

Energy transition in Germany

Climate goals, action & empowerment towards a green energy system



Agenda

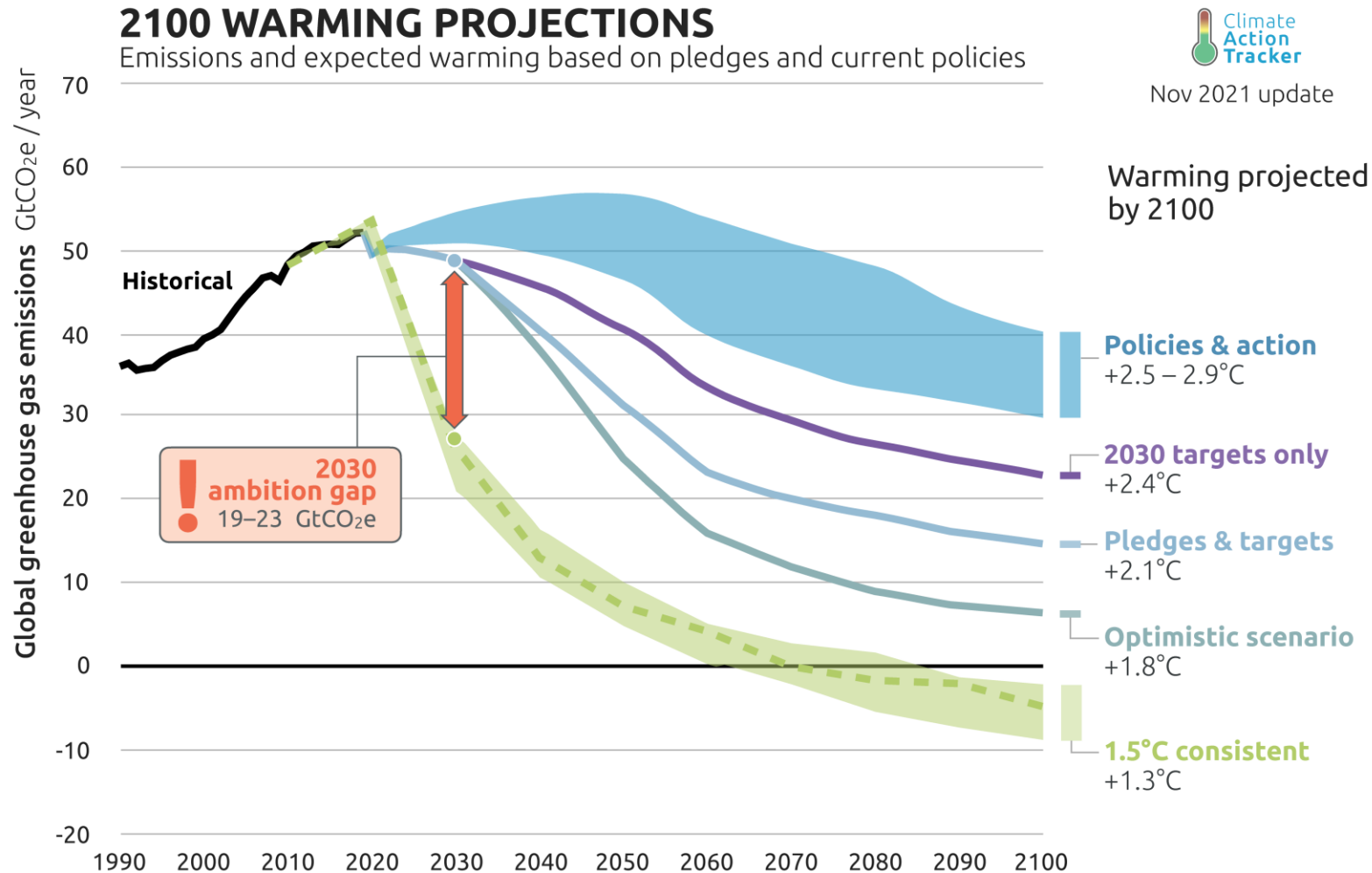
- 1. Status quo of the Energiewende in Germany**
- 2. IKEM and the department Sustainability & Innovation**
- 3. Green energy system**
- 4. Action and empowerment**



