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Argus European Natural Gas Outlook

Summary

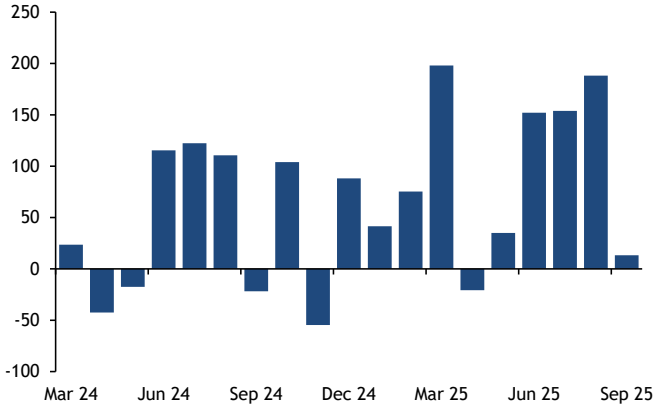
Fundamentals

- European supply-demand balance has tightened further, but the market remains fundamentally oversupplied
- The European power sector's ability to absorb surplus gas is increasingly constrained by renewable generation
- The global LNG balance has tightened further because of unplanned outages and Egypt's pivot to LNG imports during summer
- China's economic prospects remain a key variable

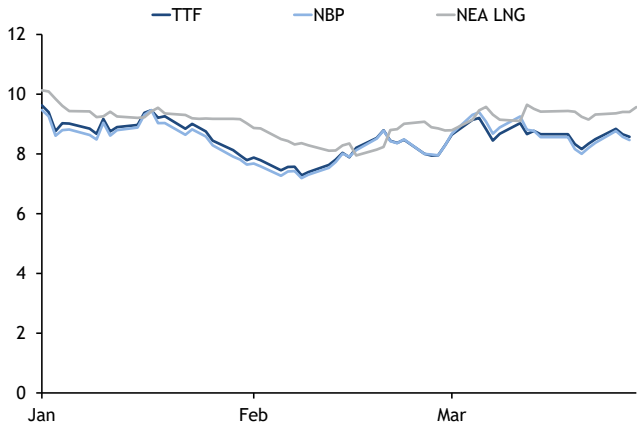
Prices

- Limited scope for prices to fall further
- Upside risks are greater than downside risks
- Fuel competition means coal prices now a key driver
- Open inter-basin LNG arbitrage may help balance the market by shifting cargoes away from Europe
- Taking rather than setting prices could mean more volatility at the TTF

EU and UK gas balance ***mn m³/d***



Month 1 price development ***$/mn Btu***



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Overview

Nearing the bottom

The European gas market still looks moderately oversupplied over the forecast period, meaning there remains some scope for prices to drift lower. But this scope is now much more limited than earlier in the year.

With the need to secure European supply no longer the market's key driver, prices have instead become governed by the need to fall low enough to stimulate sufficient demand to keep the market in balance in delivery, but not so much that the market becomes too tight to deal with any short-term supply disruptions that will inevitably arise.

This means that coal will be a key driver of gas prices over the summer, as the market chases an equilibrium at which gas-fired power plants are sufficiently competitive against coal to absorb the expected surplus, although not low enough to displace coal entirely. But should coal prices fall from their current highs — displacing more-efficient gas-fired plants — then other demand sources could kick in.

Low enough prices at the Dutch TTF hub and in the global LNG market could open up opportunities for importers outside Europe to reduce their supply costs by procuring more LNG and turning down indigenous production or long-term contract supply. But this means that the TTF will remain highly sensitive to shifts in the global LNG balance, despite Europe's relatively muted call on seaborne supply compared with 2022.

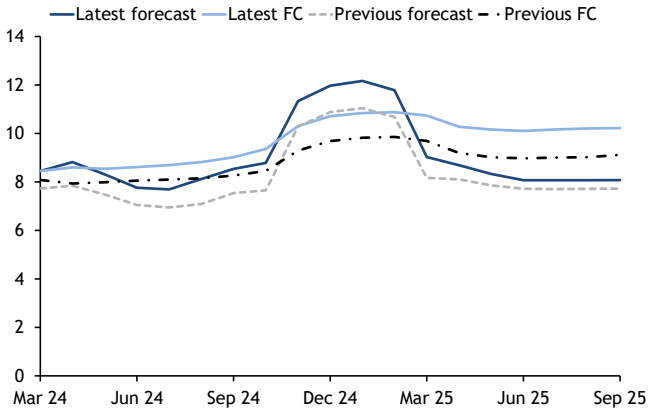
LNG importers in Asia-Pacific use the TTF as a hedging tool, selling forward their expected Atlantic-loaded cargoes — particularly contractual offtake from the US — and either carrying the position through to delivery into the European market, or buying back the TTF position when the cargo is ultimately directed to a destination elsewhere. This has become particularly apparent during the current maintenance at the 17.3mn t/yr Freeport terminal in the US, with TTF prices quickly rising whenever it becomes clear that offtakers will not be receiving their volumes in full.

Beyond the summer, this exposure to the fundamentals of the coal markets or of Asia-Pacific LNG demand creates significant upside risks for next winter. A failure of key infrastructure — whether a liquefaction train or a nuclear power plant — could quickly tighten the winter balance. Combine that with colder-than-average weather, and Europe could find itself once again needing to bid up to compete for the marginal cargo.

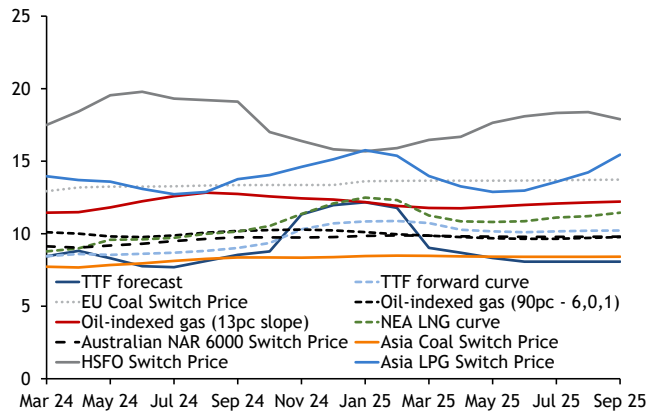
TTF price forecast and price anchors *$/mn Btu*

	Latest forecast	Previous forecast	Forecast change	TTF forward curve	Forecast vs curve
Mar 24	8.45	7.73	0.72	8.45	0.00
Apr 24	8.82	7.84	0.97	8.60	0.22
May 24	8.31	7.48	0.83	8.54	-0.23
Jun 24	7.76	7.05	0.71	8.61	-0.86
Jul 24	7.69	6.95	0.74	8.69	-1.00
Aug 24	8.12	7.09	1.03	8.82	-0.70
Sep 24	8.54	7.54	1.00	9.02	-0.48
Oct 24	8.78	7.65	1.13	9.36	-0.58
Nov 24	11.33	10.28	1.05	10.30	1.03
Dec 24	11.97	10.88	1.09	10.71	1.26
Jan 25	12.17	11.04	1.13	10.84	1.32
Feb 25	11.78	10.68	1.10	10.88	0.90
Mar 25	9.03	8.17	0.86	10.74	-1.71
Apr 25	8.69	8.11	0.58	10.27	-1.59
May 25	8.33	7.86	0.47	10.16	-1.83
Jun 25	8.07	7.72	0.35	10.10	-2.03
Jul 25	8.07	7.70	0.37	10.16	-2.09
Aug 25	8.07	7.71	0.36	10.21	-2.14
Sep 25	8.08	7.72	0.35	10.22	-2.15

TTF forward curve development *$/mn Btu*



TTF price forecast *$/mn Btu*



Price forecast and anchors

TTF price forecast and price anchors										$/mn Btu
	TTF forecast	TTF forward curve	EU Coal Switch Price	Oil-indexed gas (90pc - 6,0,1)	Oil-indexed gas (13pc slope)	NEA LNG curve	Australian NAR 6000 Switch Price	Asia Coal Switch Price	HSFO Switch Price	Asia LPG Switch Price
Mar 24	8.45	8.45	12.93	10.10	11.45	8.78	9.13	7.73	17.50	13.96
Apr 24	8.82	8.60	13.19	10.01	11.49	8.99	9.04	7.67	18.42	13.70
May 24	8.31	8.54	13.25	9.81	11.82	9.58	9.19	7.84	19.54	13.59
Jun 24	7.76	8.61	13.25	9.77	12.24	9.61	9.31	7.96	19.79	13.09
Jul 24	7.69	8.69	13.27	9.88	12.59	9.72	9.49	8.12	19.32	12.72
Aug 24	8.12	8.82	13.32	10.08	12.83	9.99	9.64	8.27	19.21	12.88
Sep 24	8.54	9.02	13.35	10.19	12.74	10.14	9.75	8.37	19.11	13.76
Oct 24	8.78	9.36	13.36	10.25	12.57	10.54	9.74	8.36	17.01	14.04
Nov 24	11.33	10.30	13.36	10.29	12.44	11.36	9.73	8.35	16.39	14.61
Dec 24	11.97	10.71	13.36	10.23	12.35	12.09	9.77	8.38	15.82	15.13
Jan 25	12.17	10.84	13.62	10.11	12.18	12.49	9.85	8.46	15.68	15.76
Feb 25	11.78	10.88	13.64	9.96	11.92	12.32	9.88	8.49	15.90	15.37
Mar 25	9.03	10.74	13.66	9.86	11.77	11.25	9.86	8.47	16.47	13.97
Apr 25	8.69	10.27	13.66	9.77	11.75	10.86	9.82	8.43	16.69	13.26
May 25	8.33	10.16	13.66	9.69	11.87	10.81	9.80	8.41	17.65	12.88
Jun 25	8.07	10.10	13.67	9.65	11.98	10.86	9.79	8.41	18.09	12.97
Jul 25	8.07	10.16	13.68	9.65	12.08	11.11	9.79	8.41	18.32	13.58
Aug 25	8.07	10.21	13.71	9.71	12.16	11.21	9.79	8.41	18.38	14.23
Sep 25	8.08	10.22	13.73	9.77	12.22	11.45	9.80	8.41	17.90	15.45

TTF price forecast and price anchors										€/MWh
	TTF forecast	TTF forward curve	EU Coal Switch Price	Oil-indexed gas (90pc - 6,0,1)	Oil-indexed gas (13pc slope)	NEA LNG curve	Australian NAR 6000 Switch Price	Asia Coal Switch Price	HSFO Switch Price	Asia LPG Switch Price
Mar 24	26.94	26.94	41.23	32.22	36.51	28.00	29.10	24.64	55.80	44.52
Apr 24	28.12	27.42	42.06	31.92	36.63	28.65	28.83	24.47	58.75	43.69
May 24	26.51	27.24	42.25	31.29	37.68	30.56	29.30	25.01	62.33	43.33
Jun 24	24.74	27.47	42.26	31.15	39.03	30.66	29.69	25.37	63.10	41.75
Jul 24	24.53	27.72	42.32	31.51	40.14	30.99	30.27	25.91	61.60	40.57
Aug 24	25.89	28.11	42.48	32.13	40.91	31.87	30.75	26.36	61.25	41.06
Sep 24	27.23	28.76	42.57	32.49	40.64	32.35	31.09	26.68	60.93	43.89
Oct 24	28.00	29.85	42.59	32.68	40.08	33.60	31.07	26.66	54.24	44.78
Nov 24	36.14	32.86	42.59	32.80	39.67	36.22	31.04	26.63	52.28	46.59
Dec 24	38.17	34.15	42.59	32.62	39.39	38.55	31.15	26.73	50.46	48.24
Jan 25	38.80	34.58	43.44	32.23	38.84	39.83	31.42	26.99	50.01	50.25
Feb 25	37.57	34.69	43.51	31.76	38.01	39.29	31.51	27.07	50.70	49.03
Mar 25	28.78	34.24	43.55	31.45	37.55	35.88	31.45	27.02	52.52	44.56
Apr 25	27.70	32.77	43.56	31.15	37.48	34.62	31.31	26.90	53.21	42.29
May 25	26.56	32.40	43.56	30.89	37.84	34.47	31.24	26.83	56.29	41.08
Jun 25	25.73	32.22	43.58	30.77	38.21	34.64	31.21	26.81	57.70	41.36
Jul 25	25.73	32.41	43.64	30.77	38.51	35.44	31.21	26.81	58.43	43.29
Aug 25	25.73	32.54	43.70	30.96	38.77	35.76	31.22	26.81	58.62	45.37
Sep 25	25.75	32.60	43.78	31.15	38.96	36.52	31.24	26.83	57.07	49.26

European balance

- Europe supply-demand balance has tightened further
- But market remains fundamentally oversupplied
- Open inter-basin LNG arbitrage may help balance the market by shifting cargoes away from Europe

Europe remains fundamentally oversupplied over our forecast period, but to a lesser degree than previously expected, and the emergence of more price-sensitive demand in Europe and further afield should help balance the market at delivery.

