



European Committee of Manufacturers of Electrical  
Machines and Power Electronics

# **02<sup>nd</sup> CEMEP CONFERENCE**

**/ 7<sup>th</sup> and 8<sup>th</sup> July 2022 in Milan, Italy**

**CEMEP sustainable products, systems & services**



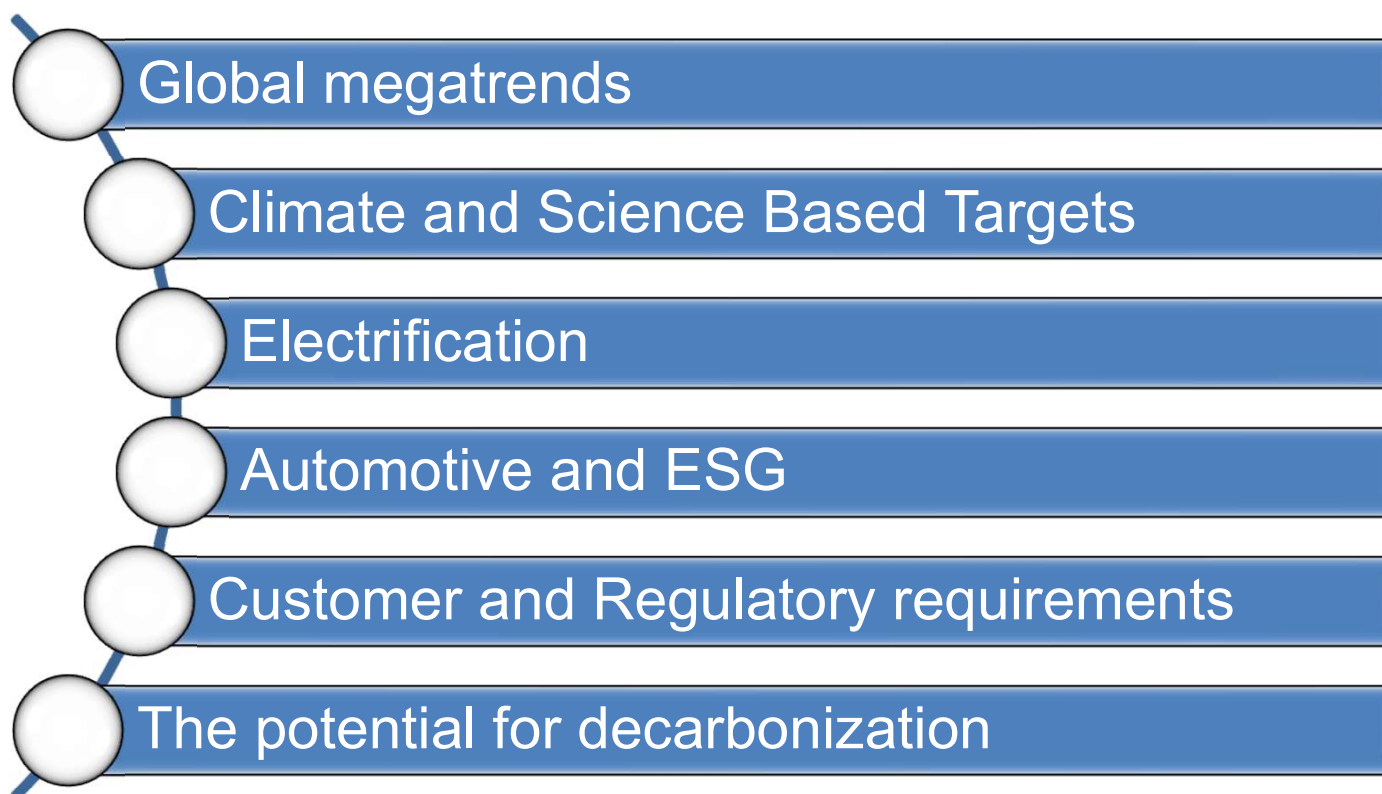
European Committee of Manufacturers of Electrical  
Machines and Power Electronics