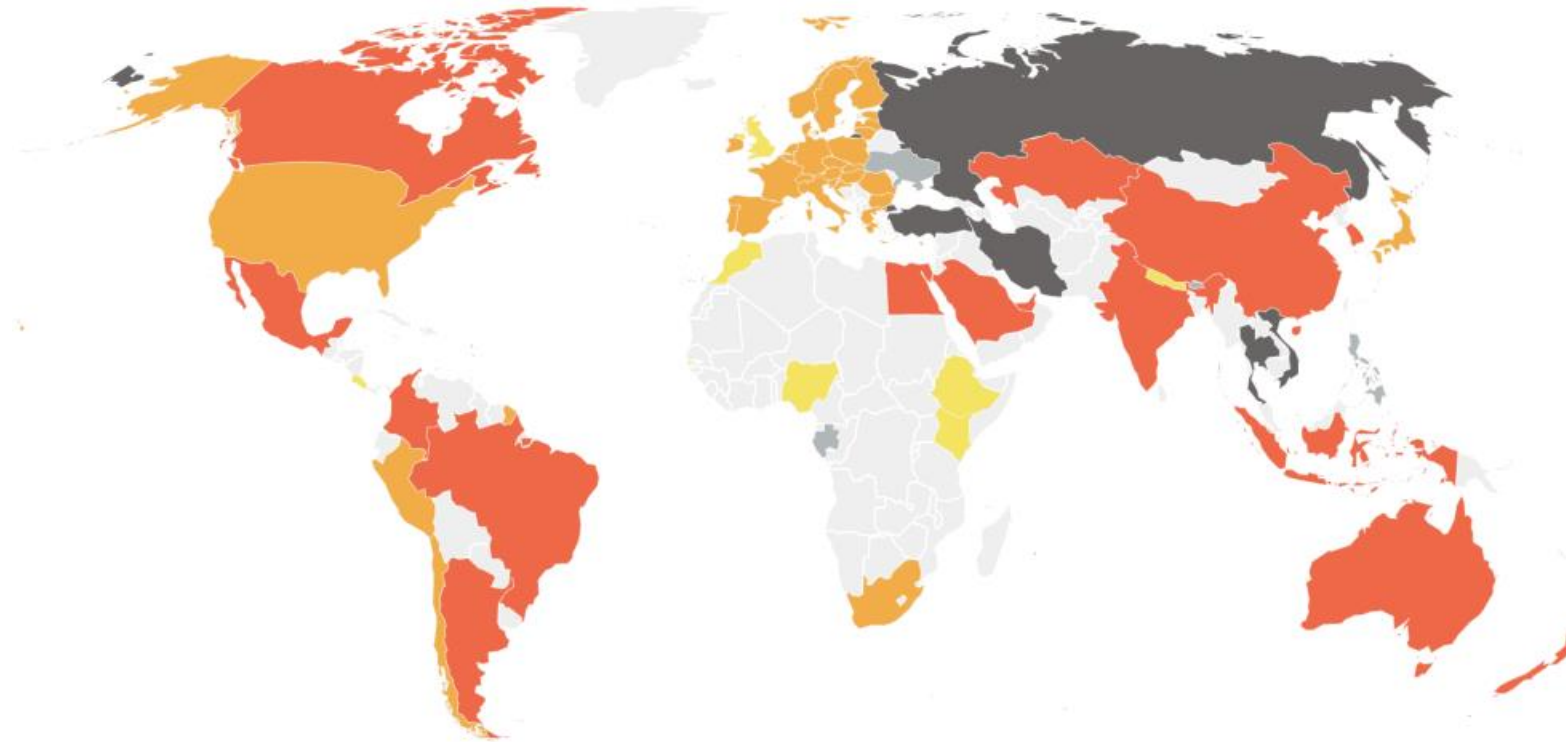
1. Status quo of the Energiewende in Germany



Global emissions trends and projections



Commitments to climate action



The maps displayed are for reference only.

