

Von ehrlicher E-Mobilität & flüssigem Strom im Tank!

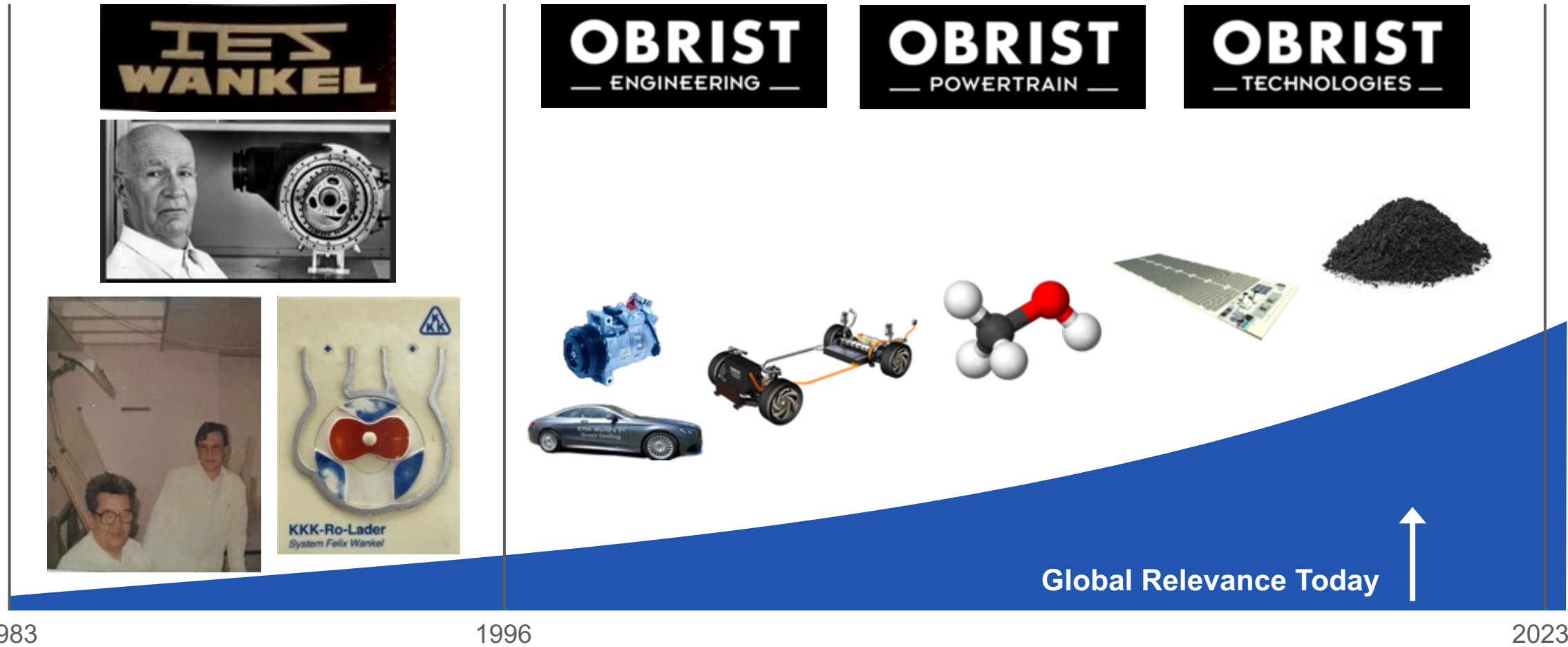
Worlds First Climate-Positive
Energy Carrier & Chemistry Base

#ITB24

March 21st, 2024



The Development of Obrist 40 Years of Green Technology for the World

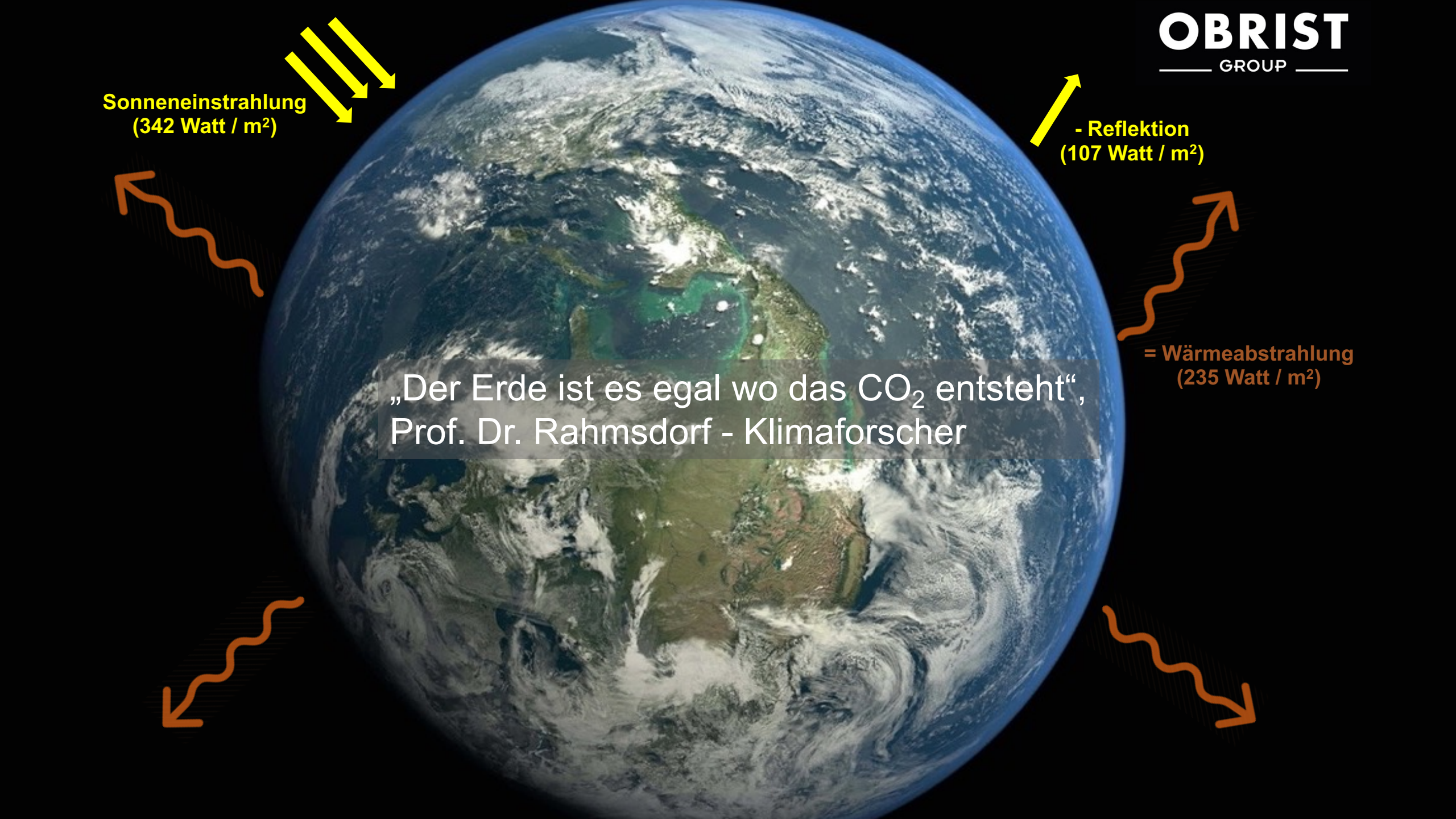


Sonneneinstrahlung
(342 Watt / m²)

