



# Winning together

**Sustainability in the Core of Sourcing Strategy**

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Head of Sustainability Supply Chain

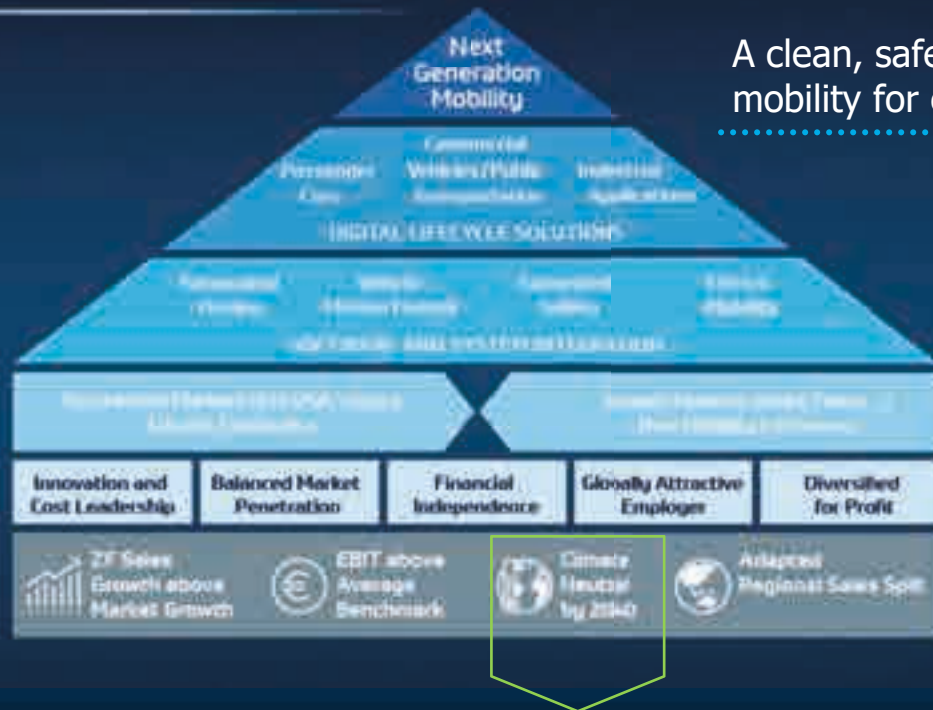




# Strategic Relevance of Sustainability

## Next Generation Mobility Strategy – Climate Neutrality

A clean, safe, comfortable and affordable mobility for everyone, everywhere.



**ZF's ambitious climate strategy: Climate neutrality across all emission categories by 2040**

# Sustainability – business critical for automotive suppliers

## Employees & Stakeholders



- Credible **sustainability strategy** is a precondition for talent attraction
- **Public and stakeholders** put higher emphasis on sustainability

## Investors & Rating Agencies



- Sustainability as **core criterion** for rating agencies
- Sustainability as prerequisite for **good financing conditions**

## Customers & Competitors



- Customers set sustainability targets as **mandatory sourcing requirements**
- Balancing CO<sub>2</sub> and cost effectiveness provides **competitive advantage**
- Opportunities in **new technology fields**

## Laws & Regulations



- Tightening **worldwide regulations** on sustainability
- EU **Green Deal** as accelerator
- **Supply Chain Legislation**

# Sustainability with increasing importance for ZF's financing



## ESG-Ready Revolving Credit Facility

Sustainability goal of reducing CO<sub>2</sub> emissions in all three scopes of greenhouse gas emissions to achieve climate neutrality by 2040



July  
2022



KPIs



3,500  
mEUR



## Green Bond

Financing of projects that contribute to lower emission and more climate-friendly economy



Apr & Nov  
2021, Feb  
& Apr 2023



Use of  
Proceeds



2,752  
mEUR



## ESG-Linked Bonded Loan

Sustainability goal of improving the ESG rating score from EcoVadis, equaling a step-up from current Gold (Top 5%) to Platinum (Top 1%) of all rated companies as of 09/2022



Sep  
2022



ESG  
Rating



700 mEUR



## Further ESG Financing Instruments

ZF actively connects its sustainability strategy with its financing strategy to address the capital market in a contemporary manner

# ZF's overarching sustainability framework



 Acting  
for climate and nature

 Acting  
for all people

 Acting  
for lasting values

Climate action

**Reduction of emissions** across the value chain

Use and production of **renewable power**

Sustainable and circular products and operations

**Use of recycled materials** for ZF products

**Electrification** of ZF product portfolio

Employee development and diversity

**Respect and commitment** for diversity and equal rights

**Empower and develop** our employees

Keeping people safe

**Responsibility** for the entire ZF community

**Highest health & safety standards**

Human Rights and working conditions

**Respect Human Rights**

**Fair working conditions**, equal rights and fair remuneration along the value chain

Responsible behavior across the business

**Transparent and ethic** business behavior

**Responsible and accountable** partnerships

Long-term value creation and resilience

**Long-lasting values** based on a sustainability mindset

**Efficient structures and continuous improvement** of processes





# ZF's Climate Ambition addresses all emission scopes

**Scope 1:**  
**Direct own emissions**



Direct emissions from ZF's own facilities and from company vehicles

**Scope 2:**  
**Energy emissions**



Indirect emissions from ZF's purchased electricity, steam, heating & cooling for own use

