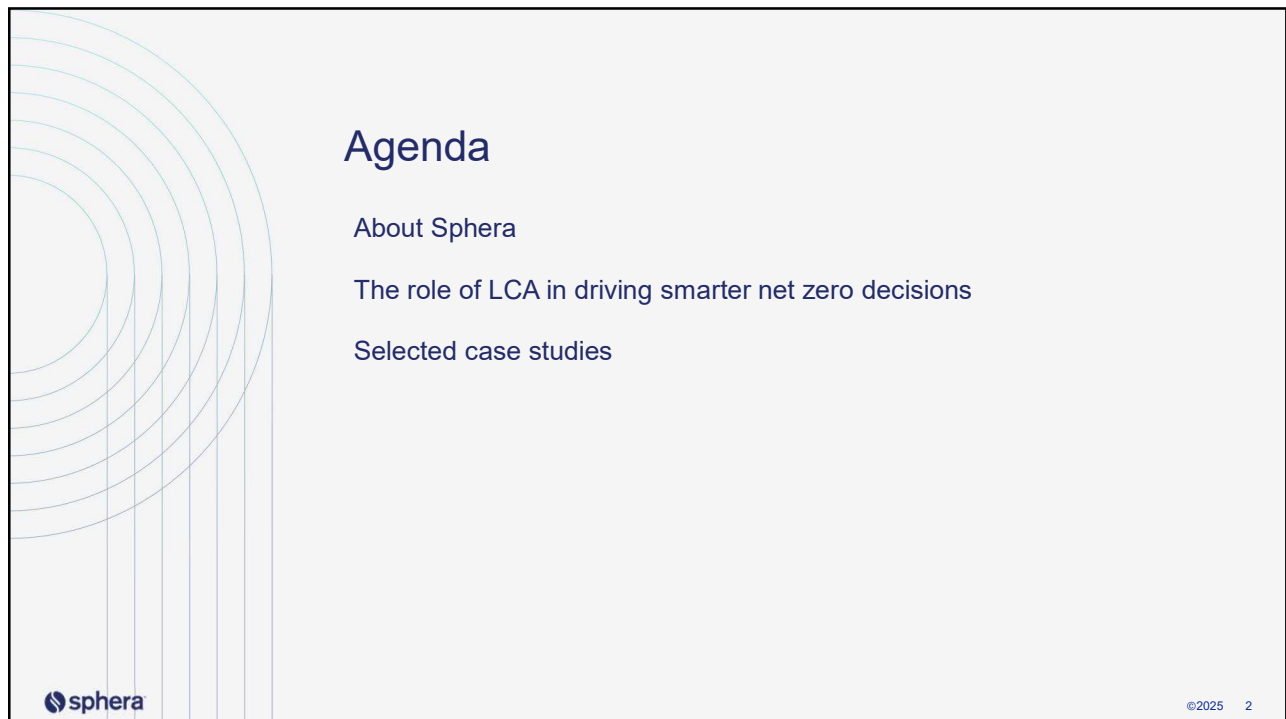


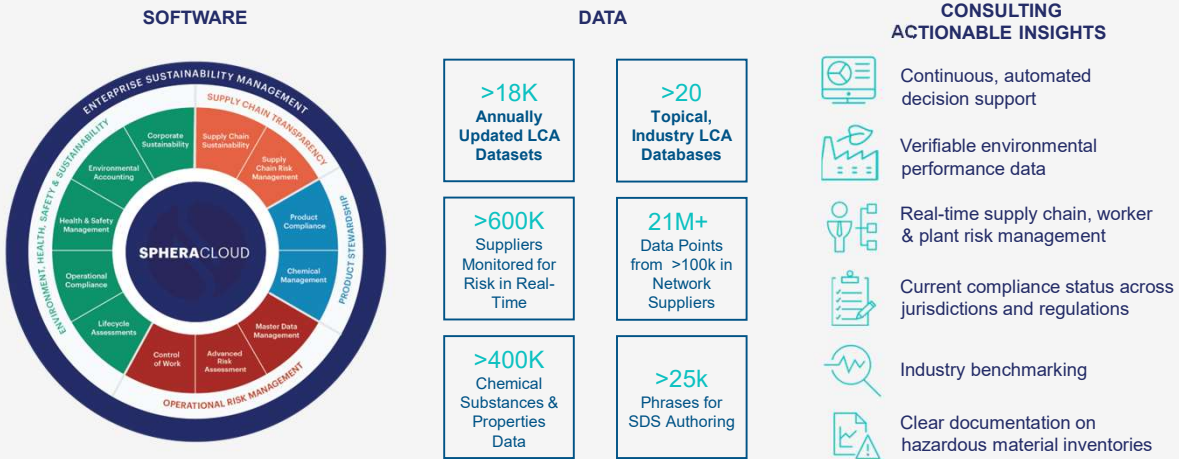


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2

Sphera's unique combination of consulting, software & data



Sphera owns a proprietary set of emissions factors, integrated within the software and combined with other data attributes, used to perform detailed lifecycle assessments for product sustainability and carbon accounting for corporate sustainability purposes



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3

Insights by Sustainability Consulting services

- **Corporate carbon footprint**
- **Scope 3 assessment**
- **Product carbon footprint and life cycle assessment**
- Portfolio sustainability assessment