- Reflektion
(107 Watt / m²)

= Wärmeabstrahlung
(235 Watt / m²)

„Der Erde ist es egal wo das CO₂ entsteht“,
Prof. Dr. Rahmsdorf - Klimaforscher



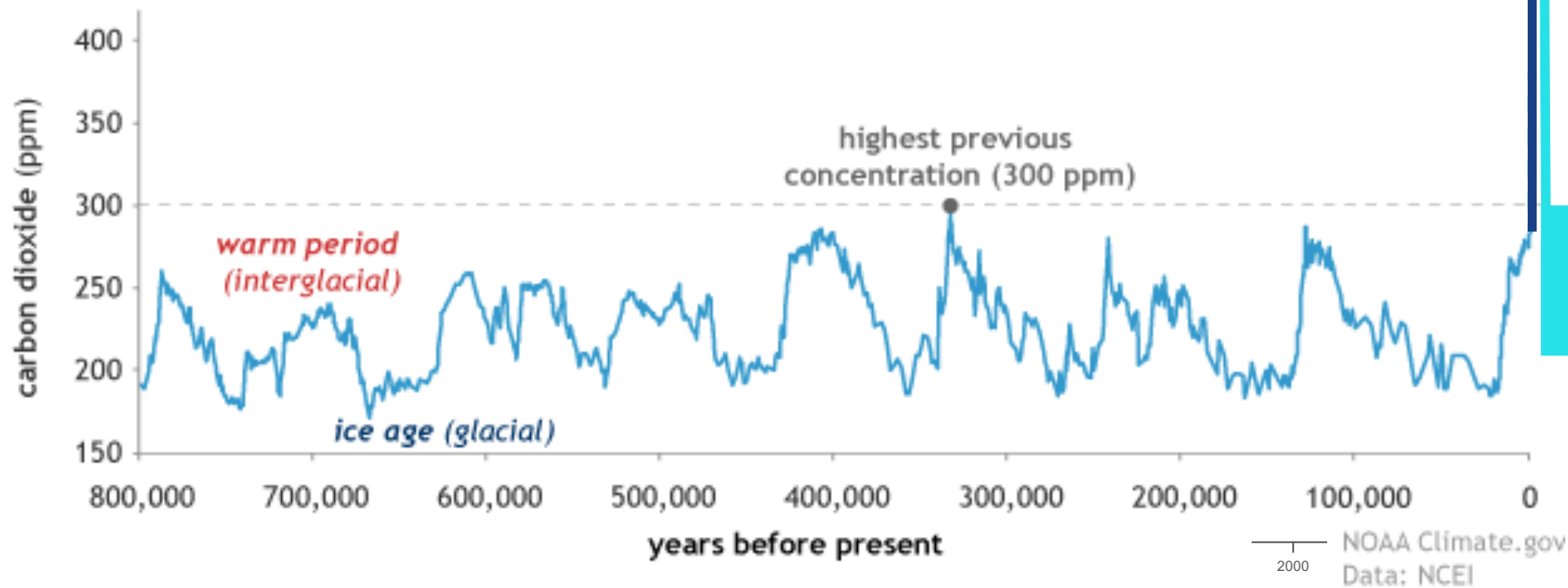
Atmospheric CO₂ Concentration

Forecast 2075: >600ppm

June 2022:
421ppm

← **cSink Age
(needed)**

CO₂ during ice ages and warm periods for the past 800,000 years

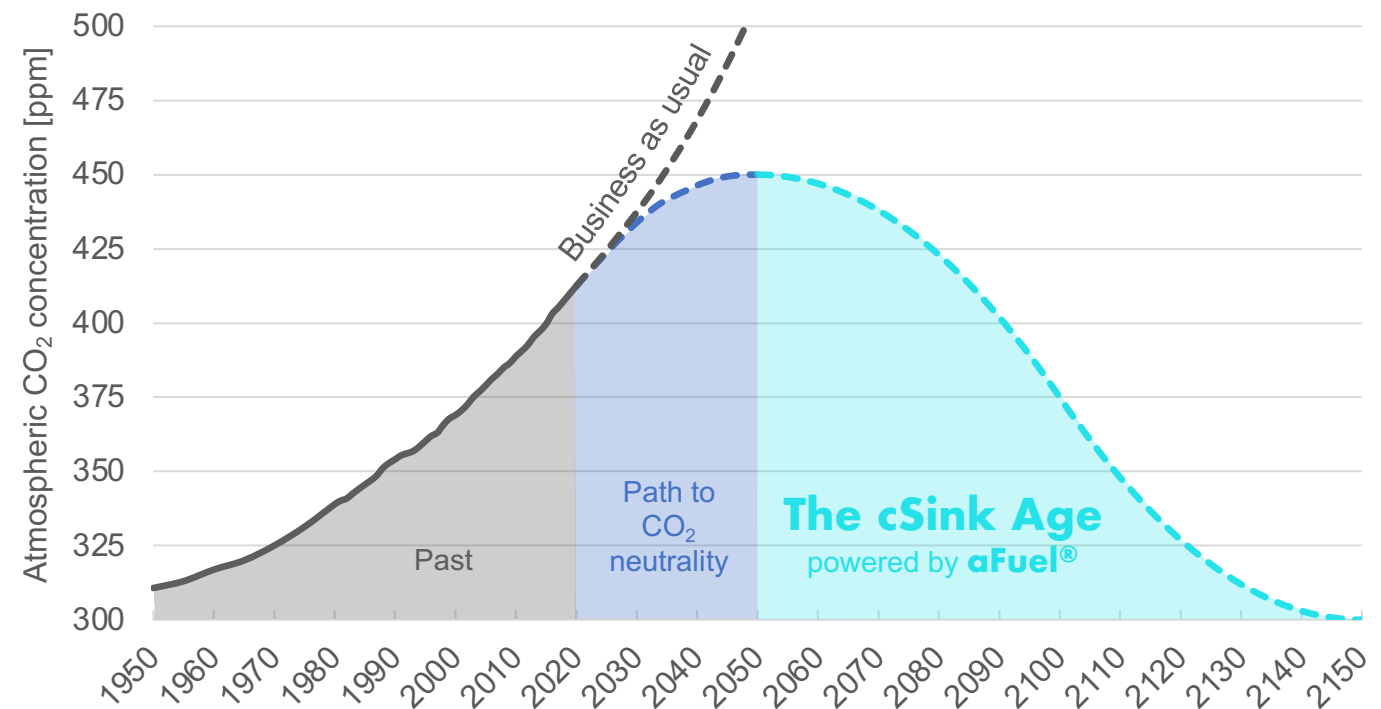


**Target CO₂-Concentration
for Humankind's Future**

Atmospheric CO₂ Reduction The Path to Global CO₂ Negativity

- After reaching CO₂ neutrality, it is **mandatory to reduce CO₂ levels** in the atmosphere to reverse all damage that humanity has caused over the past centuries
