

MARKET COMMENTARY

Atlantic basin: cif NWE down on weak demand

The spot price of industrial wood pellets for deliveries to northwest Europe (NWE) dropped significantly on Wednesday, amid weaker power-sector demand.

The 90-days industrial wood pellet price fell to \$303.06/t cif NWE, which was \$45/t lower from the latest assessment of 21 December.

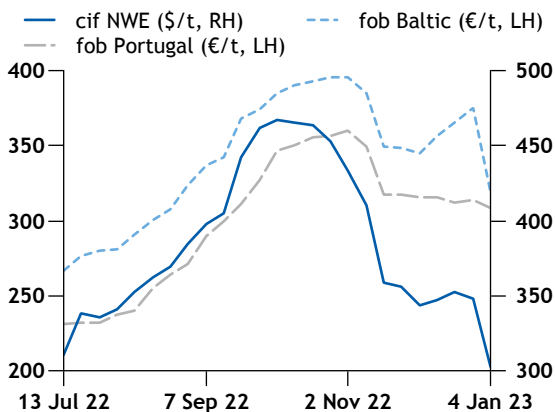
Price ideas continued to hold in a wide range – with most centered around \$280-330/t cif NWE – while trading activity was limited in the week as companies returned from holidays.

Pellets followed the trend in the wider European energy complex, with power, gas and coal prices also having dropped significantly in the last ten days of December and started the new year lower than their closes in the last working day session of 2022. Unusually warm weather and lower economic activity over the holiday period, high inventories, as well as stronger solar and wind power in some countries weighed on generation fuels prices.

In the UK, pellet-fired power generation held flat on the week at 1.2GW on an average hourly basis. Generation at all of the units that operate under the Contracts-for-Difference (CfD) mechanism remained zero in the week to Wednesday. There has been [less incentive](#) for these units to generate in the current heating season. And overall output stood significantly lower than 2.3GW for all of January 2022.

No further generation was seen at MGT Teesside's 299MW combined heat and power (CHP) plant in the north

Argus industrial wood pellet index



EUROPEAN INDUSTRIAL WOOD PELLETS

Wood pellets - within 90 days (spot)					
	Week index		Month index		
	Price	±	Dec	Nov	Oct
cif NWE \$/t	303.06	-44.99	349.28	380.33	461.96
fob Baltic €/t	318.75	-56.78	365.73	364.83	390.73
fob Portugal €/t	308.34	-5.64	313.95	332.02	352.18

Wood pellets - within 90 days (spot)			
	Price	±	
cif NWE \$/MWh	64.18	-9.53	
fob Baltic €/MWh	67.50	-12.03	
fob Portugal €/MWh	65.30	-1.19	

Wood pellets - forward prices			
	Bid	Ask	±
cif NWE \$/t			
1Q23	300.00	306.00	-47.00
2Q23	322.00	328.00	-18.00
3Q23	307.00	313.00	-26.00
4Q23	347.00	353.00	-12.00
2024	282.00	288.00	-5.00
2025	243.00	249.00	nc
2026	232.00	238.00	na
fob Baltic €/t			
1Q23	315.00	321.00	-60.00
2Q23	297.00	303.00	-20.00
3Q23	282.00	288.00	-15.00
4Q23	322.00	328.00	+19.00
2024	237.00	243.00	+30.00
2025	202.00	208.00	+18.00
2026	197.00	203.00	na
fob Portugal €/t			
1Q23	305.00	311.00	-8.00
2Q23	277.00	283.00	nc
3Q23	257.00	263.00	nc
4Q23	287.00	293.00	+24.00
2024	207.00	213.00	+27.00
2025	172.00	178.00	+8.00
2026	167.00	173.00	na

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of England in December, following some output in mid-November as the plant tried to commission on wood pellets.

Further on the downside, utilities were heard to be well stocked and at least some holding vessels at port because of lack in storage capacity. Demand from the residential sector has also dropped significantly throughout Europe because of warmer-than-usual weather for most weeks so far this season, with forecasts suggesting weather could remain milder in the coming weeks.

Overnight temperatures in London were forecast at 5.2°C, or 2.2°C above seasonal norms over the next 14 days and at 3.3°C or 0.7°C above norms in the next 45 days. In Paris, these were forecast at 6.6°C, which is 4.6°C above the ten-year average in the coming fortnight, and at 4.2°C or 2.7°C above norms in the next 45 days. In Amsterdam, night-time temperatures were expected to hold at 5.2°C, 4.0°C above norms and at 2.8°C or 2.8°C above norms over the respective periods, Speedwell Weather data show.

More close or compact ice, at a thickness of 5-20cm, was seen along the Swedish and Finnish border of the Gulf of Bothnia in the Baltic Sea this week, data from the Finnish Meteorological Institute show. Thick fast ice drifted further down the coastlines of the Swedish and Finnish border and at ports Kalix and Kemi ice thickness levels were at 10-25cm and 20-30cm, respectively. Although there were no restrictions at Baltic terminals.

In the Baltics, the spot 90-days pellets price dropped by €56.78/t to 318.75/t fob Baltic, tracking the decline in the cif NWE market.

Price ideas stood in a wide range, with some selling ideas as high as €350-400/t fob Baltics but buying interest stood significantly lower. Sawmills shutdowns over the holiday period could not offset the impact from lower consumption amid milder weather in recent weeks.

The fob Baltic premium to the cif NWE spot market also narrowed on the week, with some heard to be breaking down handy-sized cargoes into coasters in order to re-offer these into the fob Baltic market.

Suppliers may be forced to start accepting lower profit margins for spot volumes for as long as demand remains weak, a participant said. And even though the weather was forecast colder over the coming week in the region which could bolster domestic consumption, stocks at the Riga port heard significantly higher at the end of 2022 may offset at least some of the impact from this.

Producers were still struggling with high production costs, and less volumes of SBP-certified pellets were seen being offered in the market, a participant said. And even though another participant said raw material prices had come off slightly from December, overall costs held firm,

NORTH AMERICAN INDUSTRIAL WOOD PELLETS

US fob export price (industrial wood pellets)						\$/t
Origin	Delivery period	Mid	Bid	Ask		±
fob southeast US	Spot		278.06	281.06		-44.49
fob southwest Canada	Spot		266.56	269.56		-52.24
fob northeast US	Spot	280.55				-44.50

US fob export price (industrial wood pellets)						\$/MWh
Origin	Delivery period	Mid	Bid	Ask		±
fob southeast US	Spot		58.89	59.52		-9.42
fob southwest Canada	Spot		56.45	57.09		-11.06
fob northeast US	Spot	59.41				-9.43

Wood pellets - forward prices					\$/t
	Mid	Bid	Ask		±
fob southeast US					
1Q23		278.00	281.00		-46.50
2Q23		300.00	303.00		-17.50
3Q23		285.00	288.00		-25.50
4Q23		325.00	328.00		-11.50
2024		260.00	263.00		-4.50
2025		221.00	224.00		+0.50
2026		210.00	213.00		na
fob southwest Canada					
1Q23		266.50	269.50		-54.25
2Q23		288.50	291.50		-25.25
3Q23		273.50	276.50		-33.25
4Q23		313.50	316.50		-19.25
2024		248.50	251.50		-12.25
2025		209.50	212.50		-7.25
2026		198.50	201.50		na
fob northeast US					
1Q23	280.50				-46.50
2Q23	302.50				-17.50
3Q23	287.50				-25.50
4Q23	327.50				-11.50
2024	262.50				-4.50
2025	223.50				+0.50
2026	212.50				na

and were heard around €270/t for at least some Baltic producers.

