

Industrial Bioeconomy & EU Chemical Industry Competitiveness



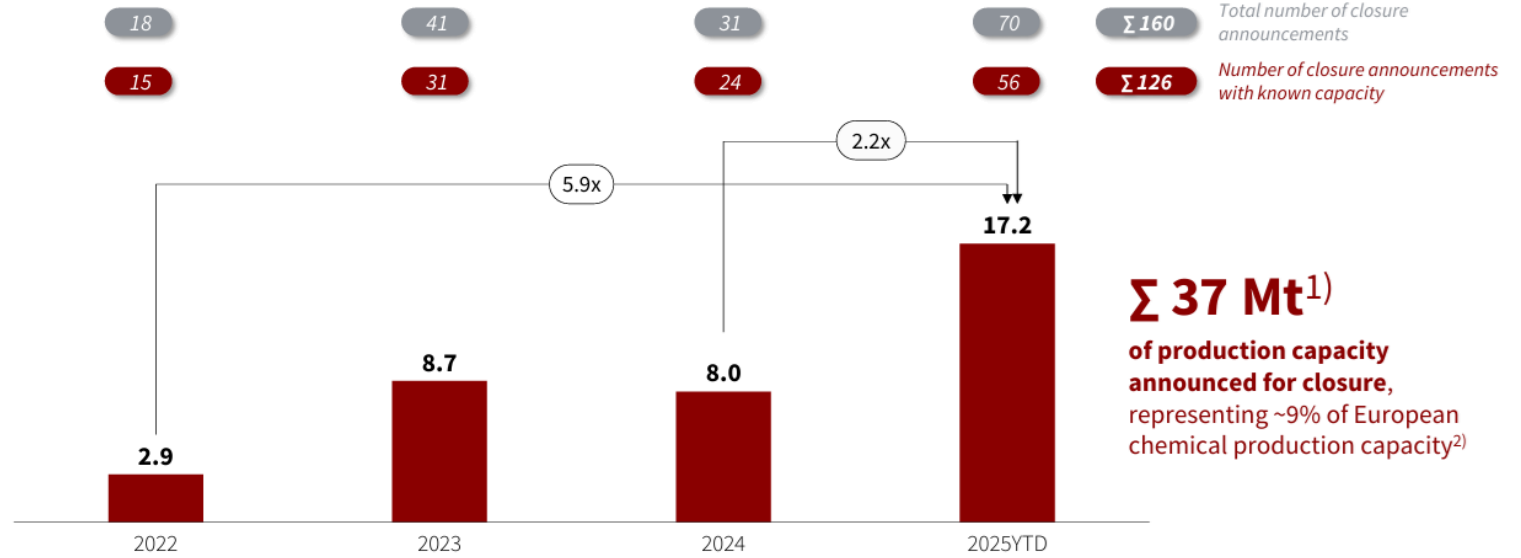
01 October 2026

Marco Pellegrini

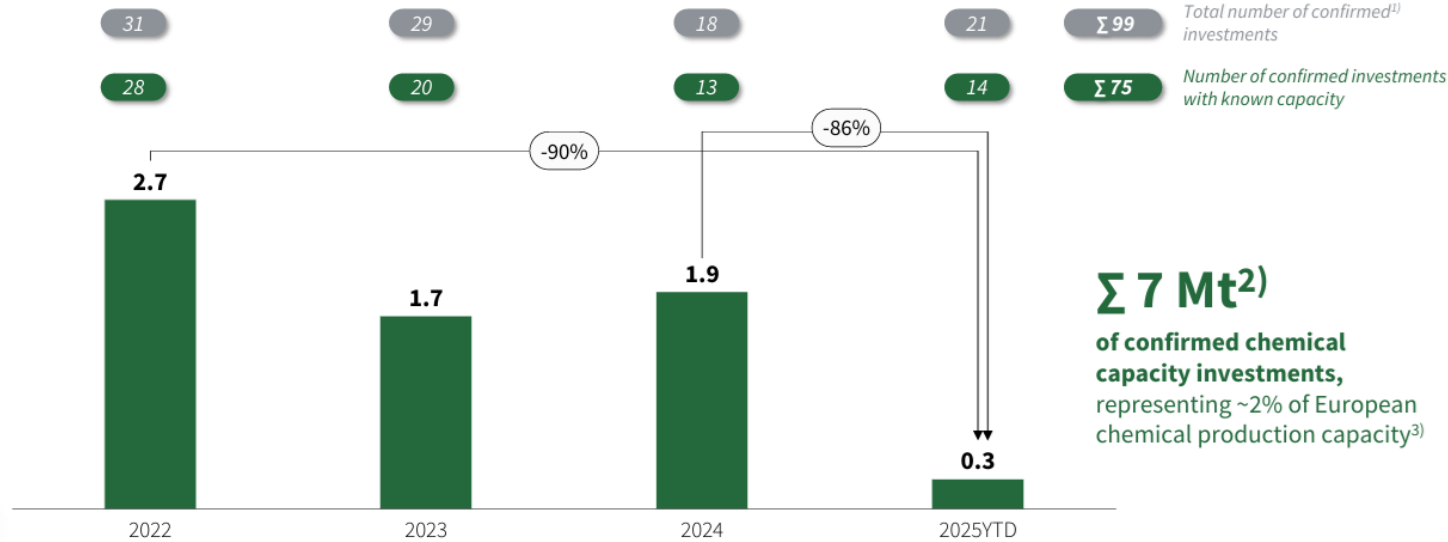


EU chemical industry status

European chemical production capacity announced for closure, 2022-25YTD [Mt p.a.]



Confirmed¹⁾ chemical capacity investments in Europe, 2022-25YTD [Mt p.a.]



Europe's bio-based carbon base is small

5.5%

of carbon demand for the EU chemical and derived industries was covered by biomass in 2023

> 90%

of carbon embedded in chemical value chains still originates from virgin fossil sources

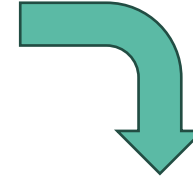
GLOBAL BENCHMARK

Biomass supplies about 10% globally — Evidence of opportunity.