- CO₂ negative technologies **have to be carbon-based**
- **aFuel®** enables not only CO₂ neutrality, but even **CO₂ negative energy generation**

We believe that we have the solution for **becoming CO₂ neutral** as well as **being CO₂ negative.**

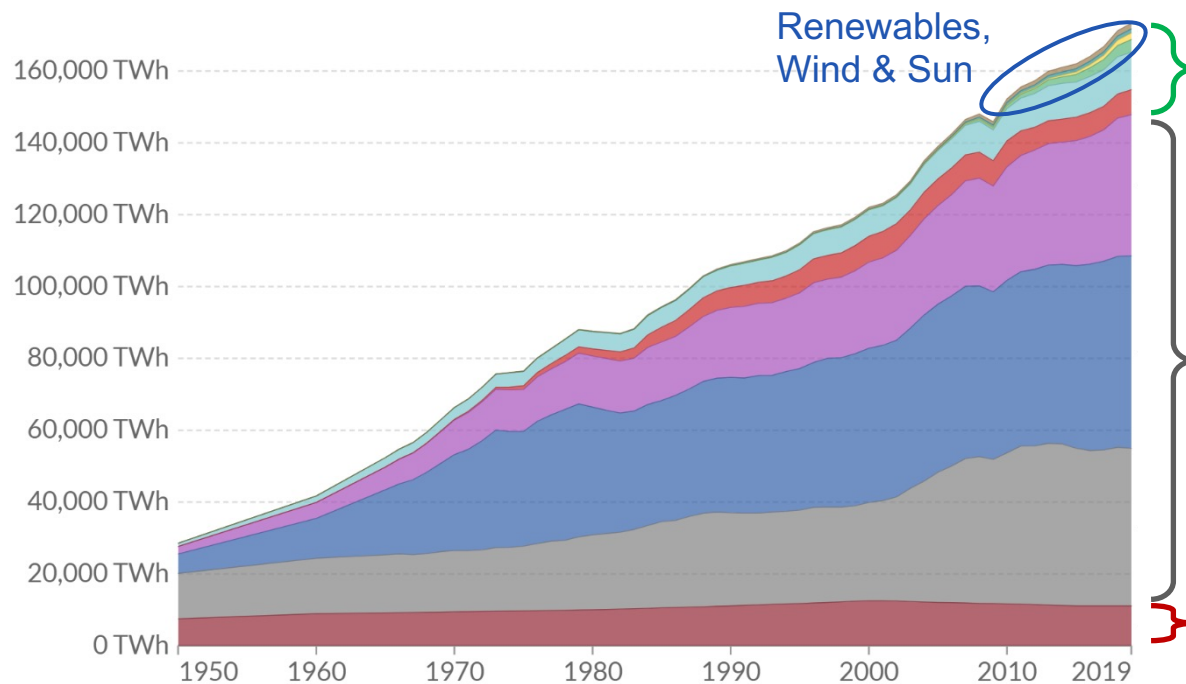


• Source: [NOAA](#), [EEA](#)

Fossil & Renewable Energy Status Quo

Global primary energy consumption by source

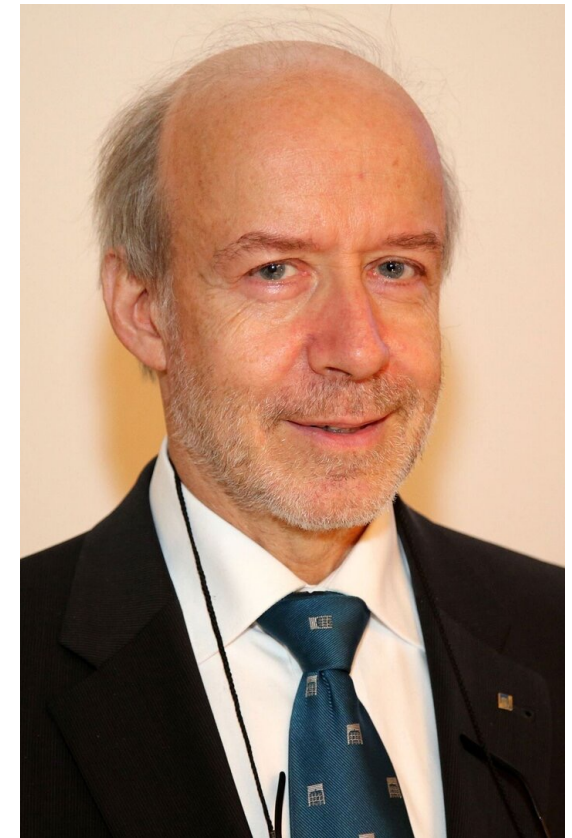
Primary energy is calculated based on the 'substitution method' which takes account of the inefficiencies in fossil production by converting non-fossil energy into the energy inputs required if they had the same conversion losses as fossil fuels.