Elsewhere, the spot fob Portugal price saw smaller weekly losses. A spot cargo was offered below €300/t fob Portugal in late December, but no trade concluded, a participant said. Buying interest was also heard around €285-295/t fob but suppliers refused to offer below €305-310/t fob Portugal mark, a participant said. Most volumes were locked up in long-term contracts.

Lower-grade eucalyptus continued to be used as a marginal replacement for pine residues in pellet production, participants said. And some material from wildfires in Iberia during the summer of 2022 became available, but would likely be consumed domestically due to certification requirements for export markets, a participant said.

European wood chips: Spot edges down

The 90-day spot price for industrial wood chips delivered to northwest Europe (NWE) fell slightly on the week as stocks stood above averages due to weaker consumption.

The spot price fell to €15/GJ cif NWE on Wednesday which was €0.25/GJ lower from its latest assessment on 21 December.

Inventories at utilities remained higher than recent-year averages, and producers were also heard holding high stocks. Warmer than usual weather for most weeks so far this heating season has pared demand, resulting in an accumulation of inventories.

Some Baltic producers were heard to be lowering prices to sell for cashflow purposes in recent weeks, although this had become limited with lowering temperatures and increasing orders, another participant said.

Sawmills in Scandinavia and Spain were heard taking longer-than-normal Christmas breaks because of a drop in demand for wood products, with most scheduled to return to operations on Monday, January 9. But demand for timber and other wood products started to ramp up around Christmas with orders from wholesalers increasing as their stocks reduced. This may encourage stronger sawmilling activity in the coming weeks, a participant said, which could increase residue availability for the pellet producing sector as well.

Demand for raw materials from competing industries in the Baltics and Spain, such as the pulp and paper market, was heard to be muted due to a lack of demand and inflationary pressures. And some pulp companies were delaying wood chip deliveries due to low or no production, possibly freeing up more volume for the energy sector, a participant said.

Lower-quality eucalyptus remained a marginal substitute for pine in Spain but was not a viable alternative to wood long-term, a participant said. And some volumes of fire-damaged wood from wildfires in Spain during the summer of 2022 were heard to be available, but these are unlikely to meet sustainability and quality standards in key export markets such as Scandinavia, and would more likely be consumed domestically, participants said.

Stock levels in the Baltics were heard to be holding at normal levels, despite the loss of receipts from sanctioned Russia and Belarus since early last year, and partly due to

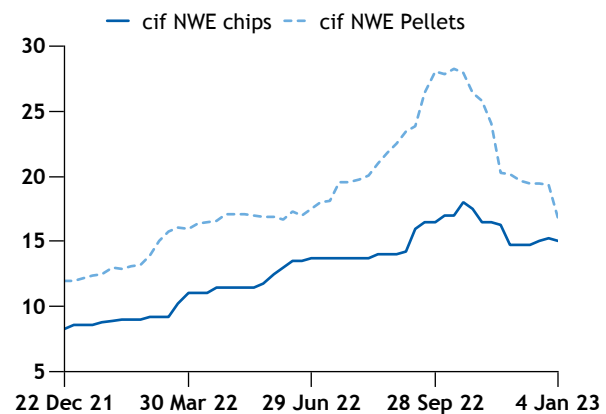
INDUSTRIAL WOOD CHIPS

NWE wood chips - within 90 days (spot)					€/GJ
	Week index		Month index		
	Price	±	Dec	Nov	Oct
cif NWE	15.00	-0.25	15.00	15.75	17.38

Wood chips cif NWE - forward prices				€/GJ
	Bid	Ask	±	
1Q23	14.00	16.00	-0.25	
2Q23	11.00	13.00	nc	
3Q23	11.00	13.00	nc	
4Q23	12.25	14.25	nc	
2024	10.00	12.00	+1.50	
2025	9.25	11.25	+1.50	
2026	8.75	10.75	na	

Spot wood chips vs pellets cif NWE

€/GJ



lower consumption in Europe. The supply situation in the first two quarters of 2023 would largely depend on whether the remainder of the heating season sees a cold snap, but with no widespread expectation of shortages, participants said.

Worsening weather in the Baltics in the coming weeks could hamper harvesting and there were already signs of wood chips being cut and sold wet as demand increased, a participant said.

Minimum average overnight temperatures in Oslo, Norway, were forecast to be minus 2.48°C, or 2.20°C above long term averages, in the 15-days from January 4. And, in the 45 days to 6 February, average overnight temperatures were expected to fall to minus 6.61°C, or 1.45°C below seasonal norms, Speedwell Weather data show.

European premium: Prices plummet

The 45-day spot price for EN plus-certified A1-grade pellets delivered to northern Italy dropped on the week, as sellers decreased their prices to try and sell off stocks amid low demand.

Bagged and bulk premium pellet prices dropped by €60/t each to €410/t and €370/t, delivered northern Italy, respectively, on Wednesday.

In Italy, biomass burn was heard to be low owing to higher-than-average temperatures this winter. Stocks at end users remained at capacity. Unusually warm weather towards the yearend pared consumption which has “completely crashed” a participant said.

Temperatures were expected to rise above seasonal norms in the coming weeks. In Milan, Italy, overnight temperatures were forecast 5°C above seasonal norms at 2°C in the coming fortnight and 4.2°C above norms in the coming 45 days, at 1°C, Speedwell Weather data show.

Nighttime temperatures for Vienna were forecast at minus 1.3°C in the coming fortnight, 3.2°C above seasonal norms, and at minus 1.1°C in the coming 45-days, 1.2°C above norms. In Munich, these were forecast at minus 0.2°C in the next two weeks, or 3.1°C above norms, and at minus 2.2°C for the next 45 days, which is 1.8°C above norms.

Elsewhere, in Europe, demand for premium pellets has yet to pick up in January, participants said. And the cold snap during mid-December did not meaningfully affect demand, another added.

In France, at least one producer was heard holding stocks at capacity and was not expecting demand to outweigh supply in the near future. Local prices were heard in a range from €400 -520/t ex-works France, while de-stocking prices in retail were heard at €7.5 per 15-kg bag, with a few seeking to sell stocks higher at €11.90/bag.

In the Baltics, some producers switched from premium to industrial production owing to low premium demand, a participant said. Some premium producers may stop pellet production if power prices increase to levels seen in autumn in Europe 2022, they added.

In Spain, prices were heard at €450-460/t for bagged pellets, ex-works. Raw material supply was heard lower as at least some sawmills would not be coming online until 9 January, a participant said.

