

Tuesday, 31 August, 2021 | weekly publication

Tuesday Espresso

Weekly Commodity Roundup

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Utilities

EEX power futures have hit yet another all-time high at €87/MWh in a continued climb fueled by appreciating prices of emission permits (€61/t), coal, and gas. Against this backdrop, vertically-integrated clean generators like CEZ should flourish.

In Poland, with the uptrend in year-ahead futures not as rapid the model clean-dark spread has shed another 5 zloty and the margin on lignite-fired power is down to a new low. A mitigating effect should be provided by a negative PL/DE spread (~PLN 20/MWh) facilitating increased utilization of Polish plants. Green certificates are still trading high at PLN 193/MWh.

Gas & Oil

Refining margins hold within \$4-5/bbl at the moment, but it is worth noting the improving cracking spreads on middle distillates. In Europe, the gasoil reserves keep decreasing against the usual seasonal pattern, and their level today is 22% lower than this time last year. The recovery in air traffic continues in Europe with flight numbers equivalent to 71% of the 2019 reference level. Hurricane Ida is set to become a major driver of gasoline cracks in the coming weeks. Last but not least, the Urals/Brent remains a positive driver at close to \$2/bbl.

In petrochemicals, prices for both polymers and monomers have eased somewhat this past week, but butadiene producers are still enjoying record margins.

Gas

European gas prices keep moving higher, with the latest increase pushing month-ahead contracts to €47 as 1Y futures hit €33/MWh. Again, the relentless rise is driven by a low gas inventory (with storage levels at 67% vs. 83% 5-year average) accompanied by forecasts of a high likelihood of cold weather ahead.

Metals

The US Federal Reserve's Jackson Hole symposium delivered the major takeaway that there is no near-term tapering plan – a positive outcome for commodities amid rising fears of supply chain pressures fueled by a new wave of COVID-19 and strike action in major copper mines.

The latest jump in aluminum prices to a 13-year high benefits producers like Alcoa, Norsk Hydro, and Rusal. We see room for prices to climb even more to as much as \$3,000 a tonne if China, which accounts for 55% of the world's supply, continues its production cutbacks as a way of curbing air pollution; more than 80% of Chinese aluminum smelters are fueled with coal, and they are the third-biggest source of CO₂ emissions after power stations and steel factories.

On the downside, the high aluminum prices raise the costs for aluminum fabricators like Alumetal and Grupa Kęty, diminishing their near-term dividend potential by forcing them to increase working capital.

Coking Coal

Prices of metallurgical coal keep rising to new record highs (Australia: close to \$250/t, China nearly \$400/t, Atlantic upwards of \$300/t), creating bullish prospects for JSW and its 2021 H2 earnings results.

Agricultural Commodities

As gas prices keep rising the profits of producers like Grupa Azoty and Yara become [increasingly squeezed](#).

The 'Zapad 21' Russia-Belarus military exercises set to take place between 10 and 16 September will probably dampen sentiment for Ukrainian stocks. for a time

Chart of the Week



Source: Bloomberg, mBank

Ukraine to end sugar shortage

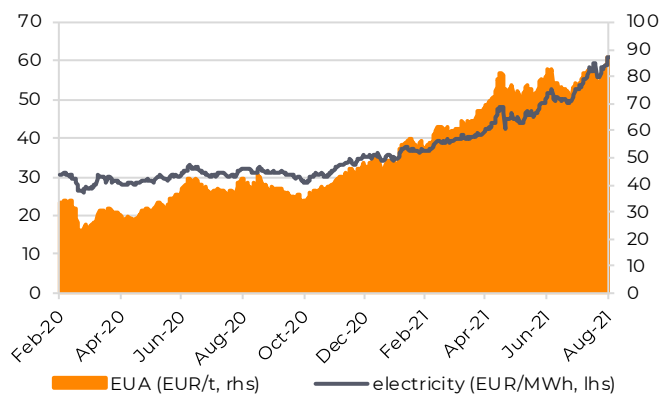
Ukraine's sugar beet area is 5% bigger for the 2021/22 season than the season before, and assuming similar yields this suggests a rebound in sugar production to 1.35mmmt – a quantity that can satisfy the domestic demand (after a 0.3mmmt shortage in 2020/21). Ukrainians today pay a whopping 70% more for sugar than the average world price, but with higher supply prices could shift lower, making a more bearish outlook for Astarta.

1-Week & YTD Performance

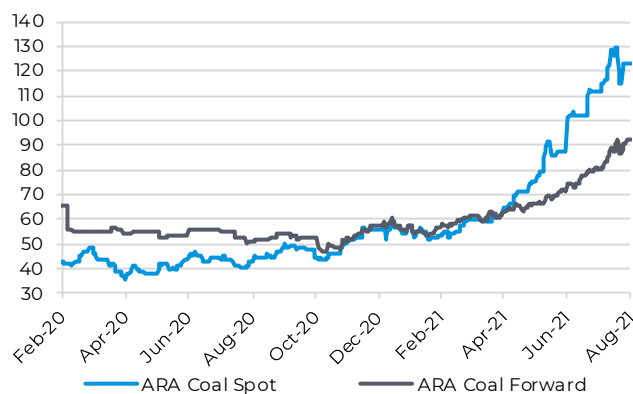
Company	1W	YTD
Polenergia	-8.0%	+31%
Astarta	-3.2%	+105%
Cognor	-2.6%	+158%
Grupa Azoty	-2.3%	+6%
Stalprodukt	-1.7%	+9%
ZA Puławy	-1.4%	+1%
ZE PAK	-1.1%	-0%
Alumetal	-0.3%	+37%
Ciech	-0.2%	+52%
ZCh Police	+0.0%	+0%
Tauron	+0.0%	+33%
Enea	+0.3%	+50%
Kernel	+0.3%	+20%
Tupras	+0.5%	-8%
MOL	+0.6%	+15%
Lotos	+0.7%	+41%
Boryszew	+0.8%	+15%
LW Bogdanka	+1.0%	+35%
PGE	+1.0%	+52%
PCNiG	+1.5%	+18%
OMV	+1.7%	+49%
KGHM	+2.0%	-0%
PKN Orlen	+2.0%	+35%
CEZ	+2.0%	+43%
Mangata	+2.4%	+27%
IMC	+2.7%	+85%
Kęty	+3.2%	+49%
PCC Rokita	+5.9%	+65%
JSW	+9.2%	+51%
WIG Indices	1W	YTD
WIG	+2.6%	+24%
Chemicals	-0.7%	+23%
Energy	+0.1%	+41%
Oil & Gas	+1.7%	+30%
Food Industry	-0.5%	+24%
Basic Material	+2.5%	+3%
Ukraine	-1.5%	+50%
Sector Indices	1W	YTD
Mining	+4.9%	+23%
Oil & Gas E&P	+3.2%	+32%
Refining EU	+5.5%	+16%
Refining US	+4.1%	+24%
Agri & Food	+0.5%	+15%
Rubber	+2.7%	+10%
Fertilizers	+1.6%	+34%
Chemicals EU	+1.1%	+17%
Industrials EU	+0.7%	+25%
Petchem World	+3.9%	+27%
Utilities EU	-2.1%	+6%
Utilities US	-0.5%	+10%

Utilities

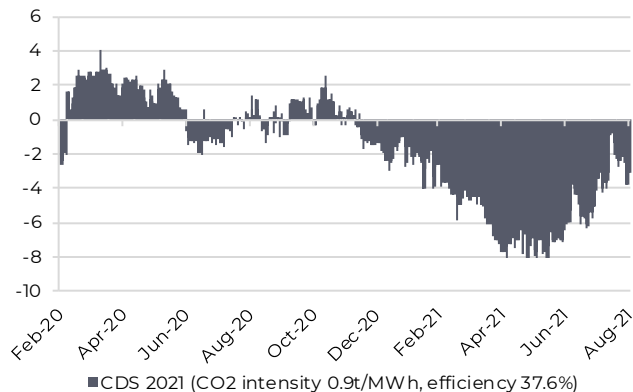
EU Prices of Electricity (EUR/MWh) & EUAs (EUR/t)



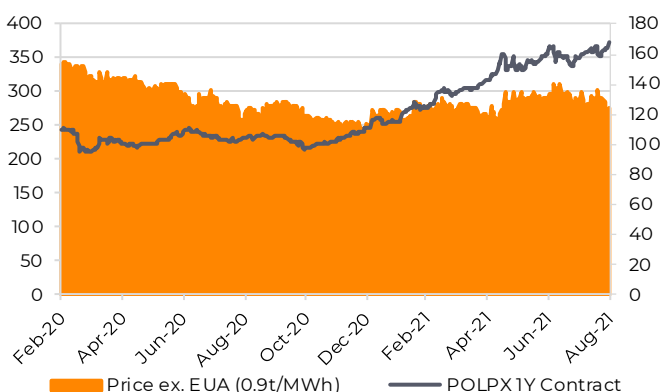
ARA Coal Spot and Forward Prices (EUR/t)



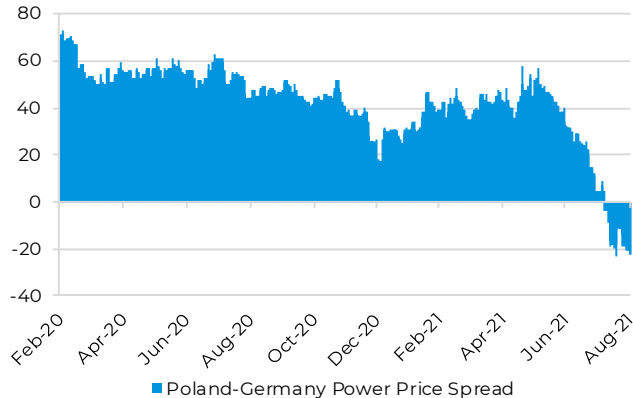
Clean-Dark Spread, Germany (EUR/MWh)



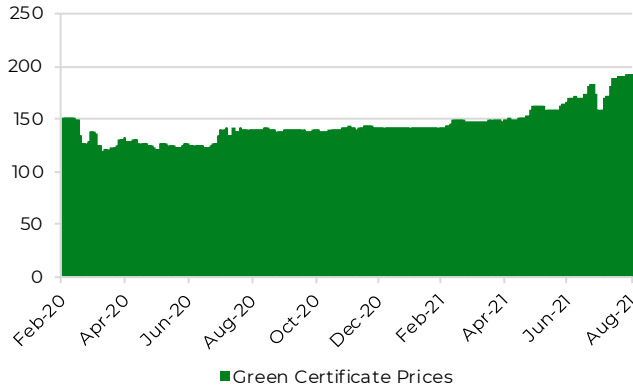
Polish Electricity Prices (1Y) (PLN/MWh)



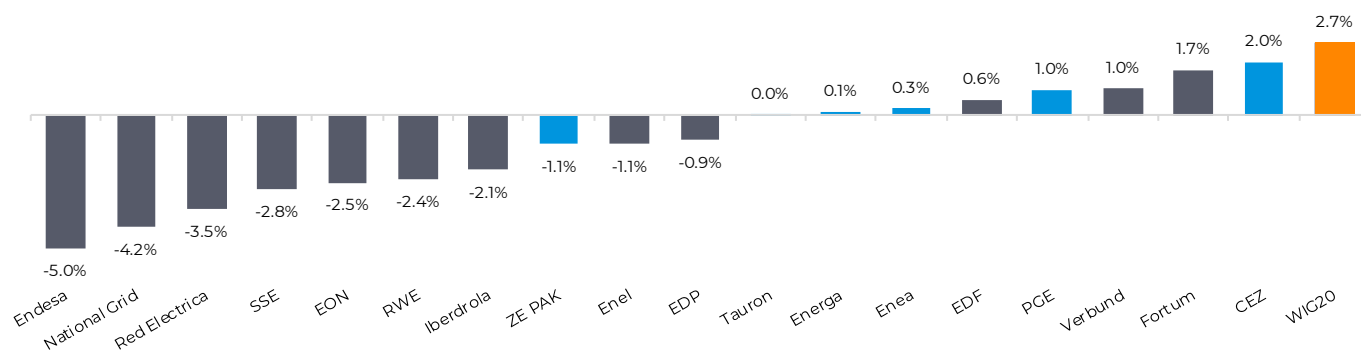
Poland-Germany Power Price Spread (PLN/MWh)



Polish Green Certificate Prices (PLN/MWh)



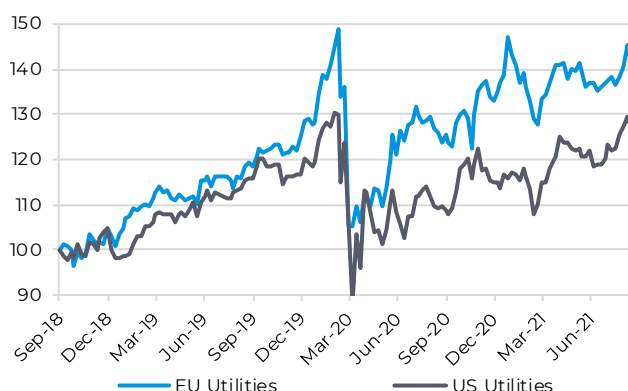
Weekly Returns of Utility Stocks



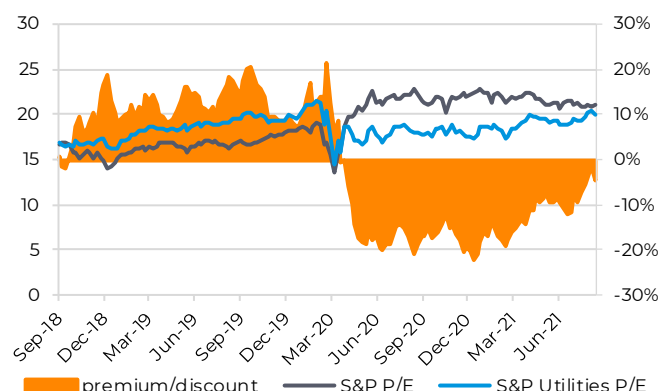
Source: Bloomberg, mBank

Utilities

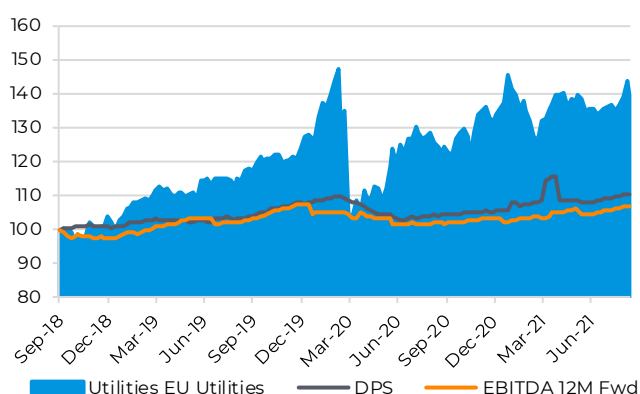
MSCI Utilities Europe vs. S&P Utilities



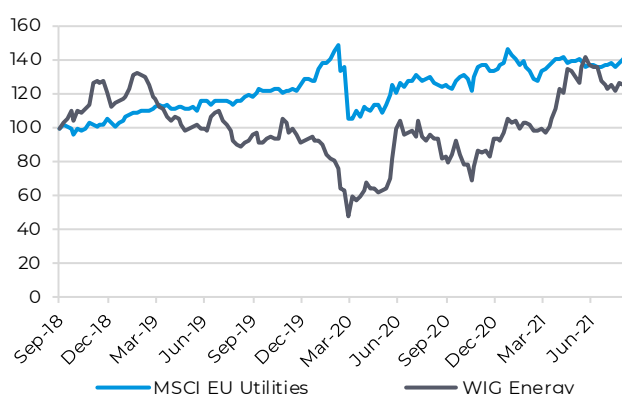
S&P Utilities vs. S&P 500 P/E



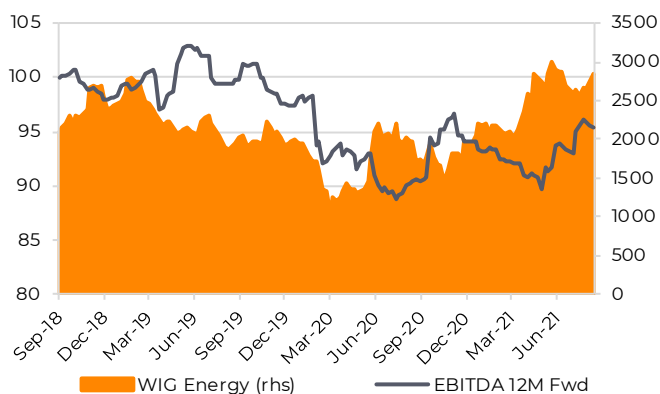
MSCI Utilities EU vs. DPS & EBITDA Expectations



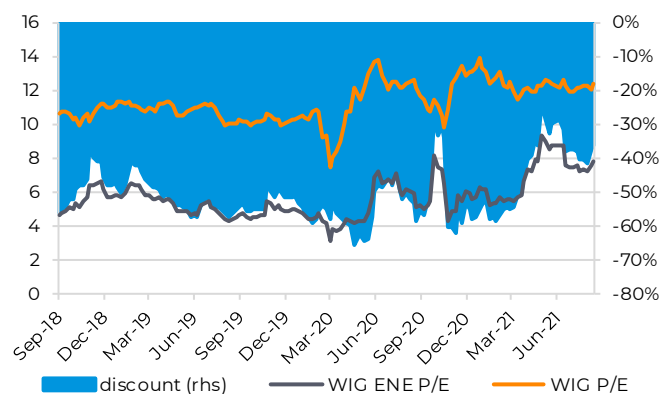
MSCI Utilities EU vs. WIG-ENERGY



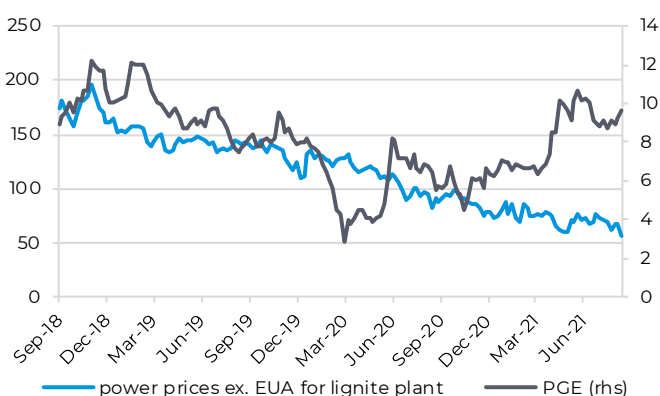
WIG-ENERGY vs. EBITDA Expectations



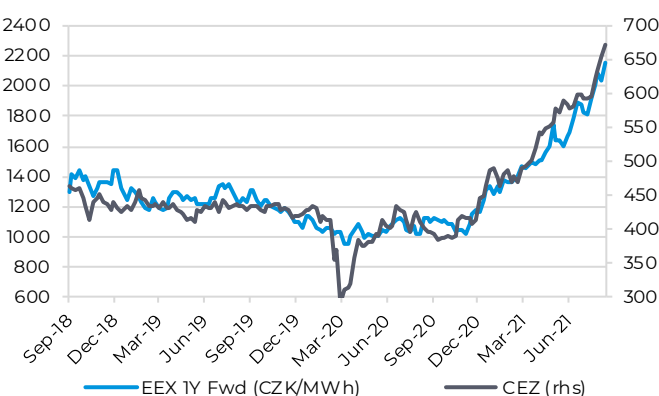
WIG-ENERGY vs. WIG P/E



PGE Performance vs. Power Prices ex. EUA



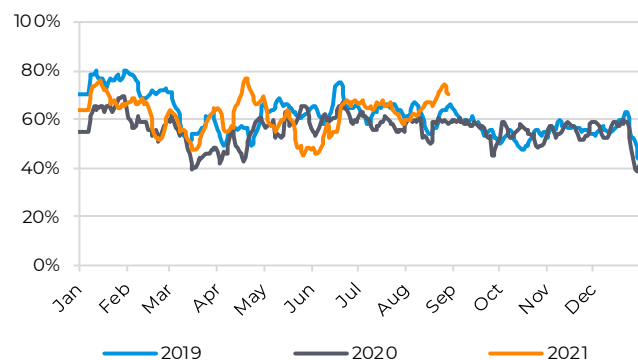
CEZ Performance vs. EEX Power Prices (CZK/MWh)



