

Agora
Energiewende



Germany on the way to net-zero?

*An assessment of the energy and climate
policy of the new German government*

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Who we are

- **Think Tank and Policy Lab**
- Roughly **100 energy transition experts**
- **Independent** and non-partisan with diverse financing structure
- **Our vision:** a prosperous and **carbon-neutral global economy** by 2050
- **Science-based solutions and policy advice** to deliver **clean power, heat and industries** – in Germany, Europe and around the globe
- **Programmes in ~20 countries**, with offices in Berlin, Brussels, Beijing and Bangkok



Most recent developments of German Climate and Energy Policy

The ruling of the Constitutional Court

Picture of 'Justitia'

- In April 2021, the Constitutional Court ruled that current German climate policy is “incompatible with fundamental rights”, because it violates the rights of future generations (protection of life, physical integrity, right to property).
- According to the Court, to achieve 1.5°C above pre-industrial levels, the (GHG) reductions “will have to be achieved with ever greater speed and urgency”.

‘Old Parliament’ adopts new Climate Protection Act

German Parliament



Source: Bundestag

Climate Protection Act from June 2021 demands

- climate neutrality by 2045
- reduction of GHG against 1990 levels of 65% by 2030 and 88% by 2040.
- From 2050 onwards: negative emissions
- Sectoral targets for energy, industry, transport, buildings, land use and waste

New „traffic light government“ launches implementation plan

Press conference of the traffic light parties on 24.11.2021



Some key points

- commitment to 1.5° path
- increase of renewable share in electricity sector to 80% by 2030
- 2% of the land area for onshore wind
- PV expansion strategy
- coal phase-out ‚ideally‘ by 2030
- nuclear phase-out end of 2022 (not changed)
- comprehensive reform of the electricity market design incl. grid charges, taxes, levies, surcharges
- planning for climate neutrality grid network

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Some key points

- resilient investment framework for climate-neutral industry, i.e. carbon contracts for difference and Carbon Border Adjustment Mechanism (CBAM) at EU level
- Heat target: 50% "climate neutral heat" by 2030
- Comprehensive municipal heat planning and expansion of green heat networks
- targets and subsidies for building refurbishment
- Supporting an ambitious implementation of the European Commission's Fit for 55 package
- Minimum price in European emissions trading of 60 EUR/t, national if necessary
- 15 Mio. electric vehicles by 2030 (today ~500k)

New „traffic light government“ launches implementation plan

Press conference of the traffic light parties on 24.11.2021



Some key points

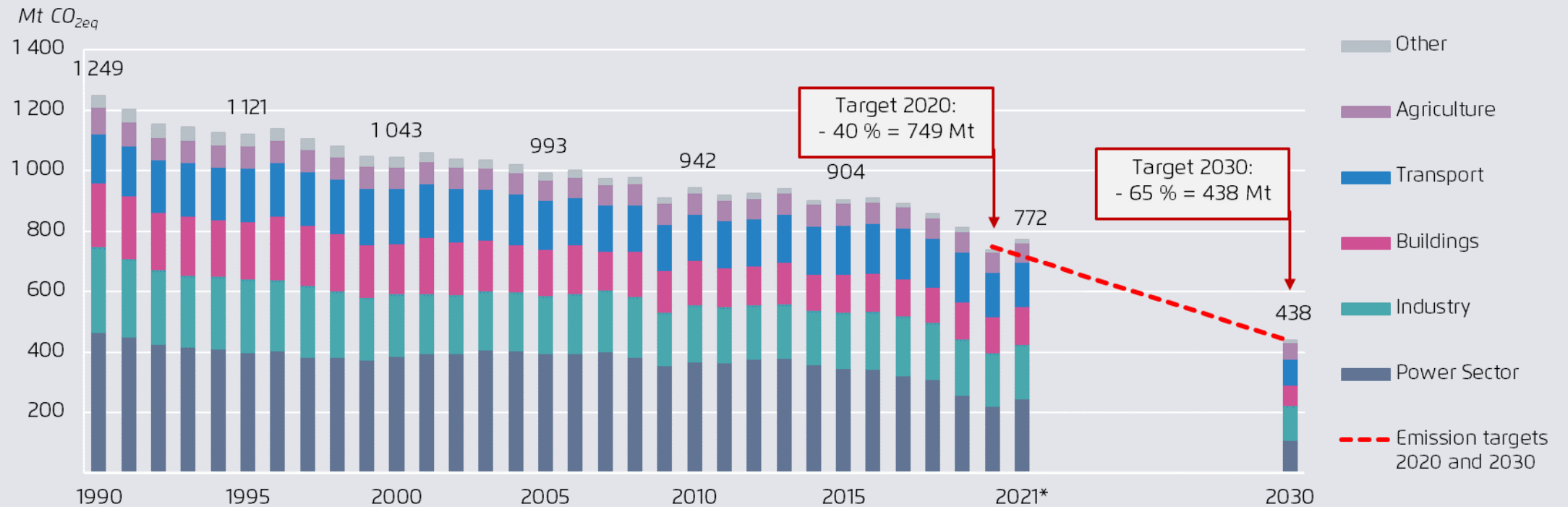
- Significantly accelerate planning and approval processes, incl. species projection
- Gas & H₂: fast ramp-up, priority for domestic green H₂, 10GW electrolysis by 2030;
- climate contracts and other measures for industry;
- Minimum quotas in public procurement for climate-friendly products
- Introduction of a tax premium for climate investments
- Support of an international climate club (via EU & int. bodies) with minimum price and joint CBAM
- circular economy and negative emissions strategies
- ...

