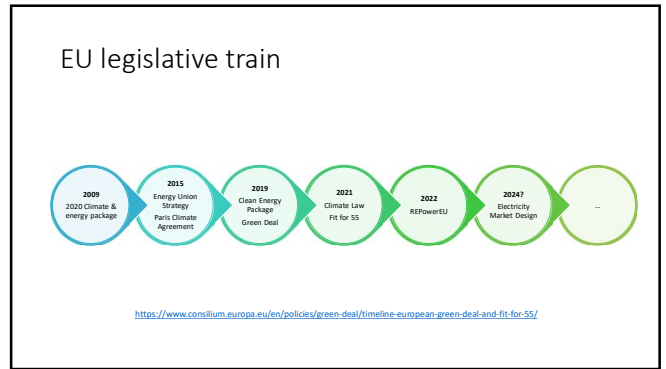




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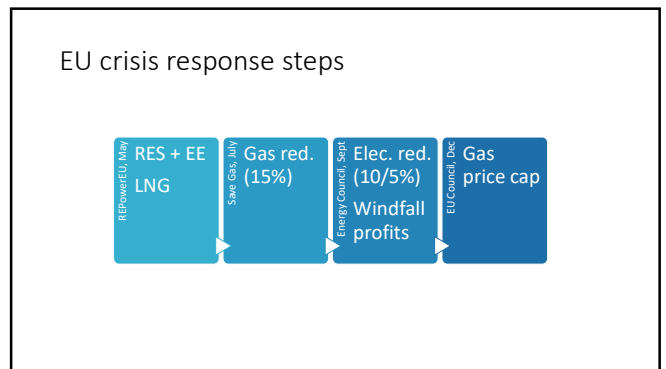


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IEA: A 10-Point Plan to Reduce the European Union's Reliance on Russian Natural Gas

- 1. No new gas supply contracts with Russia
- 2. Introduce minimum gas storage obligations to enhance market flexibility
- 3. Maximize gas production from existing deepwater conventional basins
- 4. Speed up the replacement of gas boilers with heat pumps
- 5. Encourage a temporary thermal adjustment by consumers
- 6. Reduce Russian gas supplies to additional 20 bcm a year
- 7. Accelerate the deployment of new wind and solar projects
- 8. Invest in additional 20 TWh of generation capacity
- 9. Invest in additional 20 TWh of generation capacity
- 10. Stop up efforts to diversify and expedite sources of power system flexibility

5



6

REPowerEU Actions

- SAVING**
- DIVERSIFYING**
Group purchase LNG / H2
- ACCELERATING CLEAN ENERGY**
45% RES by 2030
Solar rooftop mandate
Faster permitting, go-to areas H2, biomethane
- INVESTMENT AND REFORM**
€210 billion

7

Green Deal

What is the European Green Deal?

- Become climate-neutral by 2050
- Protect human life, animals and plants, by cutting pollution
- Help companies become world leaders in clean products and technologies
- Help ensure a just and inclusive transition

December 2019 #EUGreenDeal

8

Fit for 55

How will the EU reduce its greenhouse gas emissions by at least 55% by 2030?

<https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/>

9

Emissions Trading

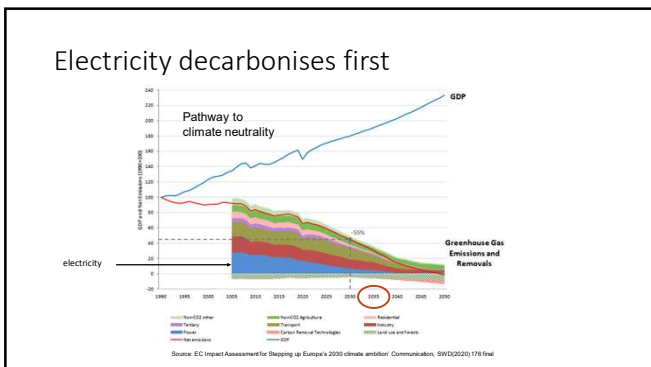
- Power sector effectively decarbonises by 2035
- Phase out free allocation
- Expanded scope to maritime, buildings, road transport