- Biodiversity assessment

- Compliance and reporting support for BRSR, **CBAM**, CSRD, SFDR, EU Taxonomy, CSDDD
- Support with voluntary frameworks: **GRI, CDP, TCFD** & TNFD, **SBTi** & SBTN, IFRS S1 & S2
- Environmental product declarations, **EPDs**



- **(Double) materiality assessment**
- Sustainability benchmarking
- ESG framework and ratings alignment
- Climate risk and opportunities assessment
- Sustainability, climate, net-zero strategy and target development

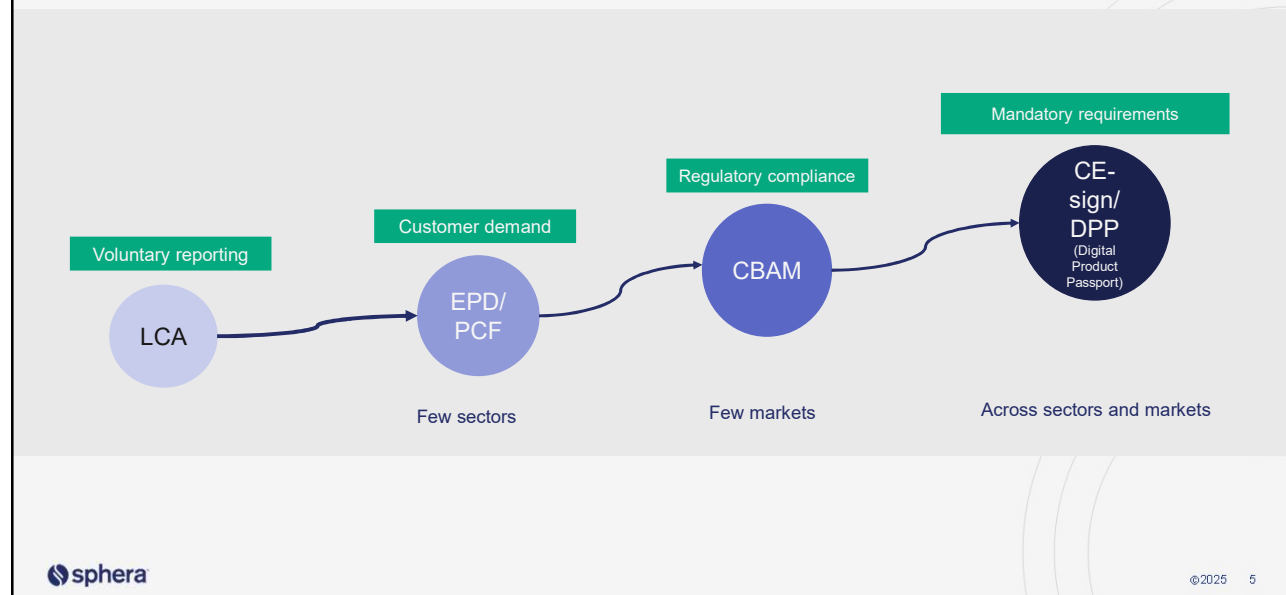
- **Eco-design, LCA, EPD tools**
- LCA Automation
- Environmental and techno-economic analyses of (new) technologies
- Supplier engagement and **supply chain decarbonization**
- Circular economy consulting