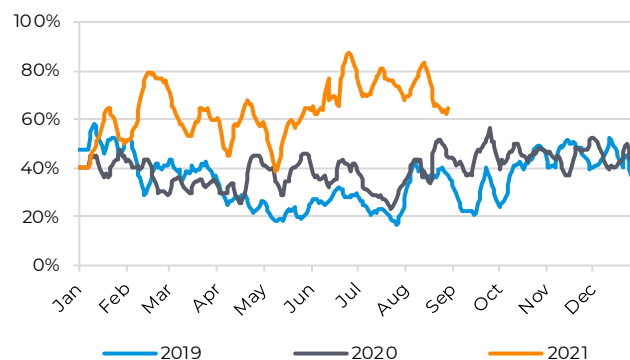
Source: Bloomberg, mBank

Utilities

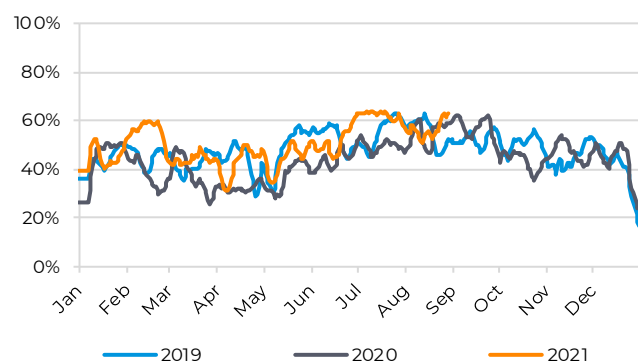
Load Factor, Bełchatów Power Station



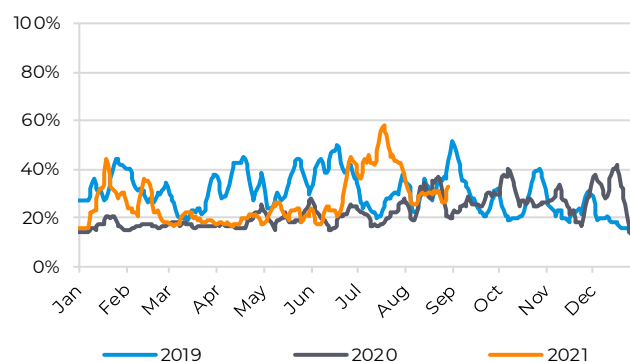
Load Factor, Turów Power Station



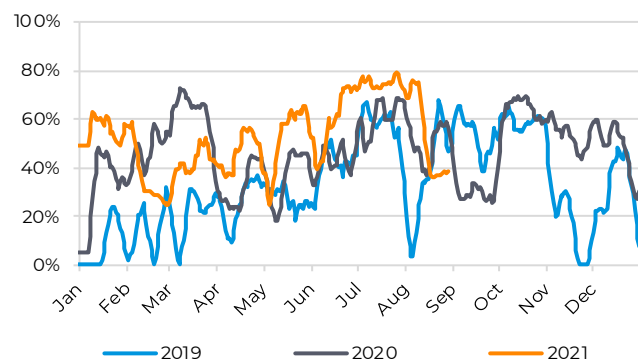
Load Factor, Kozienice Power Station



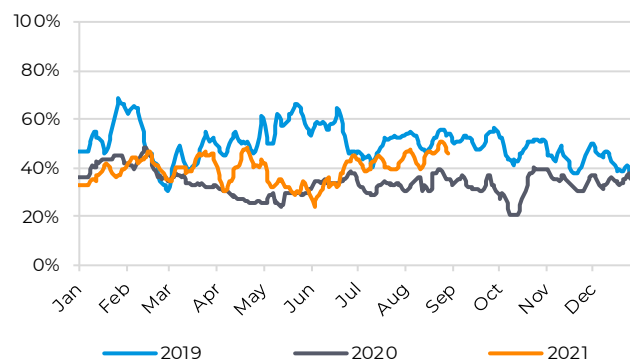
Load Factor, Jaworzno Power Station



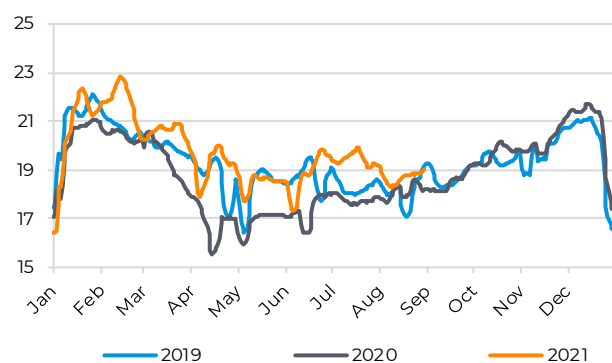
Load Factor, Opole Power Station, Blocks B5&B6



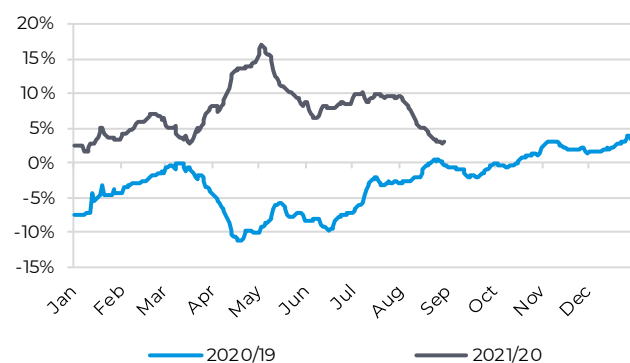
Load Factor, Połaniec Power Station



Actual Total Load of the Polish Power System (GW)



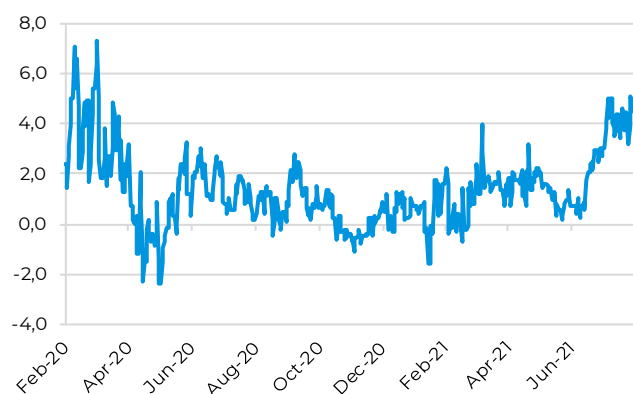
Polish Monthly Electricity Consumption (YoY Change)



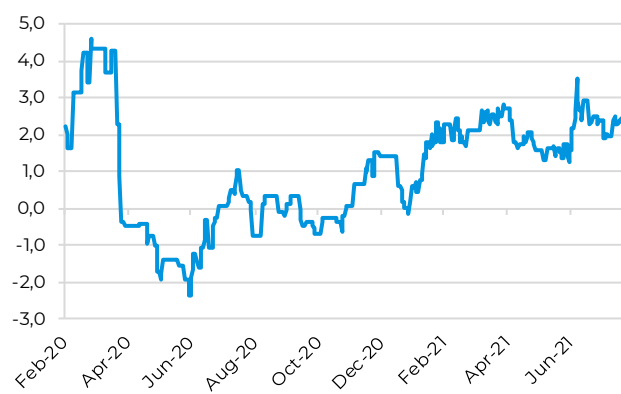
Source: PSE, mBank; Load factor = actual generation (7-day average) as a percentage of available capacity

Gas & Oil

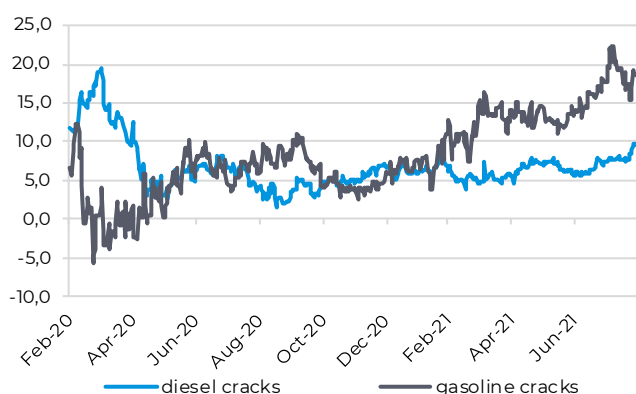
Refining Margins (US\$/bbl)



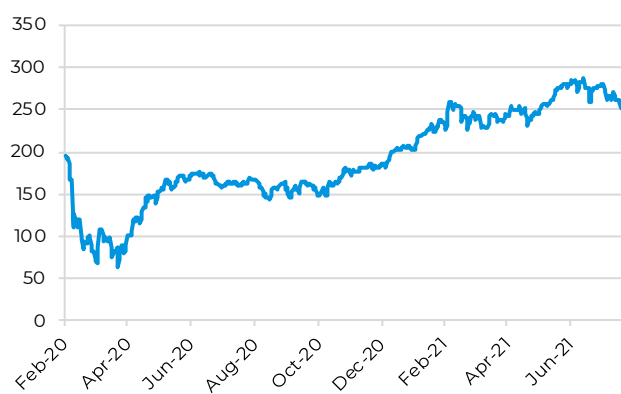
Urals/Brent Pricing Differential (US\$/bbl)



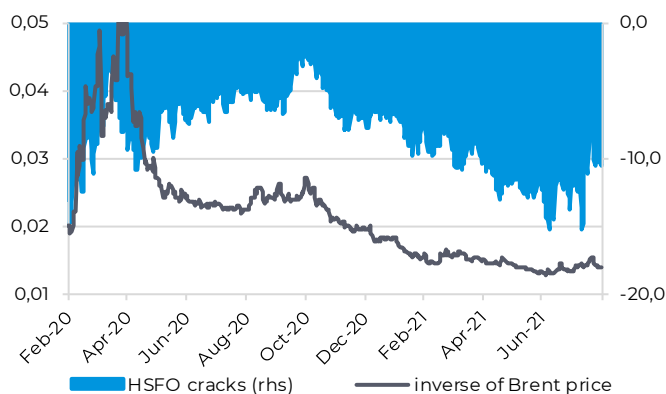
Cracking Margins on Diesel & Gasoline (US\$/bbl)



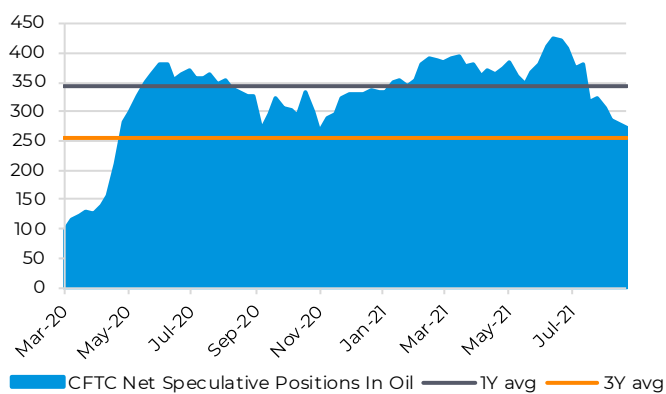
Price of Urals Crude (PLN/bbl)



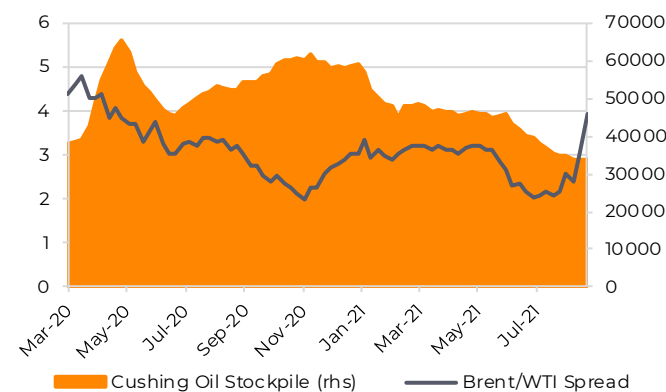
HSFO Cracks (US\$/bbl) vs. Inverse of Brent Price



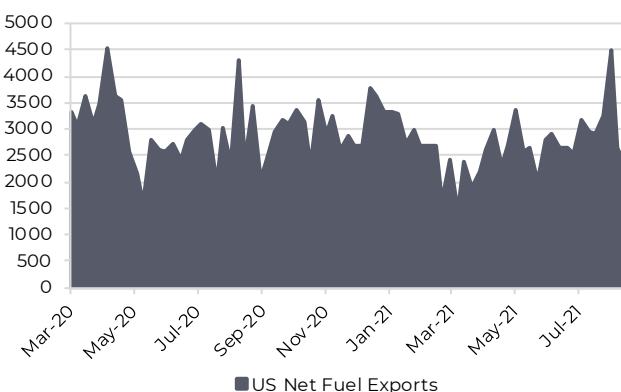
CFTC Net Speculative Positions In Oil



Brent/WTI Spread vs. Cushing Oil Stockpile



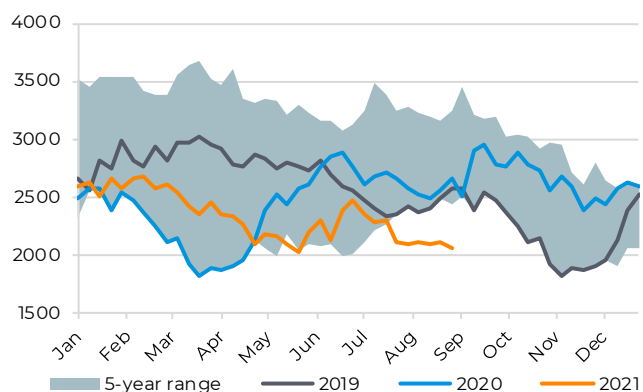
US Net Fuel Exports



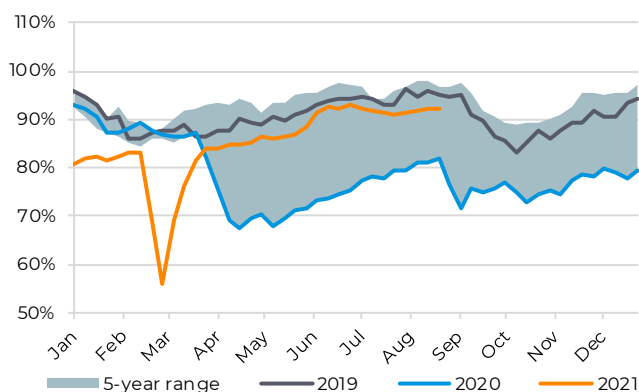
Source: Bloomberg, mBank

Gas & Oil

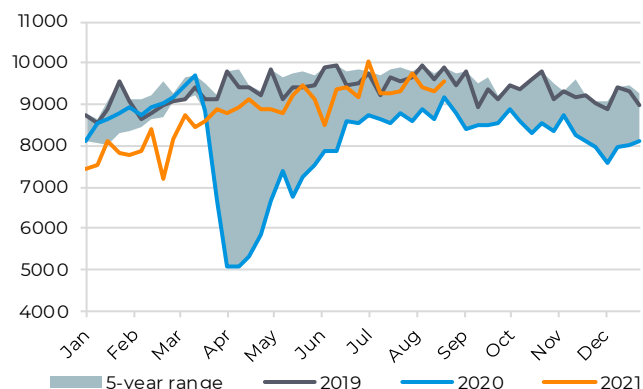
Diesel Inventories @ARA



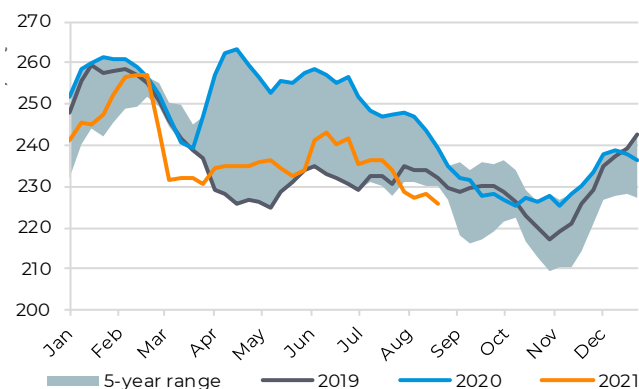
US Refinery Utilization Rates



US Gasoline Demand



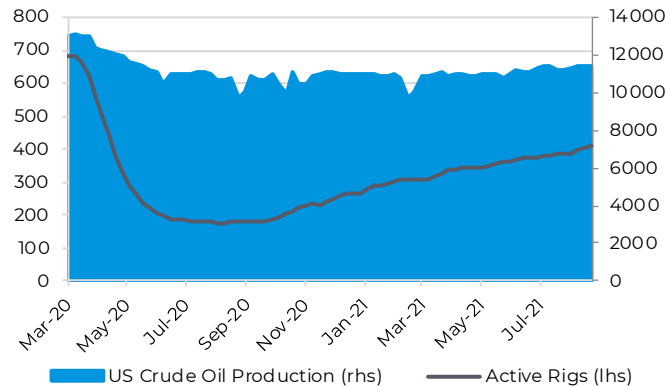
US Gasoline Inventories



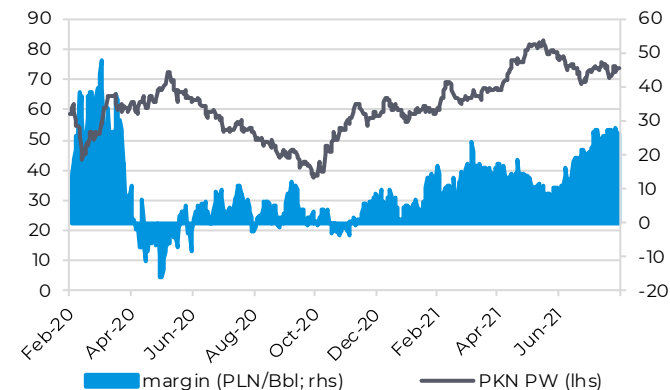
Global Refinery Outages (mbbl/d)