**“The driving forces for sustainability in the power electronics industry and what opportunities we see**

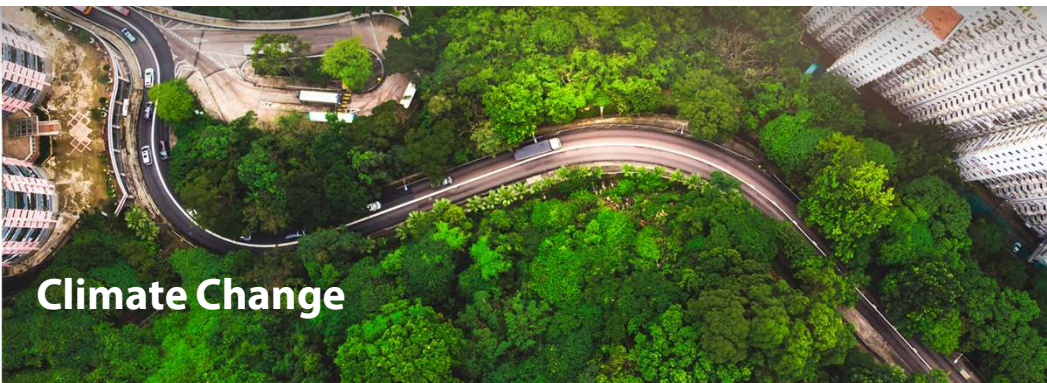
**Claus A Petersen, SVP & General Manager,  
Danfoss**



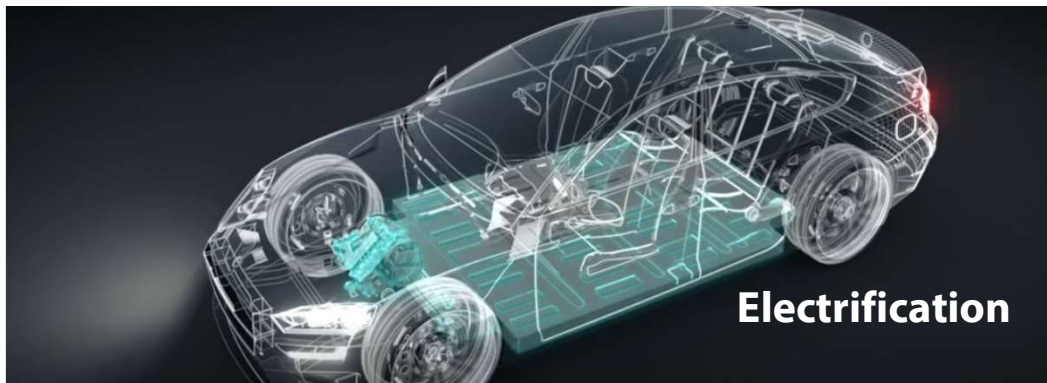
ENGINEERING  
TOMORROW







**Climate Change**



**Electrification**



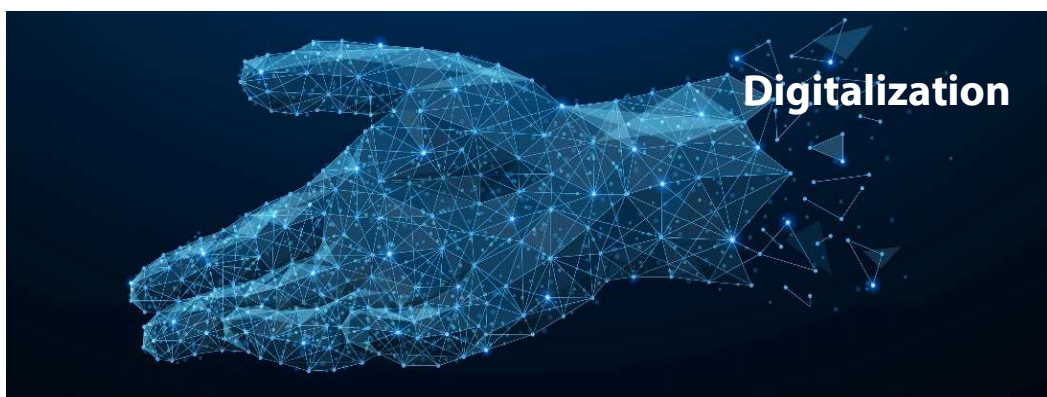
**Urbanization**

# **GLOBAL MEGATRENDS**

Transforming our world



**Food & Water Supply**



**Digitalization**





More than

**40%**

of energy emissions  
reductions need to  
come from energy  
efficiency

## Science-Based Targets

A clearly defined pathway for **companies to reduce their value-chain emissions**

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### Targets aligned to the Paris Agreement to:

