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Tuesday Espresso

Weekly Commodity Roundup

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Utilities

EEX power futures have crossed €91/MWh after another 4 euro added over the week with the help of a continued rally in emission permits (€62/t), gas, and coal. The market keeps overlooking the medium-term upside risk generated by expensive coal from the point of view of clean integrated utilities.

In Poland, year-ahead electricity contracts keeps gaining as well, and at close to PLN 390/MWh at a time when utilities secure energy supply for the winter the outlook for 2022 profits in the sector becomes increasingly bleak. Prospects could become even more fragile if the government opts to come out with some form of electricity bill mitigation measures. Lastly, prices of green certificates have continued their upward movement over the week, rising from PLN 193 to PLN 204/MWh.

Gas & Oil

The expansion in refining margins continues, with the benchmark rising above \$5/bbl on the back of recovering cracks on diesel oil, coupled with consistently high margins on gasoline. The Urals/Brent differential has edged slightly lower in recent days to \$1.6/bbl. A downside development from the standpoint of European refineries is the widening of the Brent/WTI spread to \$4.

Prices of petrochemicals have been mostly steady over the week after last week's falls, with butadiene margins still holding at record levels.

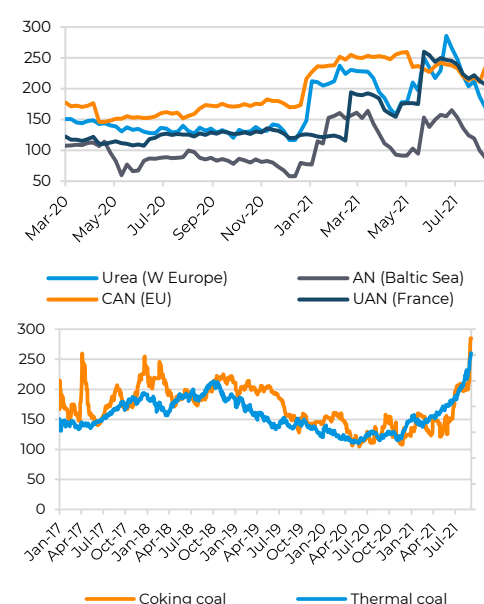
Gas

European gas prices broke another psychological barrier after month-ahead futures hit €50/MWh and 1Y FWD contracts reached €35/MWh. High gas prices have a positive effect on the earnings of MOL and OMV. At PGNiG, the positive effects are offset by lower trading profits, and at PKN Orlen expensive gas weighs heavily on refining profits. Europe is about to turn on the heating, meanwhile our region's gas reserves are down to only 69% of the total storage capacity. This compares with a 5-year average storage level of 84% and the previous 2017/18 lows of 75-78%.

Metals

The price of aluminum jumped to \$2,700/t on Monday after a military coup in Guinea, a major producer of bauxite, sparked fears about supply constraints. Rising prices of the metal benefit companies like Alcoa, Norsk Hydro, and Rusal, and we see even more room for prices to eventually climb as high as \$3,000 USD/t [after China's production cutbacks](#).

Charts of the Week



Source: Bloomberg, mBank

1-Week & YTD Performance

Company	1W	YTD
Cognor	-4.9%	+146%
Alumetal	-4.2%	+32%
Tauron	-3.9%	+28%
Astarta	-3.1%	+99%
Stalprodukt	-2.3%	+6%
Enea	-2.2%	+47%
Kęty	-1.2%	+47%
PGE	-1.0%	+50%
PGNiG	-0.9%	+17%
ZA Puławy	-0.5%	+0%
MOL	-0.4%	+14%
Lotos	-0.4%	+41%
Kernel	-0.2%	+20%
KGHM	+0.1%	-0%
Boryszew	+0.3%	+16%
OMV	+0.5%	+49%
PKN Orlen	+0.7%	+35%
CEZ	+0.9%	+44%
Grupa Azoty	+1.8%	+8%
ZCh Police	+2.0%	+2%
Mangata	+2.3%	+30%
Tupras	+4.7%	-3%
Polenergia	+4.9%	+37%
PCC Rokita	+6.9%	+76%
IMC	+7.0%	+98%
Ciech	+7.8%	+64%
LW Bogdanka	+23.2%	+66%
JSW	+24.5%	+88%
ZE PAK	+28.5%	+28%
WIG Indices	1W	YTD
WIG	+2.3%	+27%
Chemicals	+4.5%	+28%
Energy	-1.2%	+39%
Oil & Gas	+0.1%	+30%
Food Industry	-0.1%	+24%
Basic Material	+2.2%	+5%
Ukraine	+0.4%	+50%
Sector Indices	1W	YTD
Mining	-0.3%	+23%
Oil & Gas E&P	+0.9%	+33%
Refining EU	-0.1%	+16%
Refining US	-3.5%	+21%
Agri & Food	-0.8%	+14%
Rubber	-0.4%	+9%
Fertilizers	+0.7%	+35%
Chemicals EU	-0.4%	+16%
Industrials EU	+0.8%	+26%
Petchem World	-1.6%	+28%
Utilities EU	+0.3%	+6%
Utilities US	+1.4%	+12%

Gas costs squeeze fertilizer margins

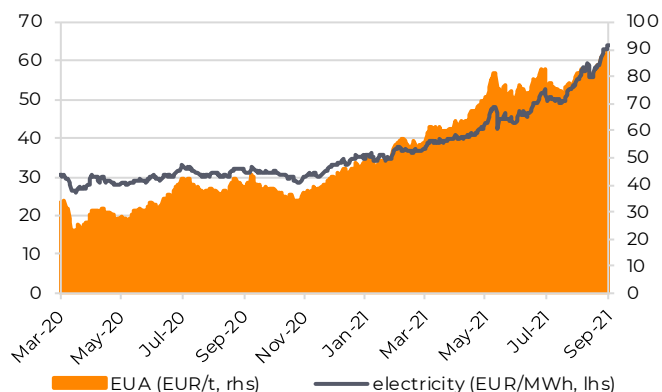
Prices of natural gas are rising again, putting a squeeze on the profit margins of nitrogen fertilizer producers like Grupa Azoty. As margins head towards a new low for the year, the Q3 2021 earnings prospects of the Company are not looking good, especially if we consider additional costs associated with increased exports. Further adding to the slump are rising prices of emission permits, already at €60/t.

Coal prices climb to 10-year highs

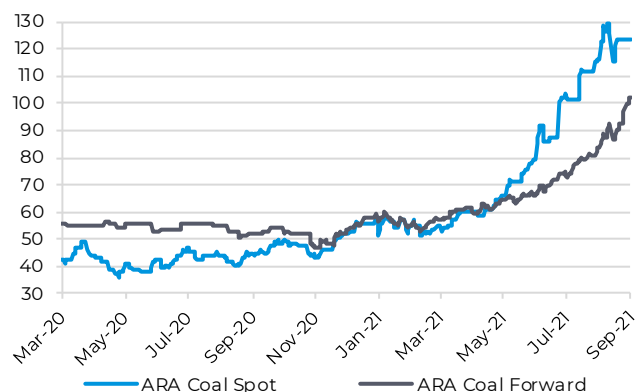
There is a resurgence in world coal markets, reflected in Rotterdam thermal coal futures rising above \$120/t and prices of Australian metallurgical coal creeping towards \$300/t. As prices reach decade-high levels, this benefits coal miners (JSW, Teck Resources, Warrior MetCoal) and their suppliers. For example, the Polish mining equipment producer, Famur, is probably poised to see a turnaround in new orders that will improve the 2022 revenue prospects.

Utilities

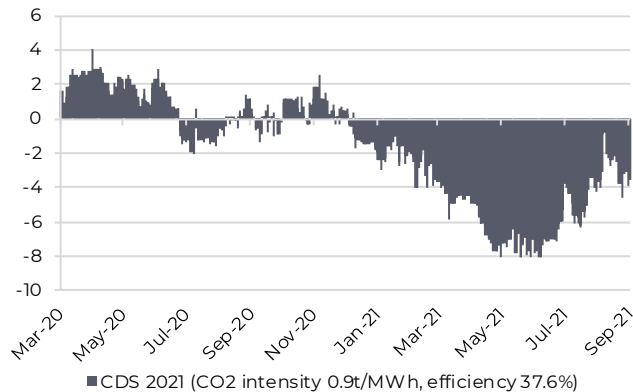
EU Prices of Electricity (EUR/MWh) & EUAs (EUR/t)



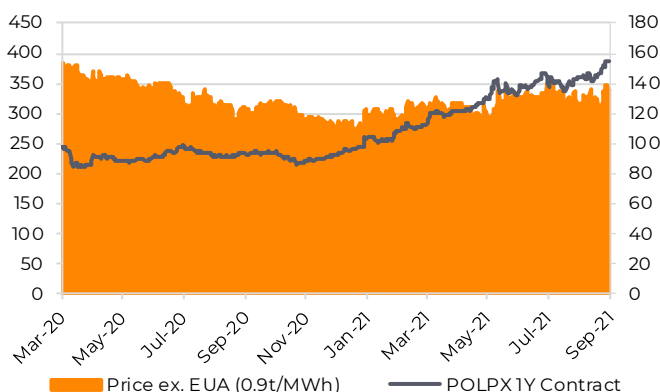
ARA Coal Spot and Forward Prices (EUR/t)



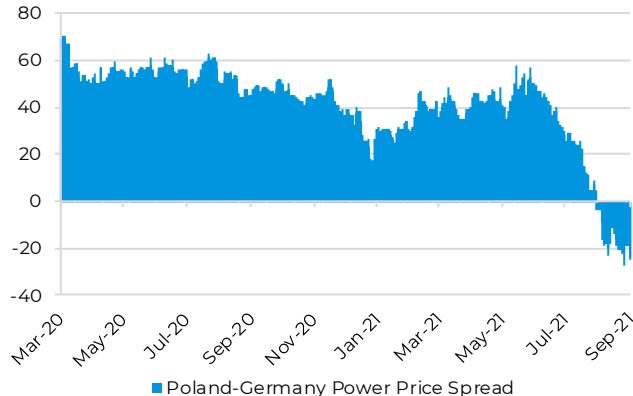
Clean-Dark Spread, Germany (EUR/MWh)



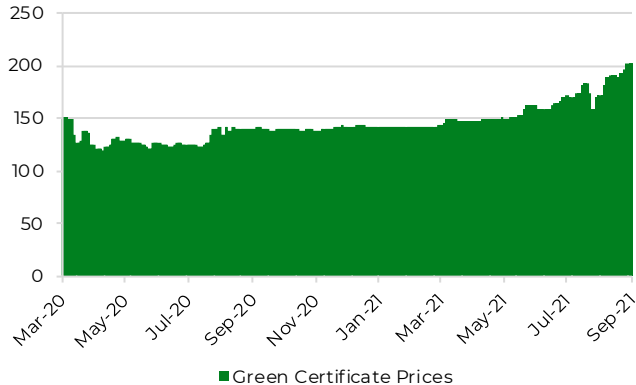
Polish Electricity Prices (1Y) (PLN/MWh)



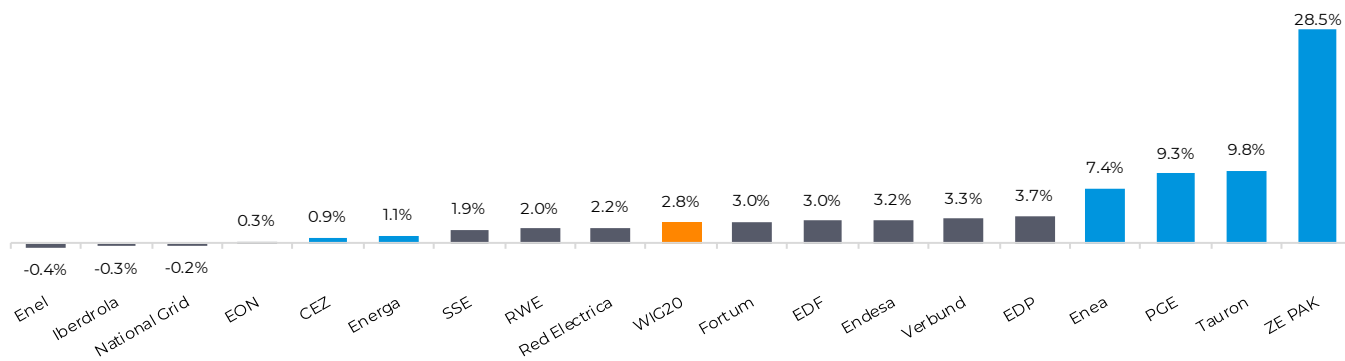
Poland-Germany Power Price Spread (PLN/MWh)



Polish Green Certificate Prices (PLN/MWh)



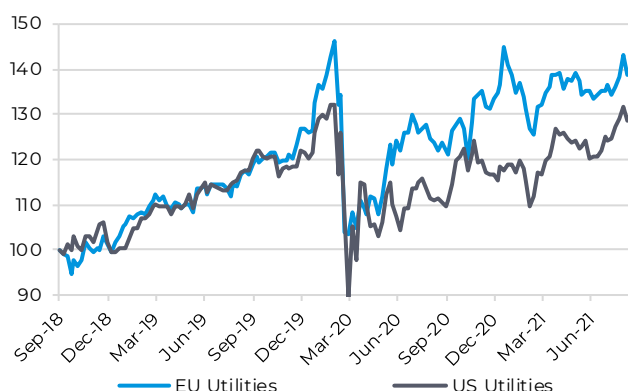
Weekly Returns of Utility Stocks



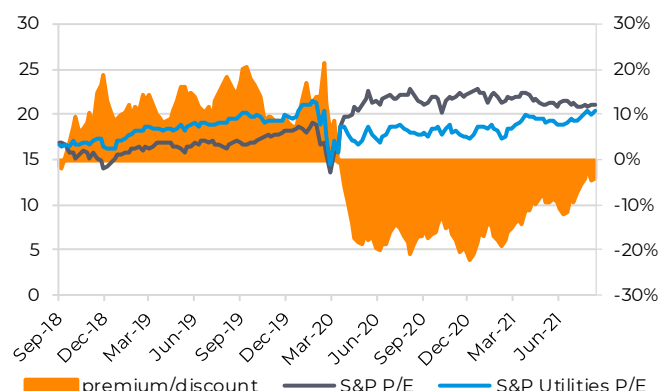
Source: Bloomberg, mBank

Utilities

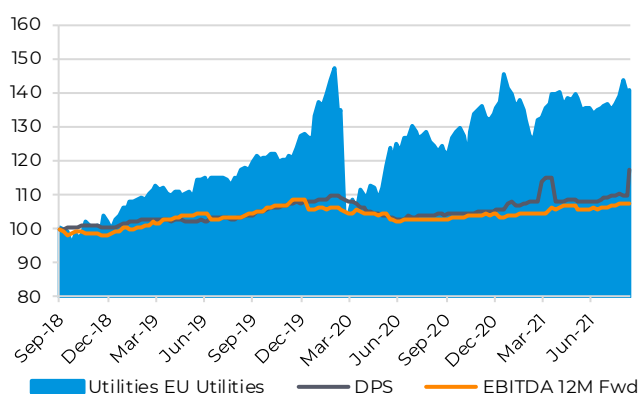
MSCI Utilities Europe vs. S&P Utilities



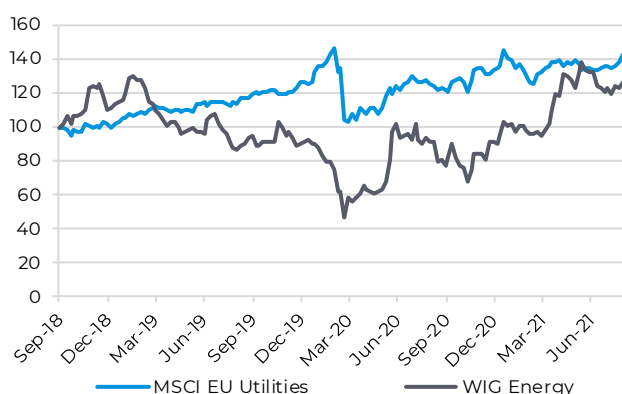
S&P Utilities vs. S&P 500 P/E



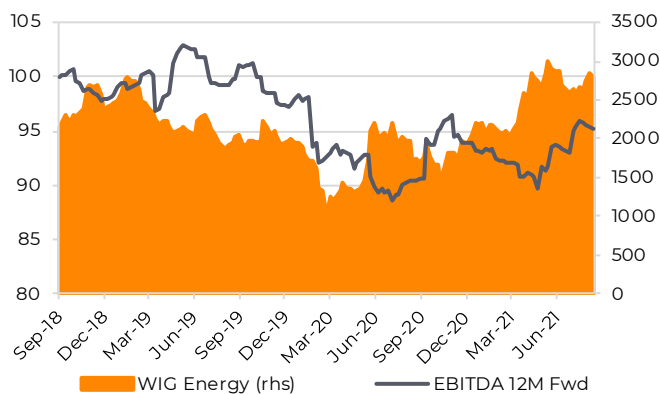
MSCI Utilities EU vs. DPS & EBITDA Expectations