Record high inventories amid warm spring weather remain at the heart of Europe's near-term oversupply. There are some indications that consumers may not have restricted their demand over the past winter as severely as they did in 2022-23, but mild weather overall meant that heating requirements were still far below seasonal averages. This means that refilling European storage this summer will require 18mn m³/d less than it did last year, and 173mn m³/d less than it did in 2022.

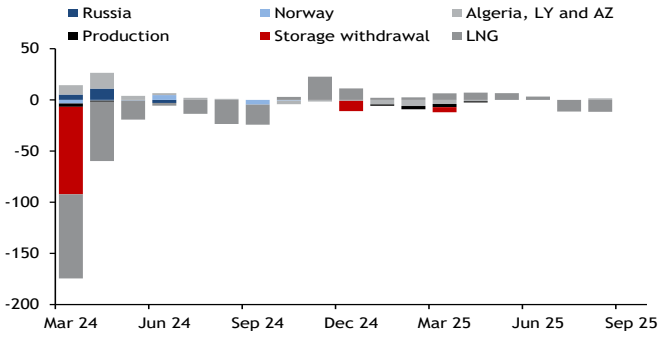
Strong Norwegian production looks set to contribute to the surplus. Reaching its record-high production quota would require the giant Troll swing field to run at near capacity, outside maintenance periods. And if the quota is kept as high in future years, it would limit scope to defer output. Algerian supply could also rise as new contracts come into force, but weakening Italian gas prices could spur importers to reduce receipts.

Similarly, strong flows of Russian gas so far this year — relative to the baseline established since the second half of 2022 — could provide flexibility for receipts to be reduced in summer if prompt prices fall relative to monthly indexes. We maintain our view that Russian transit through Ukraine will be possible after the expiry of their agreement, but Russian strikes on Ukrainian storage facilities increase the risk of transit halting.

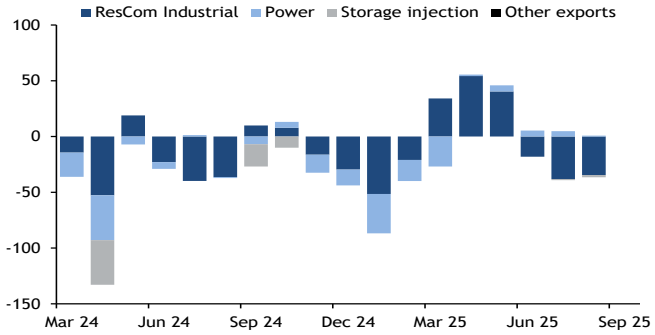
The power sector's ability to absorb any surplus is increasingly limited by rising renewable generation, which has rendered gas-fired output inversely proportionate to wind speeds.

But the relative weakness of European demand has allowed prices to fall to a sufficient discount to northeast Asian delivered LNG to incentivise diverting Atlantic-loaded LNG to the Pacific basin. And forward prices offer an increasingly strong incentive as the year progresses. If prices remain low enough to stimulate demand outside Europe and continue to incentivise diverting cargoes, this tightening of the global LNG balance could help ease the pressure on the European market.

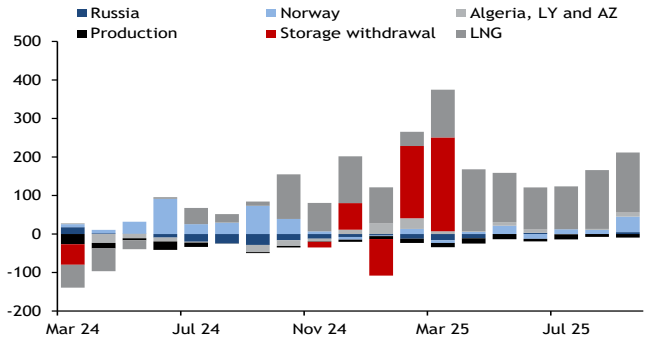
Latest supply forecast vs previous *mn m³/d*



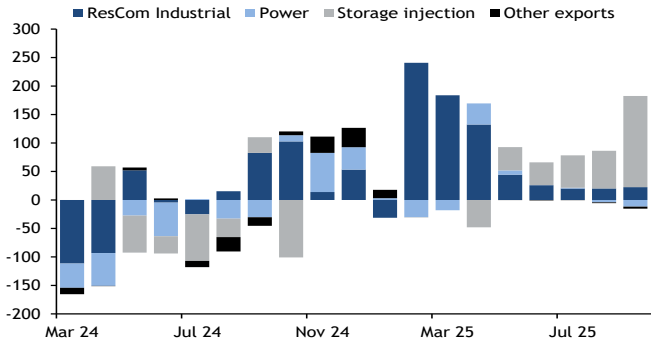
Latest demand forecast vs previous *mn m³/d*



EU and UK supply vs previous year *mn m³/d*



EU and UK demand vs previous year *mn m³/d*



European balance

European gas balance																			mn m³/d
	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Supply																			
Russia	86	76	65	57	65	65	60	70	70	75	75	70	70	65	65	60	65	65	65
Norway	335	320	292	322	319	315	245	340	343	344	345	343	328	325	313	309	331	326	285
Algeria, LY and AZ	124	116	104	105	118	118	113	110	115	126	133	134	131	118	113	114	117	121	124
Production	193	193	187	171	179	178	177	187	191	190	190	182	182	179	174	165	166	171	168
Storage withdrawal	128	0	0	0	0	0	0	0	126	374	483	482	371	0	0	0	0	0	0
LNG	353	400	416	386	371	320	307	444	487	545	483	411	477	561	544	494	482	473	463
Demand																			
ResCom Industrial	970	774	650	490	448	449	568	754	1064	1256	1363	1321	1153	906	694	516	468	469	590
Power	201	151	161	165	230	190	199	221	291	279	280	198	183	188	168	165	231	185	187
Storage injection	0	202	253	254	237	228	134	43	0	0	0	0	0	154	294	294	294	294	294
Other exports	24	20	18	16	14	19	24	28	32	32	24	29	24	20	18	15	14	18	21
Balance																			
Supply	1219	1105	1064	1041	1052	997	903	1150	1332	1655	1709	1623	1559	1248	1209	1143	1162	1155	1106
Demand	1195	1148	1082	925	930	886	925	1046	1387	1567	1668	1548	1361	1269	1174	991	1008	967	1092
Balance	24	-42	-17	115	122	111	-22	104	-55	88	41	75	198	-21	35	152	154	188	13

European gas balance - forecast change																			mn m³/d
	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Supply																			
Russia	5	11	0	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Norway	-4	-1	-1	5	0	0	-5	-1	0	0	0	0	0	0	0	0	0	0	
Algeria, LY and AZ	9	15	4	2	2	1	0	-4	-2	-1	-4	-6	-4	-1	0	0	0	2	
Production	-3	-1	0	0	0	0	0	0	0	0	-1	-3	-3	-1	0	0	0	0	
Storage withdrawal	-86	0	0	0	0	0	0	0	0	-10	0	0	-5	0	0	0	0	0	
LNG	-82	-58	-19	-3	-14	-23	-20	3	23	11	2	2	6	7	7	3	-11	-12	
Demand																			
ResCom Industrial	-14	-53	19	-23	-40	-36	10	8	-16	-30	-52	-21	34	54	40	-18	-38	-35	
Power	-22	-40	-7	-6	1	-1	-7	5	-16	-14	-35	-19	-27	1	6	5	5	1	
Storage injection	0	-40	0	0	0	0	-20	-10	0	0	0	0	0	0	0	0	-1	-2	
Other exports	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance																			
Supply	-160	-33	-15	1	-12	-23	-24	-1	21	0	-4	-7	-6	5	7	3	-11	-10	
Demand	-36	-133	12	-29	-39	-37	-17	3	-32	-44	-87	-40	7	56	46	-13	-34	-36	
Balance	-196	-166	-3	-28	-50	-60	-41	2	-11	-44	-91	-47	2	60	52	-10	-46	-46	

Methodological note

The balances in this Outlook illustrate the actions incentivised by the assessed forward curve at the time this analysis was undertaken and are not a forecast of the final balance at delivery. Any projected imbalances are incorporated into the Outlook's forecast of the market clearing price for the specified future period.

Russia

Ukrainian transit risks increase

Russian gas flows to Europe increased to 86.2mn m³/d in March from 82.3mn m³/d a month earlier and more than 15mn m³/d higher than March 2023. Prompt prices in Austria, Hungary and Slovakia held consistently above the Dutch TTF front-month index, incentivising strong nominations for Russian gas during the second half of March.

Deliveries through Ukraine into Austria, Slovakia and Moldova have held steady within a narrow 40mn-43mn m³/d range, with more variable volumes transited through the Turkish Stream pipeline to Hungary, Serbia and Greece. Deliveries to Hungary have stepped up in recent weeks but with consumption falling and a lower Hungarian injection requirement this summer, flows could ease in the coming months unless there is a strong financial incentive to maintain high contract offtake nominations. Austrian offtake has been strong so far this gas year, which could provide some flexibility to reduce imports from Russia in the summer if they are uneconomic relative to prompt prices. Strong Russian offtake in the first week of April could continue throughout the month, if prompt prices remain above €27/MWh.

We maintain the view that the transit of Russian gas through Ukraine to Europe will be possible next year when Gazprom's transit deal with Ukrainian state-owned Naftogaz and interconnection agreement with grid operator GTSOU expire. In the absence of an interconnection agreement, interruptible capacity will be available through annual, quarterly and monthly auctions. Alternatively, Gazprom could seek to arrange for a third party to transport gas through Ukraine on its behalf, or renegotiate with contract holders so they assume responsibility for transporting gas from the Russia-Ukraine border.

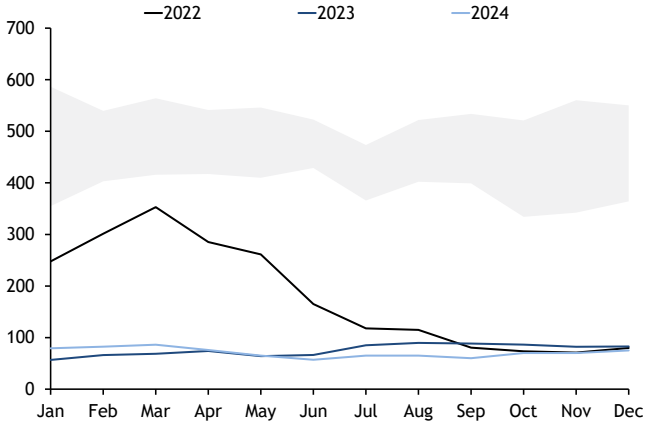
But in our view, the recent Russian strikes on Ukrainian underground gas storage assets increase the risk that Gazprom will elect to halt transit through Ukraine from the end of the year. With limited scope to reroute additional gas through Turkish Stream, a halt in Ukrainian transit would reduce our forecast for Russian deliveries by around 30mn m³/d.

Most Russian gas passing through this route goes to Austria and Slovakia. Slovak prime minister Robert Fico has said "it is likely that gas transportation through Ukraine will continue". Austrian supplier OMV says it can fulfil its supply obligations if Russian deliveries stop. Austria's climate ministry plans to introduce a diversification obligation on gas suppliers and is seeking to end the OMV-Gazprom long-term contract.