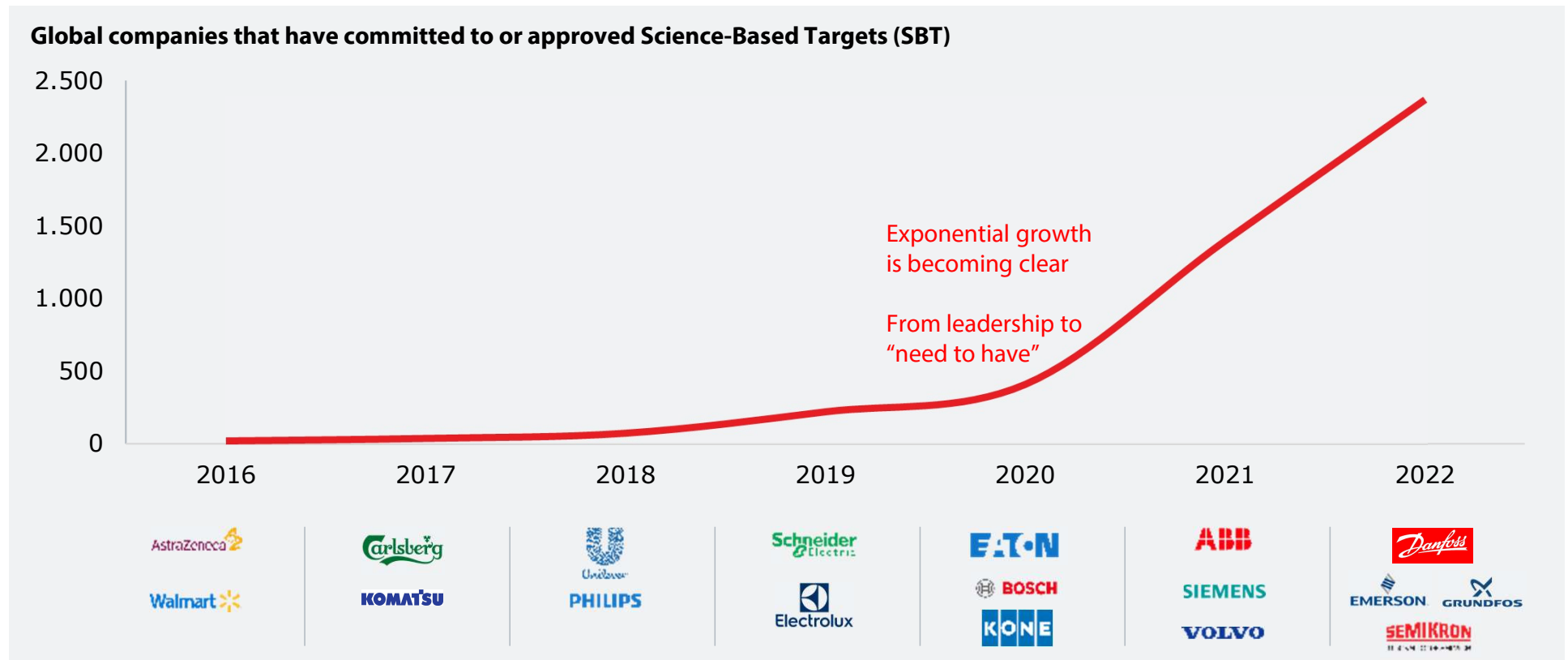
- limit global warming to well below 2°C above pre-industrial levels
- pursue efforts to limit warming to 1.5°C

**>2,700**  
companies joined  
SBTi

**>1,300**  
companies  
committed to 1.5°C

**>1,200**  
companies with  
approved targets

# Global companies committed to SBTi



# Electrification

- Green energy will make electricity the largest energy carrier
- Increased need for storage capacity to deal with peak loads
- Huge Power-2-X programs under development
- By 2040, >70% of all cars sold globally will be electric – ferries, trucks and other vehicles also going electric
- By 2035, only 0-carbon emitting cars will be allowed in the EU

