From the Green Deal, over Fit for 55 to REPowerEU

Uitdagingen en opportuniteiten

Bram Claeys voor COGEN Vlaanderen

20/9/2023

1

EU legislative train

https://www.consilium.europa.eu/en/policies/green-deal/timeline-european-green-deal-and-fit-for-55/

2

POLITICO

Enter keyword

EXPLORE

NEWSLETTERS & PODCASTS

POLITICO PRO

Putin's war accelerates the EU's fossil fuel detox

The Russian president has inadvertently sped up Europe's Green Deal.

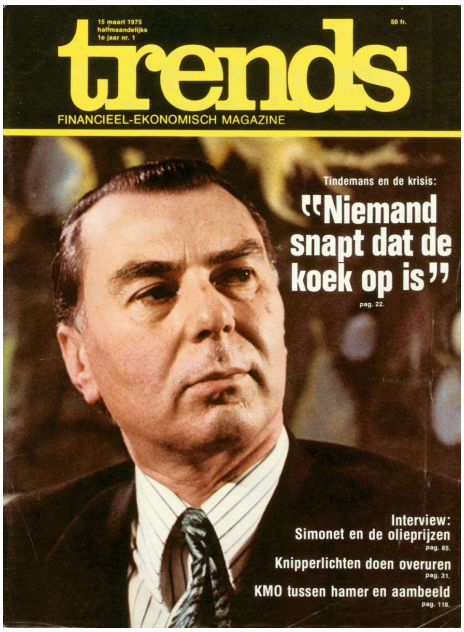
Thanks to Russian President Vladimir Putin, going green has now become part of the EU's security agenda | Burak Kara/Getty Images

BY KARL MATHIESEN, VICTOR JACK, GIOVANNA COI AND CHARLIE COOPER

OCTOBER 12, 2022 | 5:37 PM

https://www.politico.eu/article/vladimir-putin-war-ukraine-accelerates-eu-fossil-fuel-detox/

3



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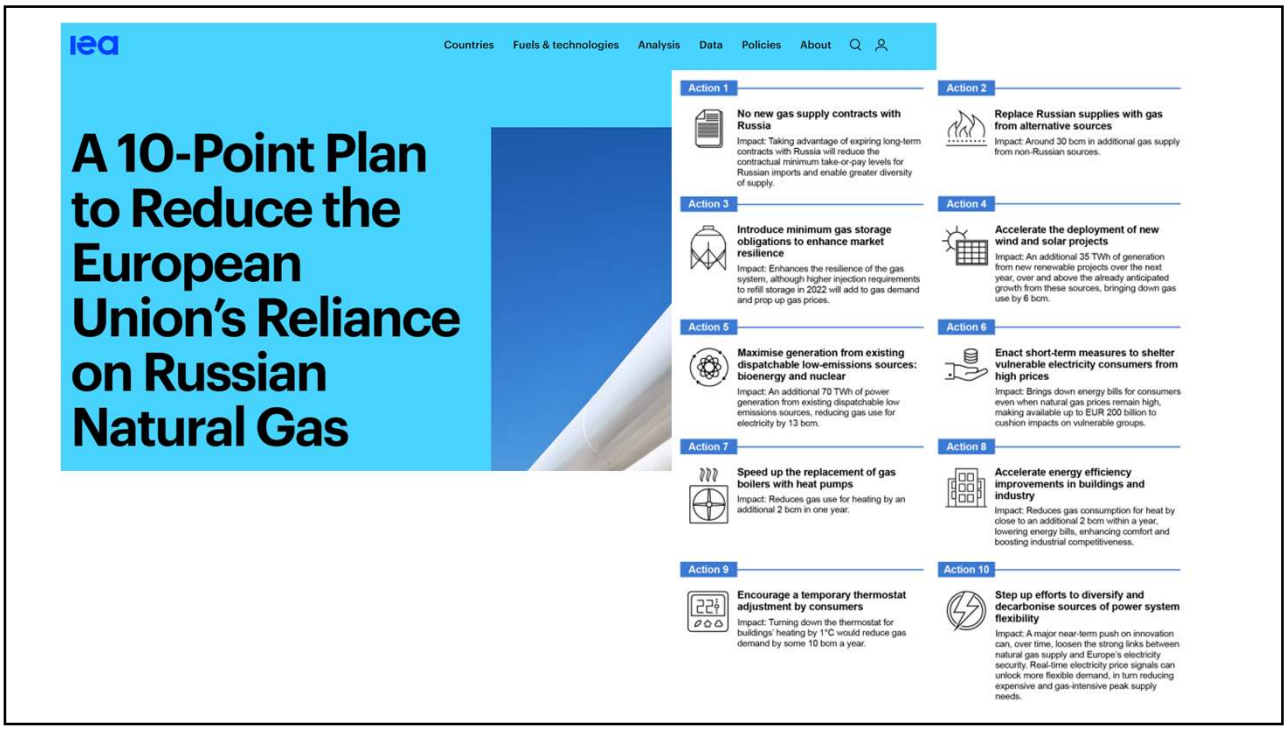

