The regulatory landscape across Europe – Implications for investment in the battery sector across the region

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Ensuring match-funding support is well spent

Using a comprehensive and competitive process to identify the strongest prospects

Supporting key low-carbon initiatives

Accelerating additional development in battery and autonomous vehicle technology

Regulatory factors influencing investment decisions in the wider European region

- **Important existing and upcoming regulation**
- **Policy objectives across the region**
  - Accelerate and build out capability and capacity in battery technology and manufacturing across the region
  - Underpin economic sustainability of automotive and energy sectors
  - Ensure environmental impacts are managed through the transition
  - Build supply chain resilience
- **Market factors – (demand-side & supply-side)**
- **It is important to look through the lens of a commercial operator: what will they consider?**

Timeline for EU public policies and strategies relevant to Battery industry

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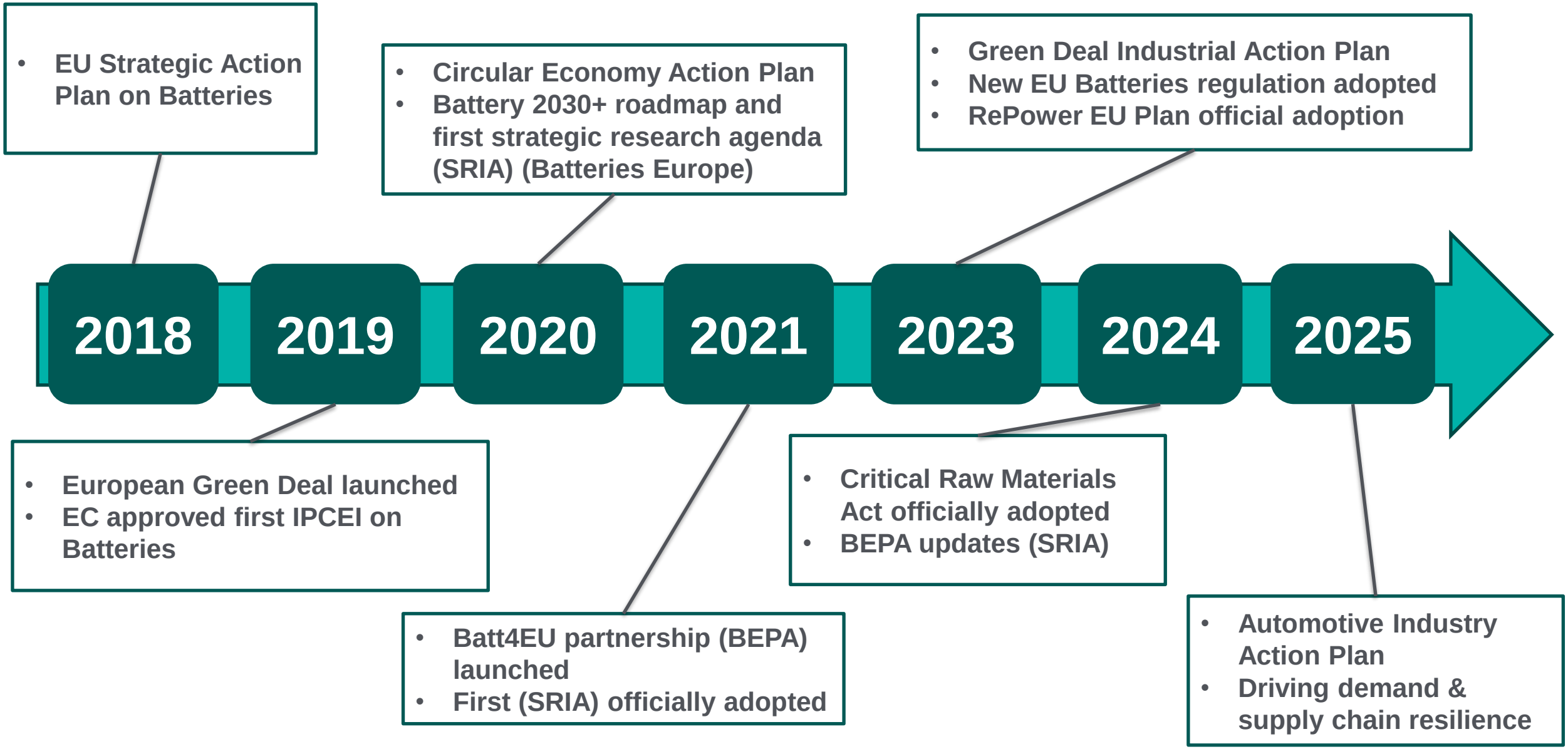