faster reduction of the cap, fewer allowances on the market

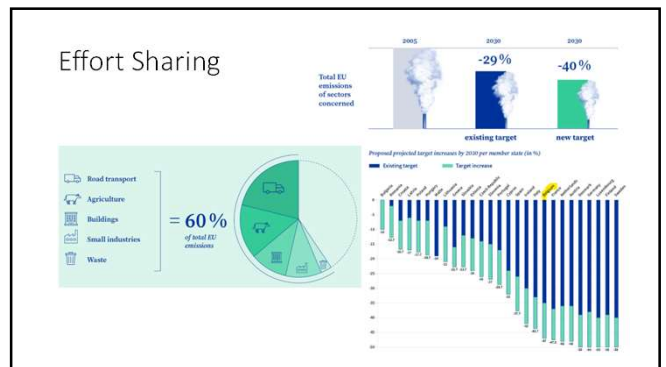
reduction of 117 million allowances over two years

2024: -0.3% per year (2024-2025)
2025: -2.2% per year
2026: -0.6% per year (2026-2030)

10



11



12

Carbon Border Adjustment Mechanism

Production in the EU
ETS allowances: Producers have to cover CO₂ emissions with ETS allowances.

Production outside the EU
CBAM certificates: EU importer has to buy CBAM certificates to cover price difference.

Production costs

In the first phase CBAM would cover sectors with high carbon emissions and high risk of carbon leakage:
Iron and steel, cement, fertilisers, aluminium, hydrogen production, electricity.

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Renewable Energy

- Higher target
- Faster permitting
- Better grid integration

Buildings
Share of renewable energy (production target): 49% (2022-2028)

Industry
+1.6% annually in renewable energy use (2022-2028)

Hydrogen in industry
42% share of energy from renewable sources of non-biological origin (2025-2030)

Heating and cooling
+0.8% annually in renewable energy use until 2028
+1.1% annually until 2030

In 2022, almost 22% of the energy consumed in the EU came from renewable sources. The new 2023 EU target will almost double the share of renewable energy in the EU.

14

Energy Efficiency

Final energy consumption (the amount of energy consumed by end users): **-11.7%** in 2020 at EU level, compared with the energy consumption forecasts for 2020 made in 2002. The revised legislation will make it compulsory for the EU as a whole to reduce final energy consumption.

Targets for primary and final consumption compared to 2007 consumption projections for 2030:

Reduction achieved so far	Current target	New target
-19% (EU average)	-32.5% for primary consumption	-38.5% for final consumption
	-40.6% for primary consumption (production)	-38% for final consumption (consumption)

Primary consumption is the total demand for energy. Final consumption is the amount of energy actually consumed by end users.

15

Efficient district heating and cooling

Heat	RES	Waste	RES + waste	Cogen	Combo
<31/12/2027	50%	50%		75%	50%
>1/1/2028	50%	50%	50%	80%	Network >5% RES & RES+waste+cogen heat >50%
>1/1/2035	50%	50%	50%		System RES+waste+cogen >80% & RES+waste>35%
>1/1/2040	75%	75%	75%		System RES+waste+cogen >95% & RES+waste>35%
>1/1/2045	75%	75%	75%		
>1/1/2050	100%	100%	100%		

<https://data.consilium.europa.eu/doc/document/PE-15-2023-INIT/en/pdf>

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High efficiency cogeneration

ANNEX III
METHODOLOGY FOR DETERMINING THE EFFICIENCY OF THE COGENERATION PROCESS

• EED Annex III

Values used for calculation of efficiency of cogeneration and primary energy savings shall be determined on the basis of the expected or actual operation of the unit under normal conditions of use.

(a) High-efficiency cogeneration

For the purpose of this Directive, high-efficiency cogeneration shall fulfil the following criteria:

- cogeneration production from cogeneration units shall provide primary energy savings calculated in accordance with point (b) of at least 10% compared with the references for separate production of heat and electricity;
- production from small-scale and micro-cogeneration units providing primary energy savings may qualify as high-efficiency cogeneration;
- for cogeneration units that are built or substantially refurbished after the transposition of this Annex, direct emissions of the carbon dioxide from cogeneration production that is fuelled with fossil fuels, are less than 270 gCO₂ per kWh of energy output from the combined generation (including heating-cooling, power and mechanical energy).