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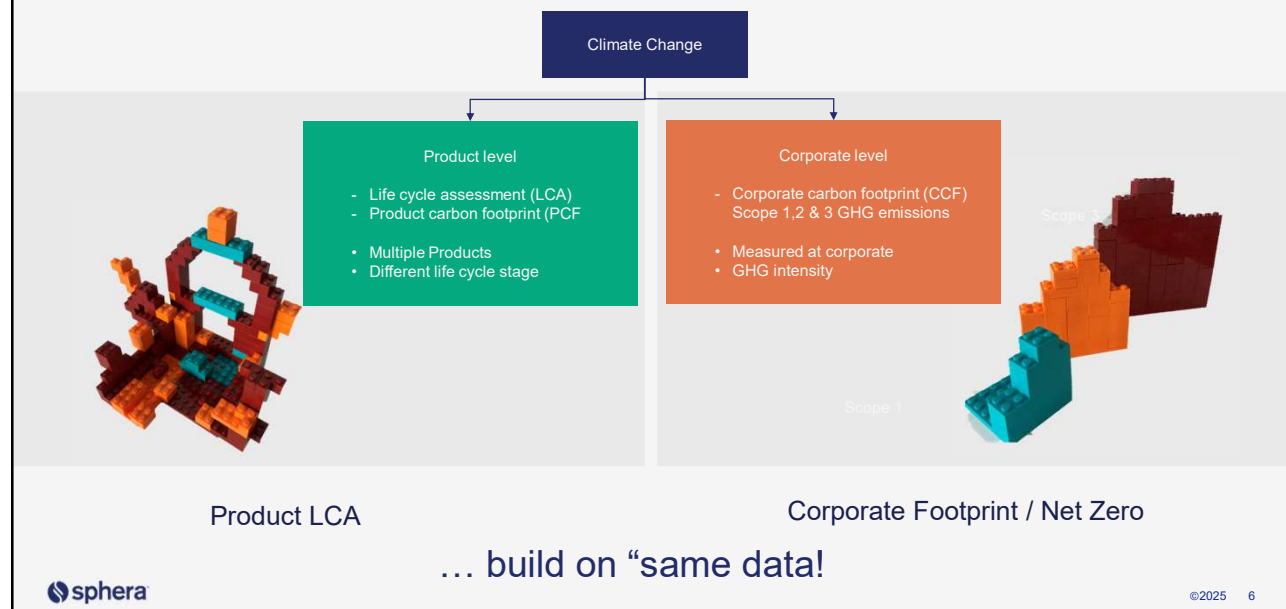
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LCA's role in net zero evolution

