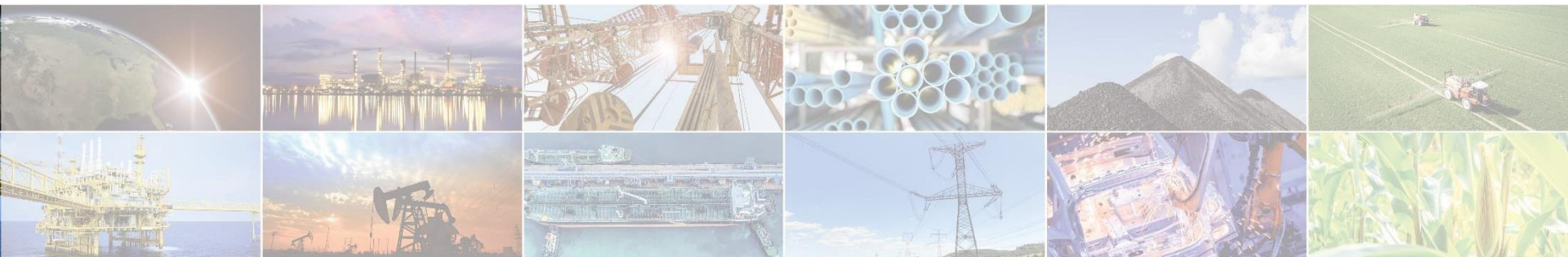


European guarantees of origin – causing a stir



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Argus - independent provider of energy and commodity price benchmarks

Market coverage

Crude oil

Oil products

LPG/NGL

Natural gas/LNG

Chemicals

Net zero >

Power

Coal

Bioenergy

Emissions

Transportation

Agriculture

Fertilizers

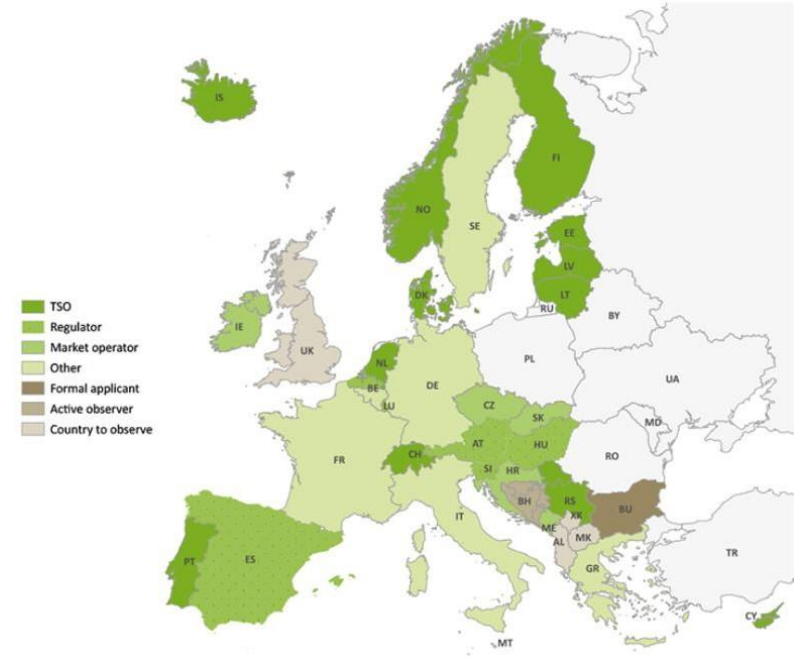
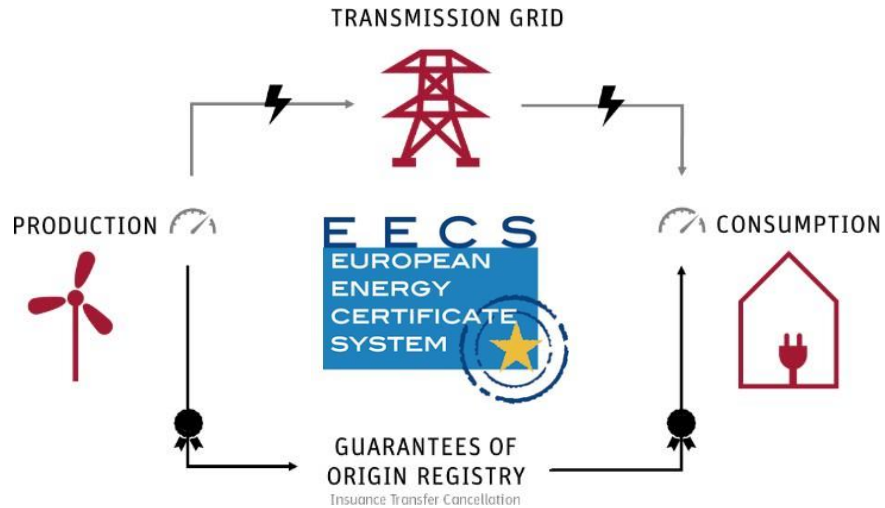
Metals

Argus has a global ecosystem of energy experts to provide an industry-grounded understanding of each aspect of how your firm can better navigate the journey to net zero status.

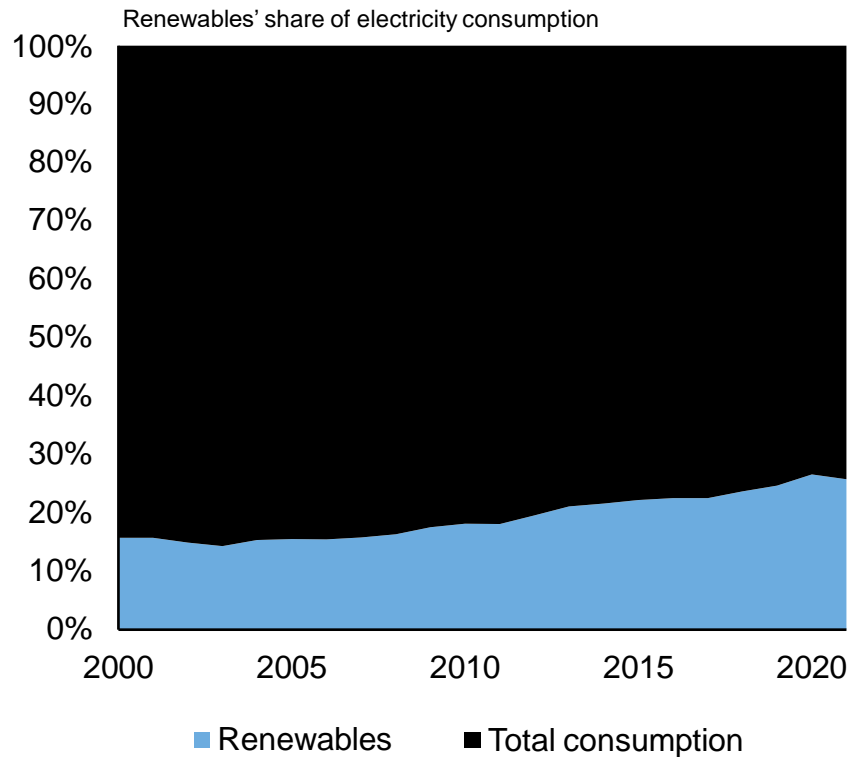
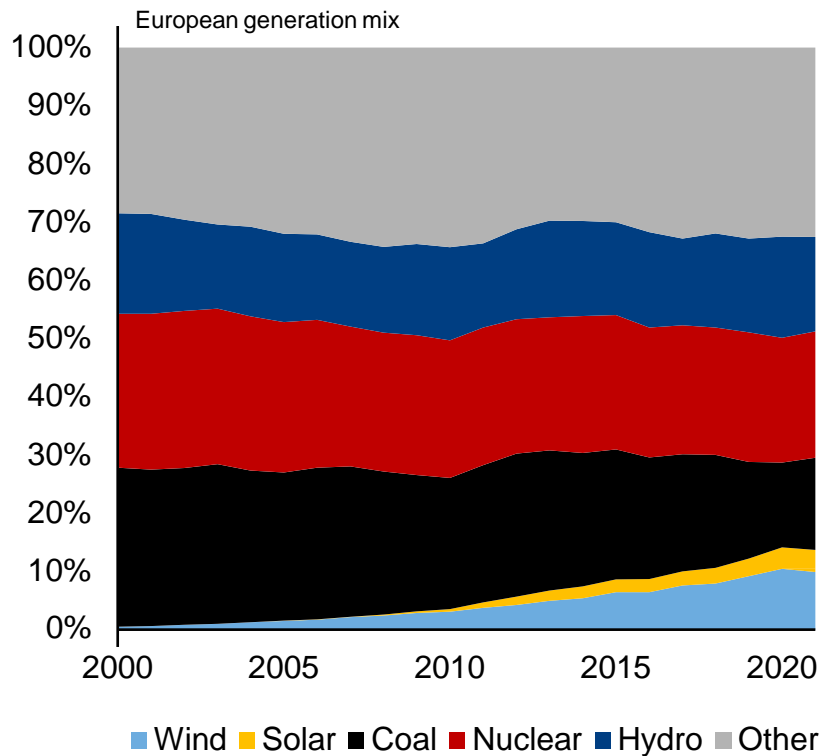
[Find out more](#)