Argus Cif NWE monthly figures		\$/t
Balance of January		303.06
February		303.06
March		303.06
April		303.06

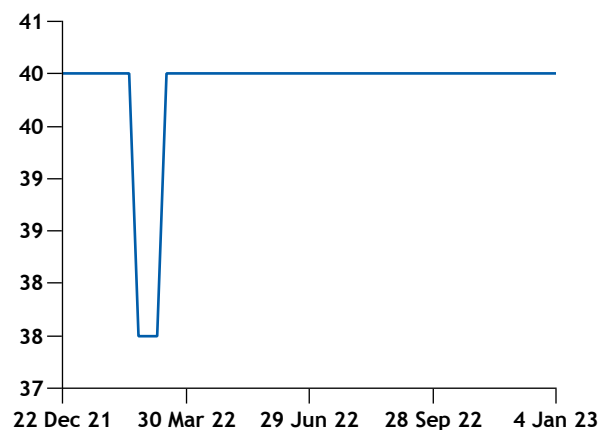
The figures above are an average survey result value for each month contained in the 90-day spot period. They are shown for indicative purposes, to better illustrate the composition of the market-survey component of the spot cif NWE index. The spot index value can be found on page 1 of the report.

EUROPEAN PREMIUM WOOD PELLETS

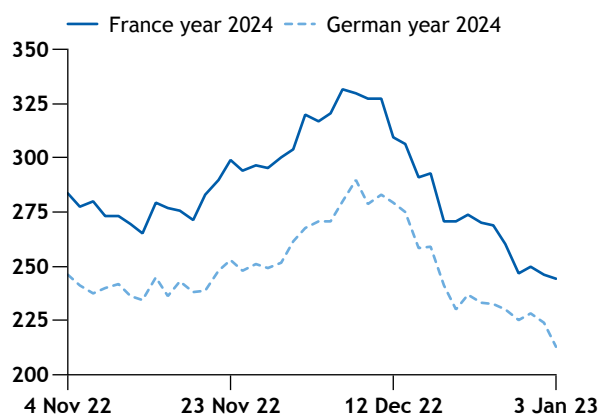
Wood pellets - within 45 days (spot)					€/t
Delivered northern Italy	Mid	Low	High	±	
Bulk	370.00	340.00	400.00	-60.00	
Bagged	410.00	380.00	440.00	-60.00	

Premium wood pellets				€/t
Delivered northern Italy	Month index			
	Dec	Nov	Oct	
Bulk	430.00	503.00	564.38	
Bagged	470.00	543.00	604.38	

Italian premium prices: bagged vs bulk



Year-ahead base load: France and Germany



Asian industrial: S Korea pellet market down

The 90-day spot price for Vietnamese industrial wood pellets that are mainly sold to South Korea continued to fall on the week, as high stocks at South Korean ports and scheduled maintenance at three power plants pared demand.

The fob Vietnam spot price for pellets that are mainly shipped to South Korea fell by \$3.02/t from the last assessment on 21 December to \$166.93/t, and the cfr Gwangyang spot price fell by \$4.01/t to \$189.20/t.

Participants reported ample pellet stocks in the country, citing high stockpiles at the ports of Gunsan and Gwangyang, which is largely the result of a 15-day truckers' strike that ended on 9 December. Scheduled maintenance at one dedicated and two co-fired power plants from late this month and into February also pared spot demand.

A cap on wholesale power prices that was imposed in December and was extended for January as part of South Korea's emergency measures is also said to have pared power demand. The energy ministry [set the January cap](#) for the system marginal power price (SMP) at 160.23 South Korean won/kWh (\$125.60/MWh) for inland South Korean power, excluding Jeju. This is slightly lower than the December cap at W158.96/kWh although it was significantly higher than longer-term averages for the month.

South Korea's renewable energy credit (REC) value – which typically supports independent power generators' wood pellet demand when firm – was at W58,000/REC (\$45.62/REC) on 3 January, down from 27 December's W63,000/REC, Korea Power Exchange data show. This is 26pc up from the January 2022 average of W46,038/REC.

Container freight rates also continued to fall on the week, pressured by a sluggish Chinese economy further weighing on spot prices for deliveries to South Korea.

By contrast, the fob Vietnam price for pellets typically sold to Japan remained firm, supported by tight supply availability. The fob Vietnam Japan FIT price rose by 35¢/t from the latest assessment on 21 December to \$198.50/t.

Meanwhile, palm kernel shells (PKS) prices declined because of reduced market activity over the new year holiday.

The 90-day fob east coast Sumatra spot price fell by \$1.70/t to \$131.40/t, alongside the fob peninsular Malaysia price, which dropped by 11¢/t to \$123/t.

Despite the decline in prices this week because of slower market activity, market participants were anticipating the spot market to firm in the coming weeks as PKS collection rates at mills have slowed further into the low-harvest season, while some end-users were switching from burning wood pellets to PKS because of the latter being more competitive.

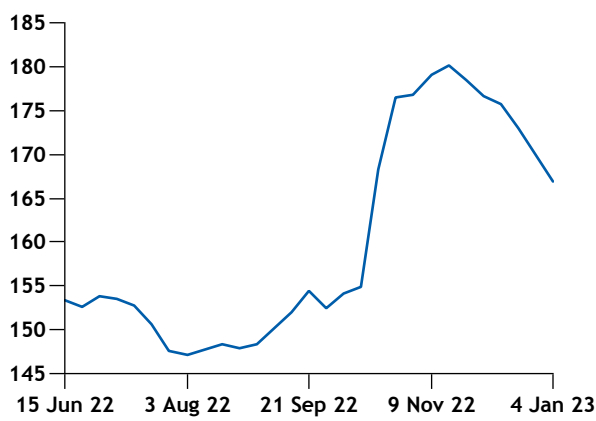
ASIAN INDUSTRIAL WOOD PELLETS

Wood pellets - 90 days (spot)	Week index		Month index		
	Price	±	Dec	Nov	Oct
fob Vietnam to S Korea	166.93	-3.02	172.86	178.23	163.42
fob Vietnam to Japan FIT	198.50	+0.35	198.54	199.95	188.03
cfr Gwangyang	189.20	-4.01	196.94	201.75	192.01

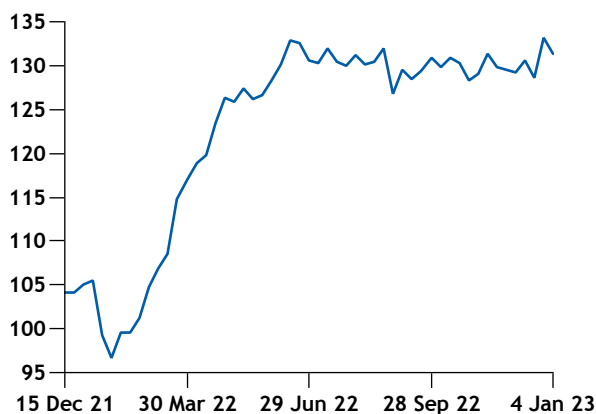
ASIAN PALM KERNEL SHELLS

Palm kernel shell (spot)	Week index		Month index		
	Price	±	Dec	Nov	Oct
fob east coast Sumatra	131.40	-1.70	130.76	129.77	129.83
fob peninsular Malaysia	123.00	-0.11	122.13	121.06	120.56