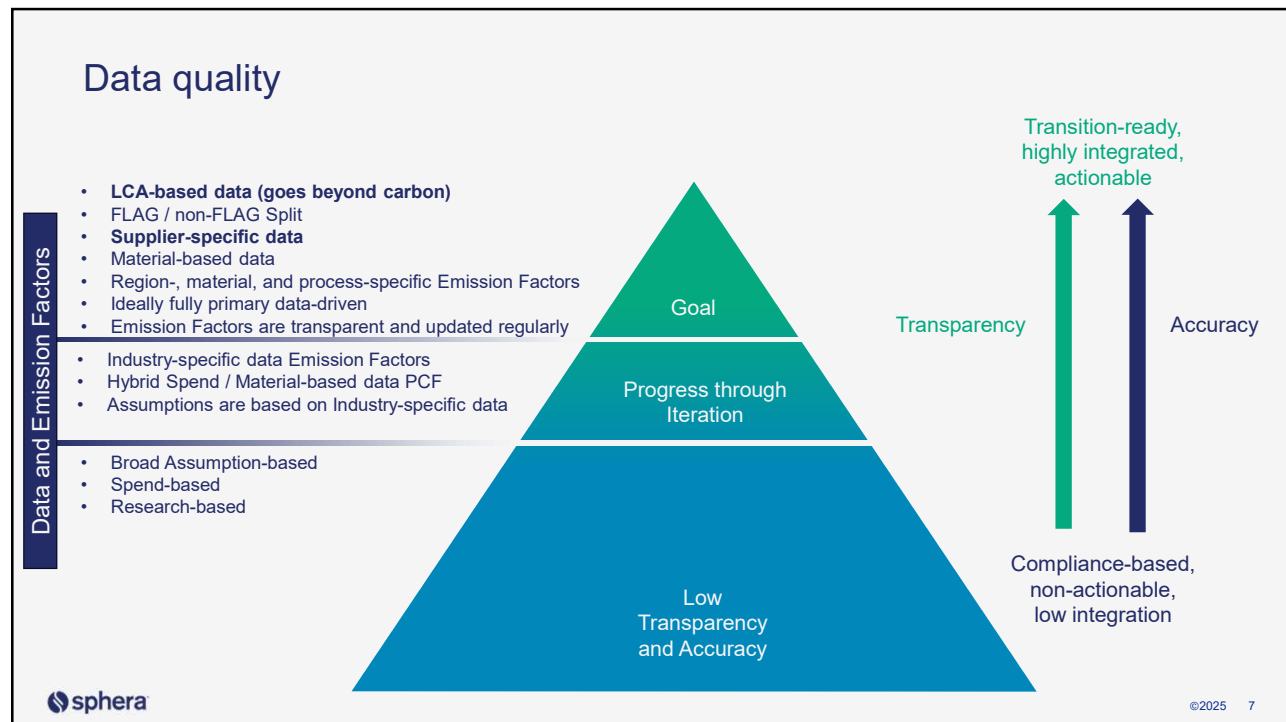


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Two complimentary perspectives across the businesses