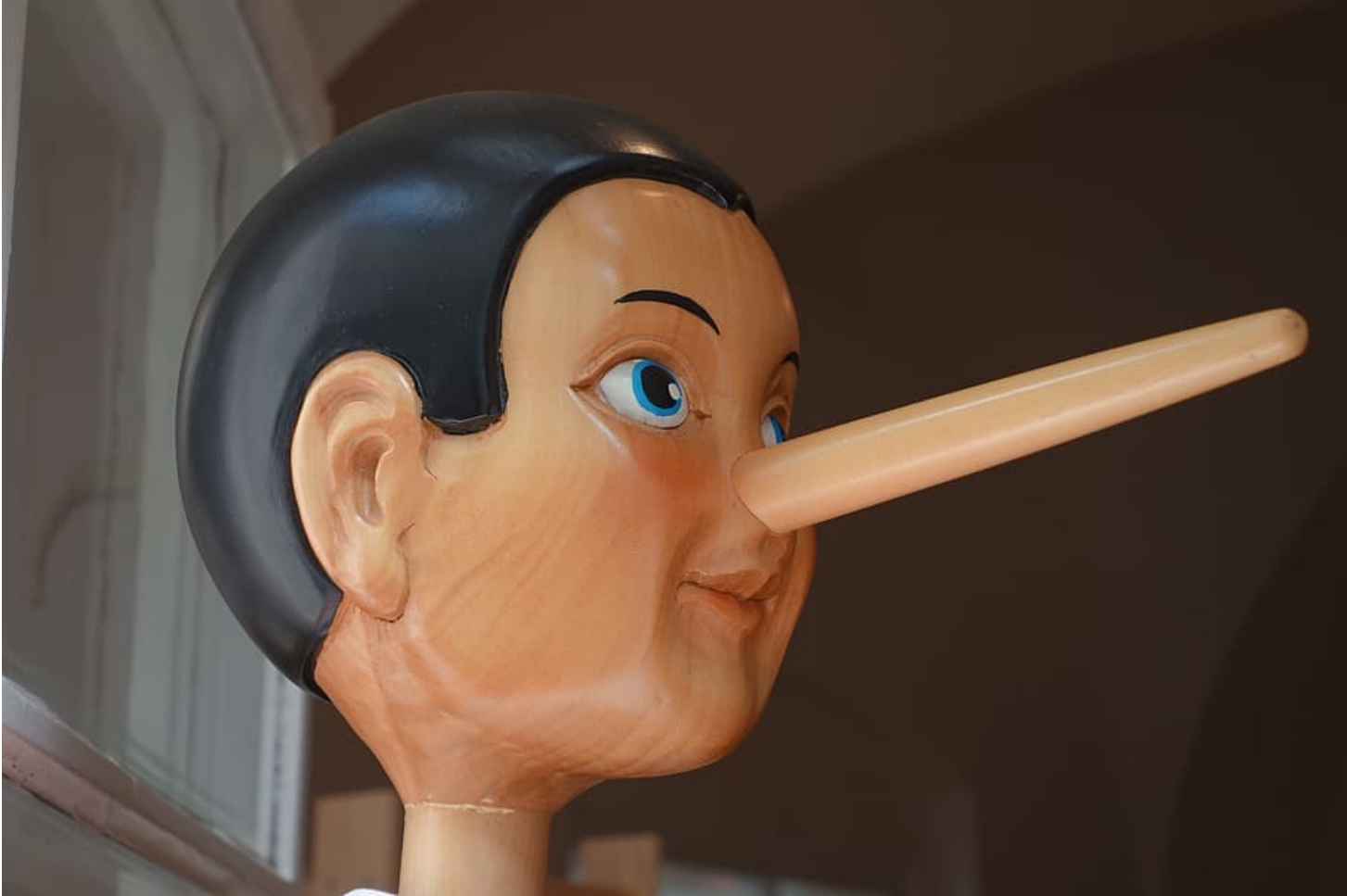
CO₂ neutral:
15,7%
(25 400 TWh)

Fossil/CO₂ positive:
84,3%
(136 800 TWh)

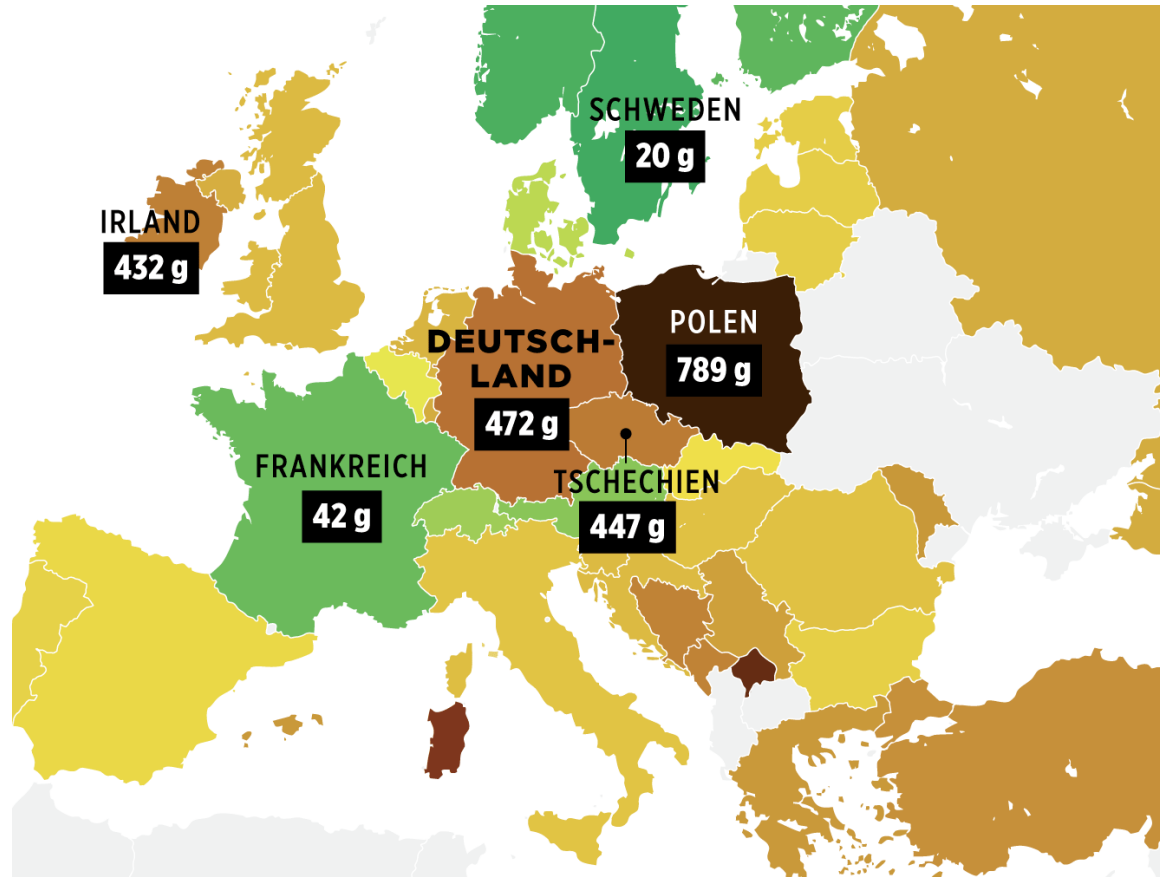
Traditional Biomass
(11 100 TWh)
(not addressed since fossil CO₂ neutral)



Wie ehrlich sind wir in Fragen der e-Mobilität / Emissionen?

