

VOLKSWAGEN

AKTIENGESELLSCHAFT

Volkswagen's Approach to Sustainability and Decarbonization

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Global Head of Sustainability

2nd ESG Convention of Volkswagen Group

DRIVE Volkswagen Group, Berlin, September 20, 2019

VOLKSWAGEN

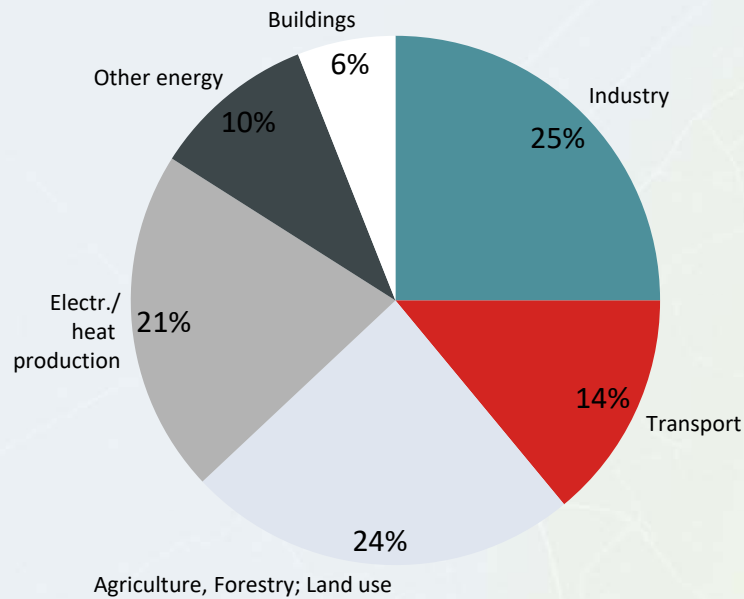
AKTIENGESELLSCHAFT

Sustainability @ Volkswagen covers a broad range of topics - Decarbonization, Integrity, Sustainable Supply Chains, Transforming the Workforce are among most material ones

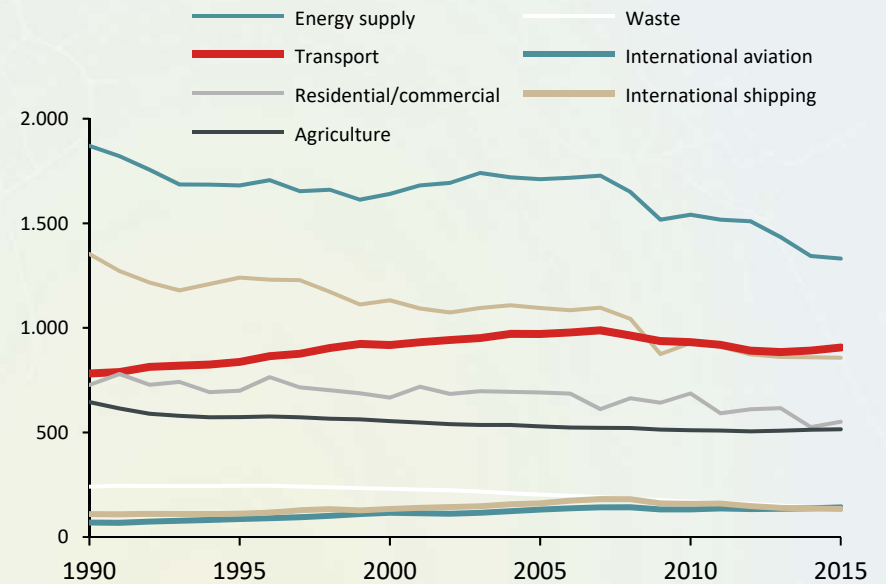


Transport Sector accounts for 14% of global GHG Emissions In the EU, transport is the only sector with emissions increase since 1990

Global GHG-Emissions by sector



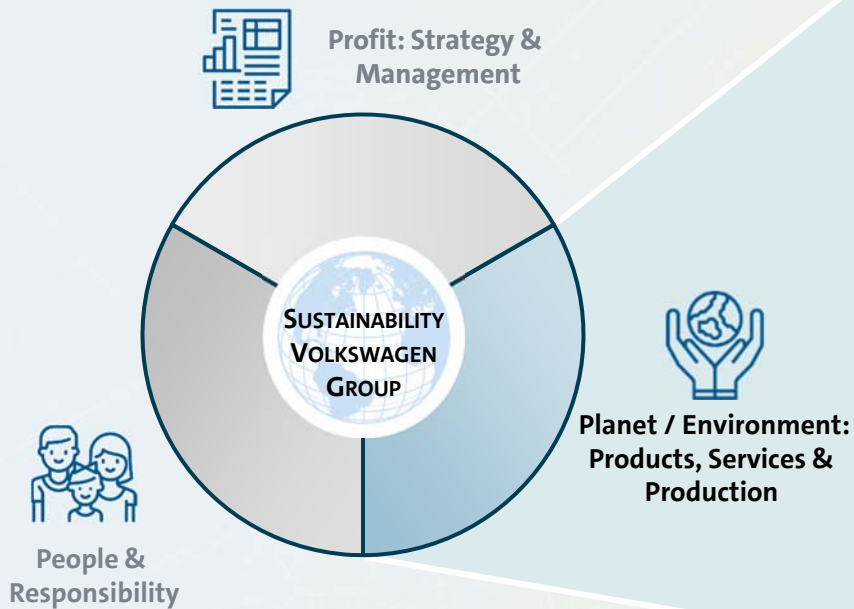
Trends in EU by sector since 1990 [MT of CO₂e]