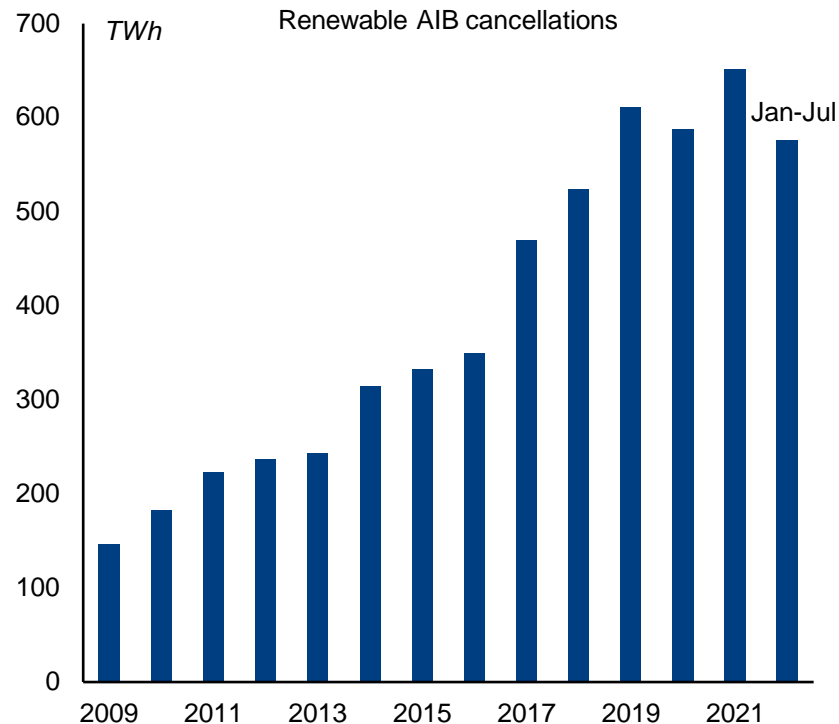
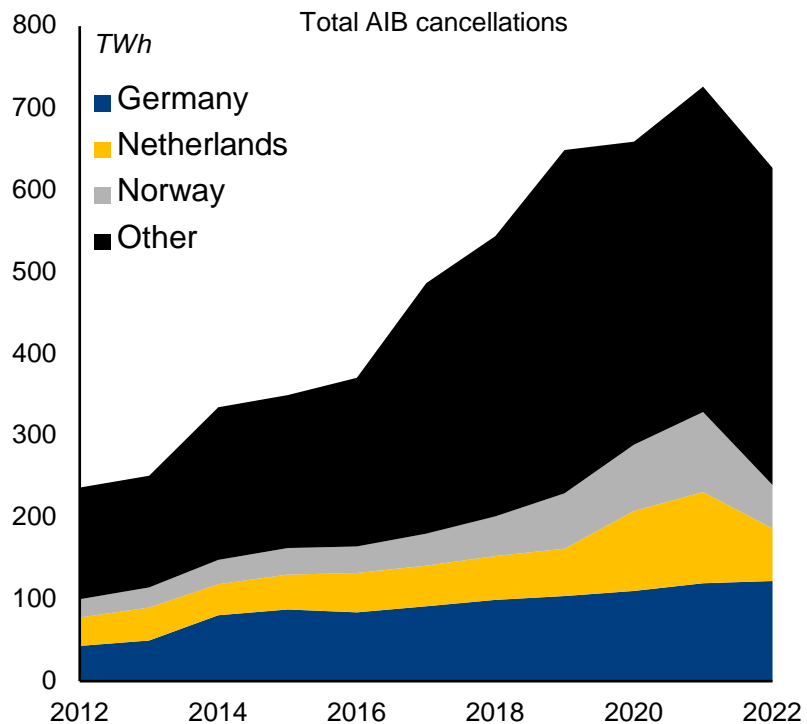
GOOs in the European AIB hub



Shifting European power mix

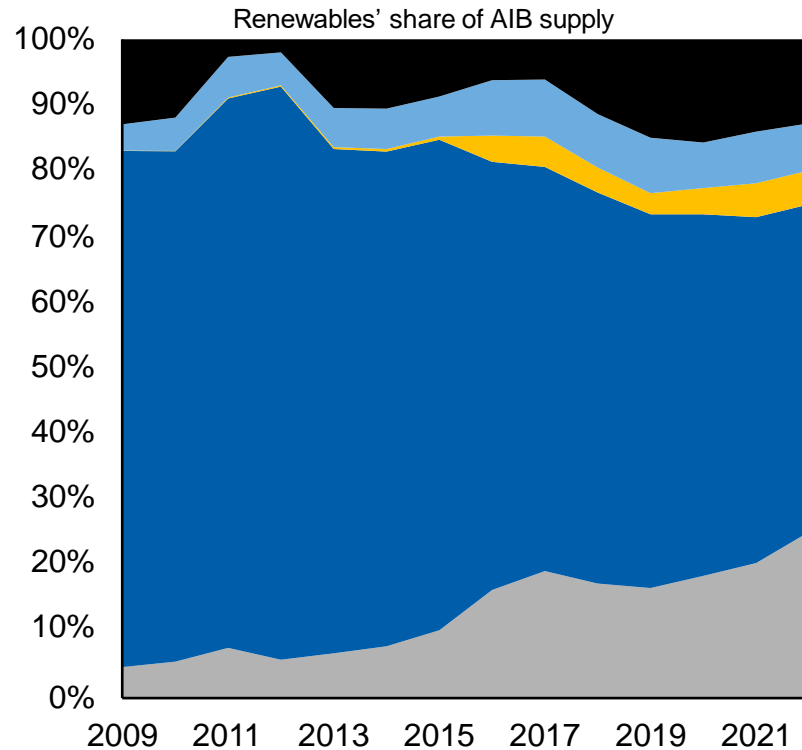
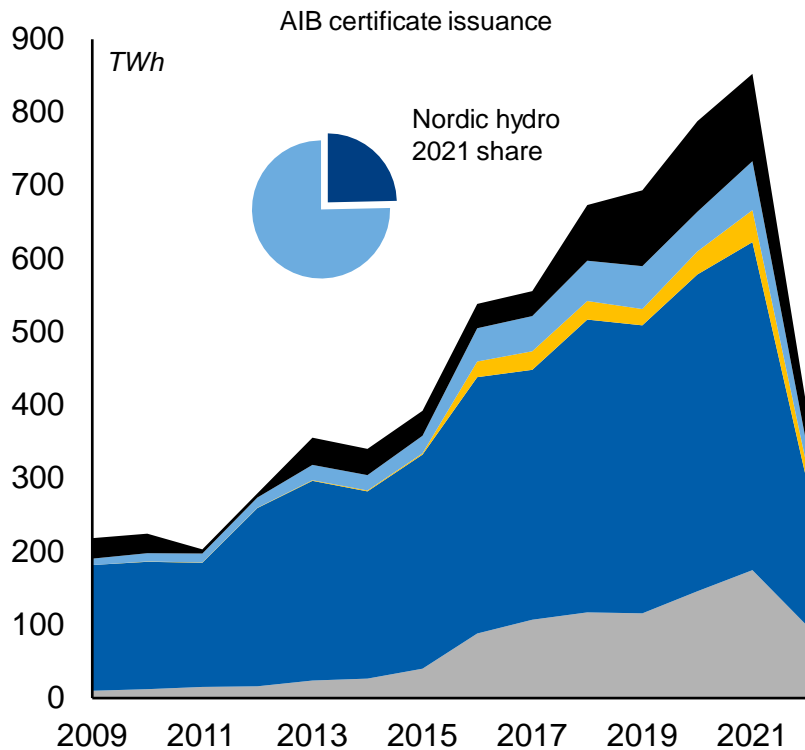