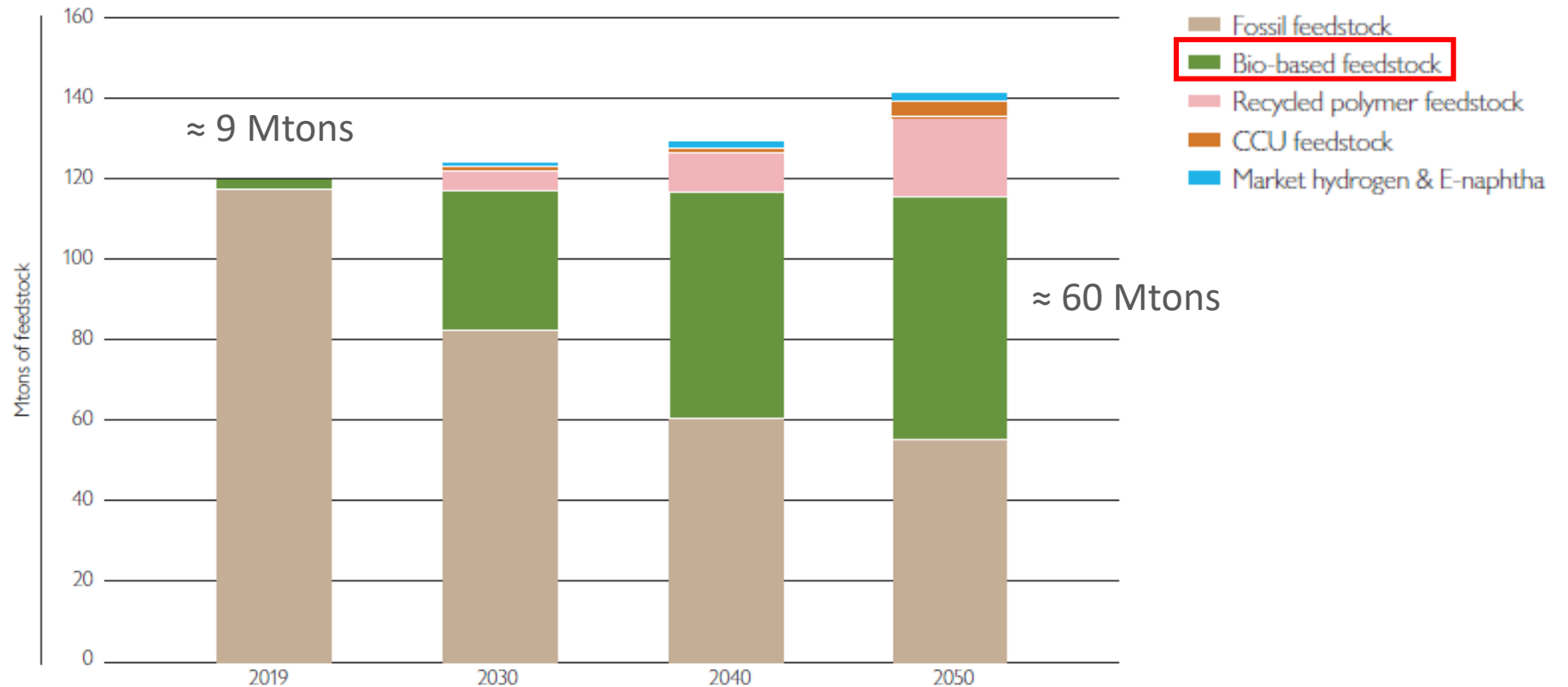


The path ahead – Cefic iC2050 model

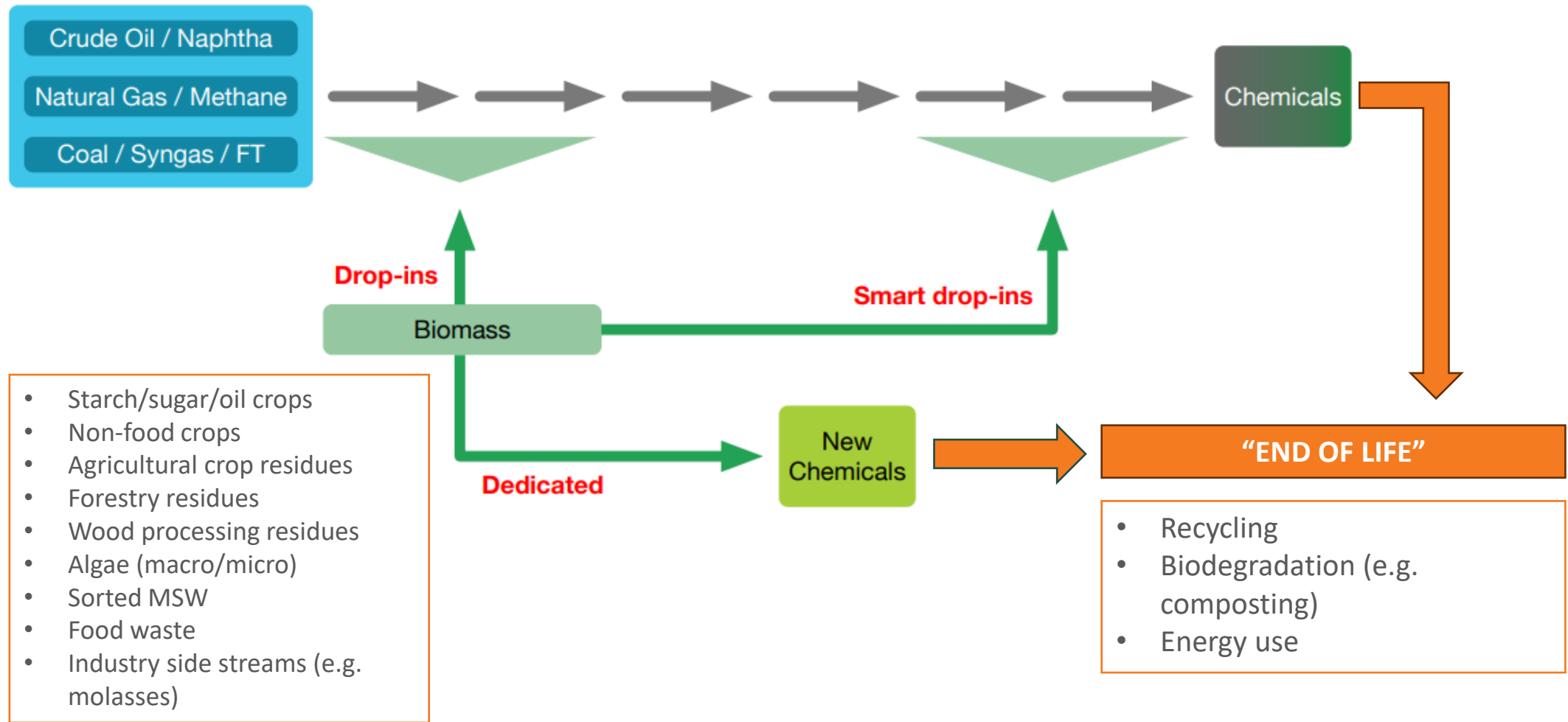
- Exploration of pathways to Net Zero in 2050
- 18 chemicals modeled in detail
 - Remaining chemicals as aggregated group
- Minimization of net present cost of chemical production