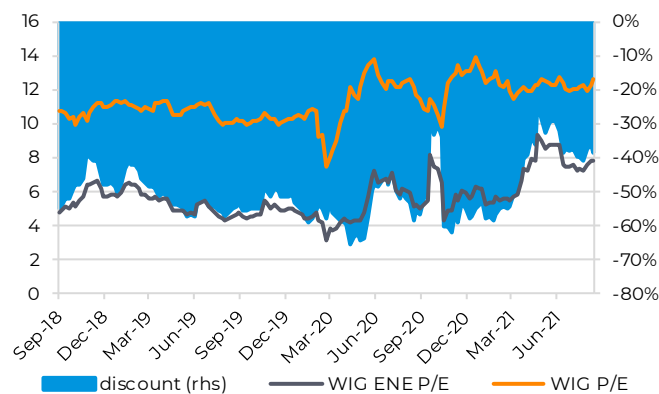
MSCI Utilities EU vs. WIG-ENERGY



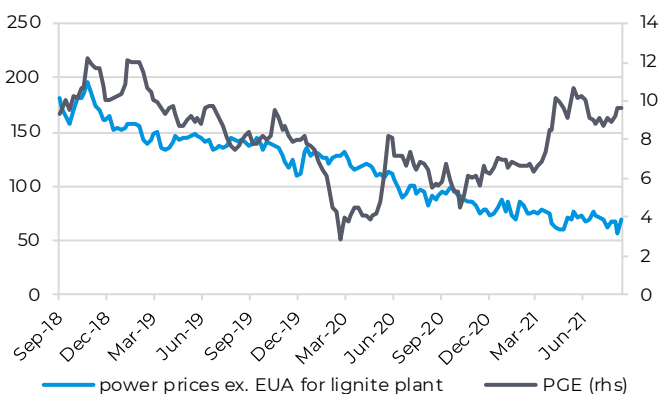
WIG-ENERGY vs. EBITDA Expectations



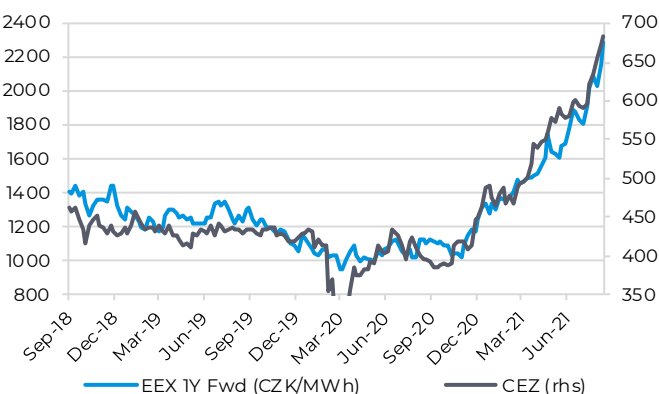
WIG-ENERGY vs. WIG P/E



PGE Performance vs. Power Prices ex. EUA



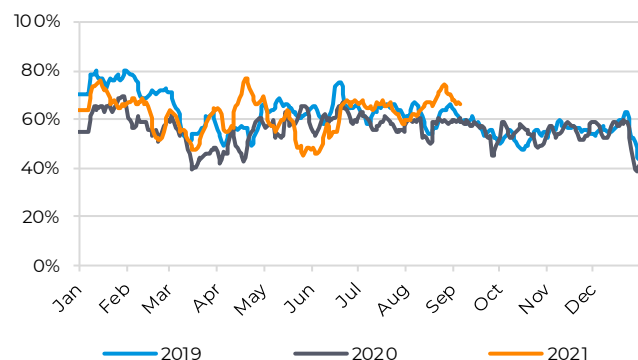
CEZ Performance vs. EEX Power Prices (CZK/MWh)



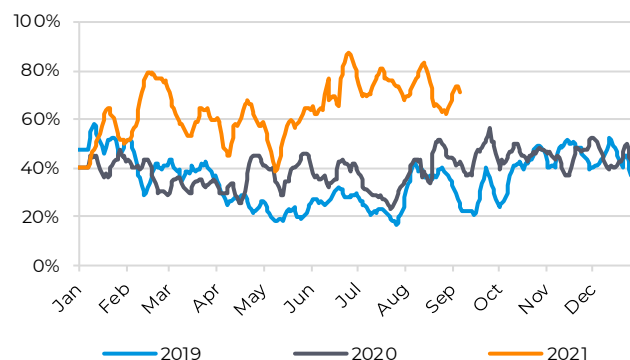
Source: Bloomberg, mBank

Utilities

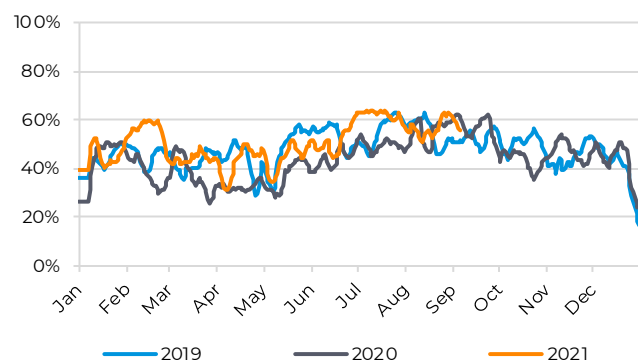
Load Factor, Bełchatów Power Station



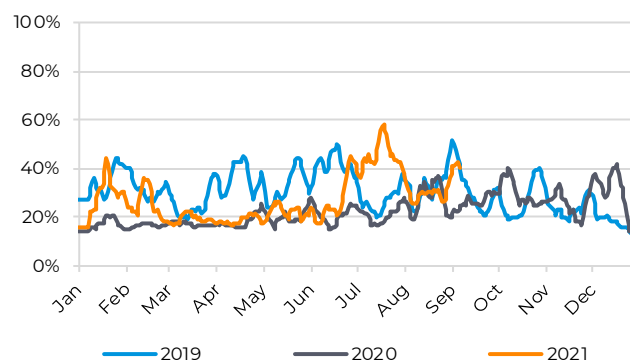
Load Factor, Turów Power Station



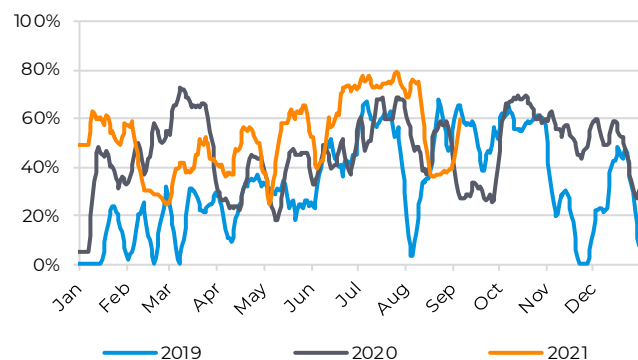
Load Factor, Kozienice Power Station



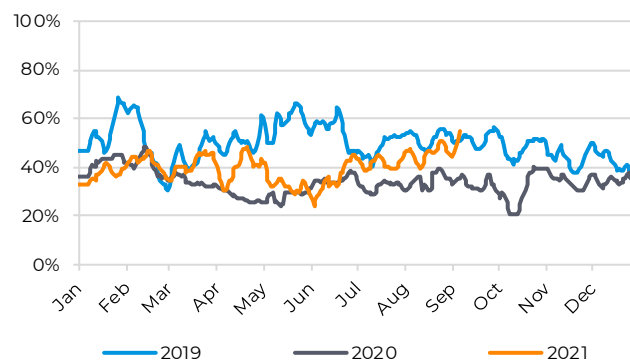
Load Factor, Jaworzno Power Station



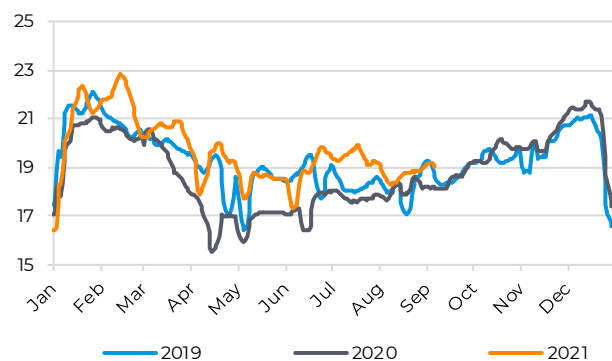
Load Factor, Opole Power Station, Blocks B5&B6



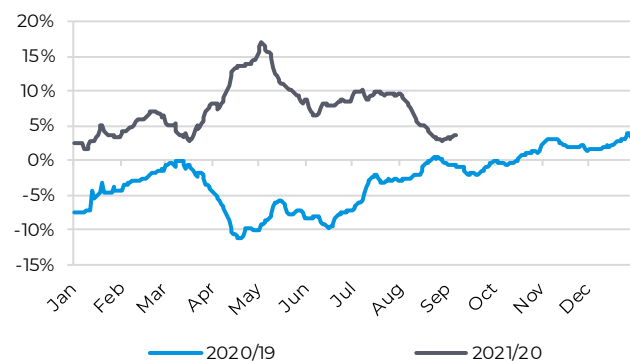
Load Factor, Połaniec Power Station



Actual Total Load of the Polish Power System (GW)



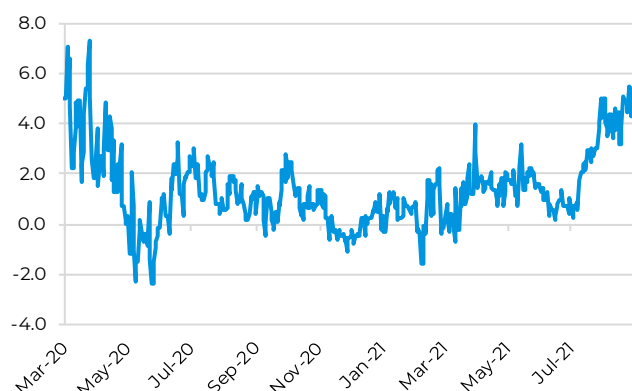
Polish Monthly Electricity Consumption (YoY Change)



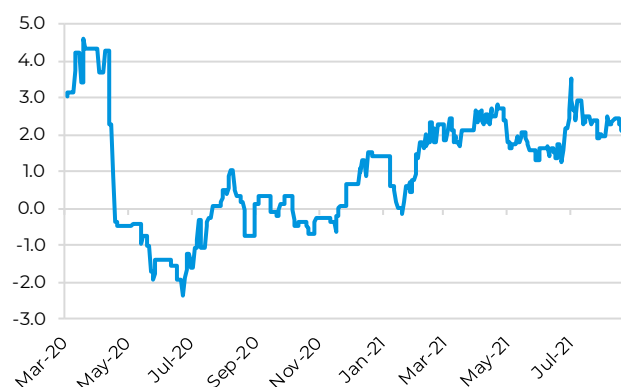
Source: PSE, mBank; Load factor = actual generation (7-day average) as a percentage of available capacity

Gas & Oil

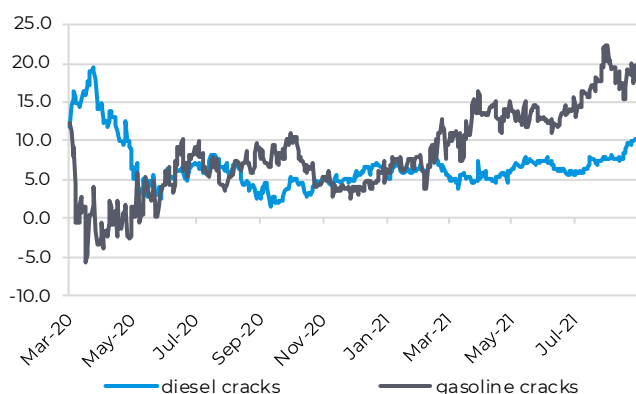
Refining Margins (US\$/bbl)



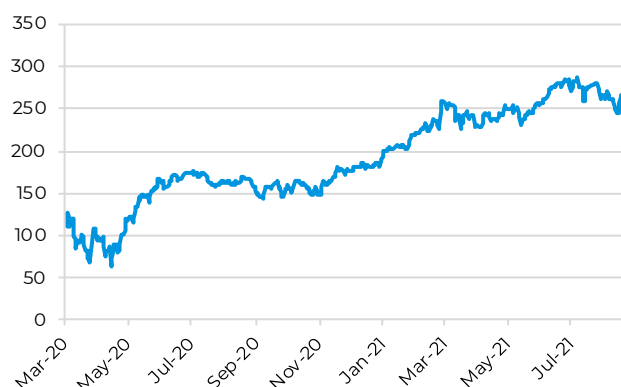
Urals/Brent Pricing Differential (US\$/bbl)