## Transport

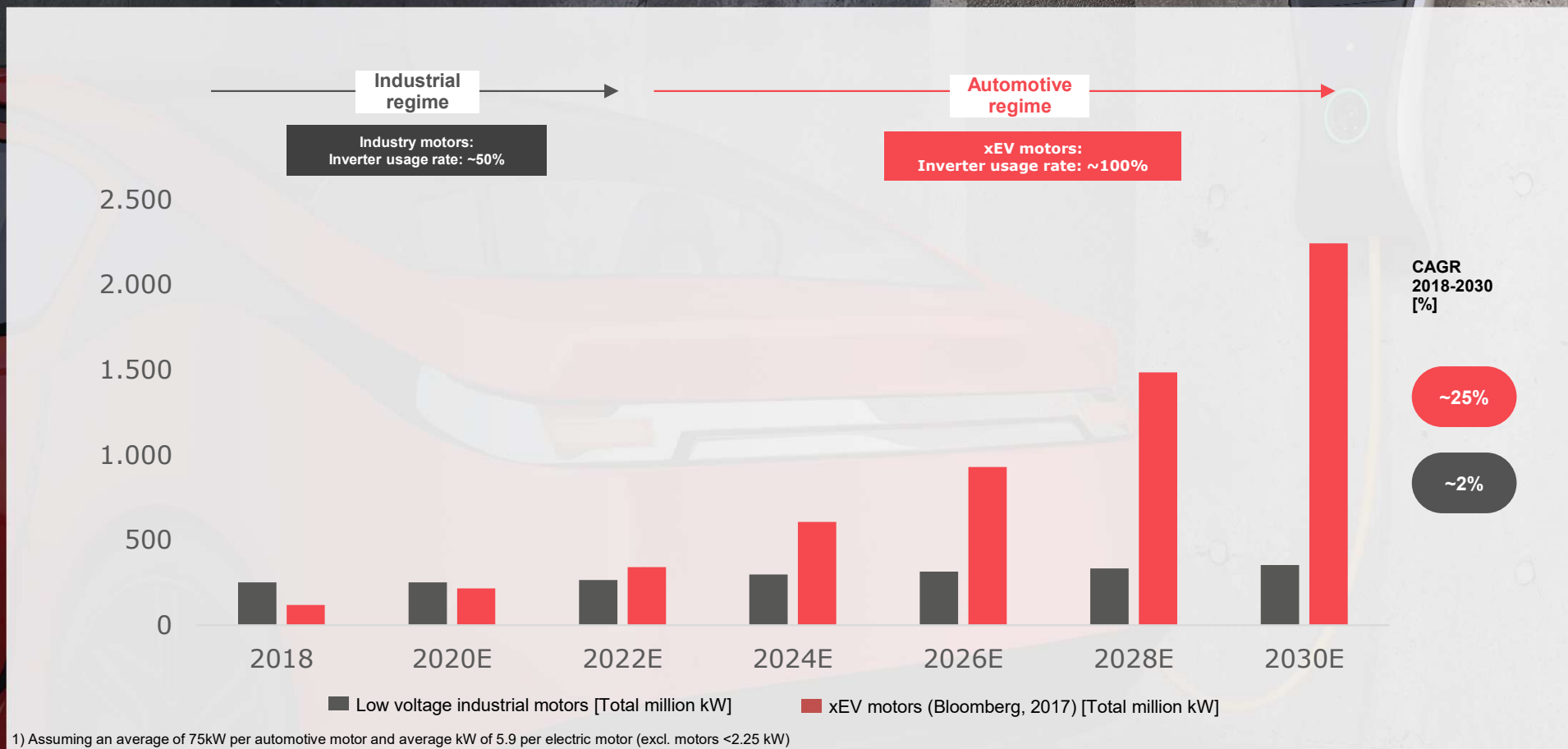
- 20% of global energy is consumed by transport
- Representing 25% of global CO2 emissions