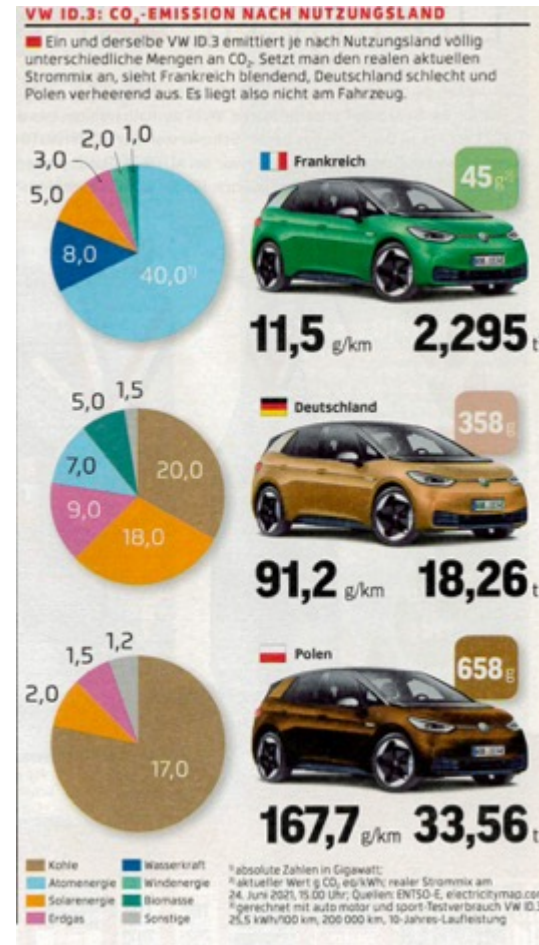


So schmutzig kann Deutschlands Strom sein



Stand: 18.10.2023

„Der Erde ist es egal wo das CO2 entsteht!“
Prof. Dr. Rahmsdorf - Klimaforscher



Was nun!?



USA nunmehr gegen Verbrennerverbot

Foto: © picture alliance/Michael Brochstein/ZUMA Wire/dpa



Die Devise ist jetzt: Weg von ultra-ehregeizigen Klimazielen und hin zu Wohlstandssicherung und wirtschaftlichem Aufschwung - vor allem, um nicht von China überrollt zu werden. (Video: krone.tv)

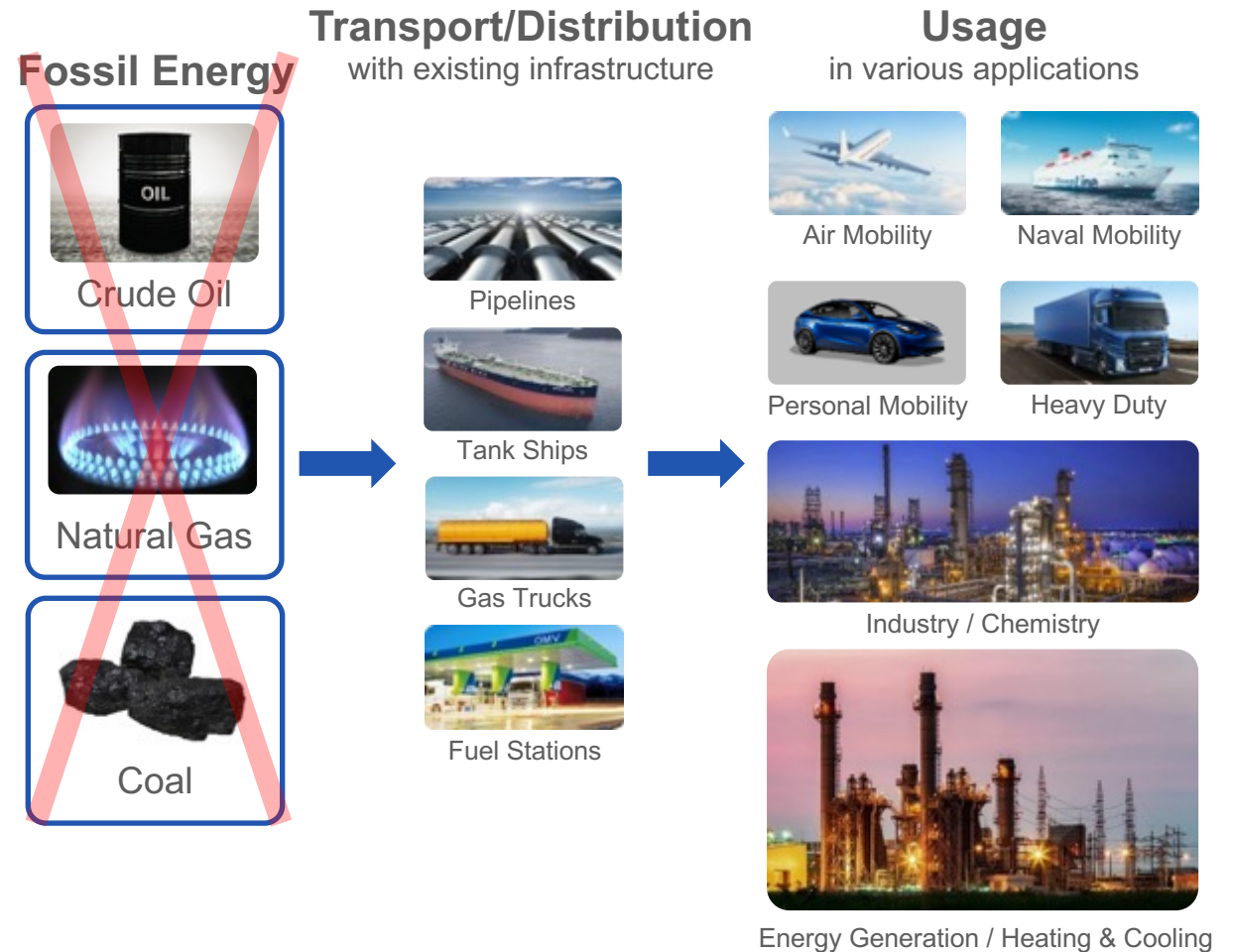
Nach einer sehr bemerkenswerten Abstimmung in Brüssel am Montagabend steht das Aus für Verbrenner-Motoren vor dem tatsächlichen Aus. Und schuld daran sind ausgerechnet E-Autos. Krone+ hat die Tabelle mit den neuen brisanten Referenzwerten und die Hintergründe der überraschenden Kehrtwende.