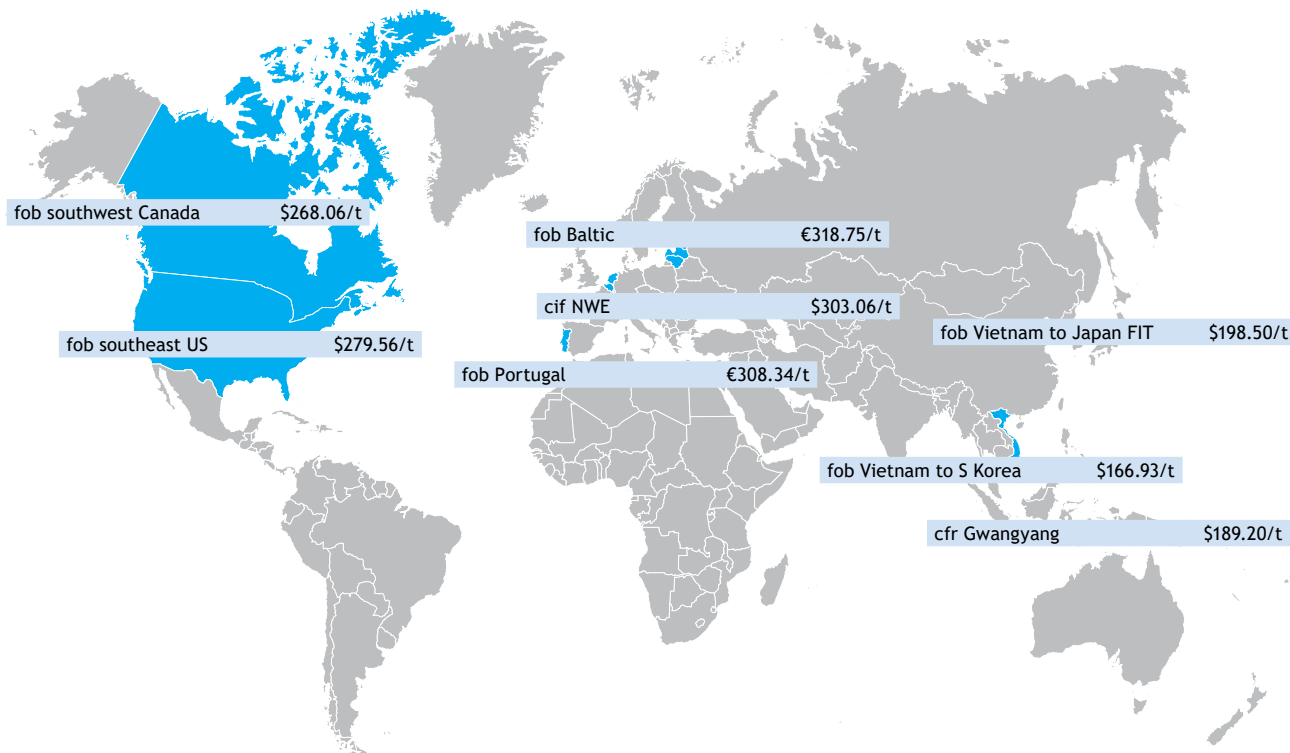
Fob Vietnam to S Korea wood pellet spot price \$/t



Fob east coast Sumatra PKS spot price \$/t



INDUSTRIAL WOOD PELLET SPOT PRICES AT A GLANCE



COMPETING FUELS

Argus competing fuel assessments			
	Units	Delivery	Price
Europe			
Gasoil heating oil French cif NWE	\$/t	prompt	881.000
Natural gas NBP	€/MWh	Feb	65.4025
US			
Fuel oil 1% New York Harbor	\$/bl	prompt	76.785
Natural gas Nymex	\$/mnBtu	Feb	4.475
European Emissions			
CO2 EU ETS	€/t	2024	83.330

WOOD PELLET FREIGHT RATES

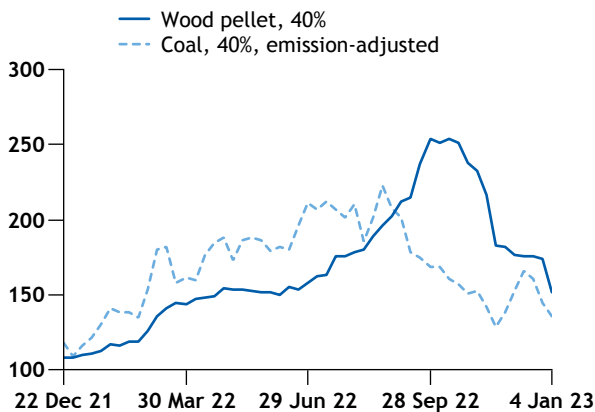
Argus wood pellet freight indications, spot cargo				
Route	Tonnage	Units	Rate	±
Aveiro-ARA	3500	€/t	35.000	-2.000
Aveiro-Copenhagen	3500	€/t	42.000	-2.000
Aveiro-Hull (UK)	3500	€/t	37.000	-3.000
Riga-ARA	5000	€/t	31.000	-2.000
Riga-Copenhagen	5000	€/t	25.000	-2.000
Riga-Stockholm	5000	€/t	23.000	-2.000
St Petersburg-ARA	3500	€/t	na	nc
St Petersburg-Copenhagen	3500	€/t	na	nc
St Petersburg-Stockholm	3500	€/t	na	nc
Mobile-ARA	25000	\$/t	27.500	-0.500
Mobile-ARA	45000	\$/t	23.000	-2.500
Savannah-ARA	25000	\$/t	23.500	-0.500
Savannah-ARA	45000	\$/t	19.000	-2.500
Vancouver-ARA	45000	\$/t	35.000	+7.250

BREAK-EVEN GENERATION COSTS

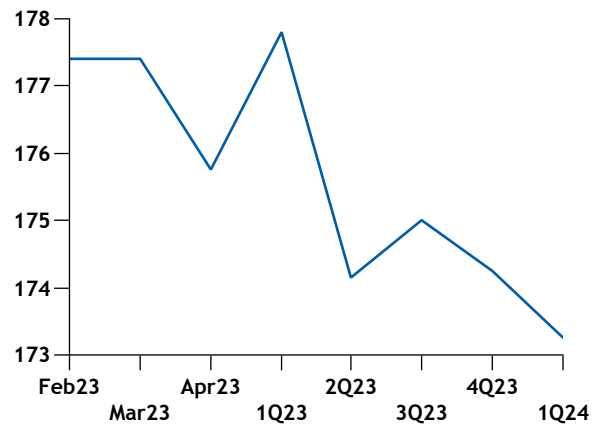
cif NWE wood pellet break-even				cif ARA coal break-even			
04 Jan		Spot	2Q23	Week average		Spot	2Q23
Pellet cost \$/t		303.06	303.000				
Plant efficiency	Unit	Break Even		Plant efficiency	Unit	Break Even	
36%	\$/MWh	178.29	191.19	36%	\$/MWh	160.27	157.83
	€/MWh	168.09	180.26		€/MWh	151.10	148.80
38%	\$/MWh	168.90	181.13	38%	\$/MWh	151.84	149.53
	€/MWh	159.24	170.77		€/MWh	143.15	140.97
40%	\$/MWh	160.46	172.07	40%	\$/MWh	144.24	142.05
	€/MWh	151.28	162.23		€/MWh	135.99	133.92
41%	\$/MWh	156.54	167.88	41%	\$/MWh	140.73	138.58
	€/MWh	147.59	158.27		€/MWh	132.68	130.66

*Breakeven generation costs represent the calculated costs of generating power with wood pellets and/or coal based on Argus assessed spot prices. For a plant to break even, the combined price of power and subsidy amount (if applicable) would need to be equal to the calculated breakeven generation cost.