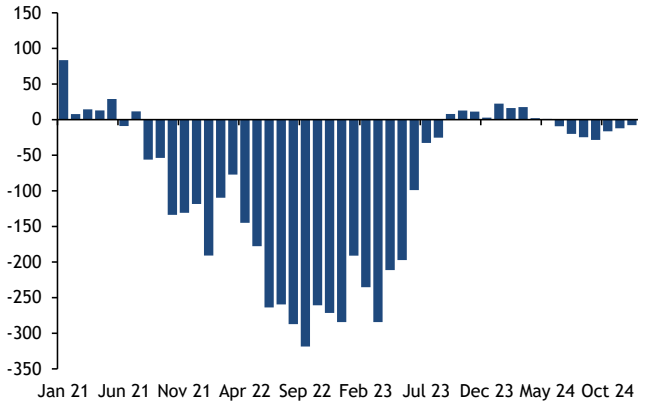
Russia supply forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	86	81	5	69	18
Apr 24	76	65	11	74	2
May 24	65	65	0	64	1
Jun 24	57	60	-3	66	-9
Jul 24	65	65	0	85	-20
Aug 24	65	65	0	90	-25
Sep 24	60	60	0	88	-28
Oct 24	70	70	0	86	-16
Nov 24	70	70	0	82	-12
Dec 24	75	75	0	83	-8
Jan 25	75	75	0	79	-4
Feb 25	70	70	0	82	-12
Mar 25	70	70	0	86	-16
Apr 25	65	65	0	76	-11
May 25	65	65	0	65	0
Jun 25	60	60	0	57	3
Jul 25	65	65	0	65	0
Aug 25	65	65	0	65	0
Sep 25	65			60	5

Russia supply forecast *mn m³/d*



Russian supply vs previous year *mn m³/d*



Norway

Norwegian summer exports could rise by 40mn m³/d

Norwegian pipeline gas exports to Europe increased to 335mn m³/d in March from 330mn m³/d a month earlier, but unplanned works at the Nyhamna gas processing plant limited scope for production from the Aasta Hansteen field, reducing output against our forecast of 339mn m³/d.

We forecast that April exports will decline to below 320mn m³/d, despite strong output so far this month. Maintenance due to take place in the final week of April is expected to scale back output from Aasta Hansteen, Dvalin and Troll.

Maintenance is scheduled to restrict output by 30.8mn m³/d across April-September, according to Gassco's latest maintenance plan, significantly down on the 82mn m³/d unavailable last summer. The bulk of summer 2024 maintenance will take place in May and September, the only months this year where production is forecast to fall below 300mn m³/d. Maintenance scheduled for September has increased by the equivalent of 8mn m³/d over the past month, with additional downtime scheduled at Asgard, Gullfaks, Oseberg and Troll.

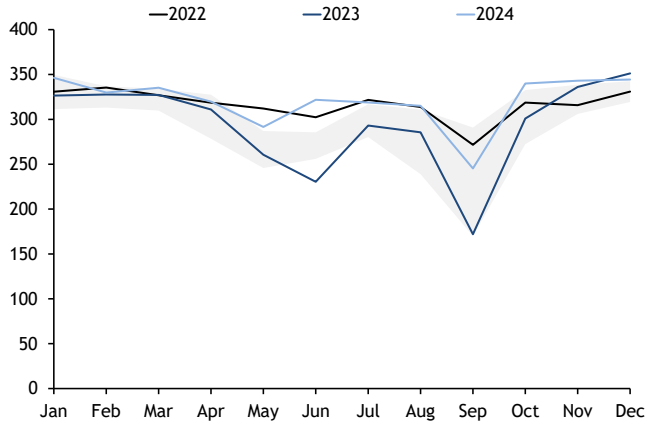
Norwegian state-controlled Equinor expects its oil and gas output in 2024 to be stable against 2023. But with oil production projected to decline this year, gas output will need to be stronger than in 2023 for combined oil and gas production to remain unchanged.

Equinor has a 40.47bn m³ quota at the giant flexible Troll field for the 2023-24 gas year, the highest ever. An increase in Troll production quotas in recent years is reducing flexibility to carry forward volumes not produced during lower-priced periods. Troll's 2023-24 permit is equivalent to 111mn m³/d, which is close to the field's technical capacity after taking into account maintenance. If the Troll quota remains as high in the coming years, there may be less potential to roll forward unproduced volumes, as each new gas year's quota holds close to technical capacity.

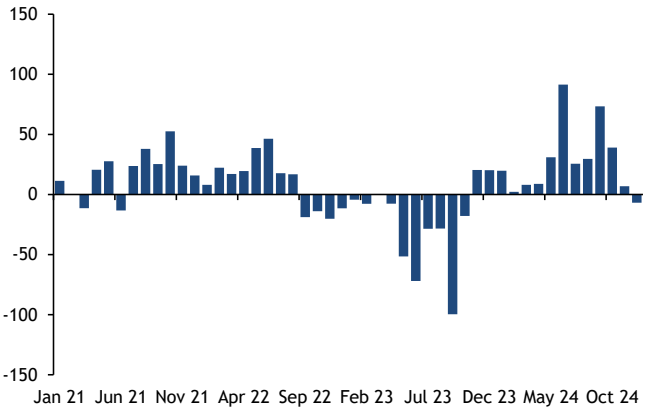
The 2023-24 permit for the flexible Oseberg field is unchanged at 7bn m³, or 19mn m³/d. We expect Oseberg to provide more scope for some output to be deferred this summer, with gas carried over for delivery in summer 2025. Monthly production from Oseberg peaked at 28.1mn m³/d in February 2021, holding lower since then and not exceeding 25mn m³/d since March 2023. But output over this period could have been constrained by the overproduction relative to permitted volumes in 2021.

Norway supply forecast					mn m³/d
	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	335	339	-4	327	8
Apr 24	320	321	-1	311	9
May 24	292	292	-1	261	31
Jun 24	322	317	5	230	91
Jul 24	319	319	0	293	26
Aug 24	315	315	0	286	30
Sep 24	245	250	-5	172	73
Oct 24	340	341	-1	301	39
Nov 24	343	343	0	336	7
Dec 24	344	344	0	351	-7
Jan 25	345	345	0	346	-1
Feb 25	343	343	0	330	13
Mar 25	328	328	0	335	-7
Apr 25	325	325	0	320	5
May 25	313	313	0	292	21
Jun 25	309	309	0	322	-13
Jul 25	331	331	0	319	12
Aug 25	326	326	0	315	11
Sep 25	285			245	40

Norway supply forecast *mn m³/d*



Norway supply vs previous year *mn m³/d*



Algeria, Libya and Azerbaijan

Oil price increase alters Algerian offtake incentives

Algeria delivered 84.6mn m³/d of pipeline gas to Europe in March, up from 68.3mn m³/d in February and 8mn m³/d higher than our forecast for the month. The increase in prompt prices through March has narrowed the PSV and PVB discounts to our estimate of respective contract prices for Italian and Spanish offtakers of Algerian pipeline supply. We still estimate that prompt prices remain at a discount to the price of Algerian pipeline imports, but at a level that offers the least-negative time to take contractual volumes during the remainder of the gas year.

There is potential for Algerian gas exports to rise further this summer owing to an increase in contractual deliveries to Italy, but importers have little incentive to maximise receipts under long-term contracts over our forecast horizon. We estimate that Algerian contract prices contain gas market price indexation components, but formulas are still largely indexed to oil prices.

Forward crude prices have increased by $5-9/bl over the past month, driven by a sustained risk premium relating to the Israel-Hamas conflict and tightening fundamentals as a result of extended output cuts from Opec+ producers.

The length of the indexation period means that the rise in oil prices has only slightly increased the estimated contract price for Algerian supply for the balance of this gas year. But our estimates for gas year 2024-25 months have increased by almost $1/mn Btu as a result of the recent rise in forward oil and gas market prices.

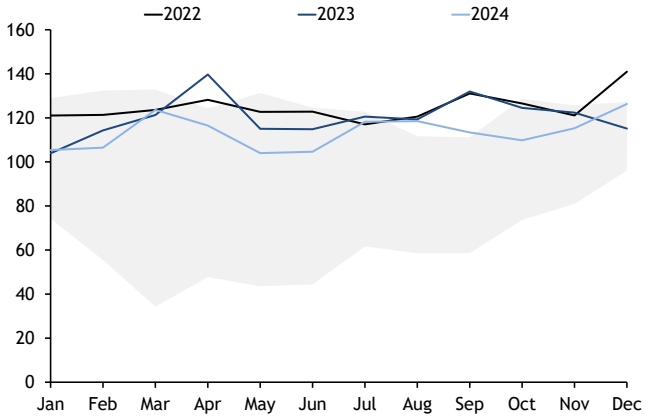
The net result of recent upward oil and gas market price movement across the forecast period is expected to be slightly less offtake restraint this summer and stronger restraint for gas year 2024-25 compared with our forecast a month ago.

Flows on the Trans-Tunisian gas pipeline linking Algeria to Italy will be limited in May-June and again in September, because of maintenance on the line's compression stations, according to the pipeline operator. Works at the Feriana compressor station, near the Algerian border, will cut available capacity into Tunisia to 82.4mn m³/d on 13-17 May and to 67mn m³/d on 18-22 May. Further works at Feriana will limit capacity to 67mn m³/d on 3 June and again on 21-22 June. Works at the Cap Bon compressor station will limit capacity to 36.1mn m³/d on 3-15 September.

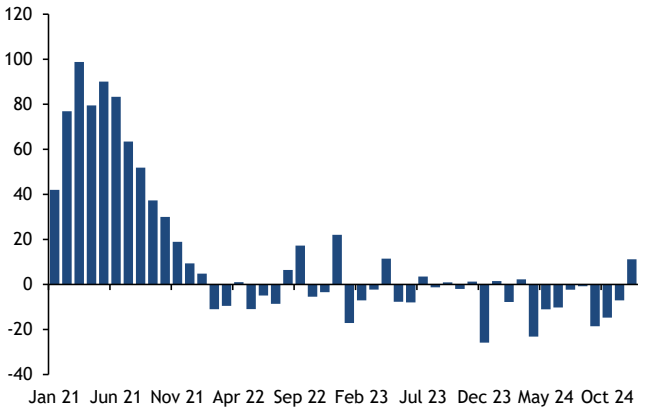
Algeria, Libya and Azerbaijan supply forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	124	114	9	121	2
Apr 24	116	101	15	140	-23
May 24	104	100	4	115	-11
Jun 24	105	103	2	115	-10
Jul 24	118	116	2	121	-2
Aug 24	118	118	1	119	-1
Sep 24	113	113	0	132	-19
Oct 24	110	113	-4	125	-15
Nov 24	115	117	-2	122	-7
Dec 24	126	127	-1	115	11
Jan 25	133	137	-4	105	27
Feb 25	134	140	-6	106	28
Mar 25	131	135	-4	124	7
Apr 25	118	119	-1	116	2
May 25	113	113	0	104	9
Jun 25	114	114	0	105	10
Jul 25	117	117	0	118	-1
Aug 25	121	120	2	118	2
Sep 25	124			113	11

Algeria, Libya, Azerbaijan supply forecast *mn m³/d*



Algeria, Libya, Azerbaijan supply vs year ago *mn m³/d*



EU and UK production

Tyra restarts after four-year refurbishment

TotalEnergies announced the restart of production from the Tyra hub on 22 March, following a long period of downtime for refurbishment since September 2019. Data published on the Entso-G data platform suggest that flows at Nybro — where the Tyra-Denmark pipeline makes landfall, reached 2.7mn m³/d on 6 April. TotalEnergies has confirmed that the restart is progressing according to plan, indicating that the ramp-up to Tyra's capacity of 8.1mn m³/d will take around four months, as previously announced.

Gas production offshore the UK and the Netherlands is expected to fall further this year, with output from newer fields insufficient to offset declines from maturing areas. Annual output from UK fields peaked at 319.7mn m³/d in 2000 but production slipped below 100mn m³/d in 2023 and will fall further in the coming years, accounting for the bulk of our forecast reduction in European output. UK offshore regulator the North Sea Transition Authority (NSTA) has revised up its predictions for gas production in the coming years, but its forecast remains slightly below our expectation.

Maintenance at UK fields is expected to be heavier this summer compared with a year earlier. June is expected to see the most downtime, with works at the Laggan-Tormore, J Area and Culzean fields expected to reduce availability by more than 13mn m³/d.

