

EUROPEAN OUTLOOK CONFERENCE

LONDON

# Euro Utilities 2024 Outlook: Winds of Change

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Research

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# The Big Picture for 2024

## We Expect the Euro Utility Sector to be Stable in 2024

- The sector has weathered the energy crisis well
- It remains defensive with a focus on networks and renewables
- We see net tailwinds from the energy transition
- We expect debt to increase with investments, but that credit metrics will be maintained with growing EBITDA

## But some things will need to change

- Offshore project economics are under pressure
- UK water is in the spotlight
- The gas crisis sparked by Russia's invasion of Ukraine has not gone away

## And...

- The sector trades tight, inside the euro IG index
- Sector duration is 5.4 years, almost one year longer than the IG index



A large-scale offshore wind farm is shown, with numerous wind turbines stretching across the horizon. The turbines are blue and white, mounted on yellow and blue foundations. The sky is a clear, deep blue with a few wispy white clouds. The water is a calm, dark blue. The overall scene is serene and modern.

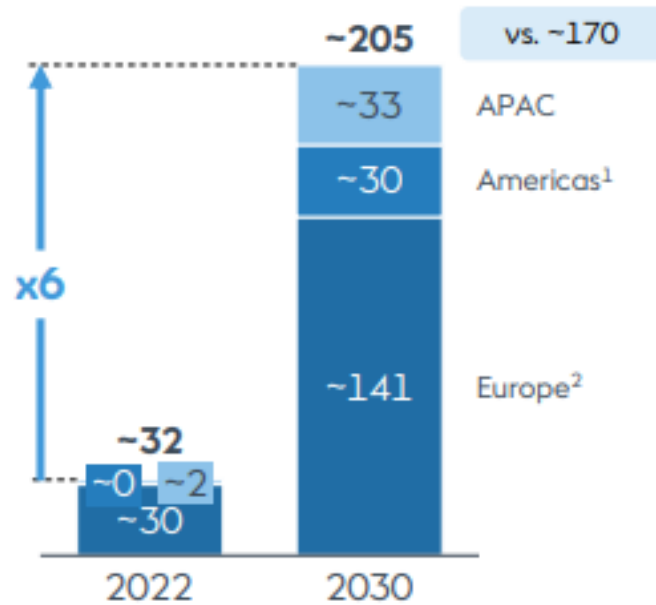
# Offshore Project Economics are Under Pressure

# What's the Attraction? - Rapid Growth

## Offshore wind

Installed capacity (excl. China), GW

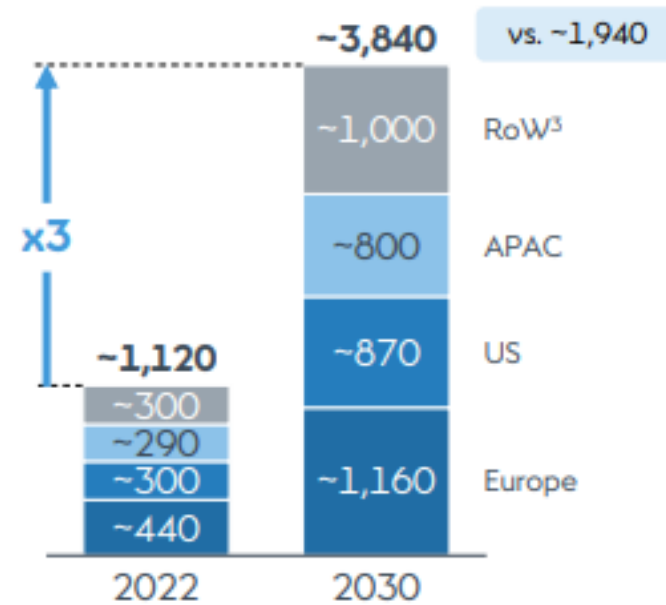
2030 market forecast at CMD 2021



## Onshore renewables

Installed capacity (excl. China), GW

2030 market forecast at CMD 2021



# And Country Targets

## 2030 Targets for Offshore Wind in Selected Countries

Country	Target (GW)	Date of target	Current situation (GW)	
			Operational	Under construction
China	90	2030	30.46	4.60
UK	50	2030	13.85	6.70
US	30	2030	0.04	0.93
Germany	30	2030	8.13	1.60
Netherlands	21	2030	3.22	2.40
Europe	141	2030	30.66	12.80

### Financial packages include:

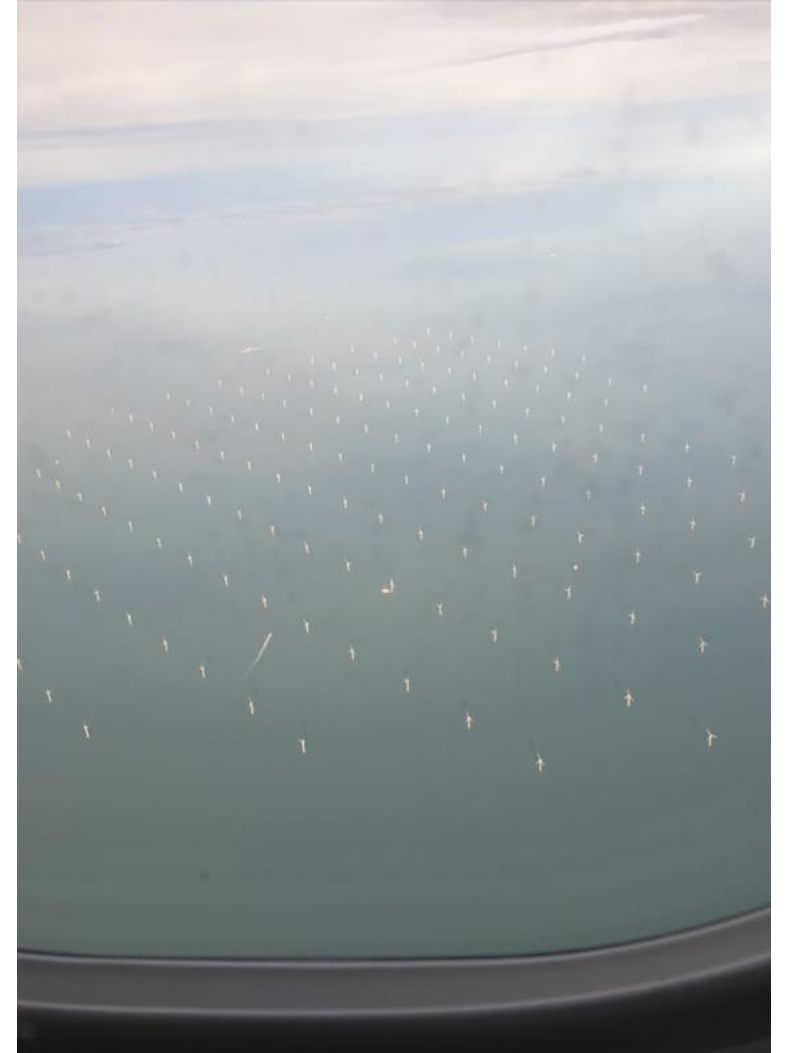
- Europe Fit for 55, Green Deal (total €750 bn)
- US inflation reduction act (IRA) – ~\$350 bn related to climate and energy provisions. Extension of PTCs, ITCs (PTC/ITC bonuses for domestic content [10%] and energy communities [10%])