European battery-related regulatory landscape

EU Critical Raw Materials Act (CRMA)
(2027: recycling recovery rates – 2030: 15% of EU demand from recycling)
- >10% of EU's demand from local mining
- >40% of EU's demand refined locally
- >25% of EU's demand sourcing from recycling
- <65% of EU's demand from a single 3rd country

Corporate Sustainability Reporting Directive (CSRD)
(2025 onwards)
- To disclose scope 1-3 emissions
- Decarbonisation plan

CBAM
(from January 2026)
- Adding CO2 price on strategic raw materials imports into EU

Net-Zero Industry Act
(from TBC)
- Targeting 90% EU battery self-sufficiency by 2030

EU Battery Regulation (2023/1542)
(Key dates: 2027, 2030 and 2035)
- Min. recycling efficiency
- Min. recovery of materials
- Min. content of recycled materials in a battery

Black Mass Classification
(2027 minimum recycled content rules)
- Harmonisation of classification (under review)
- Common HS code (under review)

Battery Passport
(2024: labelling and 2027 and 2030 targets)
- GHG emissions / CO2 footprint
- Type of battery
- Recycled content
- ……

Rules of Origin (ROO)
(from Jan 2027)
- Battery packs to have 70% EU/UK content
- CAM and anodes to be EU/UK-originating

Waste classification will increasingly influence material flows and investment

Lithium batteries in general are considered to be ‘dangerous goods’.

Before 2030, the majority of waste will be from manufacturing waste and not vehicle end of life.

From “Support for the new batteries regulatory framework -WP8”

- “Three types of waste have been identified as relevant…. waste batteries, battery manufacturing waste, and intermediates of waste battery recycling.”
- “Most waste battery types are recommended to be classified as hazardous, due to their nature and the presence of one or more hazardous substances in their composition…”
- See: https://op.europa.eu/en/publication-detail/-/publication/fdbafeac-8f54-11ef-a130-01aa75ed71a1/language-en

Figure 6. Development and forecast for End-of-life EV batteries and battery manufacturing waste until 2030

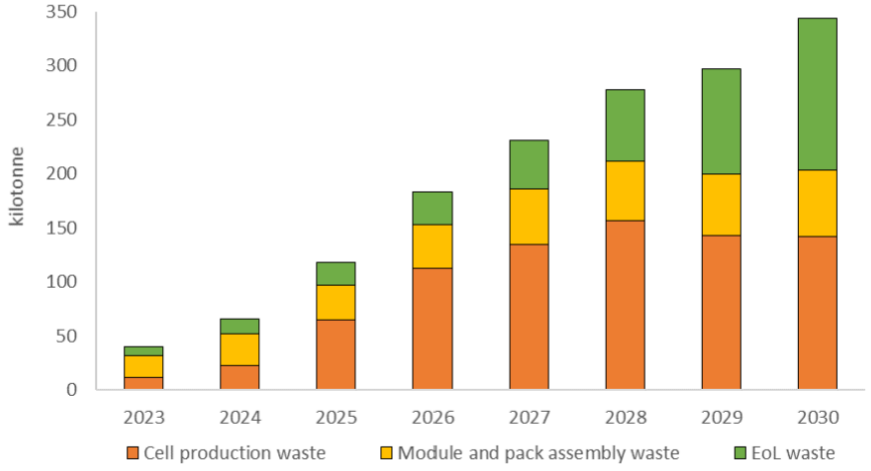
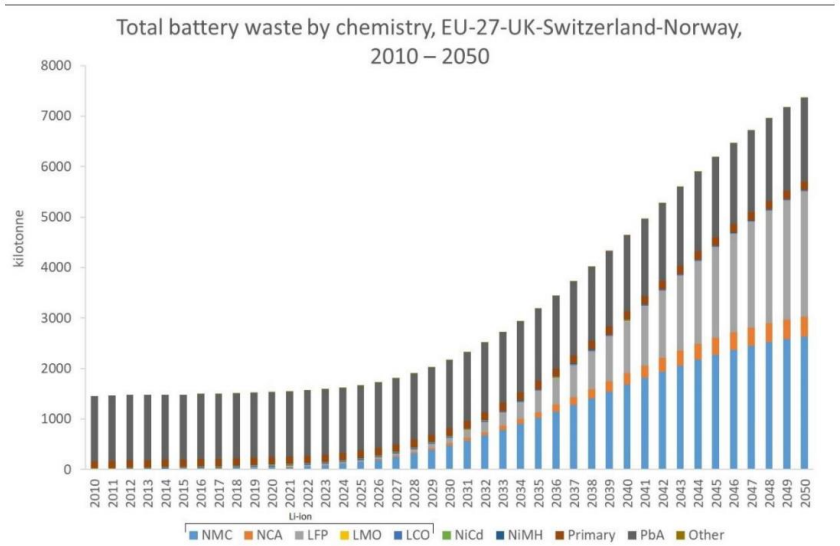