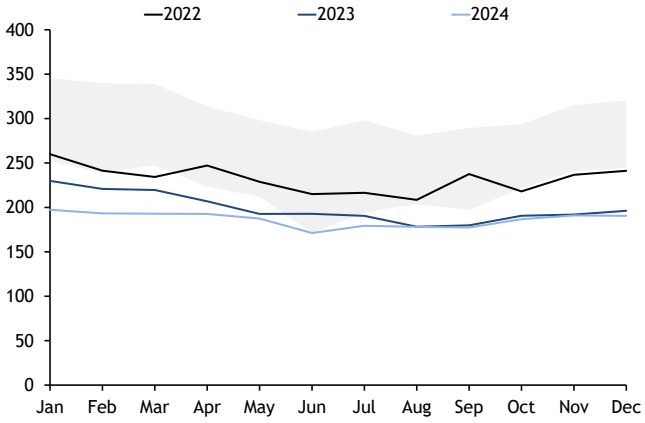
Culzean, the UK's largest gas field, produced 10.8mn m³/d in February, down by 9pc from January and by a quarter from a year earlier, according to the latest data from the NSTA. This was also the lowest monthly production since January 2020, when some unplanned maintenance took place and the field was potentially still ramping up, having started operations in June 2019. Culzean's annual output held in a range of 12.7mn-14.9mn m³/d from 2020-23, but was only 11.3mn m³/d in January-February this year and is expected to continue to decline rapidly in the coming years.

Romanian gas production is expected to decline this year, although the latest production data from Eurostat suggest that output in January and February was flat compared with a year earlier. OMV Petrom sees oil and gas production in Romania falling by around 7pc this year. Romania's domestic output could increase significantly from 2027, when Romgaz and OMV Petrom are targeting first production from the Neptun Deep project in the Black Sea, after reaching a final investment decision in 2023.

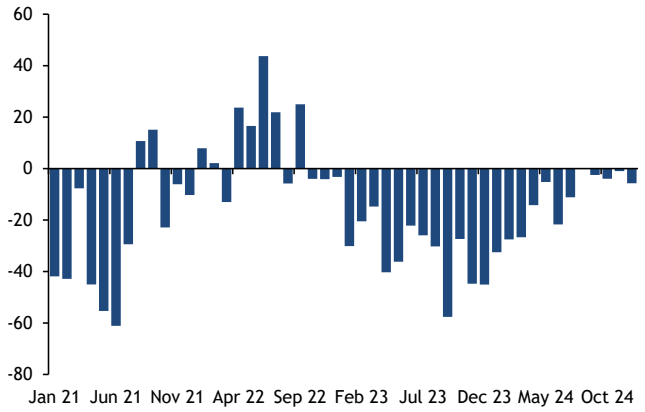
EU + UK production forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	193	196	-3	220	-27
Apr 24	193	194	-1	207	-14
May 24	187	187	0	193	-5
Jun 24	171	171	0	193	-22
Jul 24	179	179	0	191	-11
Aug 24	178	178	0	178	0
Sep 24	177	177	0	180	-2
Oct 24	187	187	0	191	-4
Nov 24	191	191	0	192	-1
Dec 24	190	190	0	196	-6
Jan 25	190	191	-1	197	-8
Feb 25	182	185	-3	193	-11
Mar 25	182	185	-3	193	-11
Apr 25	179	180	-1	193	-14
May 25	174	174	0	187	-14
Jun 25	165	165	0	171	-6
Jul 25	166	166	0	179	-13
Aug 25	171	171	0	178	-8
Sep 25	168			177	-9

EU and UK production forecast *mn m³/d*



EU and UK production vs previous year *mn m³/d*



Storage

EU enters summer with record high stocks

European storage sites recorded net withdrawals of 128mn m³/d in March. Warm weather reduced local distribution zone (LDZ) and power sector demand and with limited financial incentives or physical requirements to draw heavily, withdrawals slowed in the second half of the month.

EU storage inventories closed the winter at 58.3pc full, greater than previously expected and a record high for the time of year. The summer 2024 injection requirement to refill stocks to nameplate capacity is over 3bn m³, or 18mn m³/d, less than at the same time in 2023, when stocks closed at just under 56pc full, the previous record for the end of March. The reduced injection requirement is a staggering 173mn m³/d less than would have been required to fill stocks to nameplate capacity in 2022.

The forward curve suggests that strong injections are incentivised for the second quarter of this year, but adjusting for inflation, the incentive to fill storage quickly is reduced. Even after adjusting for inflation, May and June are marginally the optimal periods to inject under current forward prices. Weak demand in the first half of April has created conditions for a strong start to injections but the stockbuild could weaken from hereon, with balance of month prices at a small premium to May and June and storage operators holding significant flexibility to respond to small price signals.

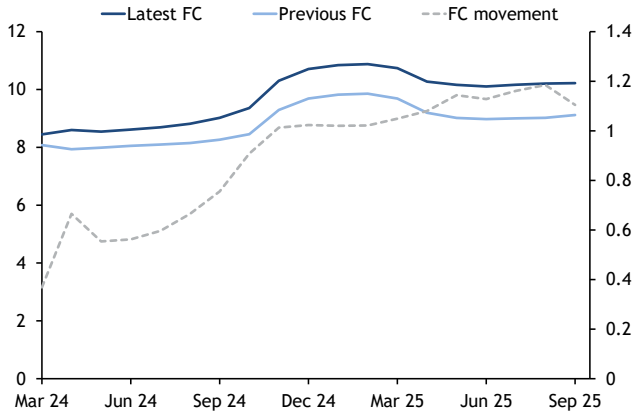
Storage sites in Italy, the Netherlands and Poland will need to inject more gas than they did last year to fill to nameplate capacity. But this requirement is more than offset by lower injection demand to refill stocks in Austria, Hungary, the Czech Republic and Slovakia. Some of the main offtakers of Russian gas have retained high stocks and they are on course to enter next winter — and the risk of a halt to transit through Ukraine — with full storage.

The role of the Norg storage facility in the Netherlands this summer remains unclear, following operator Nam's submission of a phase-out plan. We currently expect injections to take place at Norg this summer in line with EU-wide regulations to fill to 90pc of capacity by 1 November, but we continue to monitor developments. The Norg site has been largely idle over the past three weeks, except for small withdrawals in the last few days of March. Nam has commenced injections into its other low-calorie storage site at Grijpskerk, but Norg has seen no injections or withdrawals so far in April.

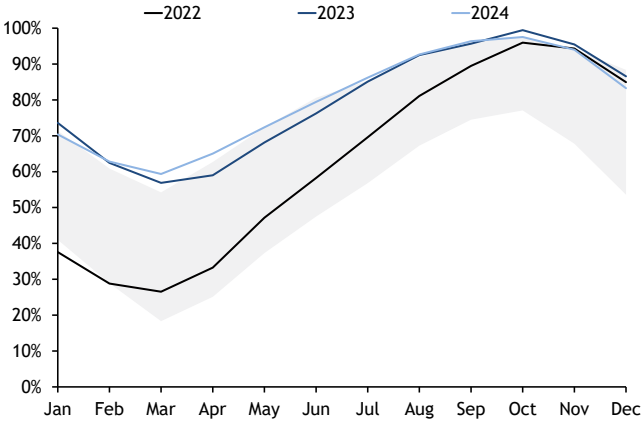
Storage net injection forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	-128	-213	86	-181	53
Apr 24	202	242	-40	143	59
May 24	253	253	0	318	-65
Jun 24	254	254	0	284	-30
Jul 24	237	237	0	319	-82
Aug 24	228	228	0	260	-32
Sep 24	134	154	-20	106	28
Oct 24	43	53	-10	144	-101
Nov 24	-126	-126	0	-141	15
Dec 24	-374	-384	10	-305	-69
Jan 25	-483	-483	0	-578	95
Feb 25	-482	-482	0	-295	-187
Mar 25	-371	-376	5	-128	-244
Apr 25	154	154	0	202	-48
May 25	294	294	0	253	41
Jun 25	294	294	0	254	40
Jul 25	294	295	-1	237	57
Aug 25	294	305	-11	228	66
Sep 25	294			134	160

TTF forward curve movement *$/mn Btu*



Storage inventory projection *%*



LNG — European demand

Summer LNG balance tightens further

The LNG market is looking more finely balanced as the summer begins than appeared possible at the start of the year.

In the immediate term, this is partly the result of the technical problems that have continued to beset the 17.3mn t/yr Freeport facility in the US. Only one of Freeport's three trains was operational for much of March, after works to repair an electric motor following an electrical storm expanded into preventative maintenance at the other two trains. The facility is scheduled to run at two-thirds of capacity until May.

The tighter balance is also the result of Egypt's planned pivot to become a seasonal importer as well as a seasonal exporter, as lower LNG prices may have given the country an opportunity to ease the demand restrictions that it has imposed over the past two years (*see supply section*).

The continued disruption to transit through the Suez Canal — and, to a less extent, the reduced capacity through the Panama Canal — have also kept much more LNG at sea than would normally be the case at this time of year.

With European demand and prices dampened by record-high conventional storage inventories for the time of year, prompt delivered LNG prices in Asia-Pacific have offered enough of a premium to draw cargoes out of the Atlantic basin, while forward prices offer a strengthening incentive to send cargoes east as the year progresses.

Shipping US LNG to northeast Asia requires double the shipping capacity of sending the same cargoes to Europe, because of the longer distances and journey times. And inter-basin journeys have been prolonged by the canal disruptions. Voyages from the US Gulf coast to northeast Asia averaged around 5.5 weeks one way during the first quarter of 2024, compared with about 4.5 weeks for the previous three years.

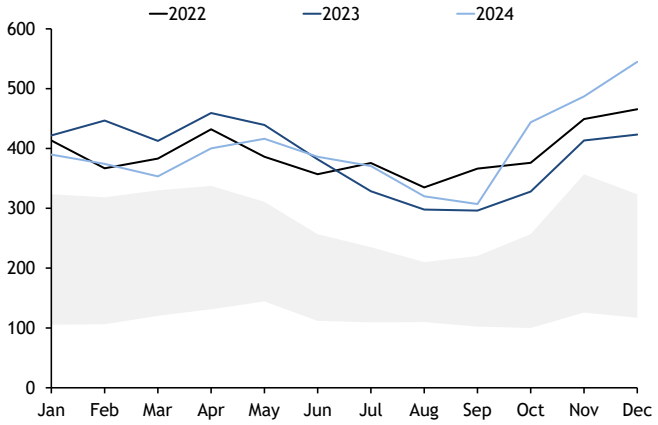
This has kept the amount of LNG at sea at any time at around 20mn t, up from 17mn t in March-April 2022 but in line with quantities in spring 2023, when strikes at French receiving terminals caused a large backlog of deliveries to Europe.

In effect, the canal problems have increased the amount of floating storage at sea for purely logistical reasons. But there is ample shipping capacity to sustain this, with 33 new carriers scheduled for delivery this summer, well above the 12 needed to accommodate additional expected loadings this summer.

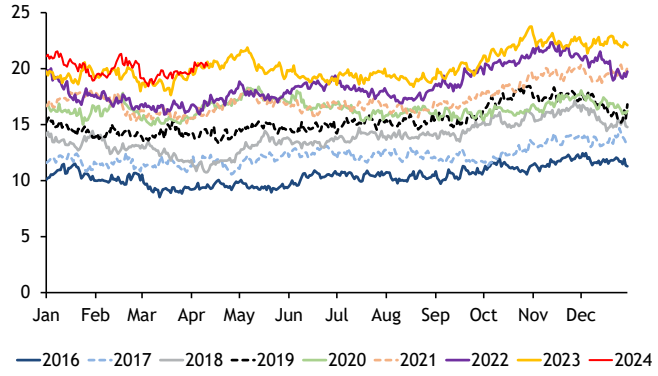
European LNG sendout/availability forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	353	436	-82	413	-59
Apr 24	400	458	-58	459	-59
May 24	416	435	-19	439	-23
Jun 24	386	389	-3	382	4
Jul 24	371	384	-14	329	42
Aug 24	320	343	-23	298	22
Sep 24	307	327	-20	296	11
Oct 24	444	441	3	328	116
Nov 24	487	464	23	413	74
Dec 24	545	534	11	423	122
Jan 25	483	481	2	390	94
Feb 25	411	409	2	374	37
Mar 25	477	471	6	353	124
Apr 25	561	554	7	400	161
May 25	544	538	7	416	128
Jun 25	494	491	3	386	108
Jul 25	482	493	-11	371	111
Aug 25	473	484	-12	320	153
Sep 25	463			307	156

European LNG availability forecast *mn m³/d*



LNG at sea *mn t*



LNG — Non-European demand

Price rebound limits demand response

The continued strength of delivered LNG prices in the Pacific basin since they began rebounding in late February means that the market has only marginally tested the demand-side counterbalances that we explored in recent editions, with ample scope remaining for cost-sensitive demand to step higher should prices move lower from their levels at the time of writing.

Gas remains mostly uncompetitive against coal for power generation in northeast Asia, with the exception of Japan where the most efficient gas-fired plants are marginally competitive using prompt spot supply — but not further along the forward curve.