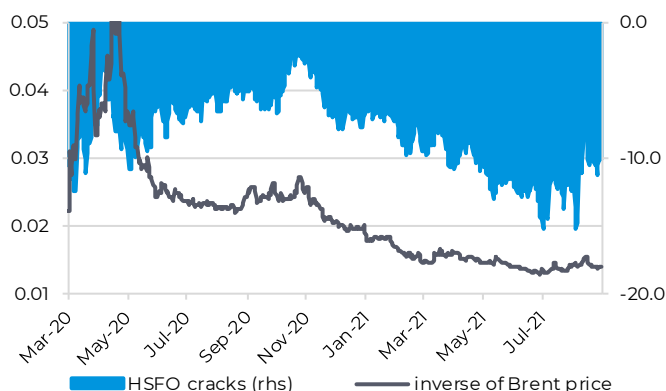
Cracking Margins on Diesel & Gasoline (US\$/bbl)



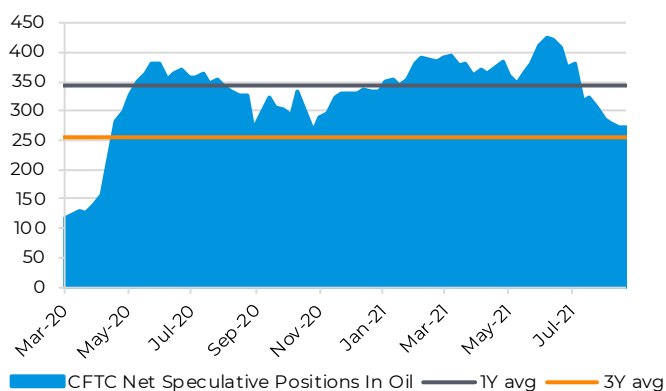
Price of Urals Crude (PLN/bbl)



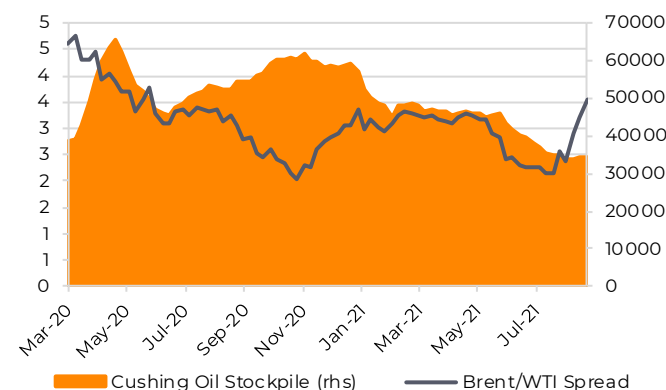
HSFO Cracks (US\$/bbl) vs. Inverse of Brent Price



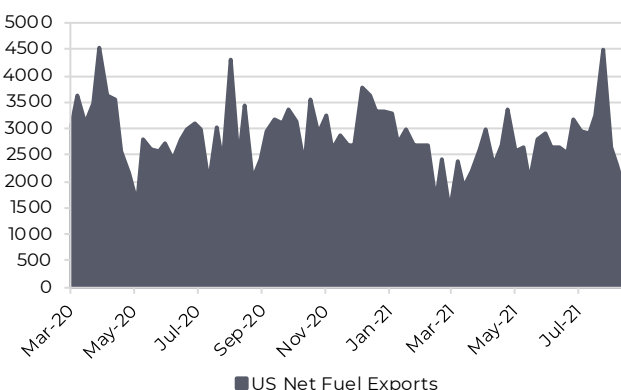
CFTC Net Speculative Positions In Oil



Brent/WTI Spread vs. Cushing Oil Stockpile



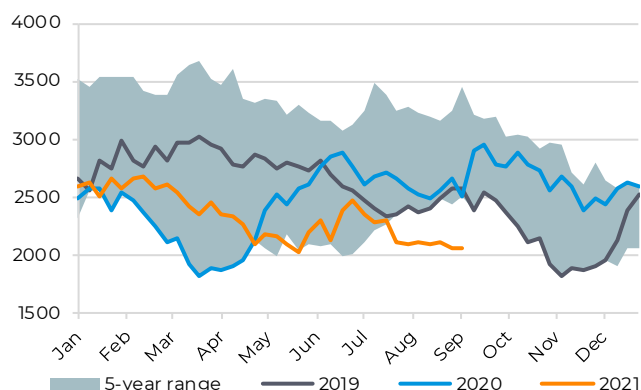
US Net Fuel Exports



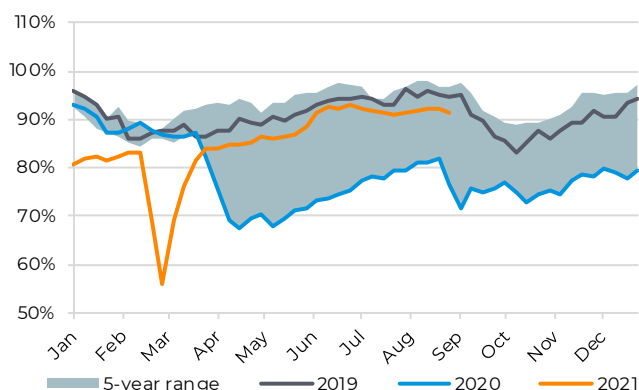
Source: Bloomberg, mBank

Gas & Oil

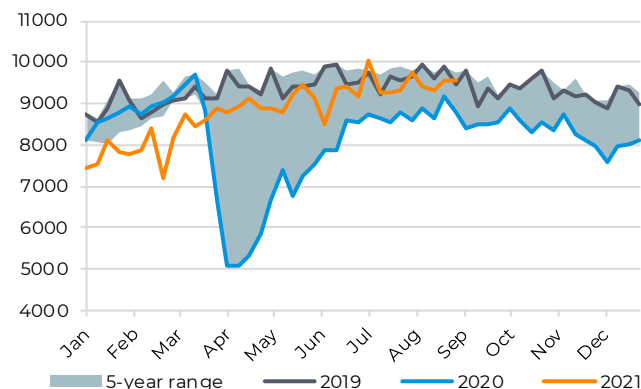
Diesel Inventories @ARA



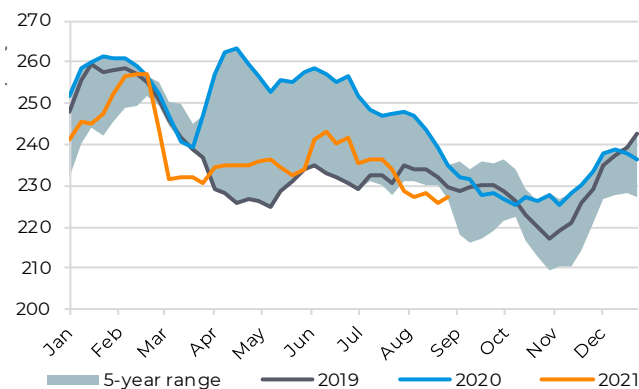
US Refinery Utilization Rates



US Gasoline Demand



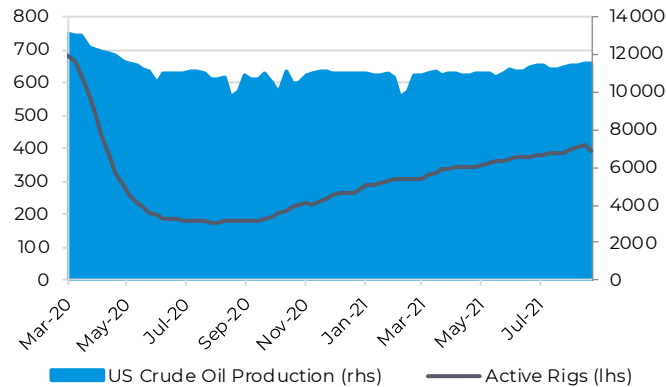
US Gasoline Inventories



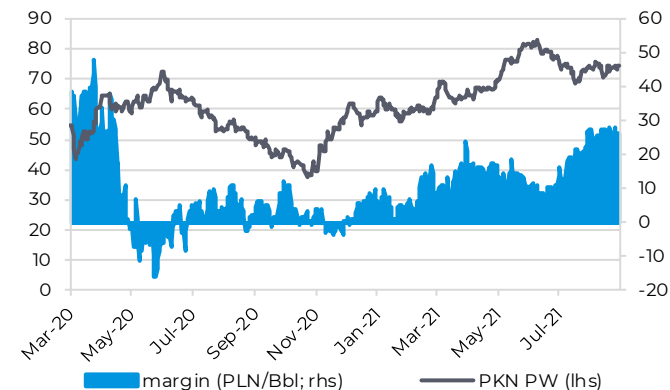
Global Refinery Outages (mbbl/d)



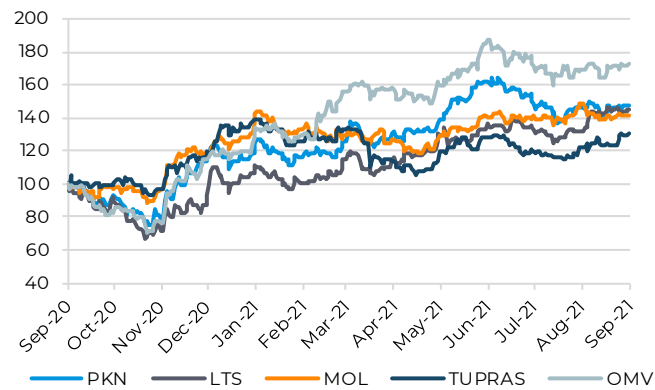
US Crude Oil Production (mboe/d) vs. Active Rigs



PKN Performance vs. Benchmark Margins



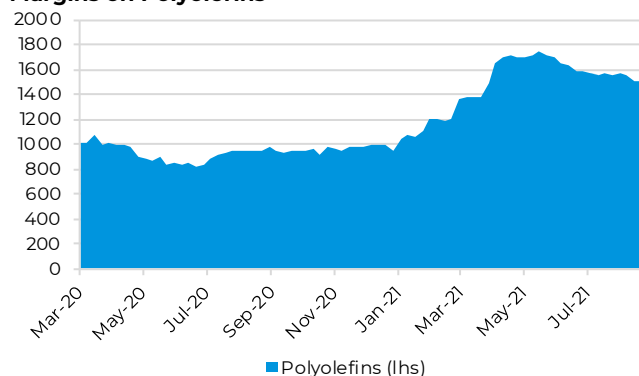
Normalized Oil Stock Chart



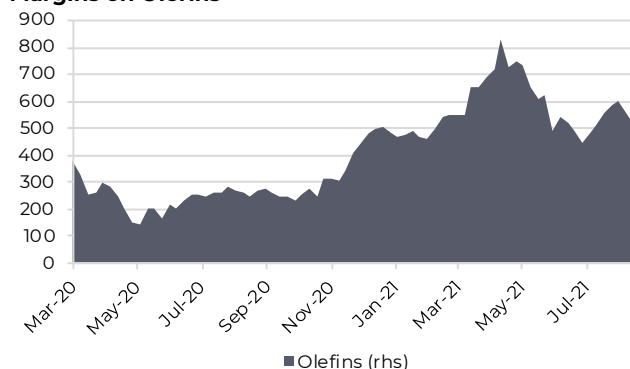
Source: Bloomberg, mBank

Petrochemicals & NatGas

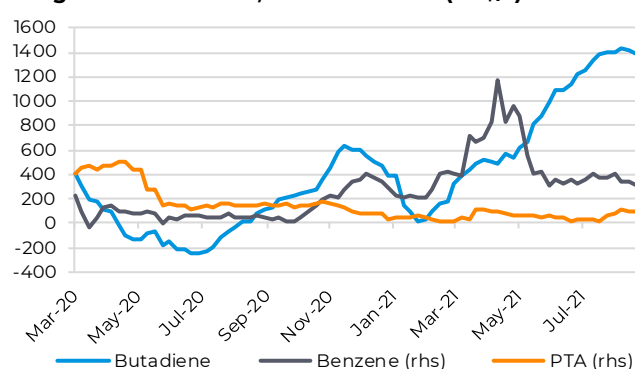
Margins on Polyolefins



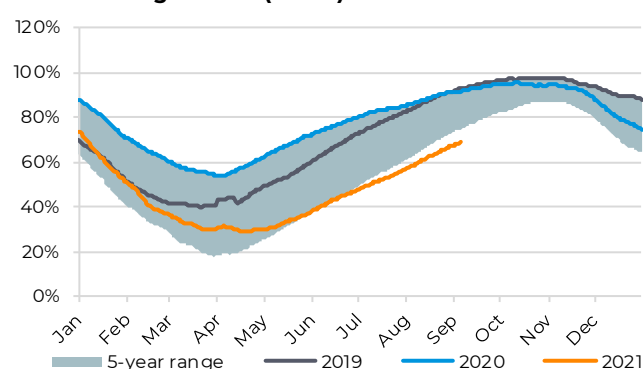
Margins on Olefins



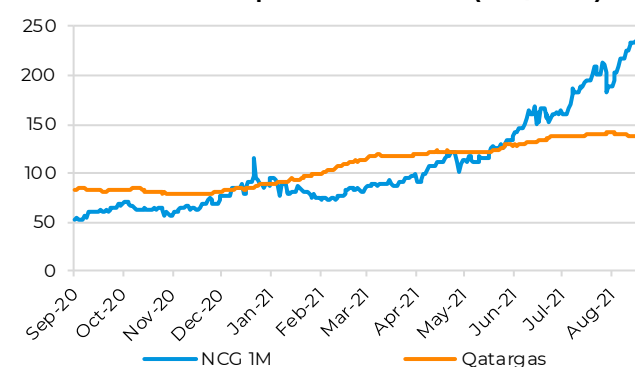
Margins on Butadiene, Benzene & PTA (US\$/t)



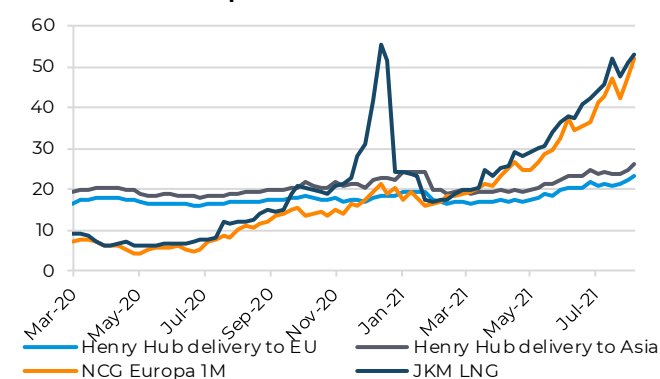
EU Gas Storage Levels (% Full)



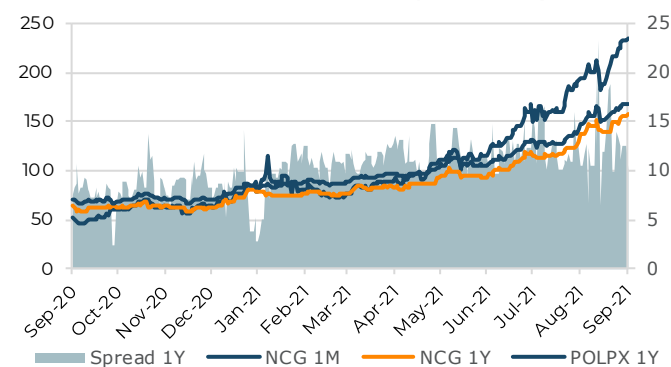
Estimated Costs of Imported Natural Gas (PLN/MWh)