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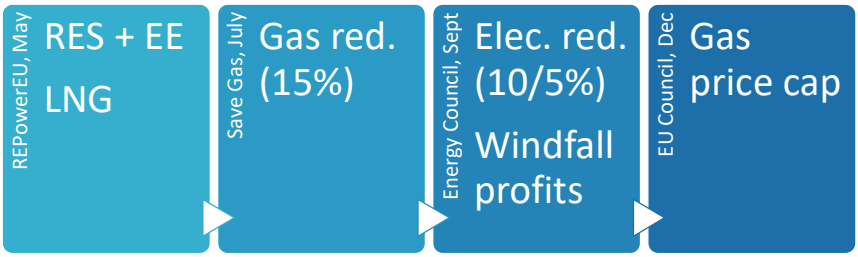
EU crisis response steps



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

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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

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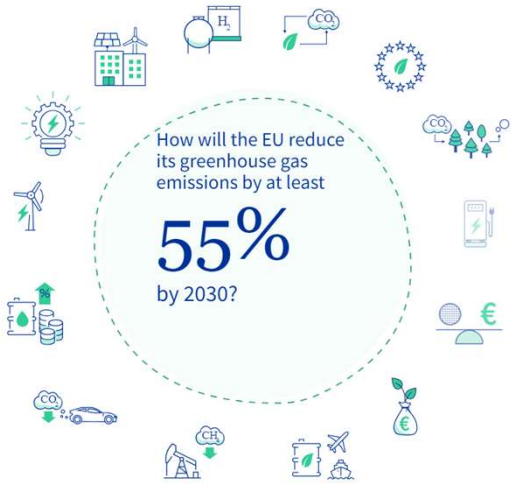
Fit for 55



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

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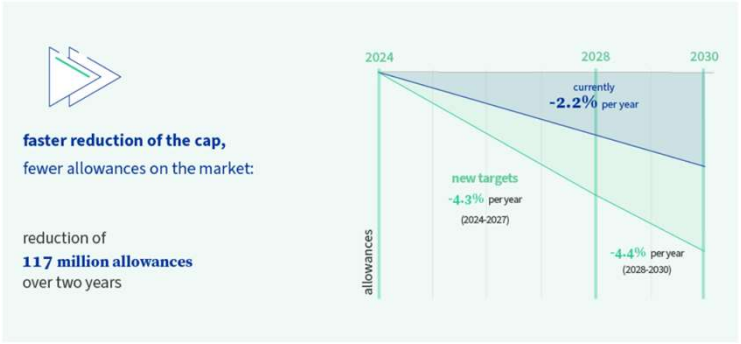
Emissions Trading