For Chinese importers, spot LNG prices remain competitive against the tariffs that major suppliers offer in the domestic market. Supplies to industrial consumers are priced at about $11.30/mn Btu for 2024, market participants say. But for these majors suppliers themselves, additional spot purchases remain uncompetitive with the cost of long-term pipeline imports. After supply from Myanmar (Burma), which delivers to a landlocked region in China's interior, the next most expensive supply is from Turkmenistan. Taking into account the recent evolution of oil prices, we estimate that this will cost around $8.50/mn Btu over the rest of this year — still well below forward spot LNG prices.

But we believe that major Chinese importers are over-contracted in the near term, and are selling unneeded US cargoes to Europe to manage this position. Should additional supply be needed in China, the hedges on these cargoes would be unwound and the shipments diverted. This means that much depends on whether Chinese economic activity grows quickly enough to warrant taking more of these cargoes for domestic use. State-owned CNPC's economic and technology research institute expects China's overall gas consumption to rise by 6pc this year to 416bn m^3, with industrial demand growing by 6.8bn m^3 to 165bn m^3. We expect China's LNG imports to increase by a similar 6pc, to 76.1mn t this year.

For Indian buyers, spot LNG imports are only marginally competitive against the tariff for production from the country's deepwater, high-pressure, high-temperature fields, which the government has set at $9.87/mn Btu for April-September. Particularly hot summer weather could spur some additional purchases to cover generators' needs, but while Delhi is poised to issue a mandate to run gas-fired power plants during peak cooling demand periods, it is unlikely to subsidise LNG purchases to fuel them.

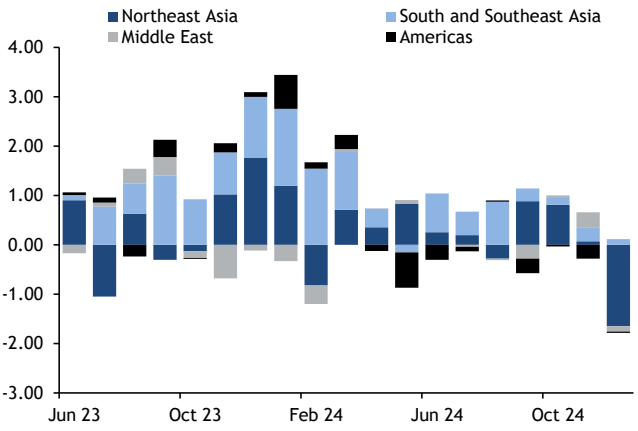
In Latin America, Argentina has sought 10 partial cargoes for delivery during the peak of the austral winter. The country's continued requirement for peak-shaving cargoes for the winter — despite the expansion of pipeline capacity from the vast Vaca Muerta formation in the south — suggests that congestion may be an issue when demand peaks, similar to the situation on the US' eastern seaboard.

Brazil may import slightly more LNG this year. The three new import terminals that are being commissioned ahead of the austral winter are all taking commissioning cargoes, and will give the country greater import flexibility during its heating season. But the power sector's need for additional LNG may be limited — Brazil's hydroelectric stocks of 152TWh at the end of last month were considerably higher than the five-year average of 127TWh, albeit they were lower than last year's 182TWh.

LNG imports by region *mn t*

	Mar 24 forecast	Mar 24 actual	Diff to forecast	Diff to M-1	Diff to Y-1	Apr 24 forecast
Europe	9.78	8.06	-1.73	-0.16	-0.94	8.70
Northeast Asia	17.17	17.77	0.61	0.64	-0.86	15.32
South and Southeast Asia	4.57	5.50	0.93	0.50	1.54	5.28
Middle East	1.63	1.39	-0.24	-0.52	-0.39	1.10
Americas	0.84	1.17	0.32	0.30	0.23	0.64
Total	**33.99**	**33.88**	**-0.11**	**0.75**	**1.51**	**31.04**

LNG imports vs previous year *mn t*



LNG demand

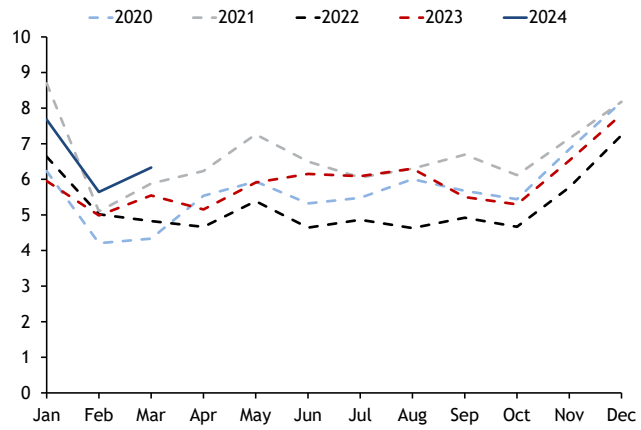
LNG demand forecast by country																			mn t
	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Northeast Asia																			
China	6.33	5.57	6.29	6.10	5.97	6.19	6.00	5.47	6.96	7.84	7.83	5.18	5.80	5.68	6.42	6.22	6.09	6.31	6.12
Japan	5.77	5.07	4.90	4.75	5.27	5.90	5.64	5.83	5.67	6.23	7.08	6.62	5.52	5.08	4.70	4.99	5.44	6.06	5.82
South Korea	3.94	2.92	3.08	3.25	3.02	3.05	3.29	3.27	3.84	4.18	4.59	4.39	3.52	2.92	2.93	3.13	2.98	2.99	3.34
Taiwan	1.73	1.76	1.59	1.68	1.56	1.88	1.79	1.70	1.69	1.65	1.74	1.63	1.42	1.76	1.59	1.68	1.56	1.88	1.79
South and Southeast Asia																			
Bangladesh	0.36	0.49	0.49	0.51	0.50	0.50	0.46	0.41	0.34	0.29	0.29	0.30	0.30	0.49	0.49	0.51	0.50	0.50	0.46
India	2.36	2.04	1.76	2.01	2.03	2.20	2.08	2.15	2.21	2.18	1.89	2.12	2.14	1.85	2.11	2.13	2.31	2.18	2.26
Pakistan	0.66	0.67	0.73	0.60	0.66	0.67	0.63	0.58	0.61	0.61	0.60	0.50	0.55	0.67	0.73	0.60	0.66	0.67	0.63
Indonesia	0.14	0.04	0.04	0.07	0.07	0.07	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.07	0.07	0.04
Malaysia	0.24	0.25	0.15	0.25	0.32	0.37	0.35	0.26	0.29	0.22	0.20	0.20	0.20	0.25	0.15	0.25	0.32	0.37	0.35
Philippines	0.07	0.25	0.25	0.25	0.25	0.25	0.25	0.15	0.15	0.15	0.15	0.15	0.15	0.25	0.25	0.25	0.25	0.25	0.25
Singapore	0.43	0.45	0.40	0.45	0.40	0.40	0.40	0.30	0.30	0.30	0.35	0.40	0.35	0.45	0.40	0.45	0.40	0.40	0.40
Thailand	1.25	1.02	1.25	1.26	1.16	1.05	1.02	0.92	0.84	0.74	0.74	0.88	1.00	1.02	1.25	1.26	1.16	1.05	1.02
Vietnam	0.00	0.07	0.00	0.00	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07	0.07	0.07	0.00
Middle East																			
Kuwait	0.43	0.50	0.50	0.65	0.85	0.80	0.60	0.38	0.35	0.28	0.20	0.20	0.30	0.50	0.50	0.65	0.85	0.80	0.60
Turkey	0.96	0.60	0.60	0.30	0.20	0.20	0.25	0.65	1.00	1.40	2.00	2.00	1.00	0.60	0.60	0.30	0.20	0.20	0.25
Other Middle East	0.00	0.00	0.26	0.29	0.34	0.38	0.22	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.15	0.27	0.18	0.15
Americas																			
Argentina	0.00	0.00	0.00	0.27	0.54	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.54	0.09	0.00
Brazil	0.08	0.15	0.20	0.20	0.20	0.20	0.15	0.15	0.07	0.07	0.07	0.07	0.15	0.15	0.20	0.20	0.20	0.20	0.15
Chile	0.14	0.19	0.33	0.32	0.36	0.34	0.20	0.17	0.14	0.09	0.12	0.16	0.21	0.19	0.33	0.32	0.36	0.34	0.20
Dominican Republic	0.17	0.14	0.16	0.16	0.20	0.19	0.17	0.17	0.16	0.16	0.07	0.10	0.20	0.14	0.16	0.16	0.20	0.19	0.17
Puerto Rico	0.19	0.07	0.12	0.12	0.12	0.12	0.12	0.12	0.07	0.12	0.06	0.06	0.06	0.07	0.12	0.12	0.12	0.12	0.12
Other Americas	0.60	0.09	0.09	0.27	0.15	0.19	0.16	0.09	0.15	0.22	0.21	0.36	0.22	0.09	0.16	0.20	0.15	0.19	0.16

LNG demand forecast vs previous year																			mn t
	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Northeast Asia																			
China	0.75	0.41	0.40	-0.06	-0.12	-0.07	0.49	0.25	-0.04	-0.20	0.12	-0.49	-0.53	0.11	0.13	0.12	0.12	0.12	0.12
Japan	0.46	0.06	0.84	-0.14	0.21	0.15	0.10	0.36	0.41	-0.26	1.06	0.57	-0.26	0.01	-0.20	0.24	0.17	0.16	0.18
South Korea	-0.49	-0.36	-0.21	0.38	0.38	-0.46	0.15	0.17	-0.26	-1.04	-0.27	0.49	-0.42	0.00	-0.15	-0.12	-0.03	-0.06	0.05
Taiwan	-0.01	0.24	-0.19	0.08	-0.27	0.09	0.15	0.03	-0.04	-0.15	-0.05	0.11	-0.31	0.00	0.00	0.00	0.00	0.00	0.00
South and Southeast Asia																			
Bangladesh	0.00	0.02	0.02	0.10	-0.03	0.09	-0.01	0.05	-0.01	-0.00	-0.01	-0.06	-0.06	0.00	0.00	0.00	0.00	0.00	0.00
India	0.48	0.05	-0.40	0.26	0.21	0.18	-0.08	0.28	0.21	0.32	-0.39	0.15	-0.21	-0.19	0.35	0.12	0.28	-0.01	0.18
Pakistan	0.11	0.04	0.04	0.11	-0.03	0.11	0.08	0.01	0.18	-0.08	-0.16	-0.12	-0.11	0.00	0.00	0.00	0.00	0.00	0.00
Indonesia	0.14	-0.09	-0.09	0.02	0.07	-0.01	-0.02	-0.02	-0.17	0.00	-0.08	-0.12	-0.14	-0.04	0.00	0.00	0.00	0.00	0.00
Malaysia	-0.00	0.07	-0.01	0.04	0.14	0.18	0.24	0.08	0.06	0.04	-0.07	-0.04	-0.04	0.00	0.00	0.00	0.00	0.00	0.00
Philippines	0.07	0.25	0.25	0.25	0.17	0.24	0.18	0.02	0.09	0.01	0.08	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Singapore	0.17	-0.09	-0.01	-0.07	-0.15	-0.01	-0.14	-0.22	-0.15	-0.04	-0.27	-0.21	-0.08	0.00	0.00	0.00	0.00	0.00	0.00
Thailand	0.22	0.05	0.04	0.06	0.09	0.10	-0.07	-0.04	0.06	-0.14	-0.06	-0.07	-0.25	0.00	0.00	0.00	0.00	0.00	0.00
Vietnam	0.00	0.07	0.00	0.00	-0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.00	0.07	-0.07
Middle East																			
Kuwait	0.15	-0.03	-0.05	-0.13	-0.05	-0.14	-0.27	-0.27	-0.08	0.12	-0.11	-0.20	-0.13	0.00	0.00	0.00	0.00	0.00	0.00
Turkey	-0.11	0.04	-0.01	-0.02	-0.14	-0.08	-0.10	0.25	0.40	-0.23	0.47	0.49	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Other Middle East	0.00	0.00	0.13	0.16	0.15	0.19	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	-0.14	-0.07	-0.20	-0.07
Americas																			
Argentina	-0.06	0.00	-0.45	-0.30	0.19	-0.10	-0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brazil	0.08	0.02	0.06	-0.05	0.01	0.14	0.08	0.05	-0.06	-0.00	-0.10	-0.05	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Chile	-0.10	-0.02	-0.04	-0.04	0.01	0.01	-0.07	0.03	-0.01	0.09	-0.09	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Dominican Republic	-0.03	-0.00	-0.00	-0.00	0.01	-0.03	0.03	0.05	-0.04	0.05	-0.06	-0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Puerto Rico	0.06	-0.03	-0.05	-0.00	0.06	-0.01	-0.00	-0.01	-0.06	0.04	-0.07	-0.07	-0.13	0.00	0.00	0.00	0.00	0.00	0.00
Other Americas	0.34	-0.10	-0.24	0.09	-0.36	0.02	-0.29	-0.15	-0.10	-0.21	-0.47	0.02	-0.38	0.00	0.07	-0.07	0.00	0.00	0.00

