflation Reduction Act (but also Chinese subsidies), against a perceived need to be more assertive on the world stage

State of play:

- The Commission has concluded its **public consultation** to further scope the proposal
- A proposal was published in March 2023

Key concerns:

- Assuring EU competitiveness
- Establishing a level playing field both within the EU and vice versa 3rd countries
- Avoiding protectionism

AVERE actions:

- Active **monitoring**
- **Position paper** published

Timeline



Payment Services Directive (PSD II)

Importance:

The Payment Services Directive aims to increase participation in the payments industry, including from non-banks, and to create a level playing field by harmonizing consumer protection and the rights and obligations of payment service providers and users.

State of play:

- **Commission** opened a public consultation during the second half of 2022 to collect feedback
- **Commission** published its proposal in June 2023

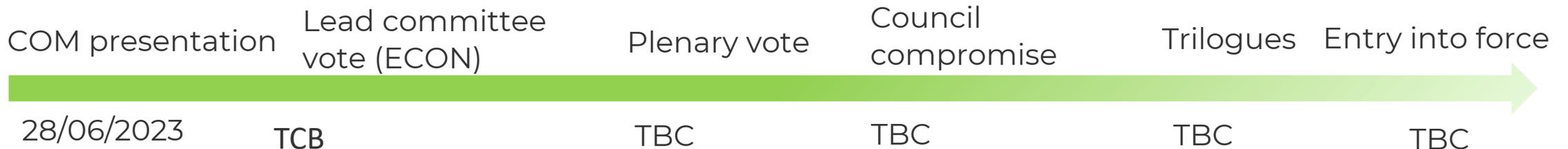
Key concerns:

- Exempting PIN-pad requirements for charging stations (like for public transport, parking payments, etc)
- Raising the maximum price cap for contactless transactions at charging stations to take into account the higher amount charged especially at fast charging stations

AVERE actions:

- **Joint letter** with ChargeUp, Eurelectric and others
- AVERE **position paper**
- AVERE reaction paper under development

Timeline



Energy Taxation Directive (ETD)

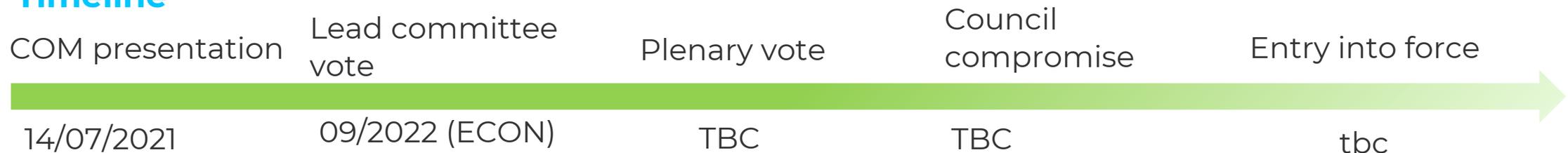
Importance:

Sets harmonised minimum rates of taxation in order to avoid market distortions. Aims to align the taxation of energy products with EU energy and climate policies by **promoting clean technologies, removing exemptions and reducing rates that encourage the use of fossil fuels**

State of play:

- **Council** needs to reach a unanimous general approach for this file to be adopted. Discussions are underway but the Swedish presidency is unlikely to find a compromise given the divergences and bottlenecks
- **Parliament** has only a consultative role and is set to adopt its position during the autumn with a committee vote in September 2022

Timeline



Key concerns:

- Ensuring bidirectional charging is not subject to a double-tax (as is the case currently), in order to encourage EV users to use this flexibility mechanism in the future

AVERE actions:

- **Joint letter** with Eurelectric, and others
- Active **outreach** to key policymakers in Council (ongoing)
- Informal exchange with European Commission on how to make V2G possible

End-of-Life Vehicles Directive/Circular

Vehicles Regulation

Importance:

Sets the **framework and clear recycling targets for ELVs** and their components. It also prohibits the use of certain hazardous substances when manufacturing new vehicles.

State of play:

- **Commission** published its new proposal on the 13th of July

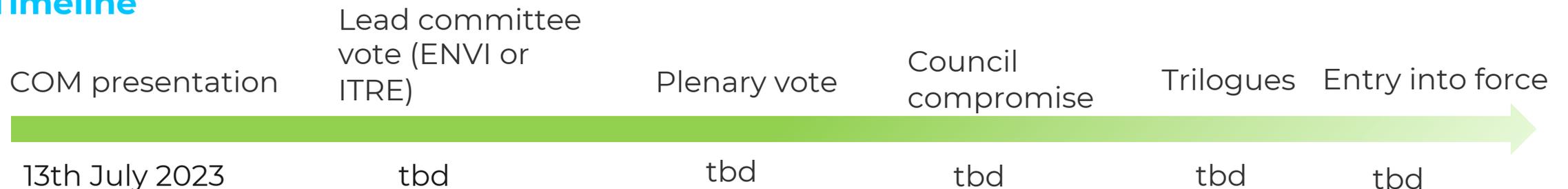
Key concerns:

- Avoiding prescriptive design requirements for new vehicles
- “Missing” vehicles and enforcement
- Scope extension
- Granularity of recycling targets
- Further priorities currently being defined

AVERE actions:

- **Position paper** under development

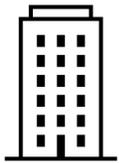
Timeline



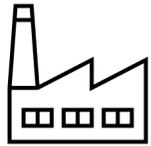
What's missing?



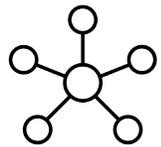
A similarly ambitious trajectory for **Heavy Duty Vehicles** as has been agreed for cars and vans, incl. both regulation and enablers



A much stronger framework for the deployment of **private charging infrastructure**, notably through the EPBD



An enabling **industrial policy** framework, enabling EU industry to become world leader while leaving no one behind



A **broader perspective** on cleaning up road transport, going beyond technology-only solutions (e.g. post-ownership, modal shift)

AVERE

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Thank you!

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