LAST UPDATE: May 2022



Major legislative initiatives since 2000 in Germany

- Adoption of the **Erneuerbare-Energien-Gesetz (EEG)** in 2000
- Implementation of other important laws covering sector coupling + amendments to the EEG
- Ratification of the **Paris Agreement** in 2016
- **Bundesklimaschutzgesetz** (German Federal Climate Change Act) in 2019, amended in 2021



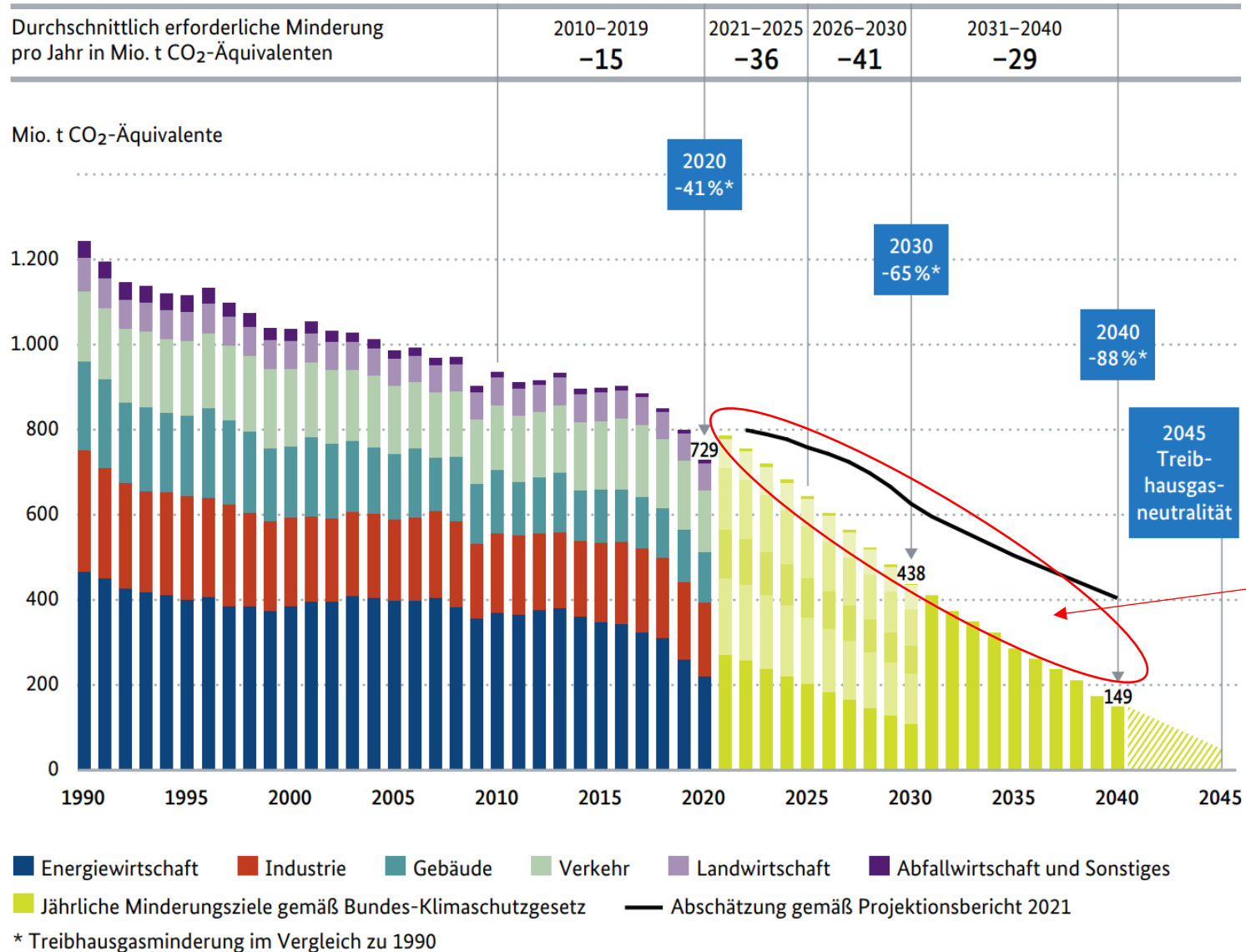
Landmark decision by the Bundesverfassungsgericht (Federal Constitutional Court) in 2021