Assessing the challenges



Starting with a backlash: German emissions increased in 2021

Germany's GHG emissions 1990 to 2021 and emissions targets 2020 and 2030

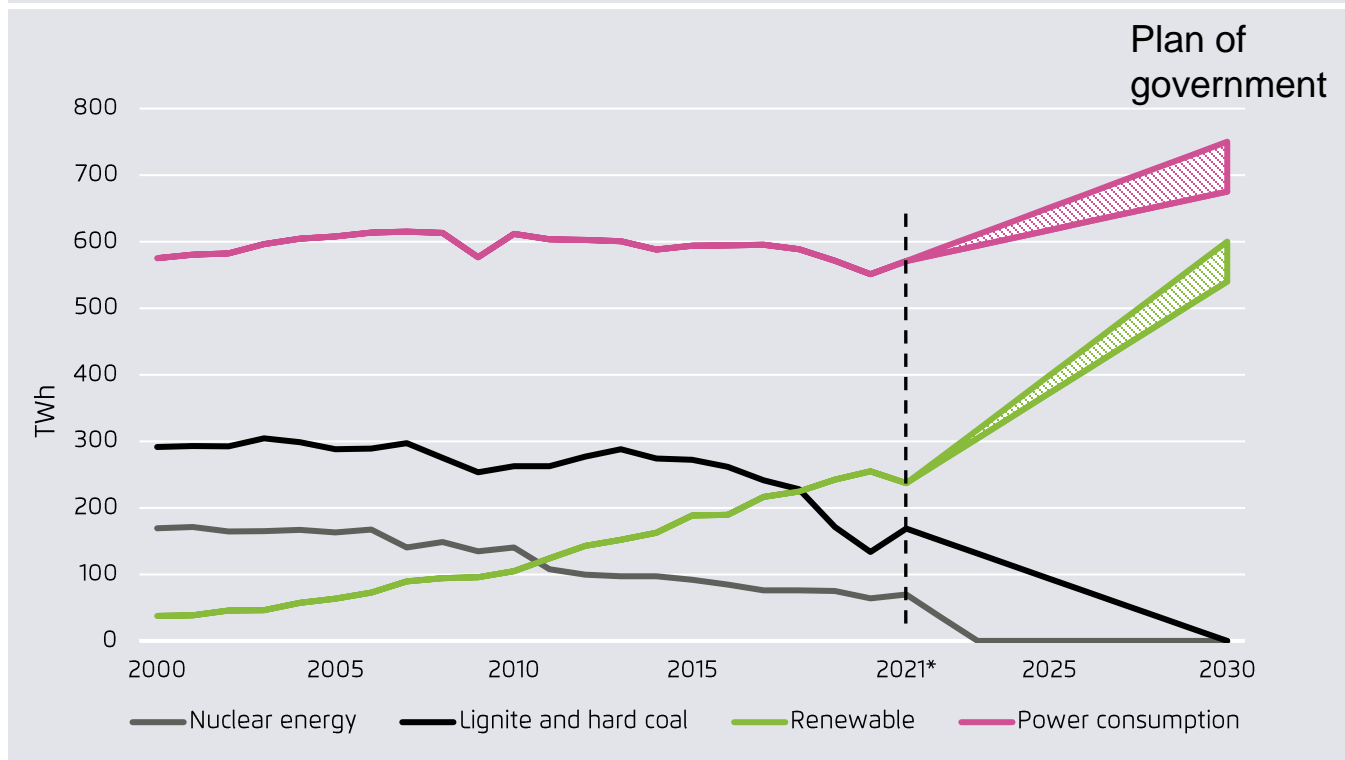


UBA (2021); *Estimate by Agora Energiewende based on AGEB (2021); emission targets according to climate protection law