Source: IPCC 2014, EEA 2018

Volkswagen will be part of the solution, our focus is on climate change mitigation and decarbonisation

DIMENSIONS OF SUSTAINABILITY AT VOLKSWAGEN

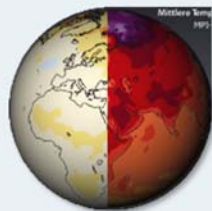


FOCUS AREA: DECARBONIZATION / CLIMATE CHANGE

Why it matters to Volkswagen:

- Because of our significant influence and commitment to responsible action (1% of global CO₂- emissions affected by our passenger car portfolio)
- Because of rising stakeholder expectations
- Because decarbonization delivers direct business value

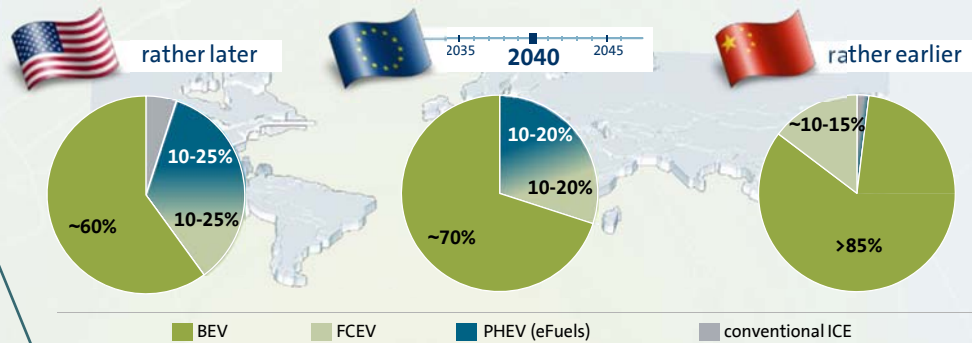
E-mobility is the only way forward to achieve climate targets



COP21 - CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE



- Our Target:
CO₂ neutral fleet by 2050

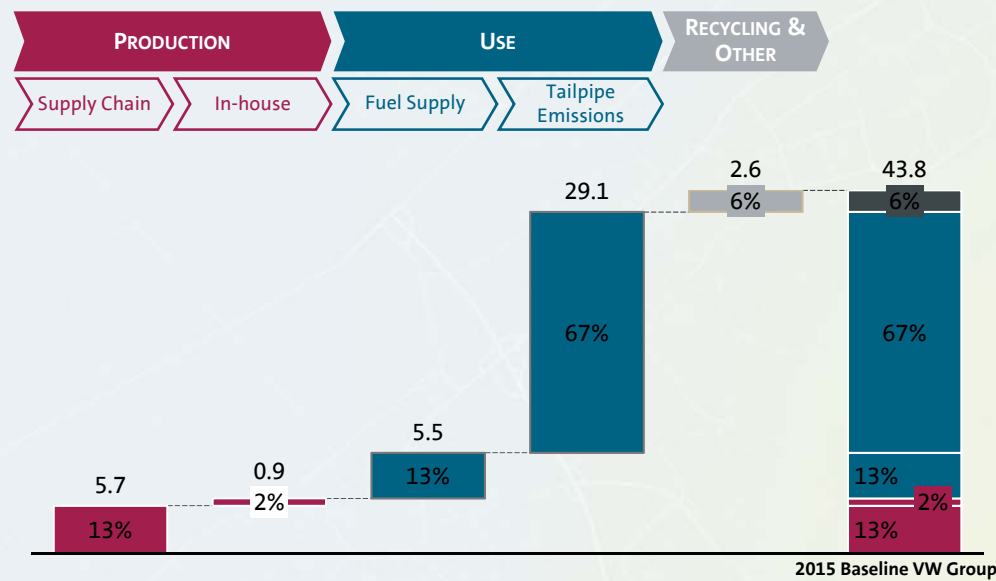


- Increase share of **future technologies** – **Focus E-Mobility**
- Implementation of further measures to become **CO₂ neutral**

A group wide target of 30% CO_{2e} reduction/vehicle over lifecycle for Volkswagen Group was decided - in line with the Paris Agreement

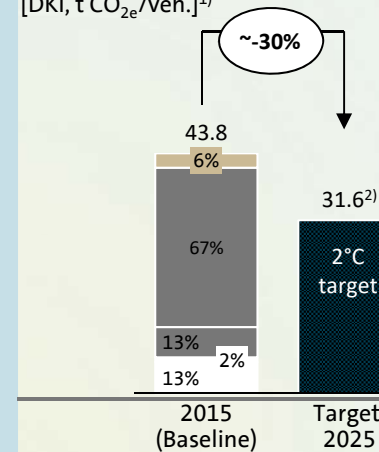
VOLKSWAGEN GROUP BASELINE 2015: Ø CO_{2e}-EMISSIONS/VEH. (LIFECYCLE)

[DKI, t CO_{2e}/veh.]¹⁾



GROUP TARGET 2025/VEH. (LIFECYCLE)