- Lawsuit brought forward by young citizens & NGOs
- Landmark decision concerning climate protection obligations by the Federal Government
- **Main achievements:**
 - constitutional “**intertemporal**” duty to protect the complainants from the risks of climate change
 - Existence of **fundamental right to climate protection**
 - First legal recognition of the GHG-budget approach



Greenhouse Gas Emissions in Germany

Entwicklung der Treibhausgasemissionen in Deutschland

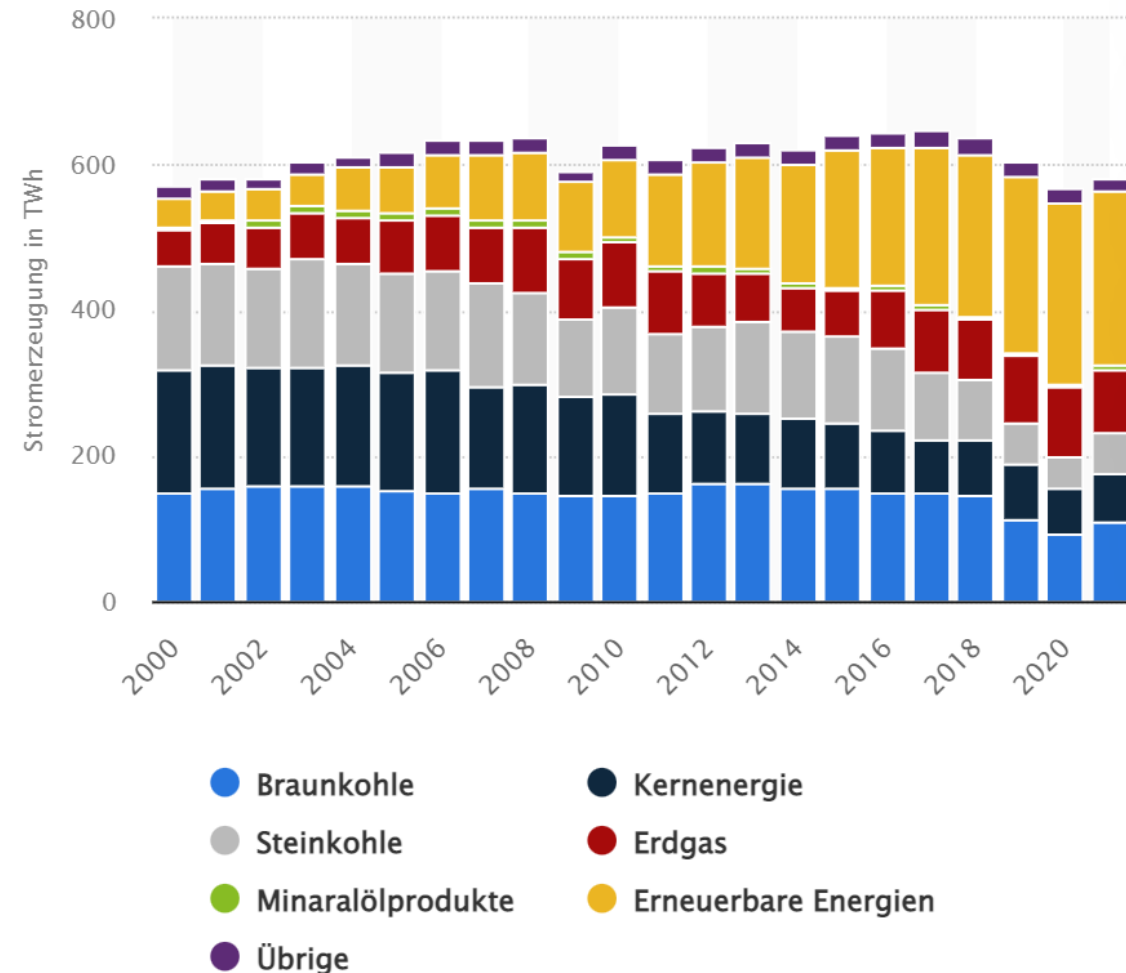


Ambition Gap!