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



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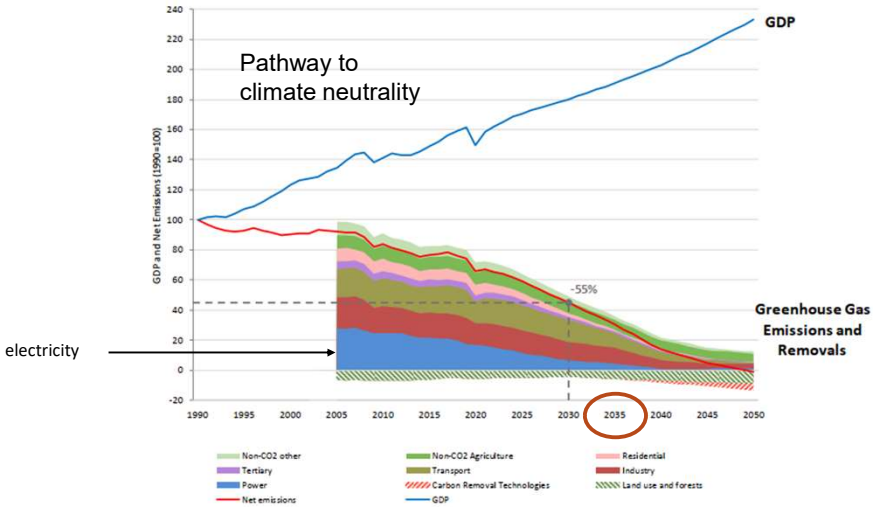
Electricity decarbonises first



Source: EC Impact Assessment for Stepping up Europe's 2030 climate ambition' Communication, SWD(2020) 176 final

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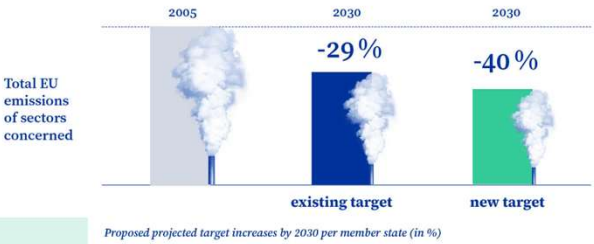
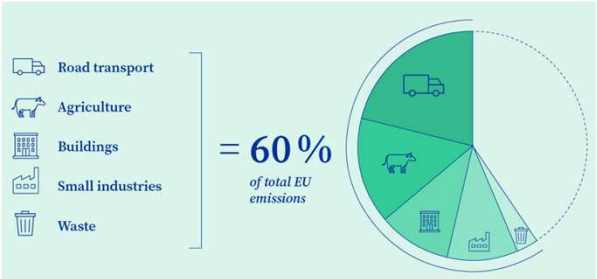
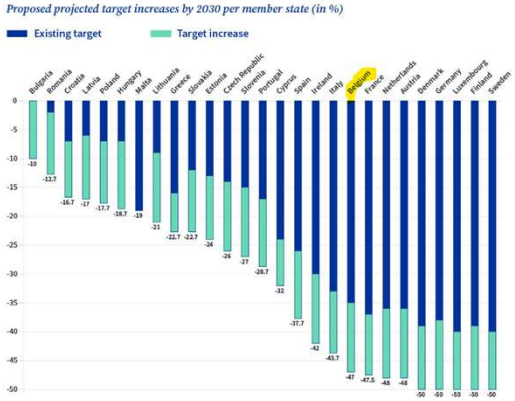
Effort Sharing







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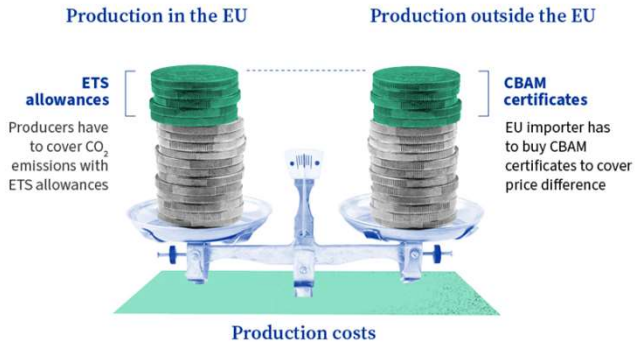
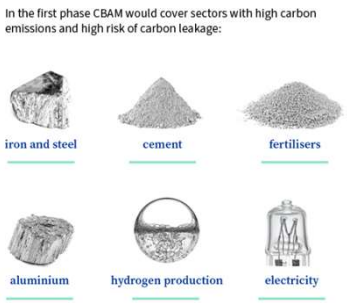
Carbon Border Adjustment Mechanism





