

glasstec

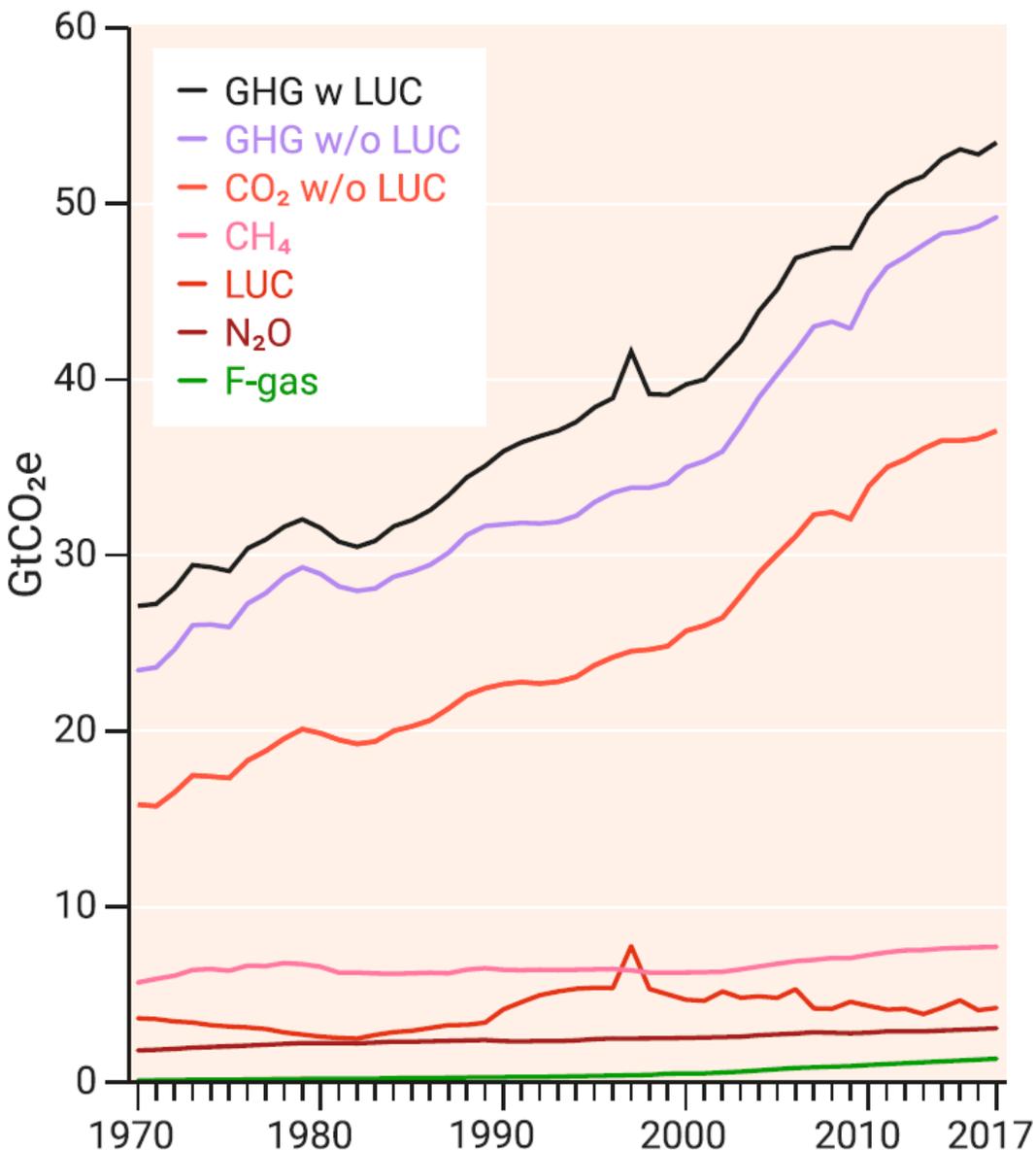
> *UPDATE*
INTERNATIONAL CONFERENCE

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Climate protection in industry

- options for green lead markets

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World reaches planetary boundaries

Goals of Paris Agreement 2015

- ▶ Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial
- ▶ Germany is – besides historical responsibility – as a major emitter of GHG obliged to active climate protection by International Law