# But Offshore Wind Projects are Under Pressure

## Bad Investment, Bad Bidding, or Bad Process?

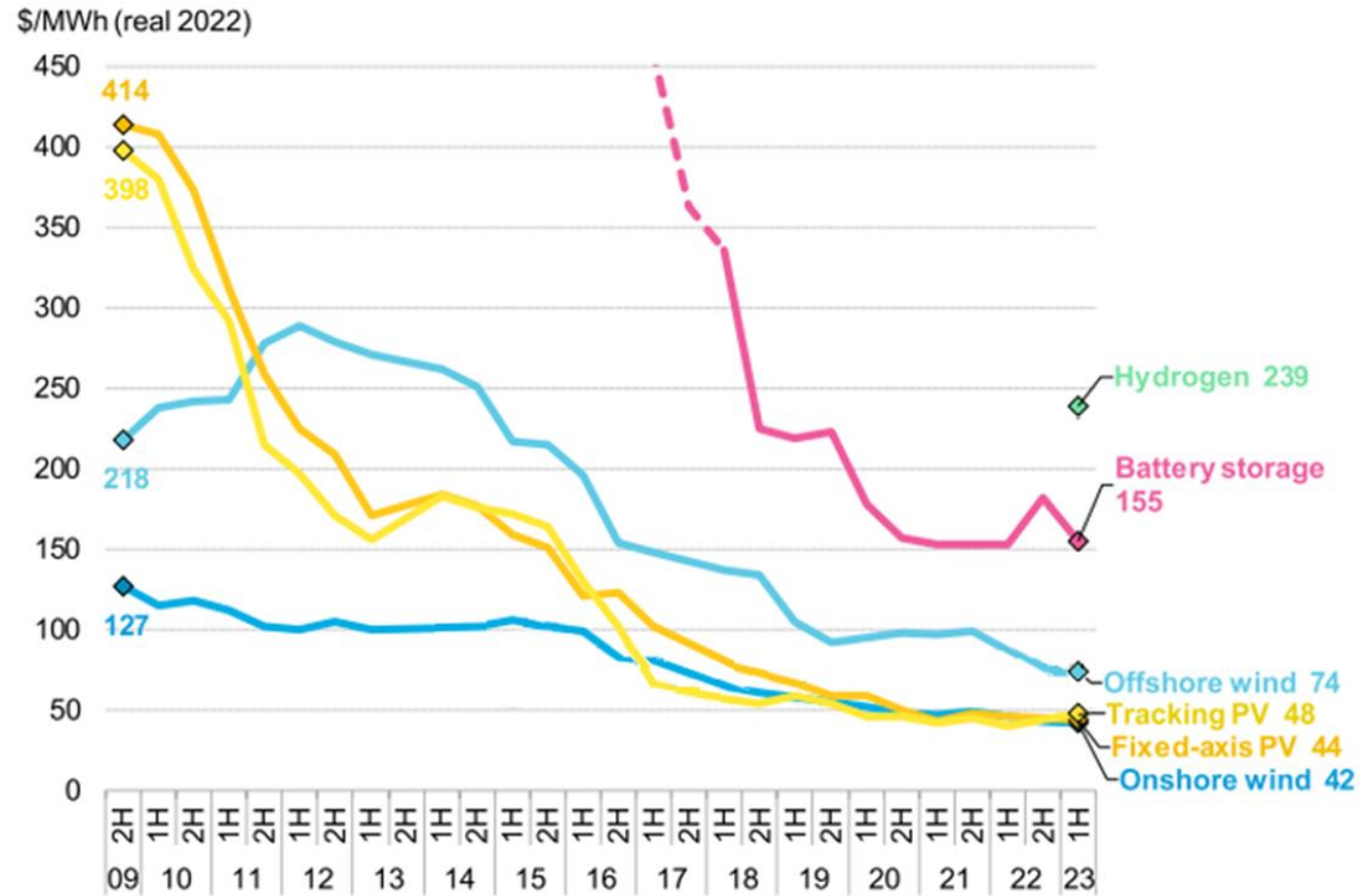
- Orsted wrote down US projects and wrote off Ocean Wind 1 and 2
- Avangrid (Iberdrola) paying to cancel US offshore PPAs
- BP and Equinor have impaired US offshore projects Empire/Beacon Wind
- Vattenfall walking away from Norfolk Boreas in the UK
- No bids for offshore wind in the latest UK CfD round
  
- No-one disputes that costs have increased but long lead times, competitive bidding and regulatory intransigence have contributed to the problem