**Scope 3 Upstream:**  
**Supply chain emissions**



Indirect emissions from ZF's supply chain (e.g., purchased goods and services, transportation and distribution, business travel)

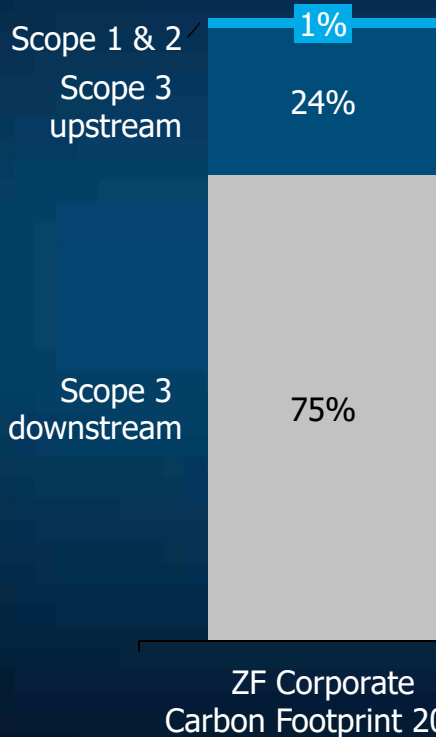
**Scope 3 Downstream:**  
**Use phase emissions**



Indirect emissions from the use of ZF's products (incl. distribution, end-of-life, etc.)



# Decarbonization is required on all levels of the value chain



## 1

### Direct CO<sub>2</sub> emissions (Scope 1)

- Reduce ZF overall energy consumption
- Increase energy efficiency in ZF operations

## 2

### CO<sub>2</sub> emissions from energy consumption (Scope 2)

- Maximize green power purchasing
- Expand on-site generation of green power

## 3

### Emissions in ZF supply chain (Scope 3 upstream)

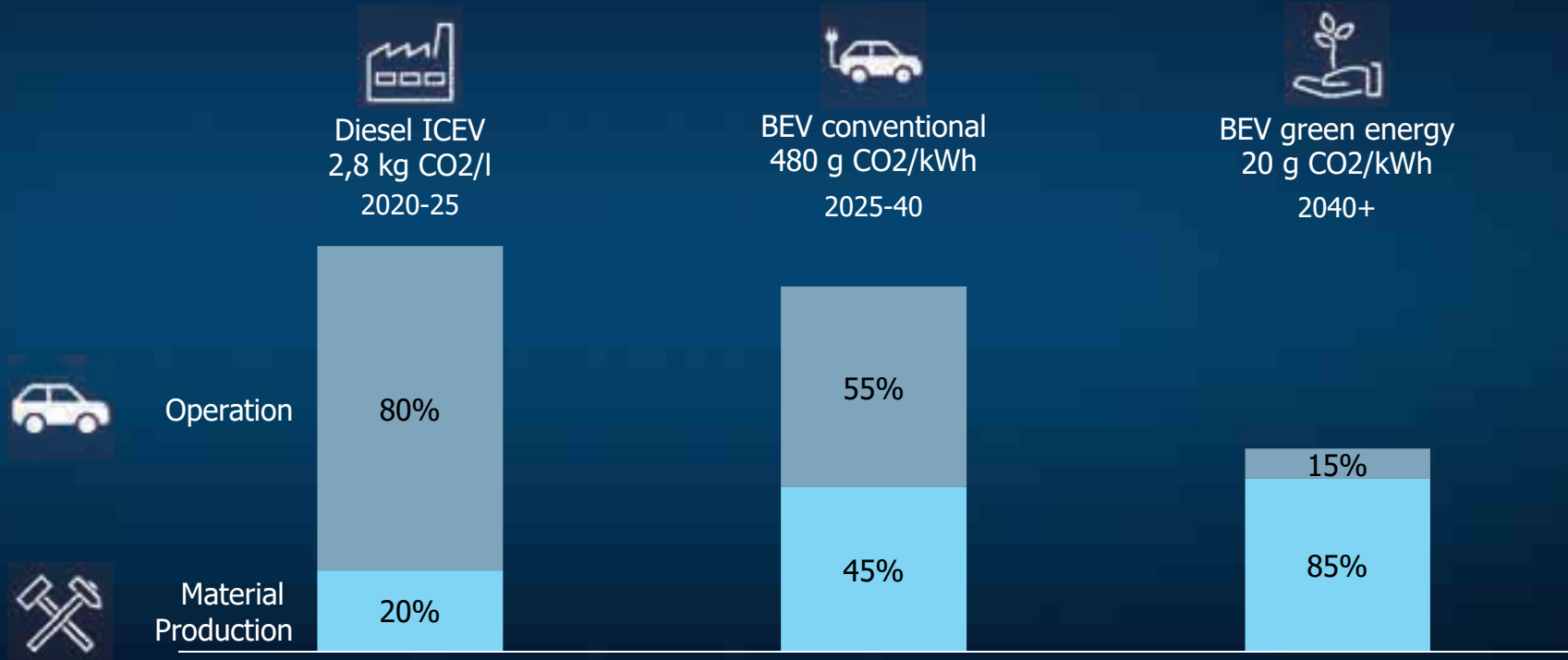
- Reduce carbon footprint of purchased parts (e.g., steel, alu, electronics)
- Increase use of secondary material