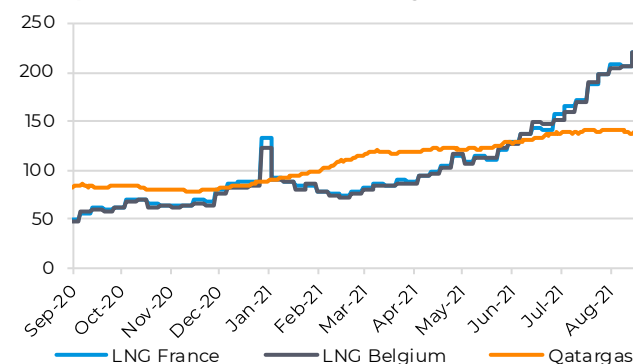
Prices of US LNG Exports to EU and Asia



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



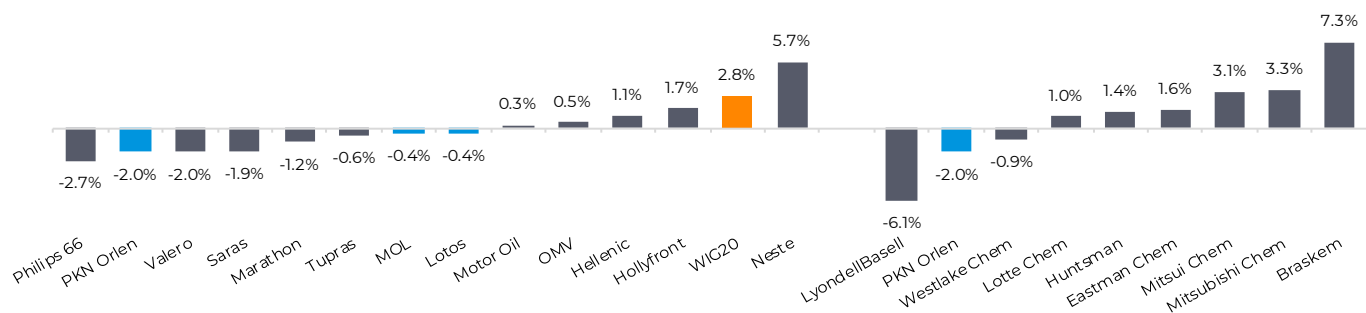
LNG Spot Rates vs. Estimated Qatargas rates



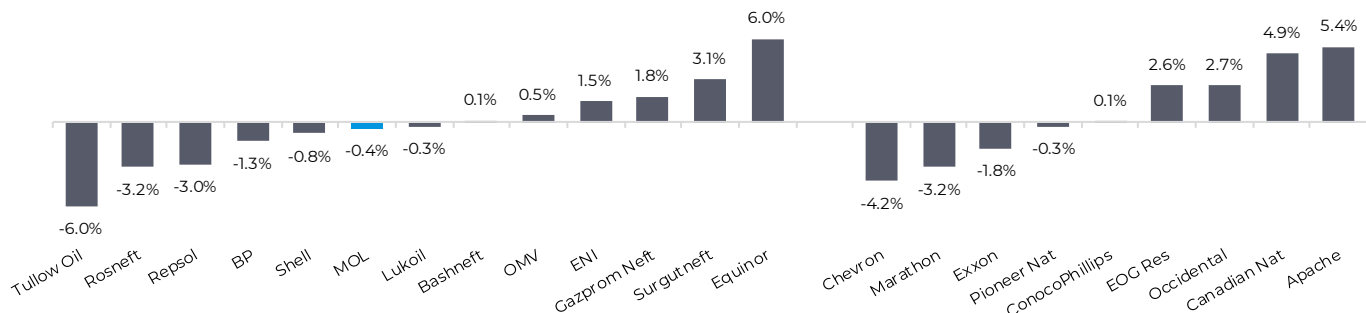
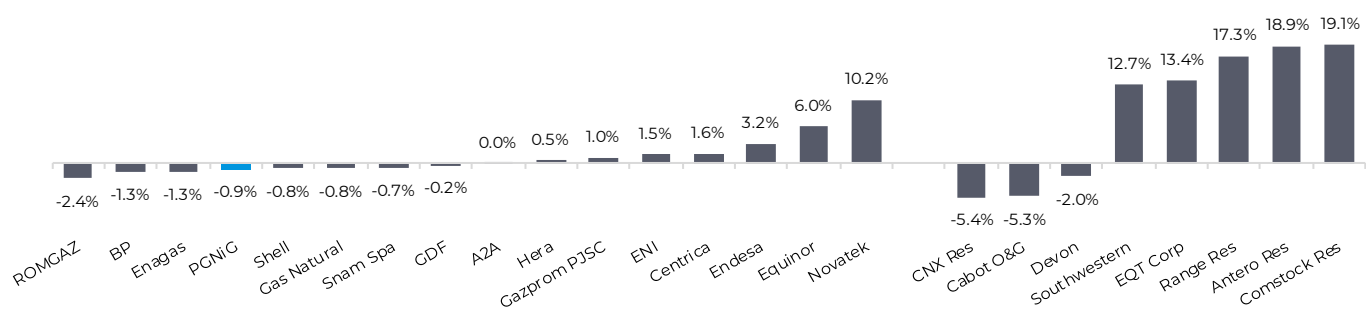
Source: Bloomberg, mBank

Weekly Performance Charts

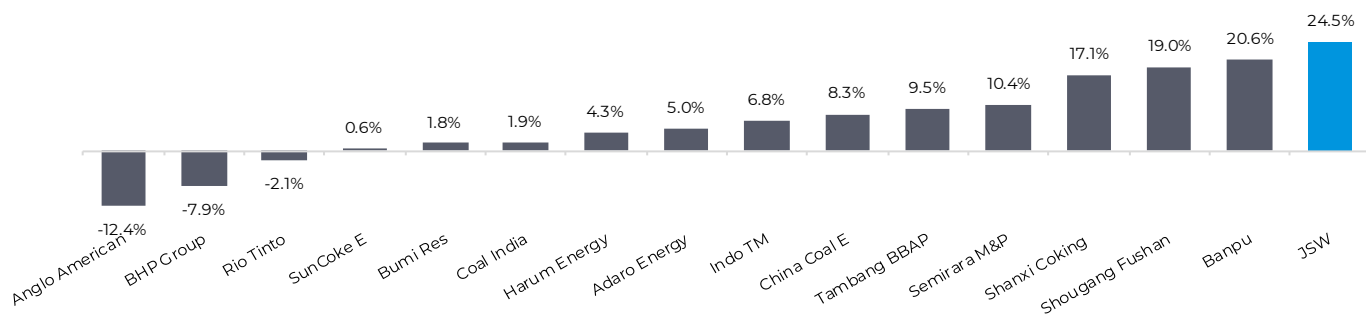
Oil Refiners (L) & Petrochemical Producers (R)



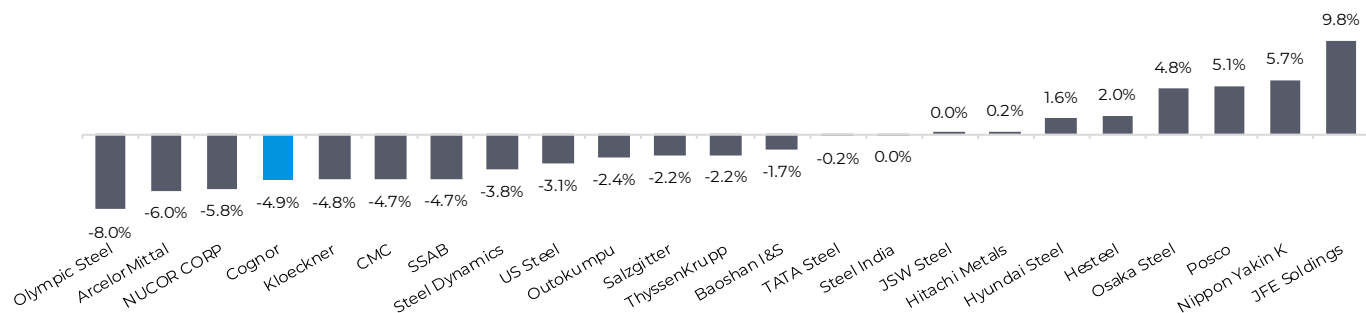
Natural Gas Companies



Coal Producers



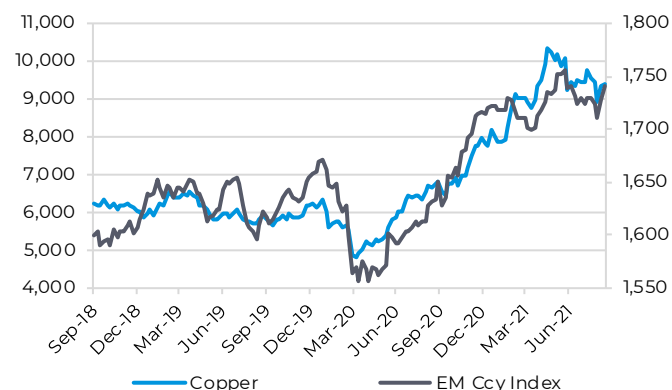
Steel Producers & Distributors



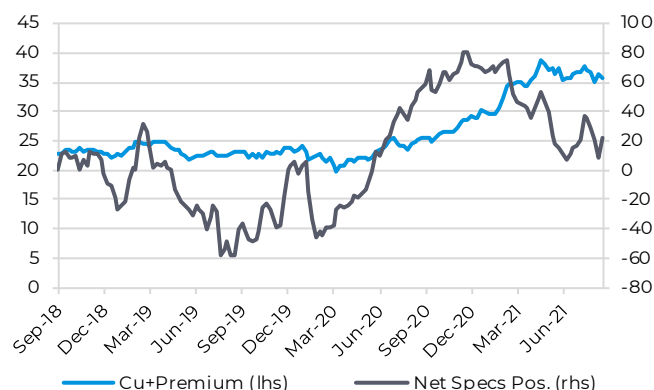
Source: Bloomberg, mBank

Copper Charts

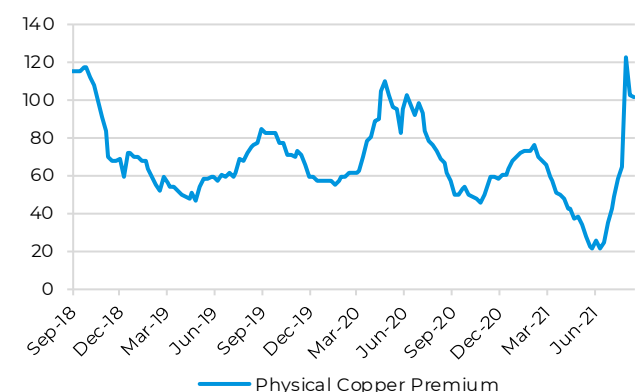
Cu Price (US\$/t) vs. EM Currencies (pts.; rhs)



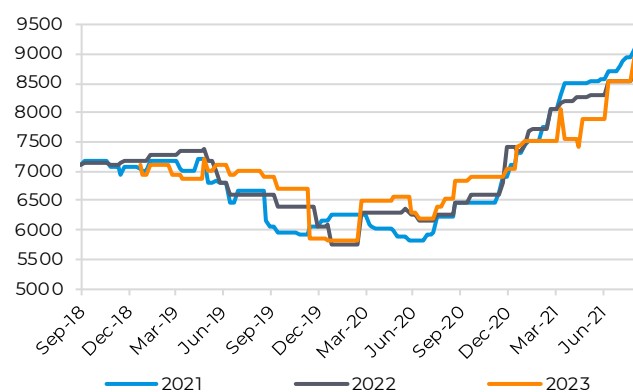
CU Price incl. Supplier Premium (PLN 1,000/t; lhs) vs. Net Speculative Positions (1,000, rhs)



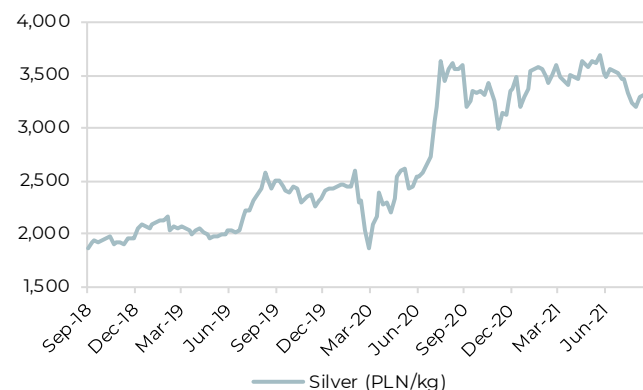
Physical Copper Premiums (USD/t)



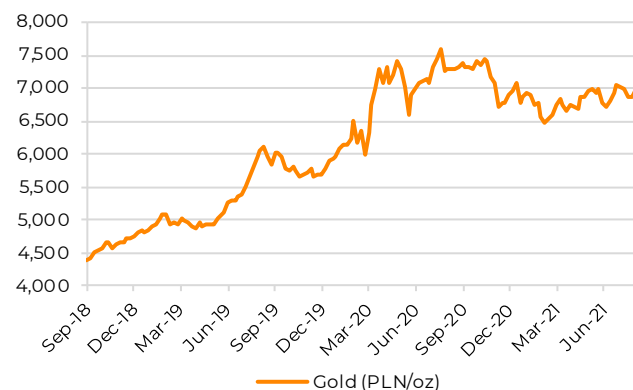
Copper Price Forecasts (median; US\$/t)



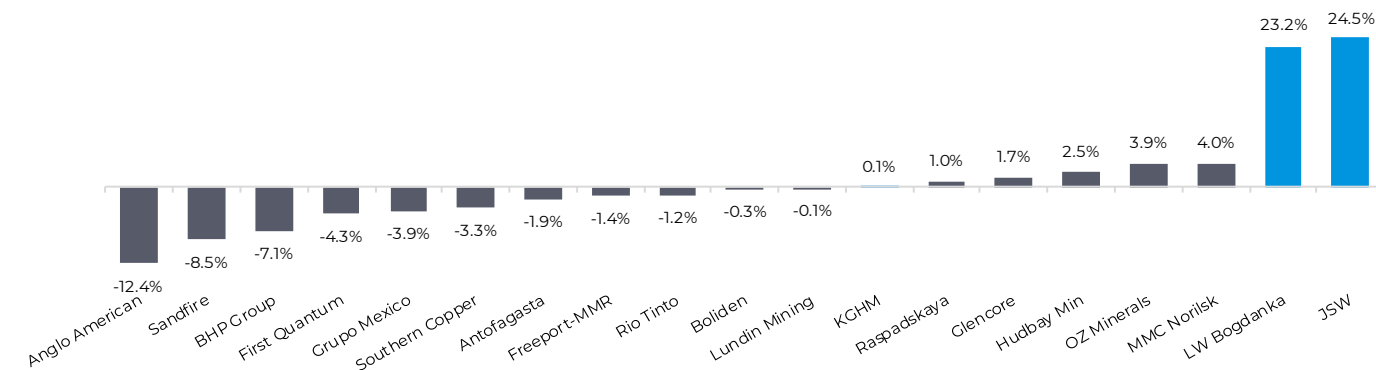
Silver prices (PLN/kg)