**Current regimes need to change**



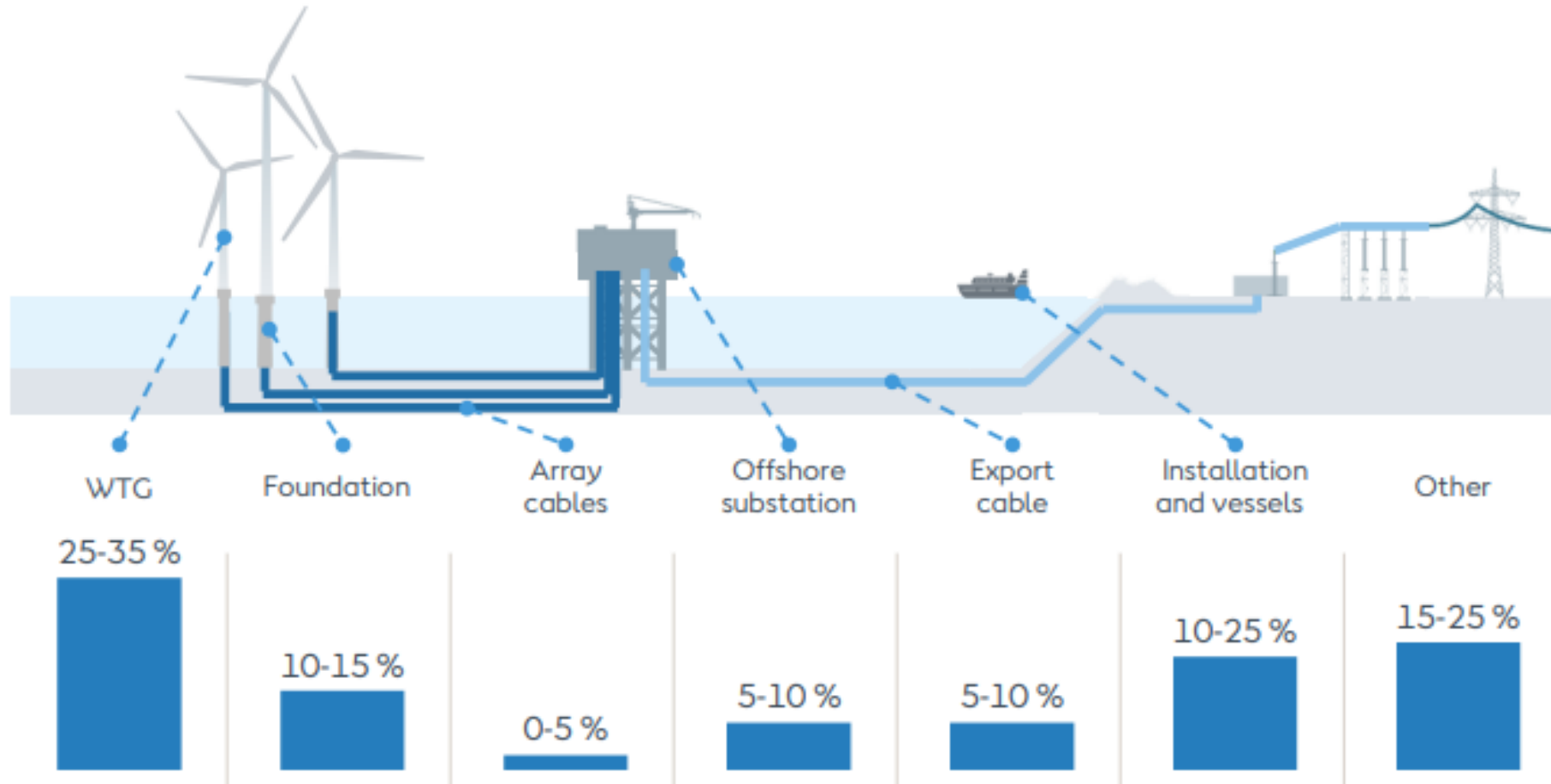
# Everything Was Hunky Dory When Costs Were Declining

## LCOE Average for Various Generation Technologies 1H23



# Offshore Wind – Capex

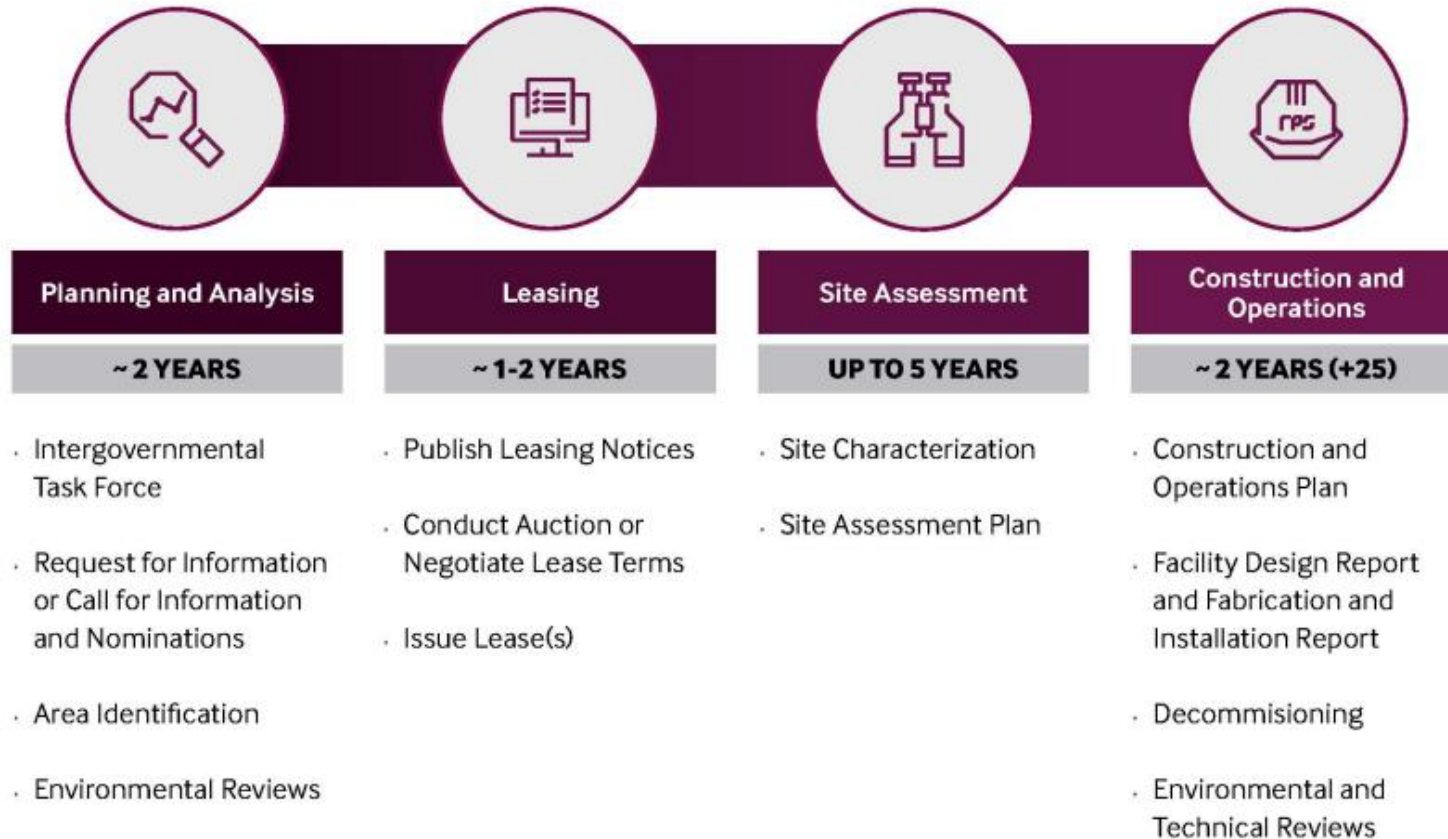
## Turbines are the Biggest Single Part of Offshore Wind Capex