### Emissions during use phase (Scope 3 downstream)

- No new R&D projects for internal combustion engine drives;
- Increase CO<sub>2</sub> efficiency in product use phase



# Material emissions expected to become major focus





Until 2030

**-80%**

CO<sub>2</sub> emissions  
from ZF plants  
vs. 2019

**-40%**

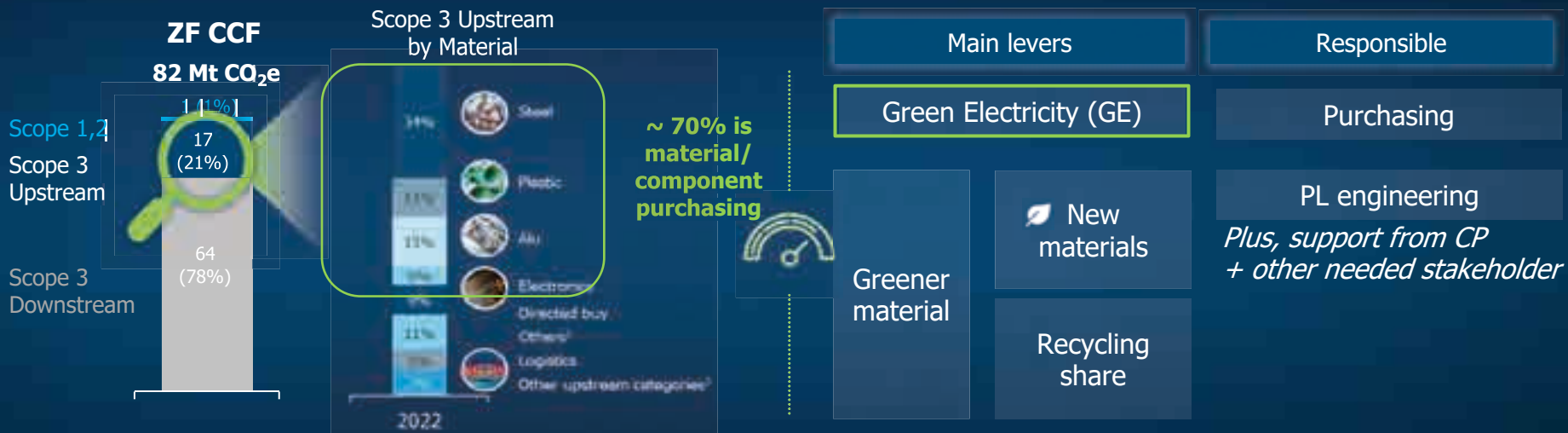
CO<sub>2</sub> emissions  
from supply chain &  
product use  
per sales, vs. 2019

# 2040

net zero



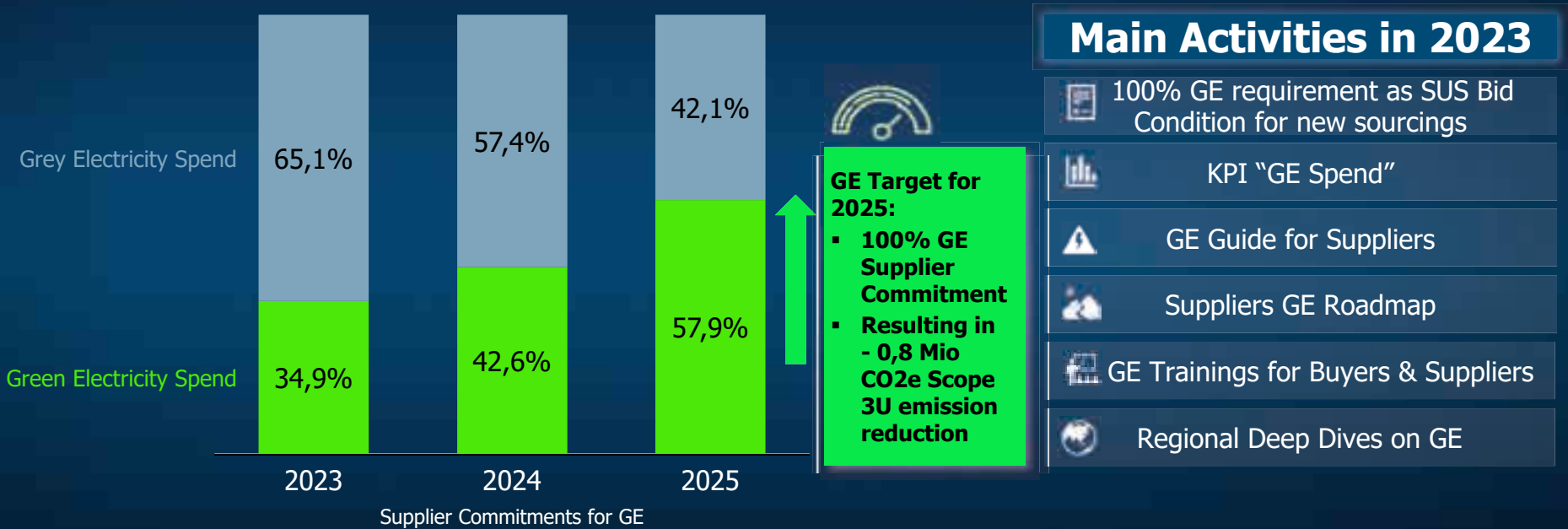
# Driving the Step-Down of Scope 3 Upstream Emissions