Power Sector

The renewable bet

Development of electricity generation and consumption in Germany until 2030

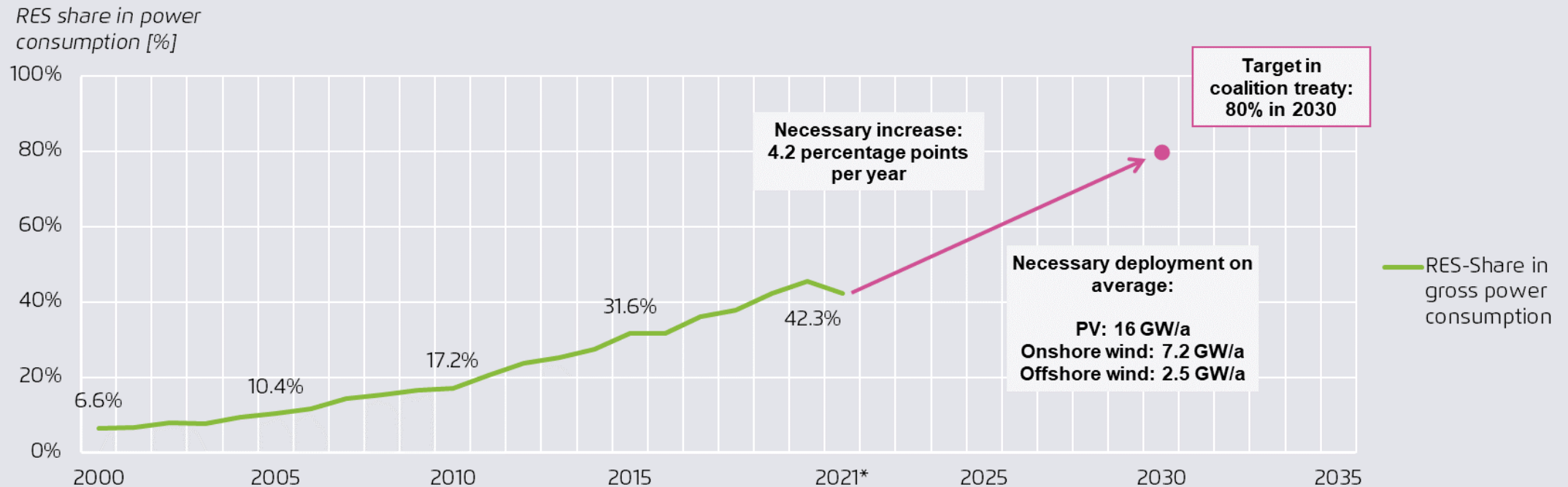


Significantly accelerating the expansion of renewable energy is the foundation for coping with the nuclear phase-out, the coal phase-out and rising electricity consumption (due to electrification of other sectors).

Agora Energiewende 2021 based on AGEB and the coalition agreement

Reaching 80 % RES in 2030 requires 4.2% increase per year

RES share in gross power consumption and 80 percent target according to the coalition treaty

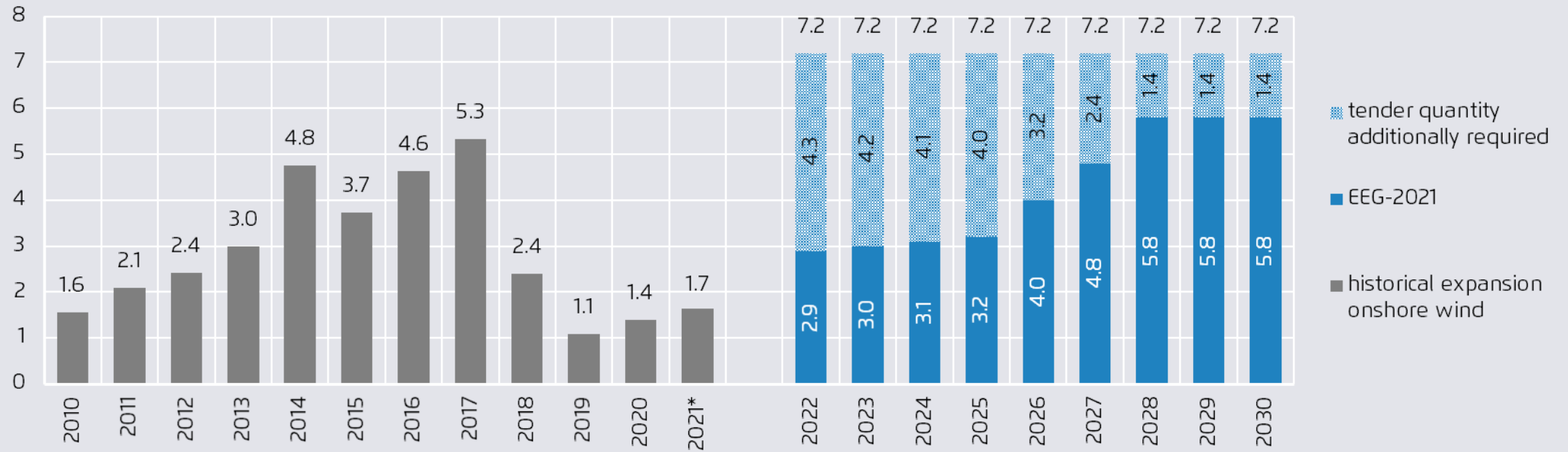


Calculation by Agora Energiewende based on AGEBA (2021); Coalition treaty (2021); *preliminary data