Growing demand for renewables



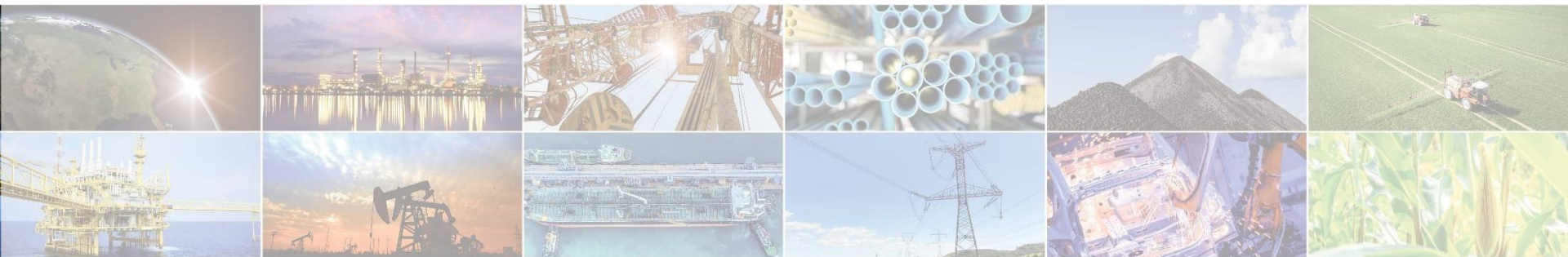
— AIB

Hydropower losing share of supply



— AIB

OTC market trade



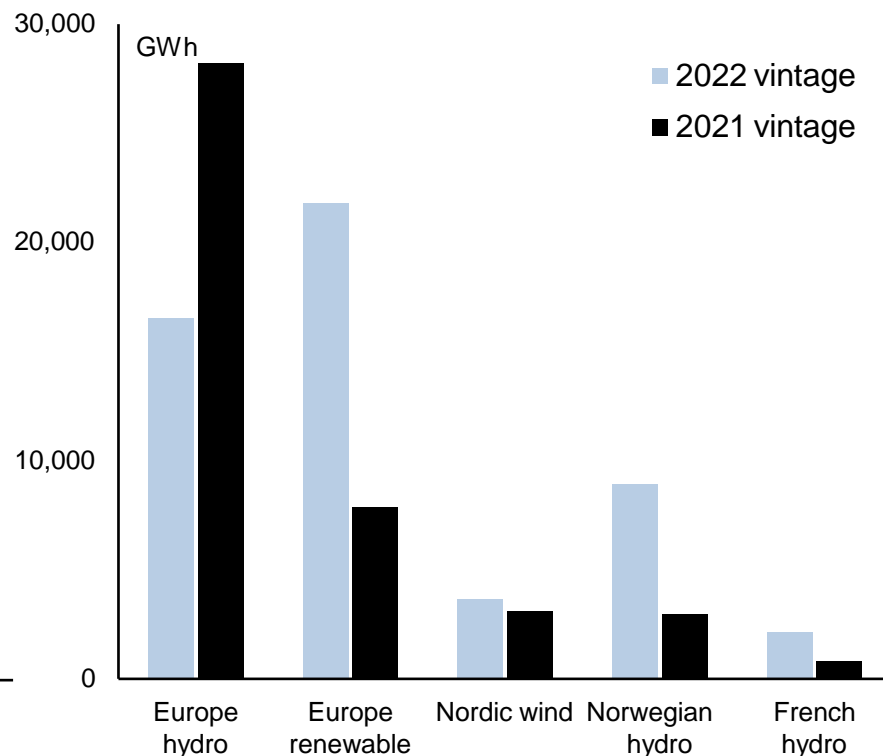
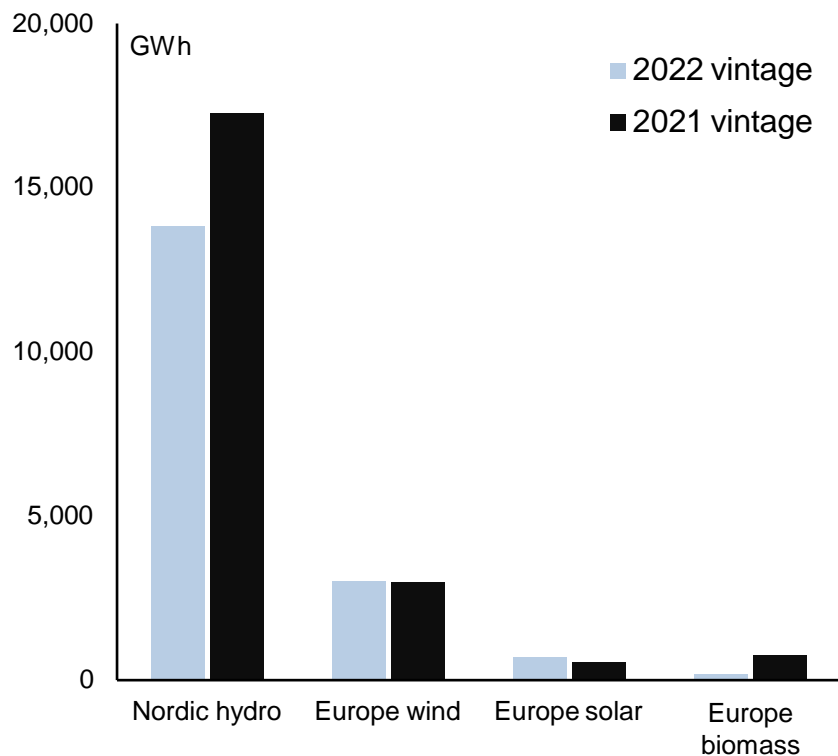
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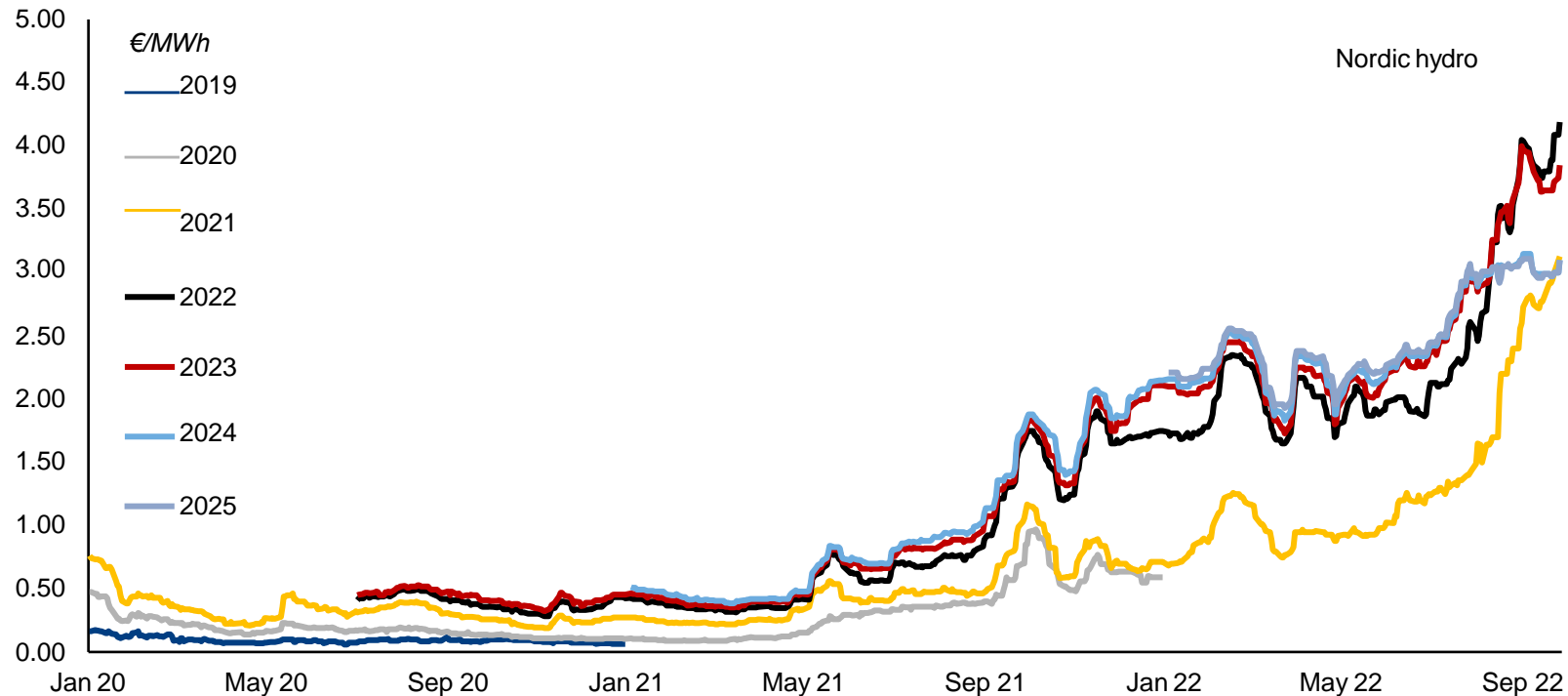
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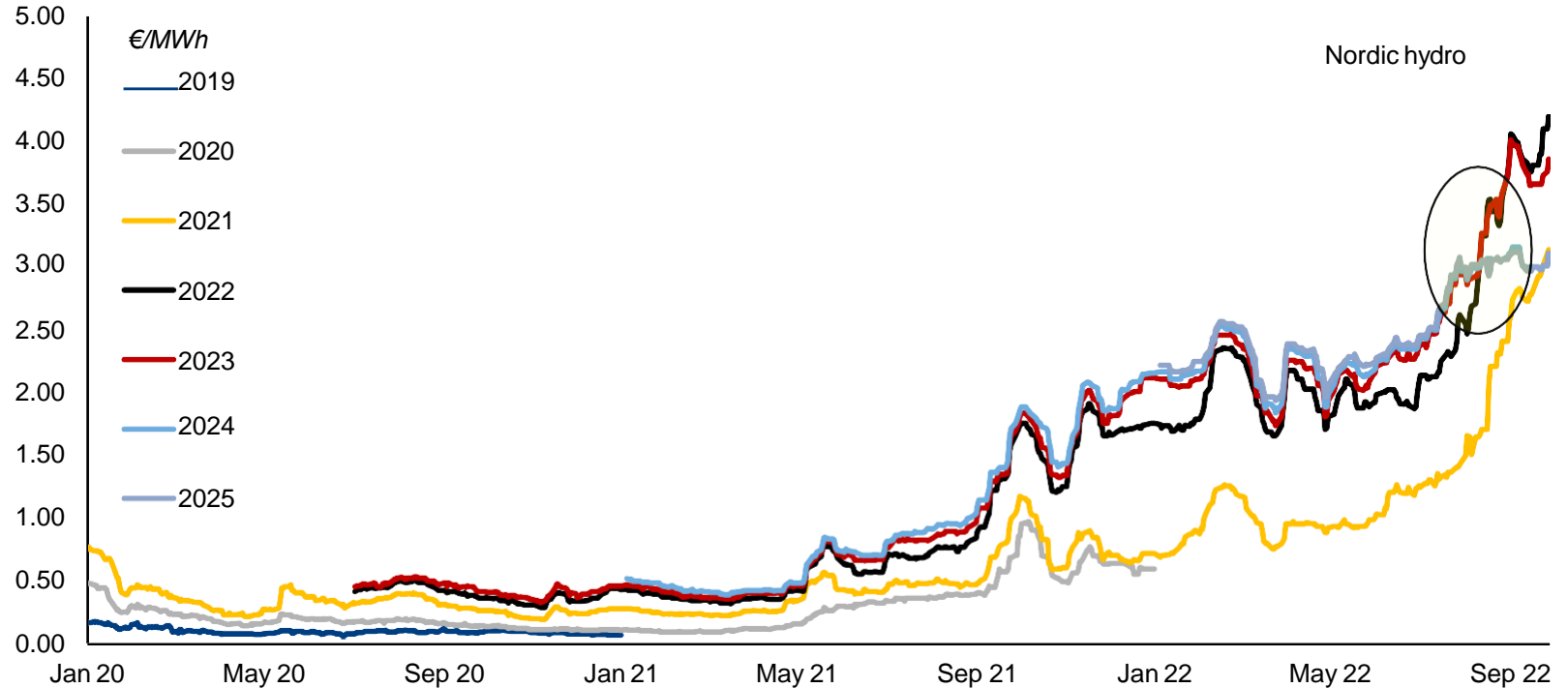
Sellers favour flexibility in 2022