Figure 8. Total weight of battery waste generated in the EU-27, UK, Switzerland and Norway, 2010–2050 grouped by battery chemistry (NMC: nickel manganese cobalt; NCA: nickel cobalt aluminium; LFP: lithium iron phosphate; LMO: lithium manganese oxide; LCO: lithium cobalt oxide; NiCd: nickel-cadmium; NiMH: nickel–metal hydride; Primary: non-rechargeable (alkaline, Zinc-, Silver- and Lithium-based portable batteries); PbA: lead-acid). Source: Huisman and Bobba, 2021.

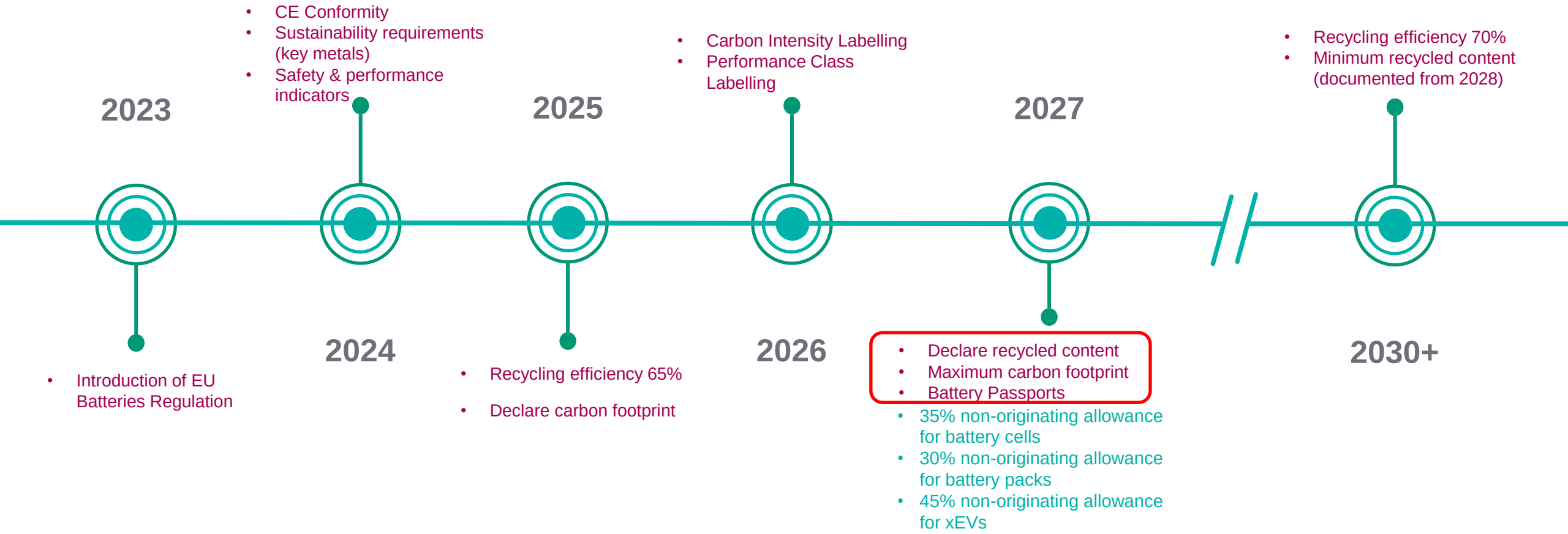


Market dynamics through to 2030+: regulation and trade

The EU Batteries Regulation and UK-EU rules of origin trade agreement have a significant impact on supply chain planning and choice of chemistries.

The EU Batteries Regulation will require both increasing recycled material content and decreasing supply chain carbon footprint: driving localisation of supply.