LNG demand

China LNG imports

mn t



Japan LNG imports

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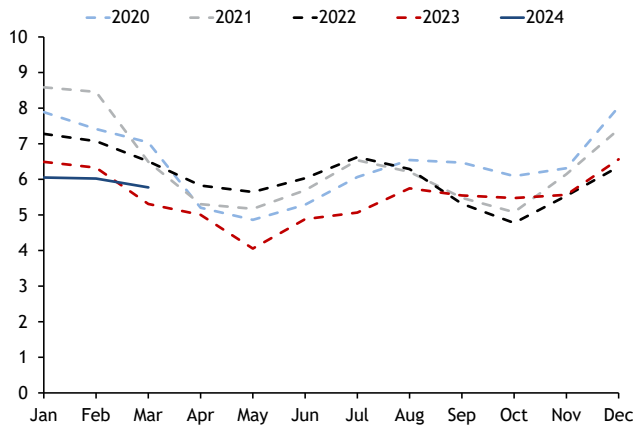

South Korea LNG imports

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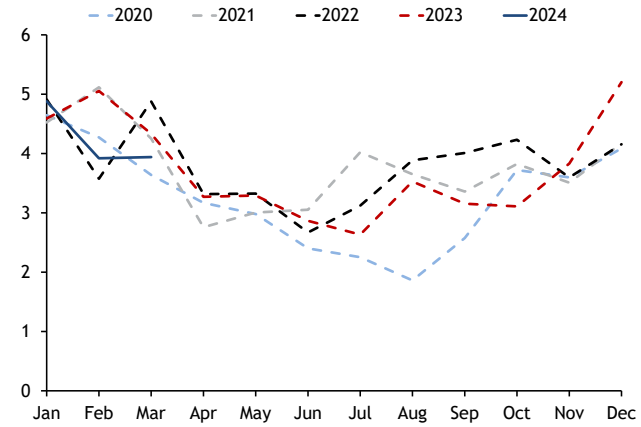

India LNG imports

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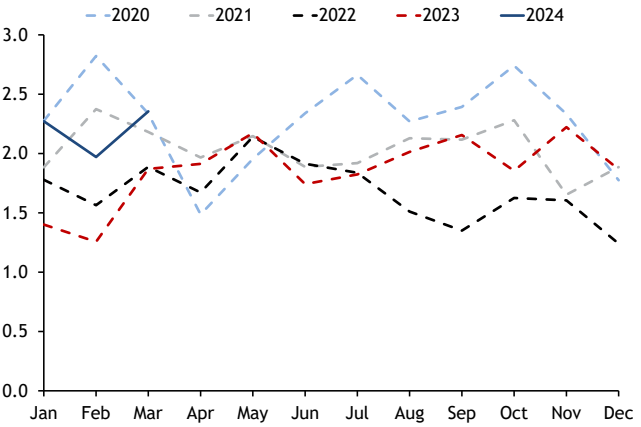

Other south and southeast Asia LNG imports

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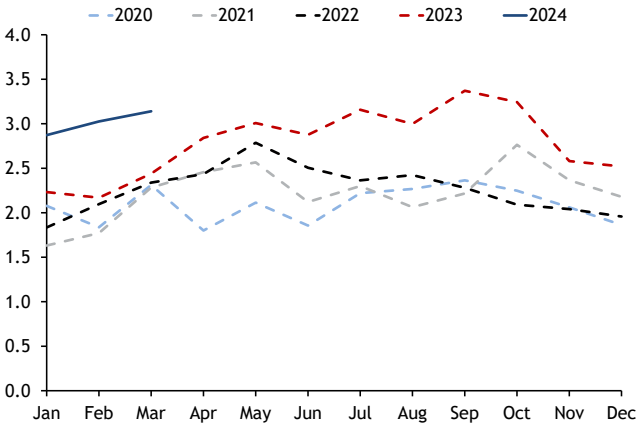

Americas LNG demand

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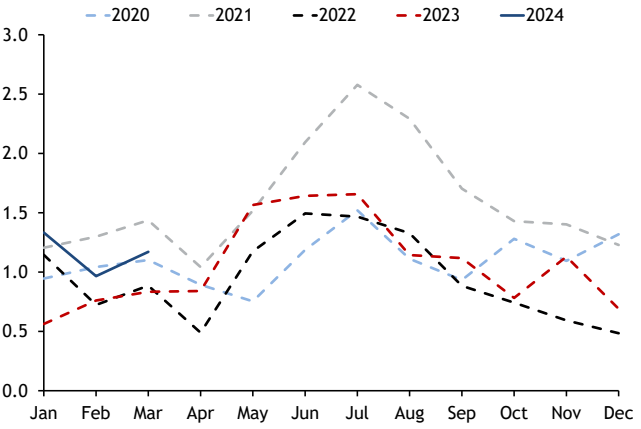


LNG supply

Egypt flips to summer imports

Egypt looks set to become a seasonal LNG importer, barely a month after Egyptian petroleum minister Tarek el-Molla told *Argus* that Egypt would be a seasonal LNG exporter for the next few years.

State-owned energy firms have already procured at least two cargoes for delivery this summer through Jordan, and Cairo is considering buying as many as 20, although we estimate that it is likely to need around 10. Given pipeline capacity constraints from Jordan, some market participants suggest that one of Turkey's floating storage and regasification units could be redeployed to Egypt for the summer.

Zohr point

We believe that a pivot to summer imports is price driven to a certain extent, although ultimately it is the result of disappointingly rapid gas production decline rates.

Egyptian gas production was just 150mn m³/d in January — the latest data available — down from 176mn m³/d a year earlier, implying a year-on-year decline rate of 15pc. This marked an eighth consecutive month of double-digit decline rates, as output from the giant Zohr field continues to fall faster than industry expectations.

Weaker gas production than hoped for has forced Egypt to take significant demand reduction measures over the past two years, culminating in last summer's country-wide load-shedding programme, with power supplies to different regions cut on a rolling basis for up to two hours at a time.

The first energy-saving measures were introduced in 2022 to free up gas for liquefaction and export as LNG to take advantage of that summer's global gas price spike. But even at the lower prices prevailing last year, Cairo extended these measures — and in July, urea factories were asked to cut production by 30pc in order to free up gas for power generation during the worst of last summer's heatwaves.

But in a lower gas price environment, Egypt has less incentive to persist with these demand reduction measures — especially those that may limit economic activity. The country is already contending with the loss of much of its Suez Canal transit revenue, and so has an incentive to phase out any measures that impinge on the tourism industry or that curtail manufacturing production.

At current spot market prices, imported LNG would not be a particularly cost-competitive feedstock for Egyptian ammonia and urea producers. But using imported LNG for power generation would be far more cost-effective than the back-up diesel generators that were deployed at the peak of last summer's energy-saving measures, and would free up much lower-cost indigenous gas production for the fertiliser, petrochemicals and cement sectors that account for a large part of Egyptian manufacturing output.

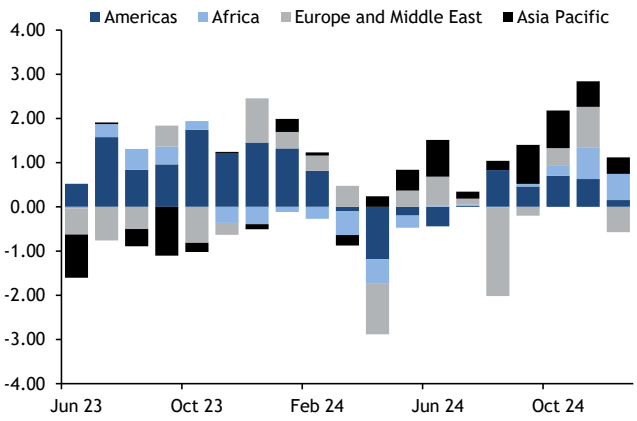
And once the summer power demand peak has passed, we anticipate that Egypt will be able to export some winter LNG cargoes, although utilisation rates at the country's two liquefaction plants will remain minimal.

We assume that Egyptian production will bottom out at around 145mn m³/d this year before gradually increasing into 2025 and beyond. We also expect imports from Israel to hold close to maximum capacity at nearly 30mn m³/d, as in December and January, although there remains the risk of political repercussions from the war in Gaza that may halt these flows, as they did in October. We have modelled power consumption based on normal seasonal temperatures, but further heatwaves could increase Egypt's import requirements.

LNG loadings by region *mn t*

	Mar 24 forecast	Mar 24 actual	Diff to forecast	Diff to M-1	Diff to Y-1	Apr 24 forecast
Americas	8.32	8.35	0.03	-0.11	0.82	7.62
Africa	3.70	3.17	-0.54	0.09	-0.27	3.06
Europe and Middle East	10.98	11.82	0.83	1.14	0.34	10.28
Asia Pacific	11.71	11.02	-0.69	0.06	0.07	10.78
Total	**32.33**	**34.35**	**2.02**	**1.18**	**0.96**	**31.74**

LNG supply vs previous year *mn t*



LNG supply

LNG supply forecast by country																			mn t
	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Americas																			
US	7.24	6.57	6.76	6.03	7.08	7.42	7.16	8.19	7.71	8.26	8.93	8.17	9.05	8.90	9.26	8.53	9.36	9.15	9.10
Trinidad and Tobago	0.75	0.70	0.76	0.73	0.70	0.70	0.68	0.78	0.76	0.78	0.65	0.59	0.65	0.70	0.76	0.73	0.70	0.70	0.68
Peru	0.36	0.35	0.27	0.27	0.27	0.30	0.29	0.34	0.35	0.36	0.36	0.32	0.36	0.35	0.27	0.27	0.27	0.30	0.29
Mexico	0.00	0.00	0.11	0.09	0.11	0.11	0.10	0.11	0.10	0.11	0.11	0.10	0.11	0.10	0.11	0.10	0.11	0.36	0.34
Africa																			
Algeria	0.99	1.06	1.10	0.94	0.98	1.10	1.18	1.22	1.25	1.29	1.29	1.17	1.22	1.06	1.10	0.94	0.98	1.10	1.18
Nigeria	1.07	1.28	1.13	1.20	1.24	1.13	1.24	1.32	1.31	1.38	1.32	1.19	1.32	1.20	1.13	1.20	1.24	1.13	1.24
Egypt	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.27	0.27	0.27	0.14	0.07	0.14	0.00	0.00	0.00	0.00	0.07
Equatorial Guinea	0.29	0.16	0.23	0.25	0.26	0.26	0.26	0.26	0.26	0.27	0.27	0.24	0.22	0.16	0.23	0.25	0.26	0.26	0.26
Angola	0.34	0.26	0.27	0.26	0.27	0.27	0.26	0.29	0.28	0.29	0.30	0.28	0.27	0.26	0.27	0.26	0.27	0.27	0.26
Cameroon	0.14	0.07	0.14	0.12	0.09	0.09	0.09	0.10	0.11	0.11	0.11	0.10	0.11	0.07	0.14	0.12	0.09	0.09	0.09
Senegal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.16	0.18	0.17	0.18	0.17	0.18	0.18	0.17
Mozambique	0.22	0.22	0.23	0.14	0.23	0.26	0.25	0.26	0.25	0.26	0.26	0.23	0.26	0.25	0.26	0.25	0.26	0.26	0.25
Congo	0.04	0.00	0.04	0.04	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.00	0.04	0.00	0.04	0.04	0.05	0.05	0.04
Europe and Middle East																			
UAE	0.62	0.30	0.46	0.45	0.31	0.46	0.45	0.46	0.45	0.46	0.46	0.42	0.46	0.30	0.46	0.45	0.31	0.46	0.45
Qatar	6.89	6.35	5.95	6.78	6.79	6.56	6.53	6.27	7.36	6.92	7.32	6.10	5.57	6.71	5.95	6.78	6.79	6.56	6.53
Oman	1.10	0.95	0.99	0.95	0.99	0.99	0.95	0.99	0.95	0.99	0.99	1.00	1.11	1.07	1.11	1.07	1.11	1.11	1.07
Norway	0.36	0.38	0.39	0.38	0.39	0.39	0.38	0.39	0.38	0.39	0.39	0.35	0.39	0.27	0.00	0.00	0.27	0.39	0.38
Russia	2.84	2.29	2.45	2.34	2.28	0.05	2.47	2.59	2.52	2.60	2.29	2.08	2.34	2.29	2.45	2.34	2.28	2.34	2.47
Asia Pacific																			
Brunei	0.39	0.36	0.31	0.31	0.35	0.35	0.34	0.37	0.40	0.42	0.42	0.36	0.30	0.29	0.30	0.29	0.30	0.30	0.29
Indonesia	0.90	1.28	1.33	1.28	1.33	1.33	1.28	1.33	1.28	1.33	1.33	1.20	1.33	1.28	1.33	1.28	1.33	1.33	1.28
Malaysia	2.34	2.21	2.35	2.08	2.15	2.29	2.24	2.42	2.42	2.50	2.49	2.26	2.47	2.21	2.35	2.08	2.15	2.29	2.24
Australia	6.67	6.30	6.62	6.46	6.19	6.34	6.15	6.90	6.75	6.97	6.97	6.30	6.96	6.72	6.80	6.69	6.70	6.26	6.52
Papua New Guinea	0.72	0.63	0.63	0.67	0.67	0.64	0.66	0.68	0.66	0.68	0.69	0.63	0.69	0.63	0.63	0.67	0.67	0.64	0.66