Prices of gold (PLN/oz)



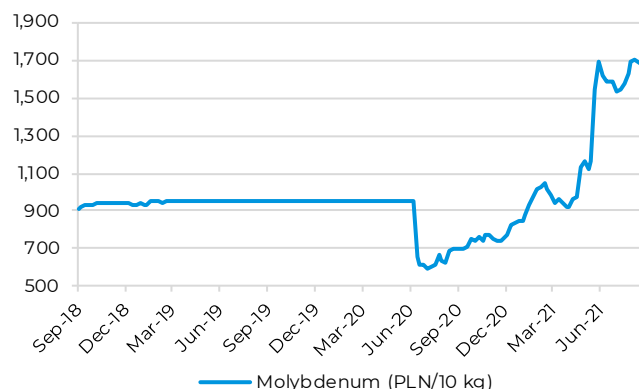
Weekly Returns of Metal & Mining Stocks



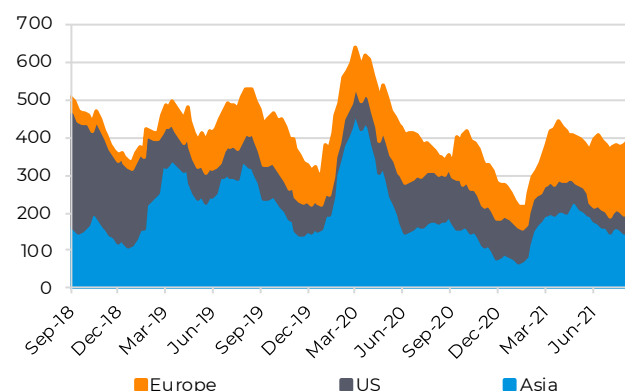
Source: Bloomberg, mBank

More Copper Charts

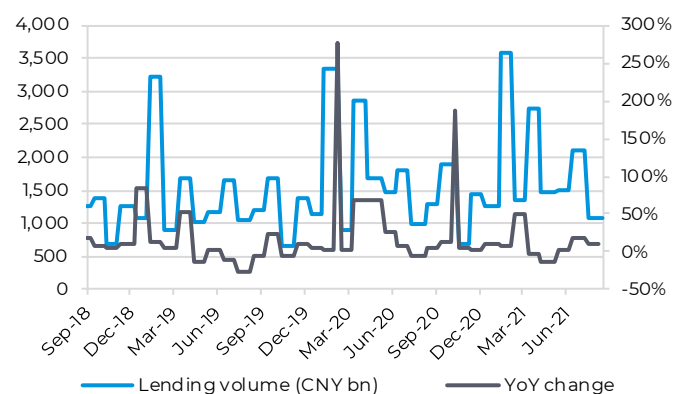
Prices of molybdenum (PLN/10 kg)



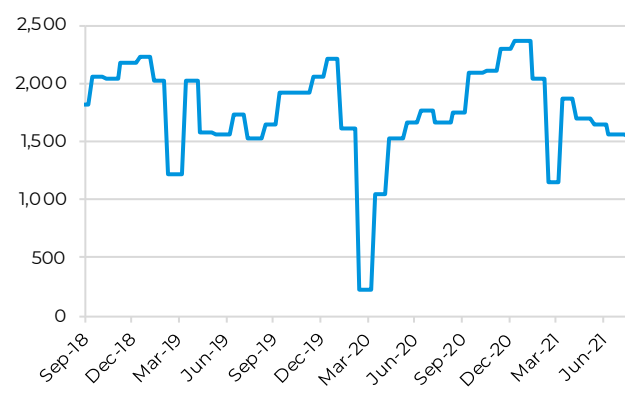
Global Copper Inventories (1,000t)



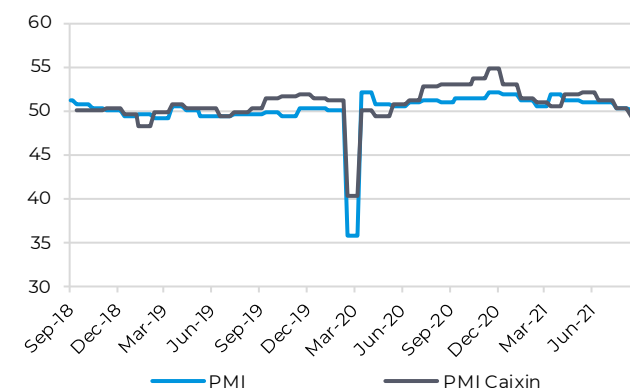
New Bank Lending in China (CNY bn)



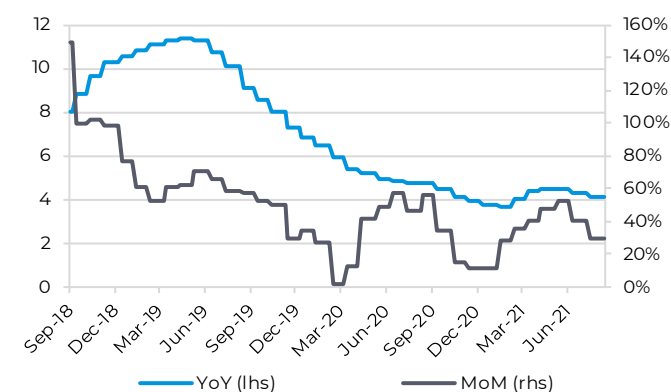
Car Sales in China (thousands)



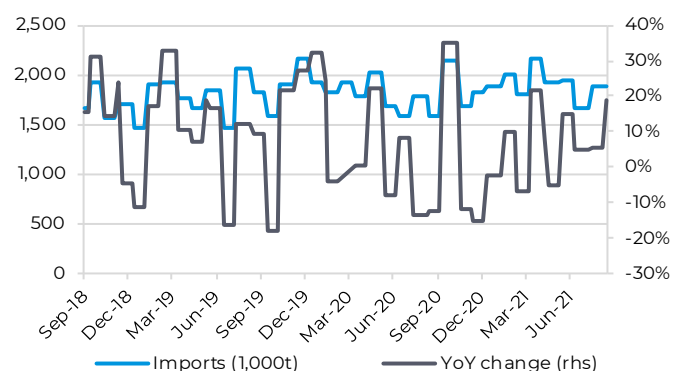
China PMI (points)



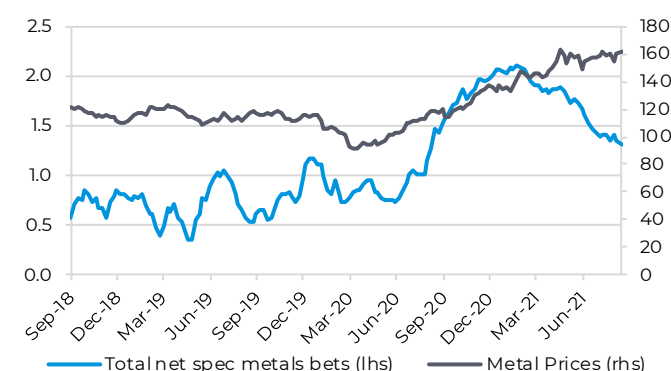
% Change In Avg. New Home Prices In 70 CN Cities



China Copper Concentrates Imports



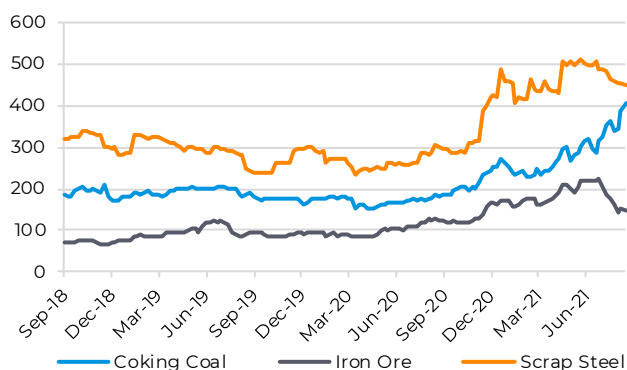
Metal Price Index (pts, rhs) vs. Net Speculative Positions (million contracts, lhs)



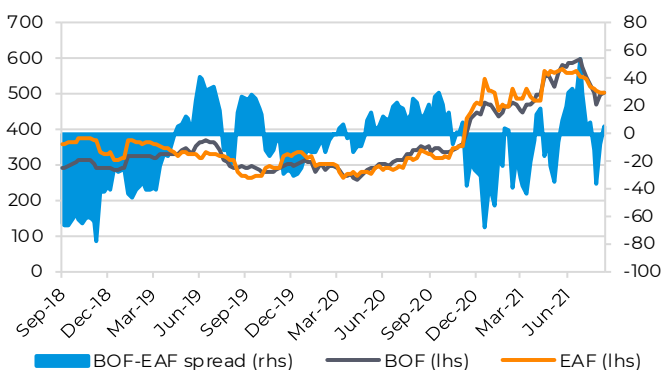
Source: Bloomberg, mBank

Steel Charts

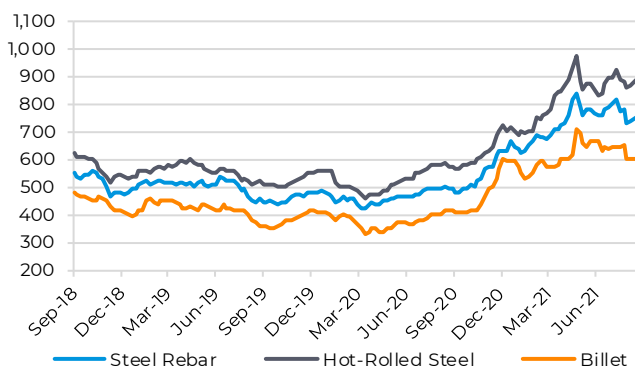
China Coking Coal & Iron Ore Prices, Rotterdam Scrap Steel Prices (US\$/t)



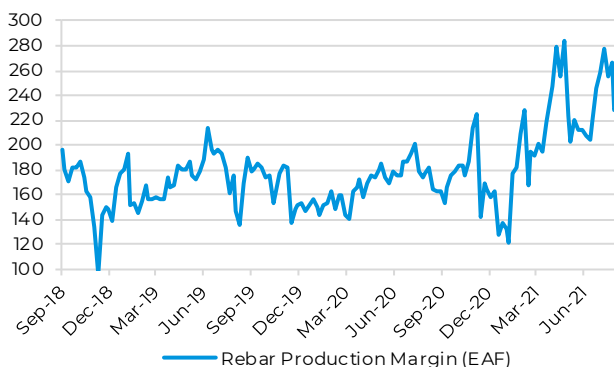
Production Costs of BOF vs. EAF Steel Producers (US\$/t)



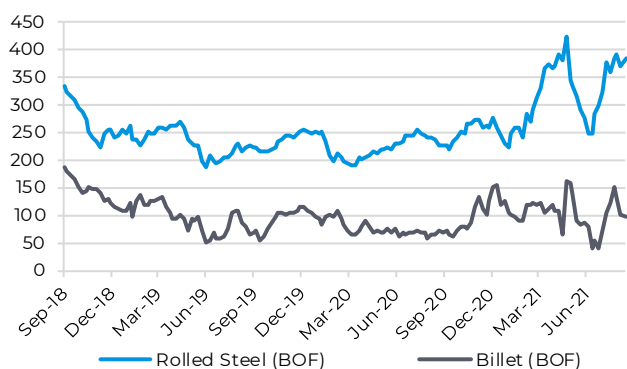
Prices of Steel Rebar & Hot-Rolled Steel (US\$/t)



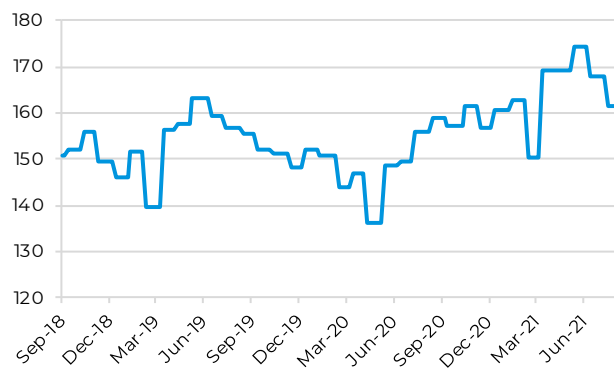
Rebar Production Margins of EAF Steelmakers (US\$/t)



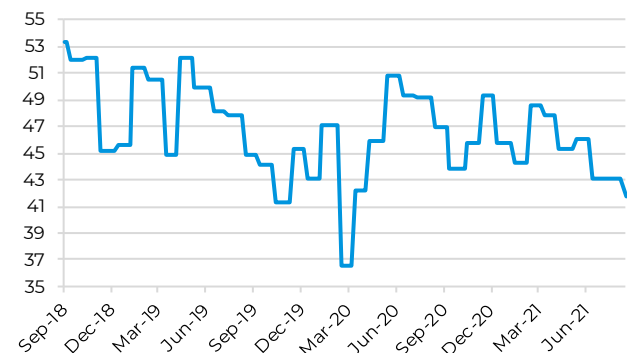
Rolled Steel & Billet Margins of BOF Steelmakers (US\$/t)



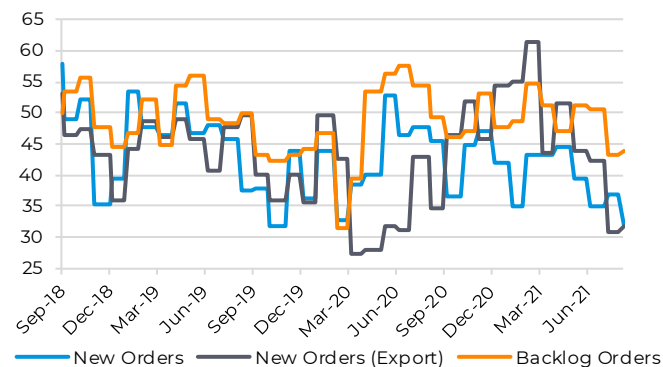
Global Steel Output (Mt)



China Steel PMI Index Industry Composite (pts)



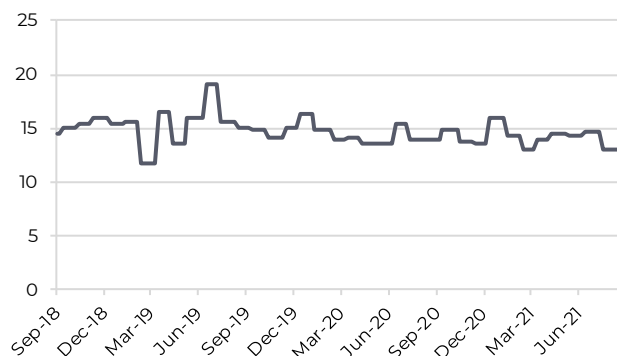
China PMI Index by Segments (pts)