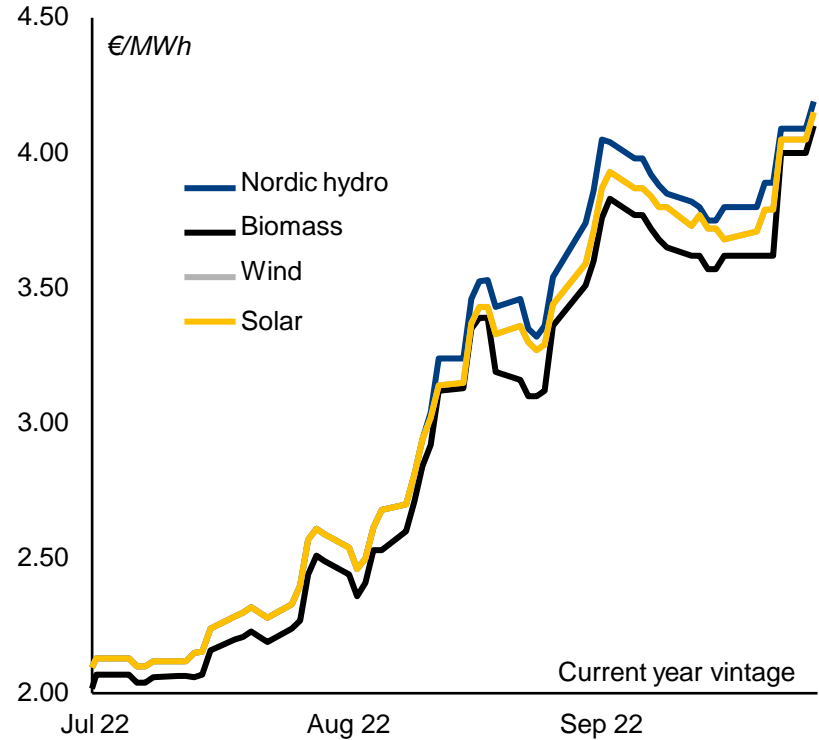
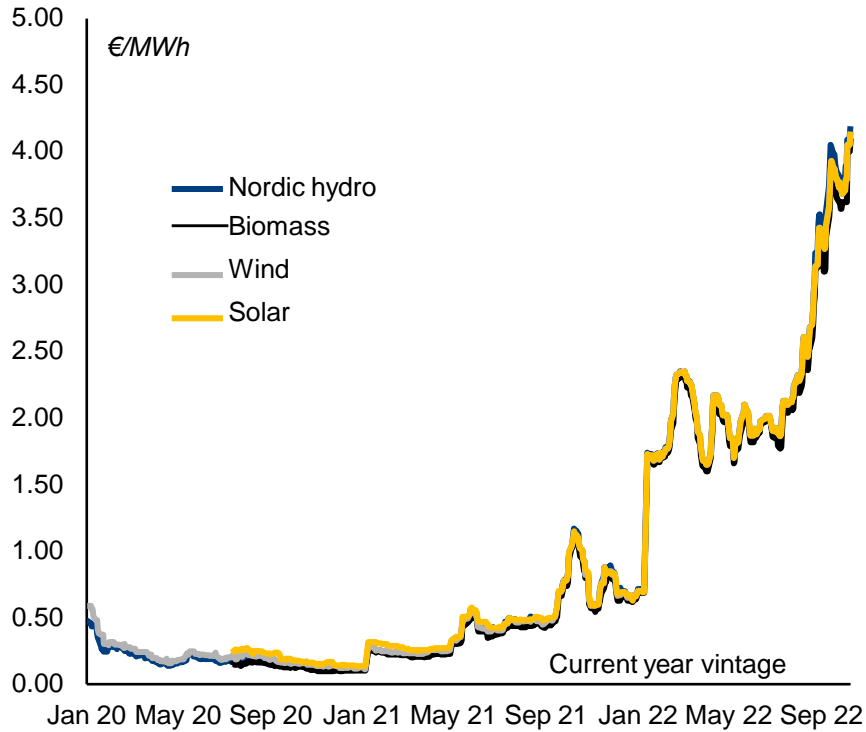
Curve moves into backwardation