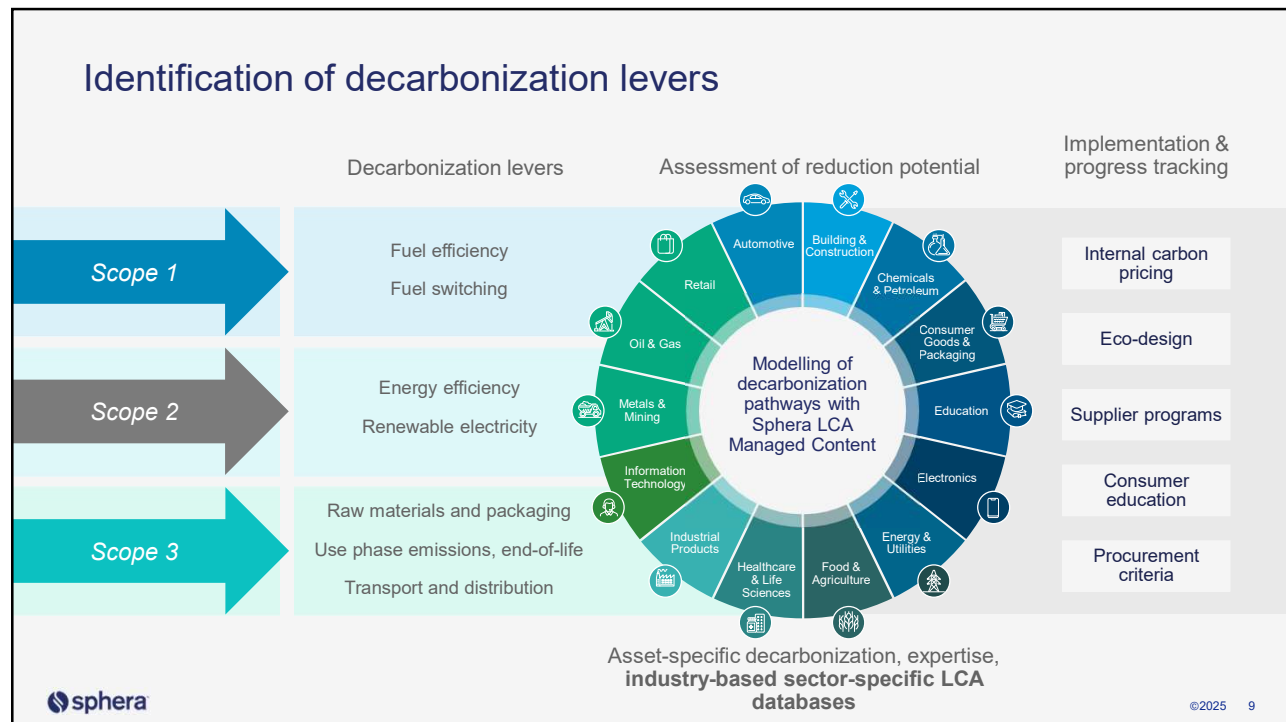
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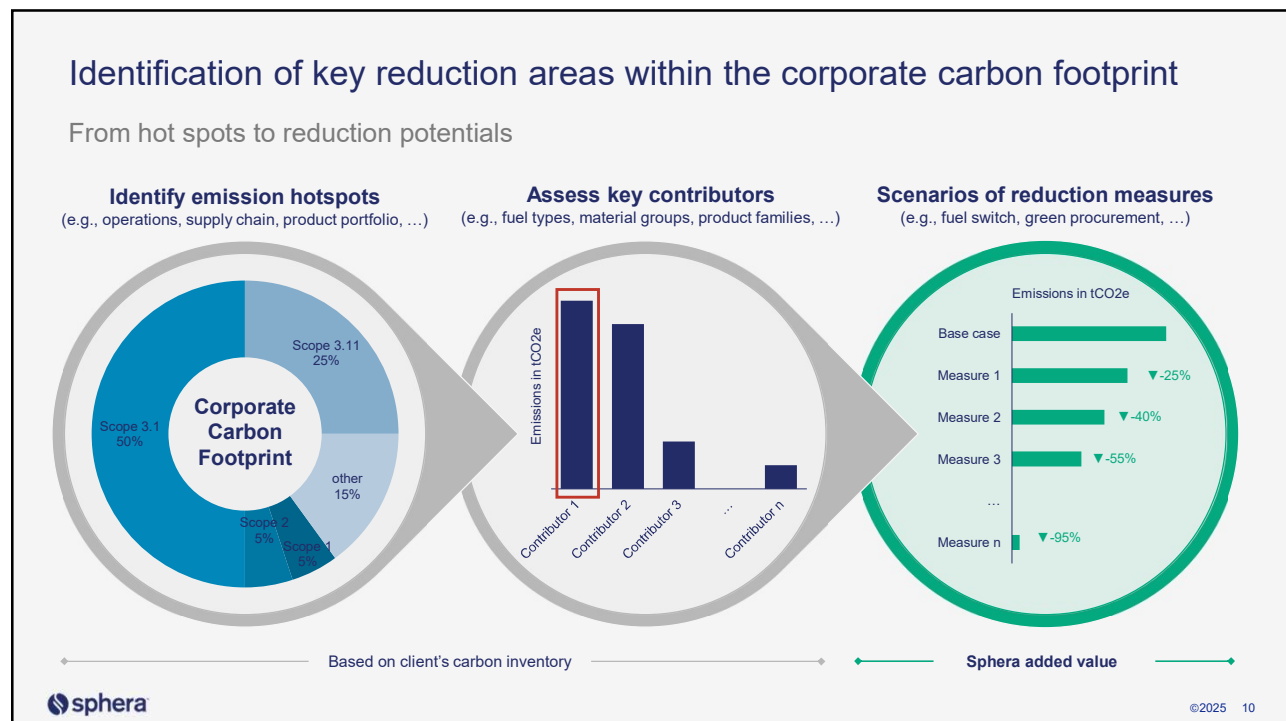
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Epoxy resin | Scenario's description

A set of five scenarios was established to evaluate the potential GHG reductions along the production chain of **epoxy resin** manufactured in **China**. The scenarios below encompass a range of alternatives, including the utilization of bio feedstocks and electricity produced from renewable sources.