GE is the decarbonization lever with the highest maturity to be implemented in our Supply Chain

\*CCF Data 2023 not yet available

# Focus on Green Electricity (GE) in the Supply Chain



Multiple actions on GE in the Supply Chain have been performed by Materials Management



# Focus on Green Electricity (GE) in the Supply Chain



## Renewable

ZF Green Electricity = Renewable Power without Nuclear



## Business Critical

OEMs are requesting GE\* in the whole supply chain



## GE\* Roadmap

Suppliers shall provide their GE\* roadmap till 2025 in SupplyOn



## Usage of GE\*

New ZF Bid Conditions require 100% GE\*



\* Green Electricity

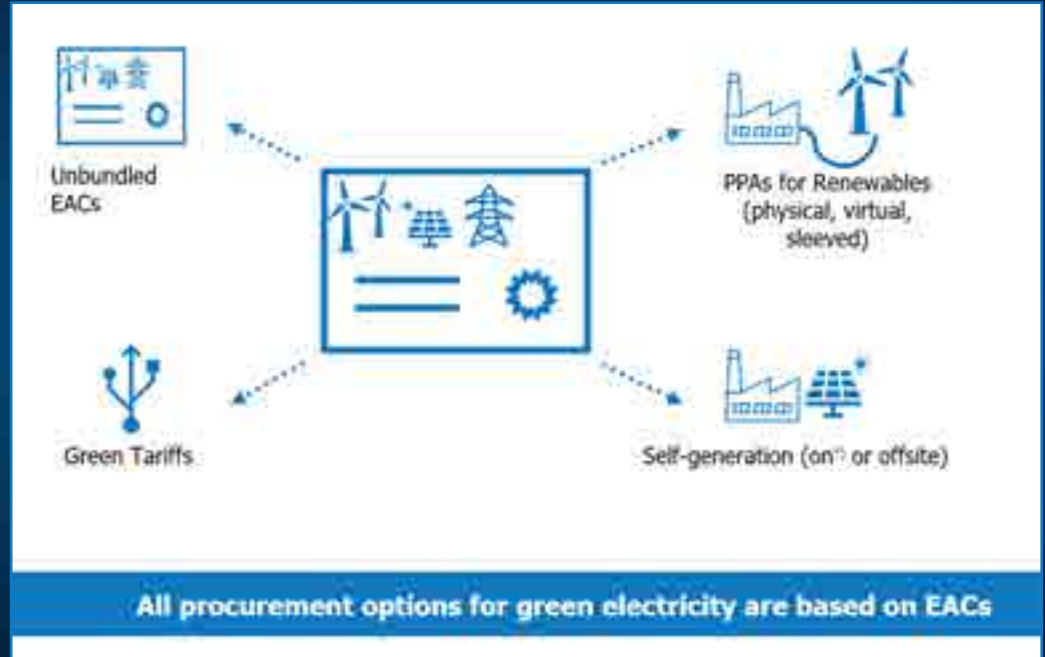


# ZF's requirement for PM Suppliers: GE 2025 = 100%



GE 2025 = 100%

- ZF minimum requirement is to change the supplier's production of ZF parts to 100% GE.
- ZF recommends the supplier to change the whole plant(s) to 100% GE.