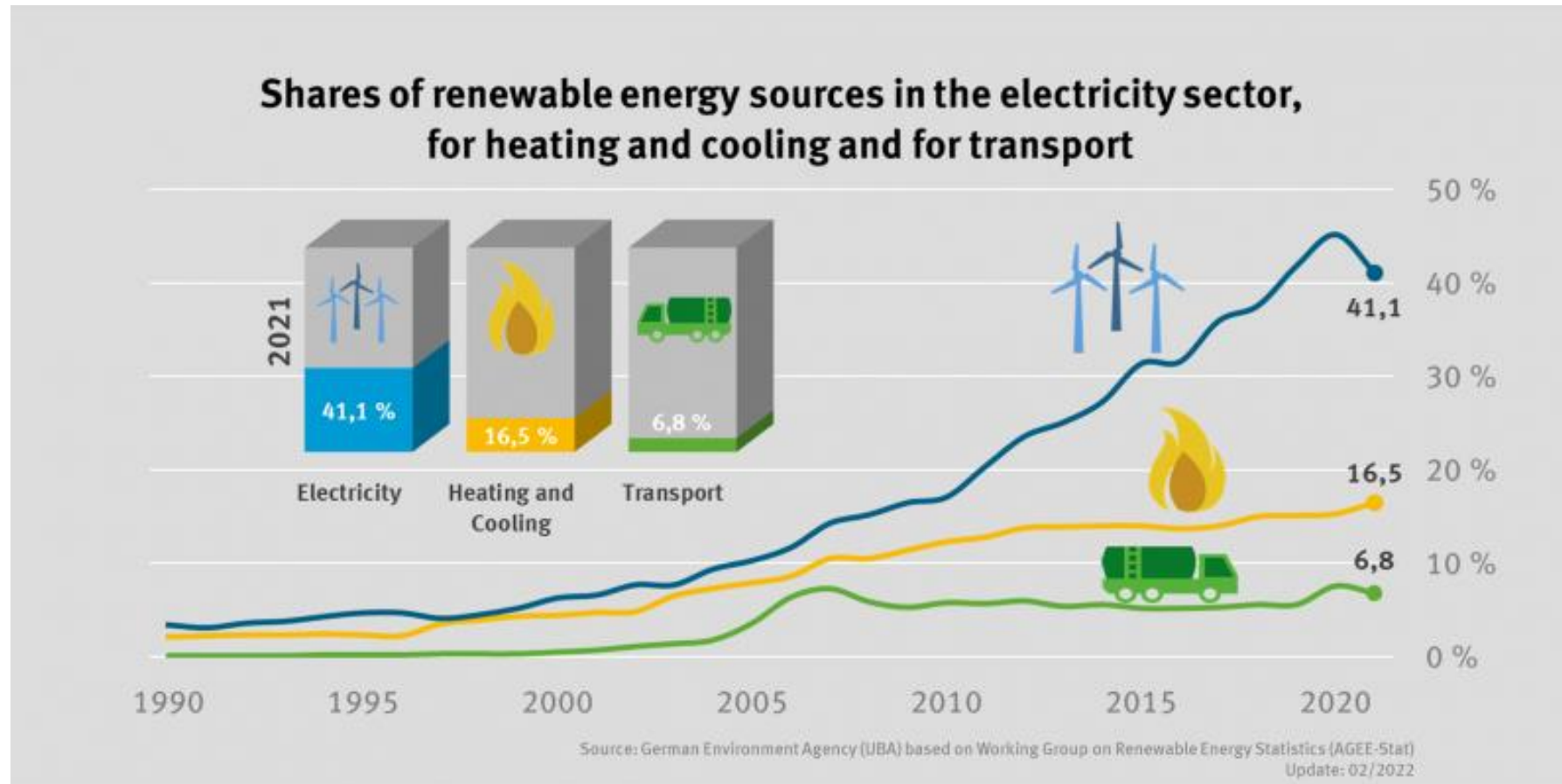
Gross electricity generation in Germany by energy source (2000 to 2021)

Challenges:

- Coal phase-out until 2030
- Ukraine war: Reduction of Russian gas and oil imports



Renewable Energies (RE) in different sectors



Current legislative packages

Easter package:

- Omnibus act

Main measures:

- Use of **RE** is in the **public interest** and **serves public security**
- New expansion goals: **80% gross electricity consumption by RE until 2030**
- Laws to speed up the expansion of RE
- Designation of new available areas for expansion of RE
- Summer package: Regulations on zones, approval of RE and species conservation



Questions?