# Offshore Wind – The US Regime

## From Planning to Commercial Operation can take 10-12 Years



## Offshore wind remuneration

- Remuneration is through PPAs or ORECs (offshore renewable energy certificates).
- PPA are typically contracts between the project and an industrial offtaker.
- ORECs are certificates that are sold to the regional authority and are often secured through a competitive auction.



A large, powerful blue wave crashing, symbolizing a tsunami. The water is a deep, vibrant blue, and the wave is curling over, creating a tunnel-like structure. The background is a lighter blue sky, suggesting a bright, sunny day. The overall mood is one of immense power and potential danger.

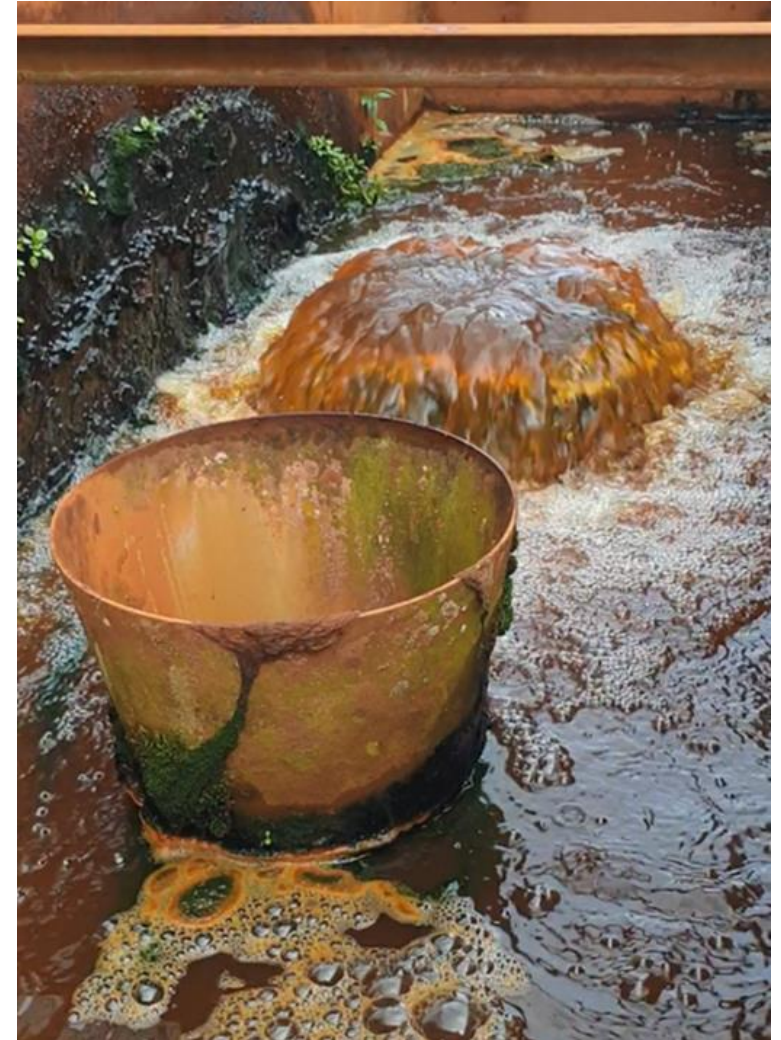
# The UK Water Sector – A Tsunami Waiting to Happen?



## The UK Water Sector Needs to Change

- For the last ten years the focus of the regulator has largely been to reduce bills at the expense of infrastructure investments.
- The company business plans for the next price control feature a doubling of total investments to ~£96 bn over the 2025-2030 period.
- Companies need to increase financial resilience
- Particularly vulnerable – Thames Water, Southern Water
- Ofwat requirements are becoming increasingly prescriptive – who needs management?

The current regime needs to change



## Massive Investments are Needed

- After real bill decreases in PR09, PR14 and PR19, bills will have to rise in PR24
  - Mains replacement, leakage reduction, sewage spills, water management, financial resilience
- Despite the plans including equity injections which potentially total over £7 bn, the average consumer bill is expected to increase by about 30% over AMP8
- Companies are providing additional support for vulnerable customers in their plans

## UK Water – Totex and Average Bill Increases

	PR09	PR14	PR19	PR24
Totex (£ bn)	40.6	44.3	50.6	95.8
Allowed WACC (appointee - point estimate)	4.50%	3.74%	2.96%	3.29%
Average bill increase	-1%	-5%	-12%	31%