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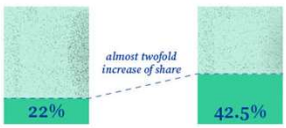
Renewable Energy

- Higher target
- Faster permitting
- Better grid integration

In 2021, almost 22% of the energy consumed in the EU came from renewable sources. The new 2030 EU target will **almost double the share of renewable energy** in the EU.



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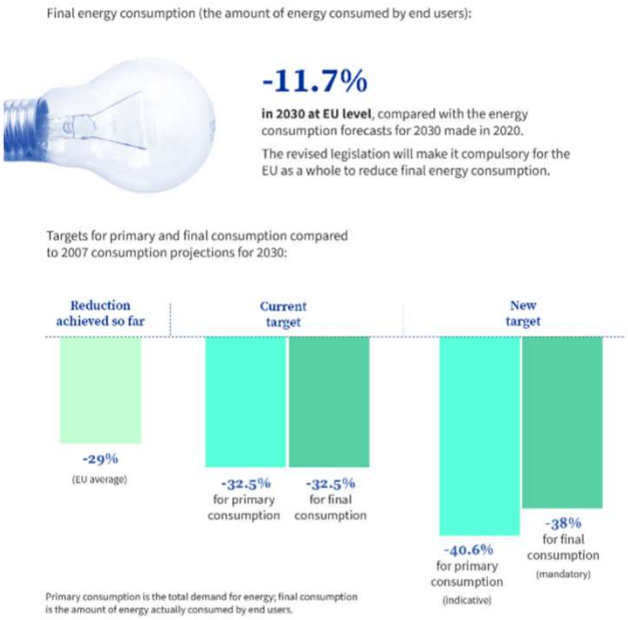
Energy Efficiency



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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

- EED Annex III

ANNEX III

METHODOLOGY FOR DETERMINING THE EFFICIENCY OF THE COGENERATION PROCESS

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 gCO_2 per 1 kWh of energy output from the combined generation (including heating/cooling, power and mechanical energy);

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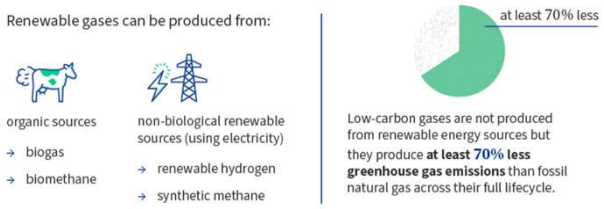
Renewable & low-carbon gases (not finalised)



- 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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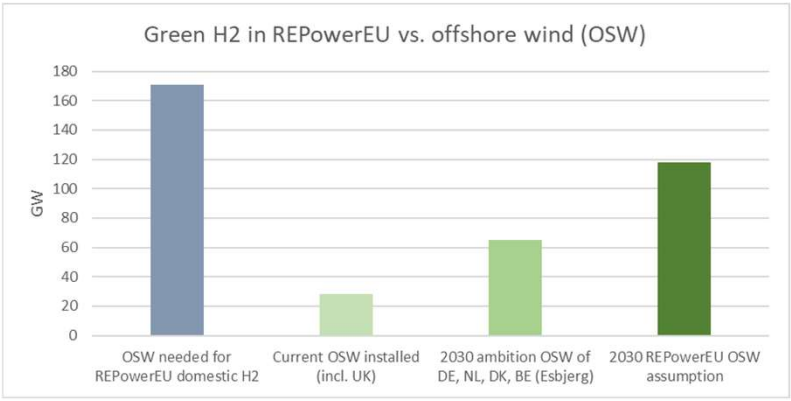