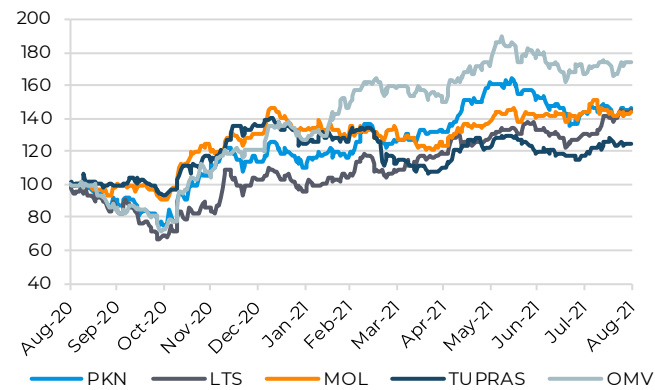
US Crude Oil Production (mboe/d) vs. Active Rigs



PKN Performance vs. Benchmark Margins



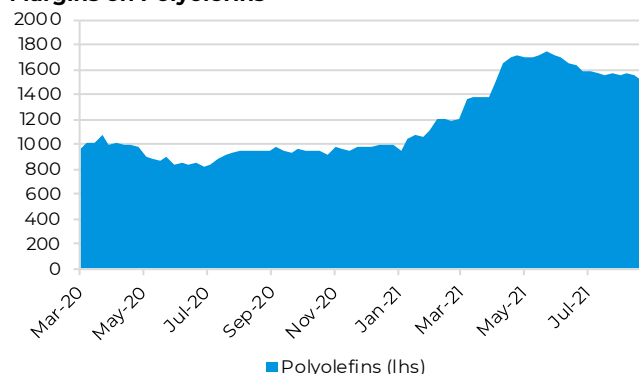
Normalized Oil Stock Chart



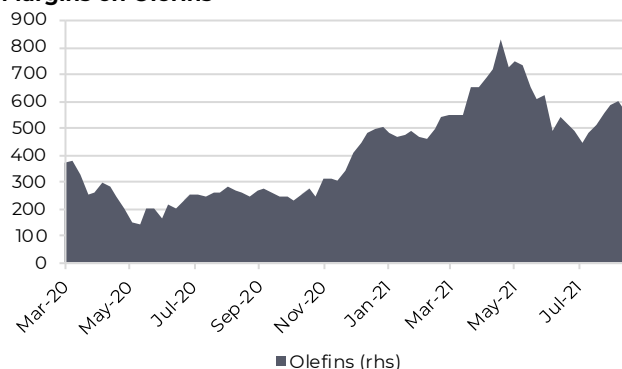
Source: Bloomberg, mBank

Petrochemicals & NatGas

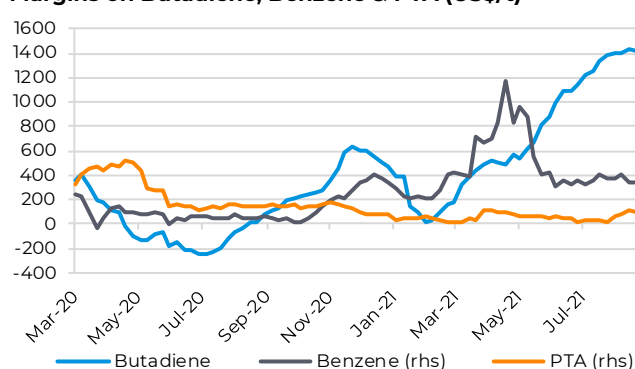
Margins on Polyolefins



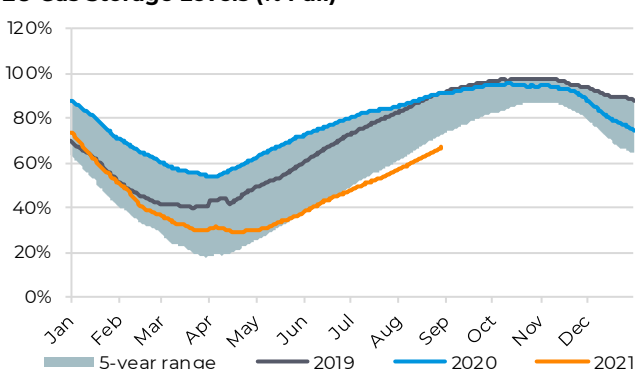
Margins on Olefins



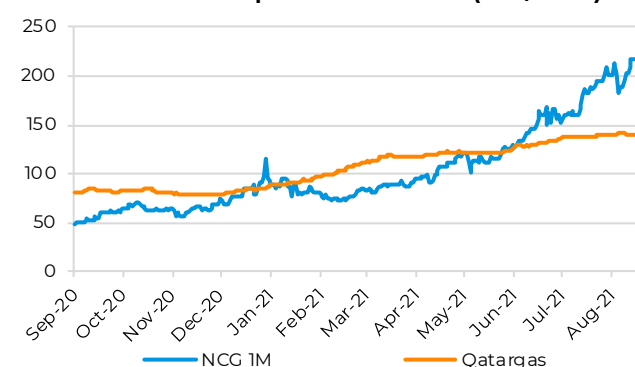
Margins on Butadiene, Benzene & PTA (US\$/t)



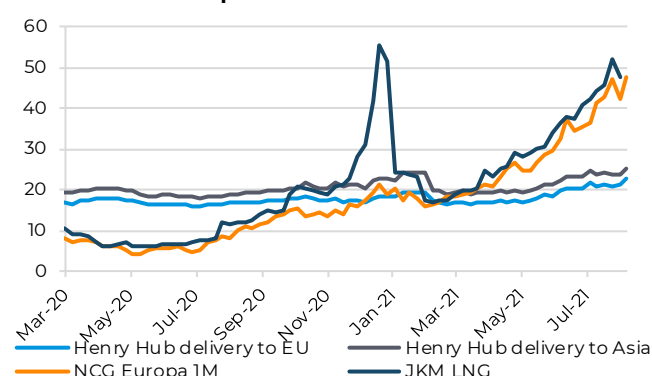
EU Gas Storage Levels (% Full)



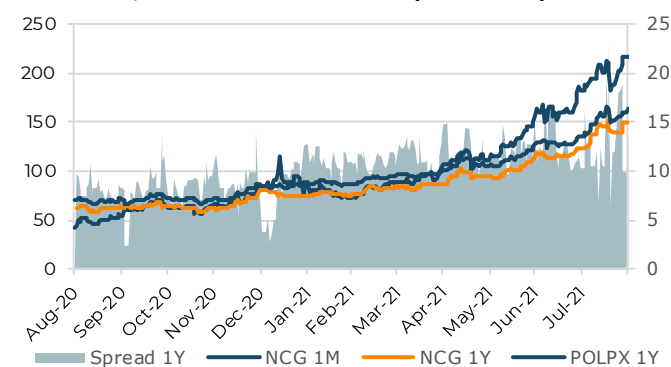
Estimated Costs of Imported Natural Gas (PLN/MWh)



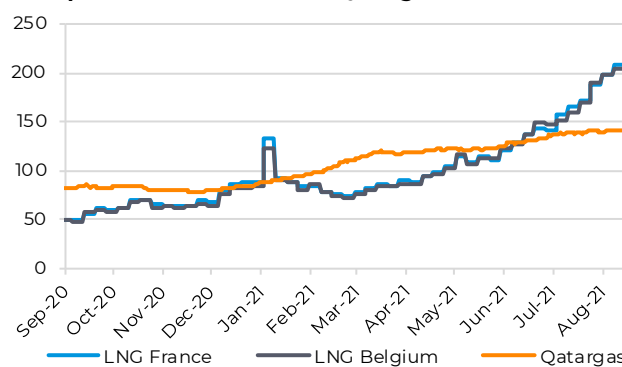
Prices of US LNG Exports to EU and Asia



NCG Prices, POLPX vs. Benchmarks (PLN/MWh)



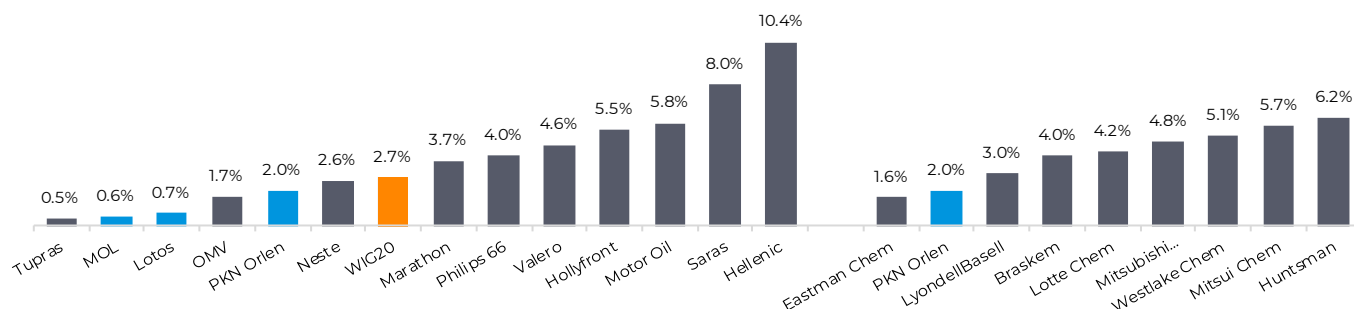
LNG Spot Rates vs. Estimated Qatargas rates



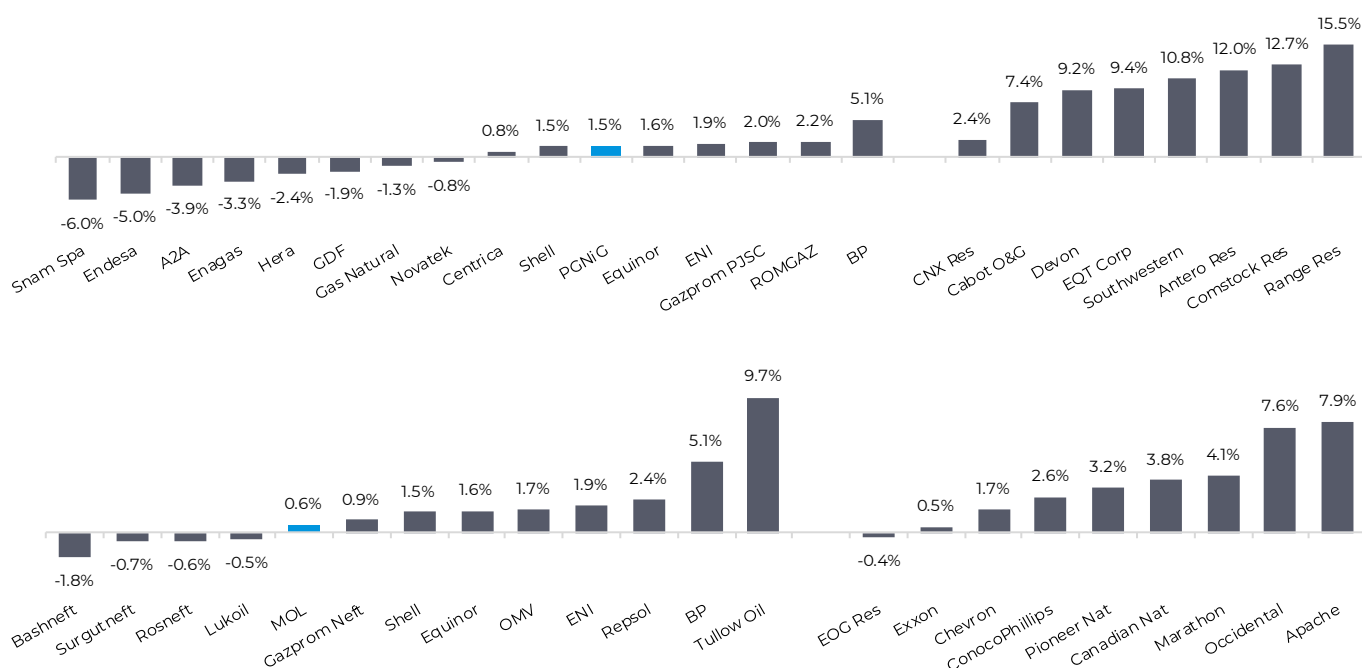
Source: Bloomberg, mBank

Weekly Performance Charts

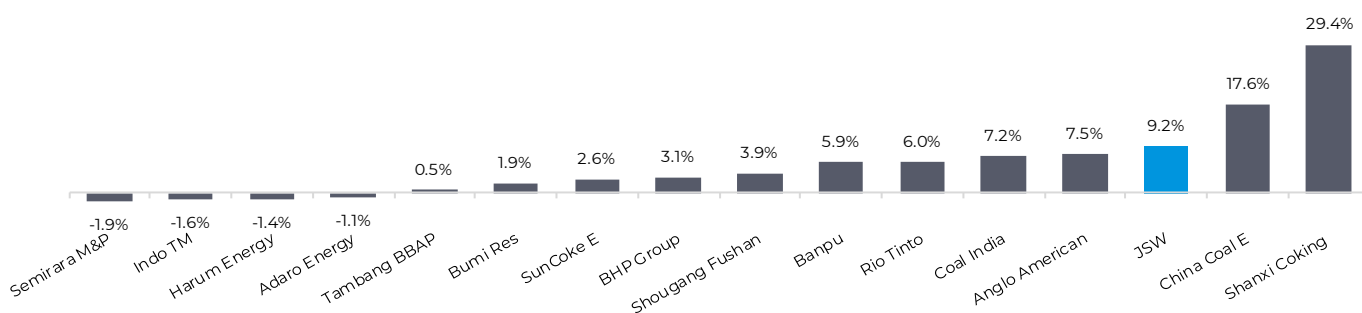
Oil Refiners (L) & Petrochemical Producers (R)



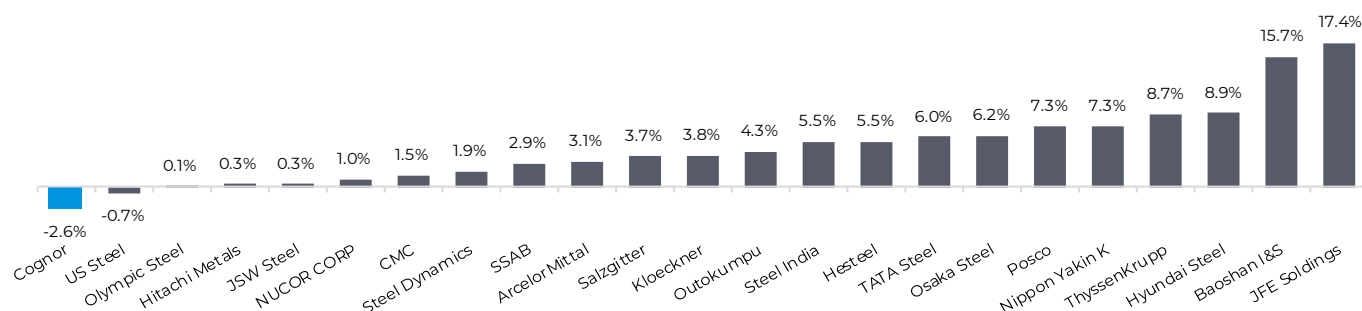
Natural Gas Companies



Coal Producers



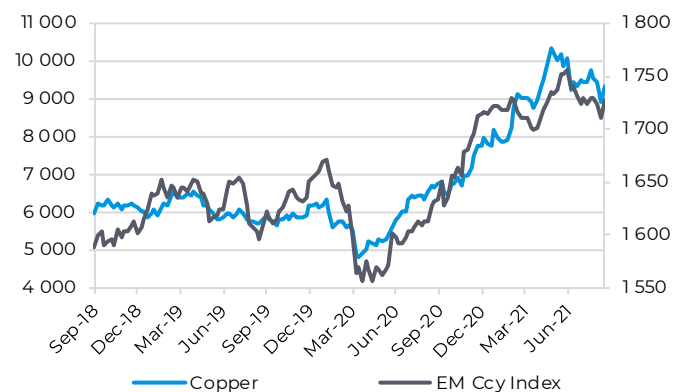
Steel Producers & Distributors



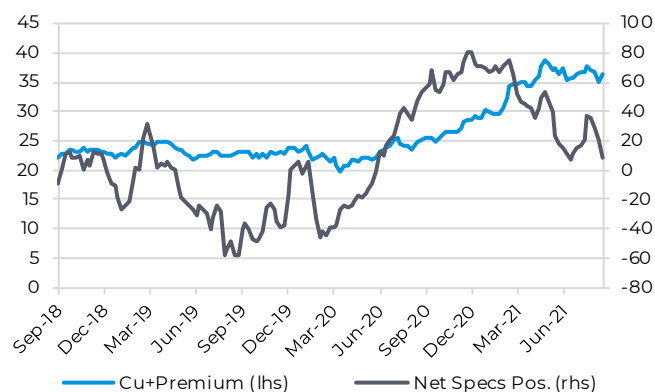
Source: Bloomberg, mBank

Copper Charts

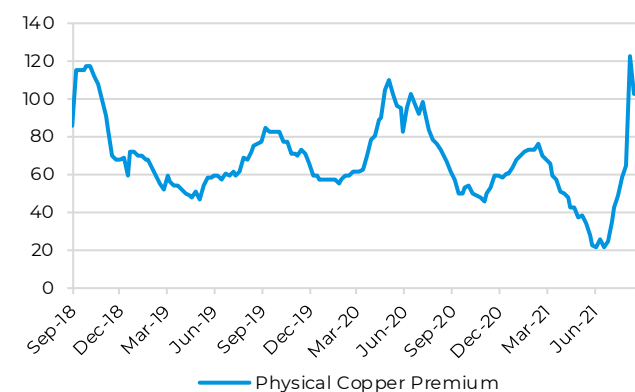
Cu Price (US\$/t) vs. EM Currencies (pts.; rhs)