Blackout
in Vorarlberg

Notfallplanung zur eigenständigen Vorbereitung auf einen Blackout

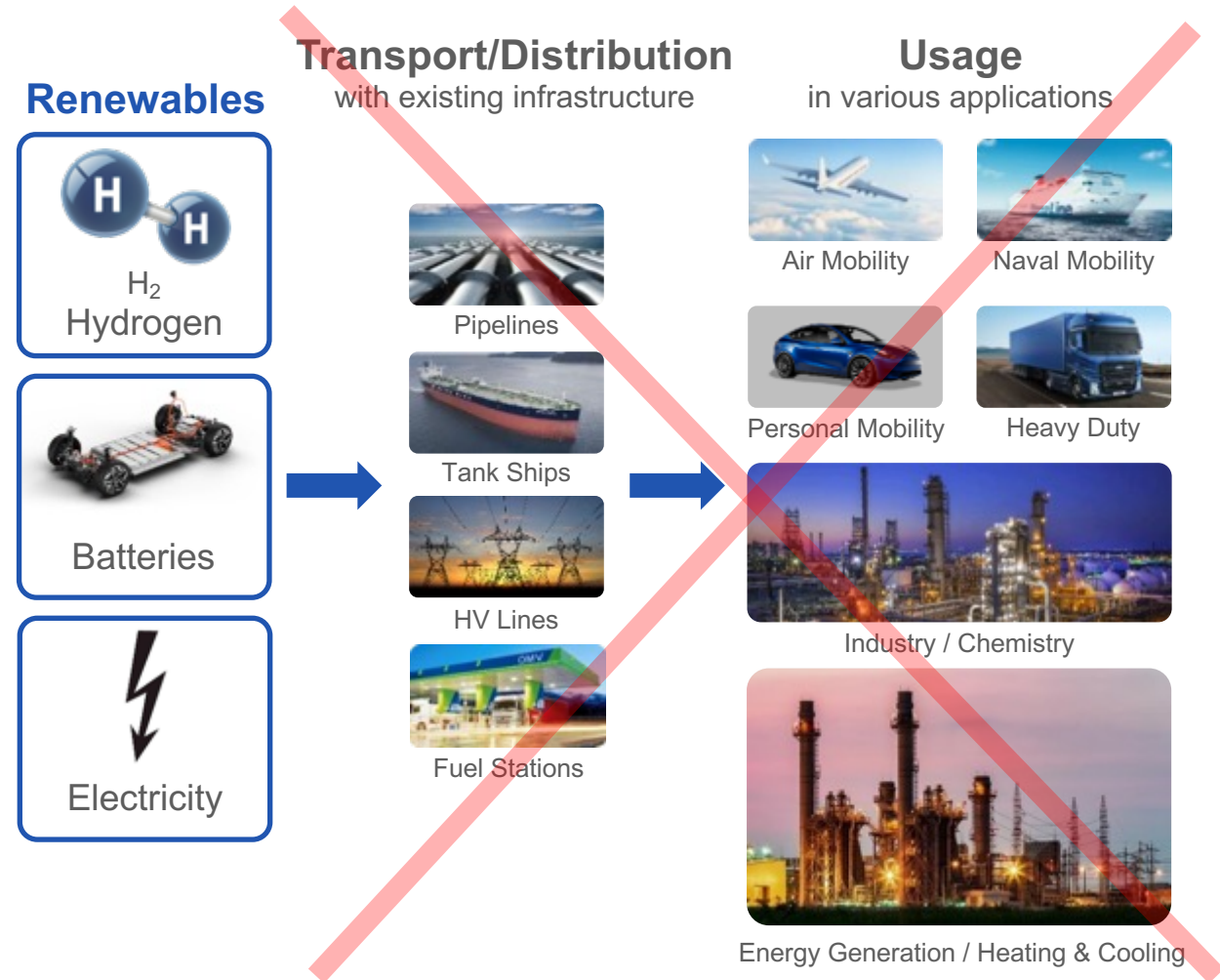
Global Energy, but Fossil

- Current global energy system is largely based on three main fossil energy carriers **crude oil**, **natural gas**, and **coal**.
- Global infrastructure for our global energy system has been developed for **decades and centuries**
- Global fossil energy demand is not only based on mobility, but also all forms of **industry** and **residential applications**



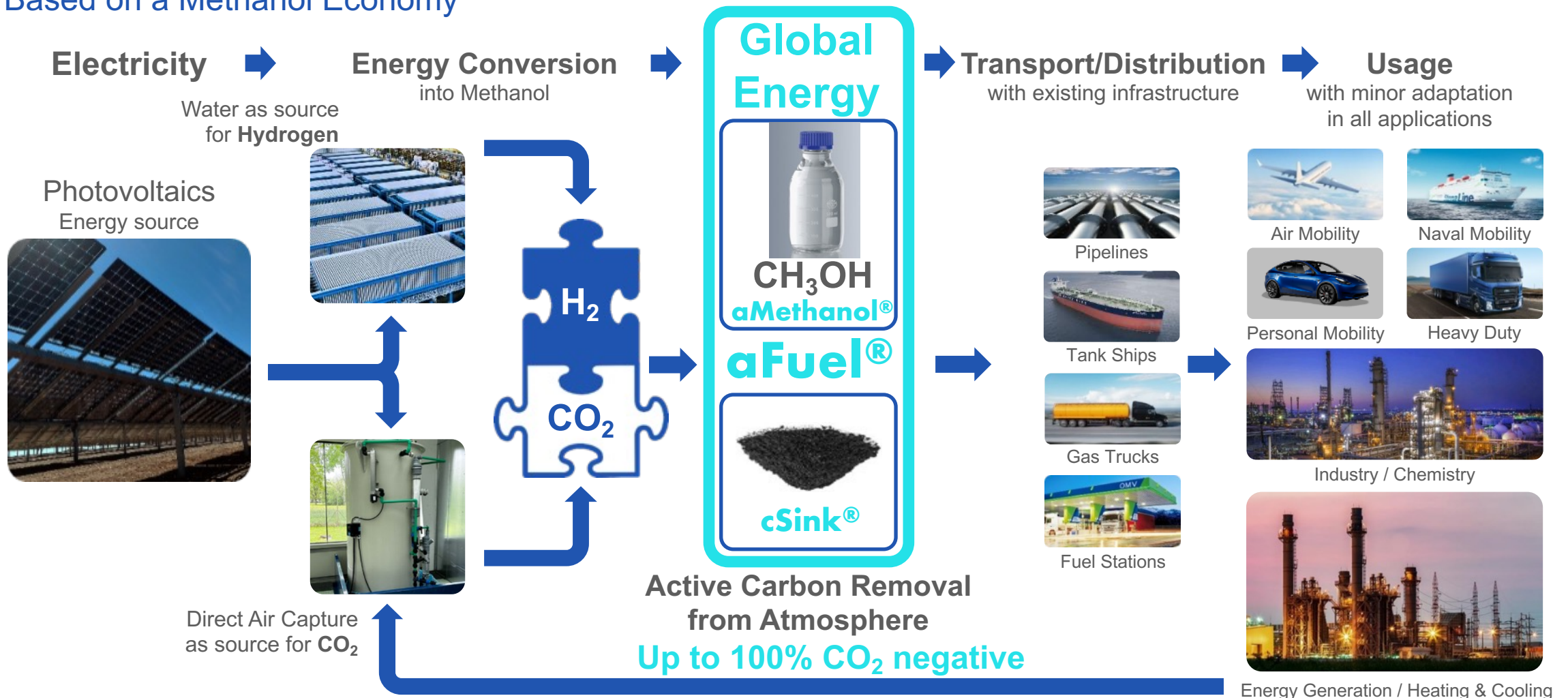
Political Energy & Climate Goals, but ...