Source: BloombergNEF Electric Vehicle Outlook 2022





# Automotive inverter demand to increase radically



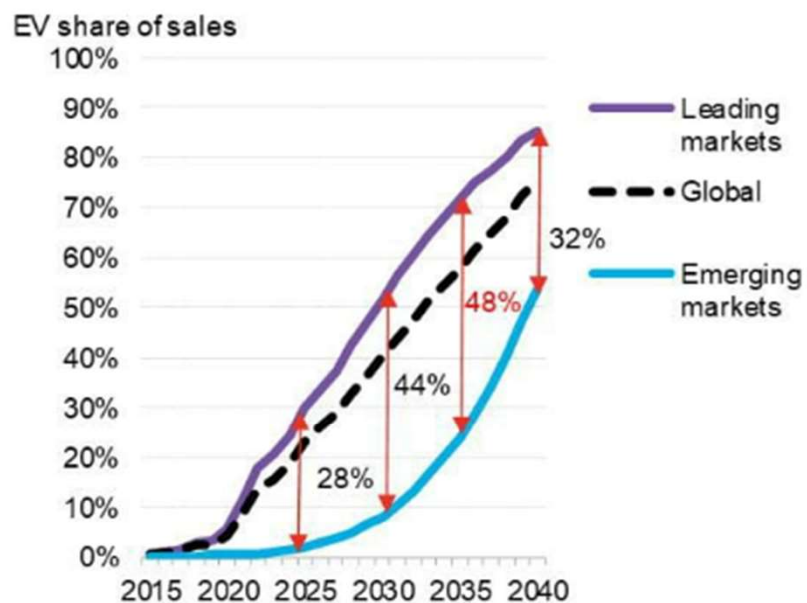
## Sources:

- IHS Markit, Technology Group, Low Voltage Motors Intelligence Service – 2018. Information is not an endorsement of Danfoss. Any reliance on these results is at the third party's own risk.
- Bloomberg New Energy Finance: Long term Electric Vehicle Outlook 2018.

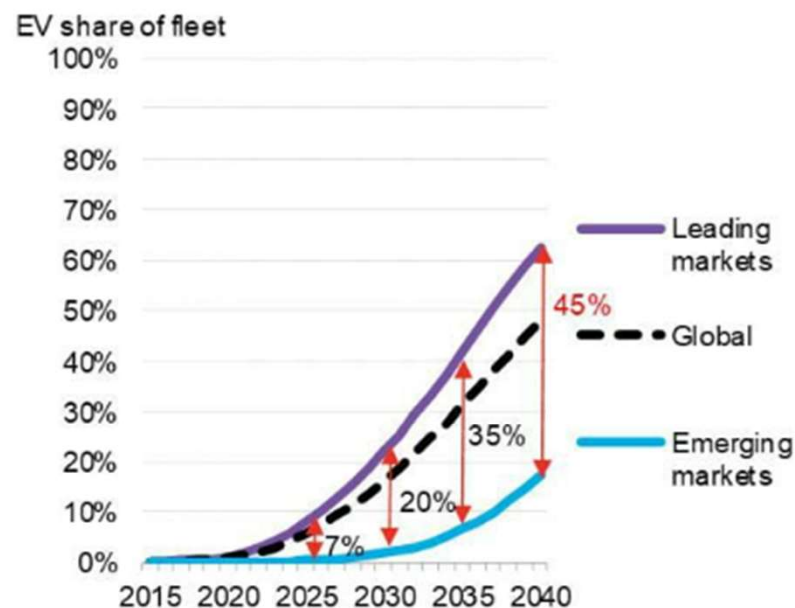


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### Passenger EV share of sales - Economic Transition Scenario



### Passenger EV share of fleet - Economic Transition Scenario



Source: BNEF. Note: EV includes battery electric, plug-in hybrid and fuel cell vehicles.



# Customer ESG requirements

## Decarbonization:

- Help to reduce customer carbon emissions, scope 1-2-3
- Product carbon footprint
- Data for customer's product carbon footprint

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## Circularity:

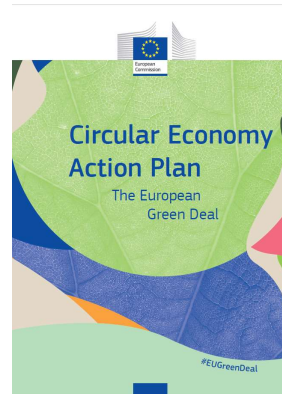
- Recycled content – Green materials
- Recyclability
- Servicability
- Takeback & Remanufacture

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## Other:

- Hazardous substances
- Packaging (recycled – recyclable – returnable)
- Data (product passport)





## Sustainable products package



# Regulatory ESG requirements

## EU New Green Deal driving policy initiatives:

- Fit for 55
- The EU Taxonomy
- Circular Economy Action Plan
- Sustainable Products Package
- Green Buildings Initiative
- Power-2-X strategy
- Etc.