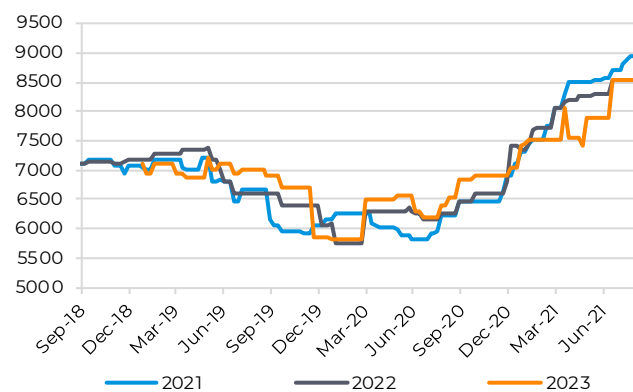
CU Price incl. Supplier Premium (PLN 1,000/t; lhs) vs. Net Speculative Positions (1,000, rhs)



Physical Copper Premiums (USD/t)



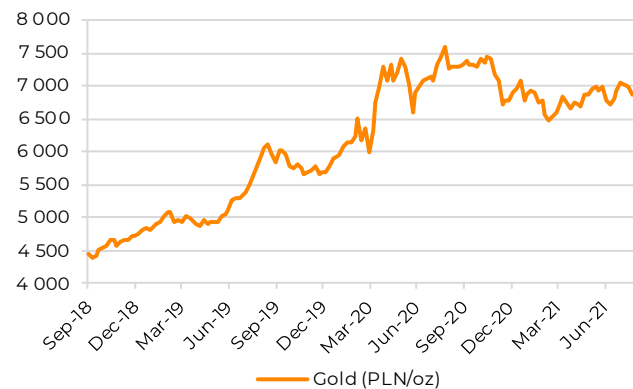
Copper Price Forecasts (median; US\$/t)



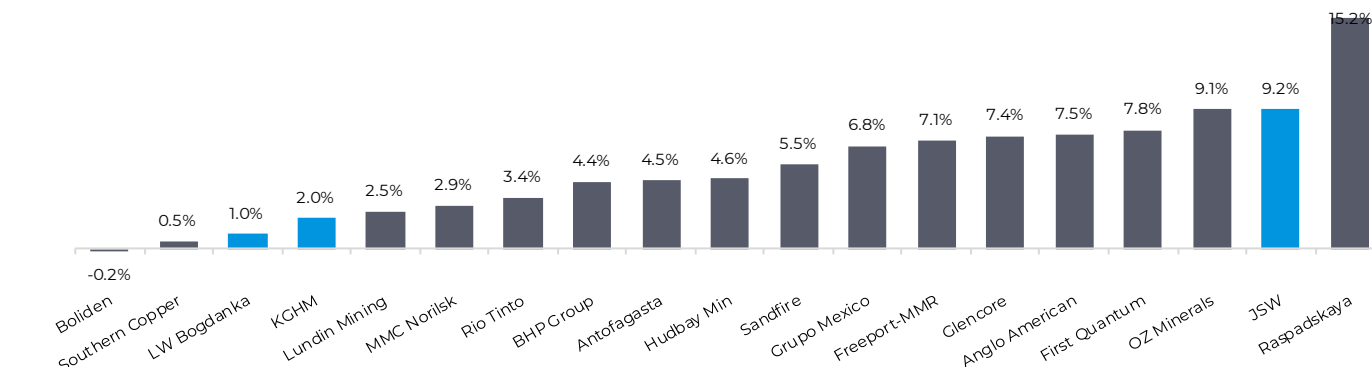
Silver prices (PLN/kg)



Prices of gold (PLN/oz)



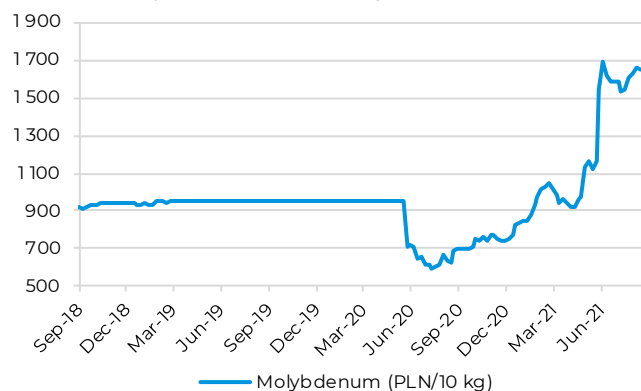
Weekly Returns of Metal & Mining Stocks



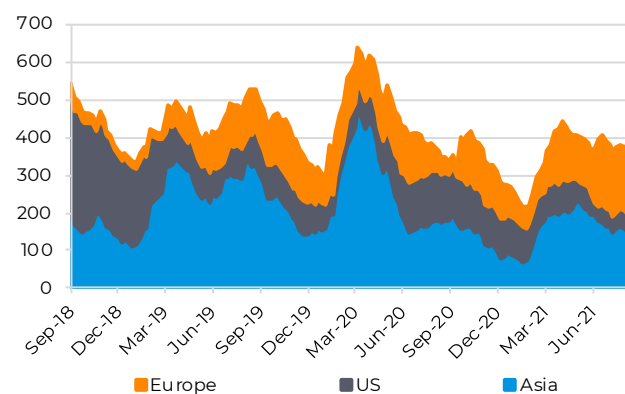
Source: Bloomberg, mBank

More Copper Charts

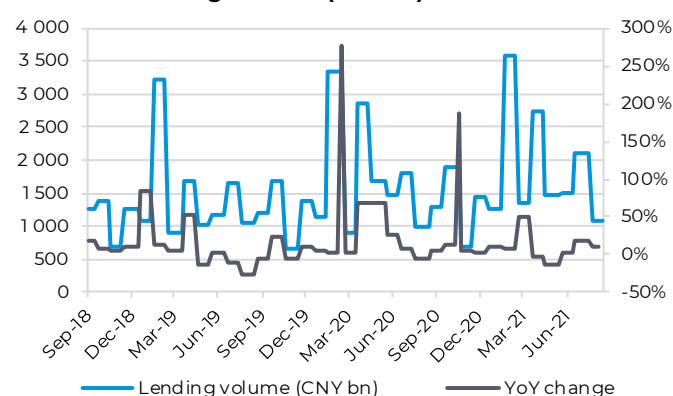
Prices of molybdenum (PLN/10 kg)



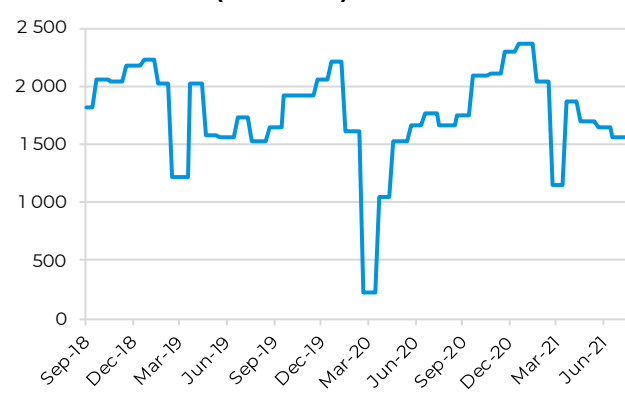
Global Copper Inventories (1,000t)



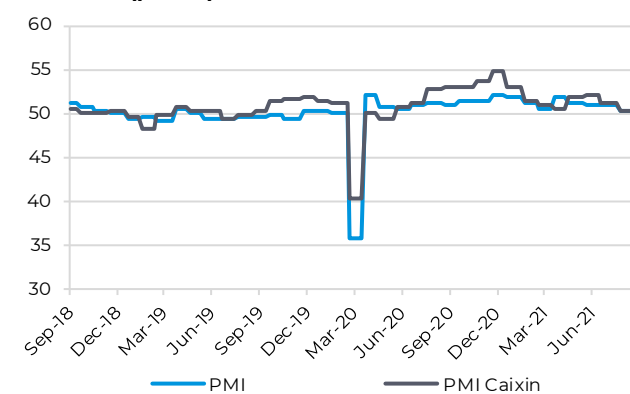
New Bank Lending in China (CNY bn)



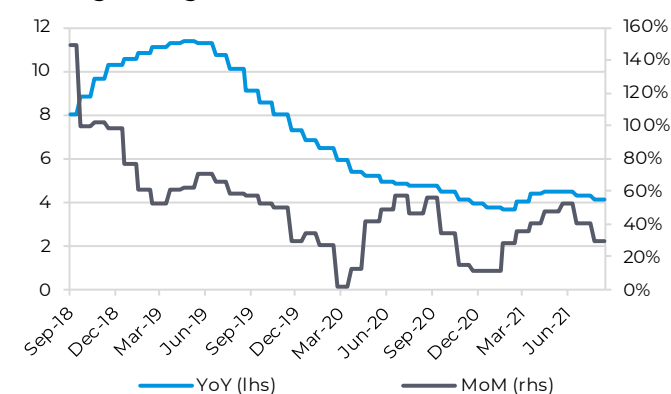
Car Sales in China (thousands)



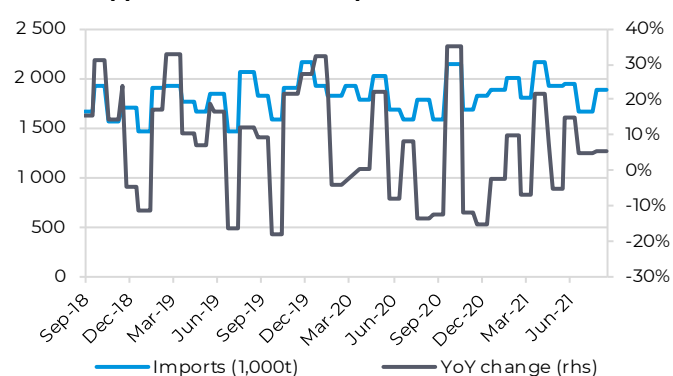
China PMI (points)



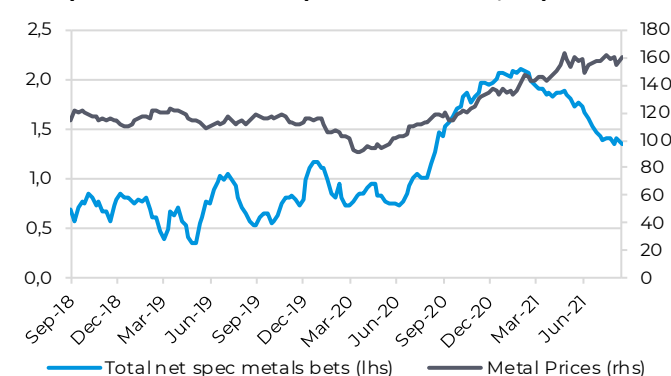
% Change In Avg. New Home Prices In 70 CN Cities



China Copper Concentrates Imports



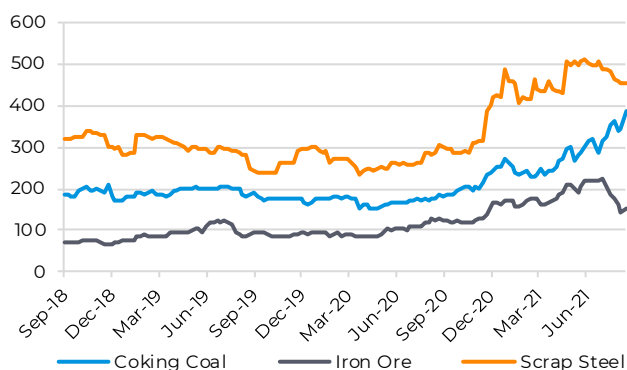
Metal Price Index (pts, rhs) vs. Net Speculative Positions (million contracts, lhs)



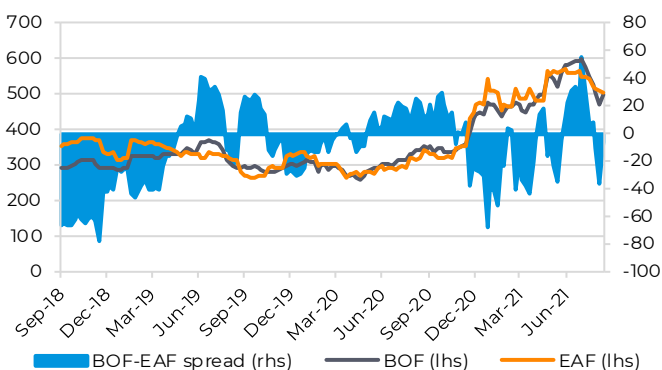
Source: Bloomberg, mBank

Steel Charts

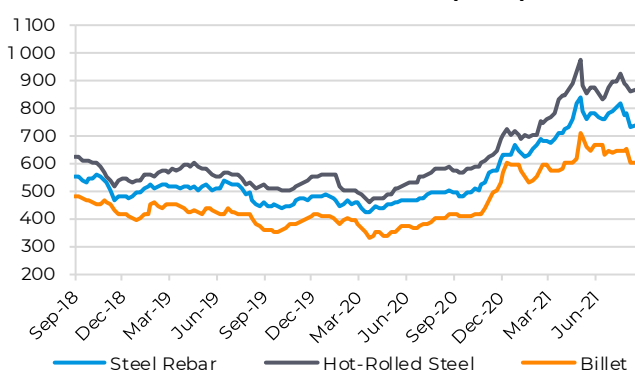
China Coking Coal & Iron Ore Prices, Rotterdam Scrap Steel Prices (US\$/t)



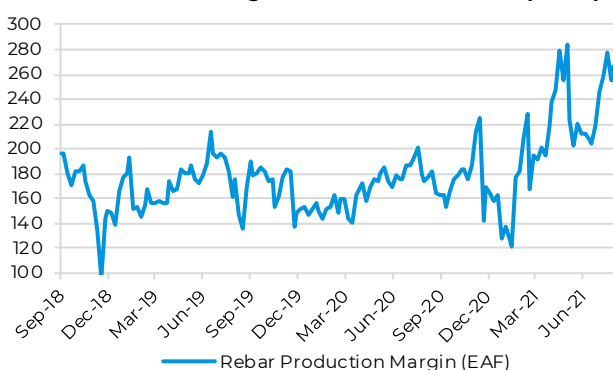
Production Costs of BOF vs. EAF Steel Producers (US\$/t)



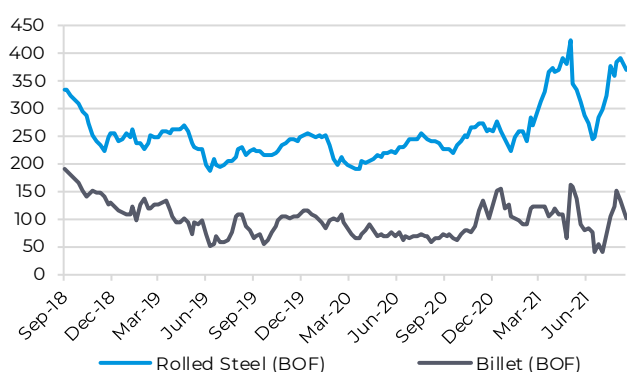
Prices of Steel Rebar & Hot-Rolled Steel (US\$/t)



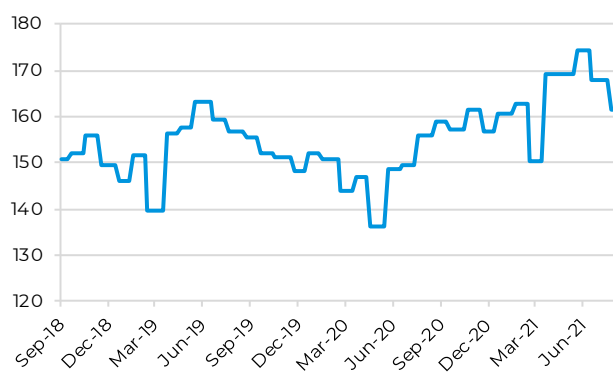
Rebar Production Margins of EAF Steelmakers (US\$/t)



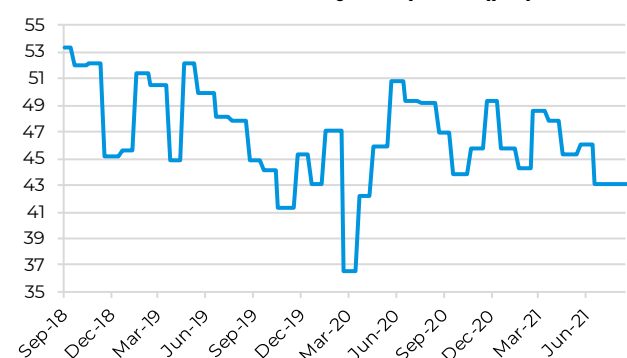
Rolled Steel & Billet Margins of BOF Steelmakers (US\$/t)



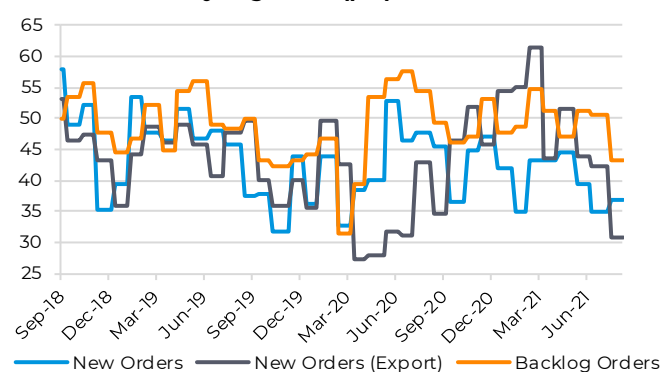
Global Steel Output (Mt)



China Steel PMI Index Industry Composite (pts)



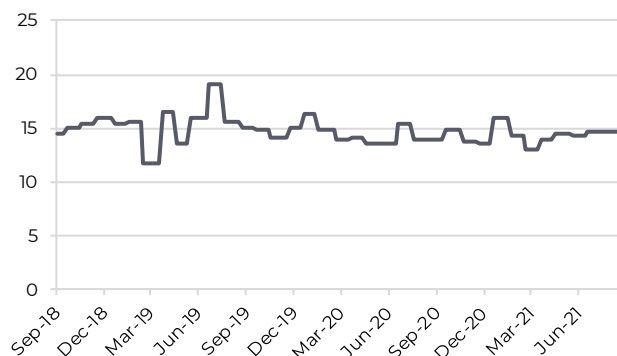
China PMI Index by Segments (pts)