Four times more onshore wind (compared to 2021)

Onshore wind: Historical expansion and necessary deployment until 2030 according to the coalition treaty

Annual deployment in [GW]

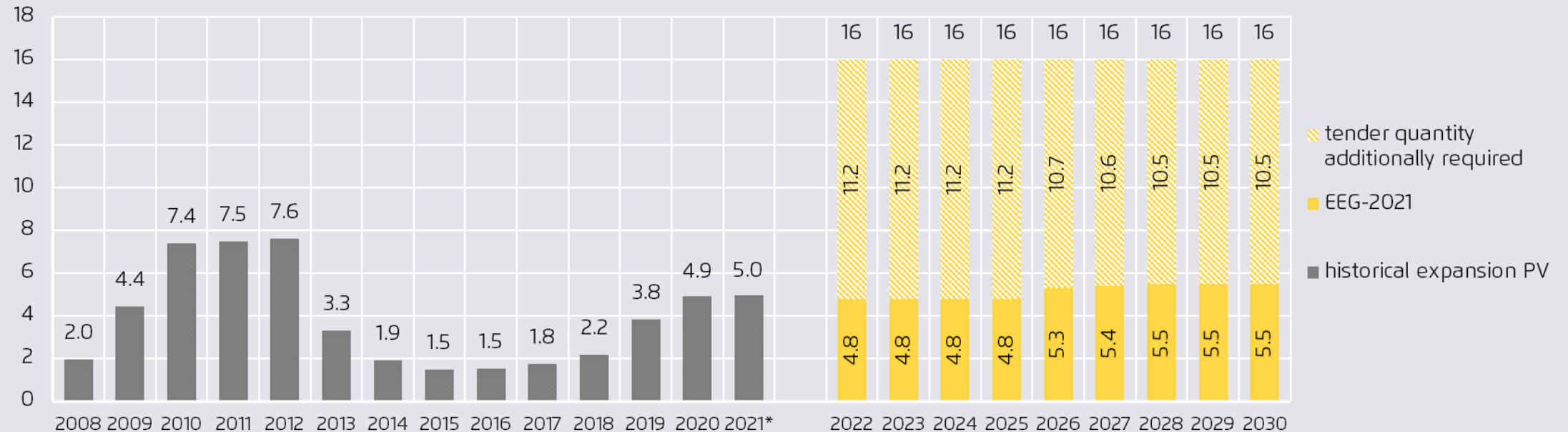


AGEE Stat (2021); Calculations by Agora Energiewende

Three times more solar PV (compared to 2021)

Photovoltaics: Historical expansion and necessary deployment until 2030 according to the coalition treaty

Annual deployment in [GW]

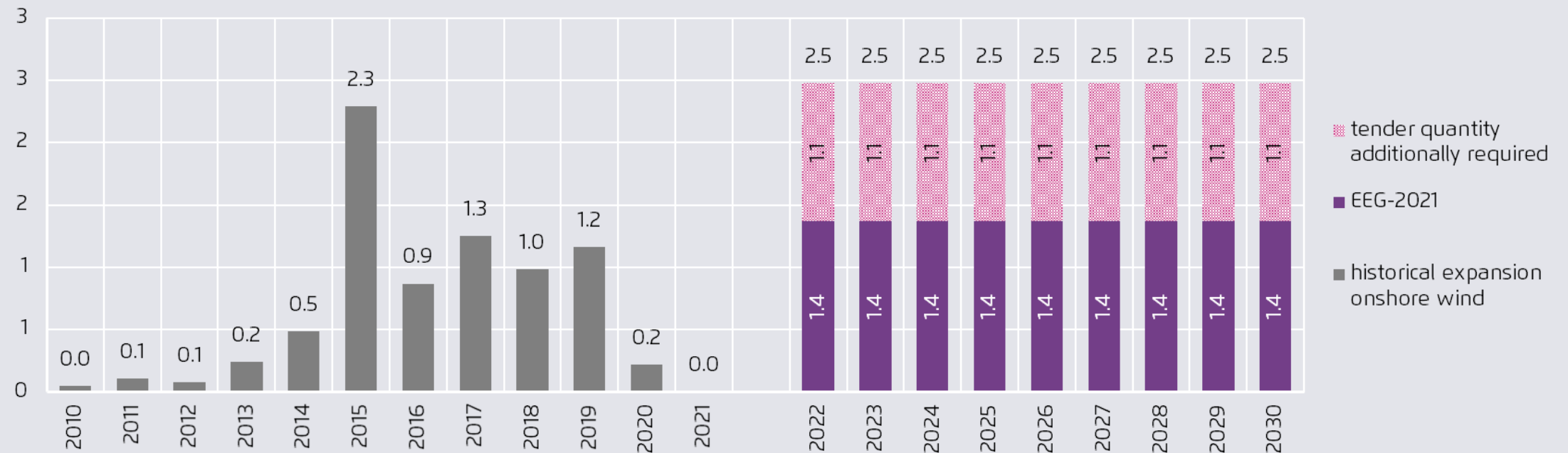


AGEE Stat (2021); Calculations by Agora Energiewende

and an additional 22.2 GW offshore wind

Offshore wind: Historical expansion and necessary deployment until 2030 according to the coalition treaty