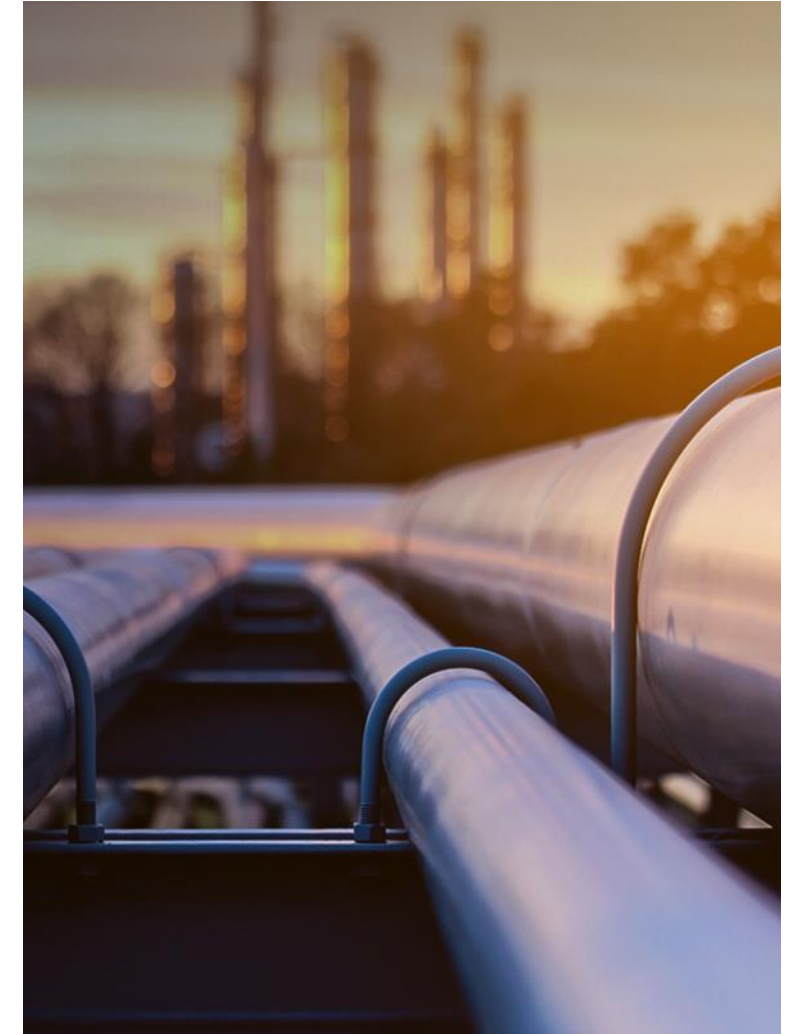
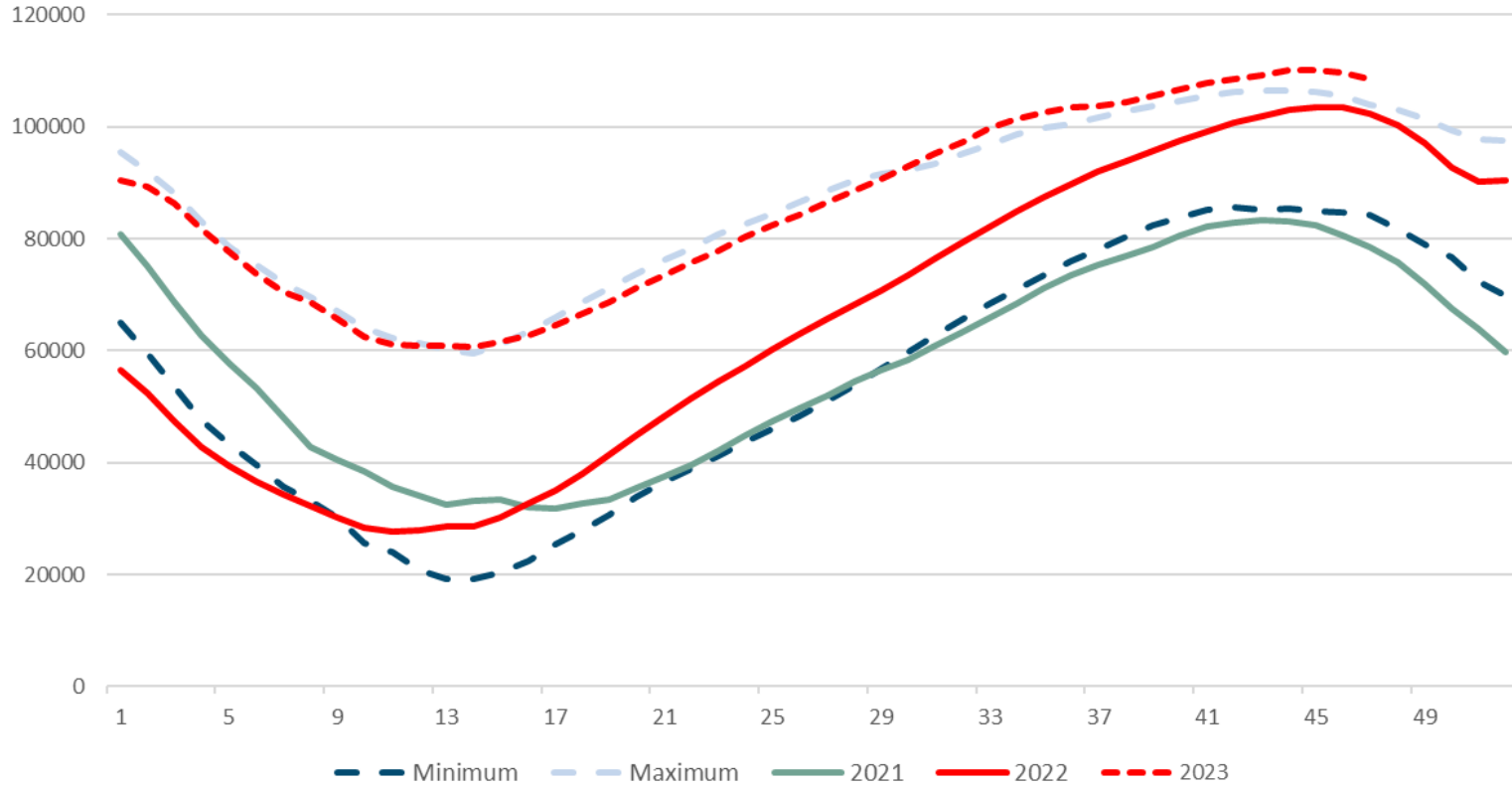


A photograph of industrial gas pipelines at sunset. The foreground shows several large, dark blue pipes running parallel to each other, supported by metal brackets. The background is a blurred industrial facility with tall chimneys and structures, illuminated by the warm, golden light of the setting sun. The sky is a mix of blue and orange.