Evolution of the feedstock mix between 2019 and 2050



A value chain approach



Two lanes can accelerate scale

LANE 1 | EXISTING ASSETS



Mass balance / bio-attributed

Co-process certified biomass; use integrated logistics and plants to build volume faster.

**PRODUCT
DEMAND**

LANE 2 | DEDICATED ASSETS



Segregated bio-based

Build new value chains for direct traceability, novel molecules and differentiated performance.

Both lanes need
credible claims
and offtake.

Complementary, not competing: a bridge to scale while dedicated capacity grows.



The bottleneck is the business case (& demand)

Alternative routes often introduce a green premium.

- **FEEDSTOCK** Availability, quality, volatility and trade barriers
- **ENERGY** Conversion still needs power
- **CAPEX** First-of-a-kind and/or retrofit investment
- **SCALE** Small volumes, immature logistics, learning curve
- **DEMAND** Qualification time and uncertain long-term offtake

Without demand certainty, the green premium remains an investment risk — Not a scale-up plan



Policy must turn barriers into levers

BARRIER	INDUSTRIAL LEVER	POLICY VEHICLE
Uncertain demand	Product-level biomass-derived targets; GPP and eco-modulation	ESPR, Biotech Act II, sector rules
Feedstock cost & access	Diversified sustainable supply, logistics and fair trade access	RED III-aligned criteria; FTAs
Scale-up risk	High-TRL funding, open infrastructure and de-risking	CBE JU, Innovation Fund, EIB
Fragmented rules	Coherent framework, product-based risk and faster permitting	Biotech Act II and coordination
Credible claims	Mass balance, chain of custody, LCA and independent audit	Harmonised methods and standards



Sustainable biomass: 4 guardrails

01 SOURCE

Protect biodiversity, high-carbon stock and soils; align with RED III Art. 29(2–7).

02 CERTIFY

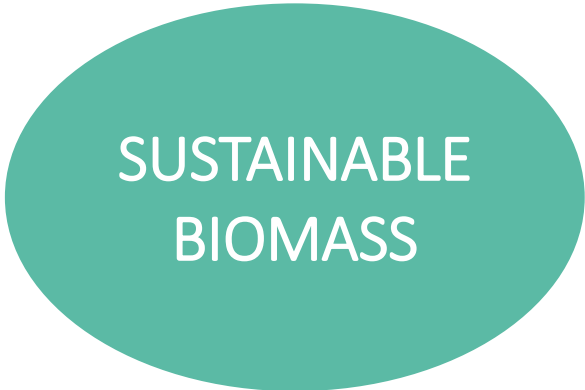
Recognise credible, independent schemes.

03 ASSESS

Use harmonised life-cycle methods and account consistently for biogenic carbon.

04 KEEP OPTIONS OPEN

Allow eligible feedstocks that meet the sustainability criteria; avoid arbitrary exclusions.