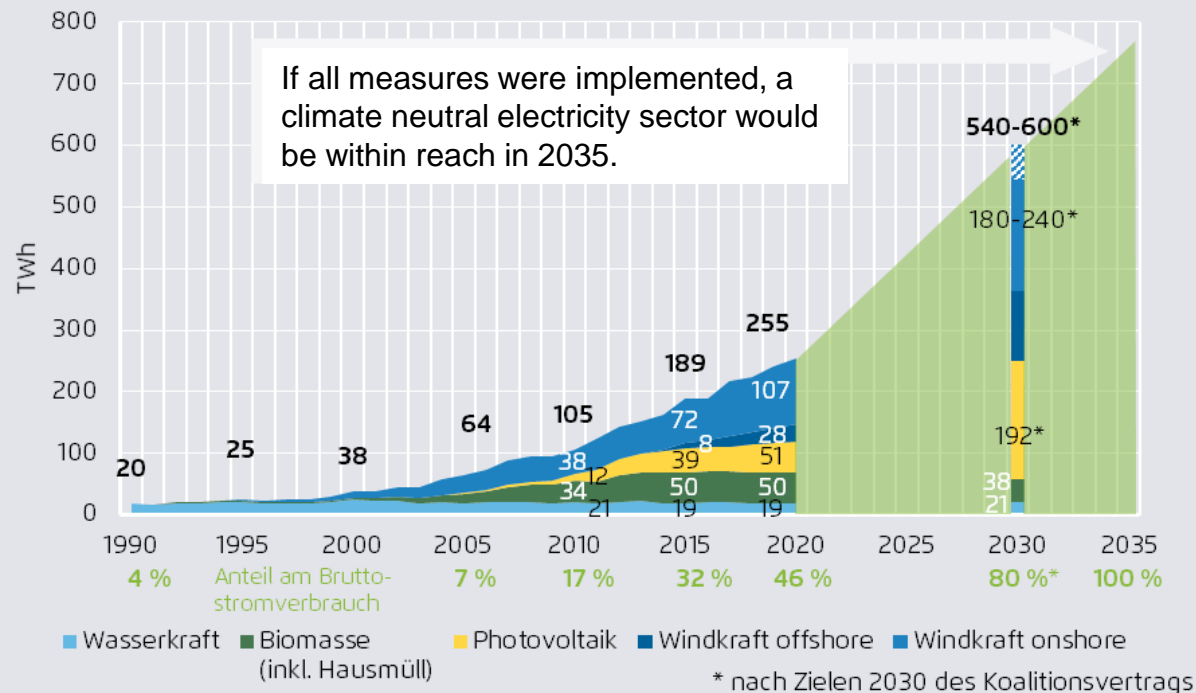
Annual deployment in [GW]



AGEE Stat (2021); Calculations by Agora Energiewende

Towards climate neutrality in the electricity sector by 2035

RES generation and RES share in gross electricity consumption 1990-2030



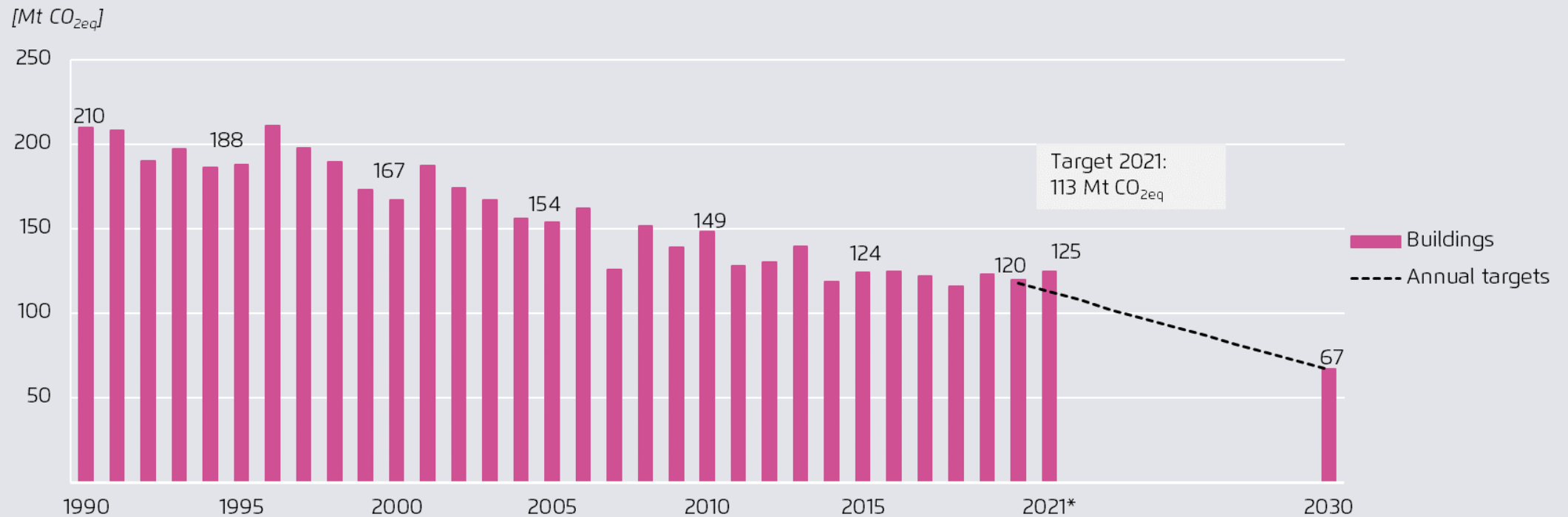
If more or less all planned measures are implemented, the electricity sector could be climate neutral in 2035.