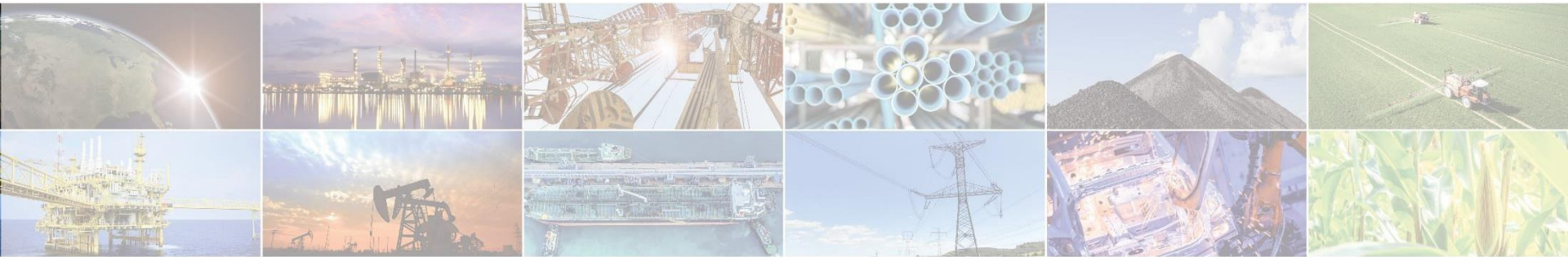
Curve moves into backwardation



Hydro moves to premium



Price drivers



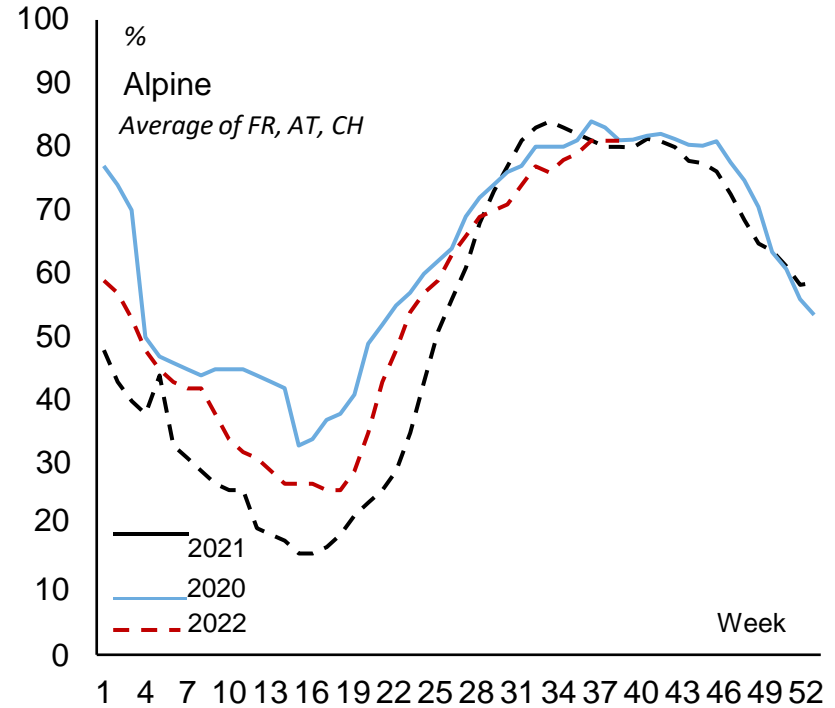
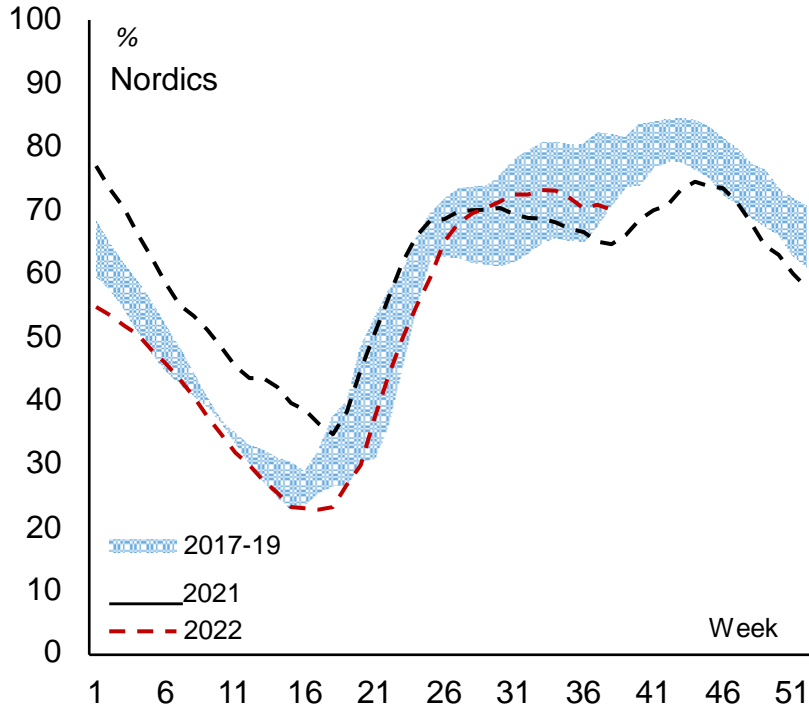
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