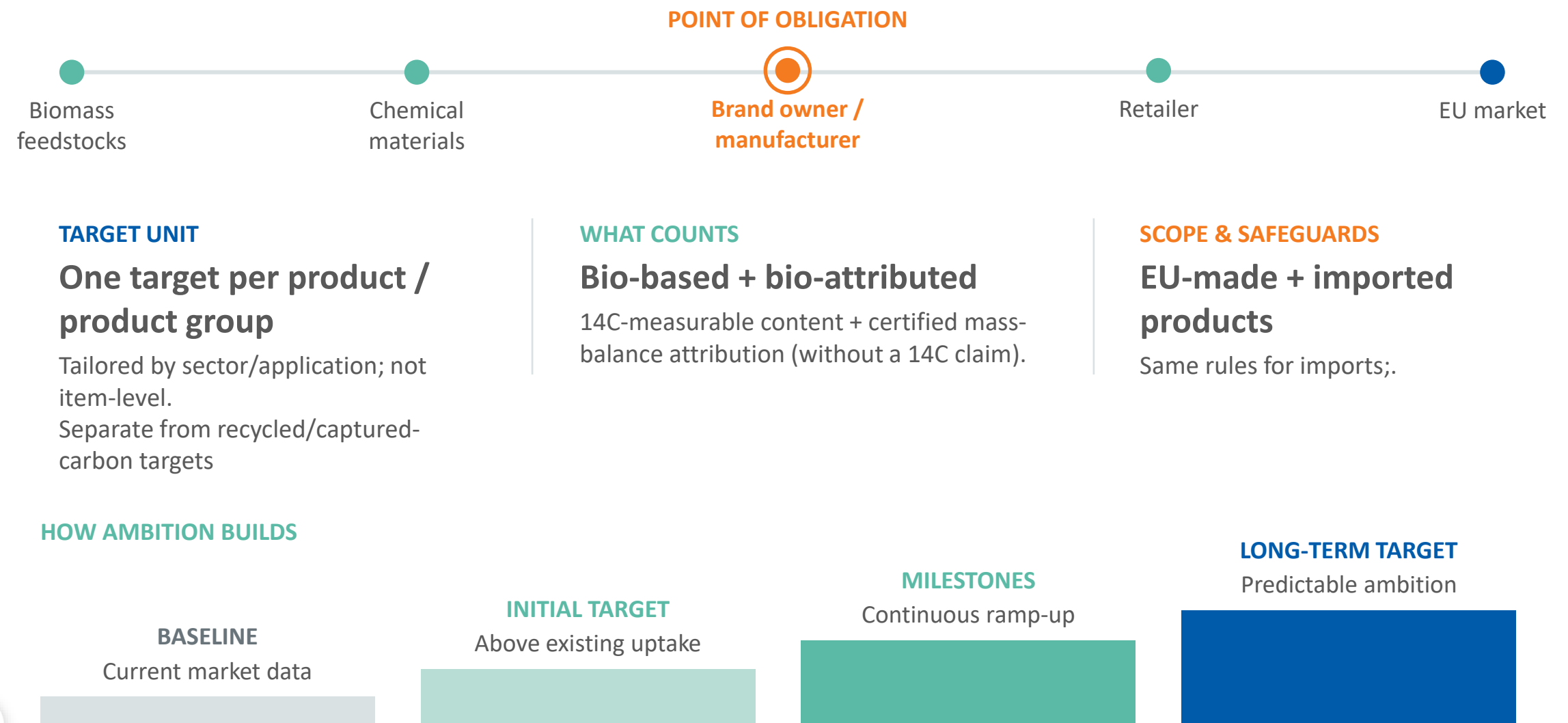


SUSTAINABLE
BIOMASS

Biomass-derived ≠ Automatically lower-impact. Verify by application with LCA.



Product-level targets set-up



Thank you.

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**About Cefic**

Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.2 million jobs and account for 13% of world chemicals production. Cefic members form one of the most active networks of the business community, complemented by partnerships with industry associations representing various sectors in the value chain. A full list of our members is available on the Cefic website. Cefic is an active member of the International Council of Chemical Associations (ICCA), which represents chemical manufacturers and producers all over the world and seeks to strengthen existing cooperation with global organisations such as UNEP and the OECD to improve chemicals management worldwide