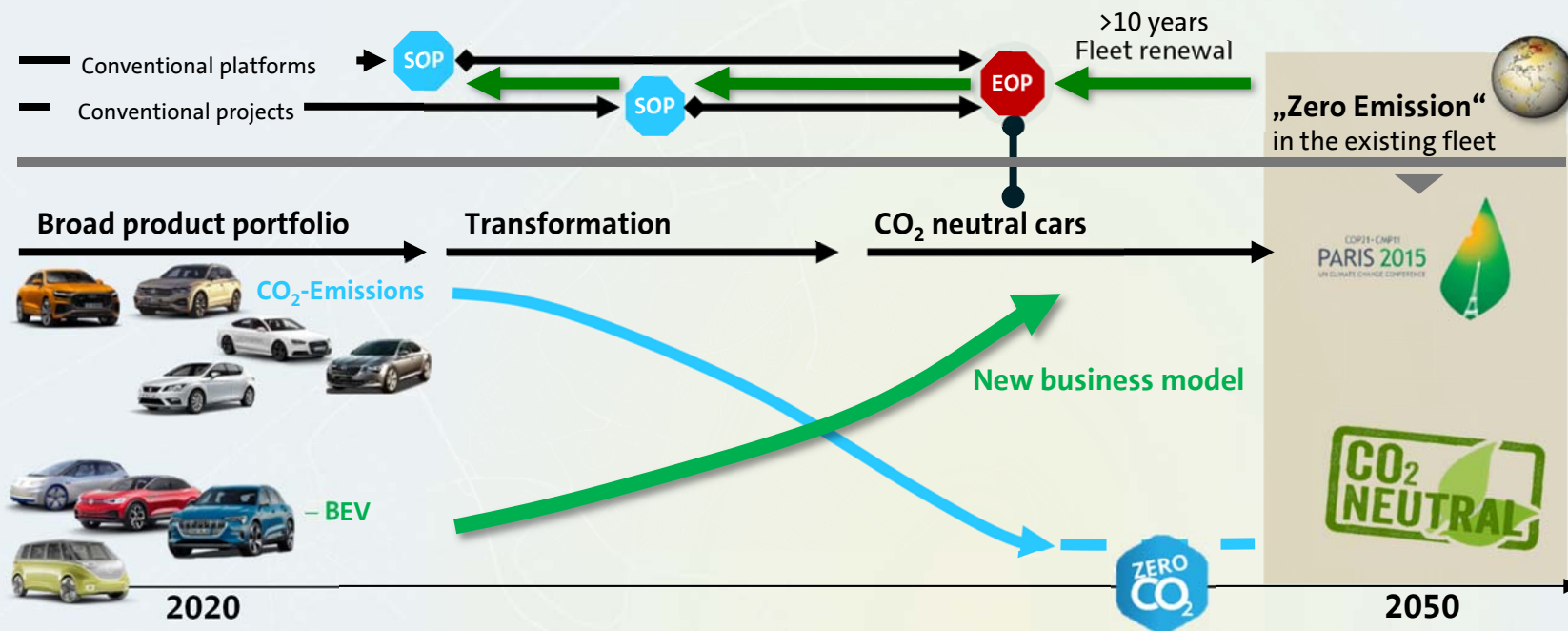
[DKI, t CO_{2e}/veh.]¹⁾



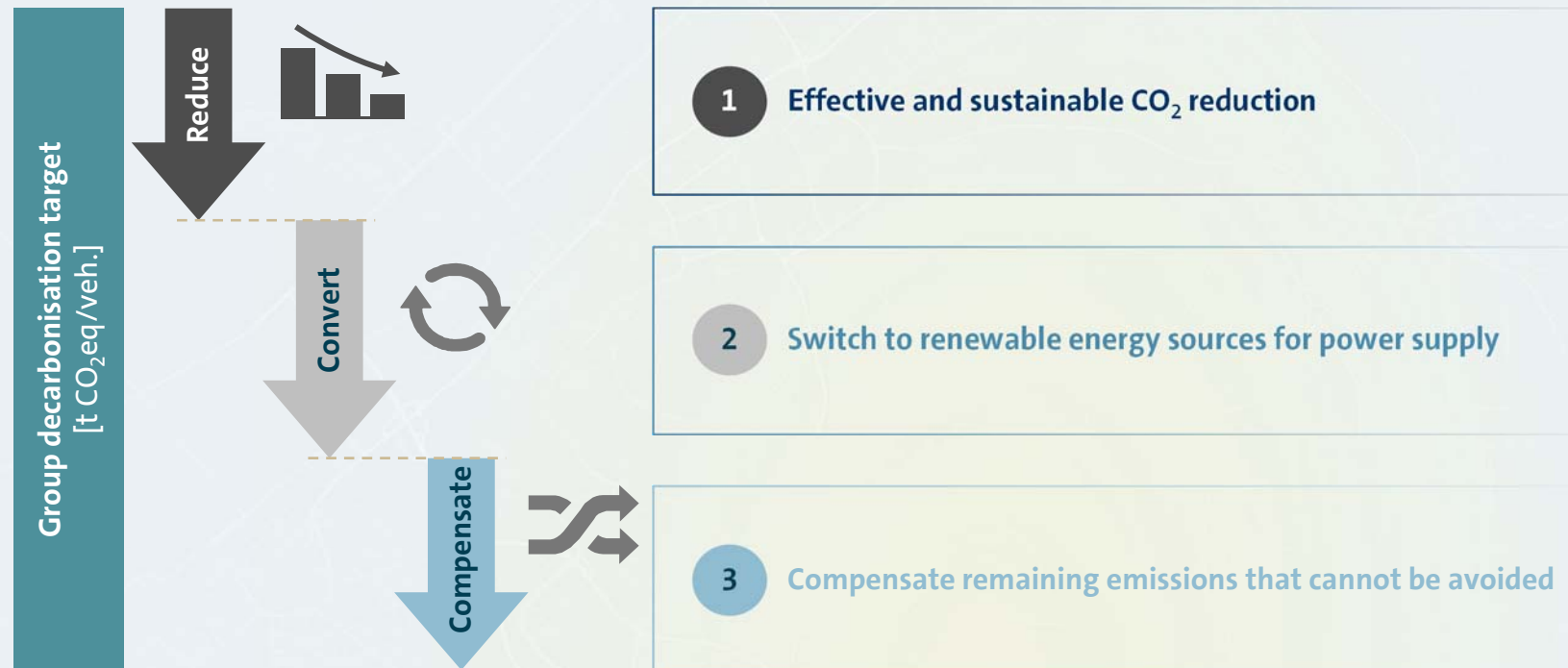
1) Decarbonization index (DKI), 2) target derived based on method by Science Based Target according to 2° C target, 3) Passenger cars including light duty vehicles,