***These policy initiatives drive opportunities on energy efficiency, on electrification and for more sustainable products and solutions***



# The Greenest Energy is the Energy we do not use

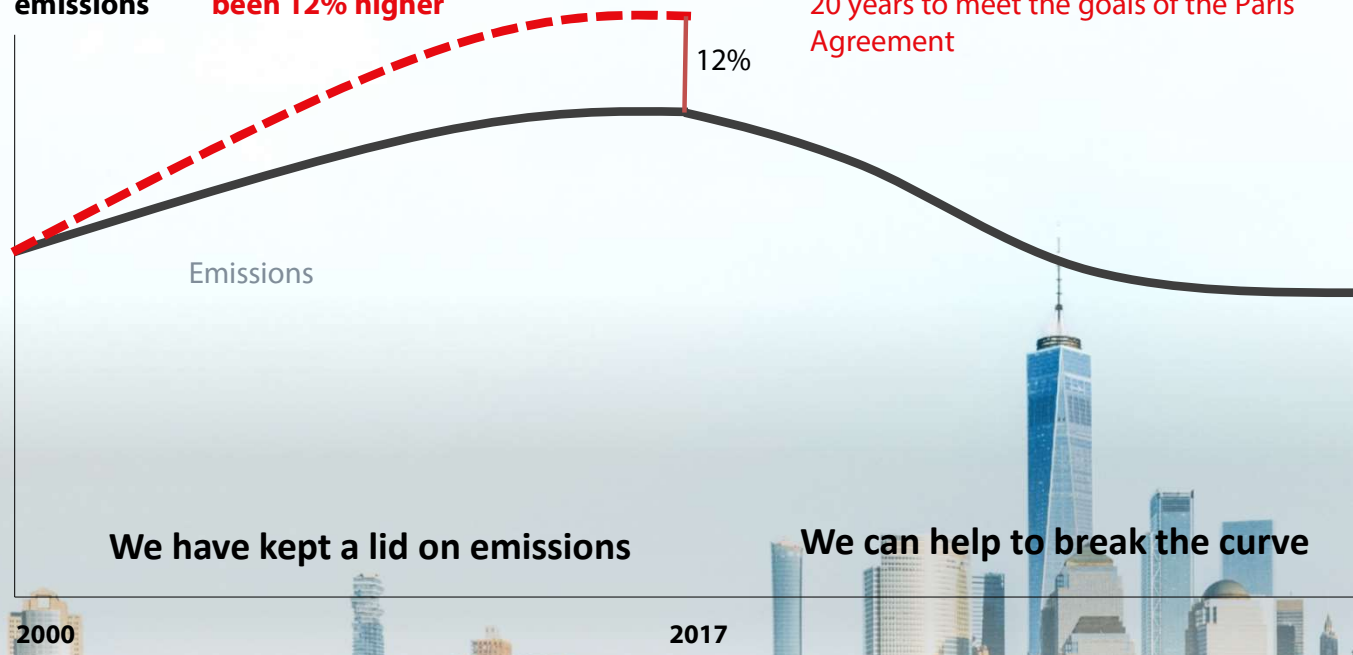


Energy-related emissions

If no energy efficiency improvements since 2000, **emissions would have been 12% higher**

**Energy efficiency and electrification must deliver more than 40% of reductions** the next 20 years to meet the goals of the Paris Agreement