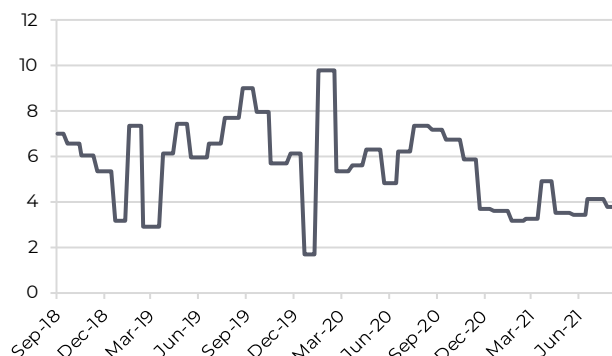
Source: Bloomberg, mBank

More Steel Charts

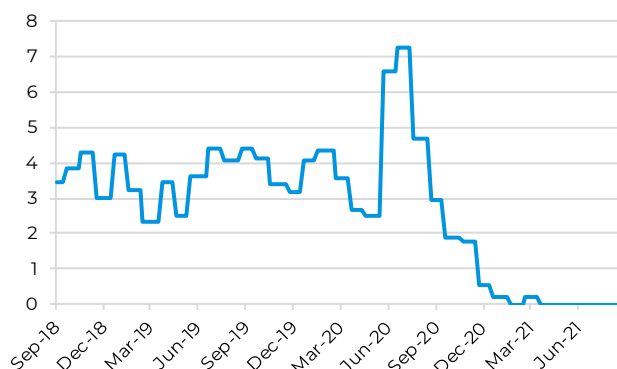
Australia Coking Coal Exports (mmt)



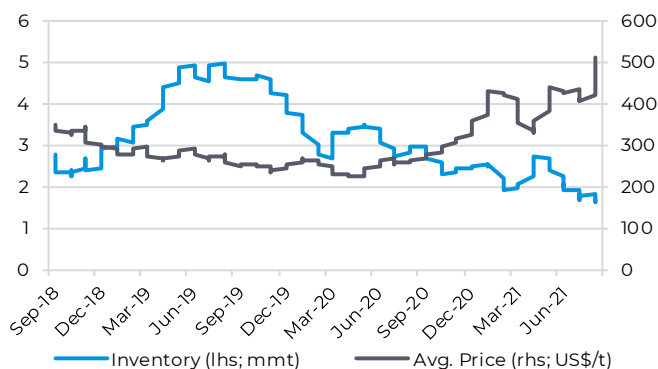
China Coking Coal Imports (mmt)



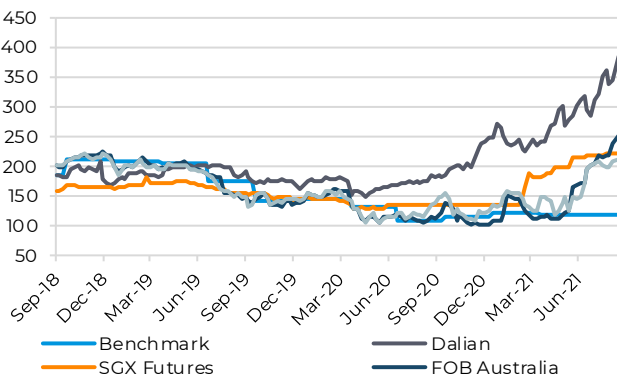
Australia Coking Coal Shipments To China (mmt)



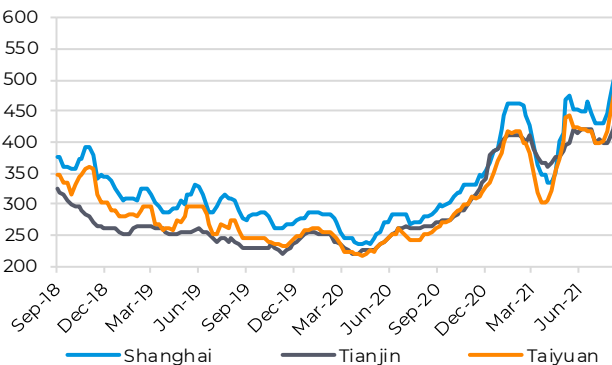
China Coke Inventories (lhs; mmt) & Average Prices (rhs; US\$/t)



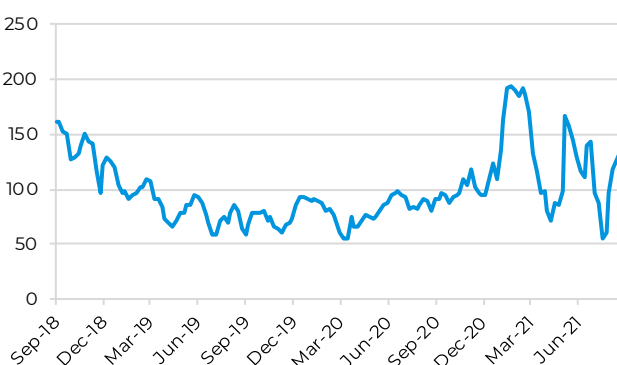
China Coking Coal Prices vs. Benchmark (US\$/t)



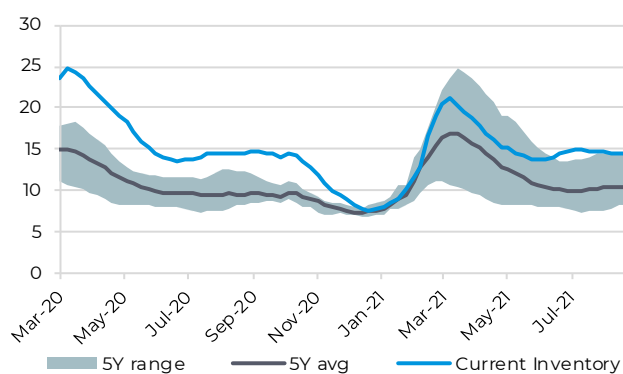
China Coke Prices (US\$/t)



Coking Coal-Coke Price Spread (US\$/t)



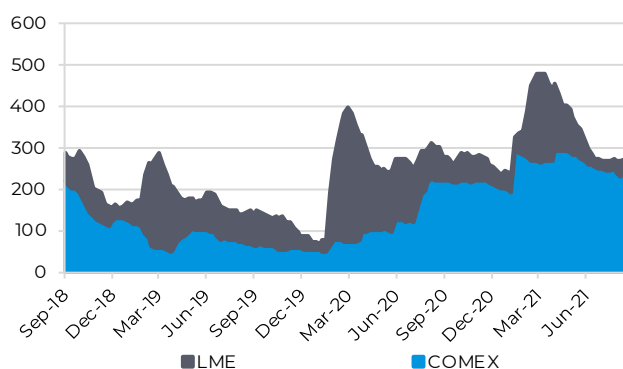
China Steel Inventory (mmt)



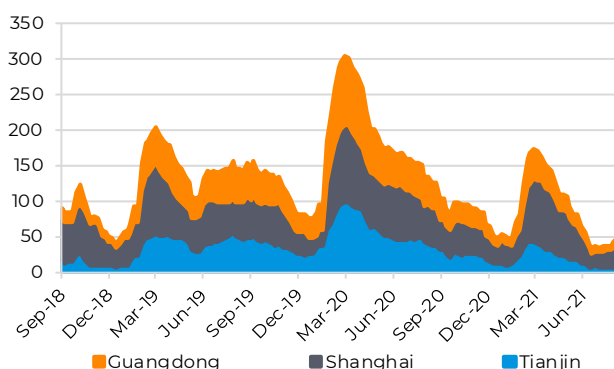
Source: Bloomberg, mBank

Zinc and Electrical Steel Charts

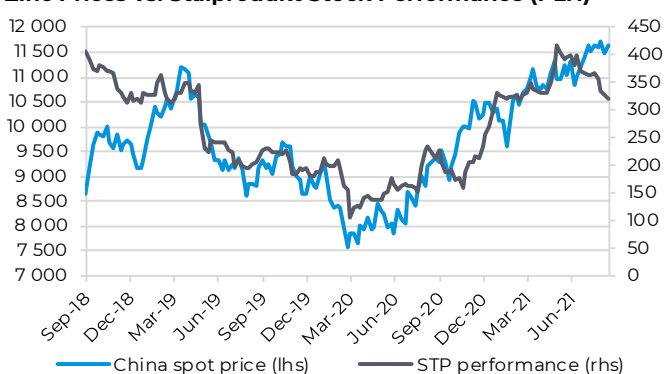
Exchange-Monitored Zinc Inventories (1,000t)



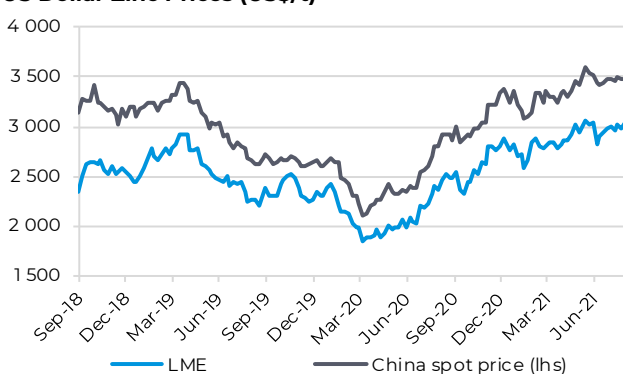
Zinc Inventories in Three Chinese Regions (1,000t)



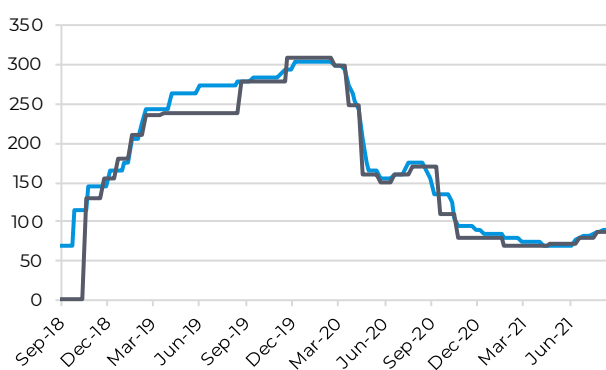
Zinc Prices vs. Stalprodukt Stock Performance (PLN)



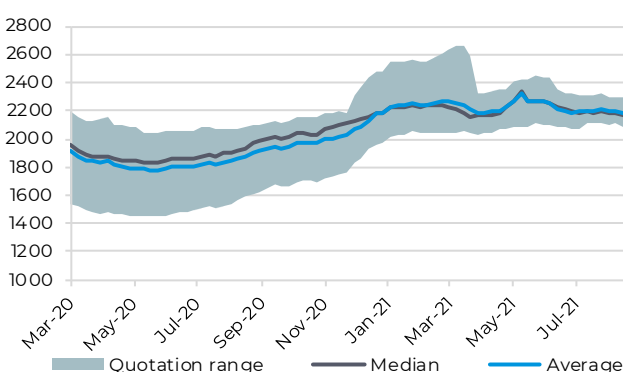
US Dollar Zinc Prices (US\$/t)



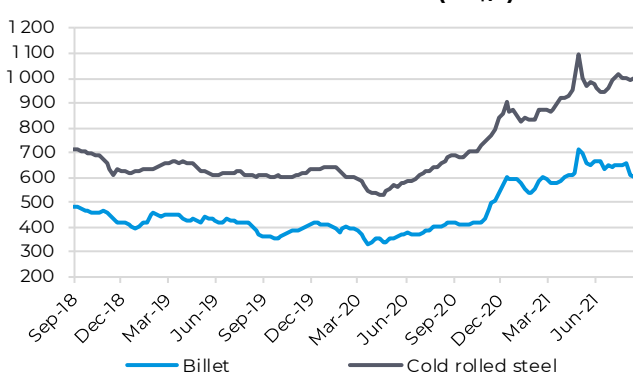
TC Premium Zinc (USD/t)



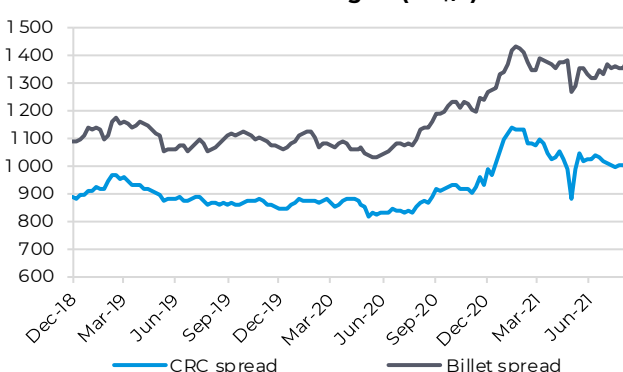
China Electrical Steel Prices (US\$/t)



Prices of Steel Billet & Cold Rolled Coil (US\$/t)



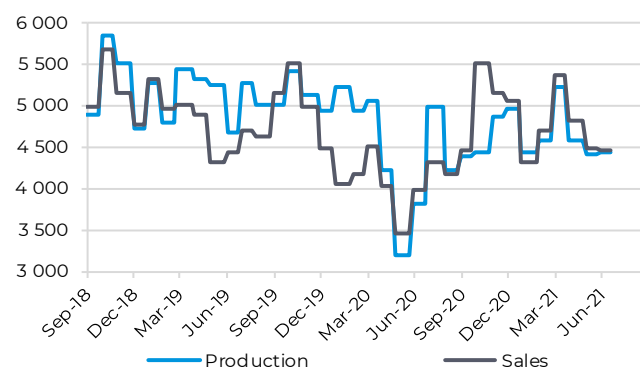
Electrical Steel Production Margins (US\$/t)



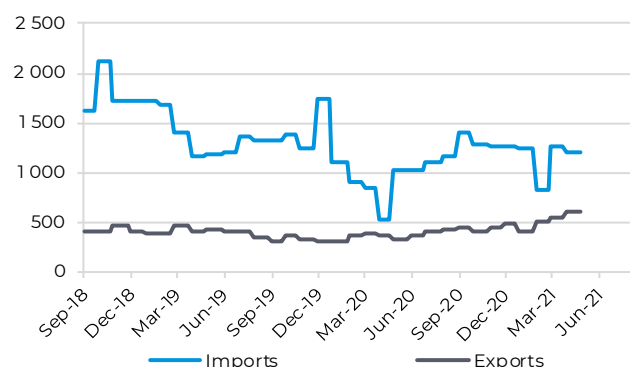
Source: Bloomberg, mBank

Thermal Coal Charts

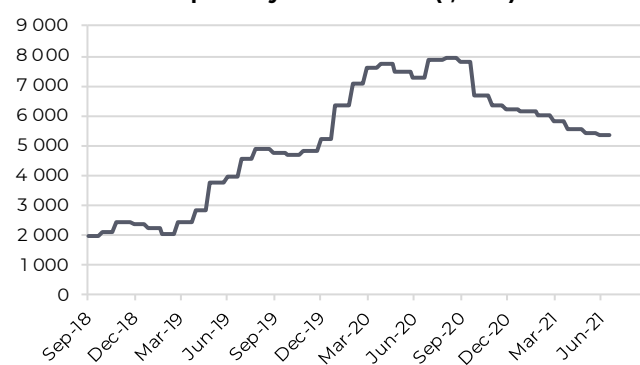
Hard Coal Production & Sales in Poland (1,000t)



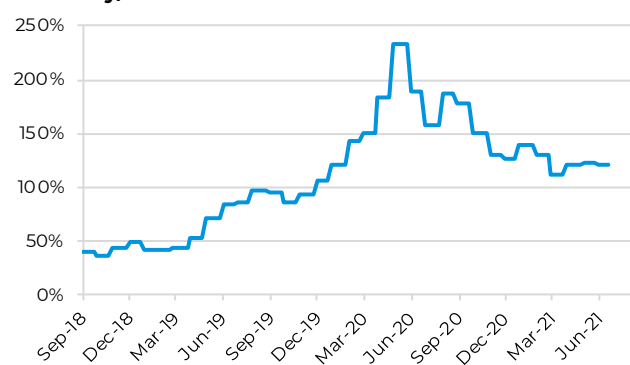
Poland Hard Coal Imports & Exports (1,000t)



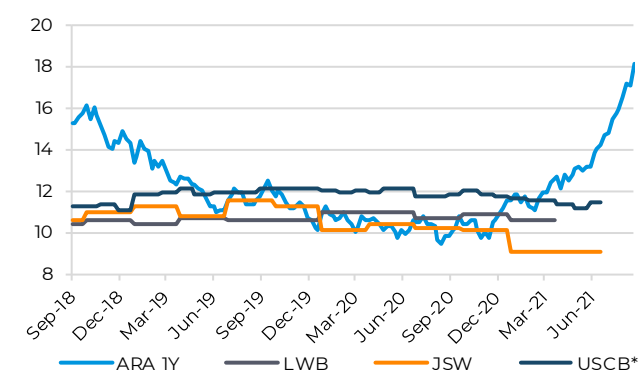
Hard Coal Stockpiled By Polish Mines (1,000t)



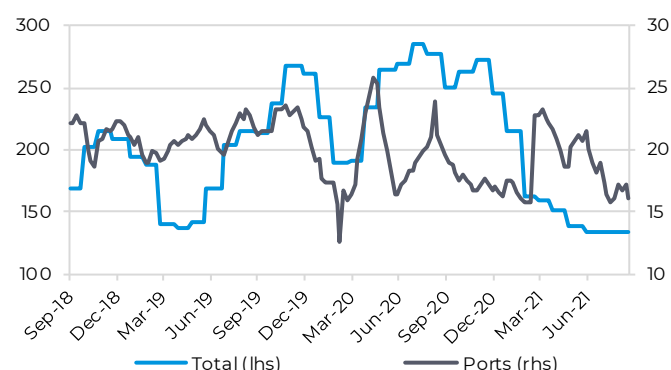
Inventory/ Production Ratio



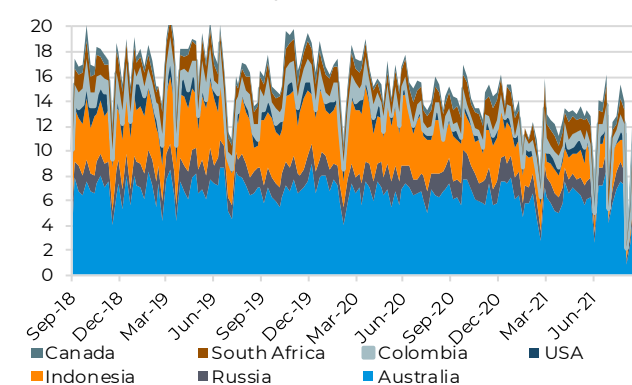
Thermal Coal Prices vs. Benchmarks (PLN/GJ)