E-mobility transformation is reflected in our corporate planning

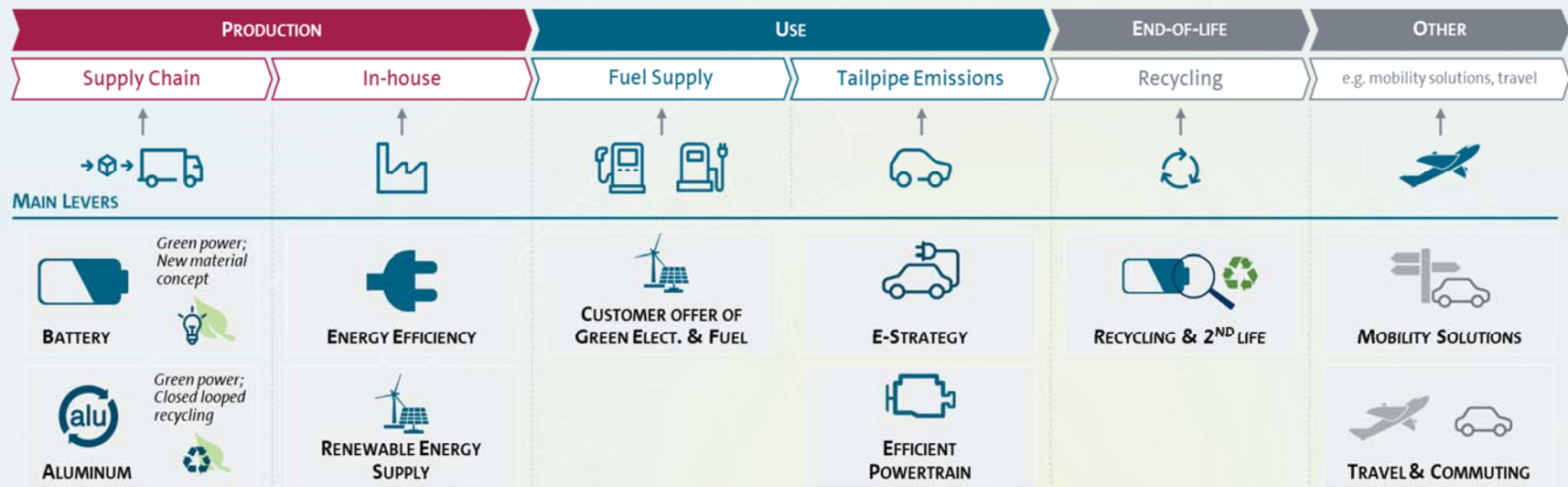
PARIS IMPLICATIONS AND TRANSFORMATION PATH



The decarbonisation target will be achieved via three pillars:
1. Reduce CO₂; 2. Convert fossil to renewable energy; 3. Compensate the rest