The trade agreement between UK and EU includes rules of origin requirements provides minimum UK-EU originating content requirements to qualify for tariff free trade, also driving localisation of supply.



Rules of Origin change over time – but change agreed between UK and EU

Focus for batteries is on originating cathode materials (especially for Ni-rich)

Rules of origin for batteries and electrified vehicles provide a 6 year phase in period

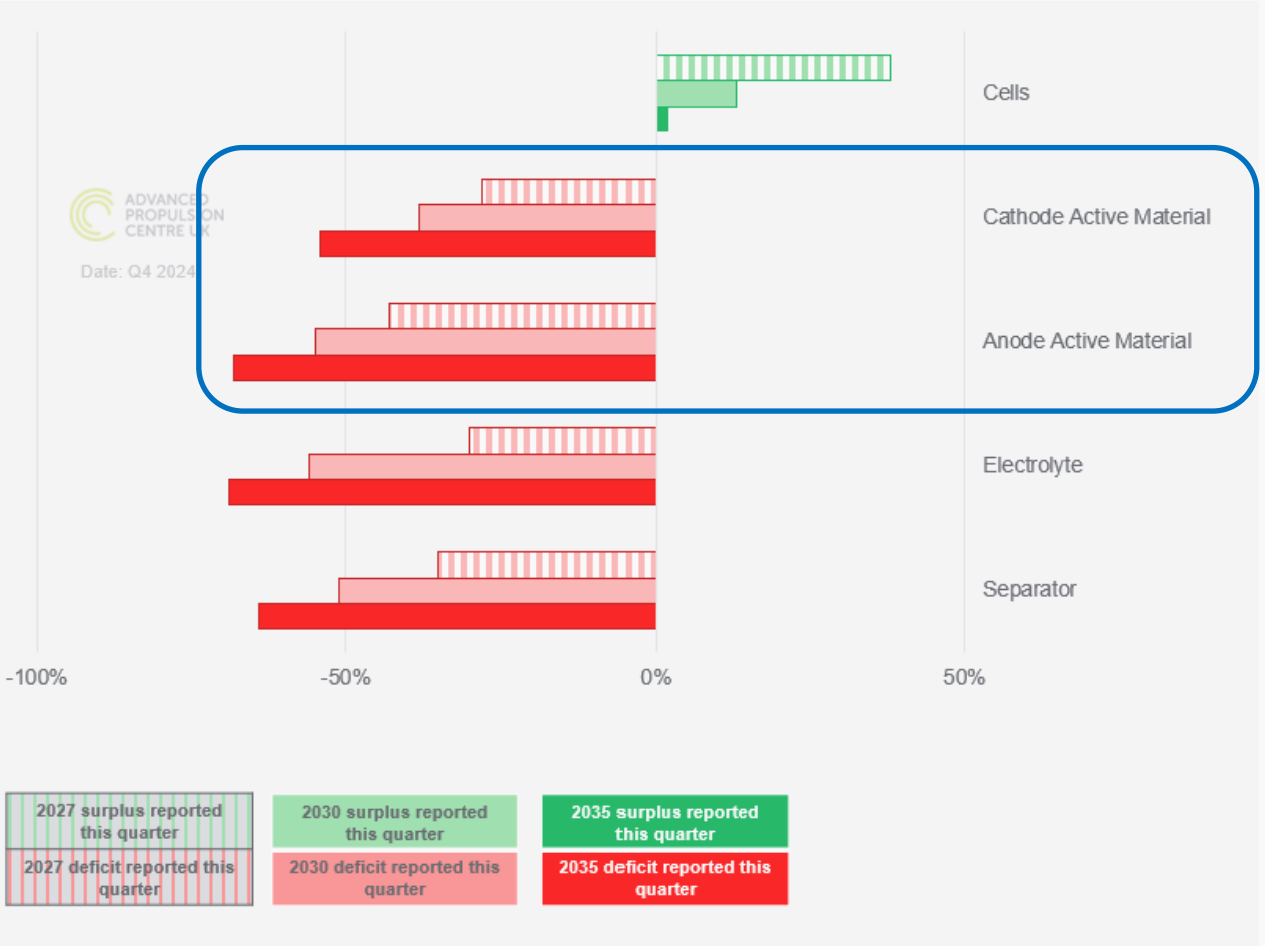
	1st January 2021 – 31st December ~~2023~~ 2026	1st January 2024 – 31st December 2026	1st January 2027 onwards
Electric battery cells	70% maximum non-originating material allowance Or Change in tariff heading	50% maximum non-originating material allowance Or Change in tariff heading except from non-originating active cathode materials	35% maximum non-originating material allowance Or Change in tariff heading except from non-originating active cathode materials
Electric battery packs	70% maximum non-originating material allowance Or Change in tariff sub-heading Or Assembly from non-originating cells or battery modules	40% maximum non-originating material allowance Or Change in tariff heading except from non-originating active cathode materials	30% maximum non-originating material allowance Or Change in tariff heading except from non-originating active cathode materials
Electric vehicles (HEVs, PHEVs, BEVs)	60% maximum non-originating material allowance	55% maximum non-originating material allowance	45% maximum non-originating material allowance + originating battery for P HEVs and BEVs