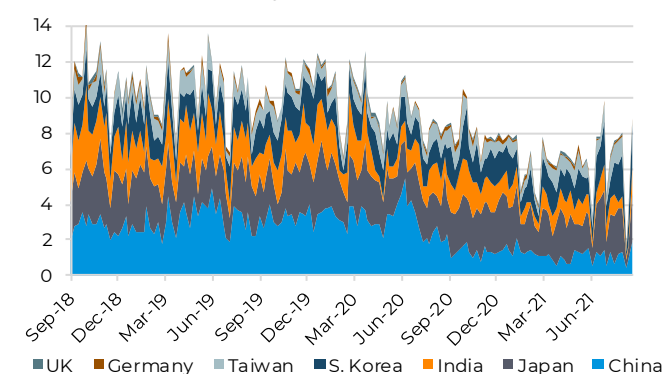
China Thermal Coal Inventories, Total & In Ports (mmt)



Thermal Coal Exports By Top Producers (mmt)



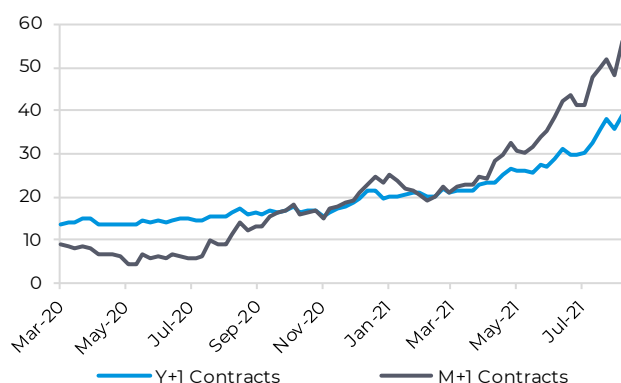
Thermal Coal Imports by Top Importers (mmt)



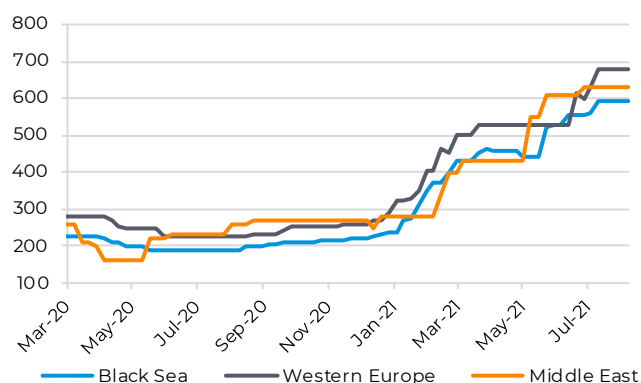
Source: Bloomberg, ARP, Eurostat, mBank *Upper Silesian Coal Basin

Fertilizer Charts

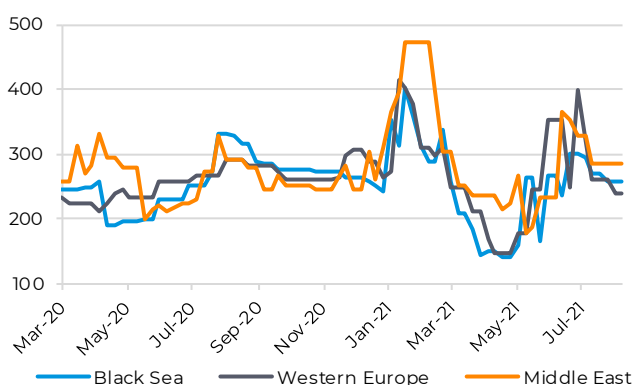
German NatGas Prices (US\$/MWh)



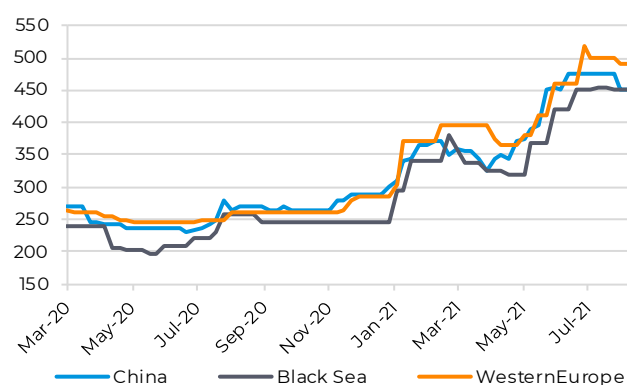
World Ammonia Prices (US\$/t)



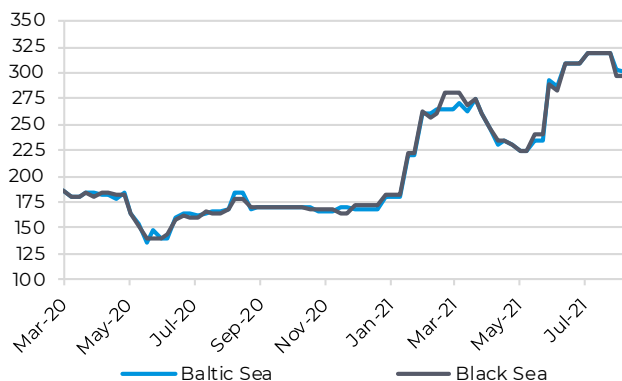
Urea-Ammonia Price Difference



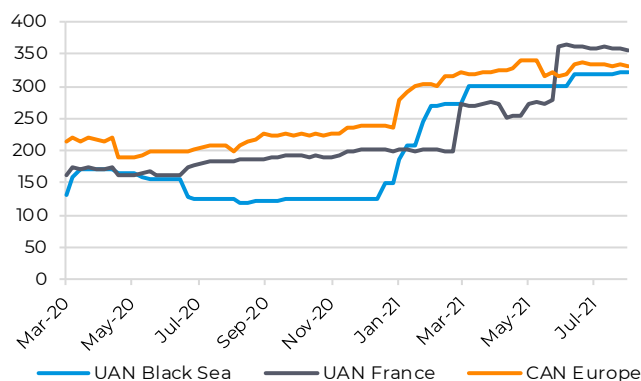
World Urea Prices (US\$/t)



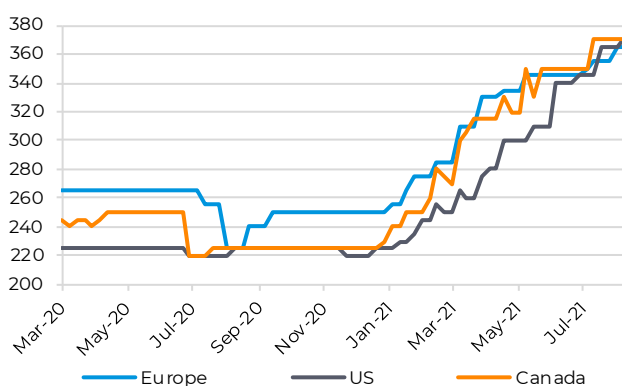
World Ammonium Nitrate Prices (US\$/t)



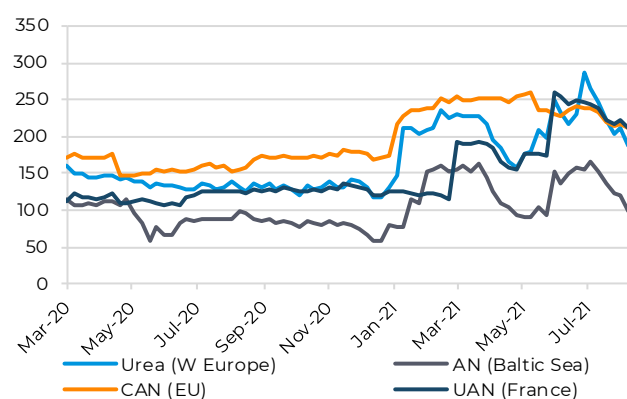
CAN & UAN prices (US\$/t)



World Ammonium Sulfate Prices (US\$/t)



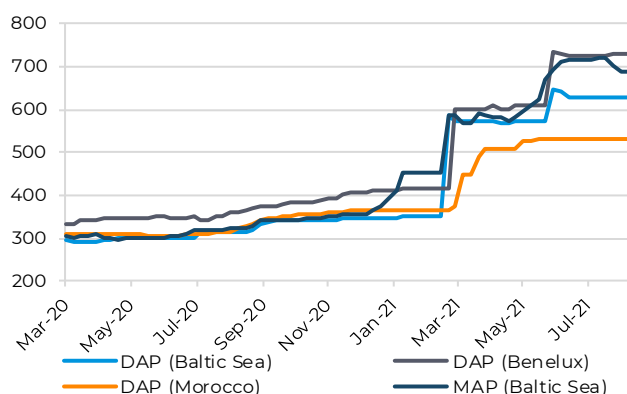
Production Margins On Nitrogen Fertilizers (US\$/t)



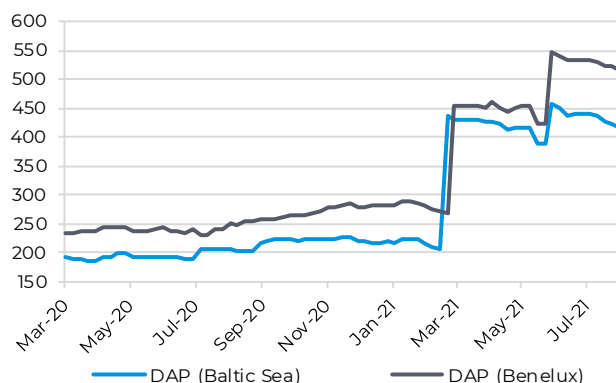
Source: Bloomberg, mBank

Fertilizer Charts

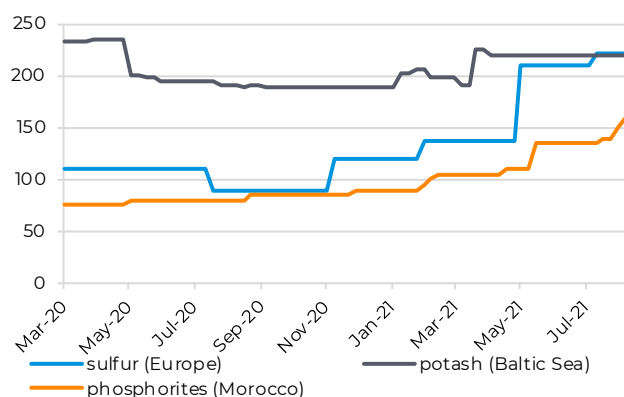
Prices of P & K Fertilizers (US\$/t)



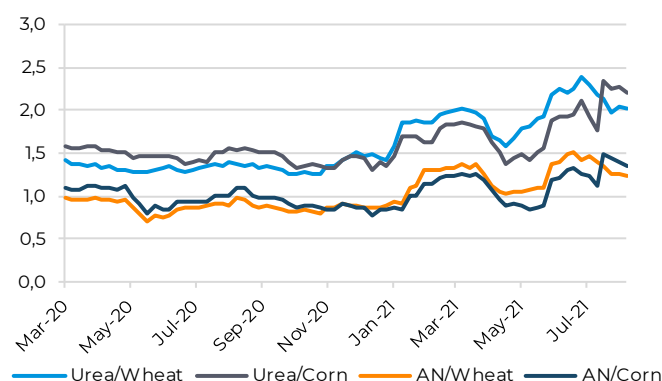
Production Margins on P & K Fertilizers (US\$/t)



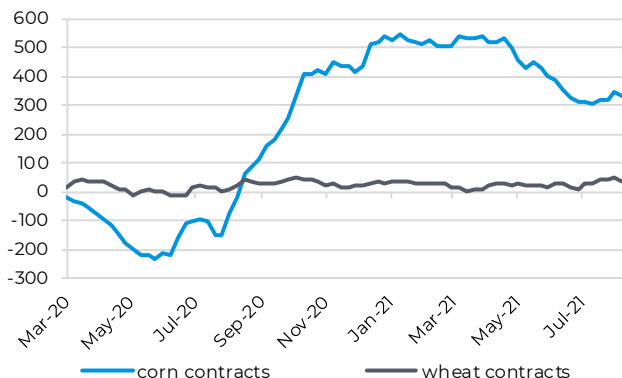
Prices of Sulfur, Potash & Phosphorites (US\$/t)



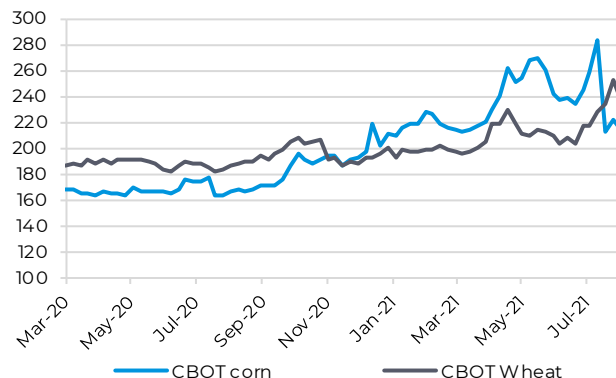
Fertilizer-to-Crop Price Ratios



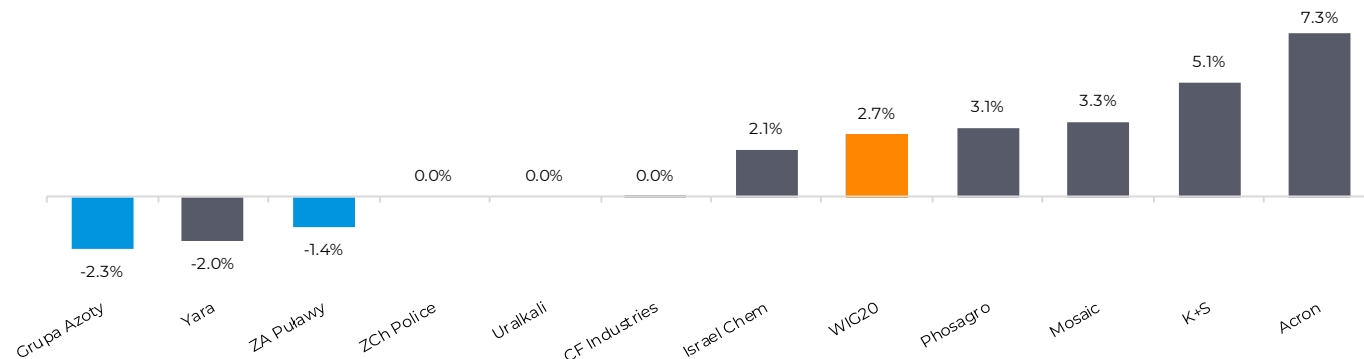
CBOT Open Positions In Corn and Wheat CBT



CBOT Corn and Wheat Prices (US\$/t)



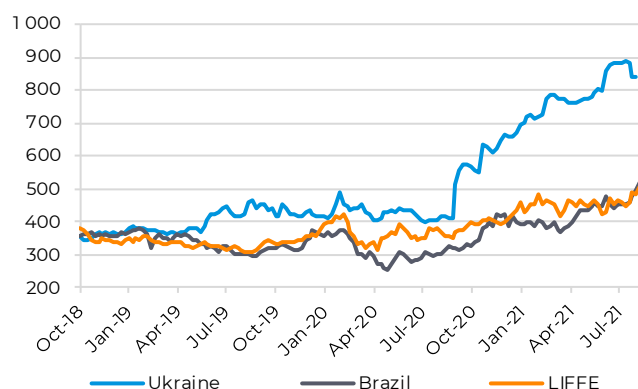
Weekly Returns of Fertilizer Stocks



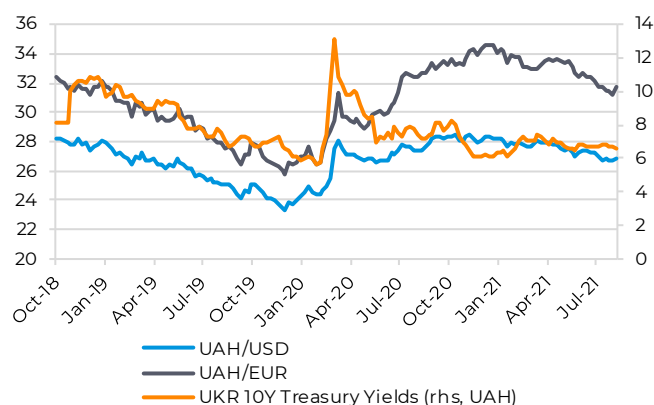
Source: Bloomberg, mBank

Agricultural Commodities

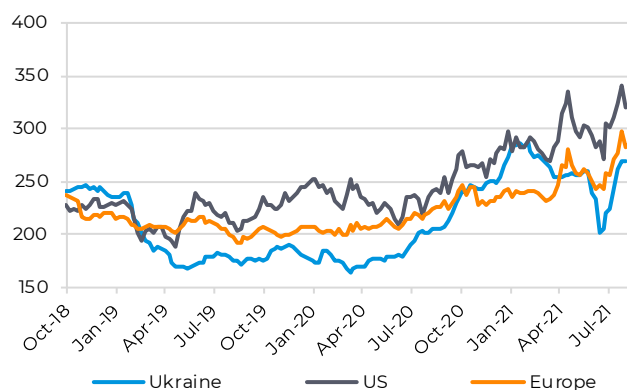
Sugar Prices (US\$/Mt)



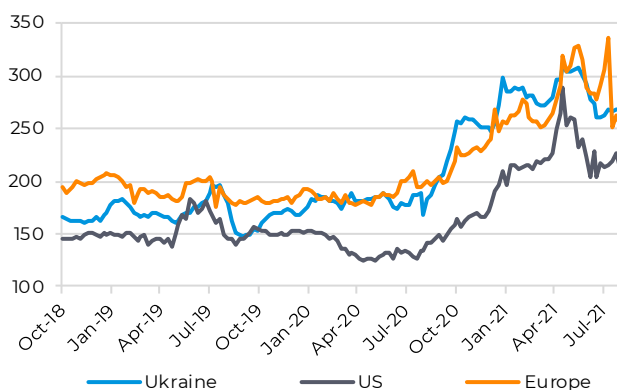
UAH Exchange Rates & Ukraine 10Y Treasury Yields



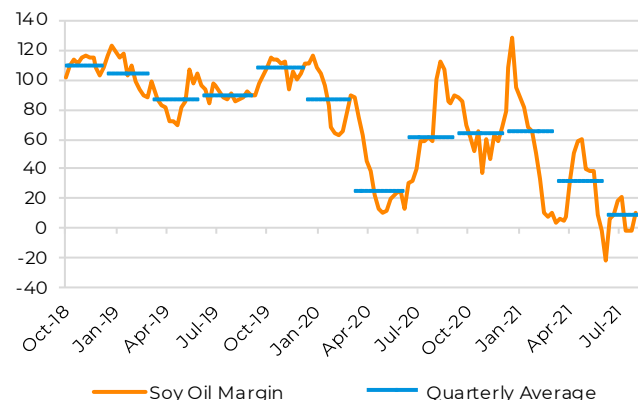
Wheat Prices (US\$/Mt)