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Renewable & low-carbon gases (not finalised)

Renewable gases can be produced from:

- organic sources
- biogas
- biomethane
- non-biological renewable sources (using electricity)
- renewable hydrogen
- synthetic methane

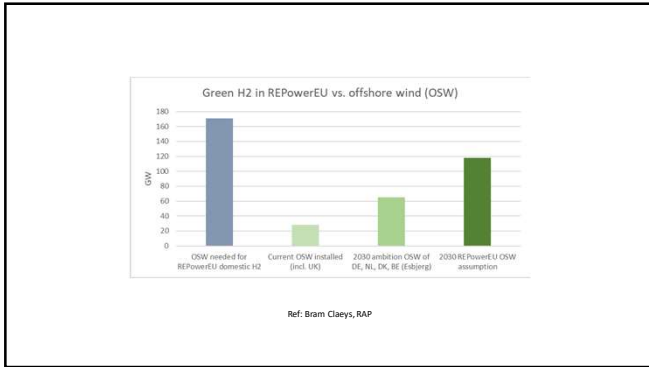
Low-carbon gases are not produced from renewable energy sources but they produce at least 70% less greenhouse gas emissions than fossil natural gas across their full lifecycle.

at least 70% less

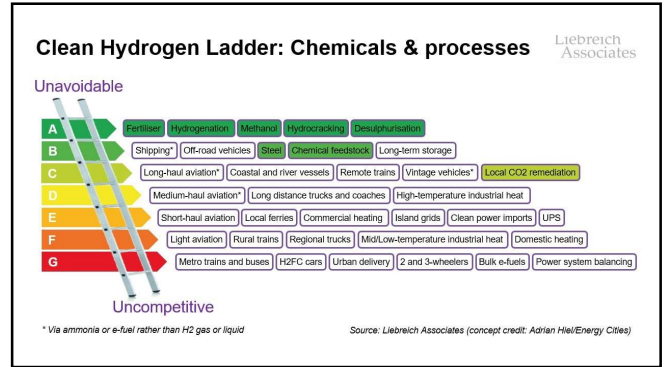
- Create market for **hydrogen** (40GW electrolysis / 10MT H₂)
- Integrate renewable and low-carbon gases in network
- Engage & protect consumers
- Increase security of supply

Will it land < elections 2024??