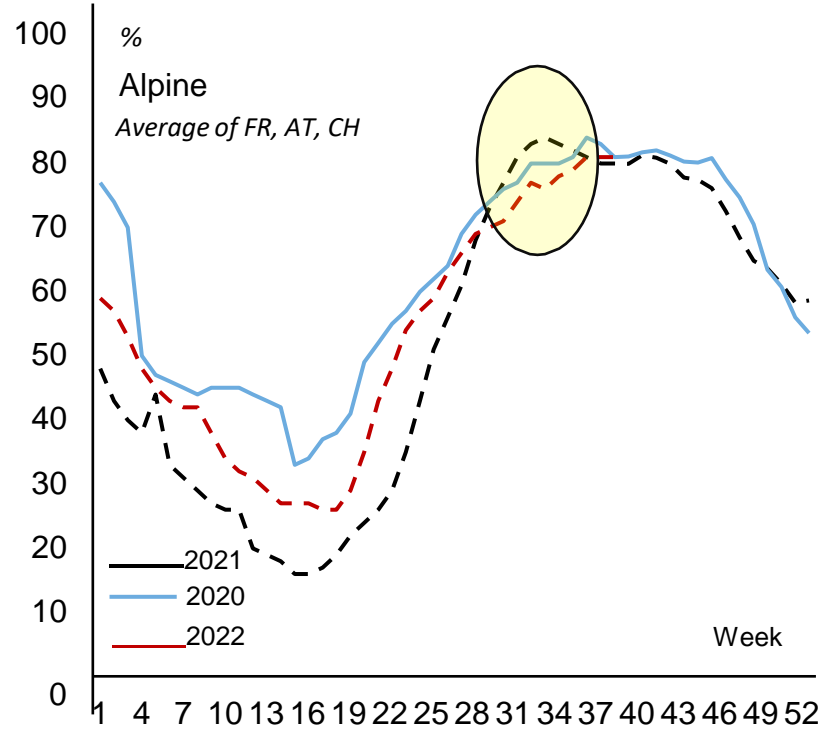
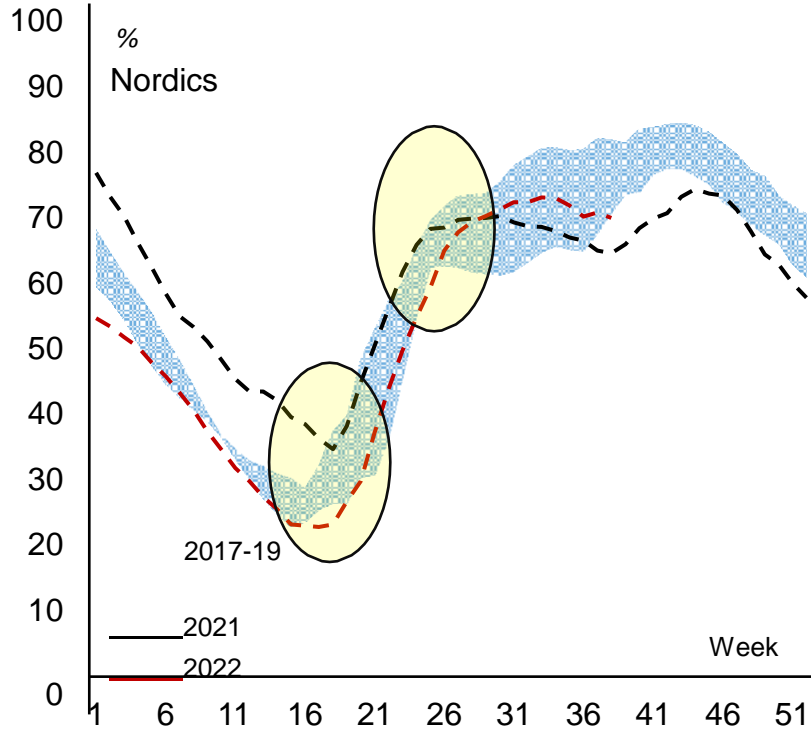
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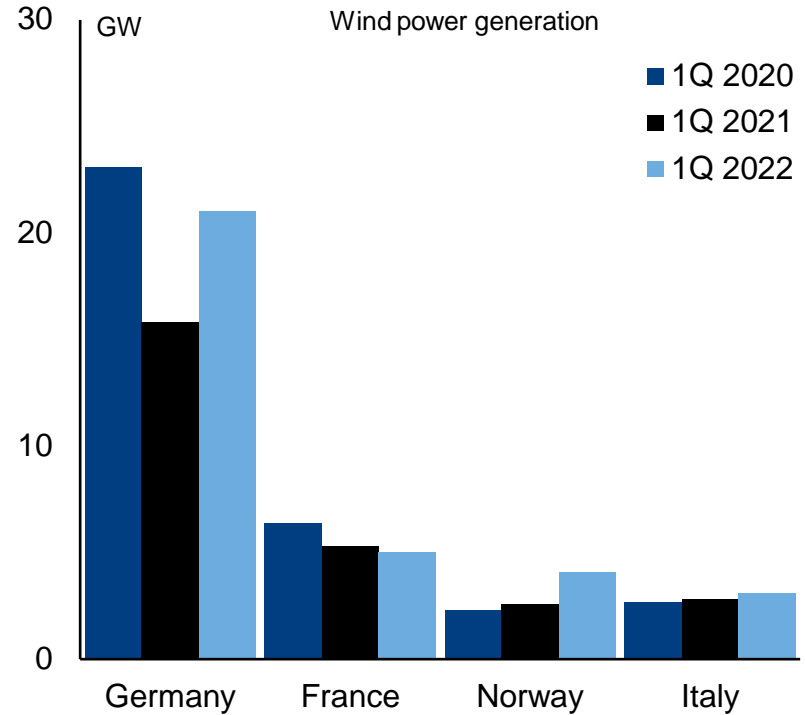
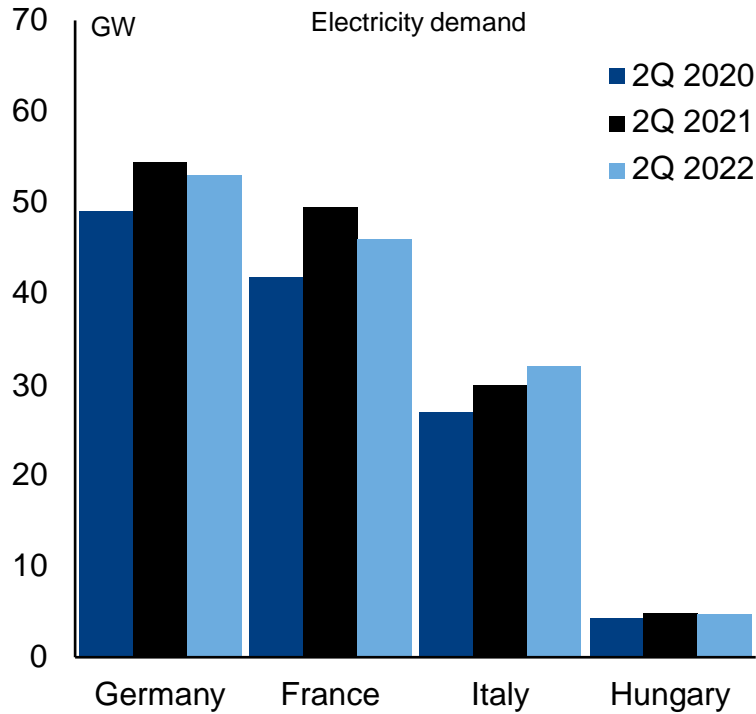
Summer drought – supply concerns