LNG supply forecast vs previous year																			mn t
	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Americas																			
US	-0.09	-1.12	-0.35	-0.48	-0.09	0.58	0.24	0.50	0.30	-0.08	1.02	0.70	1.81	2.33	2.50	2.50	2.27	1.72	1.94
Trinidad and Tobago	-0.01	0.01	0.05	0.04	0.01	0.06	0.12	0.09	0.17	0.14	-0.07	-0.10	-0.09	0.00	0.00	0.00	0.00	0.00	0.00
Peru	0.00	-0.08	0.00	-0.09	-0.00	0.08	0.01	0.01	0.05	-0.01	0.04	0.03	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mexico	0.00	0.00	0.11	0.09	0.11	0.11	0.10	0.11	0.10	0.11	0.11	0.10	0.11	0.10	0.00	0.01	0.00	0.25	0.24
Africa																			
Algeria	0.08	-0.11	0.05	-0.15	-0.00	-0.19	-0.09	-0.02	0.11	0.24	0.28	0.20	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Nigeria	-0.22	0.10	-0.03	0.18	0.11	0.23	0.09	0.17	0.44	0.30	-0.11	-0.00	0.25	-0.07	0.00	0.00	0.00	0.00	0.00
Egypt	-0.54	-0.49	-0.36	0.00	-0.06	0.00	0.00	0.10	0.13	-0.00	0.10	-0.01	-0.00	0.14	0.00	0.00	0.00	0.00	0.07
Equatorial Guinea	0.09	0.02	0.02	-0.02	0.00	-0.03	0.05	-0.02	0.05	-0.08	-0.02	0.10	-0.07	0.00	0.00	0.00	0.00	0.00	0.00
Angola	0.08	-0.07	0.00	-0.06	-0.06	-0.05	-0.01	0.02	0.01	-0.05	0.10	0.09	-0.07	0.00	0.00	0.00	0.00	0.00	0.00
Cameroon	-0.01	0.00	-0.00	-0.02	-0.01	-0.02	0.02	-0.03	-0.03	0.00	0.01	-0.04	-0.03	0.00	0.00	0.00	0.00	0.00	0.00
Senegal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.16	0.18	0.17	0.18	0.17	0.18	0.18	0.17
Mozambique	-0.06	0.00	0.01	0.07	0.01	-0.00	-0.05	-0.04	-0.04	-0.04	0.04	-0.06	0.04	0.03	0.03	0.11	0.03	0.00	0.00
Congo	0.04	0.00	0.04	0.04	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Europe and Middle East																			
UAE	0.21	-0.17	0.02	0.01	0.00	0.10	-0.04	-0.04	0.03	-0.02	-0.02	0.07	-0.16	0.00	0.00	0.00	0.00	0.00	0.00
Qatar	0.14	-0.48	-0.07	0.06	-0.11	-0.01	-0.09	0.56	1.10	0.05	-0.10	-0.20	-1.33	0.36	0.00	0.00	0.00	0.00	0.00
Oman	0.06	-0.05	0.33	0.33	0.03	-0.06	0.01	0.09	0.07	-0.11	0.00	0.02	0.01	0.12	0.12	0.12	0.12	0.12	0.12
Norway	-0.10	-0.01	0.27	0.12	0.00	0.03	0.01	0.02	-0.01	0.02	-0.03	-0.07	0.03	-0.11	-0.39	-0.38	-0.13	0.00	0.00
Russia	0.17	-0.43	-0.18	0.12	0.20	-2.05	-0.08	-0.23	-0.28	-0.50	-0.54	-0.56	-0.50	0.00	0.00	0.00	0.00	2.29	0.00
Asia Pacific																			
Brunei	0.08	-0.03	-0.01	0.06	-0.03	-0.09	0.15	-0.08	0.02	-0.03	-0.03	-0.09	-0.09	-0.07	-0.01	-0.02	-0.06	-0.06	-0.05
Indonesia	0.04	0.29	0.34	0.39	0.27	0.28	0.33	0.34	0.20	0.20	0.15	0.55	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Malaysia	-0.02	0.21	0.02	0.36	0.17	0.21	0.44	0.28	0.02	0.15	-0.11	-0.25	0.14	0.00	0.00	0.00	0.00	0.00	0.00
Australia	-0.33	-0.22	0.14	0.02	-0.19	-0.17	0.01	0.29	0.40	0.02	0.22	-0.47	0.29	0.42	0.18	0.22	0.51	-0.08	0.37
Papua New Guinea	-0.00	-0.01	-0.01	0.01	-0.06	-0.01	-0.05	0.02	-0.06	0.04	-0.01	0.06	-0.03	0.00	0.00	0.00	0.00	0.00	0.00

EU and UK power sector demand

European gas burn lowest for over 10 years

Gas-fired electricity generation across the EU plus UK fell to 201mn m³/d in March, down by 43mn m³/d from a year earlier to its lowest in more than 10 years.

The Netherlands, Greece and Romania were the only countries within our EU+UK perimeter to record a year-on-year increase in gas-fired power generation in March. The collective 1.1TWh rise in gas-fired power generated from the three countries was more than offset by a combined 8.6TWh decline from the UK, Spain, Italy, Germany, France and Belgium.

Gas burn is likely to continue to fall in April, with warm and windy weather conditions reducing aggregate power demand, increasing wind output and weighing on the need for thermal generation. Our demand forecast of 151mn m³/d in April is 58mn m³/d lower on the year.

The requirement for gas-fired power generation in Europe is becoming increasingly dependent on wind speeds and aggregate power consumption. Germany offers the most potential for further coal-to-gas switching, but gas prices would need to fall further to compete with the most efficient coal and lignite-fired capacity in the country. Elsewhere, some of the coal-fired capacity running in the Netherlands is co-firing biomass. In Italy, all but the Fiume Santo coal-fired plant on the island of Sardinia have been switched out. In some central and eastern European countries the operational coal-fired capacity runs on locally sourced coal or lignite, rather than imports.

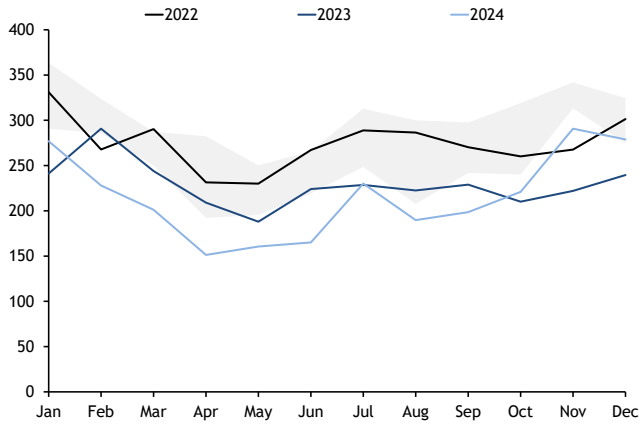
Coal prices have strengthened further since our last update, with a number of supply-side problems providing support. US coal exports have been constrained by the closure of the port of Baltimore following the collapse of the Francis Scott Key bridge, but are now starting to move to other terminals. In South Africa, a train derailment last week caused rail operator Transnet to close all export lines, disrupting traffic bound for Richards Bay. Continuing contract negotiations between Glencore and Japanese utilities are also thought to be supporting coal prices.

The resolution of recent supply problems could result in high European coal stocks and weak demand coming back into focus, pushing prices down towards $95-100/t. At current CO_2 prices, this would equate to a coal-to-gas switching price floor in Europe of $7.25/mn Btu, compared with current forward prices at just under $8/mn Btu.

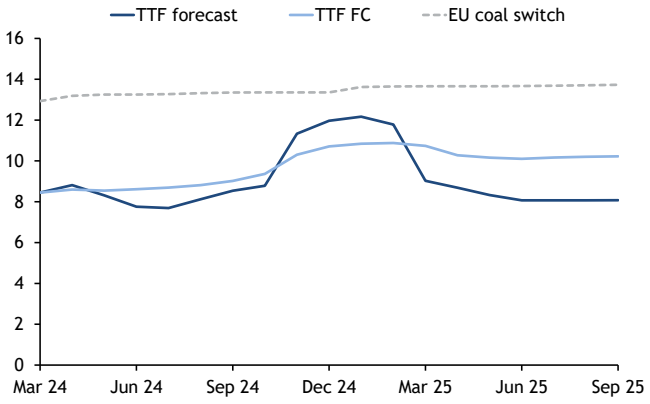
Power sector gas demand forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	201	223	-22	244	-43
Apr 24	151	191	-40	209	-58
May 24	161	168	-7	188	-27
Jun 24	165	171	-6	224	-59
Jul 24	230	229	1	229	1
Aug 24	190	191	-1	222	-33
Sep 24	199	205	-7	229	-30
Oct 24	221	216	5	210	11
Nov 24	291	307	-16	222	69
Dec 24	279	293	-14	239	39
Jan 25	280	315	-35	277	3
Feb 25	198	217	-19	228	-30
Mar 25	183	210	-27	201	-18
Apr 25	188	187	1	151	37
May 25	168	163	6	161	7
Jun 25	165	160	5	165	0
Jul 25	231	227	5	230	1
Aug 25	185	185	1	190	-4
Sep 25	187			199	-12

Power sector gas demand forecast *mn m³/d*



Power sector fuel switching *$/mn Btu*



EU and UK residential, commercial and industrial demand

Consumer demand restraint starting to ease

We estimate that residential gas demand across the nine largest consuming countries declined by more than 7.5bn m³, or 41mn m³/d, over the past winter compared with a year earlier. Consumption during October was broadly flat with demand increasing in November and January, although this was mainly owing to an unseasonably warm November 2022 and January 2023. But December, February and March all experienced temperatures well in excess of normal conditions, leading to a fall in demand.

Although outright demand was lower this winter, correcting for weather, we appear to have observed a small relaxation in consumer demand restraint that has been strong since prices surged in 2022. The UK, Italy and Poland all recorded demand above the 2022 profile for the equivalent wind-adjusted heating degree days (HDDs). It is possible that high precipitation rates in some countries could have contributed to the increase in demand beyond our recent profile. LDZ data reported by the UK's National Gas also contain some industrial demand, where a small recovery could have contributed to the higher than expected demand. Recent demand across our EU+UK perimeter was 25mn m³/d higher than the demand profiles observed immediately following the start of the Russia-Ukraine conflict.

We have expanded our residential modelling to take in wind-adjusted HDDs for additional locations within each country that we have modelled. This change accounts for some of the adjustment in our forecast for residential, commercial and industrial demand.

In the industrial sector, gas is expected to remain competitive against LPG as a refinery fuel in Europe at prices below $11.50/mn Btu during summer and $12.85/mn Btu across next winter. There is scope to see a further 5mn m³/d increase in demand from the refining sector during 2024.