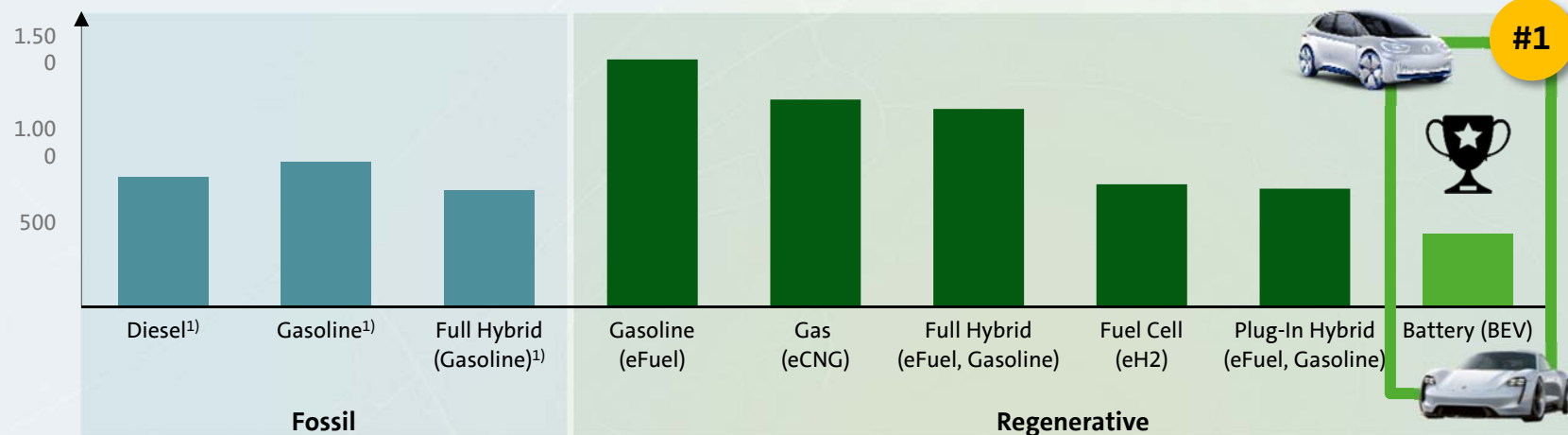


To reach our decarbonisation target measures along the entire value chain are required



Primary energy demand is lowest with BEVs

PRIMARY ENERGY REQUIREMENT IN WH/KM FOR LIFECYCLE



THE MODEL OF THE ENERGY BALANCE LIFECYCLE

Vehicle development

Vehicle production

Fuel production

Fuel consumption

Recycling

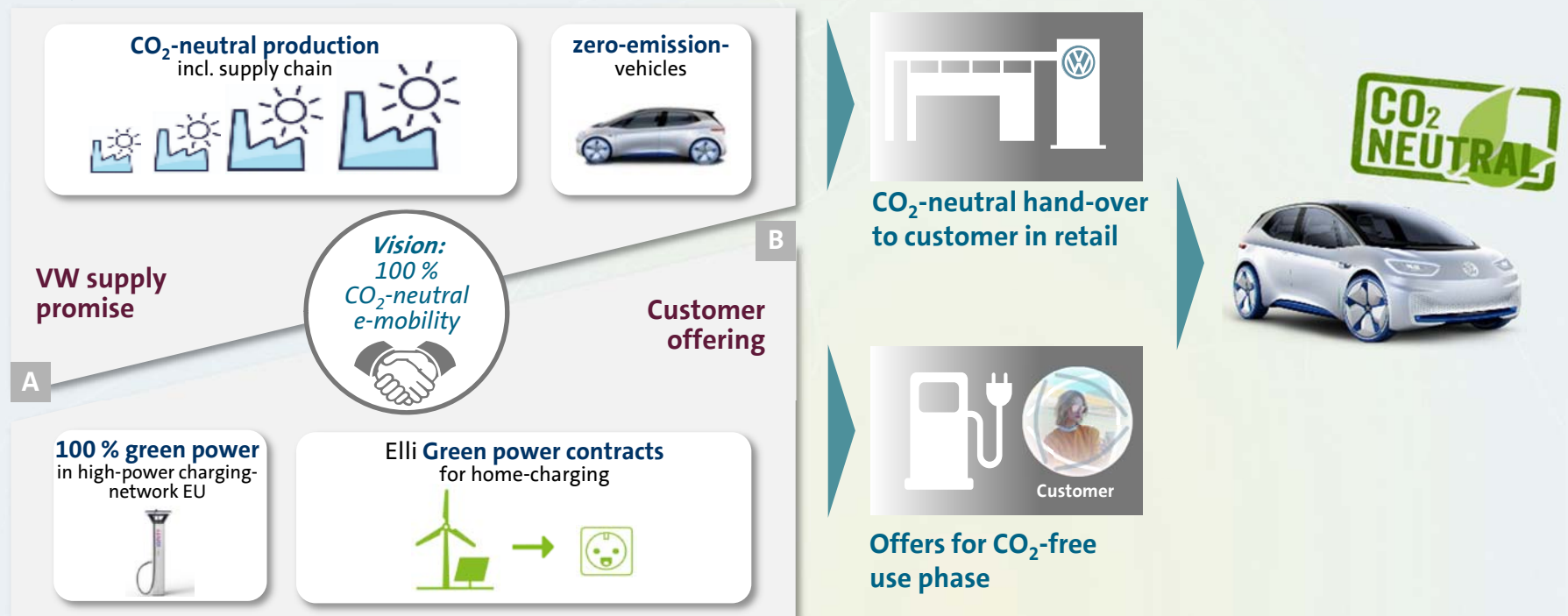


Example: A-Segment 200.000 km, CO₂ emissions & energy over lifecycle of vehicle and fuel