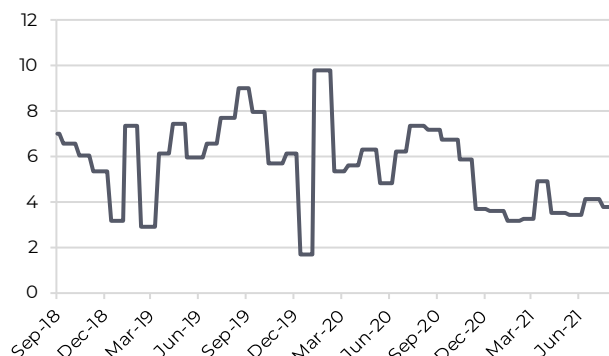
Source: Bloomberg, mBank

More Steel Charts

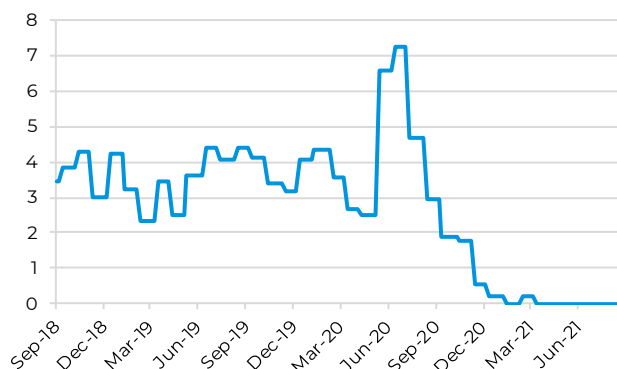
Australia Coking Coal Exports (mmt)



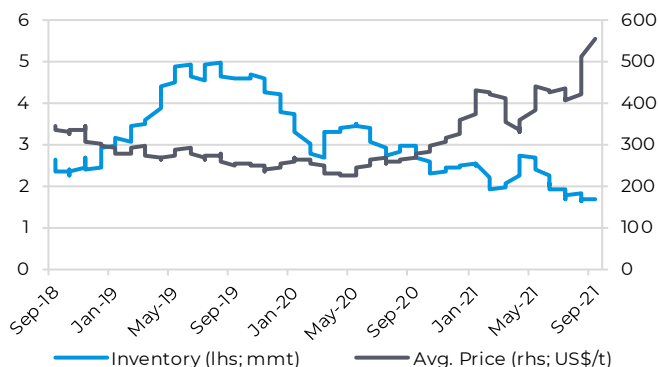
China Coking Coal Imports (mmt)



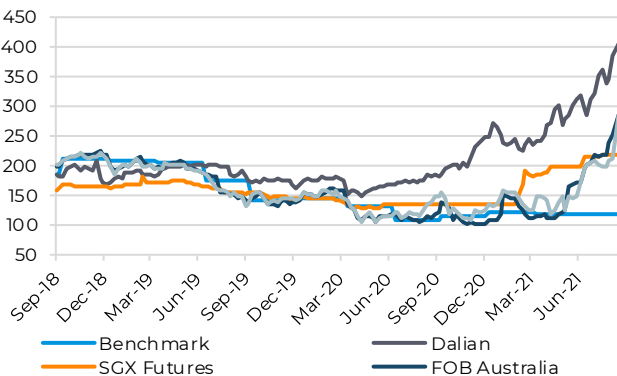
Australia Coking Coal Shipments To China (mmt)



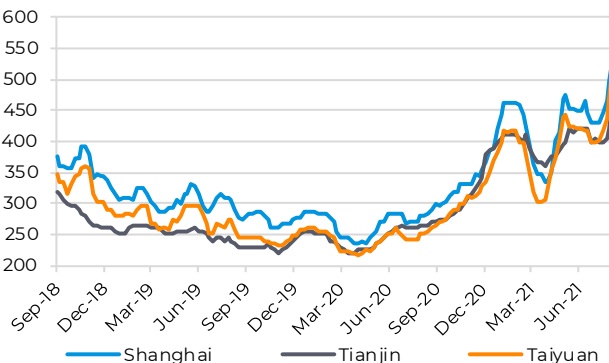
China Coke Inventories (lhs; mmt) & Average Prices (rhs; US\$/t)



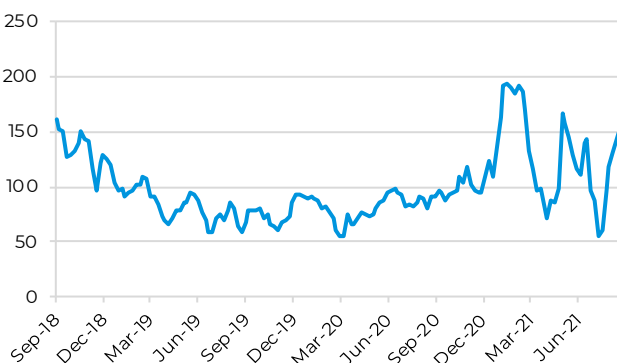
China Coking Coal Prices vs. Benchmark (US\$/t)



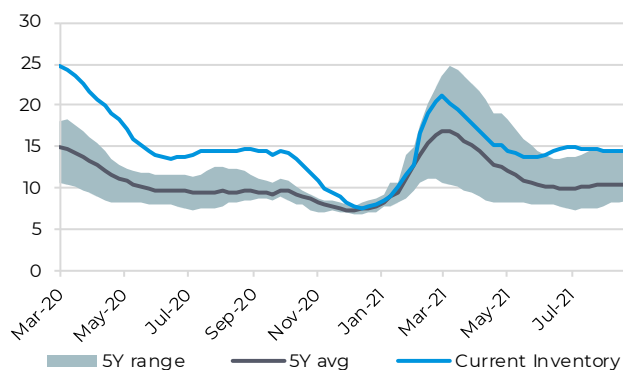
China Coke Prices (US\$/t)



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



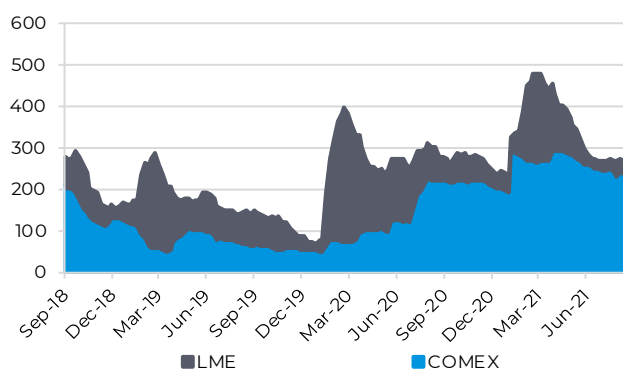
China Steel Inventory (mmt)



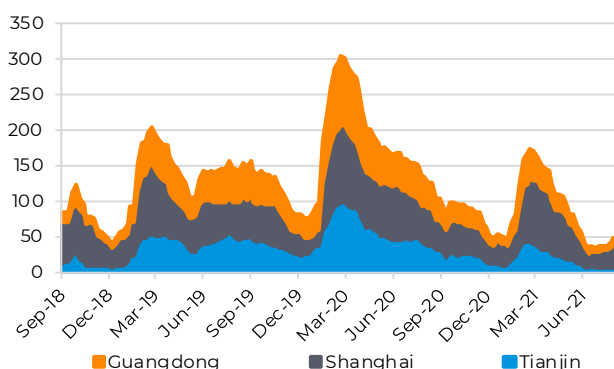
Source: Bloomberg, mBank

Zinc and Electrical Steel Charts

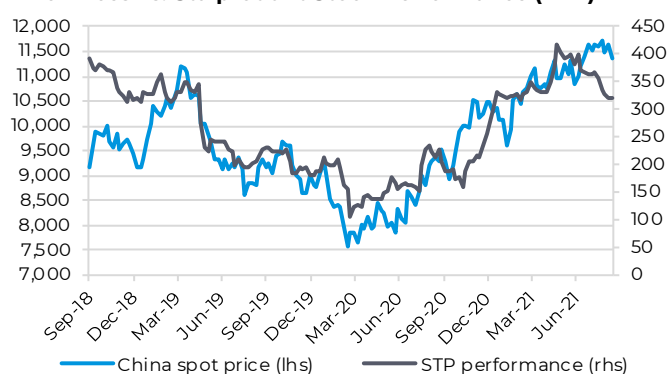
Exchange-Monitored Zinc Inventories (1,000t)



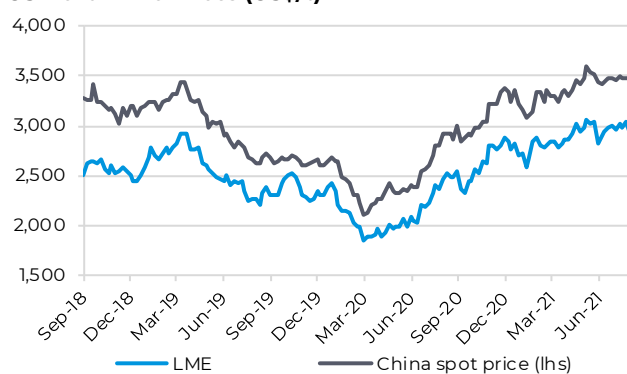
Zinc Inventories in Three Chinese Regions (1,000t)



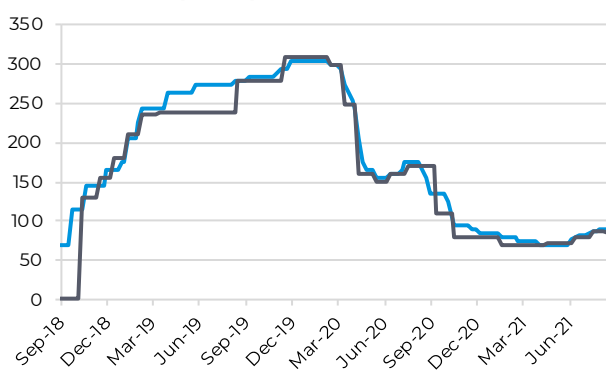
Zinc Prices vs. Stalprodukt Stock Performance (PLN)



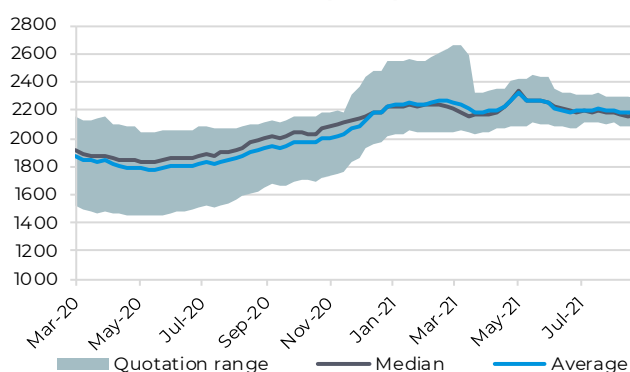
US Dollar Zinc Prices (US\$/t)



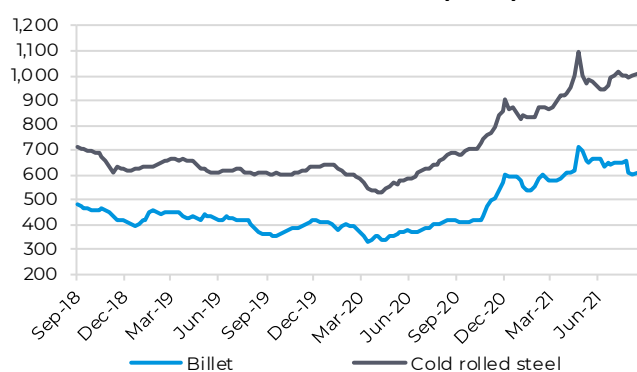
TC Premium Zinc (USD/t)



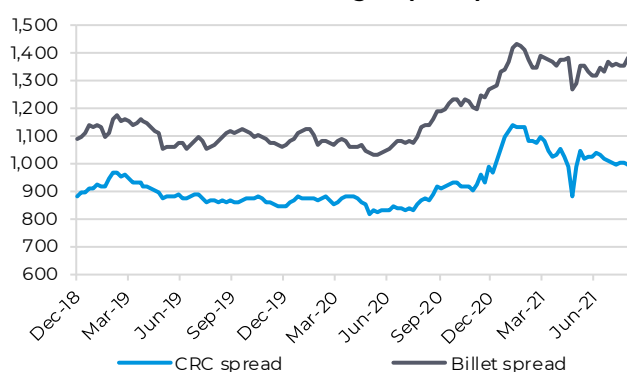
China Electrical Steel Prices (US\$/t)



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



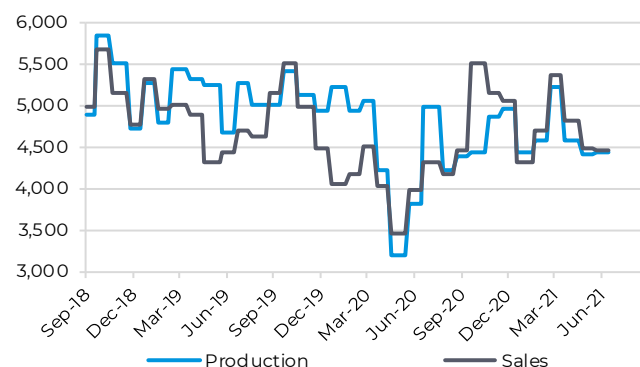
Electrical Steel Production Margins (US\$/t)



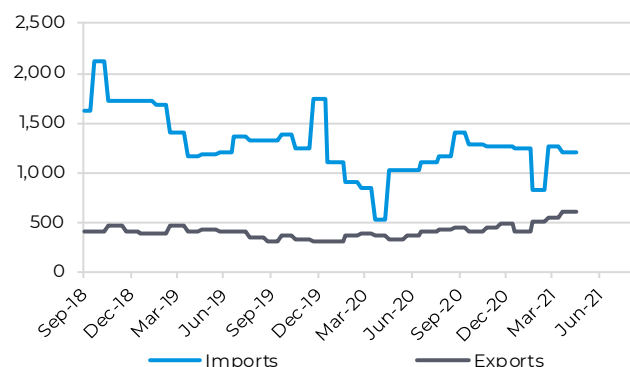
Source: Bloomberg, mBank

Thermal Coal Charts

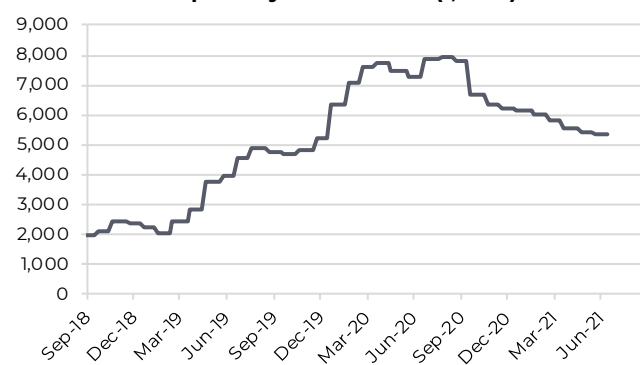
Hard Coal Production & Sales in Poland (1,000t)