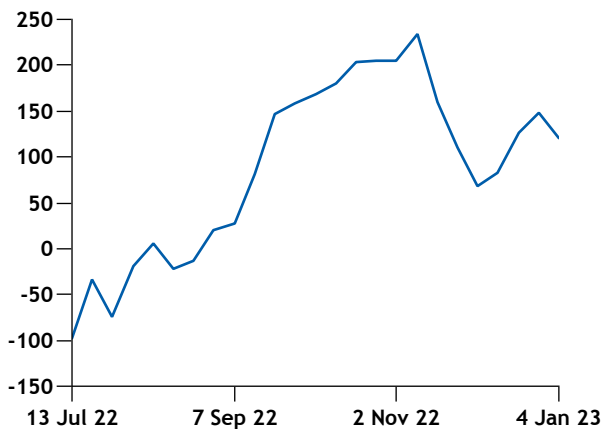
Break-even generation cost, cif NWE front month €/MWh



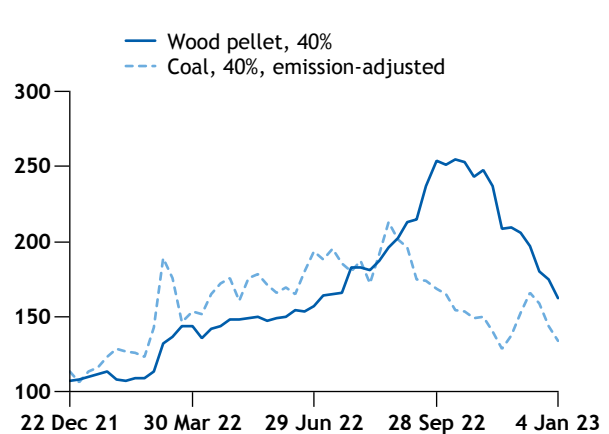
cif ARA coal swaps forward curve \$/t



Wood pellet, cif NWE spot premium to coal, cif ARA \$/t



Break-even generation cost, cif NWE front quarter €/MWh



WEATHER

European weather - Departure from normal temperatures												°C	
Location	5 Jan		6 Jan		7 Jan		8 Jan		9 Jan		Precipitation (mm)		
	Avg	± normal*	Avg	± normal*	Avg	± normal*	Avg	± normal*	Avg	± normal*	5-day	15-day	
UK – London Heathrow	10.5	4.9	9.5	3.9	8.9	3.2	7.7	2.0	7.6	1.9	18.7	48.6	
Norway – Bergen Florida	1.9	-0.4	2.1	-0.2	3.7	1.4	4.3	2.0	5.0	2.7	33.2	108.0	
Norway – Oslo Blindern	-3.7	-1.5	-4.2	-2.0	-1.1	1.1	1.2	3.4	0.7	2.9	51.8	106.5	
France – Paris Orly	12.6	8.0	11.6	7.0	9.4	4.8	9.2	4.5	9.4	4.7	15.3	45.1	
The Netherlands – Amsterdam Schiphol	9.8	6.0	8.9	5.1	8.8	5.0	7.5	3.7	7.3	3.5	18.2	65.0	
Germany – Essen	9.7	6.8	9.5	6.5	9.8	6.8	8.6	5.6	7.9	4.9	18.9	60.5	
Germany – Berlin Tempelhof	7.5	6.2	7.3	6.0	6.7	5.4	7.4	6.2	6.5	5.3	11.8	41.5	
Italy – Milano Malpensa	7.2	3.9	6.7	3.3	7.5	4.1	7.6	4.2	7.2	3.8	12.4	29.8	
Italy – Rome Fiumicino	11.6	3.6	11.7	2.8	11.9	2.9	12.8	3.4	13.5	3.9	13.7	34.4	
Poland – Warsaw Okęcie	6.1	7.2	1.7	2.8	2.3	3.5	3.5	4.8	4.4	5.8	17.5	38.1	
Czech Republic – Prague Ruzyně	9.0	9.5	7.7	8.2	6.4	6.9	5.3	5.9	5.3	5.9	5.9	24.3	
Hungary – Budapest Lörinc	8.1	7.6	5.2	4.7	4.5	4.0	5.0	4.4	4.8	4.2	10.0	27.1	
Serbia – Belgrade Surcin	8.4	6.8	8.2	6.6	7.7	6.1	7.5	5.9	8.7	7.1	5.9	25.3	
Romania – Bucharest Imh	7.4	7.9	7.2	7.7	4.3	4.9	3.3	3.9	4.0	4.6	1.3	16.5	
Spain – Madrid Barajas	7.2	1.6	5.1	-0.5	6.0	0.4	10.1	4.5	11.5	5.9	5.9	19.2	

*normal means cleaned 10-year average (2004-2013 inclusive)

– Ensemble forecasts (12.00 GMT) provided by Speedwell Weather



Ensemble averages and cleaned weather data all supplied by Speedwell Weather Limited (12:00 GMT). For more information visit: www.speedwellweather.com

NEWS

NWE biomass burn slumps in 2022

Biomass-fired power generation in northwest Europe (NWE) dropped to its lowest since at least 2018 this year, as utilities faced supply tightness, rising fuel costs and regulatory uncertainty.

Biomass burn for power in NWE dropped by 712MW on the year to 3.7GW on an average hourly basis in 2022, with output having fallen in all countries in the region except France (see table for assumptions and data sources). This implies an annual drop of 3.4mn t of wood pellet equivalent, assuming an average efficiency of 40pc at all generating units.

The drop in output was notably higher in the fourth quarter for all countries, as unusually mild weather for most of October-November, a sharp increase in spot wood pellet prices to record highs in September-October and uncertainty over how the EU and the UK would implement then-planned power price caps resulted in utilities cutting generation.

This was different to the market dynamic in the first half of 2022. Generation dropped in January-June because of delays to wood pellet deliveries in the first quarter and as many utilities brought maintenance forward to the second quarter following the start of the Russia-Ukraine war, in a bid to stock up for winter when supply was expected to tighten as a result of disruption to wood product trade with Russia and Belarus.