**CEMEP solutions can make it happen**

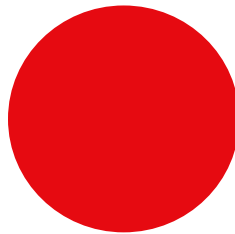


# Increasing the use of VSDs will have the biggest decarbonization impact (Illustrative)

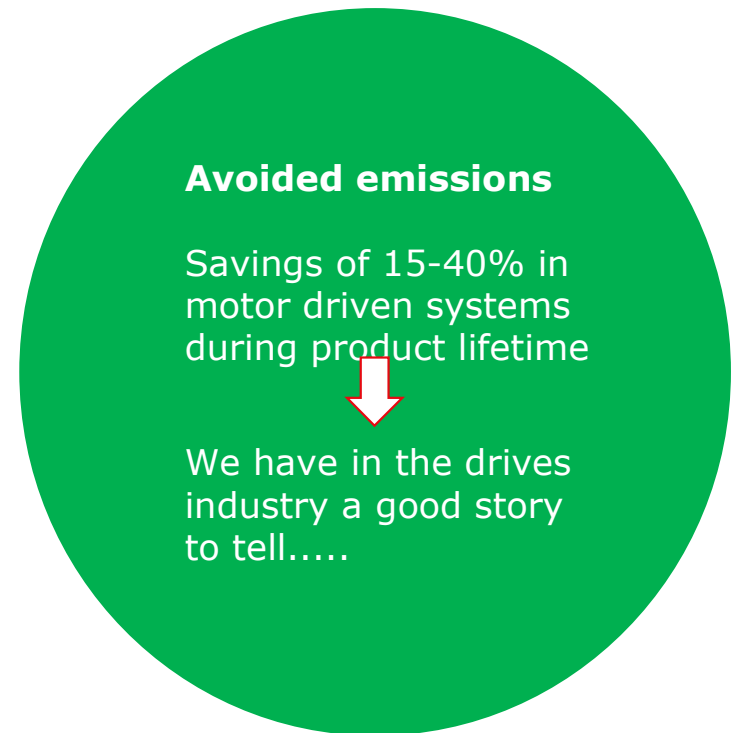
Carbon footprint



Scope 1, 2 & 3:  
Manufacturing and  
purchased goods

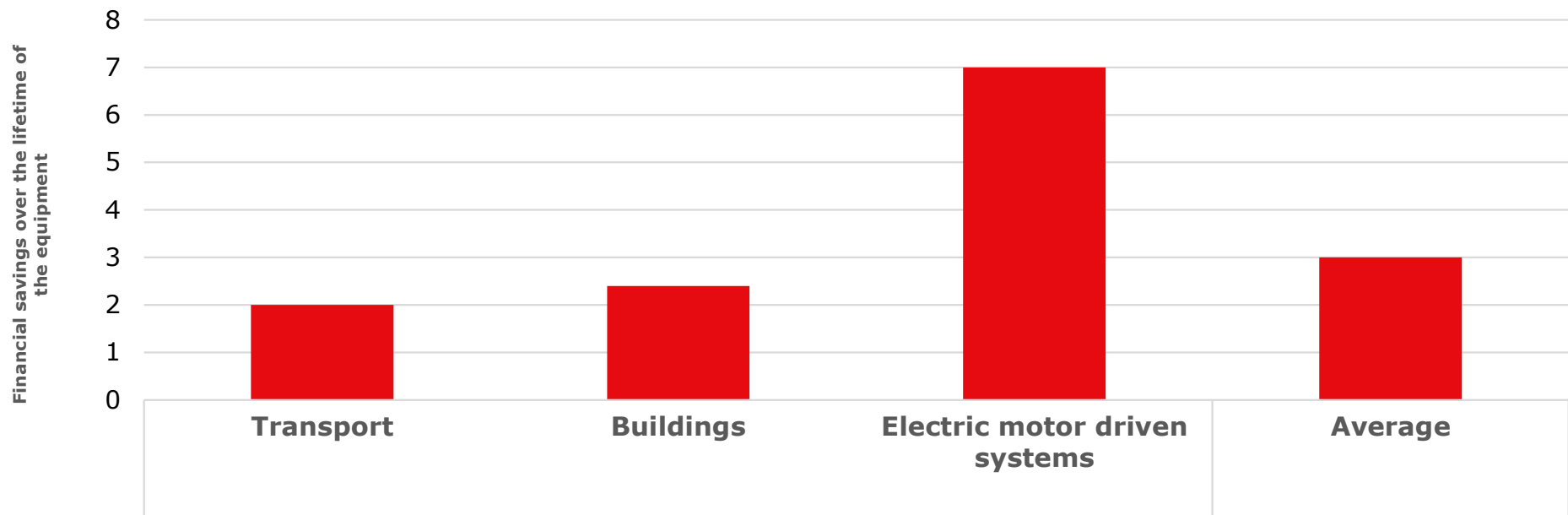


Scope 3: Products in  
use during lifetime  
(losses ~2%)



# Investment **payback**

Savings for each dollar invested in energy efficiency improvements for different end uses



On average, **one dollar invested in energy** efficiency **will payback three times** in energy saved over the lifetime of the equipment

Source IEA 2018



# VSD A VITAL COMPONENT IN THE GREEN TRANSITION



## Key takeaways

1

The market is driving ESG with a strong focus on both decarbonization and circularity – with a strong push from the automotive industry

2

EU policy initiatives are providing new opportunities for energy efficiency, electrification and sustainable products

3

The big potential for decarbonization is on the system level and policy measures should support better uptake of supporting technologies

**Thanks for the attention!**

**(CAP@Danfoss.com)**