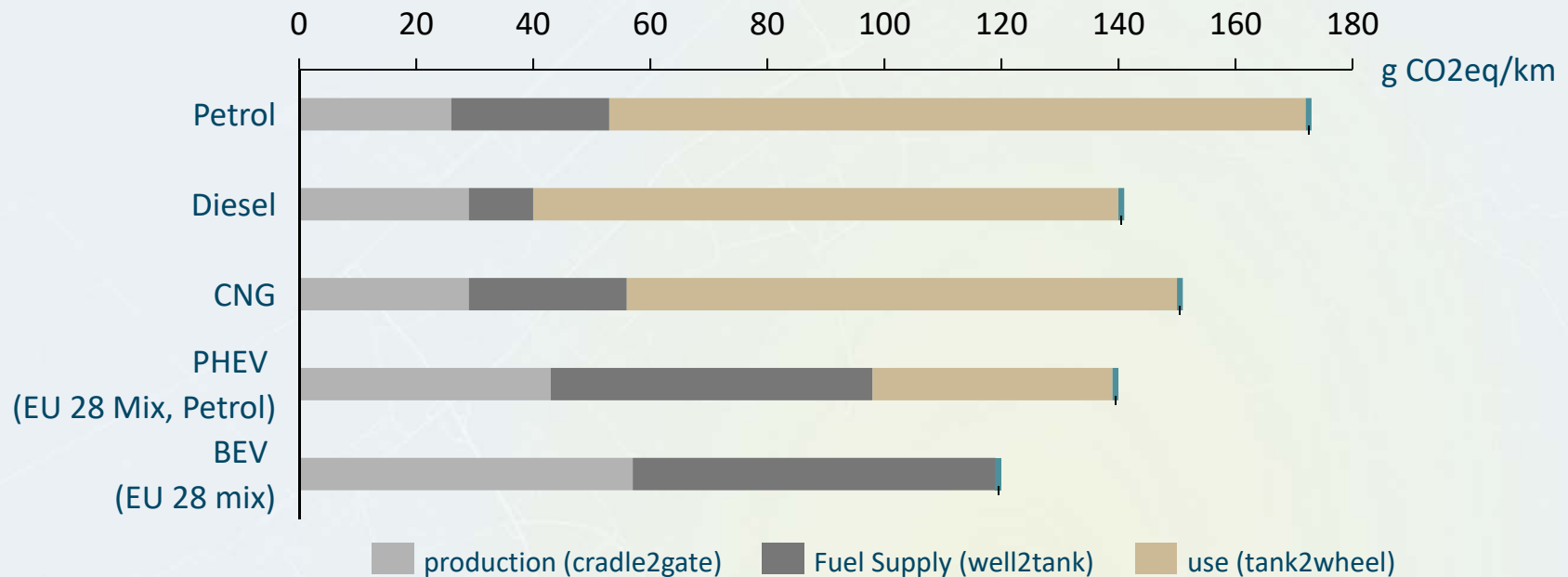
¹⁾ not fully comparable with energetic base, not CO₂ neutral

ID.3 as first showcase for decarbonization along the value chain

Objective

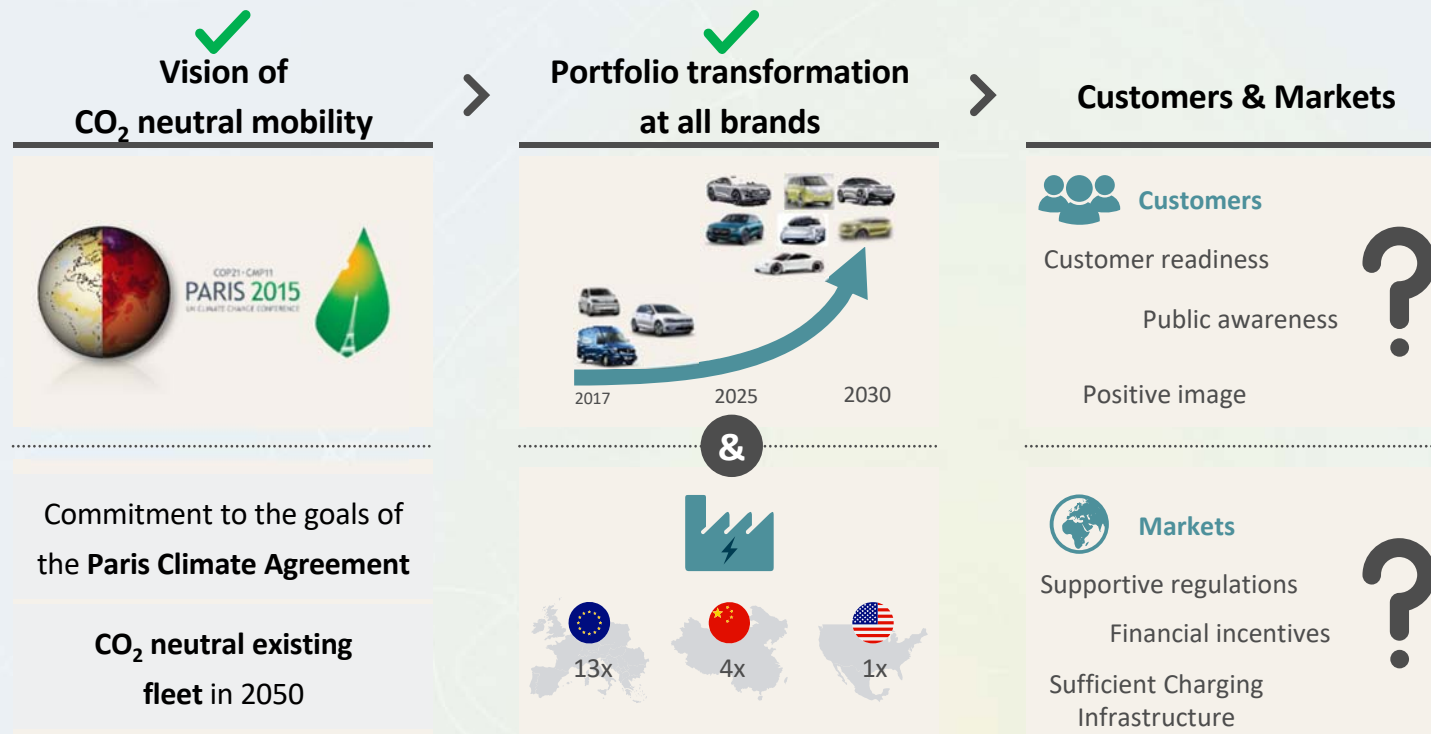


BEV today already first choice in CO₂ over lifetime – example current Golf class car