A halt in biomass burn at Danish firm Orsted's 380MW Studstrup 3 power plant following a fire at its silo in late September also weighed significantly on Danish output in the fourth quarter. Biomass-fired generation in the country dropped by 210MW in October-December to around 500MW, although output in December held 40MW higher than a year earlier. Danish biomass-fired generation had dropped by a similar 200MW in April-June to around 350MW, as some

European biomass-fired slumps in 2022						
	Power generation MW			mn t of wood pellet equivalent		
	2021	2022	±	2021	2022	±
Northwest Europe						
UK, Drax	1,806	1,527	-279	8.4	7.1	-1.3
UK, Lynemouth	375	135	-240	1.7	0.6	-1.1
UK, Markinch	42	43	1	0.2	0.2	0.0
Denmark	557	469	-88	2.6	2.2	-0.4
Belgium	215	192	-23	1.0	0.9	-0.1
France	357	403	47	1.7	1.9	0.2
Netherlands (Jan-Oct)	1,096	966	-130	5.1	4.5	-0.6
Total NWE, excl Germany	4,447	3,735	-712	20.7	17.3	-3.4
Finland	744	678	-65	3.5	3.1	-0.3
Czech Republic	284	277	-7	1.3	1.3	-0.0
Poland	219	184	-35	1.0	0.9	-0.2
Italy	690	647	-43	3.2	3.0	-0.2
Portugal	375	372	-4	1.7	1.7	-0.0
Rest of Europe	2,312	2,158	-154	10.8	10.0	-0.7
Total Europe, excl Germany	6,760	5,893	-866	31.4	27.3	-4.1

Notes: Generation efficiency assumed at 40pc. 2022 data for until 29 December. Total NWE assumes Dutch generation in Nov-Dec flat from earlier for each year. Entsoe data is for units 100MW and over, and includes wood pellets and any other form of biomass.

– Argus, BMRS, Entsoe

plants brought forward maintenance or switched to burning coal to save pellets for winter.

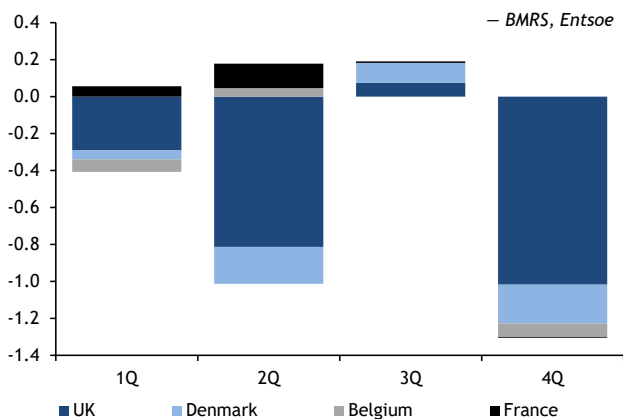
Biomass burn for power also dropped in Belgium in October-December, by 75MW to 170MW, similar to a drop of 68MW in the first quarter, while overall output increased during the summer. In contrast, biomass-fired generation in France fell by just 4MW on the year to around 350MW in the fourth quarter – as mild weather in October-November pared demand – having increased by an average of 65MW to over 420MW in the first nine months.

Dutch output in January-October, the latest period data are available for, also dropped significantly, by 130MW to 966MW, having fallen year on year in all months during the period except June and July.

UK sees largest drop in 2022

The largest decline in 2022 pellet-fired generation was in the UK, where it fell by around 520MW, or 23pc, from a year earlier. The drop was particularly prevalent at units that generate under the UK's contracts for difference (CfD) scheme – namely UK firm Drax's 645MW unit 1 and all three units at the 405MW Lynemouth plant. Output at these dropped by 187MW and 240MW on the year to 270MW and 135MW, respectively, in 2022. Lynemouth's unit 2 did not

NEW biomass burn yoy change by quarters GW – BMRS, Entsoe



generate any power for seven months of 2022, with units 1 and 3 inactive for most days in the second half of the year.

The CfD units have had to pay back the Low Carbon Contracts Company – which operates the scheme – for any generation since April, as the base-load market reference price (BMRP) held above their respective strike prices – at £126.37/MWh for Drax and £132.48/MWh for Lynemouth in 2022. The BMRP, which is calculated based on forward power prices, was set at £168.25/MWh for the summer 2022 season and at £405.26/MWh for winter 2022-23.

Combined with rising generation costs – as spot industrial wood pellet prices rose to record-highs in 2022 – this offered an incentive for biomass-fired units under the CfD scheme to buy power from the spot market to meet contractual obligations and sell biomass back to the market, whenever spot prices for each commodity allowed.

Drax said earlier this month that it had **bought back** “certain existing forward-sold power sales for 2022 on its ROC [renewable obligation certificate] units” in October, when power and gas prices dropped as unusually mild weather pared demand.

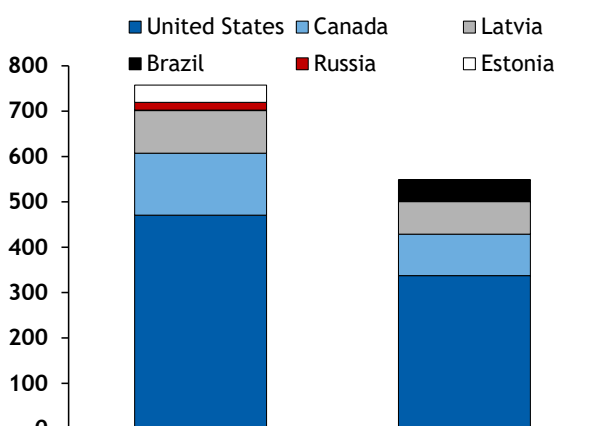
By Erisa Senerdem

UK wood pellet imports drop in October

The UK’s wood pellet imports fell by nearly a third on the year in October, with receipts from North America and the Baltics both lower.

Overall imports fell to 556,000t from 788,000t in October 2021 – their lowest for the month since 2016. The drop was in line with weaker power demand amid unusually warm weather. UK pellet-fired generation dropped to 942MW on an average hourly basis in October – the lowest for any month since at least the start of 2014 and well below 2.2GW a year earlier. Units that primarily operate under the contracts-for-difference (CfD) scheme did not generate any power during October, or in November.

UK pellet imports down in October ‘000t



UK imports from key supplying countries			'000t
	2021	2022	±
US	337	471	
Canada	91	137	-279
Latvia	72	94	-240
Brazil	48	1	1
Portugal	5	31	-88
Netherlands	2	0	-23
Estonia	0	38	47
Russia	0	17	-130
Total	555	789	-712

– USITC Tariff Database

The prospect of a cap on spot power prices in September-October also deterred utilities from holding new positions, limiting demand. The government eventually decided to impose a **windfall tax** on generators’ revenues, ditching plans for a price cap on power. Utility Drax **said** last month that the windfall tax was one of several factors that “could make generation at certain times less economic and is expected to restrict the group’s purchase of additional biomass cargoes at spot prices”.

Receipts from the US – the UK’s largest supplier – fell most sharply, and Canadian imports also declined, customs data show (see graph). Receipts from the Baltic states and Portugal dropped. The only rise was in Brazilian imports – to 48,000t from zero a year earlier.

Shipments from Russia remained absent because of sanctions – the UK imported 17,000t from Russia in October 2021.

Pellet imports at the Port of Tyne, where both Drax and EPH have storage and unloading facilities, fell to 31,000t from 161,000t, and receipts at Liverpool dropped by 16,000t to 183,000t. There were no receipts at Tees Port in Middlesbrough – home to MGT Teeside’s 299MW biomass-fired combined heat and power plant. The full-scale launch of MGT’s plant has been postponed several times, but the facility did generate some power in September 2022.

Receipts at Immingham, the main terminal for Drax, rose by 104,000t to 326,000t, despite biomass generation falling at Drax units.

By Hannah Adler

Austrian local pellet prices drop in December

The retail price of bagged and bulk premium wood pellets in Austria fell in December, as mild weather and high inventories continued to weigh on demand.