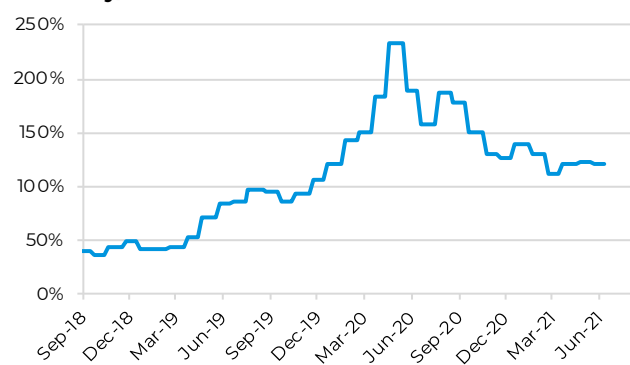
Poland Hard Coal Imports & Exports (1,000t)



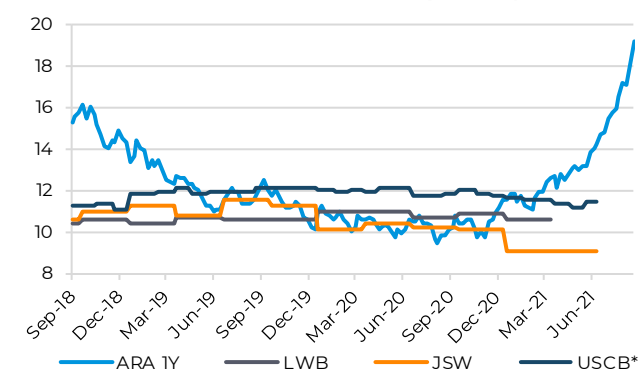
Hard Coal Stockpiled By Polish Mines (1,000t)



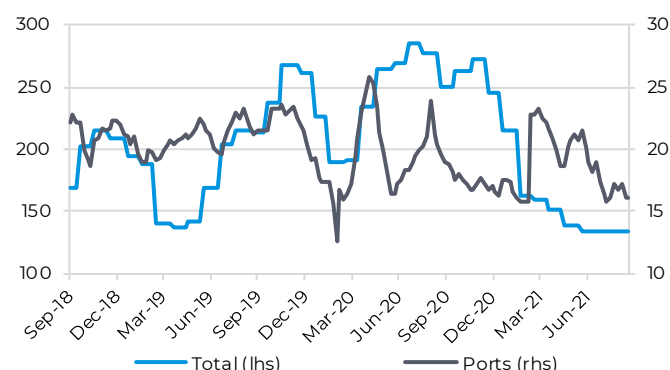
Inventory/ Production Ratio



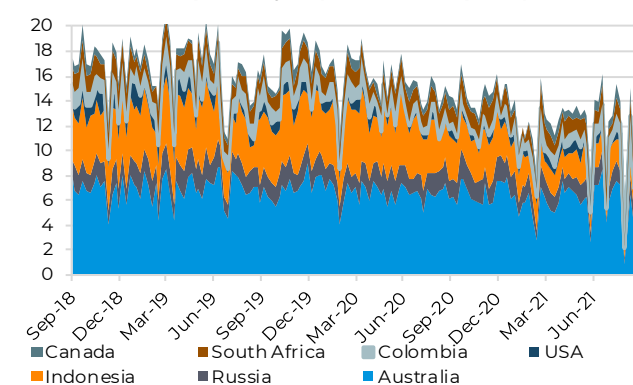
Thermal Coal Prices vs. Benchmarks (PLN/GJ)



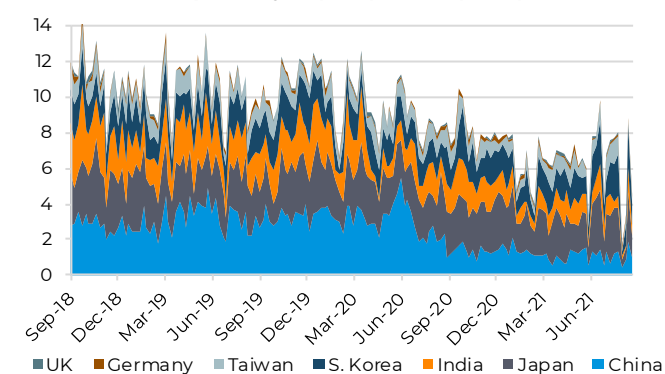
China Thermal Coal Inventories, Total & In Ports (mmt)



Thermal Coal Exports By Top Producers (mmt)



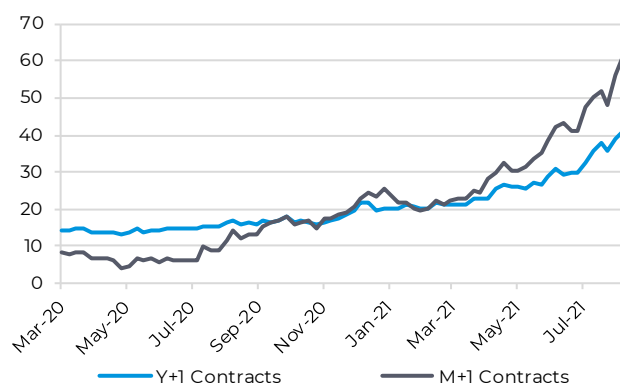
Thermal Coal Imports by Top Importers (mmt)



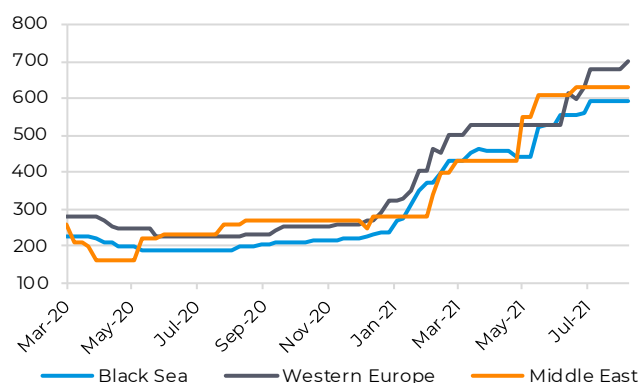
Source: Bloomberg, ARP, Eurostat, mBank *Upper Silesian Coal Basin

Fertilizer Charts

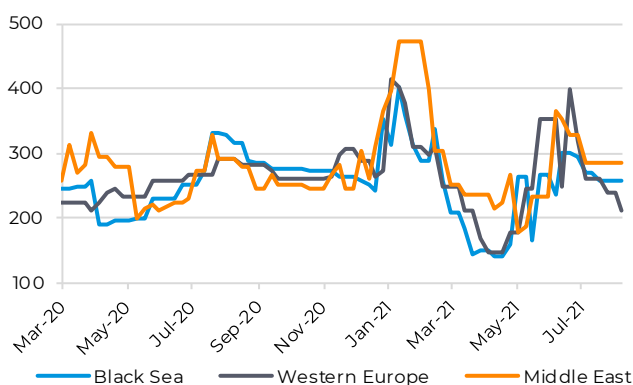
German NatGas Prices (US\$/MWh)



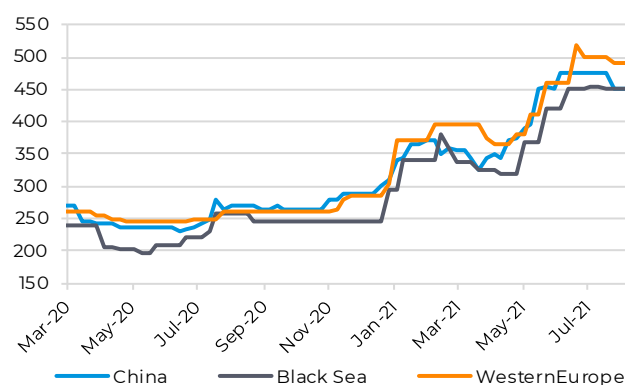
World Ammonia Prices (US\$/t)



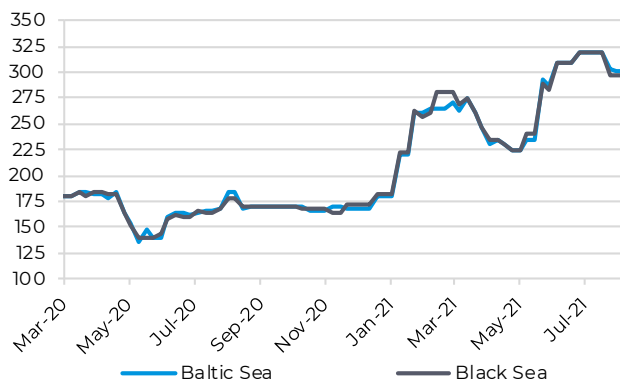
Urea-Ammonia Price Difference



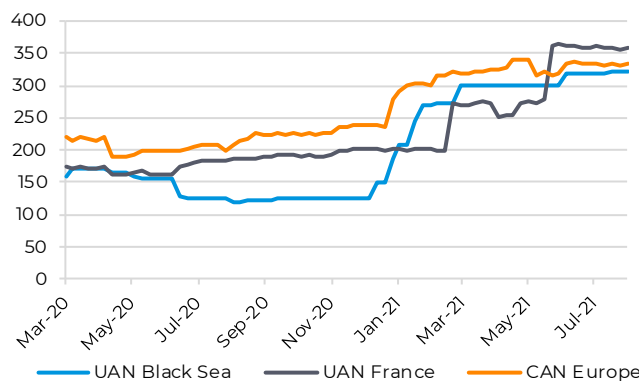
World Urea Prices (US\$/t)



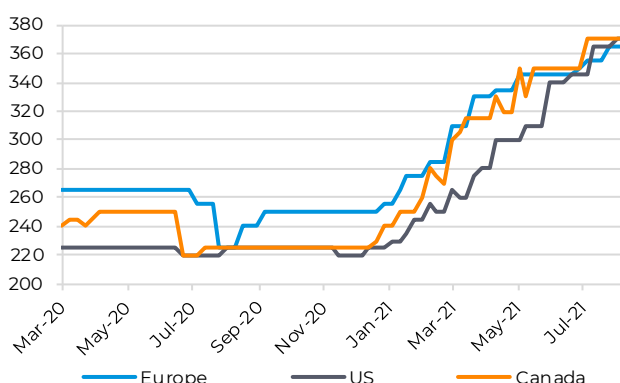
World Ammonium Nitrate Prices (US\$/t)



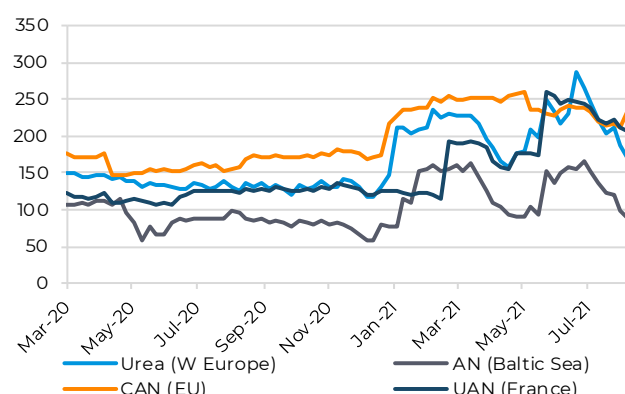
CAN & UAN prices (US\$/t)



World Ammonium Sulfate Prices (US\$/t)



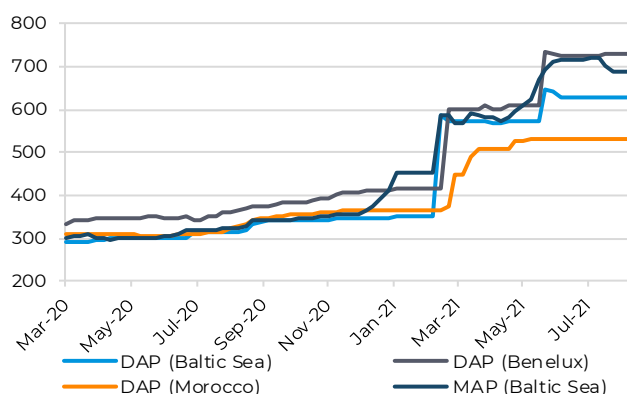
Production Margins On Nitrogen Fertilizers (US\$/t)



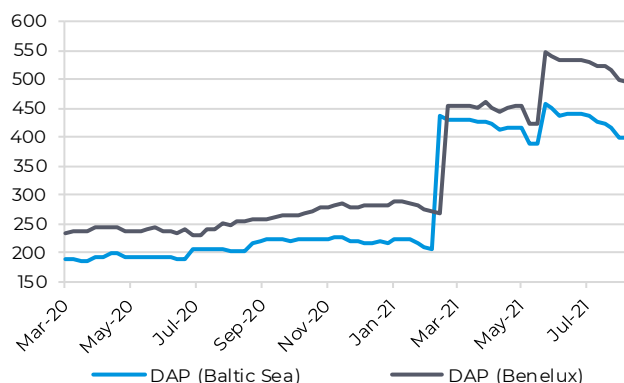
Source: Bloomberg, mBank

Fertilizer Charts

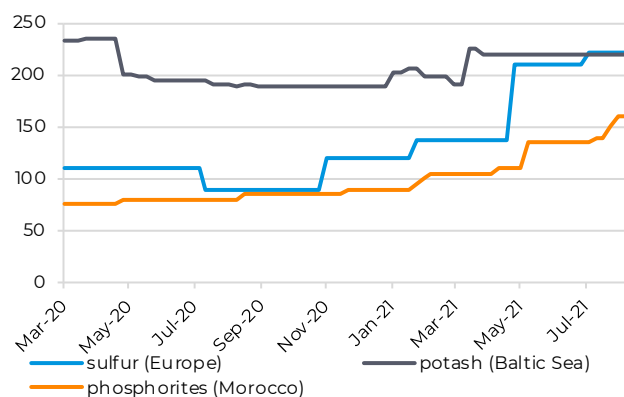
Prices of P & K Fertilizers (US\$/t)



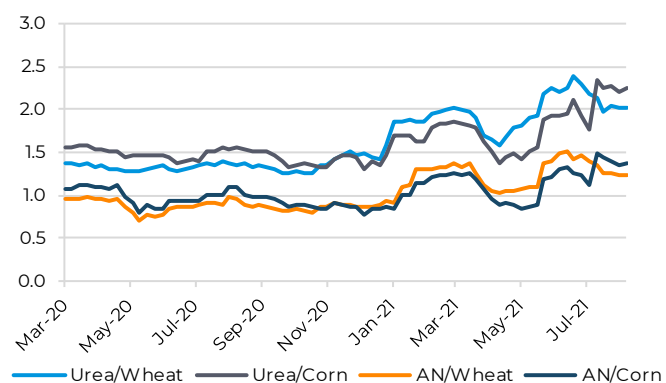
Production Margins on P & K Fertilizers (US\$/t)