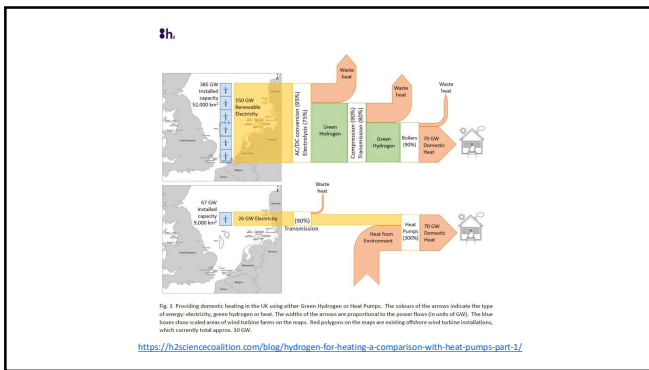
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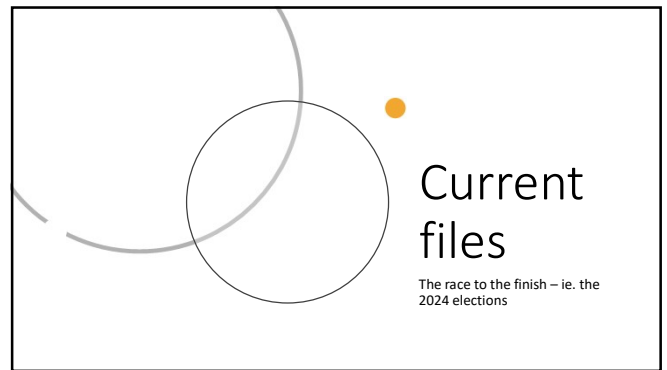
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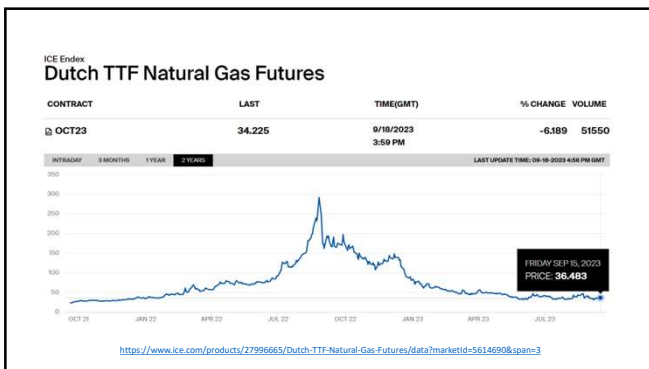
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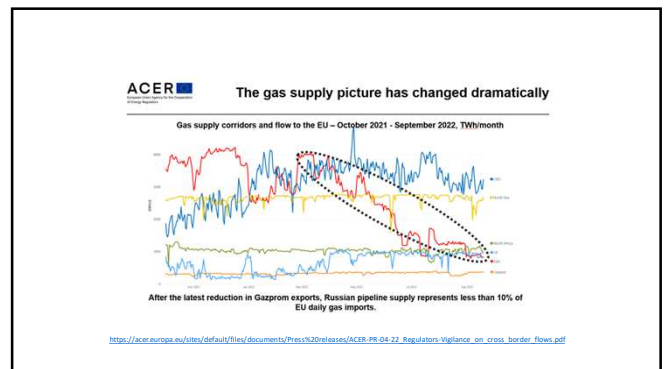
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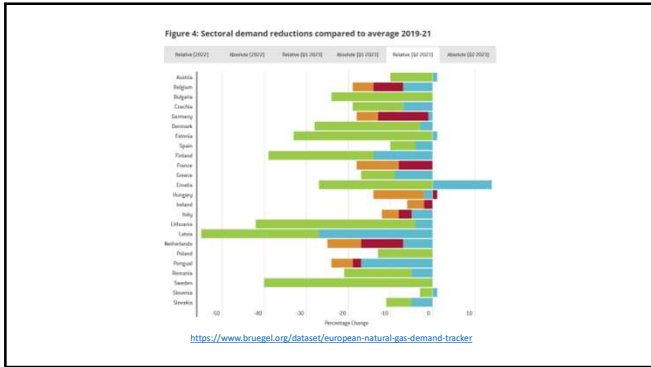
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24



25

Electricity market reform goals

Transition away from fossil gas

Demand side flexibility a proper resource

+

More and faster solar, wind

=

Protected basic consumer needs

Commission proposal in March 2023
Parliament opinion in July 2023
Council opinion pending...

<https://www.euractiv.com/section/electricity/opinion/key-issues-at-stake-as-eu-electricity-market-reform-nears-finishing-line/>

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Implement CE4ALL first

- Implement CE4ALL!
 - Require MSs to prioritise implementation of the CE4All before resorting to market interventions
 - Require MSs to impose appropriate efficiency or flexibility obligations on energy users and producers seeking crisis aid.
 - Increase public benchmarking of MS compliance with IEM legislation.

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Independent System Operation

- Develop an EU transition pathway from a national TSO to European ISOs within a transmission and set timeframe.
- Implement new entities on the distribution level and move or develop regional distribution operations as required by the network and ownership structure.
- Transition spot market operations to ISOs.

<https://blueprint.raonline.org/independent-system-operators/>

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Further reading

- Power System Blueprint <https://blueprint.raonline.org/>
- Joy of Flex <https://www.raonline.org/knowledge-center/joy-flex-embracing-household-demand-side-flexibility-power-system-resource-europe/>
- EU policy to accelerate the fossil gas phaseout <https://www.raonline.org/knowledge-center/turning-off-gas-stronger-coherent-eu-policy-accelerate-fossil-gas-phaseout/>
- Price Shock Absorber <https://www.raonline.org/knowledge-center/price-shock-absorber-temporary-electricity-price-relief-during-gas-market-crisis/>
- Key issues at stake <https://www.euractiv.com/section/electricity/opinion/key-issues-at-stake-as-eu-electricity-market-reform-nears-finishing-line/>

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Contact

Bram Claeys

Senior Advisor
bclaeys@raonline.org
+32 474 59 46 70
@bramclaeys

www.raonline.org

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