The cost of a typical 6t bulk delivery of EN plus-certified

A1-grade pellets fell to €544/t (\$578.82/t) from €606/t a month earlier, the largest month-on-month decrease since records began in 2014, although the price was €279.10/t higher than a year earlier, data from industry association ProPellets Austria show.

The average price of 15kg-bagged premium pellets dropped to €636/t from €680/t in November, although it remained €352.67/t higher compared with December 2021.

End users are thought to have stocked up on pellets earlier in the year, in anticipation of possible gas supply disruptions during winter, but consumption in October-November was well below recent-year averages as temperatures held well above seasonal norms. Producers in Austria – as well as Germany and the Czech Republic – were left with high stocks owing to lower consumption during the period. But closures at pellet plants for the end-of-year holiday period may deplete some of these inventories.

And heating demand in Italy could increase interest in pellet imports from Austria. Overnight temperatures in Milan are forecast to hold well above seasonal norms for most days over the next two weeks – rising to 12-13°C on 1-3 January – but are forecast to average 0.5°C from 1 January-12 February, which would be sufficiently low to encourage strong heating demand at the start of 2023, despite being 3.7°C higher than long-term averages.

Wood pellets in Austria maintained a competitive advantage over alternative heating fuels in December. The cost of heating with pellets fell by €0.013/kWh on the month to €0.111/kWh. Heating with extra-light oil fell by €0.033/kWh to €0.133/kWh, while the cost of heating with gas was unchanged at €0.256/kWh.

By Hannah Adler

Italy cuts VAT on wood pellets

The Italian government has cut value-added tax (VAT) on wood pellets for all of 2023 to 10pc from 22pc previously. The change was published in the 2023 Budget Bill on 31 December.

Around 2mn families in Italy use wood pellets for heating, according to Italian agroforestry energy association Aiel.

Supplies of firewood in logs, twigs or bundles were subject to VAT reductions, whereas wood pellets were the only category excluded from such reductions before the amendment.

The current energy crisis needs to be tackled in two ways. “By protecting and safeguarding Italian families at risk of energy poverty and by promoting national policies that favour energy transition and decarbonisation,” Aiel’s general

manager Annalisa Paniz said last week.

Adding that bioenergy used in thermal power generation – from firewood and pellets – was Italy’s main source of renewable energy, Paniz said Aiel would continue to work throughout 2023 to make the tax reduction permanent.

The reduction in VAT has already been reflected into lower retail prices for end users, a market participant said on Tuesday.

Italy was the world’s largest premium pellet user in 2021 with consumption of 3.2mn t by residential and another 200,000t by commercial users.

By Erisa Senerdem

Austria’s Pfeifer buys Finnish sawmill Polkky

Austria-based wood processing Pfeifer Group has signed a deal to acquire Finland’s Polkky and expects to take over operations from January, following merger checks, it said late last month.

Through the acquisition Pfeifer will add some 700,000 m³/yr of sawn timber production to its 4mn m³/yr wood processing portfolio. Polkky’s product portfolio also includes planed timber, pressure-treated timber, glulam, chips and sawdust. And its sawmills and processing plants are located in Kuusamo, Taivalkoski, Kajaani, Kitka and Oulu. Around 70pc of Polkky’s sawmill production is exported to 35 destinations.

With Pfeifer previously having focused primarily on central Europe – with operations in Austria, Germany and the Czech Republic, the deal is “a strategically coherent development in the direction of northern Europe” for the Group, it said.

“Apart from entering an attractive market, this also opens new procurement sources when it comes to high-quality wood from the far north”, it added.

Polkky has no pellet production currently, but Pfeifer will consider building a pellet plant near the sawmill in the future, the Group’s chief executive officer, Michael Pfeifer, told *Argus*.

Pfeifer operates six wood pellet plants with a combined output of around 570,000t/yr, and is Austria’s largest and Europe’s third-largest wood pellet producer, according to information on the company’s website.

By Erisa Senerdem

S Korea sets January power price ceiling

South Korea’s Ministry of Trade, Industry and Energy (Motie) has announced a price cap for the country’s system marginal price (SMP) for January at 160.23 South Korean won/kWh (\$125.60/MWh) for inland South Korean power, excluding Jeju.

January's SMP cap is slightly higher than December's SMP cap of 158.96 won/kWh.

The emergency cap for the SMP for January was triggered as the previous three-month average of wholesale power prices was within the top tenth percentile of the decade average of monthly wholesale prices.

The average of wholesale power prices for October-December 2022 was at W254.82/kWh, which fell within the top tenth percentile of the average of monthly wholesale prices from October 2012 to September 2022 at W154.42/kWh. The January SMP ceiling price was calculated as 150pc of the 10-year average of the monthly SMP.

The SMP emergency cap was first triggered in December 2022, and market participants also expect it to be triggered in February. But this measure cannot be triggered for more than three months in a row, meaning the potential emergency cap in February would be the last.

Wood pellet demand in South Korea has been soft, with some co-firing power plants and a dedicated biomass plant scheduled for regular maintenance after the country's lunar new year holiday over 21-24 January and in February for a couple of weeks. One of the plants will undergo maintenance because of the SMP emergency cap, a South Korean trader said.

By Sam Hong

Japan's biomass imports fall in November

Japan's wood pellet imports in November dropped from a year earlier because of a loss in supply as a major Vietnamese wood pellet producer had its certification suspended.

Japan imported 322,000t of biomass in November, a 15pc drop from 380,000t a year earlier and down by 25pc from the previous month, according to data from Japan's finance ministry. But the country's aggregate wood pellet receipts rose by 44pc on the year to 4.08mn t in January-November as the country added [more biomass power generation capacity](#).

Vietnam was Japan's biggest supplier in November at 153,000t. Japan's imports of Vietnamese wood pellets fell by 15pc on the year in November and was 29pc lower compared with October.

An Viet Phat, a major Vietnamese wood pellet producer, in October had [its certification suspended](#) by international non-profit organisation the Forest Stewardship Council (FSC) for 3½ years following allegations that it sold pellets with false certifications. This suspension removed a chunk of supply in November that would have been available to the Japanese market. Japan is the biggest importer of FSC-certified pellets, according to the FSC's website. Some

market participants estimate AVP exported around 400,000-500,000t of wood pellets to Japan in 2021.

Canada was the second-largest supplier to Japan in November at 128,000t, down by 3pc from the previous year but up by 28pc from October.

Australian shipments to Japan in November totalled 21,000t, 17pc lower than the same month last year. Malaysian shipments to Japan fell to 16,000t in November, a 28pc drop on the year. Indonesian deliveries rose to 4,000t last month from 600t a year earlier.

Palm kernel shell receipts

Japan imported 246,000t of palm kernel shells (PKS) in November, down by 2pc from a year earlier and an 11pc drop from October because of tight supplies. But the country's PKS receipts rose by 15pc on the year to 2.62mn t in January-November. Total imports could have been higher as importers occasionally use an alternate customs code when bringing PKS into Japan. The country is expected to import around 4.5mn t of PKS in 2022, Japanese traders said.

Indonesia was Japan's primary supplier in November, accounting for 155,000t. Imports from Indonesia in November dropped by 20pc from a year earlier and by 30pc from October. Monsoon rain in November limited fresh fruit bunch collections and [delayed loadings at the Indonesian ports](#) of Tanjung Buton and Dumai in Sumatra, with some vessels waiting to load PKS for a couple of weeks.