Ref: Bram Claeys, RAP

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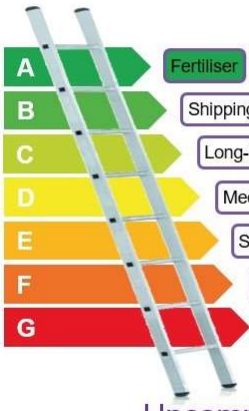
Clean Hydrogen Ladder: Chemicals & processes

Liebreich Associates

Unavoidable



A	Fertiliser	Hydrogenation	Methanol	Hydrocracking	Desulphurisation		
B	Shipping*	Off-road vehicles	Steel	Chemical feedstock	Long-term storage		
C	Long-haul aviation*	Coastal and river vessels	Remote trains	Vintage vehicles*	Local CO2 remediation		
D	Medium-haul aviation*	Long distance trucks and coaches	High-temperature industrial heat				
E	Short-haul aviation	Local ferries	Commercial heating	Island grids	Clean power imports	UPS	
F	Light aviation	Rural trains	Regional trucks	Mid/Low-temperature industrial heat	Domestic heating		
G	Metro trains and buses	H2FC cars	Urban delivery	2 and 3-wheelers	Bulk e-fuels	Power system balancing	

Uncompetitive

** Via ammonia or e-fuel rather than H2 gas or liquid*

Source: Liebreich Associates (concept credit: Adrian Hiel/Energy Cities)

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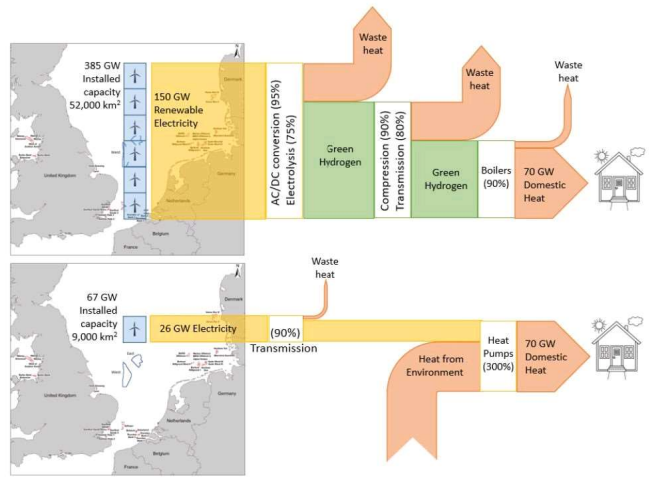

Fig. 1 Providing domestic heating in the UK using either Green Hydrogen or Heat Pumps. The colours of the arrows indicate the type of energy: electricity, green hydrogen or heat. The widths of the arrows are proportional to the power flows (in units of GW). The blue boxes show scaled areas of wind turbine farms on the maps. Red polygons on the maps are existing offshore wind turbine installations, which currently total approx. 10 GW.

https://h2sciencecoalition.com/blog/hydrogen-for-heating-a-comparison-with-heat-pumps-part-1/

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Current files

The race to the finish – ie. the 2024 elections

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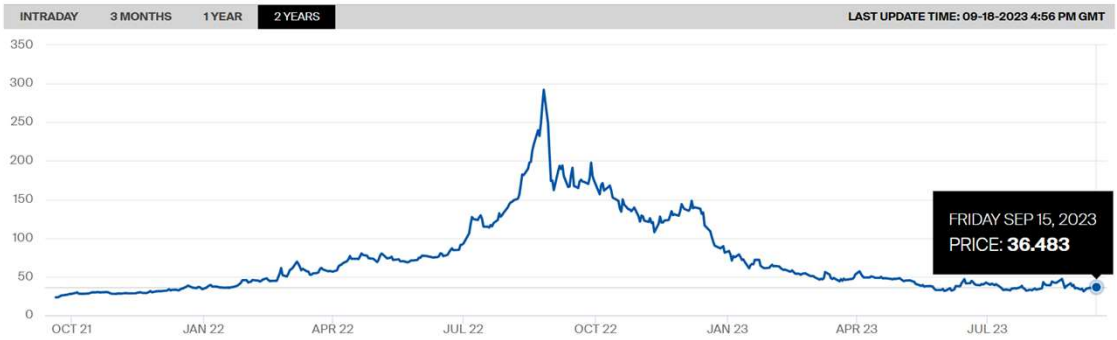
ICE Endex