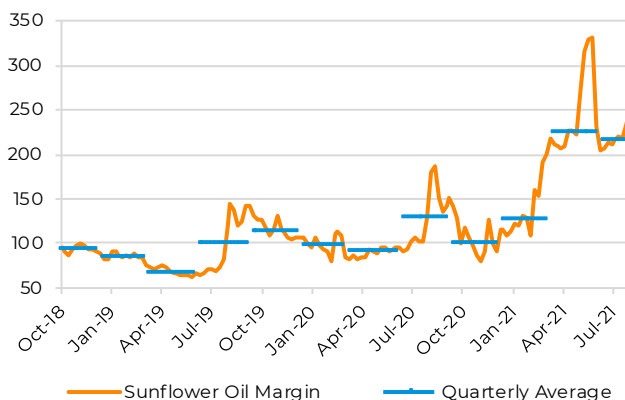
Corn Prices (US\$/Mt)



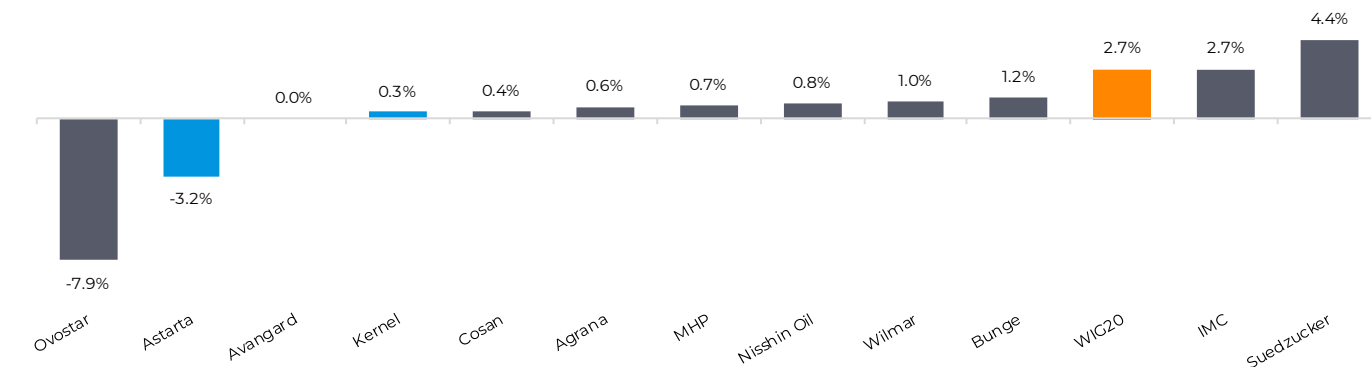
Model Margins on Soy Oil (US\$/Mt)



Model Margins on Sunflower Oil (US\$/Mt)



Weekly Returns of Agricultural Stocks



Source: Bloomberg, mBank

Power generation company valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Power generation																
CEZ	678.0	8.4	8.1	7.8	2.5	2.7	2.6	20.1	16.9	15.6	30%	34%	33%	7.7%	5.0%	5.9%
Enea	9.8	3.3	3.1	2.9	0.7	0.5	0.4	3.9	4.8	4.7	20%	15%	15%	0.0%	0.0%	4.2%
PGE	9.9	3.5	3.7	3.5	0.6	0.4	0.4	10.2	44.6	19.7	17%	10%	11%	0.0%	0.0%	1.1%
Tauron	3.6	4.9	5.2	5.0	1.1	0.9	0.8	4.8	6.7	6.2	21%	17%	17%	0.0%	0.0%	0.0%
ZE PAK*	9.2	5.1	4.4	2.9	0.3	0.3	0.3	-	-	-	5%	6%	9%	-	-	-
median		4.9	4.4	3.5	0.7	0.5	0.4	7.5	11.8	10.9	20%	15%	15%	0.0%	0.0%	2.6%
Vertically Integrated Utilities																
EDF	11.46	4.9	4.4	4.1	1.2	1.1	1.0	54.6	9.7	8.7	0.2	25%	25%	2%	4.7%	5.4%
EDP	4.616	10.0	10.0	9.5	3.1	2.6	2.5	22.0	19.7	18.3	0.3	26%	26%	4%	4.3%	4.4%
Endesa	20.1	7.5	7.1	6.9	1.7	1.5	1.4	15.2	12.6	12.3	0.2	20%	21%	6%	5.5%	5.7%
Enel	7.748	9.3	7.5	7.1	2.3	2.0	1.9	29.8	13.5	12.5	0.2	27%	27%	5%	5.2%	5.6%
Engie	12.08	10.3	5.6	5.4	1.0	1.0	1.0	-	11.1	10.5	0.1	18%	19%	4%	6.5%	6.8%
Fortum	25.64	12.6	10.9	10.5	0.7	0.5	0.5	15.2	15.6	16.5	0.1	5%	5%	4%	4.5%	4.6%
median		9.7	7.3	7.0	1.5	1.3	1.2	22.0	13.0	12.4	24%	23%	23%	4.4%	4.9%	5.5%
Transmission System Operators																
EON	11.1	10.1	8.2	8.3	1.0	1.0	0.9	28.4	12.4	12.3	10%	12%	11%	4.2%	4.6%	4.8%
Elia Group	106.0	14.4	12.6	11.7	5.6	5.3	5.1	31.7	26.5	24.2	39%	42%	44%	1.6%	1.7%	1.7%
EVN	22.0	0.2	8.2	7.8	0.0	2.5	2.4	0.9	22.7	21.0	18%	31%	31%	100%+	1.9%	1.9%
IREN	2.6	7.1	6.7	6.4	1.7	1.6	1.5	13.5	12.5	11.5	23%	24%	24%	3.8%	4.2%	4.6%
National Grid	9.4	13.7	11.2	10.0	4.2	4.0	3.9	20.1	15.8	14.0	31%	36%	39%	5.2%	5.4%	5.5%
Red Electrica	17.1	10.8	10.2	10.1	8.0	7.9	7.8	14.9	13.1	13.1	74%	78%	78%	5.0%	5.9%	5.2%
Redes Energeticas	2.5	9.1	9.1	9.0	5.6	5.6	5.5	14.0	14.0	14.0	62%	61%	61%	6.6%	6.8%	6.7%
SSE	16.2	8.1	12.0	11.7	3.8	3.0	3.4	7.4	17.5	16.8	48%	25%	29%	5.0%	5.1%	5.3%
Terna	6.7	12.4	12.6	12.0	8.9	8.9	8.6	17.1	17.8	16.6	72%	71%	72%	4.3%	4.6%	5.1%
median		10.1	10.2	10.0	4.2	4.0	3.9	14.9	15.8	14.0	39%	36%	39%	4.7%	4.6%	5.1%

Renewable energy company valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Renewables																
Polenergia	71.0	14.1	13.9	10.6	1.8	1.5	1.5	26.9	27.8	17.7	12%	11%	14%	0.0%	0.0%	0.0%
Wind																
Abo Wind	48.6	0.3	10.5	9.7	0.1	2.1	1.9	18.9	23.0	20.5	18%	20%	20%	2.2%	1.0%	1.0%
Avangrid	54.8	1.4	10.8	9.8	0.3	3.9	3.7	2.3	23.0	22.2	18%	36%	37%	100%+	3.3%	3.3%
Boralex	38.3	14.4	13.5	12.5	10.8	10.2	9.4	76.8	50.4	37.4	76%	75%	75%	1.7%	1.7%	1.8%
Edp Renovaveis	21.5	16.5	15.3	13.9	14.1	12.6	11.4	41.5	36.9	32.4	85%	83%	82%	0.5%	0.5%	0.6%
Eolus Vind	194.7	18.0	22.1	7.5	1.1	2.1	0.7	23.1	35.1	10.5	6%	9%	9%	0.4%	1.0%	1.4%
Falck Renewables	6.9	0.1	12.5	11.8	0.0	6.2	6.0	0.3	36.5	32.4	18%	50%	51%	100%+	1.0%	1.0%
Iberdrola	10.5	13.1	10.5	9.8	3.8	3.2	3.0	18.9	16.2	15.4	29%	30%	31%	3.1%	4.4%	4.7%
Orsted	1001.5	19.3	18.7	17.8	7.5	7.4	7.0	42.7	45.7	45.5	39%	39%	39%	1.2%	1.3%	1.4%
PNE	7.4	28.8	18.9	13.6	5.2	5.3	4.0	-	100+	89.2	18%	28%	30%	0.5%	0.5%	0.5%
Terna Energy	12.3	12.3	12.3	8.3	7.8	7.2	5.2	66.5	24.6	16.5	63%	59%	63%	2.9%	3.0%	3.2%
Tilt Renewables	8.0	26.8	31.2	30.9	25.8	18.5	18.4	44.8	100+	84.3	96%	59%	60%	-	0.4%	0.4%
Transalta Renewables	19.8	0.3	11.3	11.0	0.1	11.3	11.0	0.8	23.6	19.8	18%	100%	100%	100%+	4.8%	4.8%
Xcel Energy	69.0	13.8	12.7	12.0	4.9	4.8	4.7	23.2	21.8	20.5	36%	38%	39%	2.6%	2.8%	3.0%
median		13.8	12.7	11.8	4.9	6.2	5.2	23.1	24.6	22.2	29%	39%	39%	1.7%	1.3%	1.4%
Solar																
Azure Power	19.5	21.2	11.2	8.8	10.8	8.9	7.2	-	100+	35.5	51%	79%	82%	-	-	-
Clearway Energy	31.8	13.3	12.5	12.4	11.4	10.8	11.2	36.3	27.0	37.1	85%	86%	90%	4.2%	4.5%	4.8%
Neoen	35.6	0.3	16.0	12.7	0.1	13.1	10.4	1.5	69.6	47.3	18%	81%	82%	100%+	0.1%	0.5%
Renova	4115.0	41.4	34.6	31.7	22.0	14.7	13.1	27.5	67.8	100+	53%	42%	41%	-	-	-
Solaria Energia	16.7	30.6	17.6	12.9	24.2	13.9	10.1	56.3	31.8	23.5	79%	79%	79%	-	-	-
median		21.2	16.0	12.7	11.4	13.1	10.4	31.9	49.8	36.3	53%	79%	82%	4.2%	2.3%	2.6%
Mix																
Erg	24.6	10.5	11.0	10.4	4.9	5.0	4.8	26.7	31.1	30.0	47%	45%	46%	3.0%	3.0%	3.0%
Innervex	20.0	14.7	14.0	13.3	11.3	11.0	11.1	-	74.5	89.5	77%	79%	83%	3.6%	3.7%	3.7%
Nextera	79.4	0.8	9.9	9.0	0.1	10.9	9.3	3.3	26.2	27.4	18%	110%	103%	100%+	3.7%	4.3%
Northland Power	41.8	14.1	12.7	11.8	7.9	6.9	6.9	46.6	27.7	26.9	56%	54%	58%	2.9%	2.9%	2.9%
Brookfield Renewable	40.8	26.2	25.1	24.0	12.2	11.5	10.6	-	100+	75.1	46%	46%	44%	3.0%	3.1%	3.3%
Meridian Energy	5.1	16.4	19.9	19.6	3.4	4.1	4.3	30.7	54.6	51.3	21%	20%	22%	3.3%	3.3%	3.4%
Verbund	91.6	26.7	19.5	18.8	10.7	8.5	8.2	50.3	36.4	34.9	40%	43%	43%	0.8%	1.3%	1.4%
median		14.4	13.4	12.5	6.4	8.9	8.1	28.7	31.1	40.7	47%	50%	52%	3.0%	3.2%	3.3%

Source: mBank for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Comparison of Gas & Oil Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Oil refiners																
Lotos	58.50	3.7	4.6	3.7	0.5	0.5	0.4	6.3	12.8	8.3	13%	10%	11%	0.0%	5.1%	5.1%
MOL	2420.00	3.7	4.6	3.9	0.6	0.6	0.6	7.5	16.6	9.9	16%	13%	15%	4.0%	4.2%	4.2%
PKN Orlen	73.96	4.7	6.9	6.2	0.5	0.6	0.6	7.7	23.9	14.3	11%	8%	10%	4.7%	4.7%	4.7%
Hellenic Petroleum	6.25	-	6.4	6.0	0.7	0.5	0.5	-	9.9	8.1	-	8%	8%	1.6%	5.9%	7.1%
HollyFrontier	32.06	-	5.3	4.6	0.7	0.5	0.4	-	9.9	8.4	-	9%	9%	4.4%	3.5%	4.7%
Marathon Petroleum	58.93	-	6.8	6.2	0.8	0.6	0.6	-	18.9	14.9	-	9%	9%	3.9%	4.1%	4.4%
Motor Oil	14.31	6.5	5.0	4.8	0.3	0.3	0.3	9.6	6.3	5.8	5%	6%	7%	6.3%	8.1%	9.0%
Neste Oil	50.84	28.7	16.9	13.7	3.4	2.8	2.4	54.7	27.1	21.3	12%	16%	18%	1.6%	1.9%	2.4%
OMV	47.31	11.5	5.0	5.1	2.1	1.2	1.2	12.3	7.5	7.8	18%	23%	23%	3.9%	4.5%	4.8%
Phillips 66	71.57	-	8.9	7.9	0.7	0.4	0.5	-	13.6	12.3	-	5%	6%	5.0%	5.2%	5.3%
Saras	0.71	-	4.9	4.1	0.2	0.2	0.2	-	32.1	11.4	-	3%	4%	-	1.1%	3.5%
Tupras	99.60	63.4	5.1	4.9	0.6	0.3	0.3	-	7.2	5.8	1%	5%	6%	-	10.1%	14.6%
Valero Energy	66.02	32.8	6.3	5.8	0.6	0.4	0.5	-	13.8	11.9	2%	6%	8%	5.9%	6.0%	6.1%
median		9.0	5.3	5.1	0.6	0.5	0.5	8.7	13.6	9.9	11%	8%	9%	4.0%	4.7%	4.8%

Comparison of Petrochemical Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Petrochemicals																
PKN Orlen	73.96	4.7	6.9	6.2	0.5	0.6	0.6	7.7	23.9	14.3	11%	8%	10%	4.7%	4.7%	4.7%
Axiall	87.72	10.5	5.6	6.6	1.9	1.4	1.4	34.1	9.4	10.6	18%	24%	21%	1.2%	1.3%	1.4%
Braskem	62.49	20.4	4.5	6.3	1.4	0.9	1.0	-	6.7	14.2	7%	21%	16%	-	5.7%	5.2%
Eastman Chemical	113.58	14.9	9.1	8.9	2.4	2.1	2.0	32.2	12.0	11.2	16%	23%	23%	2.4%	2.6%	2.9%
Huntsman Corp	26.31	9.5	6.0	6.4	1.2	0.9	0.9	5.6	8.4	8.7	13%	16%	15%	2.5%	2.9%	3.1%
Lotte Chemicals	246,000	7.1	3.2	3.1	0.7	0.5	0.5	53.2	6.3	6.2	10%	15%	15%	1.5%	4.1%	4.2%
LyondellBasell	101.94	14.5	6.0	6.3	1.7	1.2	1.2	24.0	6.7	6.9	12%	20%	19%	4.1%	4.5%	4.9%
Mitsubishi Chemical	954.70	13.7	7.5	7.3	1.2	1.0	1.0	-	11.4	10.4	8%	14%	14%	2.5%	2.5%	2.8%
Mitsui Chemicals	3715.00	7.8	5.6	5.7	1.0	0.8	0.8	12.5	8.3	8.9	12%	14%	14%	2.7%	3.0%	3.1%
Westlake Chemical	87.72	10.5	5.6	6.6	1.9	1.4	1.4	34.1	9.4	10.6	18%	24%	21%	1.2%	1.3%	1.4%
median		10.5	5.8	6.3	1.3	1.0	1.0	28.1	8.9	10.5	12%	18%	16%	2.5%	2.9%	3.1%

Comparison of NatGas Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Gas companies																
PGNiG	6.33	3.6	3.5	3.5	0.7	0.7	0.7	8.5	9.3	10.2	20%	21%	21%	3.3%	3.5%	3.2%
A2A	1.87	9.2	7.4	6.9	1.5	1.3	1.3	16.0	15.8	15.1	16%	18%	19%	4.3%	4.5%	4.8%
BG Group	14.54	7.8	3.9	4.0	1.2	0.7	0.7	-	6.6	7.2	15%	17%	18%	3.5%	4.8%	5.0%
BP	3.03	-	4.1	4.2	0.7	0.7	0.7	-	7.0	7.2	-	17%	17%	8.1%	5.3%	5.5%
Centrica	0.51	2.1	2.4	2.4	0.2	0.2	0.2	73.1	8.0	7.3	8%	10%	10%	-	6.1%	6.8%
Enagas	19.32	13.1	10.8	11.1	8.7	9.7	10.2	11.4	13.2	13.7	66%	90%	92%	8.7%	8.9%	9.0%
Endesa	20.10	7.5	7.1	6.9	1.7	1.5	1.4	15.2	12.6	12.3	23%	20%	21%	5.9%	5.5%	5.7%
Engie	12.08	10.3	5.6	5.4	1.0	1.0	1.0	-	11.1	10.5	10%	18%	19%	4.4%	6.5%	6.8%
Eni	10.43	13.1	3.2	3.2	1.2	0.8	0.8	-	9.9	9.7	9%	25%	24%	3.5%	8.0%	7.6%
Equinor	188.42	11.8	2.6	2.8	1.6	1.1	1.1	-	10.9	11.8	13%	41%	39%	2.0%	3.6%	3.9%
Gas Natural SDG	21.81	11.4	9.7	9.3	2.5	2.0	2.0	-	17.1	16.4	22%	21%	21%	6.5%	6.1%	5.8%
Gazprom	303.50	3.6	3.6	3.7	1.1	1.1	1.1	3.9	4.0	4.4	31%	30%	29%	11.0%	11.7%	10.7%
Hera	3.67	7.4	7.1	6.9	1.2	1.1	1.0	18.1	15.3	15.0	16%	15%	15%	3.0%	3.3%	3.5%
NovaTek	230.90	33.1	11.1	11.2	7.1	4.9	4.7	14.1	14.4	14.7	21%	44%	42%	3.2%	3.4%	3.3%
ROMGAZ	33.15	5.5	4.1	-	2.5	1.9	-	10.2	7.5	-	45%	46%	-	4.9%	6.6%	-
Shell	17.01	8.1	3.9	4.0	1.2	0.7	0.7	-	6.7	7.2	15%	17%	18%	3.4%	4.8%	5.0%
Snam	4.97	14.3	13.8	13.3	11.2	10.4	9.9	15.2	14.4	14.2	78%	76%	74%	5.0%	5.6%	5.7%
Total	#N/A N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
median		8.6	4.1	4.8	1.2	1.1	1.1	14.7	10.9	11.2	18%	21%	21%	4.3%	5.5%	5.6%