MINI-TOUR AROUND IKEM



IKEM

2. IKEM and the S&I department



3. Green energy system

Local green energy in Brandenburg and Berlin

- Project with Wirtschaftsförderung Brandenburg (WFBB)
- **Goal:** Promotion of the regional energy transition in Brandenburg and Berlin
- **Basis:**
 - Brandenburg is energy and RE export region
 - Green energy as a location advantage
 - **Crucial for success:** Regional producers of RE and innovative regional companies and developers located in Brandenburg and Berlin!



Local green energy in Brandenburg and Berlin

- Research results show existing possibilities and barriers within the regulatory framework and concrete project implementation
- Learning effects and success factors identified:



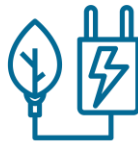
Regulatory
barriers



Technical
feasibility



Socio-economic benefits
to developing the region



Transferability
potential of green
power concepts



TransHyDE

- **Goal:** Decarbonization of the transportation sector
- Transport of green hydrogen and its derivatives
 - Development of transportation technologies
 - Test and scale up on four transportation technologies
- **Research focus:** Transport of hydrogen bound in ammonia
- Regulatory framework and acceptance research



4. Action & empowerment





- **Energy research and network building for the collaborative expansion of social engagement opportunities**
 - **Transdisciplinary energy research**
 - Inventory and analysis of innovative participation models and representative energy transition projects
 - **Energiewende-O-Mat („Energy transition-O-Mat“)**
 - Based on the inventory, develop a user-friendly online-tool
 - **Communication, visualisation & capacity-building**
 - Creative communication, capacity-building workshops and visualisation

IKEM at @ UNFCCC & @IPCC

At COP26, IKEM urges action on urban sustainability

📅 19.11.2021 🔗 climate change, Climate protection, Urban Sustainability



IKEM Academy: Energy & Climate

The IKEM Academy is a world-renowned multidisciplinary forum for highly qualified researchers and professionals of all ages who want to learn more, thank more and do more for the global energy transition.