- Goals and pathways provided by political decision makers **never reached**
- Proposed solutions (BEV, hydrogen, and others) are **not** a sustainable global path into the future
- Apart from resource and applicability constraints, the infrastructure is **not present** and will take **decades to adapt**



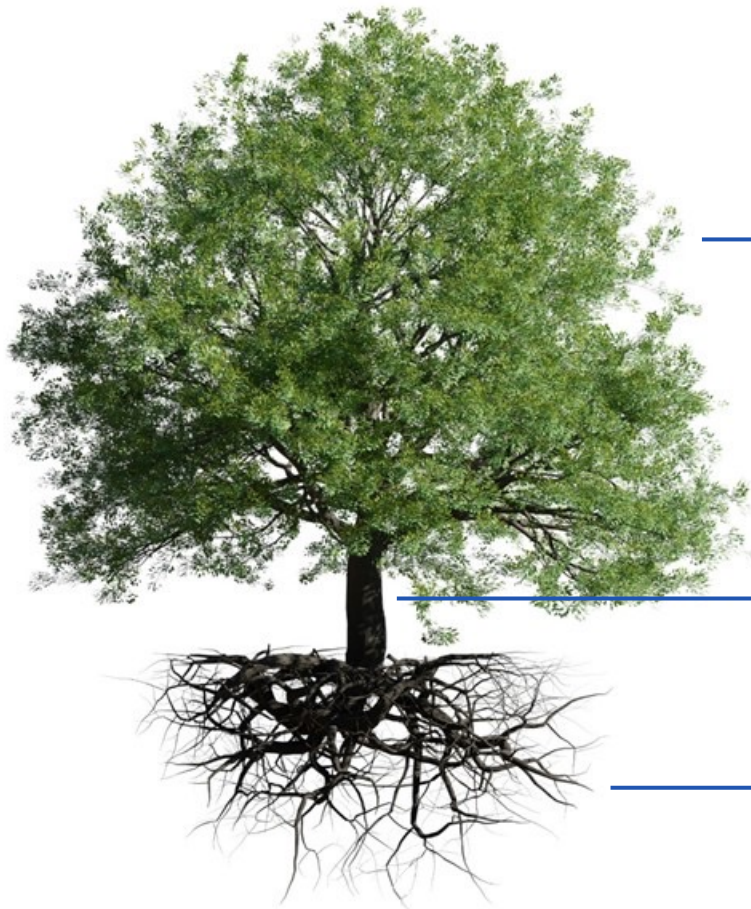
Renewable Global Energy, but Climate-Positive: **aFuel**[®]

Based on a Methanol Economy



The Modern Forest

Nature Inspired, but Much More Efficient and Faster Than „Mother Nature“



CO₂ Capture

HC Storage

Carbon Storage



Our Inventions,
our USPs

OBRIST DAC[®]



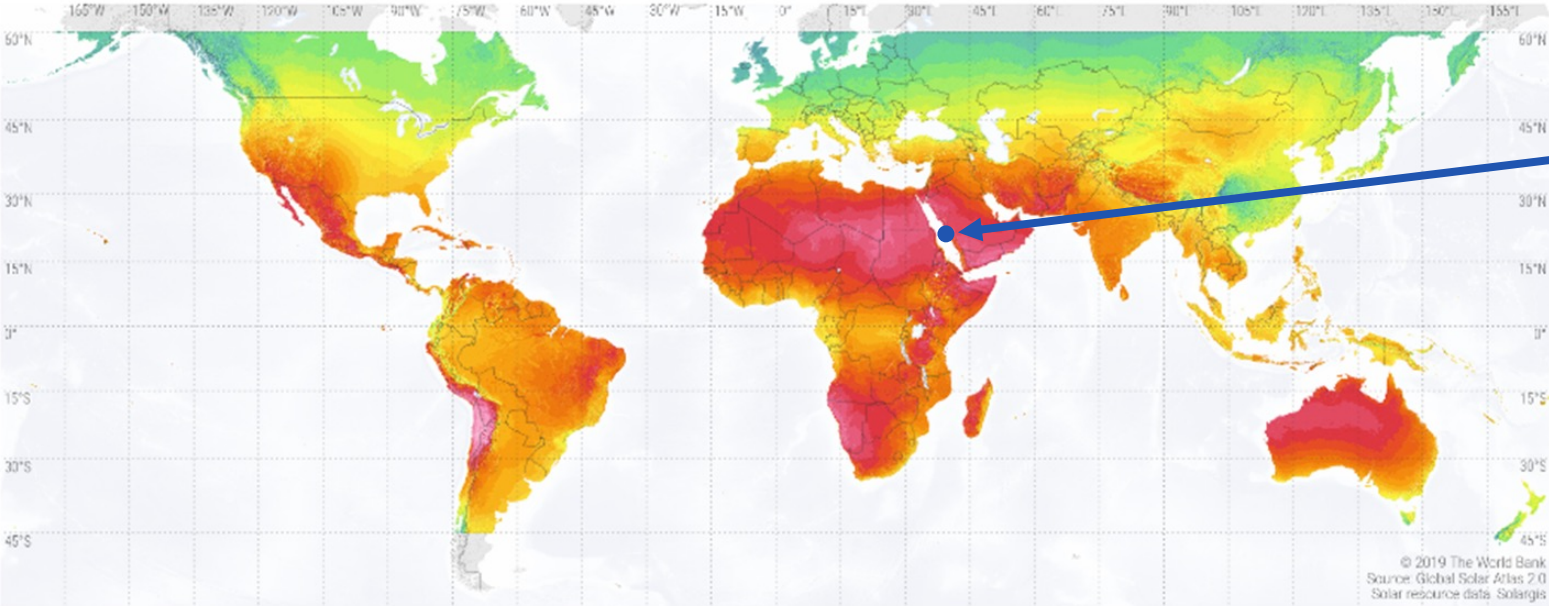
aMethanol[®]



cSink[®]

aFuel[®] = aMethanol[®] & cSink[®]