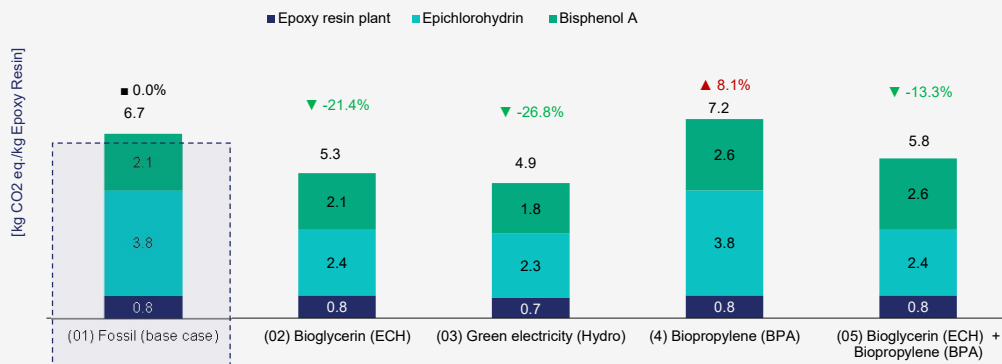
No	Scenario	Epoxy resin plant		Epichlorohydrin (ECH)			Bisphenol A		
		Thermal energy and steam	Electricity mix	ECH	Thermal energy and steam	Electricity mix	Cumene	Thermal energy and steam	Electricity mix
1	Fossil (base case)	Fossil	Grid mix	Fossil	Fossil	Grid mix	Fossil	Fossil	Grid mix
2	Bioglycerin (ECH)	Fossil	Grid mix	Glycerine	Fossil	Grid mix	Fossil	Fossil	Grid mix
3	Green electricity (Hydro)	Fossil	Renewable electricity	Fossil	Fossil	Renewable electricity	Fossil	Fossil	Renewable electricity
4	Biopropylene (BPA)	Fossil	Grid mix	Fossil	Fossil	Grid mix	Bio naphtha* (palm oil)	Fossil	Grid mix
5	Bioglycerin (ECH) + Biopropylene (BPA)	Fossil	Grid Mix	Glycerine	Fossil	Grid Mix	Bio naphtha* (palm oil)	Fossil	Grid Mix

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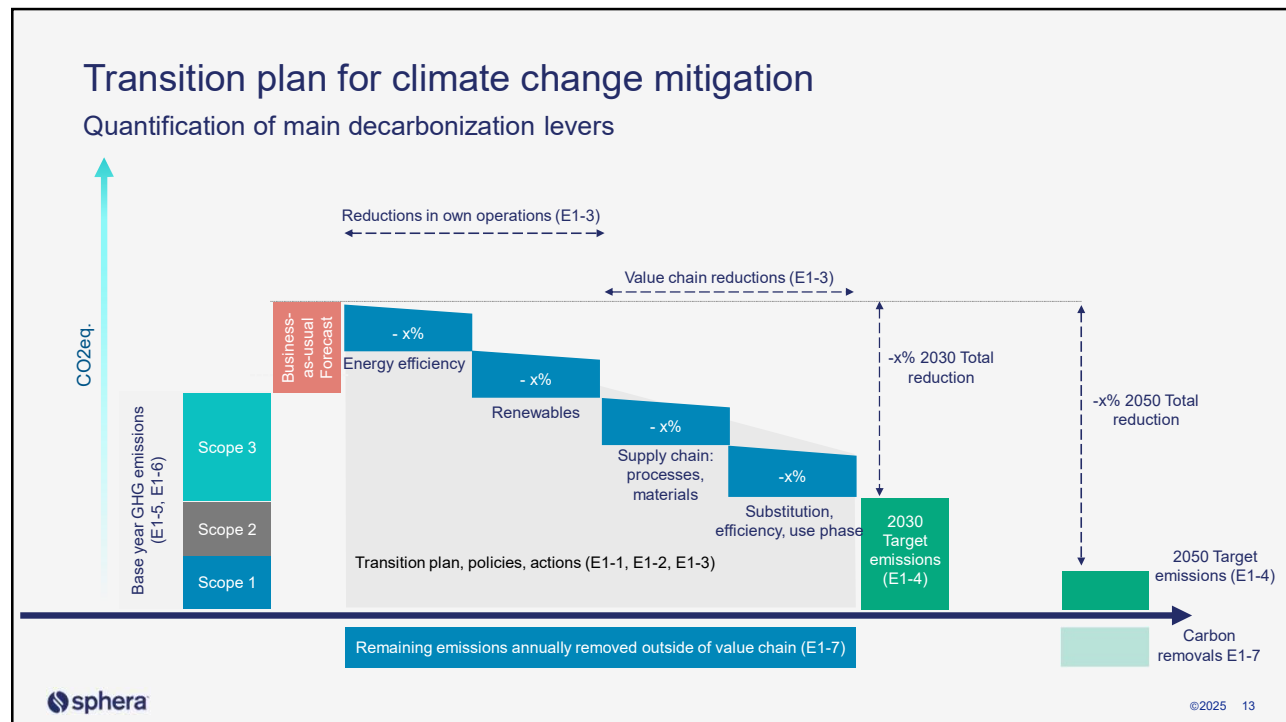
Epoxy resin | LCA Scenario's