Source: UNEP (2019), Lessons from a decade of emissions gap assessments, S. 3

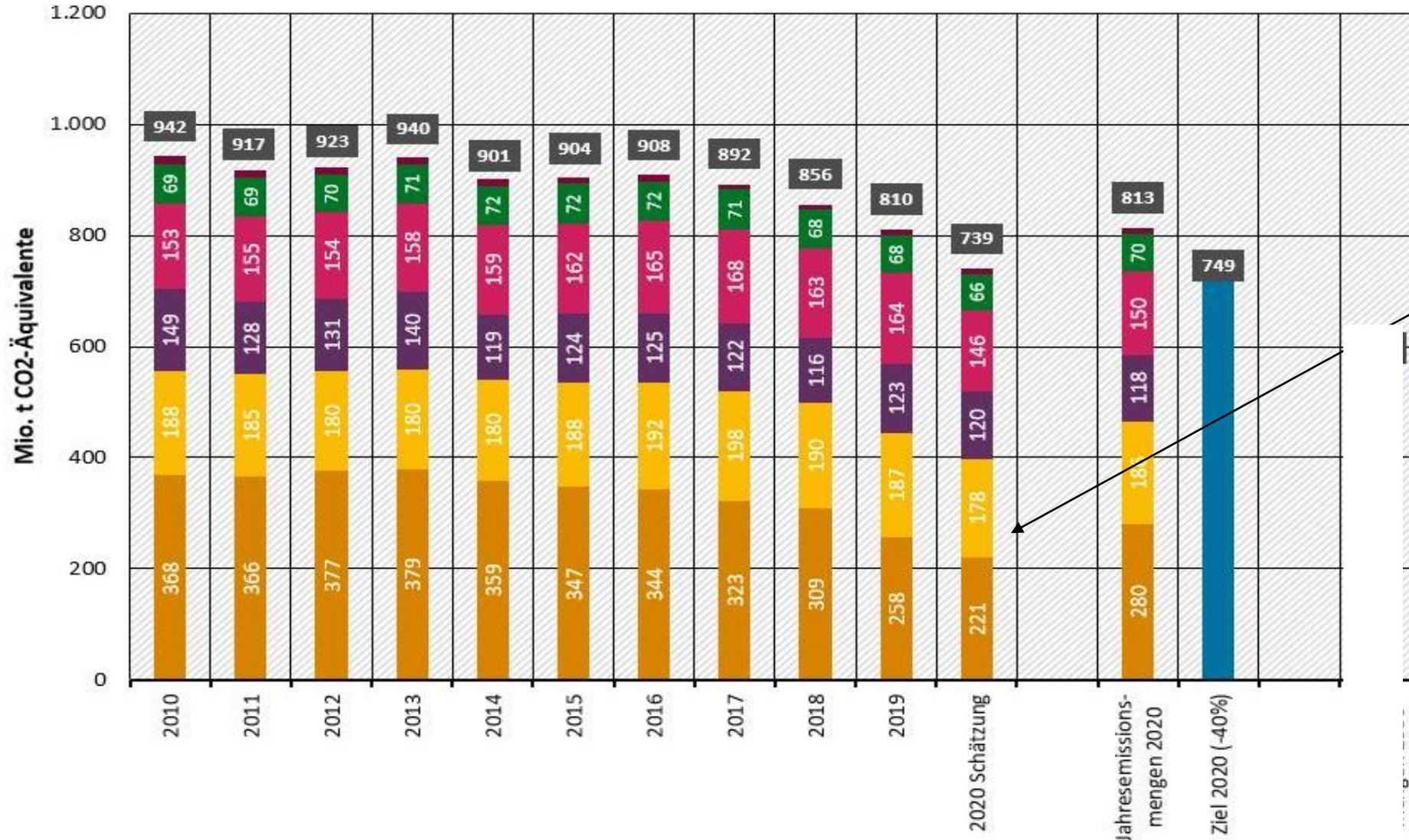
COP 26 in Glasgow (31.10.-13.11.2021)

- ▶ Before COP: NDCs submitted in 2020 cause temperature to rise by 2.6 degrees celsius by 2100
- ▶ Cop issues: i.a. strengthening NDCs, climate finance, „keeping 1.5C alive“ (UK COP Presidency)
- ▶ Outcome polyphonic
 - Net zero pledge during COP = approx. 1.8 degrees Celsius/2100
 - Tightening of NDCs during COP = approx. 2.3 degrees Celsius/2100
 - Policies/instruments = approx. 2.7-2.8 degrees Celsius/2100
- ▶ Depending on mitigation pathway and policies, temperature increase < 2 degrees is achievable, important is the mitigation pathway that the global community is on.
- ▶ "Phase down" instead of "phase out" coal in final document

Climate Protection in EU and Germany

- ▶ EU climate targets
 - ▶ "EU Climate Act" of 30.06.2021 (OJ L 234/1 of 09.07.2021) as part of Green Deal: EU to become first GHG-neutral continent by 2050.
 - ▶ Reduction of at least 55% by 2030 compared to 1990 levels
- ▶ German Climate targets according to Climate Protection Act
 - ▶ New momentum due to BVerfG ruling, amendments to KSG
 - ▶ Target: GHG neutrality by 2045 as long-term goal
 - ▶ Tightening of interim targets in individual sectors by 2030 and in overall reduction by 2030 and 2040
 - ▶ statutory reduction commitment in sectors, annual interim targets until 2030
 - ▶ Responsibility of the competent ministries
 - ▶ UBA: 70% reduction by 2030 is feasible and desirable

Entwicklung der Treibhausgasemissionen in Deutschland (Sektorenabgrenzung nach Klimaschutzgesetz)