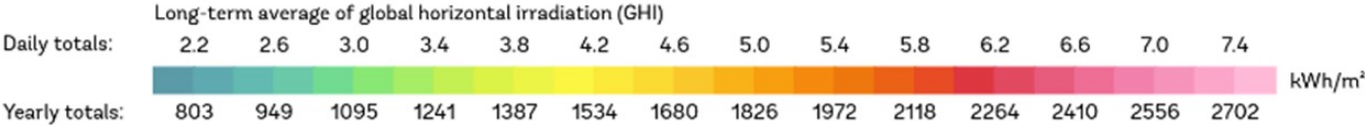
Photovoltaics in Sun Belt Cheapest Energy Worldwide



Shuaibah, Saudi Arabia
600MWp
2400kWh/m² irradiance

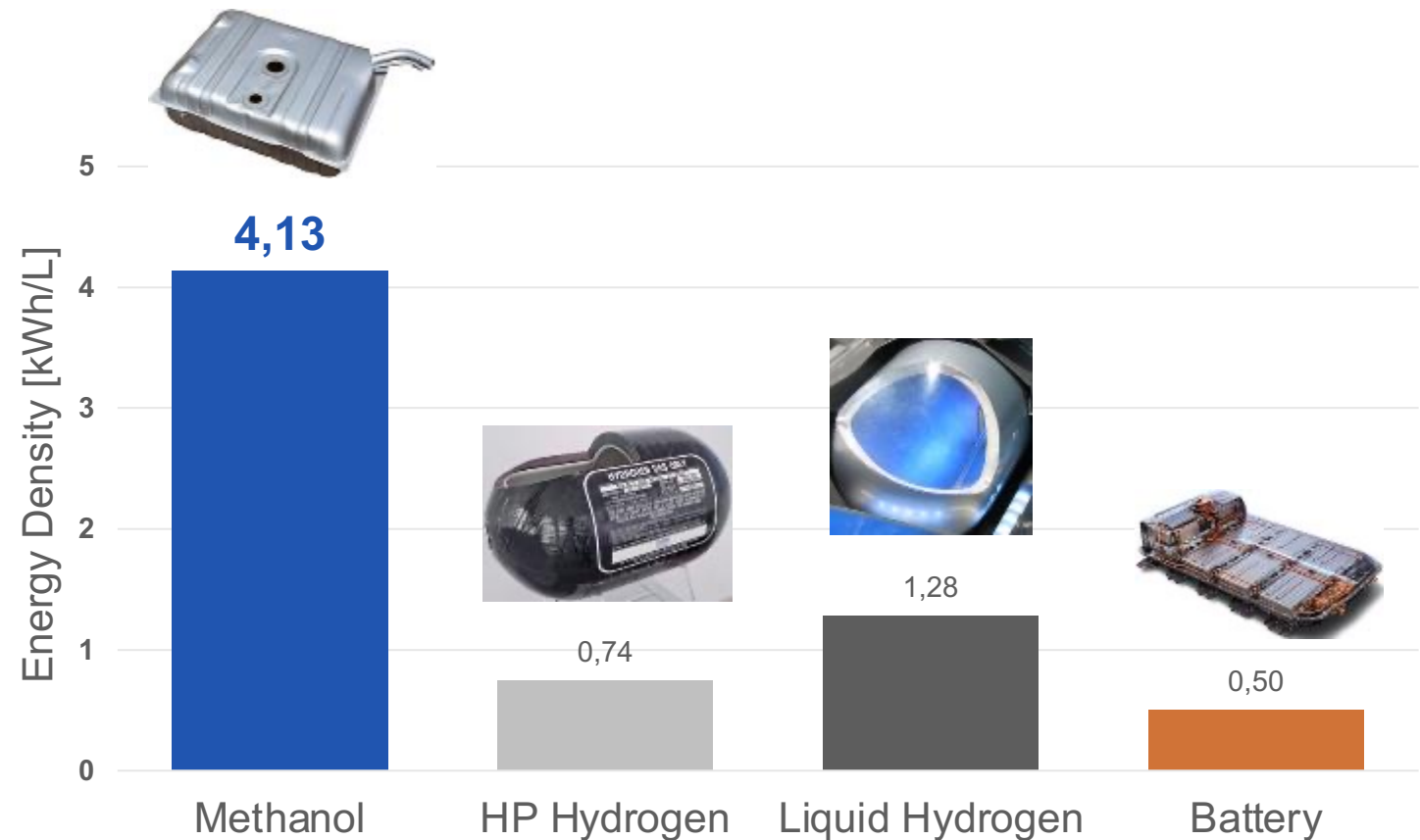
0.88 ct/kWh

Lowest LCOE worldwide
(April 2021)



Comparison Energy Density Energy Stored Per Liter (with typical tank)

- Methanol is **much more energy-dense than hydrogen or batteries**
- Unlike hydrogen, methanol does not need pressurized or heavily cooled tanks to be stored or transported
- Methanol carries more hydrogen than hydrogen itself → **best hydrogen carrier**
- Safety of liquid energy carriers higher compared to gases



Djibouti Giga Plant

OBRIST
— TECHNOLOGIES —

aFuel® World's first climate-positive Energy Carrier

PLANT SPECS

Plant Size: 120km²

Peak Power: 14.4 GW_p

(Modular Plant Design)

CAPEX: approx. 20b\$

Costs: approx. 1.5b \$/year

Sales: up to 10-20b \$/year

Net Income: up to 8.5 - 18.5b \$/year

Payback Period: approx. 1.1 - 2.4 years

License RR-Fee: approx. 100-200m \$/year

OUTPUTS

aMethanol®

3 963 900 tons/year

aCarbon®

228 700 tons/year

aOxygen®

6 549 700 tons/year

Carbon Dioxide Credits -

Volume

6 289 000 tons/year

aFuel® Vehicle Presentation IAA Mobility Munich 2021



Dr. Gerd Müller
Secretary general of UNIDO

UNIDO Global Call 2023 Award “Most Promising Solution”

- The OBRIST HyperHybrid was awarded on the 7th of November 2023 for the “**Most Promising Solution**” in Beijing
- The award ceremony for the United Nations Industrial Development Organization’s Global Program Solicitation
- More than 2,000 participants from 108 countries contributed smart solutions



Experts, Network and Supporters

- Backed and supported by world-leading scientists



Prof. Schlögl



Dr. Jacob



Prof. Radermacher



Prof. Basseur



Prof. Tillmetz



Prof. Olsowski

- Supported by United Nations and Governments



Dr. Gerd Müller, UNIDO

- Media: NZZ, FAZ, Welt, 3Sat, N24, ARD.....

- Cooperation with world-leading Companies



Minister Karliczek, BMBF



Chancellor Karl Nehammer

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