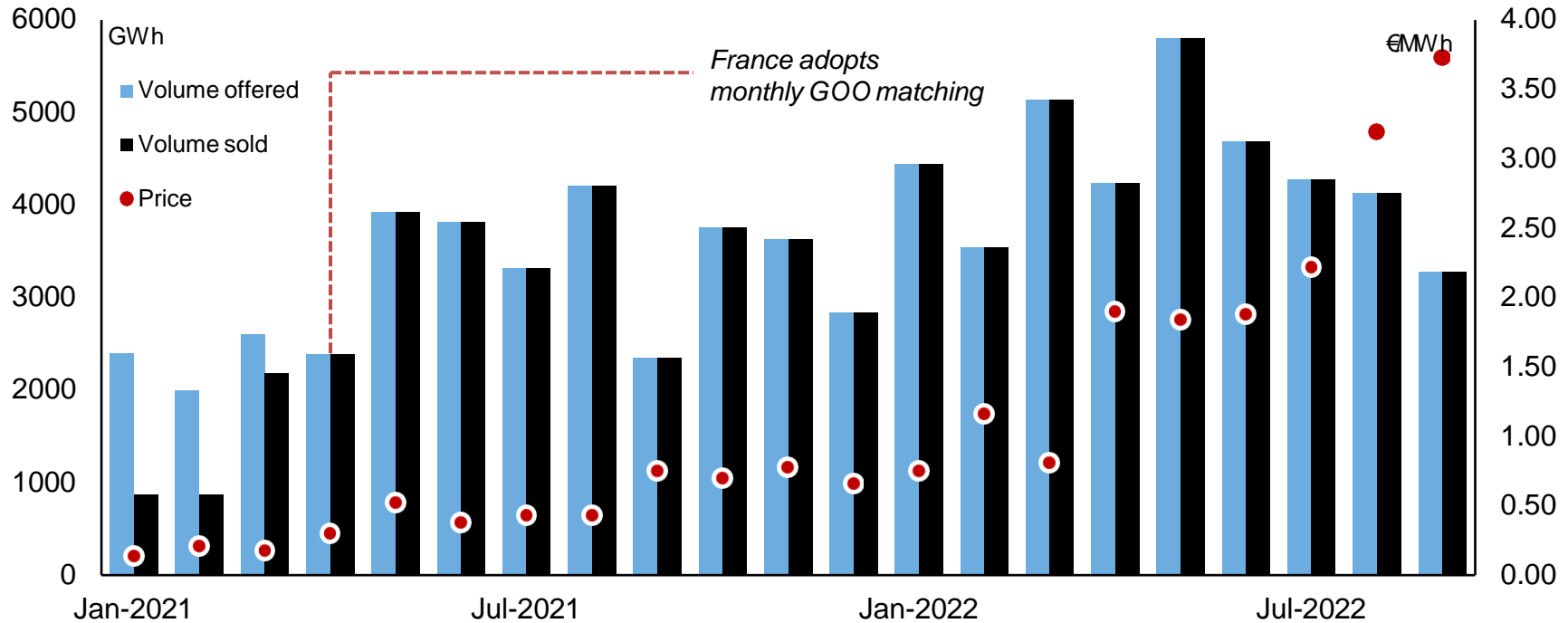
Summer drought – supply concerns



Supply-demand mixed pictures



French auction demand surges



The future...



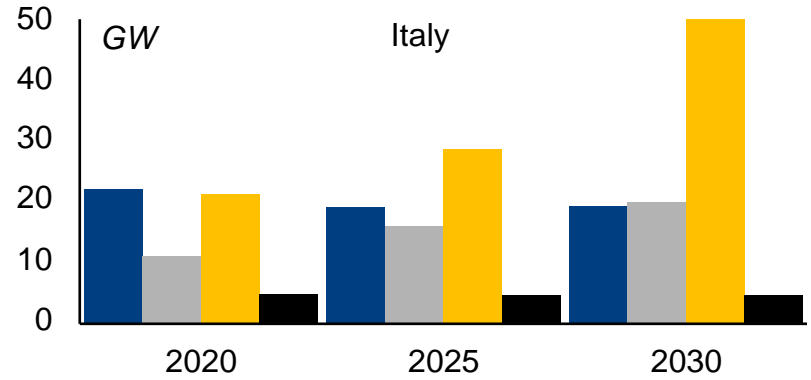
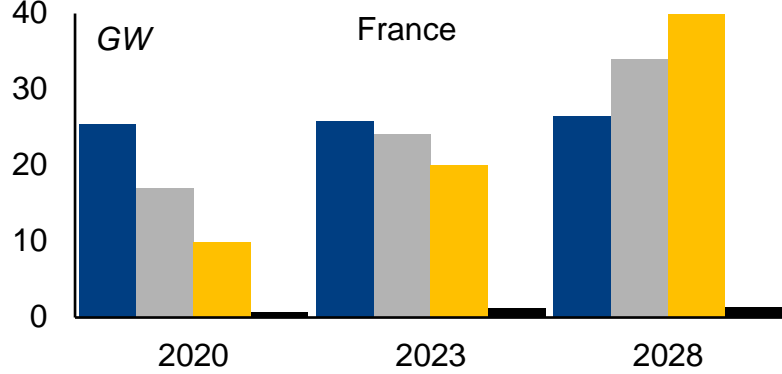
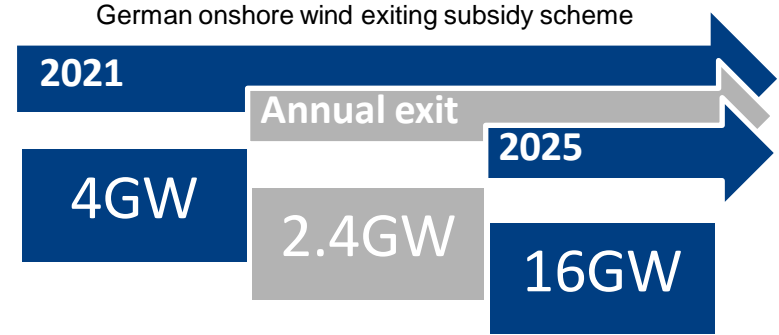
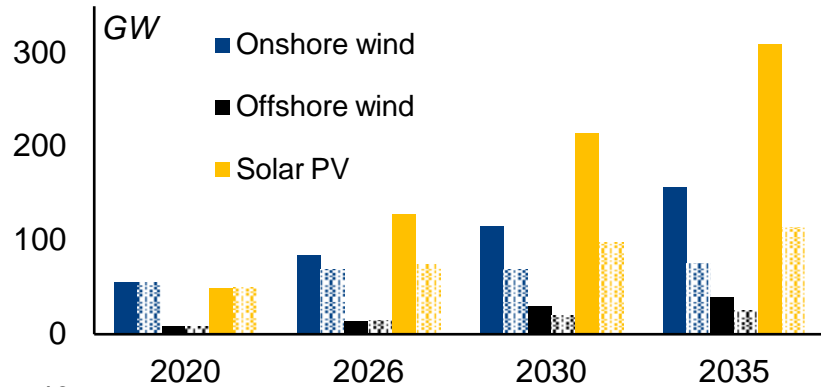
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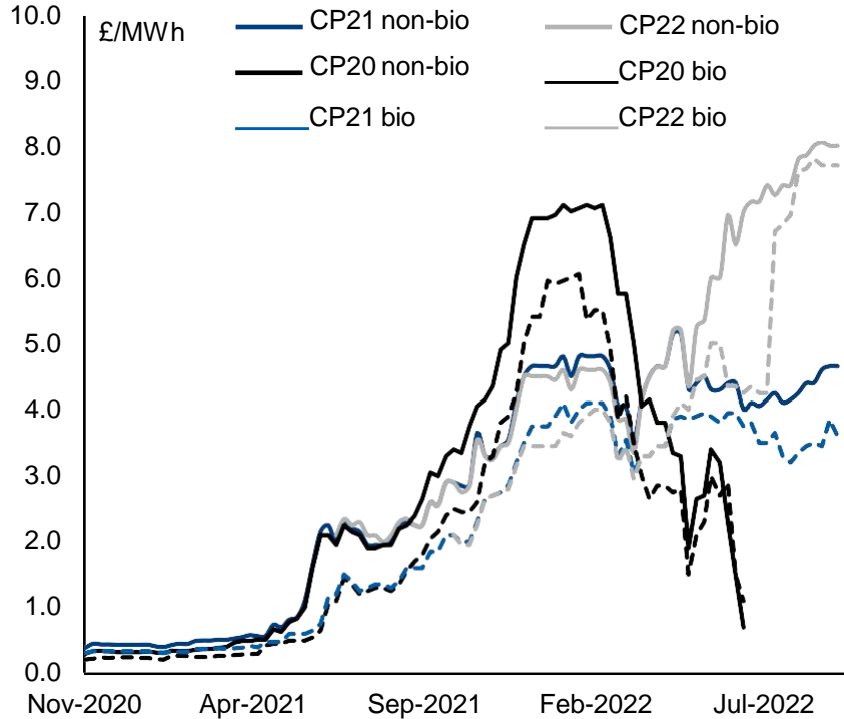
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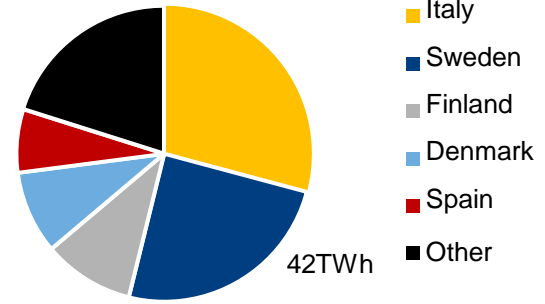
Ambitious renewable growth