site visits



participatory
workshops



networking

IKEM Academy: Energy & Climate



19 years

60 nationalities

450+ alumni

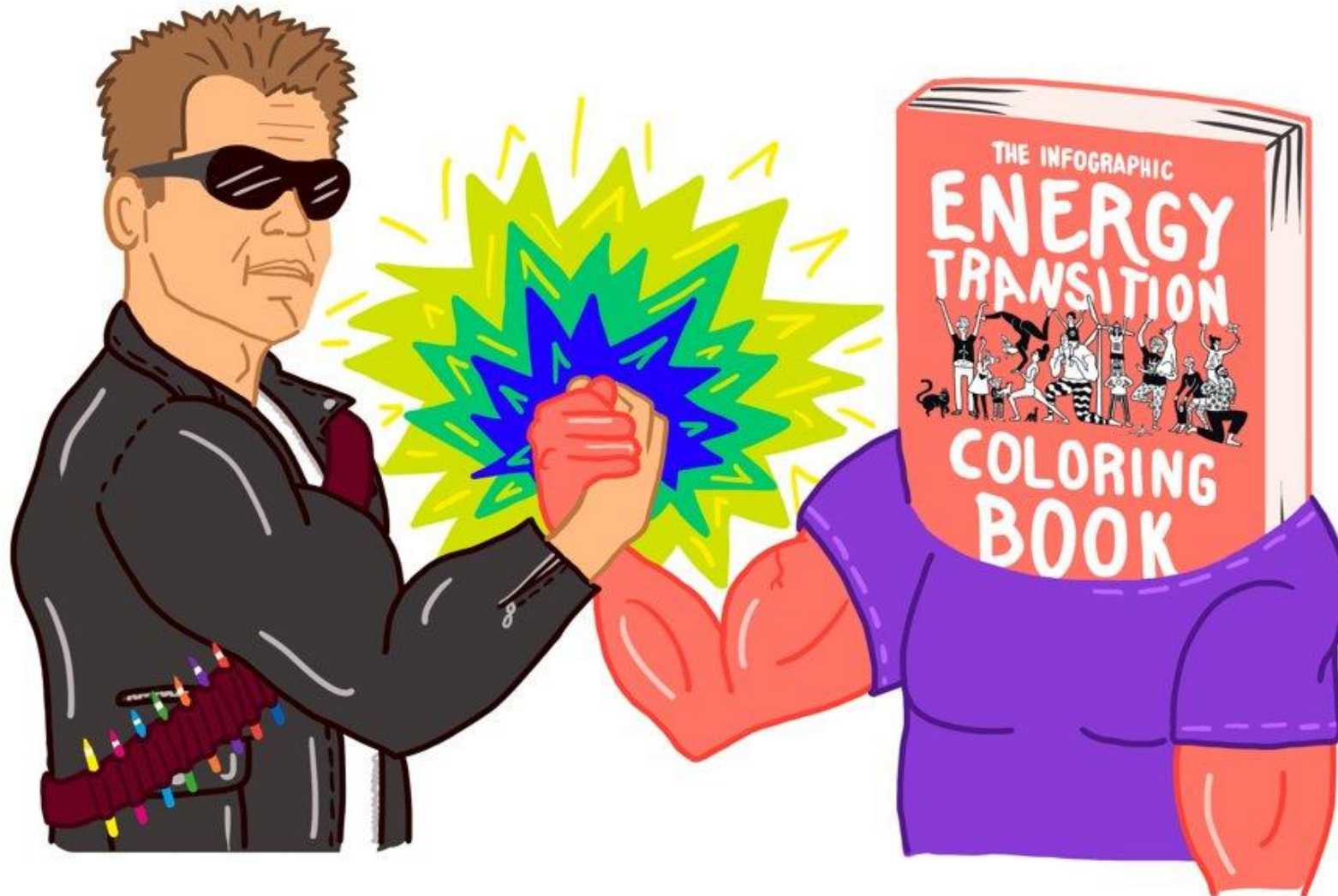
Infographic Energy Transition Coloring Book

The Infographic Energy Transition Coloring Book (IETCB) is a unique visual communication and educational tool that uses infographics to engage people of all ages in the conversation on climate change and renewable energy



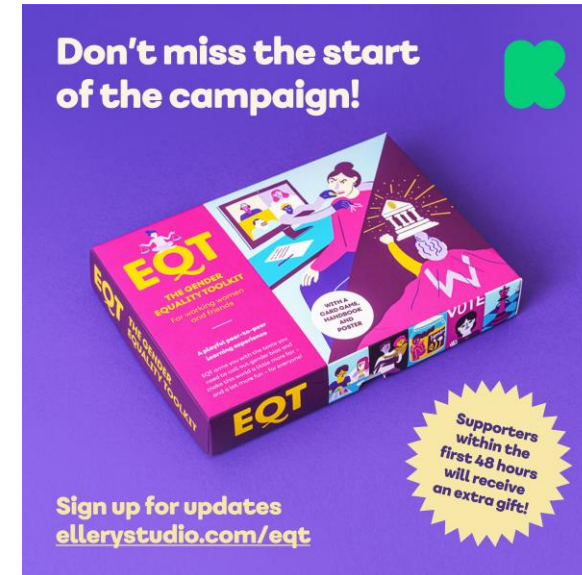
ENERGY
EXPERTISE

INFOGRAPHIC
STORY-TELLING
SKILLS



EQT: THE GENDER EQUALITY TOOLKIT

EQT facilitates conversations, raises awareness and helps drive positive change in the workplace. It is an innovative toolkit that empowers you with the knowledge, language and confidence to speak up and take action against gender bias and sexism in the workplace.