Source: Volkswagen K-GEGU 2019, "Klimabilanz Antriebe"; Compact Car (Golf-class), LCA, use phase acc. to WLTP, 200.000 km life

Customers and markets must still be prepared for e-mobility



Decarbonization: We address an entire ecosystem and go beyond the vehicle itself

Supporting the Energy transition



- Conversion of Wolfsburg power plant, saving 1,5 mn tons of CO₂ by 2022, corresponding to emissions of 870,000 cars per year
- Volkswagen with 37% renewable energy in manufacturing (as of 2017)

Lower emission products



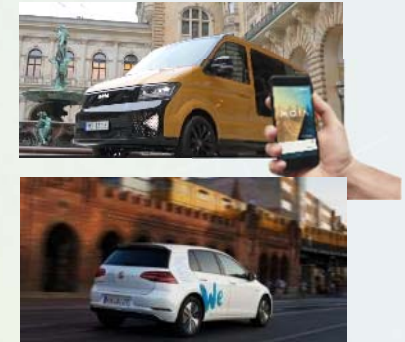
- Further emission reductions
- Alternative fuels (e.g. Audi e-gas)
- Extended portfolio of electric vehicles

Charging infrastructure



- Joint venture for rapid charging network in place
- ELLi, offering home charging with green electricity
- Electrify America
- Lidl & Tesco cooperation

Mobility Services



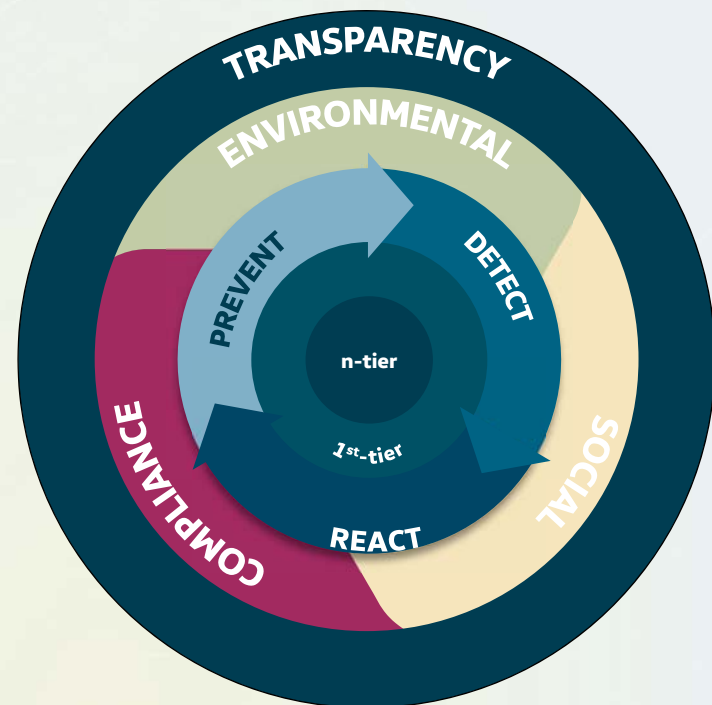
- MOIA electric shuttles in first cities
- All-electric car-sharing Volkswagen We share Q2/2019 in Berlin

Supply Chain Sustainability – managing risks along three defined priority areas



Improve basic principles and success factors for supply chain management

- **Transparency within sub-supply chains**
pilot projects with IBM & Minespider
- **Transparency on sustainability performance of suppliers**
Introduction of S-Rating
- **Harmonisation of standards and tools**
Pilot on audit standards for direct suppliers and mining companies, uniform CO2 data
- **Cross-industry initiatives and cooperations**
Engagement in initiatives like DRIVE Sustainability, Responsible Minerals Initiative or Global Battery Alliance



Sustainability in the Supply Chain: We want to be a Driving Force

We engage actively in initiatives in order to trigger broad supply chain improvements

develop & introduce tools and standards

do joint risk assessments

design & conduct trainings

GLOBAL BATTERY ALLIANCE



Setting standards to ensure the social and environmental sustainability for battery materials.

Platform for exchange and on-the-ground work.

RESPONSIBLE MINERALS INITIATIVE



Develop and standardize certification systems for cobalt, tantalum, tungsten, tin & gold.

Offering training materials for upstream actors in the supply chain.

DRIVE SUSTAINABILITY



Develop and standardize risk assessment tools (questionnaires, raw mat. observatory).

Develop and conduct trainings and educational products / tools.

ALUMINIUM STEWARDSHIP INITIATIVE



Global sustainability standard for aluminum.

Apply to all stages of the aluminum value chain from raw material extraction to recycling.