# CO<sub>2</sub>e Reduction Pilots with Suppliers

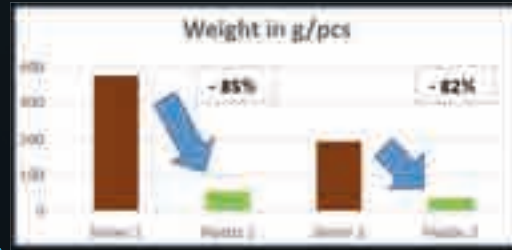
## Change Metal to Plastics



- ❖ Metal Sinter Parts changed to plastics
- ❖ Parts are produced abroad and shipped to Germany, change to local for local
- ❖ PCF & weight significantly reduced
- ❖ Cost savings realized

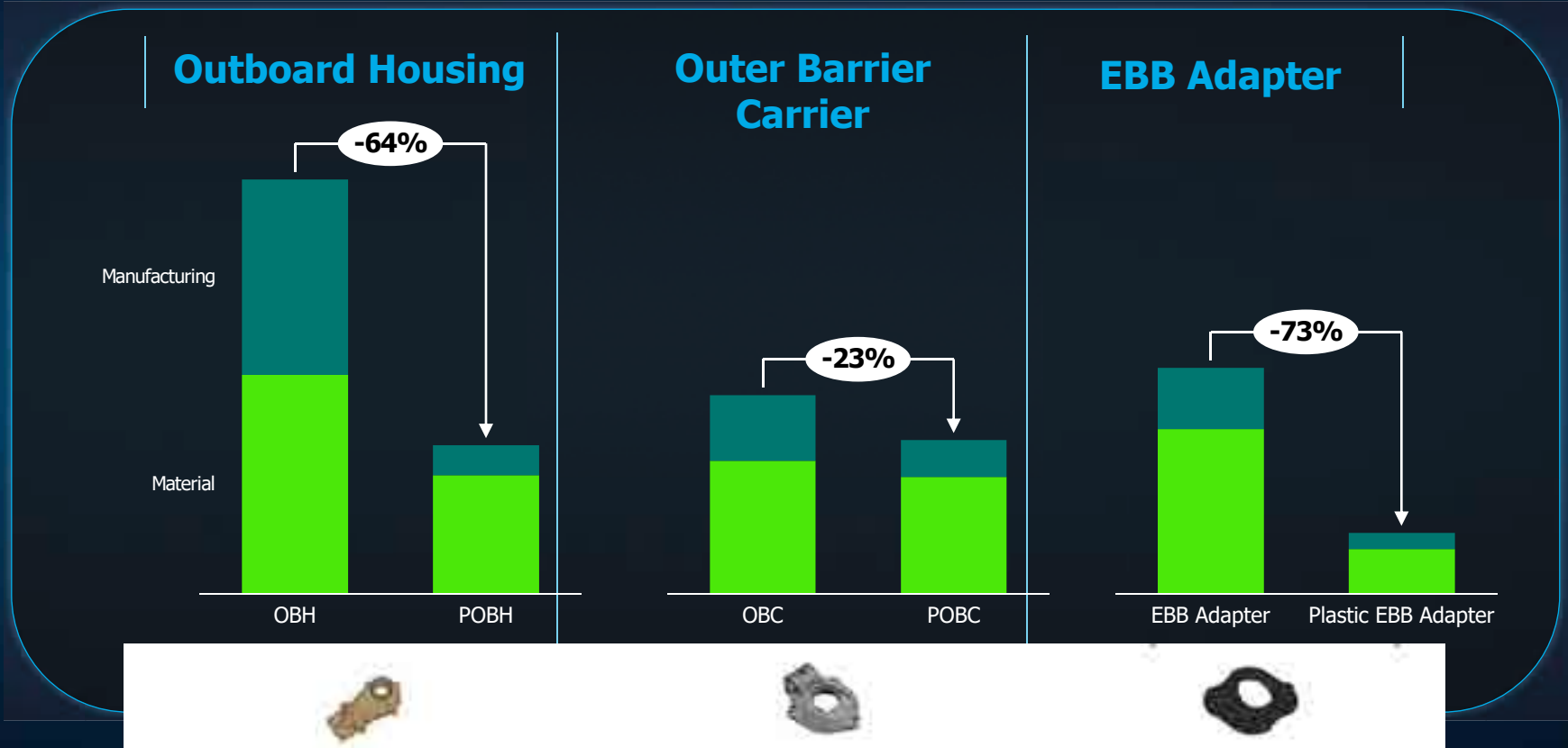
✓ Is there an example with ZF & Arcoprofil?