Dutch TTF Natural Gas Futures

CONTRACT	LAST	TIME(GMT)	% CHANGE	VOLUME
OCT23	34.225	9/18/2023 3:59 PM	-6.189	51550



https://www.ice.com/products/27996665/Dutch-TTF-Natural-Gas-Futures/data?marketId=5614690&span=3

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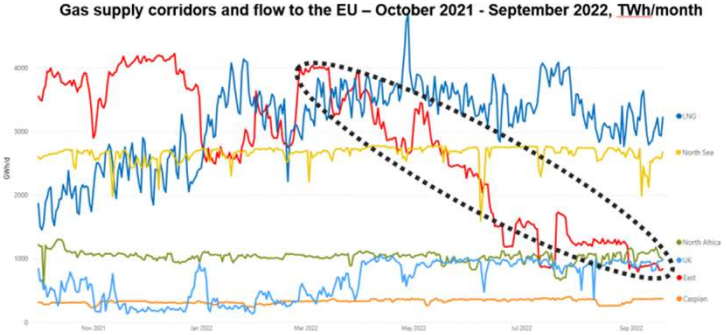
ACER
European Union Agency for the Cooperation of Energy Regulators

The gas supply picture has changed dramatically

Gas supply corridors and flow to the EU – October 2021 - September 2022, TWh/month



After the latest reduction in Gazprom exports, Russian pipeline supply represents less than 10% of EU daily gas imports.

https://acer.europa.eu/sites/default/files/documents/Press%20releases/ACER-PR-04-22_Regulators-Vigilance_on_cross_border_flows.pdf

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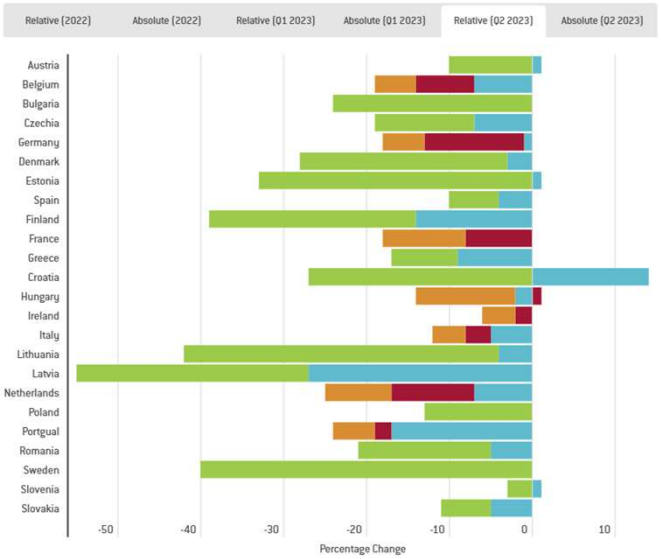
Figure 4: Sectoral demand reductions compared to average 2019-21



https://www.bruegel.org/dataset/european-natural-gas-demand-tracker

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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.raponline.org/independent-system-operators/

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Further reading

- Power System Blueprint https://blueprint.raponline.org/
- Joy of Flex https://www.raponline.org/knowledge-center/joy-flex-embracing-household-demand-side-flexibility-power-system-resource-europe/
- EU policy to accelerate the fossil gas phaseout https://www.raponline.org/knowledge-center/turning-off-gas-stronger-coherent-eu-policy-accelerate-fossil-gas-phaseout/
- Price Shock Absorber https://www.raponline.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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About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org

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