

### Perspektiven für den Einsatz von Wasserstoff in der Logistikbranche

Andre Kranke, Department Head, Trends and Technology Research, Corporate Research & Development

HyAllgäu-Symposium, July 30, 2021

# Global Warming: The time to act is now.

#### SEPTEMBER 23

Amazon-Chef bestellt 100.000 Elektro

California will ban sale of new ICE cars in 2035. not sooner?

Jameson Dow - Sep. 23rd 2020 2:51 pm ET

#### Klimaschutzgesetz

#### Kabinett billigt Klimapake

Die Bundesregierung hat ein Maßnahmenpaket zum Klim Weg gebracht. Die Vorhaben sind umstritten, die Umwelt verteidigte das geplante Gesetz.

Oktober 2010, 10:48 Ubn. / Aktualisient am 0, Oktober 2010, 11:18 Ubn. / Ok

#### DEUTSCHER INDUSTRIEKONZER "Bosch wird 2020 klimaneutral sein"

VON SUSANNE PREUSS - AKTUALISIERT AM 09.05.2019 - 11:12



Das Traditionsunternehmen Bosch will vom nächsten Jahr an alle 400 Standor klimaneutral betreiben. Konzernchef Denner erklärt, wie das funktionieren so

<u>Consulter</u> le journal	Le Monde				
ACTUALITÉS ~	ÉCONOMIE ~	VIDÉOS ~	OPINIONS ~	CULTURE ~	M LE MA

PLANÈTE - CLIMAT

#### En France, 150 citoyens tirés au sort chargés de trouver des solutions à la crise climatique D'ici à janvier 2020, ils devront formuler des propositions pour réduire d'au moins 40 % les émissions de gaz à effet de serre en 2030, qui seront soumises au Parlement.

Par Audrey Garric - Publié le 05 octobre 2019 à 03h48 - Mis à jour le 05 octobre 2019 à 09h00

Lieferwagen Teilen: 🖪 🛛 💟 🙆

#### EU-Gesetzespaket "Fit for 55"

#### Wie die EU ihre Klimaziele erreichen und dafür die Wirtschaft umbauen will

Bis zum Jahr 2030 will die EU ihren CO2-Ausstoß um 55 Prozent senken. Dieses Klimaschutzziel hat sie schon vor einigen Monaten ausgerufen - jetzt hat die EU-Kommission konkrete Gesetzesvorhaben dazu vorgelegt. Aus der Industrie kommt bereits Kritik. Was bisher bekannt ist - ein Überblick.



EUROPA EE UU MÉXICO AMÉRICA LATINA ORIENTE PRÓXIMO ASIA ÁFRICA FOTOS OPINIÓN BLOGS TITULARES »

#### ELECCIONES EN POLONIA > El 'efecto Greta' se abre paso en Polonia

El cambio climático entra en el discurso político en un país que enfrenta el desafío de reducir su dependencia del carbón



#### Daimler will Diesel-Lkw bis 2030 überflüssig machen

Die Lkw-Flotte von Daimler wird elektrisch. Spartenchef Martin Daum schwört auf Batterie- und Wasserstofftrucks. Doch der Abschied vom Verbrenner gestaltet sich zäh.



16.09.2020 - 13:41 Uhr + 2 Kommentare + 5 x geteilt





"Fridays for Future"-Aktivisten ziehen am Freitae durch die Dortmunder Innenstadt (Foto: Marius Becker/dpa)

#### Kampf gegen Klimawandel China will bis 2060 klimaneutral werden



M < Share



N. Ireland N. Ireland Politics

City Council

UK climate change protest

C 2 October 2019

Home Video World UK Business Tech Science Stories

Climate emergency declared by Belfast

### **DACHSER Climate Protection**



Burkhard Eling CEO, Dachser

"At Dachser, we are convinced that in the long run, only companies with a sustainable business model can shape the future...

... DACHSER Climate Protection is our way and contribution to achieving the global community's long-term goal of net zero emissions through efficiency, innovation and integrative responsibility"



Stefan Hohm CDO, Dachser

# Global Network

### European Logistics Network

- Industrial and consumer goods
- entargo
  Product Range



### Food Logistics Network

- Food & functional Food
- vivengo Product Range

DACHSER Food LogIstics

### Air & Sea Logistics Network

- Industrial and consumer goods
- Air and sea freight
- Rail Services

### Warehouse Network

- Constraint of the American

- Customer-oriented warehouse solutions
- Value added-services

DACHSER

IT Network

# **L** EU Greenhouse Gas Emissions<sup>\*</sup> by Sector



\* All CO<sub>2</sub> equivalent, \*\* Industry = Manufacturing industries, construction, industrial processes & product use, Source: European Environment Agency (EEA)

# High Utilization of Transports

- High volume and weight utilization ensures low GHG emissions impact per customer shipment
- DACHSER offers an extraordinarily high utilization of the daily line haul services in the European & Food Logistics Network
- DACHSER uses efficient swap body trains and trailers with double-deck loading for all main haulage operations
- DACHSER combines time-defined and timeflexible shipments for an optimal loading
- By choosing time-flexible shipments, customers contribute to climate protection