✓ >80% weight and ~90% PCF savings in plastic parts manufacturing  
✓ Less energy usage for plastic parts manufacturing  
✓ Less processing steps



# Product Carbon Footprint Reduction of Chassis Components

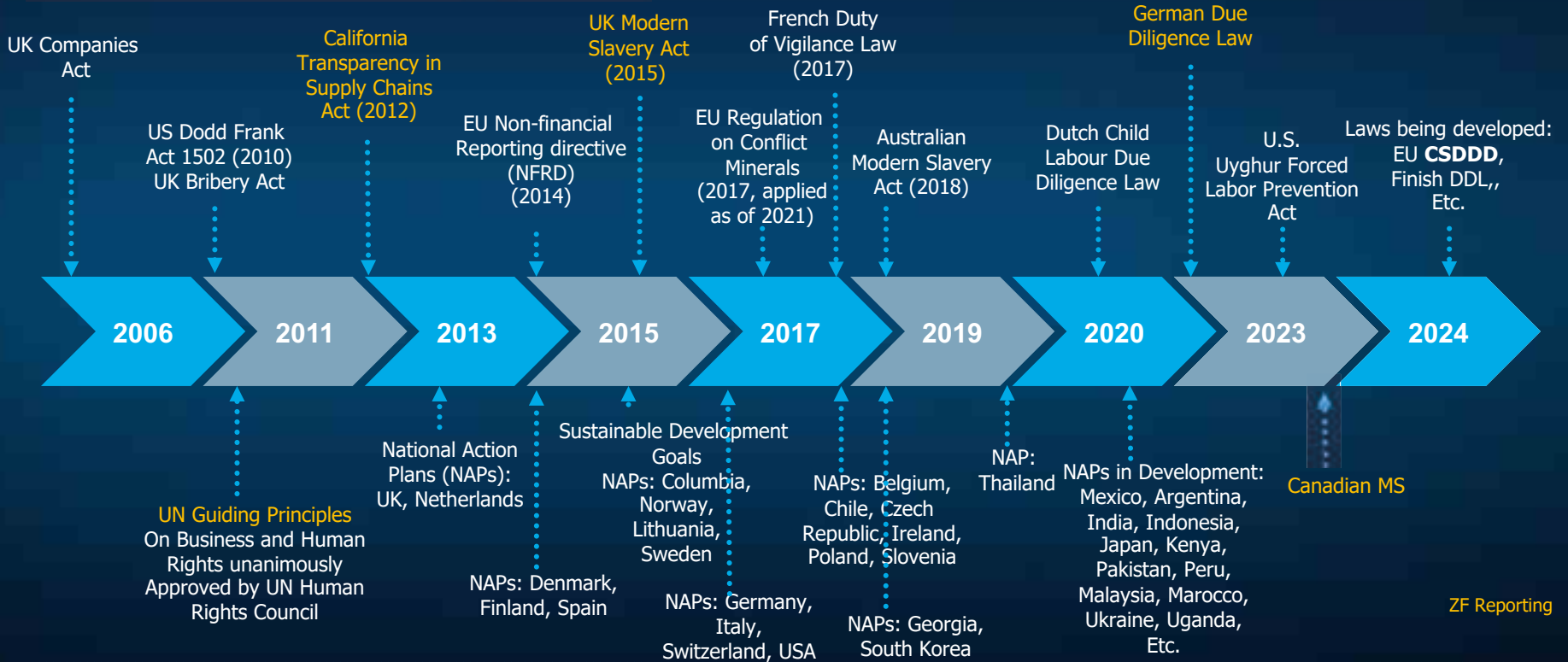
Change Metal to Plastics



# Plastic 2 Plastic: Projects with high CO<sub>2</sub>e reduction potential



# Business drivers for Human Rights Due Diligence



# German Supply Chain Act

## Framework for ZF Human Rights Due Diligence

Which human rights environmental issues are considered?	Scope	Which specific obligations are contained in the Act?
<p><b>Human rights:</b></p> <ul style="list-style-type: none"><li>▪ Exhaustive list of eleven internationally recognized human rights conventions (like the prohibition of child labor, slavery and forced labor, the disregard of occupational safety and health obligations, withholding an adequate wage, unlawful taking of land and livelihoods, ... )</li></ul> <p><b>Environment-related risks:</b></p> <ul style="list-style-type: none"><li>▪ Three international conventions referring to environment-related risks (like hazardous wastes and their disposal, use of persistent organic pollutants like mercury, ...)</li></ul>	<p><b>§ 2 Supply Chain:</b></p> <p>Refers to all products and services of an enterprise (from the extraction of the raw materials to the delivery of the end consumer)</p> <pre>graph TD; A[Own business area [ZF plants]] --&gt; B[Direct suppliers [contractual partner]]; B --&gt; C[Other (indirect) suppliers [no contractual relation]]; D[In case of substantial knowledge of possible violations] --- C;</pre>	<p><b>§3 Due diligence obligations:</b></p> <ol style="list-style-type: none"><li>1. Establishing a <b>risk management</b> system</li><li>2. Designating a <b>responsible person</b></li><li>3. Performing <b>regular risk analyses</b></li><li>4. Issuing a <b>policy statement</b></li><li>5. <b>Preventive measures</b><ul style="list-style-type: none"><li>▪ own area of business</li><li>▪ vis-à-vis direct suppliers</li></ul></li><li>6. Taking <b>remedial action</b></li><li>7. Establishing a <b>complaints procedure</b></li><li>8. Due <b>diligence obligations</b> with regard to <b>risks at indirect suppliers</b></li><li>9. <b>Documenting and reporting</b></li></ol>