Agora Energiewende 2021 on the basis of AG Energiebilanzen

Heating Sector

Emissions in buildings sectors are flat for years, but need to half in 9 years

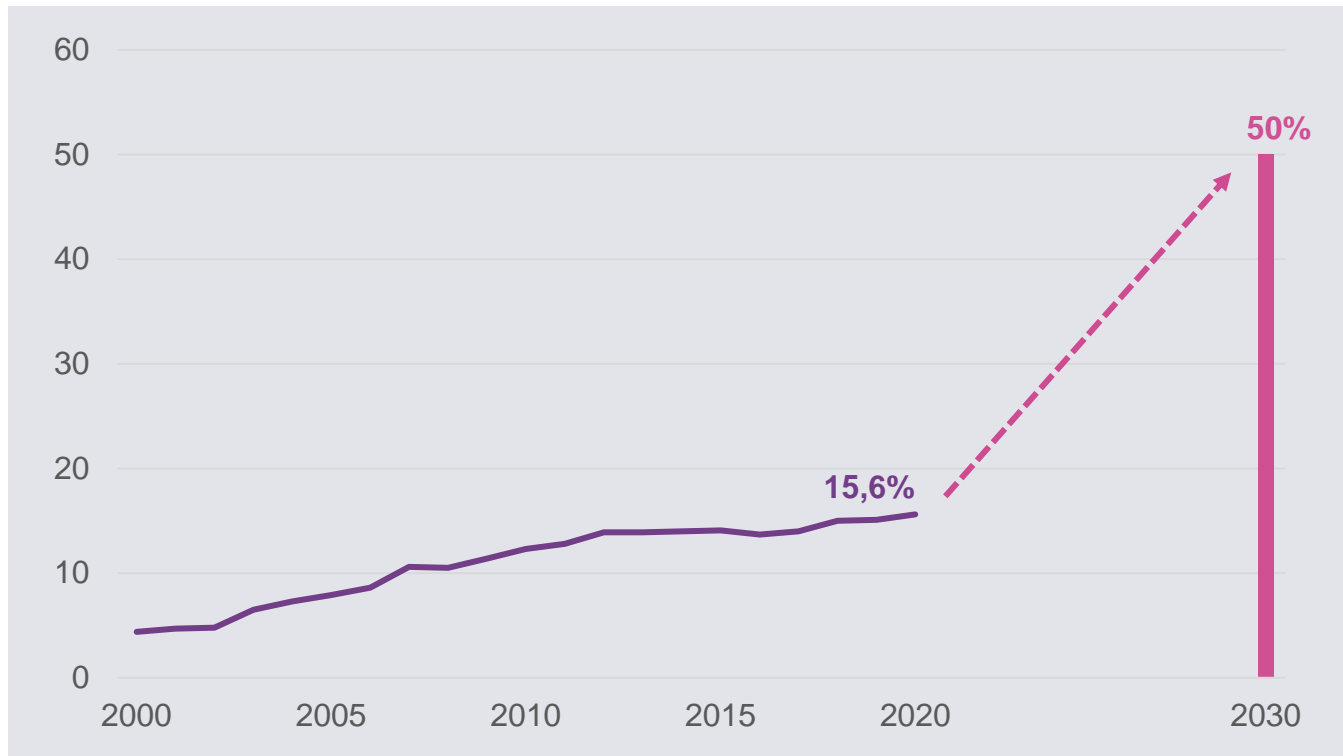
GHG emissions of the buildings sector 1990 to 2021 and annual emission targets 2020 to 2030



UBA (2021); *Estimate by Agora Energiewende based on AGEB (2021), CDC (2021)

Meeting the 2030 heat target requires a paradigm shift

RES share in the heat sector 2000-2030



BMWi (2021), coalition agreement LP20

Target 2030: „generate 50% of heat in a climate-neutral way“. Lots of measures planned:

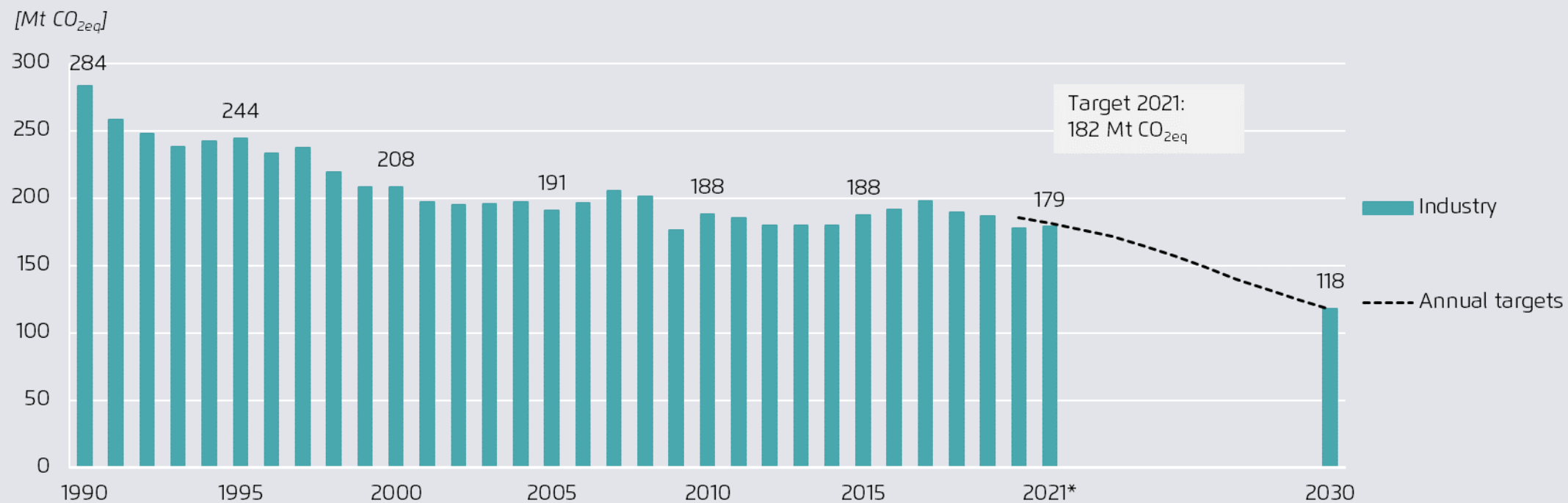
- "Outreach" for municipal heat planning and expansion of heat grids (*no targets or deadlines*)
- KfW funding: new programme with focus on area-related GHG emissions
- From 1.1.24: Refurbishment of existing buildings to EH70 standard
- From 1.1.25: New construction EH40; new heating systems at least 65% RE share
- But: no minimum standards
- Examine rapid switch to partial warmth rents
- Continuation and expansion of the "Serial Refurbishment" funding programme

Industry Sector



Industry reached 2021 climate target (not very ambitious).

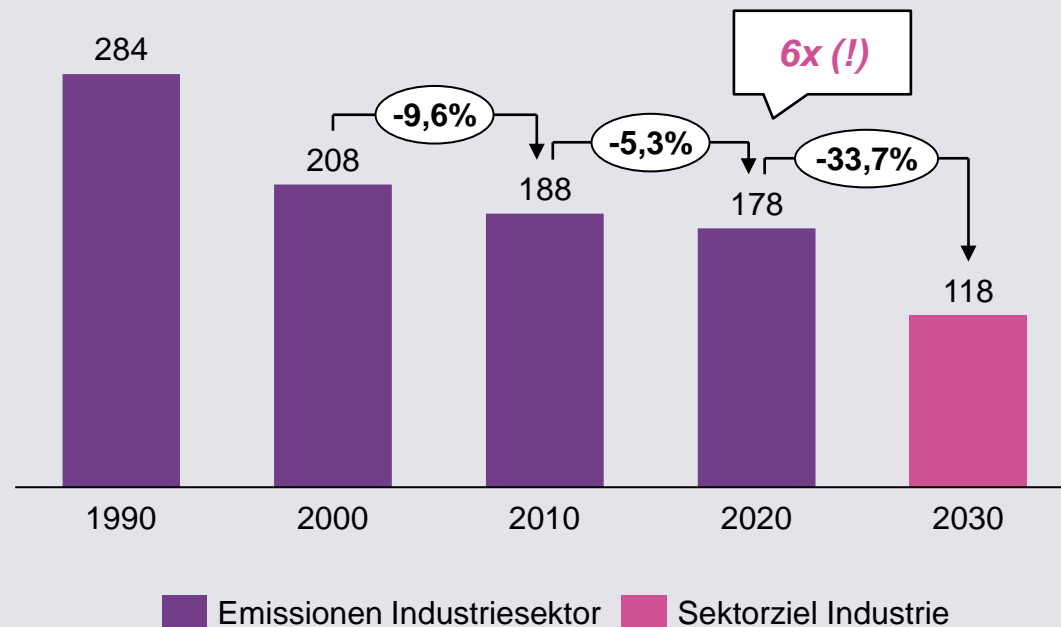
GHG emissions of the industry sector 1990 to 2021 and sectoral targets 2020 to 2030



UBA (2021); *Estimate by Agora Energiewende based on AGEB (2021), Statistisches Bundesamt (2021)

Emissions reductions in the industrial sector must increase six-fold in the period 2020-2030 compared to 2010-2020.

emissions industrial sector and sector target 2030 in Mt CO₂-eq.