Example of reduction potential assessment based on LCA scenarios

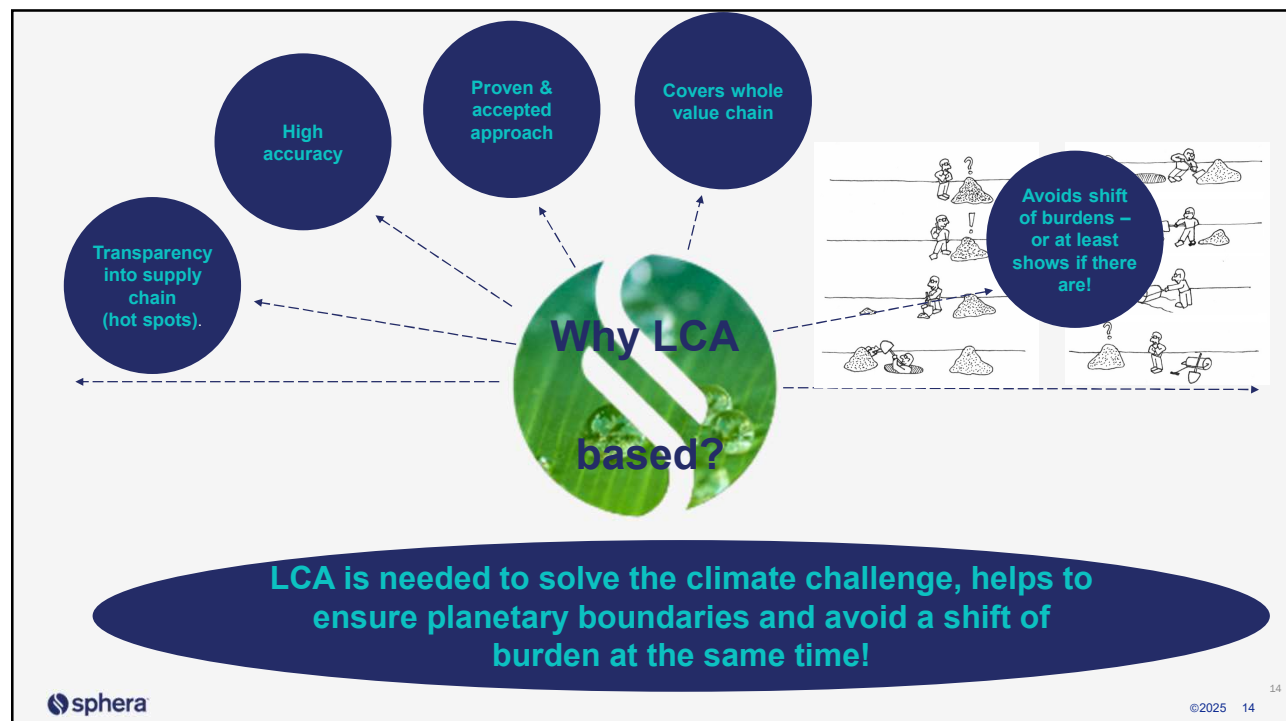
IPCC AR6 GWP 100, excl biogenic CO₂, incl Land Use Change (LUC)



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CASE STUDY
SUSTAINABILITY CONSULTING

Quantifying supply chain decarbonization

"Sphera's sophisticated supply chain LCA models and their extensive supply chain understanding helped us gain transparency in our supply chain. Quantifying decarbonization pathways for our main materials was the missing piece of our corporate decarbonization strategy."