# Human Rights Due Diligence in Materials Management

## Due diligence steps



### Contractual agreements

Minimum requirements for environmental & social standards



### Regular Risk analysis

Evaluate human rights risks & impacts along the whole value chain



### Preventive and corrective measures

Risk mitigation & improvement of sustainability performance



### Ad-hoc incident management → ZF Trustline

Handling of complaints & any indication of potential non-compliance

## ZF activities & affected processes

### ZF Business Partner Principles

New supplier approval process, Sourcing Process

### Annual Human Rights Risk Analysis

Risk Analysis Process, Sustainability Score

### NQC Questionnaire, One-Site Audits, Training

Risk Analysis Process, Risk Case Management

### Case Management

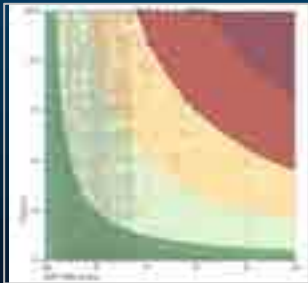
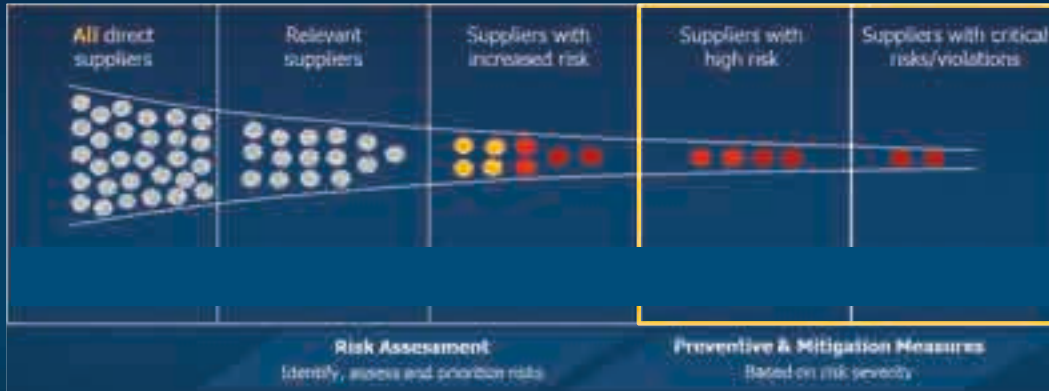
X-functional case management (lead Compliance)

# Annual human rights risk analysis & mitigation measures

## Human Rights Risk Analysis 2023 (PM)

## Mitigation Measures

## Reporting



**Critical risk**

**High risk**

**Mid Risk**

**Low risk**

**No risk**

### Require action by risk severity

- BPP Acceptance
- NQC
- One-Site Audit (RSCI)

- More frequent screening

### Standard Preventive Measures

- Business Partner Principles
- Sustainability Bid Conditions
- ZF SUS Score
- ZF Trustline
- Annual Risk Analysis

# RSCI audit assessing Suppliers Social Compliance

## RSCI Program



Standardized assessment for verifying social compliance on-site



Based on the needs of the automotive industry



Integral part of Human Rights Due Diligence (HRDD)



Exchange mechanism to avoid multiple audits

## Content



Labor	Health & Safety	Environment	Supply Chain DD*
Child Labor & Young Employees	Chemicals & Hazardous Substances	Organization	License to operate & Code of Conduct
Freely Chosen Labor	Fire Safety and Emergency Evacuation	Wastewater Management	Supply Chain Management
Employee Rights	Occupational Health & Safety	Hazardous & non-hazardous Waste Management	
Employee Participation			
Working Hours and Payment			

Further Information about RSCI is available [here](#)

# Sustainability Requirements in Sourcing Process



**Supplier Level**  
(ZF Supplier ID)

**ZF Sustainability Score**

NQC

GE 2025

BPP



**Part Level**

**Product Carbon Footprint [PCF]**

**Sustainability Bid Conditions**



**General**

**Participation in all SUS trainings of the ZF Supplier Academy**

# Driving the Step-Down of Scope 3 Upstream Emissions

Expectations towards our Suppliers

## Decarbonization

Active contribution to ZF's climate neutrality strategy




### Product Carbon Footprint (PCF)

Transparency & Reduction

Mandatory since 08/23



### Renewable Electricity

GE 100% by 2025 

Mandatory since 08/23



### Circularity

Increase share of secondary material

Advantage



### Sustainability Bid Conditions

Commodity & project specific requirements

Part of RfQ



## Responsible Sourcing

Ensure social & environmental standards



### ZF Business Partner Principles

Accept & comply 

Mandatory since 08/23



### Sustainability Self-Assessment

Provide NQC Score 

Mandatory since 08/23



### Human Rights Due Diligence

Implement efficient processes

Protect yourself & ZF



### Raw Material Sourcing

Transparency, traceability, standards

Protect yourself & ZF



# Requirements towards Supplier Base

## ZF Sustainability Score



**DIGITAL &  
AUTOMATED**

**BEYOND LEGAL  
COMPLIANCE**

**GO LIVE  
MAY 2023**

# DECARBONIZATION

BOOST



**53% green electricity in the supply chain in 2025**

(+ 24%p. since Go Live)