# Multimodal Transport

- Freight transport by rail and waterway can be an environmentally friendly alternative to truck transport in selected cases
- DACHSER uses multimodal transport in around ten countries, particularly on the pre- and postcarriage to seaports in container traffic
- DACHSER Rail Service also offers the possibility of shifting transports between China and Europe to the railway
- The use of this new Silk Road offers customers the opportunity to make not so extremely timecritical air freight transports more climate-friendly



### Save Energy Consumption

- Efficient use of electricity and heat energy reduces GHG emissions at DACHSER
- Heat recovery in ventilation systems as well as from cooling systems for office heating
- Geothermal technology to heat office spaces
- LED hall lighting in all German transit terminals and warehouses
- Daylight-based lighting control in transit terminals and motion detectors in interior corridors and rooms
- Implementation of energy audit for systematic inspection and analysis of energy consumption

![](_page_7_Picture_7.jpeg)

### Areas of Action

DACHSER will boost its activities in four areas of action

### **Research & Innovation**

Support for the development of new technologies and concepts for emission-free logistics

#### **Process Efficiency**

Avoidance of greenhouse gas emissions through intelligent logistics processes

### Corporate Citizenship

Social and community activities beyond the company's business interests

#### **Energy Efficiency**

Reduction of greenhouse gas emissions through the use of energysaving state-of-the-art technologies

![](_page_8_Picture_10.jpeg)

### Areas of Action

DACHSER will boost its activities in four areas of action

#### **Research & Innovation**

Support for the development of new technologies and concepts for emission-free logistics

#### **Process Efficiency**

Avoidance of greenhouse gas emissions through intelligent logistics processes

### Corporate Citizenship

Social and community activities beyond the company's business interests

#### Energy Efficiency

Reduction of greenhouse gas emissions through the use of energysaving state-of-the-art technologies

![](_page_9_Picture_10.jpeg)

# Activities H<sub>2</sub> Fuel Cell Trucks

DACHSER promotes the development and use of trucks with **hydrogen fuel cell** drives in various projects and partnerships, e.g.:

- RWTH Aachen University, research project
  "SeLv" development of a hydrogen-electric powertrain
- Feasibility Study H2 Swap Body Train with Kempten University of Applied Sciences
- European Study Fuel Cells Hydrogen Trucks with Roland Berger
- Membership German Hydrogen and Fuel Cell Association (DWV)
- Innovation partnership with Daimler Trucks and cooperation with other OEMs and new market players

![](_page_10_Picture_7.jpeg)

![](_page_10_Picture_8.jpeg)

### Alternative Fuels at a Glance

![](_page_11_Figure_1.jpeg)

![](_page_11_Figure_2.jpeg)

![](_page_12_Picture_0.jpeg)

![](_page_12_Figure_1.jpeg)

Intelligent Logistics

#### **GHG Emissions Well-to-Wheel**

■ Max GHG savings ■ Min GHG savings

# Legal Framework

![](_page_13_Figure_2.jpeg)

\*also affects other fossil fuels

### Partnership with Daimler Trucks

![](_page_14_Picture_1.jpeg)

![](_page_14_Picture_2.jpeg)

**BEV eActros** Range up to 400 km Start Series Production in 2021

#### BEV eActros LongHaul

Range about 500 km Start Series Production in 2024

#### FCEV GenH2 Truck (Concept)

Range more than 1000 km Start Series Production 2025-2029

### **DACHSER Emission-free Delivery**

![](_page_15_Picture_1.jpeg)

![](_page_15_Picture_2.jpeg)

Payload: **2.7 t** Range: **up to 100 km** Pallet spaces: **11** Permissible total weight: **7.5 t**  Cargo e-bike

![](_page_15_Picture_5.jpeg)

Payload: **250 kg** Range: **up to 100 km** Pallet spaces: **1** Speed: **25 km/h** 

#### eActros

![](_page_15_Picture_8.jpeg)

Payload: **4 to 5 t** Range: **up to 200 km** Pallet spaces: **18** Permissible total weight: **18 t** 

# DACHSER Emission-free Delivery

- In a defined inner city area, all shipments are delivered emission-free as standard. On-site, no air pollutants or greenhouse gases are released
- Delivery of shipments with emission-free cargo ebikes, electric trucks and inner-city hubs
- Launch in at least 11 metropolitan regions in Europe by the end of 2022
- Implemented in Stuttgart, Freiburg and Oslo. In preparation: Berlin, Munich, Paris, Strasbourg, Prague, Copenhagen, Madrid and Porto
- Awarded by the German Federal Environment Ministry in the Sustainable Urban Logistics competition

![](_page_16_Figure_6.jpeg)

# Renewable Energy

- The use of green electricity at DACHSER leads to zero greenhouse gas emissions
- Worldwide 60% total electricity demand through own production and purchase of green power
- Almost 100% green electricity in Germany and the Netherlands
- Own photovoltaic plants and purchased hydro power
- DACHSER aims to continuously expand its onside production and procurement of renewable energy

![](_page_17_Picture_6.jpeg)

#### Andre Kranke

Department Head, Corporate Research & Development

DACHSER Group SE & Co. KG Head Office Thomas-Dachser-Straße 2 87439 Kempten

andre.kranke@dachser.com

![](_page_18_Picture_5.jpeg)