EQT: THE GENDER EQUALITY TOOLKIT



Q&A

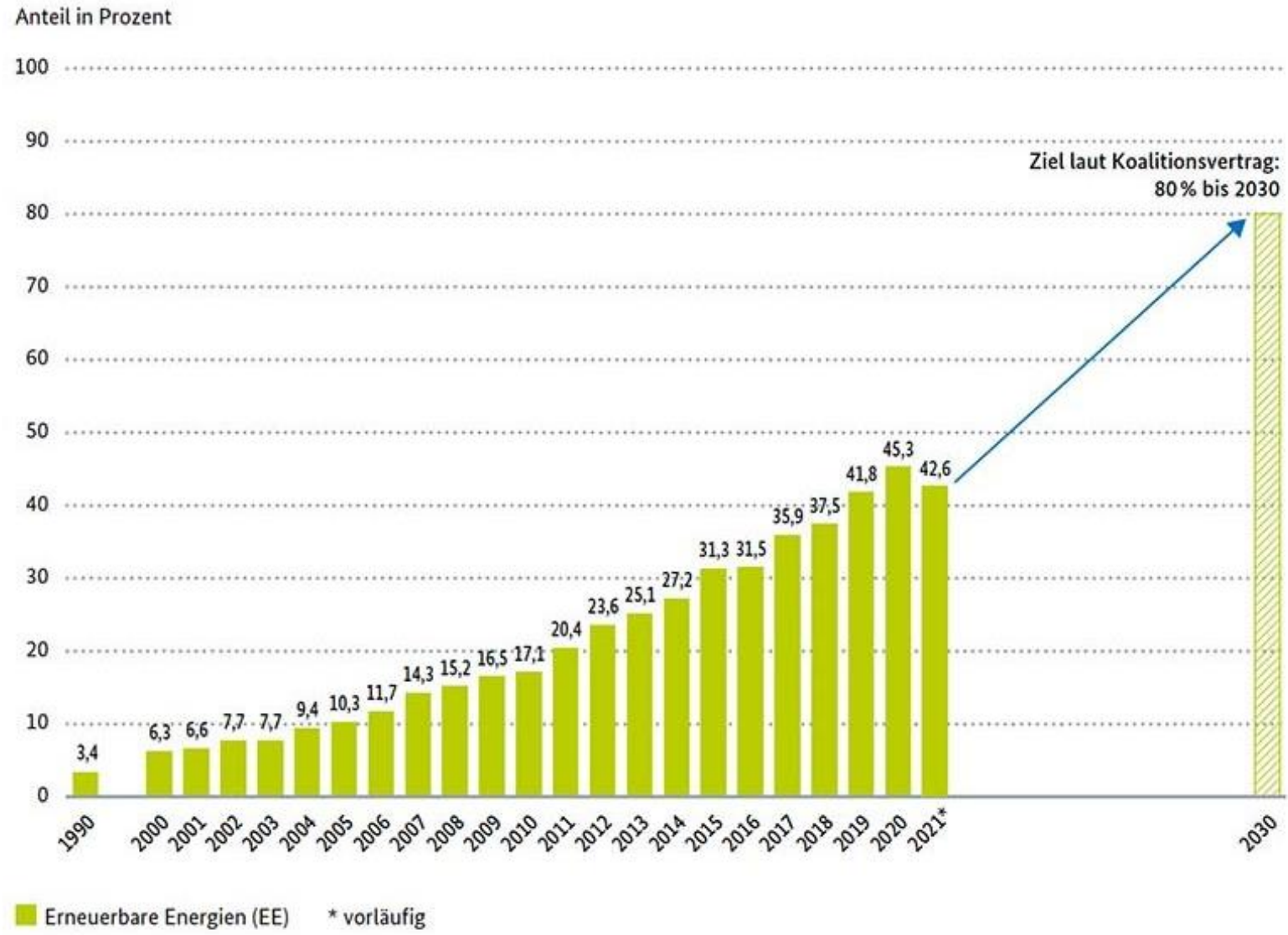




Looking forward to engaged discussions!

BACK-UP

Share of renewable energies in gross electricity consumption



Quelle: Arbeitsgruppe Erneuerbare Energien-Statistik (AGEE-Stat)

Climate Change: Atmospheric Carbon Dioxide

CARBON DIOXIDE OVER 800,000 YEARS