Industrie = approx. 24% of total emissions of GHG in Germany in 2020

Industrie's goal in 2030: 118 Mio t CO2e

■ Energiewirtschaft
 ■ Industrie
 ■ Gebäude
 ■ Verkehr
 ■ Landwirtschaft
 ■ Abfallwirtschaft und Sonstiges

* Die Aufteilung der Emissionen weicht von der UN-Berichterstattung ab, die Gesamtemissionen sind identisch

Quelle: Umweltbundesamt 11.03.2020

Climate Protection in German Industry

- ▶ Germany is a highly industrialised country in the heart of Europe – and it should stay that way!
- ▶ Industry needs major efforts to achieve legally fixed GHG reduction targets – reduction of energy-related as well as process-related emissions.
- ▶ Necessary transformation of industry requires technology leaps, innovations and new ways of thinking (decarbonization, energy/material efficiency, development of new products and manufacturing processes) – and all this as fast as possible and in parallel

Situation in German Glass Industry

- ▶ German glass industry faces international competition
- ▶ Glass industry produces energy- and process-related emissions
 - ▶ Energy-related emissions: Effort on energy efficiency, fuel switching in the future and direct use of RES electricity.
 - ▶ Open questions:
 - ▶ Use of green hydrogen? from UBA's point of view only where direct use of electricity is not possible.
 - ▶ Research to make operation of glass melters more flexible.
 - ▶ Process-related emissions: Increase in cullet content, e.g. also in the flat glass sector
- ▶ Despite competition, major efforts by the glass industry to reduce emissions in the past – and in the future

Funding Instruments

- ▶ High cost pressure due to competition on the one hand, high investment requirements for climate protection on the other hand
- ▶ Due to competition, additional costs of GHG-neutral products often cannot be passed on to customers, so innovative products do not always enter the market successfully
- ▶ Solution: Shaping market forces in such a way that GHG-neutral/low-GHG products hold their own against fossil products on the market = constellation of so-called green lead markets

Initial Situation

- ▶ Green lead markets
 - ▶ are self-developing for some (intermediate and final) products (e.g., closed regional market, high demand, possibly intrinsic motivation of buyers with willingness to buy more),
 - ▶ in some areas governmental instruments (incentives and rules) are needed
 - ▶ ...and probably acceleration is needed everywhere!
- ▶ Instruments for the green lead market can
 - ▶ supply-side push effect into the market or
 - ▶ have a pull effect on the demand side

Instruments to Shape Green Lead Markets

No	Instrument	Description	Advantages	Disadvantages
1	CO2 Consumption Levy	Levy on CO2 emissions actually generated during production of the goods	direct approach to CO2 emissions; cross-border competition not affected	CO2 footprint to be determined with (commodity) tracking; ETS backlash.
2	Climate levy on end products	Levy on materials contained in goods based on weight and CO2 emission factor, irrespective of actual CO2 emissions generated	No CO2 tracking necessary; distribution of additional costs on more shoulders	CO2 factor difficult to determine; no incentive to produce CO2-free; ETS backlash.
3	Crediting of reduced production emissions to product target	Creditability of the savings from the production process towards the fulfillment of CO2 product reduction obligations	Material users (e.g. automobile manufacturers) develop a major pull effect on material manufacturers (e.g. steel) out of their own interest.	Mixing of different objectives, non-systematic imputations
4	Sustainable public procurement	Public sector must procure sustainably, esp. construction, vehicles	Procurement volume: 500 million €/a; politically easy to implement	Tight EU requirements; additional costs for states/municipalities

Instruments to Shape Green Lead Markets

No	Instrument	Description	Advantages	Disadvantages
5	Quota für low-CO2 materials	Producers must use low-CO2 materials in increasing quantities	may be politically difficult to enforce as it is no levy instrument	Intermediate products require labeling, tracking register may be necessary
6	Quota for green products	Retailers must offer increasing quantities of low-CO2 products	Use of market forces	Market forces may be missing, then products are not demanded
7	Technical rules, building regulations	Revision of building regulations with the aim of material efficiency, -substitution	Use of low-CO2 materials in construction, development of new materials	Performance/safety of buildings; training of architects; carbon concrete not recyclable
8	Product labeling	Enables buyers of raw materials/buyers of goods to make informed choices	Use of market forces	No assured demand; low willingness to pay more
9	Climate-oriented product standards	Specifications e.g. for cement and concrete		

Messages I

- ▶ Climate protection is politically fixed
- ▶ (Further) research and changes in the industry, including the glass industry, are necessary to achieve climate targets of the industry
- ▶ Reduction of all GHG emissions required, no waiting for hydrogen, direct use of electricity instead
- ▶ Proving the decarbonized glass industry in international competition is a concern of the German Environment Agency: we have the glass industry on our radar in terms of instruments

Messages II

- ▶ Germany should and will remain an industrialized country
- ▶ In the best case, green lead markets can replace state subsidies
- ▶ Each industry faces its own situation, which may require different instruments All financial instruments should be considered together as far as possible and only then introduced
- ▶ All financial instruments should be considered together as far as possible and only then introduced (especially in connection with instruments against Carbon Leakage as carbon border adjustment mechanism [CBAM])