**The European Gas Crisis Has  
Not Gone Away**

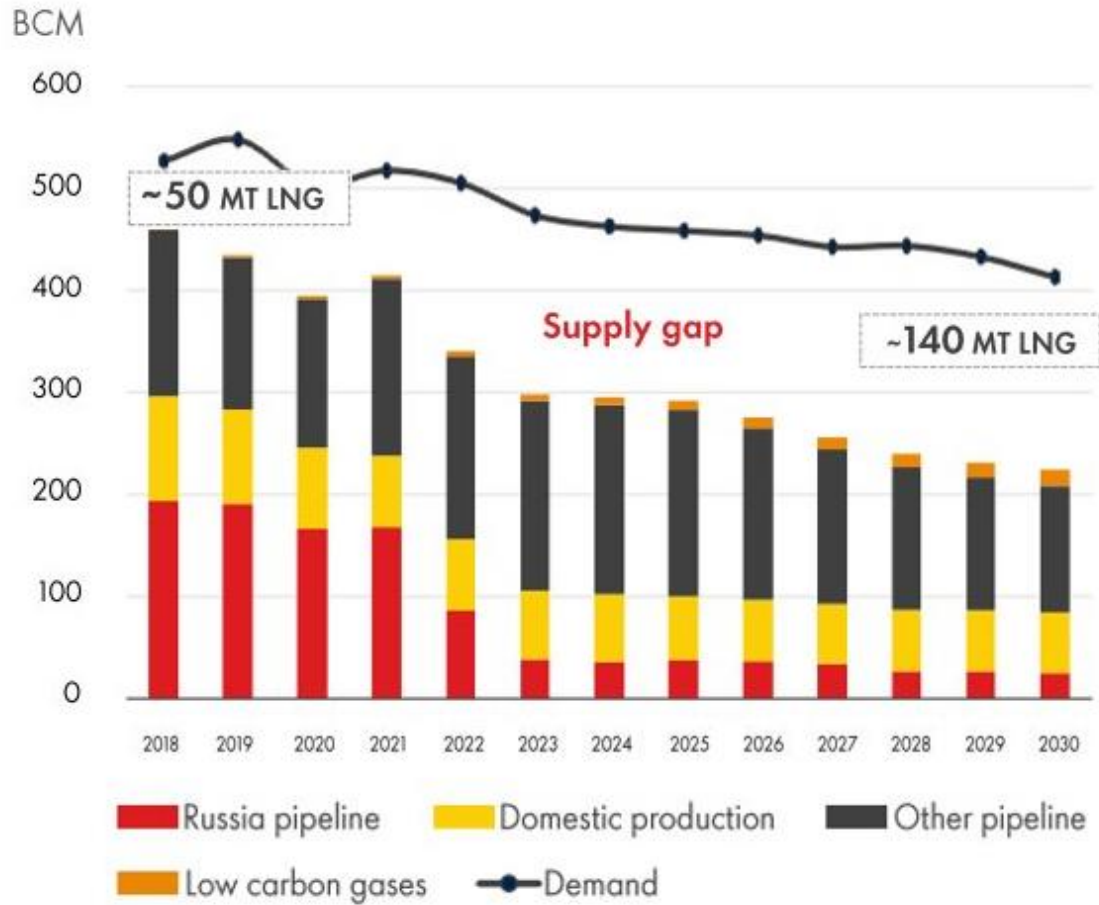
# Gas Supplies Look Secure Over Winter

## Gas Storage is at an All Time High

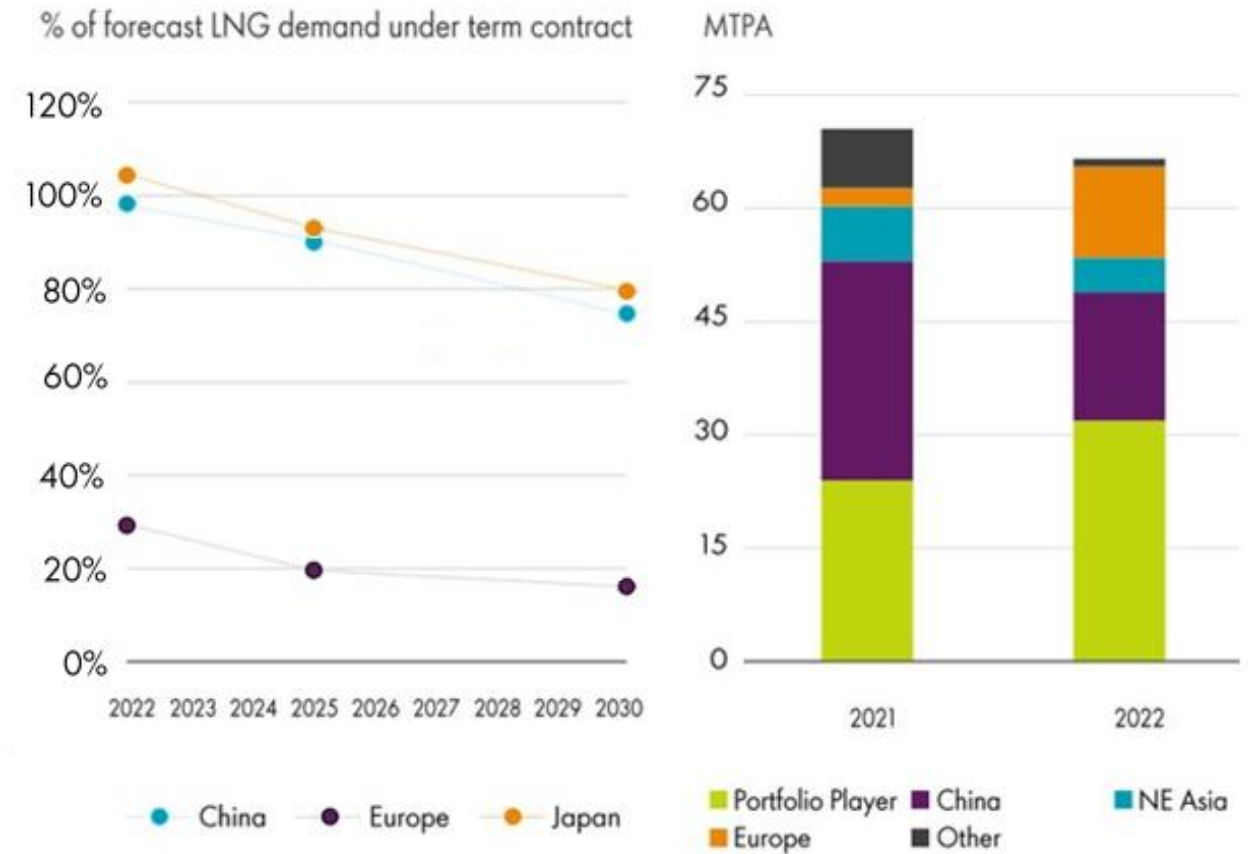


# Europe to Compete for LNG?

## Europe Gas Balance



## Contracted LNG Demand & Long-term SPA signings





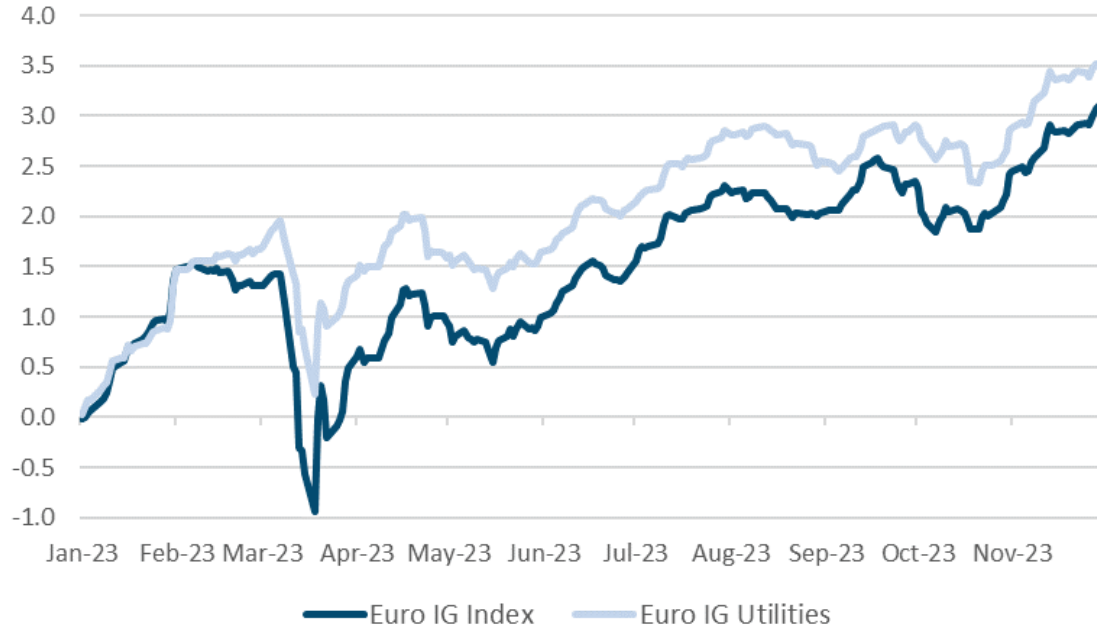
# Picks and Pans





# Sector Performance (YTD to 01 Dec 2023)

## Excess Returns (%)



## OAS Spread (bps)



# Core Coverage and Current View (2 Nov 2023)

## Sector view - Market perform

### Core company views

Outperform	Market perform	Underperform
Enel	Centrica CEZ E.ON EDP EDF EnBW Engie Fortum	Iberdrola National Grid RWE Snam SSE Vattenfall Veolia Naturgy Ørsted

# Recent Euro Utility Articles

## Also, see our Euro Utilities 101 Article:

- [Euro Utilities 101: Back To Basics](#) (25 Aug 2023)

## And Other Recent Euro Utility Articles:

- [Ørsted 9M23: The Writing Was On The Wall](#) (2 Nov 2023)
- [Euro Utilities: Winter Gas Outlook Looks Secure](#) (20 Oct 2023)
- [UK Water: Priming The Pump](#) (26 Sep 2023)
- [Euro Utilities: No Takers For UK Offshore CFDs](#) (8 Sep 2023)
- [Ørsted: An Ill Wind....](#) (30 Aug 2023)





# Appendix



9.50	69958	0.54	0.94%
8.50	10959	0.45	
12.18	67237	0.43	
22.15	15301	0.38	
15.30	23956	6.16	
9.37	10883	0.31	
3.50	10854	1.55	
14.12	17043	6.79	
19.55	18610	0.41	
10.63	51047	5.66	
	11178	2.99	
	20579	6.98	
		9.91	