This interim step was removed

Summary – Supply chain activity

Q4 2024 notes

- This graph in Figure 1 details an assessment between Europe's supply chain capacity for battery materials with Europe's light duty vehicle (LDV) production demand. This assessment assumes Europe is a self-sustaining bloc with no imports or exports.
- Although cell production capacity is projected to surpass demand from 2027, this estimate is based on announced nameplate capacity, much of which is unlikely to materialise due to the slowing battery demand. Furthermore, recycling initiatives have gained momentum, with some new partnerships emerging to support this focus.
- This assessment does not take into account cell chemistry type.



- These areas are high risk *for the region* unless further capacity is committed soon
- **Particularly acute for LFP with very limited CAM investment**
- Even with imported LFP CAM, regionally-made Anode material will be needed

Source: APC internal analysis of public announcements, BNEF forecasts (Sep 2024), Wood Mackenzie (Sep 2024)
1) all subsequent references to Europe in this document refer to the continent regions not EU members.

*Risk-weighted capacity based on APC internal assessment of announced and under construction projects
**Value in terms of cost contribution to total cell cost based on an NMC811 cell

Incentives and subsidies

Beyond market initiatives, project delivery reliability is a key factor in investment decisions

- **Policy & practical support for planning and permitting processes**
  - Many EU states and the UK offer ‘one-stop shop’ approaches to support strategic investment delivery
  - In the EU, policies are aligned with the NZIA and Green Deal Industrial Plan
  - In the UK, new policies are expected in the upcoming **Industrial Strategy**
  - Planning policy already makes provision through NSIP (Nationally Significant Infrastructure Projects) and Local Development Orders (LDO) or Development Consent Orders (DCO).
  - These policies have already allowed accelerated planning consents for cell manufacturing and lithium extraction projects, for example.

- An **Industrial Strategy** to create a pro-business environment and support high-potential clusters across the country.
- Support channelled to **8 growth-driving sectors** – these include Advanced Manufacturing and Clean Energy Industries.
- Sector plans, due to be published in June, have been designed **in partnership with business.**

UK and key European countries incentive highlights

Tax benefits

- **None** for acquisition or ownership (private)
- Preferential tax rates for electric and ultra-low emission cars for company car users

Purchase incentives

- **None** for retail car purchasers
- Plug-in taxi & van grants (commercial users)
- 35% discount (max. £2,500) for a vehicle converted to a wheelchair-accessible vehicle (WAV), with:
  - Zero CO_2 emissions
  - Be able to travel above 112km without any emissions
  - Cost < £35,000 (not including conversion costs

Infrastructure incentives

- EV Infrastructure grant for businesses with over 249 employees
- EV charging point grant for households, renters and flat owners and “Workplace Charging Scheme (max 40 sockets)
  - Up to 75% of the cost or £350 whichever is lower

Key EU and EFTA Highlights

Austria: Exemption from ownership and pollution taxes for ZEV and combination vehicles. Incentives for the purchase of new cars and vans, and certain infrastructure

Belgium: Brussels and Wallonia have a minimum tax rate for BEV and FCEV, in Flanders, they are exempt. In Flanders, there are incentives for new ZEV purchases and for used ZEVs under €60k

France: Some regions have acquisition tax benefits, and exemption from malus. Company car tax exempt for ZEVs. Incentives for the purchase of new BEVs and FCEVs (certain criteria) and installing charging stations

Germany: 10-year tax exemption for BEVs and FCEVs, reduced company car tax amount. No other incentives.

Spain: Exemption from “special tax” which is for cars emitting over 120g CO_2/km, reduced road tax (75%) for BEVs in main cities. ICE scrappage and EV adoption scheme, as well as infrastructure incentives.

Thank you

Questions?

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