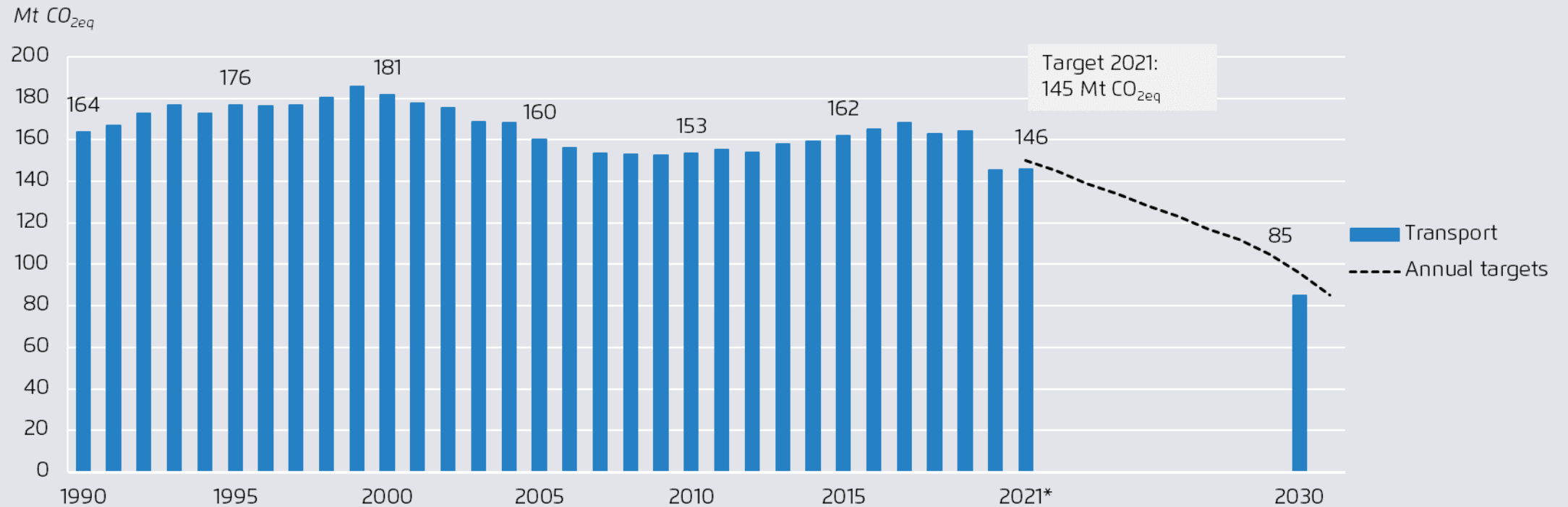
- Emissions in the industrial sector fell only slowly since 2000; low 2020 level largely due to Corona
- In order to reach the 2030 sector target, the decline in the ten-year period up to 2030 must increase sixfold (!) compared to the 2010-2020 decline.
- New government names a number of measures, but remains largely unspecific

UBA 2020, Climate Protection Act 2021

Transport Sector

The transport sector almost met its target for 2021. However, increase in mobility back to pre-pandemic levels expected

GHG emissions in the transport sector 1990 to 2021 and annual emission targets 2020 to 2030



UBA (2021); *Estimate by Agora Energiewende based on AGEB (2021), Statistisches Bundesamt (2021)

Transport sector: the big ?



- „15 Million electric vehicles by 2030“ is the only specific objective in the coalition treaty.
- Other measures are absent, e.g. speed limit on motorways, charging stations...
- Observers have doubts about ambitions of Ministry in charge

Conclusion

Conclusion

1 | Significantly increased level of ambition in recent months: climate neutrality in 2045. New government aiming at fundamental transition of economy towards climate neutrality. Hard to imagine how Germany could fall behind this in the future.

2 | The new government is very committed. But, planned policies and measures are partly detailed and target-oriented, partly vague.

3 | The challenge is massive. Will they deliver? Depends on ability to mobilise business and population and to overcome resistance.

Germany is certainly a place to watch in the coming years.

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Vielen Dank für Ihre Aufmerksamkeit!

Haben Sie noch Fragen oder Kommentare?
Kontaktieren Sie mich gerne:

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