We are strengthening external stakeholder relations. Group Strategy's stakeholder dialogue series provides a holistic format for discussions with key opinion leaders



Sustainability Council as critical advisor to the Group Board of Management



Topics

- Sustainable Mobility and Environmental Protection
- Social Responsibility and Integrity
- Future of Work and Digitalization

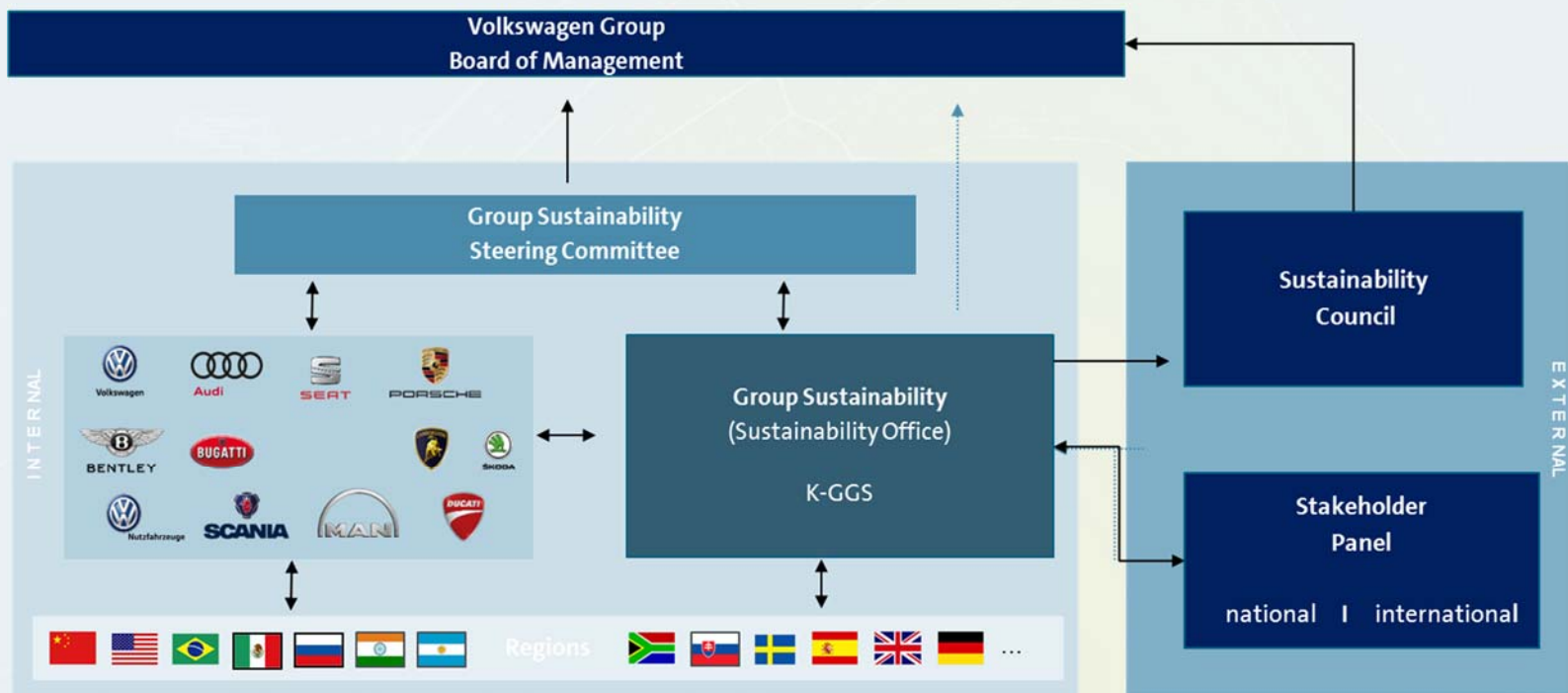
Tasks

- Strategic Counseling of the BoM
- Strengthening Sustainability Management
- Bridge to Stakeholders
- Expertise and Initiatives

Projects

- Transformation Towards Sustainable Transport Systems – Next Generation Policies
- Open Source Lab for Sustainable Mobility
- Forecast-based Financing – Combat Climate Change Impacts in Asia-Pacific

We have a strong sustainability network – Sustainability as part of Group Strategy since 2018



Communication on Sustainability: Sustainability Report and Sustainability Magazine Shift

Sustainability Report

Includes the combined separate non-financial report and fulfils the requirements of the HGB (German Commercial Code) and the German CSR Directive Implementation Act.

GRI Standards
(comprehensive level)



FOCUS: ESG, facts, figures, regulation, GRI / UN SDGs¹

<https://www.volkswagenag.com/en/sustainability/reporting.html>

1) GRI = Global Reporting Initiative | SDG = Sustainable Development Goals



Shift Magazine

How can Volkswagen – after the Diesel Crisis – talk about sustainability again without fear of ridicule?

Shift, which complements our traditional Sustainability Report, is an initial answer.

FOCUS: conflicting goals, change /crisis, outlook

<https://www.volkswagenag.com/en/sustainability/shift.html>

Summary



- **Decarbonisation is our key sustainability priority @Volkswagen Group**
 - **Our ambitious decarbonisation program covers the entire life cycle.**
 - **Clear priorities are set: avoid & reduce CO₂-emissions, compensate non avoidable emissions**
 - **Supply chain Sustainability is essential for a resilient supply chain and our reputation**
 - **Stakeholder Engagement is important in our industry's transformation**
- **Sustainability reporting and communication: Ensuring transparency to stakeholders**