Source: mBank for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Comparison of E&P Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
E&P companies																
MOL	2420.00	5.2	3.6	3.6	0.8	0.5	0.6	-	6.7	6.6	14%	15%	16%	3.5%	4.5%	4.7%
Bashneft	1446.50	11.5	3.1	2.8	0.7	0.5	0.5	-	6.1	4.2	6%	15%	16%	7.5%	8.2%	11.9%
BP	3.03	-	4.1	4.2	0.7	0.7	0.7	-	7.0	7.2	-	17%	17%	8.1%	5.3%	5.5%
Dana Gas	1.07	-	9.9	9.0	5.7	6.3	5.9	-	17.5	17.5	-	64%	65%	18.9%	9.6%	9.6%
Eni	10.43	13.1	3.2	3.2	1.2	0.8	0.8	-	9.9	9.7	9%	25%	24%	3.5%	8.0%	7.6%
Equinor	188.42	11.8	2.6	2.8	1.6	1.1	1.1	-	10.9	11.8	13%	41%	39%	2.0%	3.6%	3.9%
Gazprom Neft	429.45	7.3	3.8	3.9	1.3	0.9	0.9	17.2	5.1	5.2	18%	23%	23%	5.8%	9.4%	8.8%
Gulf Keystone	1.59	7.7	2.0	2.0	3.6	1.3	1.4	-	4.7	4.8	47%	66%	67%	-	6.0%	7.1%
Lukoil	6438.00	6.6	3.8	3.8	0.8	0.6	0.6	100+	7.6	7.9	12%	15%	15%	6.2%	11.0%	9.8%
Occidental Petroleum	25.25	-	5.5	5.9	4.0	2.7	2.8	-	22.6	39.0	-	50%	49%	3.2%	0.6%	0.9%
Repsol	9.90	-	3.8	3.7	0.8	0.5	0.5	-	6.7	6.6	-	14%	14%	9.3%	6.2%	6.6%
Rosneft Oil	540.80	9.7	4.1	4.3	1.7	1.1	1.1	36.3	4.8	5.0	17%	27%	26%	1.8%	9.7%	9.3%
Shell	17.01	8.1	3.9	4.0	1.2	0.7	0.7	-	6.7	7.2	15%	17%	18%	3.4%	4.8%	5.0%
Surgutneftegas	38.62	-	-	-	-	-	-	4.6	4.0	4.8	-	-	-	4.3%	7.0%	7.4%
Tullow Oil		8.1	3.8	3.8	1.2	0.8	0.8	17.2	6.7	6.9	14%	23%	23%	4.3%	6.6%	7.2%
median		8.1	3.8	3.8	1.2	0.8	0.8	17.2	6.7	6.9	14%	23%	23%	4.3%	6.6%	7.2%

Comparison of Mining Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Mining companies																
JSW	39.24	2.5	2.3	1.7	0.6	0.5	0.4	7.1	7.5	5.5	22%	23%	24%	0.0%	0.0%	6.6%
KGHM	180.70	3.2	3.1	3.0	1.1	1.0	0.9	5.8	6.3	6.5	33%	31%	30%	0.8%	5.5%	9.6%
Stalprodukt	322.50	3.3	3.6	3.3	0.4	0.4	0.4	7.2	9.9	9.7	12%	11%	11%	1.9%	6.9%	6.0%
LW Bogdanka*	25.90	1.1	1.1	1.1	0.4	0.3	0.3	12.1	5.4	5.6	32%	28%	28%	-	-	-
Anglo American	30.84	2.8	3.6	4.3	1.4	1.6	1.7	5.4	7.2	9.0	51%	44%	40%	9.5%	6.5%	5.1%
Antofagasta	14.62	7.9	4.9	4.9	3.9	3.2	3.3	36.6	14.5	15.6	50%	66%	66%	2.9%	3.8%	3.2%
BHP Group	22.80	5.0	4.5	5.6	3.2	2.9	3.4	13.7	8.1	11.2	63%	65%	61%	9.1%	10.2%	7.1%
Freeport-McMoRan	36.64	16.5	5.2	5.3	4.7	2.7	2.7	89.4	10.5	12.7	28%	52%	52%	0.1%	1.9%	1.7%
Glencore	3.33	9.7	5.2	5.6	0.6	0.4	0.4	-	8.9	9.9	6%	8%	8%	-	6.5%	6.0%
Grupo Mexico	92.74	7.0	5.1	5.4	3.6	2.9	3.0	14.4	9.7	10.3	52%	57%	55%	3.2%	6.3%	5.3%
Kaz Minerals	8.49	6.2	4.9	2.8	3.2	2.6	2.0	8.1	6.2	4.0	53%	53%	72%	0.4%	1.1%	3.1%
Rio Tinto	54.04	5.5	3.8	5.0	2.6	2.2	2.6	11.5	6.7	9.5	47%	60%	52%	6.7%	11.2%	7.8%
Boliden	305.10	18.7	5.0	5.3	1.2	1.3	1.3	100+	10.0	11.1	6%	25%	25%	0.0%	5.2%	4.9%
OZ Mineralz	23.27	6.3	6.8	7.2	1.1	4.0	4.0	9.1	12.2	12.4	18%	58%	55%	4.6%	1.4%	1.7%
Lundin Mining	10.22	0.4	3.5	3.8	0.1	2.0	2.1	0.4	7.3	8.3	18%	57%	55%	100%+	5.6%	5.9%
First Quantum Minarals	26.98	6.0	4.8	5.1	3.1	2.8	3.0	15.5	8.4	8.8	51%	59%	59%	0.0%	0.2%	0.5%
Norilsk Nickiel	32.45	5.7	5.4	5.7	3.5	3.3	3.4	8.2	7.8	8.7	61%	61%	61%	8.4%	7.7%	7.1%
Peabody Enelgy Group	15.76	5.0	4.7	5.7	0.9	0.8	0.9	-	100+	-	17%	17%	15%	-	-	-
ARCH Coal	75.72	0.1	4.4	4.8	0.0	0.9	1.0	3.1	6.9	6.7	18%	20%	20%	100%+	2.9%	4.9%
Bukit Asam	2110.00	4.1	4.1	4.0	0.9	0.9	0.9	7.2	7.2	7.1	23%	22%	22%	6.3%	8.4%	8.3%
Teck resources	22.64	4.7	4.5	4.2	2.0	1.9	1.7	7.9	7.5	7.7	42%	41%	41%	0.7%	0.7%	1.1%
Warrior Met Coal	21.78	5.3	4.6	4.8	1.6	1.3	1.3	32.8	10.0	11.2	30%	28%	26%	0.9%	0.9%	0.9%
Southern CC	63.04	13.3	8.8	10.6	6.7	5.1	5.6	31.1	15.3	18.1	50%	58%	54%	2.4%	4.3%	3.5%
median		5.3	4.6	4.9	1.4	1.9	1.7	8.6	7.9	9.3	32%	44%	41%	2.1%	5.2%	5.1%

Comparison of Aluminum Producers Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Aluminum producers																
Grupa Kęty	680.00	9.0	10.1	9.9	1.8	1.8	1.7	12.8	14.8	14.6	20%	18%	17%	6.6%	7.4%	6.4%
Alumetal*	61.80	0.2	8.0	6.7	0.0	0.5	0.5	100+	11.0	10.3	6%	7%	7%	0.2%	8.6%	7.3%
Mercor*	18.10	7.4	-	-	-	-	-	10.5	-	-	-	-	-	-	-	-
Alcoa	44.05	10.0	4.2	4.2	1.1	0.9	1.0	-	9.1	9.9	11%	22%	23%	-	0.1%	0.1%
AMAG	39.00	0.1	9.5	9.4	0.0	1.3	1.3	1.6	21.4	20.7	18%	14%	14%	100%+	2.6%	2.6%
Amcor	12.79	13.6	12.0	11.7	2.0	1.9	1.9	21.2	15.9	15.3	15%	16%	16%	3.7%	3.8%	3.9%
Century Aluminum	12.39	7.4	4.5	6.8	0.7	0.6	0.7	-	7.0	13.1	9%	14%	10%	-	-	-
Granges	110.90	0.8	7.2	6.7	0.1	0.8	0.8	4.6	11.2	10.0	18%	11%	11%	100%+	2.6%	3.1%
Constellium	19.83	11.7	6.7	6.1	0.9	0.7	0.7	-	11.4	9.2	8%	11%	11%	-	-	1.3%
Fuji Seal	2483.00	6.7	6.3	5.8	0.8	0.8	0.8	16.5	14.7	13.3	13%	13%	13%	1.3%	1.4%	1.5%
Rusal	5.45	-	-	-	-	-	-	14.1	3.2	3.1	-	-	-	-	4.4%	4.6%
Kaiser Aluminum	123.87	19.8	8.6	8.4	2.4	0.9	0.7	68.1	16.0	15.5	12%	10%	8%	2.2%	2.5%	-
Nippon Steel & Sumitomo	2168.50	19.0	5.3	6.2	0.9	0.7	0.7	-	5.5	7.2	5%	13%	12%	0.5%	5.0%	4.5%
Norsk Hydro Asa	60.50	8.6	5.1	5.1	1.0	0.9	0.9	67.2	9.8	9.7	11%	18%	17%	2.1%	4.1%	4.5%
Uacj	2689.00	10.4	8.1	7.6	0.8	0.7	0.6	-	11.4	10.3	8%	8%	9%	-	1.8%	2.1%
median		8.8	7.2	6.7	0.9	0.8	0.8	14.1	11.3	10.3	11%	13%	12%	2.1%	3.2%	3.5%

Source: mBank for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Comparison of Fertilizer Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Fertilizer producers																
Grupa Azoty	29.20	7.9	11.3	9.1	0.7	0.8	0.8	17.5	-	-	9%	7%	8%	0.0%	0.0%	0.0%
ZA Police*	12.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acron	6466.00	10.5	8.2	7.6	3.1	2.5	2.4	73.7	11.7	9.3	30%	31%	31%	6.9%	5.8%	5.7%
CF Industries	44.81	9.6	6.9	7.6	3.8	2.7	2.9	30.3	10.3	11.6	39%	40%	39%	2.7%	2.7%	2.7%
Israel Chemicals	22.89	15.7	7.3	7.4	2.2	1.7	1.7	100+	13.0	13.7	14%	24%	23%	1.5%	3.6%	3.2%
K+S	12.12	8.4	4.4	4.9	1.3	1.0	1.0	-	9.6	12.4	16%	23%	21%	-	2.6%	3.0%
Phosagro	4722.00	8.6	5.5	5.8	2.9	2.1	2.1	36.1	8.7	10.2	34%	39%	37%	5.3%	9.0%	8.2%
The Mosaic Company	32.30	11.7	5.0	5.7	1.8	1.3	1.4	18.4	8.1	9.6	15%	26%	24%	0.6%	0.9%	1.0%
Yara International	447.00	6.9	6.2	6.0	1.2	1.1	1.1	18.4	12.4	12.0	18%	18%	19%	80.0%	5.3%	5.4%
median		9.1	6.5	6.7	2.0	1.5	1.5	24.3	10.3	11.6	17%	25%	24%	2.7%	3.1%	3.1%

Comparison of Agricultural Company Valuations

	price	EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
		2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Agro producers																
Kernel	57.40	3.2	3.5	4.4	0.4	0.4	0.4	12.0	7.8	7.9	13%	11%	9%	1.8%	1.9%	1.7%
Astarta*	51.50	2.8	3.6	3.3	1.0	1.0	1.0	3.2	4.5	4.4	36%	28%	30%	4.5%	6.9%	6.9%
Agrana Beteiligungs	18.92	9.9	8.8	7.8	0.7	0.7	0.6	19.7	18.2	14.0	7%	7%	8%	4.5%	4.8%	5.0%
Bunge Limited	75.73	9.3	9.1	9.0	0.5	0.4	0.4	9.5	9.9	9.7	5%	4%	4%	2.6%	2.9%	3.1%
Cosan	22.20	34.1	6.9	6.2	1.2	0.8	0.7	10.0	15.9	13.1	4%	11%	12%	2.4%	1.7%	2.3%
MHP	5.62	5.4	4.4	4.5	1.1	0.9	0.9	-	5.8	4.3	21%	21%	21%	5.0%	5.0%	13.3%
Nisshin Oillio	3075.00	8.5	8.8	8.3	0.5	0.5	0.4	11.0	12.7	11.5	6%	5%	5%	2.6%	2.8%	2.9%
Suedzucker	14.49	9.6	7.9	6.8	0.8	0.8	0.8	-	17.9	10.8	9%	10%	11%	1.4%	2.0%	2.7%
Industrial Milk Company	29.90	4.4	6.1	-	2.0	2.2	-	-	-	-	46%	36%	-	-	-	-
Archers Daniels Midland	60.07	2.2	10.0	9.9	0.4	0.6	0.5	2.5	13.2	13.1	18%	5%	6%	100%+	2.6%	2.7%
Golden Agri Resources	0.24	4.8	4.9	4.9	0.5	0.5	0.5	6.7	7.8	7.1	11%	11%	11%	4.7%	4.3%	4.3%
Felda Global Ventures	1.49	7.3	7.8	7.8	0.7	0.7	0.6	18.6	20.7	18.9	9%	8%	8%	3.0%	2.8%	3.2%
GrainCorp	6.26	9.5	10.7	13.0	0.6	0.7	0.8	11.0	12.4	18.8	7%	6%	6%	4.6%	4.5%	3.2%
Wilmar Int.	4.23	12.9	11.4	10.6	0.8	0.7	0.7	12.7	11.8	11.2	6%	6%	7%	3.1%	3.9%	3.9%
median		7.9	7.8	7.8	0.7	0.7	0.6	11.0	12.4	11.2	9%	9%	8%	3.1%	2.9%	3.2%

Source: mBank for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Selected Commodity ETFs Available to Retail Investors with mBank Brokerage Accounts

	Name of Instrument on mdm.pl Website	Market	ISIN	Ticker
Agri Commodities				
Sugar	WISDOMTREE SUGAR (OD7R GR ETF)	DEU-XETRA	DE000A0KRJ85	OD7R:GR
Cocoa	WISDOMTREE 2X DAILY LONG COCOA (4RUP GR ETF)	DEU-XETRA	DE000A0V9ZE9	4RUP:GR
Coffee	WISDOMTREE COFFEE (OD7B GR ETF)	DEU-XETRA	DE000A0KRJT2	OD7B:GR
Wheat	WISDOMTREE WHEAT (OD7S GR ETF)	DEU-XETRA	DE000A0KRJ93	OD7S:GR
Metals				
Copper	WISDOMTREE COPPER (OD7C GR ETF)	DEU-XETRA	DE000A0KRJU0	OD7C:GR
Nickel	WISDOMTREE NICKEL (OD7M GR ETF)	DEU-XETRA	DE000A0KRJ44	OD7M:GR
Platinum	WISDOMTREE PHYSICAL PLATINUM	DEU-XETRA	DE000A0N62D7	VZLA:GR
Silver	WISDOMTREE PHYSICAL SILVER (VZLC GR ETF)	DEU-XETRA	DE000A0N62F2	VZLC:GR
	WISDOMTREE 2X DAILY LONG SILVER (4RUE GR ETF)	DEU-XETRA	DE000A0V9Y57	4RUE:GR
Gold	XETRA GOLD (4GLD GR ETF)	DEU-XETRA	DE000A0S9GB0	4GLD:GR
	WISDOMTREE PHYSICAL GOLD (VZLD GR ETF)	DEU-XETRA	DE000A0N62G0	VZLD:GR
	XTRACKERS PHYSICAL GOLD ETC EUR (XAD5 GR ETF)	DEU-XETRA	DE000A1E0HR8	XAD5:GR
	DB-X PHYSICAL GOLD EURO HEDGED ETC (XAD1 GR ETF)	DEU-XETRA	DE000A1EK0G3	XAD1:GR
	WISDOMTREE 2X DAILY LONG GOLD (4RT8 GR ETF)	DEU-XETRA	DE000A0V9YZ7	4RT8:GR
	ISHARES PHYSICAL GOLD (SGLN LN ETF)	GBR-LSE	IE00B4ND3602	SGLN:LN
Energy				
Brent Crude	WISDOMTREE BRENT CRUDE (OOEA GR ETF)	DEU-XETRA	DE000A1N49P6	OOEA:GR
WTI Crude	WISDOMTREE WTI CRUDE OIL (OD7F GR ETF)	DEU-XETRA	DE000A0KRJX4	OD7F:GR
	WISDOMTREE 1X DAILY SHORT WTI CRUDE OIL (9GA7 GR ETF)	DEU-XETRA	DE000A0V9XY2	9GA7:GR
	WISDOMTREE 2X DAILY LONG WTI CRUDE OIL (4RT6 GR ETF)	DEU-XETRA	DE000A2BDEB6	4RT6:GR

Source: mBank

List of abbreviations and ratios contained in the report:

EV (Enterprise Value) – Equity Value + Net Debt; **EBIT** – Earnings Before Interest and Taxes; **EBITDA** – EBIT + Depreciation & Amortisation; **Net Debt** – Borrowings + Debt Securities + Interest-Bearing Loans - Cash and Cash Equivalents; **P/E** (Price/Earnings) – Price Per Share Divided by Earnings Per Share; **P/CE** (Price to Cash Earnings) – Price Per Share Divided by Earnings + Depreciation & Amortisation; **P/B** (Price to Book Value) – Price Per Share Divided by Book Value Per Share; **P/CF** (Price to Cash Flow) – Price Divided by Cash Flow from Operations; **ROE** (Return on Equity) – Earnings Divided by Shareholders' Equity; **ROCE** (Return on Capital Employed) – EBIT x (Average Assets - Current Liabilities); **ROIC** (Return on Invested Capital) – EBIT x (1-Tax Rate) / (Average Equity + Minority Interest + Net Debt); **FCFF** (Free Cash Flow to Firm) – Cash Flow from Operations - CAPEX - Lease Payments; **FCFE** (Free Cash Flow to Equity) – Free Cash Flow to Firm - Net Interest Expense (incl. Debt + Leases) - Lease Payments

OVERWEIGHT (OW) – a rating which indicates that we expect a stock to outperform the broad market

NEUTRAL (N) – a rating which indicates that we expect the stock to perform in line with the broad market

UNDERWEIGHT (UW) – a rating which indicates that we expect the stock to underperform the broad market

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HOLD – we expect that the rate of return from an investment will range from -5% to +5%

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