**0.8 Mio tCO2e emission reduction in 2025**

(0.4 Mio tCO2e since Go Live)

**4.2% of CCF 2022**  
Scope 3 Upstream

# HUMAN RIGHTS DUE DILLIGENCE

BOOST

**Ready for German Supply Chain Act**



**Risk based preventive measures**



# PCF\* transparency mandatory for Sourcing as of July 2023



## Product Carbon Footprint (PCF\*)

The KPI to measure the decarbonization of ZF supply chain



## PCF is mandatory for Sourcing

Only suppliers providing a PCF\* will have a chance for awarding



## QAF\*\* 4.0

ZF will validate the PCF\* based on the CO2e values of the QAF\*\* 4.0



## Training

ZF will start a SUS\*\*\* training initiative for its supply chain partners



\*Product Carbon Footprint\*

\*\*QAF = Quotation Analysis Form

\*\*\*SUS = Sustainability

# Decarbonization: Green Electricity is most important lever



## Renewable

ZF Green Electricity = Renewable Power without Nuclear



## Business Critical

OEMs are requesting GE\* in the whole supply chain



## GE\* Roadmap

Suppliers shall provide their GE\* roadmap till 2025 in SupplyOn



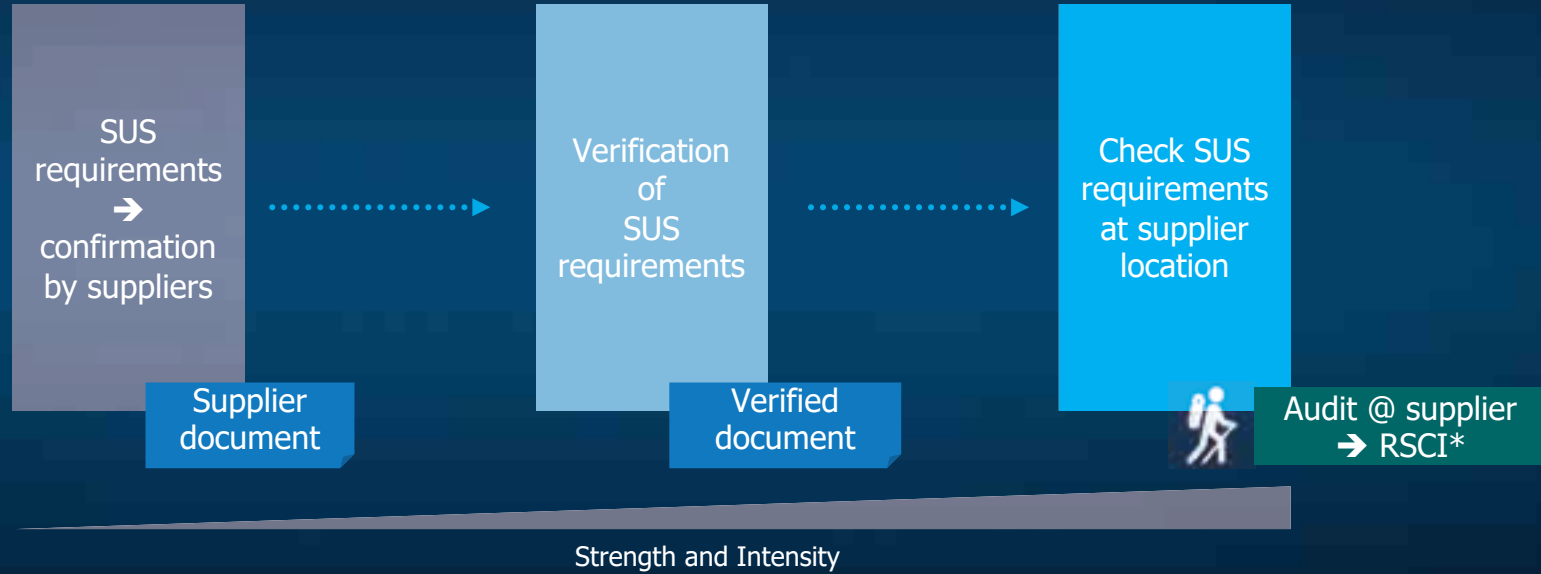
## Usage of GE\*

New ZF Bid Conditions require 100% GE\* in year SOP (latest 2025)



\* Green Electricity

# Sustainability Aspects are to be verified



\*RSCI Responsible Supply Chain Initiative

# Live Sustainability !

Next  
Generation  
Mobility.

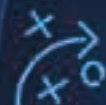
NOW.



...comply with ZF Sustainability requirements



.... engage your supply chain



.. provide sustainable solutions