— Dr. Klaus Ruhland, Corporate Environmental Protection and Energy Management, Mercedes-Benz AG

Mercedes-Benz AG

With the Ambition 2039, Mercedes-Benz committed themselves to become a carbon-neutral* company by 2039 along their entire value chain. To derive a realistic, yet ambitious decarbonization strategy, gaining transparency about emission hotspots in the supply chain and quantifying possible reduction measures is crucial.

*include all greenhouse gases according to the Greenhouse Gas Protocol that are converted in CO2-equivalents.

CHALLENGES

- Missing emissions transparency in the supply chain
- Lack of reliable, detailed emissions inventories for steel, aluminum and plastics
- Limited knowledge on the influence and impact of renewable energy and recycled or bio-based materials
- Lack of CO2 reduction potentials for target setting

SOLUTIONS

Mercedes-Benz AG partnered with **Sphera Sustainability Consulting Services** to conduct a detailed CO2 modeling of the supply chains and developed impactful material insights.

RESULTS

- Gained CO2 transparency in the supply chain
- Developed the ability to quantify supply chain strategies in terms of decarbonization potential
- Acquired the ability to formulate, quantify and refine CO2 reduction targets

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CASE STUDY
SUSTAINABILITY CONSULTING

Quantifying ZF's decarbonization potential & climate roadmap

ZF sought an understanding of the GHG emissions along their value chain, gaining transparency about reduction potentials in their supply chain and building a solid ZF-specific Scope 3 and Product Carbon Footprint (PCF) method to assess the feasibility of their climate ambition.

- Founded in: 1915
- Manufacturing
- Friedrichshafen, Germany
- €38.31 billion (2021) Revenue
- 157,549 (2021) Employees 241
- Production Locations Globally

CHALLENGES

- Baseline: Lack of details in Scope 3
- Activity Data: Material information dispersed across the organization
- Emission Factors: High quality, real-industry and up-to-date LCIA data needed
- Quantification: Expertise in ZF-specific application of GHG Protocol and PCF standards required

SOLUTIONS

ZF partnered with **Sphera's Sustainability Consulting Services** to develop a ZF-specific detailed Scope 3 inventory, quantify ZF's overall decarbonization potential and draft a ZF's CCF and PCF method.

RESULTS

- Scope 3 Method & Calculation: Specific model, structure and applied LCIA datasets and model for a solid Scope 3 calculation now and in future
- Decarbonization Roadmap & CO2 Supply Chain Strategy: Joint assessment of supply chain CO2 carbon reduction potentials across the value chain through ZF and Sphera's LCA experts
- PCF Methodology & Pilot Studies: Jointly further developed the know-how, processes and method to conduct PCF studies on ZF's product portfolio

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CASE STUDY
SUSTAINABILITY CONSULTING

Carbon footprinting for GHG reduction targets toward net zero

"Despite the complexity of everything we do, Sphera's consultants helped us manage our emissions holistically, identifying hotspots and building a strategic basis for achieving our goal of zero emissions."

— Robin Aschhoff, CEO Volkswagen
Communication Volkswagen AG

- Founded in: 1937
- German multinational automotive manufacturing company
- Wolfsburg, Germany (HQ)
- \$282.9 billion
- Revenue (2019)
- 10,823,000 Vehicles Production Output (2019)
- 100 Production Facilities across 27 countries Worldwide

CHALLENGES

Unknown frameworks for emissions calculation and allocation methods for single department

Actual activities that cause emissions are difficult to distinguish from the VW group

Unknown emission hot spot and levers for reductions

Consideration of a diverse set of activities that require different emissions calculation methods

SOLUTIONS

The VW communications department commissioned **Sphera Sustainability Consulting** experts to calculate its carbon footprint and to identify emissions reduction actions for its activities

RESULTS

Collected all emission-relevant activity data for the VW communications department

Transparently selected methods for emissions calculation

Calculated carbon footprint, including scope 1,2 and 3 emissions

Identified hotspots and developed actions for emissions reductions across the department

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Address
130 East Randolph St, Suite 2900
Chicago, IL 60601 USA

Phone
(312) 796-7160

Online
[sphera.com/contact-us](https://www.sphera.com/contact-us)

Sphera is a leader in sustainability and process safety software, data and consulting services for the world's most successful customers.

707, Meadows, Sahar Plaza,
Andheri East Mumbai 400059

Email: ragrawal@sphera.com

+91 9967106584

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