Malaysia supplied 91,000t to Japan in November, up by 61pc from the previous year and by 65pc from October.

By Sam Hong

Key sectors in Japan to raise non-fossil power use

Japan's five key industry sectors are set to increase their use of electricity produced by non-fossil fuels, in line with the country's stricter 2030 greenhouse gas (GHG) emission reduction target.

A working group under the country's trade and industry ministry (Meti) has set a reference target for the share of non-fossil fuel energy which the country's five major industry segments – including cement, automobile, chemical, paper and steel makers – should achieve by the April 2030-March 2031 fiscal year.

The move was based on a revision made for a legislation about rationalising energy use in the country, which calls for factories to transition from fossil energy to non-fossil energy. The amended law was enacted in May and will take effect in April 2023.

The working group has recommended that automobile and electric furnace manufacturers use non-fossil fuel-based

electricity, including in-house generation and purchases, for 59pc of their power mix in 2030-31.

Steel mills operating blast furnaces are encouraged to reduce their basic unit of coal consumption per one tonne of crude steel by 2pc against 2013-14 levels by 2030-31, by introducing more hydrogen, plastic waste and biomass. Cement makers will be prompted to achieve a 28pc ratio of non-fossil fuels in the calcination process using similar measures.

Chemical and paper firms that operate boilers fed mainly by coal should cut coal consumption by 30pc based on 2013-14 levels by 2030-31. Those who are not using such boilers will be prompted to achieve the non-fossil power ratio of 59pc for electricity consumption.

Drive to decarbonise

The reference target for the non-fossil ratio is similar with Japan's latest power mix goal for 2030-31, which incorporates 36-38pc of renewables, 20-22pc of nuclear and 1pc of hydrogen and ammonia for clean energy, as well as 20pc for LNG, 19pc for coal and 2pc for oil for thermal fuels. This is deemed to support Tokyo's aim to cut its GHG emissions by 46pc by 2030-31 against 2013-14 levels, ahead of the country's net zero by 2050 goal.

The selected industries would have to create their own 2030-31 goal, with reference to the general standard. The government will admonish companies that are significantly behind the target and publicise this, although there is no penalty in this regard.

The rising pressure to reduce dependence on fossil

fuels in major industries may spur demand for clean energy certificates and carbon credits to offset emissions, while encouraging the country's power producers to boost renewable and nuclear output as well as introduce the use of hydrogen and ammonia.

The government is now gearing up to [strengthen the country's carbon pricing scheme](#). It is considering introducing an auction system for emissions allowances and carbon levies on fossil fuel importers, along with plans to issue energy transition bonds.

By Motoko Hasegawa

Brazil expects thermal power 20pc up by 2026

Brazilian grid operator ONS expects a 20pc increase in installed thermoelectric generation capacity by the end of 2026, according to Par Pel 2022, its official plan for the next four years.

ONS expects total generation capacity to reach 208.4GW by the end of 2026 from 186GW at the end of 2022, a 12pc increase. Installed thermal generation capacity – including nuclear plants – will jump to 30.5GW, from 25.3GW. Biomass, wind and solar plants' added capacity will reach a combined 60.4GW from 44.6GW.

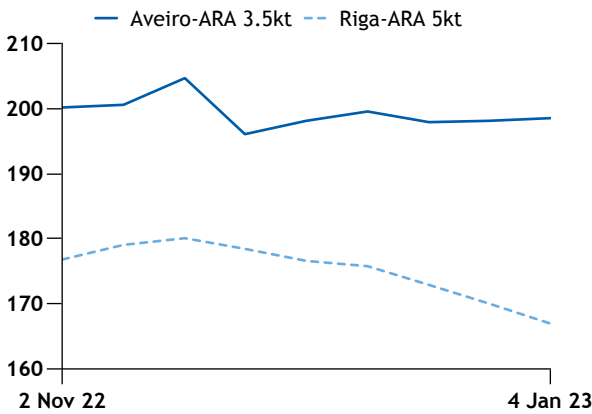
The plan says that demand will grow to 111,032MW by 2027, an 18pc increase from 94,126MW in 2022. It also says that Brazil will need to build 16,000km of transmission lines, a 10pc expansion from the current infrastructure.

Investments in the grid in 2023-2027 will reach R60.7bn (\$11.3bn), according to the plan.

By Rebecca Gompertz

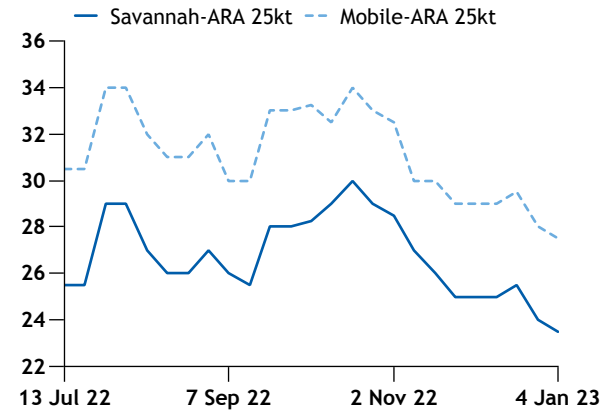
Wood pellet freight, coaster size

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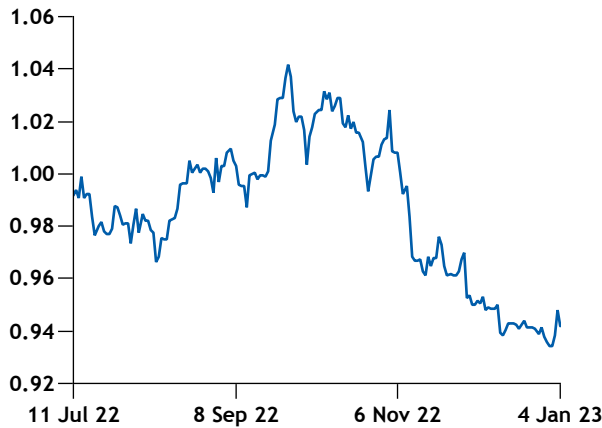


Trans-Atlantic wood pellet freight rates 25,000t

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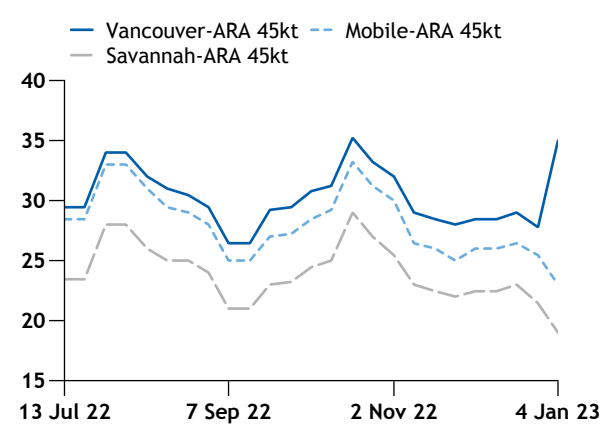


\$/€ exchange rate



Trans-Atlantic wood pellet freight rates 45,000t

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