+0.21%

+0.44%

+0.18%

-0.47%

+0.44%



# US Offshore Wind Projects Featuring Euro Utilities

Location	Project	Developer	Offtake agreement	Expected COD	Current position	MW
RI/MA	Revolution Wind	Ørsted/Eversource	PPA-RI & CT	2026	Permitting	704
RI/MA	South Fork Wind Farm	Ørsted/Eversource	PPA-NY	2024	In Construction	132
RI/MA	Sunrise Wind Farm	Ørsted/Eversource	OREC-NY	2026	Permitting	924
RI/MA	Sunrise Wind Farm (Residual)	Ørsted/Eversource	TBD	TBD	Permitting	900
RI/MA	Bay State Wind	Ørsted	TBD	TBD	Site Control	2000
MA	Vineyard Wind 1	Avangrid (Iberdrola)	PPA-MA	2024	In Construction	800
MA	Park City Wind	Avangrid (Iberdrola)	PPA-CT	2027	Permitting	800
MA	Commonwealth Wind	Avangrid (Iberdrola)	PPA-MA	2027	Permitting	1232
MA	SouthCoast Wind 1a	Shell/EDPR/ENGIE	PPA-MA	2028	Permitting	804
MA	SouthCoast Wind 1b	Shell/EDPR/ENGIE	PPA-MA	2029	Permitting	400
MA	SouthCoast Wind (Residual)	Shell/EDPR/ENGIE	TBD	TBD	Permitting	800
MA	Vineyard Northeast	Avangrid (Iberdrola)	TBD	TBD	Site Control	2143
RI	Block Island Wind Farm	Ørsted	PPA-RI	2016	Installed	30
NY/NJ	Vineyard Mid-Atlantic	Avangrid (Iberdrola)	TBD	TBD	Site Control	697
NY/NJ	Bluepoint Wind	EDPR/ENGIE	TBD	TBD	Site Control	1158
NY/NJ	Community Offshore Wind	RWE/National Grid	TBD	TBD	Site Control	2039
NY/NJ	Atlantic Shores Offshore Wind Bight	EDF/Shell	TBD	TBD	Site Control	1284
NJ	Atlantic Shores Offshore Wind North	EDF/Shell	TBD	TBD	Site Control	1182
NJ	Atlantic Shores Offshore Wind South (Project 1)	EDF/Shell	OREC-NJ	2027	Permitting	1510
NJ	Atlantic Shores Offshore Wind South (Project 2)	EDF/Shell	TBD	TBD	Permitting	890
NJ	Ocean Wind 1	Ørsted	OREC-NJ	2025	Approved	1100
NJ	Ocean Wind 2	Ørsted	OREC-NJ	2028	Permitting	1148
DE	Garden State Offshore Energy	Ørsted	TBD	TBD	Site Control	1080
DE	Skipjack 1	Ørsted	OREC-MD	2026	Permitting	120
DE	Skipjack 2	Ørsted	OREC-MD	2027	Permitting	846

# US Offshore Wind Projects – Levelised Nominal Prices

Project	Year awarded	MW	Duration (years)	Offtake type	Levelised nominal price (\$/MWh)	Power delivery year
Block Island Wind Farm	2010	30	20	PPA	244	2016
South Fork Wind Farm	2017	132	20	PPA	141	2024
MarWin	2017	270	20	OREC-MD	131.9	2026
<b>Skipjack 1</b>	<b>2017</b>	<b>120</b>	<b>20</b>	<b>OREC-MD</b>	<b>131.9</b>	<b>2026</b>
Vineyard Wind 1	2018	400	20	PPA	74	2024
Vineyard Wind 1	2018	400	20	PPA	65	2024
CVOW (Pilot)	2018	12	12	Utility Owned	780	2020
Revolution Wind	2018	400	20	PPA	99.5	2026
Revolution Wind	2018	200	20	PPA	98.4	2026
Revolution Wind	2019	104	20	PPA	98.4	2026
<b>Ocean Wind 1</b>	<b>2019</b>	<b>1100</b>	<b>20</b>	<b>OREC-NJ</b>	<b>116.8</b>	<b>2025</b>
Empire Wind 1	2019	816	25	OREC-NY	99	2026
<b>Sunrise Wind 1</b>	<b>2019</b>	<b>924</b>	<b>25</b>	<b>OREC-NY</b>	<b>110</b>	<b>2026</b>
New England Aqua Ventus I	2019	12	20	PPA	Undisclosed	2024
SouthCoast Wind 1a	2020	400	20	PPA	58.4	2028
SouthCoast Wind 1a	2020	404	20	PPA	58.4	2029
Icebreaker	2020	21	20	PPA	Undisclosed	2024
<b>Park City Wind</b>	<b>2021</b>	<b>800</b>	<b>20</b>	<b>PPA</b>	<b>79.8</b>	<b>2027</b>
Empire Wind 2	2021	1260	25	OREC-NY	107.5	2027
Beacon Wind 1	2021	1230	25	OREC-NY	118	2029
<b>Ocean Wind 2</b>	<b>2021</b>	<b>1148</b>	<b>20</b>	<b>OREC-NJ</b>	<b>42.3</b>	<b>2028</b>
Atlantic Shores Offshore Wind South Project 1	2021	1510	20	OREC-NJ	58.8	2027
<b>Skipjack 2</b>	<b>2021</b>	<b>846</b>	<b>20</b>	<b>OREC-MD</b>	<b>71.6</b>	<b>2027</b>
Momentum Wind	2021	809	20	OREC-MD	54.17	2028
SouthCoast Wind 1b	2021	400	20	PPA	77	2027
<b>Commonwealth Wind</b>	<b>2021</b>	<b>1232</b>	<b>20</b>	<b>PPA</b>	<b>72</b>	<b>2027</b>
CVOW (Commercial)	2021	2587	20	Utility Owned	87	2026

# Winter Gas Outlook Without Russia

## Actual and Estimated Gas Sources Over Winter 2023/24 – Zero Russian Volumes

	Storage	Storage percent	Total Imports Russia	Other	Total Usage	% from Storage	% from Russia	% from Other
EU storage levels at 14 October 2022 (bcm)	97.6	91%						
EU storage levels at 1 April 2023 (bcm)	60.6	56%						
Gas from source	37.0		12.5	162.7	212.2	17%	6%	77%
<b>Estimated future scenario</b>								
EU storage level at 14 Oct 2023 (bcm)	107.3	98.0%						
Loss of Russian pipeline volumes								
Assumed Russian volumes (% of 2022/23)			100%	50%	20%	10%	0%	
Assumed Russian volumes (bcm)			12.5	6.3	2.5	1.3	0.0	
Lost Russian volumes			0.0	6.3	10.0	11.3	12.5	
Assumed withdrawal from storage			-37.0	-43.3	-47.0	-48.3	-49.5	
EU storage level at 1 April 2023 (bcm)			70.3	64.0	60.3	59.0	57.8	
Storage level as %			64%	59%	55%	54%	53%	
Effect of demand increases if Russia delivers no pipeline gas or LNG								
Assumed change in EU demand (%)			-10%	0%	5%	10%	12%	
Assumed winter demand (bcm)			191.0	212.2	222.8	233.5	237.7	
Assumed change in storage due to extra demand (bcm)			21.2	0.0	-10.6	-21.2	-25.5	
Total change in storage			-38.3	-59.5	-70.1	-80.7	-85.0	
<b>EU storage level at 1 April 2024 (bcm)</b>			<b>69.0</b>	<b>47.8</b>	<b>37.2</b>	<b>26.6</b>	<b>22.3</b>	
<b>Storage level as %</b>			<b>63%</b>	<b>44%</b>	<b>34%</b>	<b>24%</b>	<b>20%</b>	

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