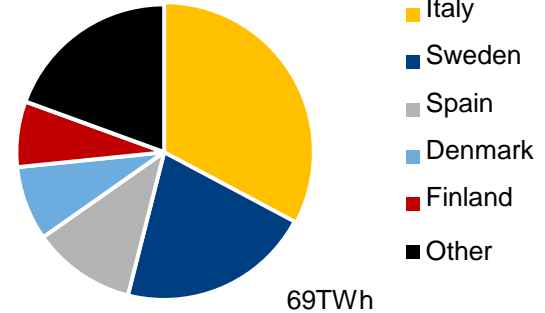
UK Regos... going solo



GOOs imported in 2021/22



GOOs imported in 2020/21



Market developments...

Western Balkans regional GOOs

Albania, Bosnia and Herzegovina, Georgia, Kosovo, Moldova, Montenegro, North Macedonia, Serbia and Ukraine

RED III

GOOs for all subsidised renewables? And all thermal? Full disclosure?

New auctions – Hupx and Epex

Monthly pan-European auctions

Norway

Should you stay or should you go?

Argus in the market



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	Guarantee of origin certificates												€/MWh
	Nordic hydro			European wind			European solar			European biomass			
	Bid	Ask	±	Bid	Ask	±	Bid	Ask	±	Bid	Ask	±	
2021	3.03	3.23	nc	3.03	3.23	nc	3.03	3.23	nc	2.90	3.10	0.120	
2022	4.11	4.31	0.020	4.07	4.27	0.020	4.07	4.27	0.020	4.02	4.22	0.020	
2023	3.75	3.95	nc	3.65	3.85	nc	3.65	3.85	nc	3.60	3.80	0.050	
2024	3.05	3.25	0.050	3.05	3.25	0.050	3.05	3.25	0.050	2.99	3.19	0.050	
2025	3.05	3.25	0.050	3.05	3.25	0.050	3.05	3.25	0.050	2.99	3.19	0.050	

	UK Regos						€/MWh
	Non-biomass			Biomass			
	Bid	Ask	±	Bid	Ask	±	
Compliance period 21	4.40	4.90	nc	3.00	4.20	-0.250	
Compliance period 22	7.70	8.30	nc	7.40	8.00	nc	
Compliance period 23	7.40	8.30	-0.100	7.40	8.00	nc	

Price assessments

- Contract indexation
- Mark-to-market
- Risk management

Datasets

- Deals
- Power plant projects
- National GOO auctions
- Hydropower data

Argus in the market

Turkish international renewable energy certificates (I-RECs)

	Wind			Solar			Hydro			Biomass		
	Bid	Ask	±	Bid	Ask	±	Bid	Ask	±	Bid	Ask	±
TL/MWh												
2021	5.00	5.50	-1.500	5.25	6.25	-1.250	4.00	4.50	+0.250	3.00	4.00	nc
2022	6.25	8.25	-1.850	7.25	8.25	-2.000	5.50	6.50	+1.500	3.50	4.50	nc
\$/MWh												
2021	0.27	0.30	-0.085	0.29	0.34	-0.070	0.22	0.25	+0.020	0.16	0.22	nc
2022	0.34	0.45	-0.100	0.39	0.45	-0.110	0.30	0.35	+0.080	0.19	0.25	nc

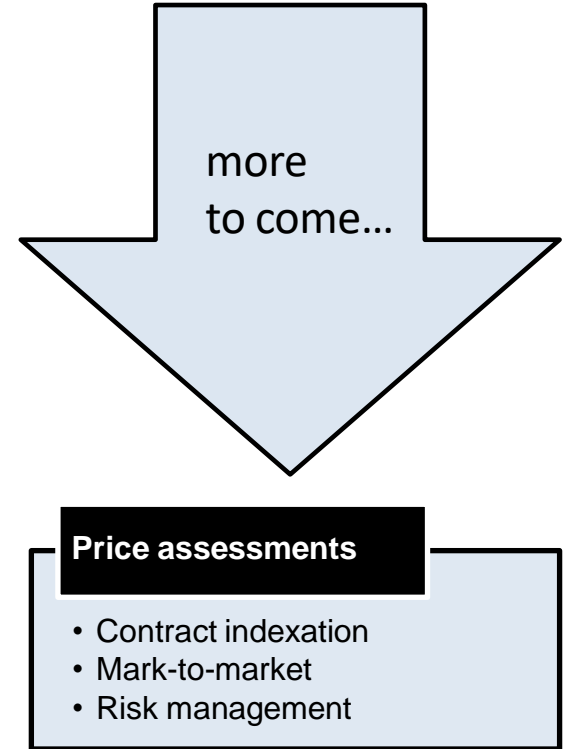
more to come...

Price assessments

- Contract indexation
- Mark-to-market
- Risk management

Argus in the market

Renewable gas guarantees of origin					
	Unit	Bid	Ask	Mid	±
Denmark crop					
2021	€/MWh	20.00	23.00	21.500	nc
2022	€/MWh	22.00	24.00	23.000	nc
2023	€/MWh	23.00	25.00	24.000	nc
Denmark waste					
2021	€/MWh	40.00	43.00	41.500	nc
2022	€/MWh	41.00	44.00	42.500	nc
2023	€/MWh	42.50	45.50	44.000	nc
UK crop					
2021	£/MWh	10.00	12.50	11.250	nc
2022	£/MWh	11.75	13.75	12.750	nc
2023	£/MWh	12.50	14.50	13.500	nc
UK waste					
2021	£/MWh	23.50	27.00	25.250	nc
2022	£/MWh	25.00	27.00	26.000	nc
2023	£/MWh	25.80	27.80	26.800	nc



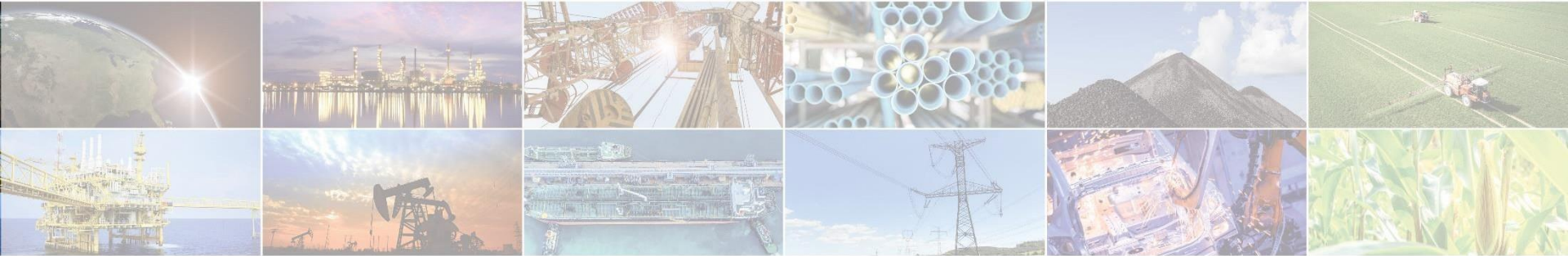
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