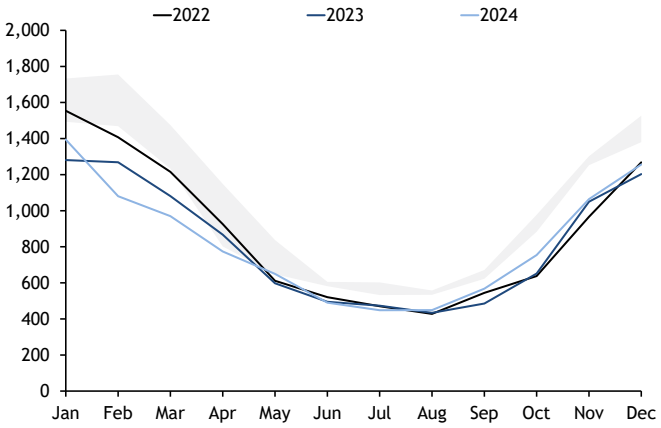
European ammonia production costs based on the TTF front-month price held a roughly $90/t discount to northwest Europe import prices in March, making domestic production roughly 20pc cheaper than imported ammonia. Yara, the largest producer in Europe, expects to run its European ammonia plants at 90pc of capacity or above this year. It curtailed 19pc of its European ammonia capacity during 2023.

But a weak macroeconomic environment is likely to limit the recovery of European industrial gas demand this summer.

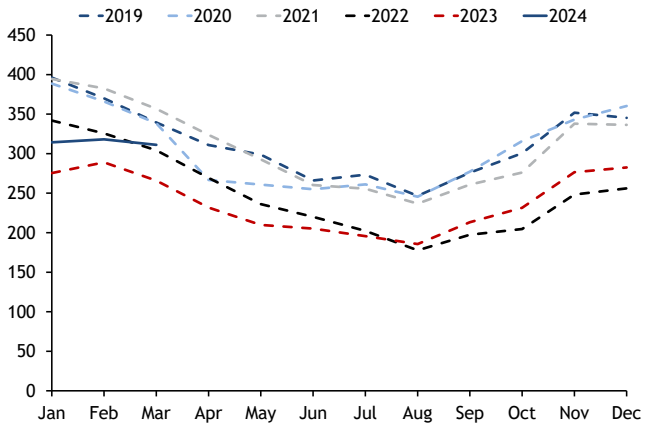
ResCom and industrial demand forecast *mn m³/d*

	Latest forecast	Previous forecast	Change in forecast	Previous year	Change to Y-1
Mar 24	970	984	-14	1081	-112
Apr 24	774	827	-53	867	-93
May 24	650	631	19	598	52
Jun 24	490	513	-23	495	-5
Jul 24	448	488	-40	474	-25
Aug 24	449	486	-36	434	15
Sep 24	568	558	10	485	83
Oct 24	754	746	8	651	103
Nov 24	1064	1080	-16	1050	14
Dec 24	1256	1286	-30	1203	53
Jan 25	1363	1414	-52	1394	-31
Feb 25	1321	1342	-21	1080	241
Mar 25	1153	1119	34	970	184
Apr 25	906	852	54	774	132
May 25	694	654	40	650	44
Jun 25	516	535	-18	490	26
Jul 25	468	506	-38	448	20
Aug 25	469	504	-35	449	20
Sep 25	590			568	23

Residential, commercial, industrial demand *mn m³/d*



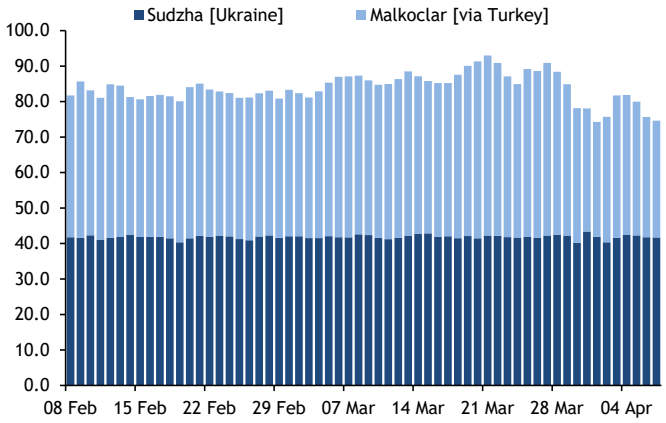
European industrial sector gas demand *mn m³/d*



Recent flows

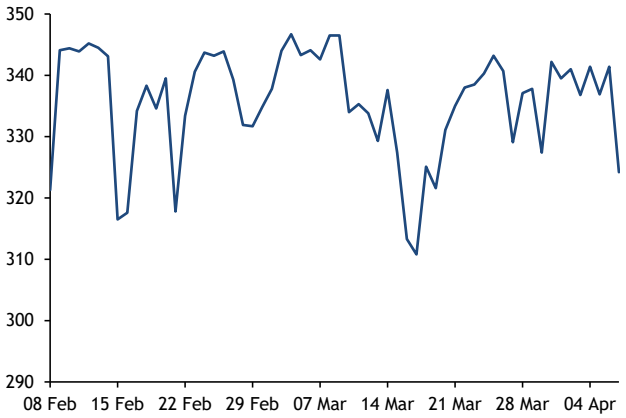
Russia flows to Europe

mn m³/d



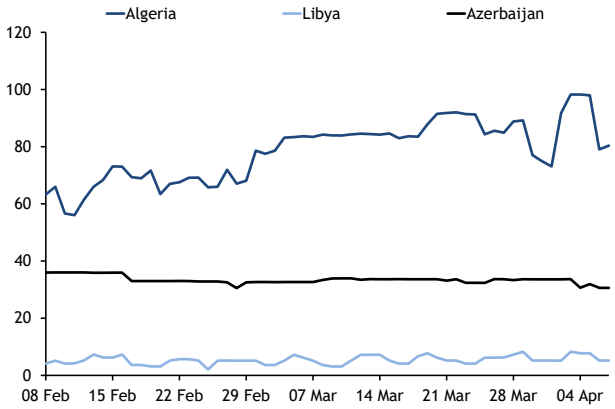
Norway flows to Europe

mn m³/d



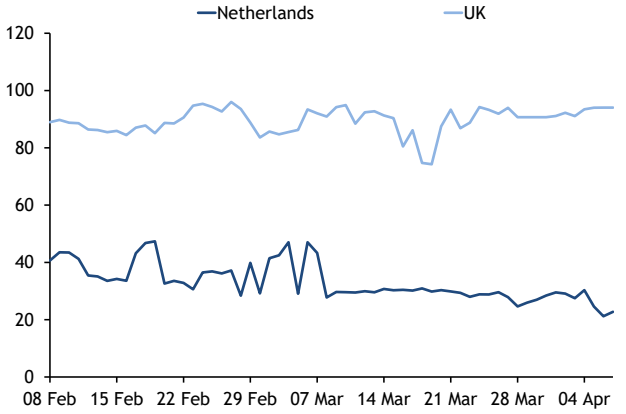
Algeria, Libya, Azerbaijan flows to Europe

mn m³/d



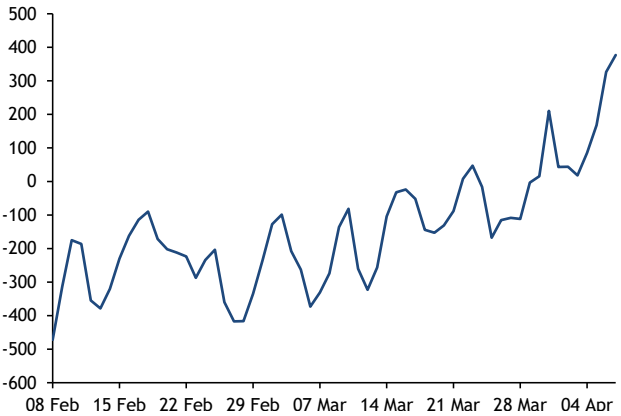
EU and UK production

mn m³/d



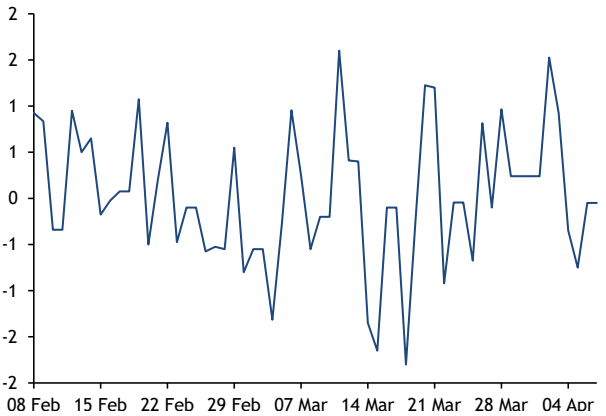
Storage net injections

mn m³/d



TTF day ahead – month 1 price differential

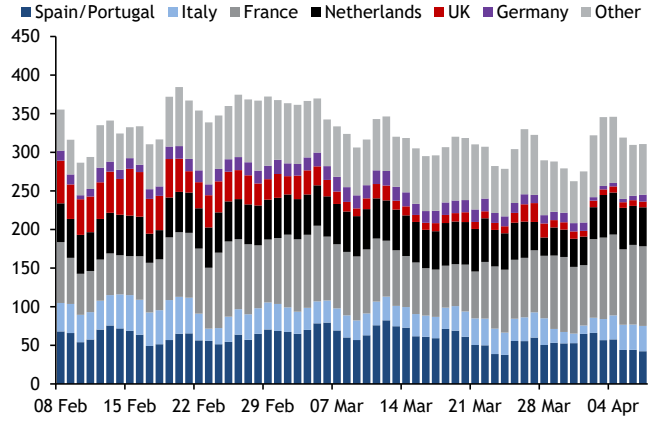
€/MWh



Recent supply and demand sources

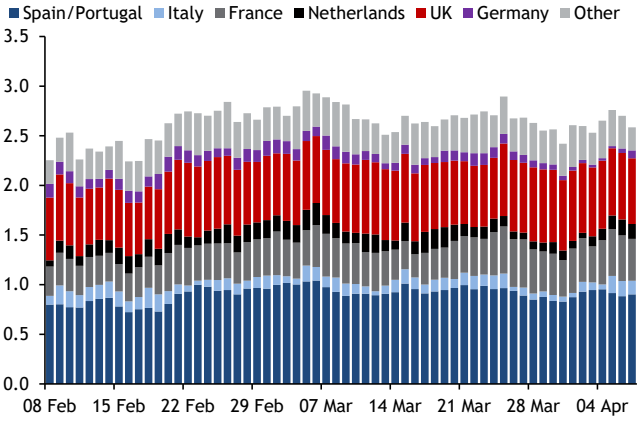
European LNG sendout

mn m³/d



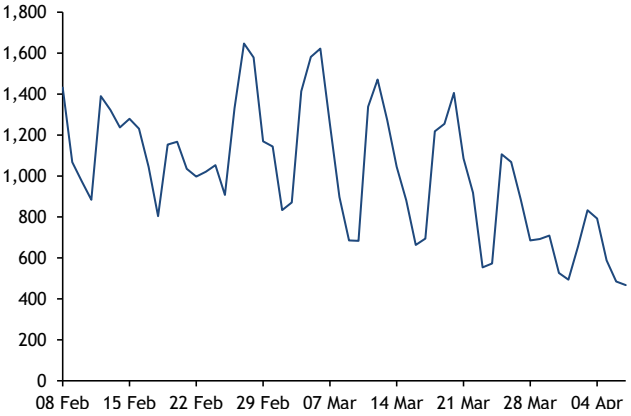
European LNG stocks

mn t

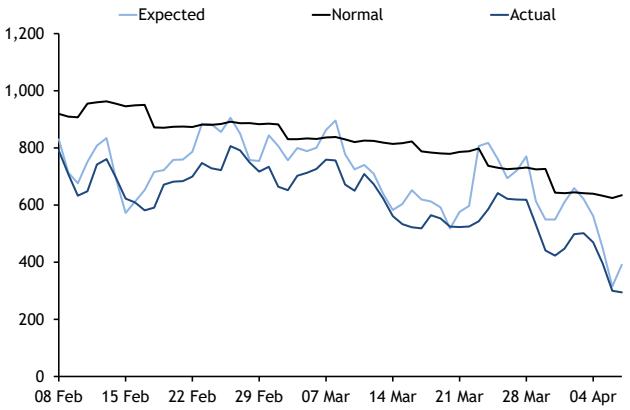


European gas-fired power generation

TWh



European res/com demand - top 8 consumers *mn m³/d*



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