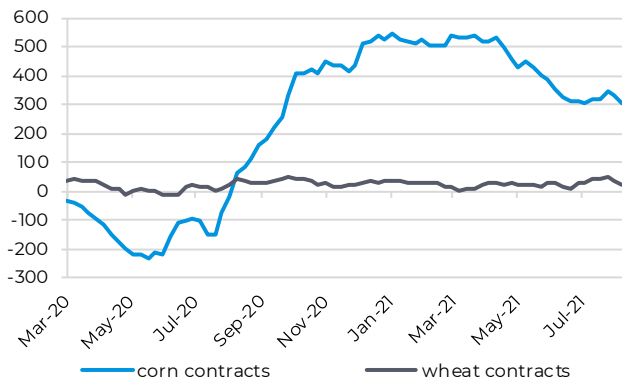
Prices of Sulfur, Potash & Phosphorites (US\$/t)



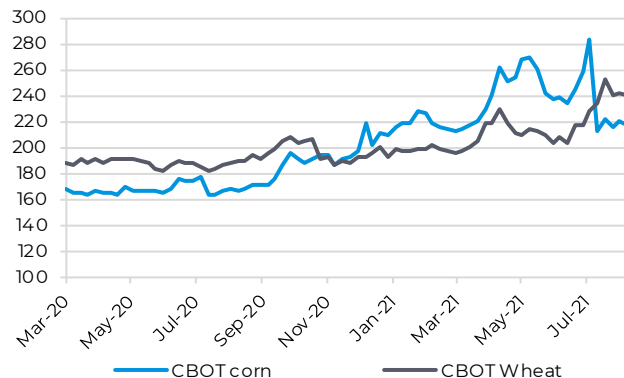
Fertilizer-to-Crop Price Ratios



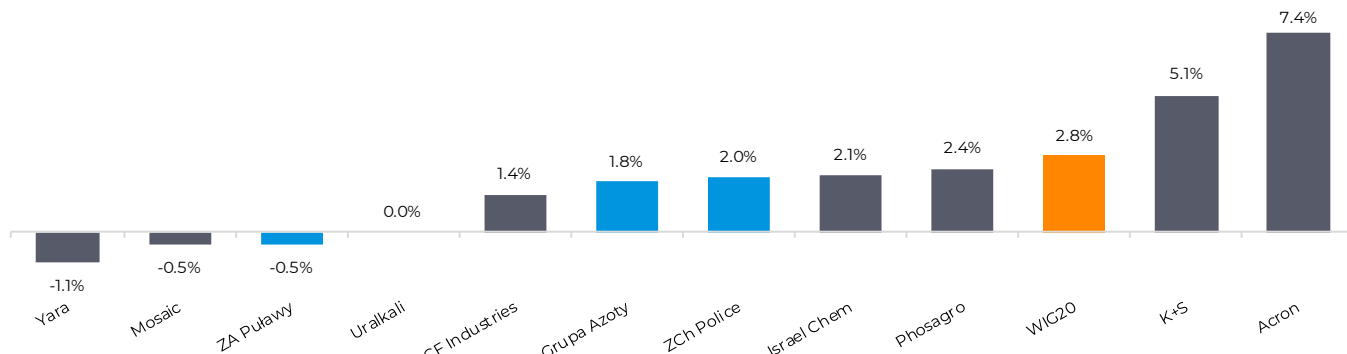
CBOT Open Positions In Corn and Wheat CBT



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



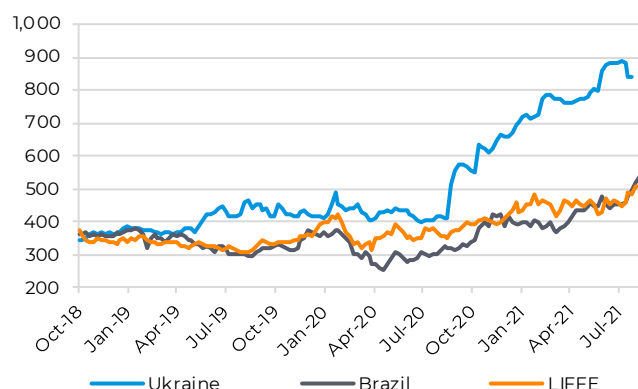
Weekly Returns of Fertilizer Stocks



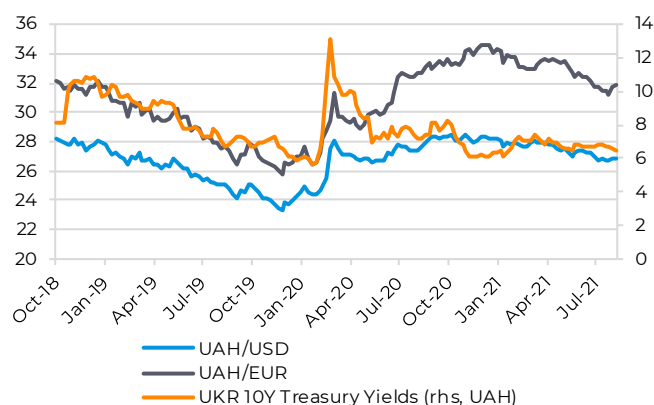
Source: Bloomberg, mBank

Agricultural Commodities

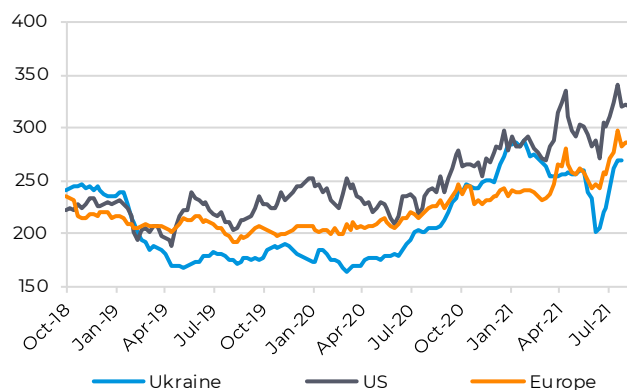
Sugar Prices (US\$/Mt)



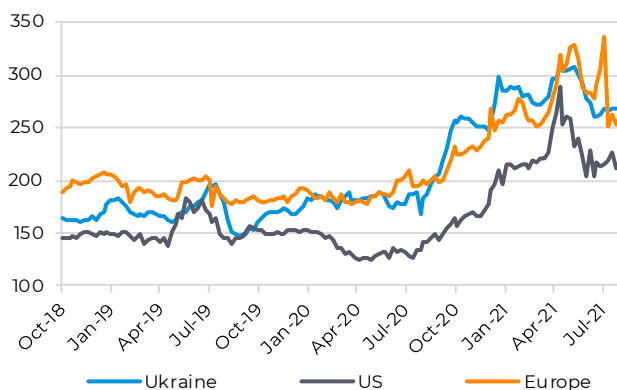
UAH Exchange Rates & Ukraine 10Y Treasury Yields



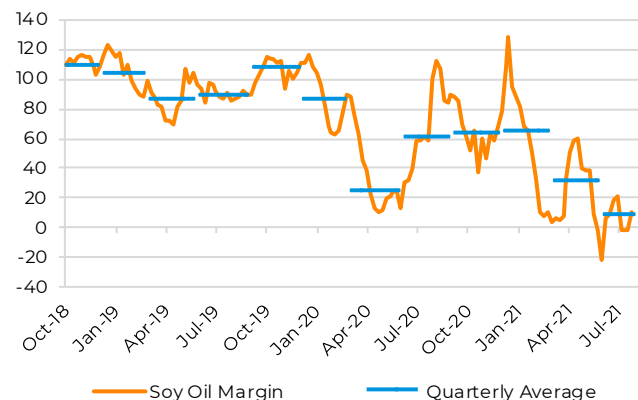
Wheat Prices (US\$/Mt)



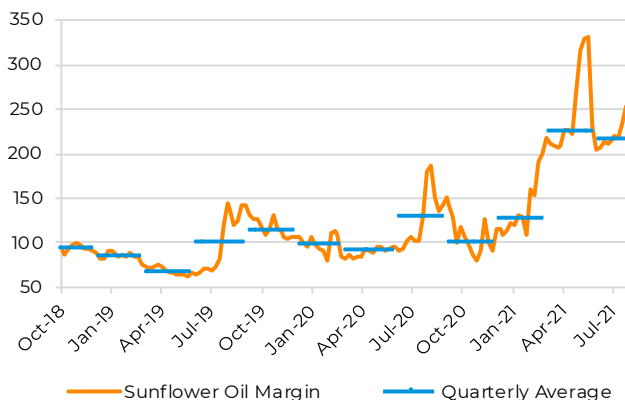
Corn Prices (US\$/Mt)



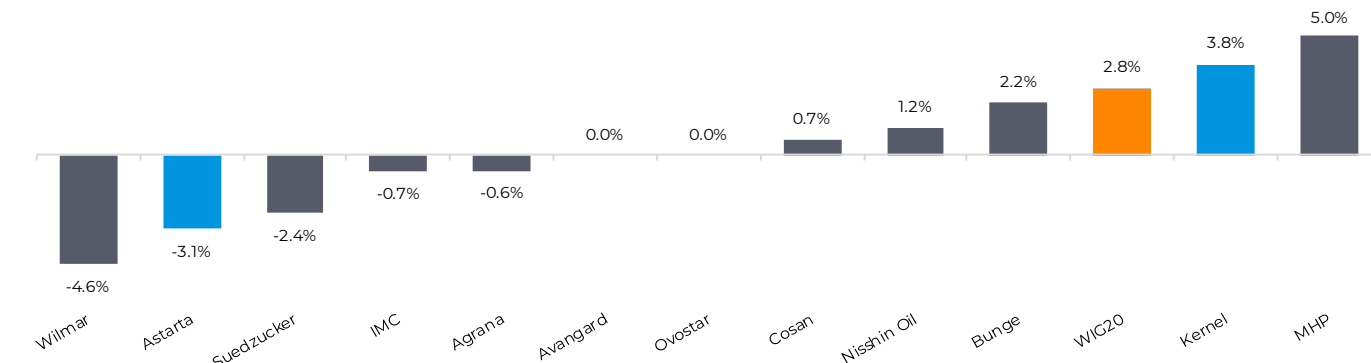
Model Margins on Soy Oil (US\$/Mt)



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	684.0	8.5	8.1	7.8	2.5	2.7	2.6	20.2	17.1	15.8	30%	34%	33%	7.6%	4.9%	5.9%
Enea	9.6	3.3	3.0	2.9	0.7	0.5	0.4	3.8	4.7	4.6	20%	15%	15%	0.0%	0.0%	4.3%
PGE	9.8	3.4	3.7	3.5	0.6	0.4	0.4	10.1	44.1	19.5	17%	10%	11%	0.0%	0.0%	1.1%
Tauron	3.5	4.9	5.1	4.9	1.0	0.9	0.8	4.6	6.4	6.0	21%	17%	17%	0.0%	0.0%	0.0%
ZE PAK*	11.9	6.2	5.3	3.6	0.3	0.3	0.3	-	-	-	5%	6%	9%	-	-	-
median		4.9	5.1	3.6	0.7	0.5	0.4	7.3	11.7	10.9	20%	15%	15%	0.0%	0.0%	2.7%
Vertically Integrated Utilities																
EDF	10.92	4.8	4.3	4.0	1.2	1.1	1.0	52.1	9.3	8.3	0.2	25%	25%	2%	4.9%	5.7%
EDP	4.788	10.2	10.1	9.6	3.1	2.7	2.6	22.8	20.5	18.9	0.3	27%	27%	4%	4.1%	4.3%
Endesa	20.74	7.7	7.3	7.0	1.8	1.5	1.5	15.7	12.9	12.6	0.2	20%	21%	6%	5.4%	5.5%
Enel	7.715	9.3	7.5	7.1	2.3	2.0	1.9	29.7	13.4	12.4	0.2	27%	27%	5%	5.2%	5.6%
Engie	12.056	10.3	5.6	5.4	1.0	1.0	1.0	-	11.1	10.4	0.1	18%	19%	4%	6.5%	6.8%
Fortum	26.4	12.8	11.1	10.7	0.7	0.5	0.5	15.6	15.9	16.9	0.1	5%	5%	4%	4.4%	4.5%
median		9.8	7.4	7.1	1.5	1.3	1.2	22.8	13.2	12.5	24%	23%	23%	4.3%	5.0%	5.5%
Transmission System Operators																
EON	11.1	10.1	8.2	8.3	1.0	1.0	0.9	28.5	12.4	12.3	10%	12%	11%	4.2%	4.6%	4.7%
Elia Group	105.8	14.3	12.6	11.6	5.6	5.3	5.1	31.1	26.6	24.2	39%	42%	44%	1.6%	1.7%	1.7%
EVN	24.3	0.3	8.7	8.5	0.0	2.7	2.6	1.0	23.5	22.0	18%	31%	31%	100%+	1.7%	1.7%
IREN	2.6	7.1	6.7	6.4	1.6	1.5	1.5	13.3	12.4	11.4	23%	23%	23%	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	17.2	10.8	10.3	10.1	8.0	8.0	7.8	15.0	13.2	13.2	74%	78%	78%	5.0%	5.8%	5.2%
Redes Energeticas	2.5	9.2	9.2	9.1	5.6	5.6	5.5	14.3	14.1	14.1	62%	61%	61%	6.5%	6.7%	6.1%
SSE	16.5	8.2	12.2	11.9	3.9	3.1	3.5	7.5	18.0	17.4	48%	25%	29%	4.9%	5.0%	5.2%
Terna	6.7	12.4	12.6	12.0	9.0	8.9	8.6	17.1	17.8	16.7	72%	71%	72%	4.3%	4.6%	5.1%
median		10.1	10.3	10.0	4.2	4.0	3.9	15.0	15.8	14.1	39%	36%	39%	4.6%	4.6%	5.1%

Renewable energy company valuations

Renewable energy company valuations																
		EV/EBITDA			EV/S			P/E			EBITDA margin			DY		
	price	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Renewables																
Polenergia	74.5	14.7	14.4	11.0	1.8	1.6	1.5	28.2	29.2	18.5	12%	11%	14%	0.0%	0.0%	0.0%
Wind																
Abo Wind	48.3	0.3	10.1	9.3	0.1	2.0	1.9	18.8	22.8	20.3	18%	20%	20%	2.2%	1.0%	1.0%
Avangrid	54.7	1.4	10.7	9.7	0.3	3.8	3.6	2.3	23.0	22.0	18%	36%	37%	100%+	3.3%	3.3%
Boralex	40.1	14.7	13.8	12.6	11.0	10.2	9.2	81.9	52.8	37.3	75%	74%	73%	1.7%	1.7%	1.7%
Edp Renovaveis	22.9	17.2	15.9	14.5	14.9	13.4	12.0	43.8	39.5	34.6	87%	84%	83%	0.4%	0.5%	0.5%
Eolus Vind	179.6	17.8	18.0	6.2	0.9	1.7	0.6	27.0	32.6	9.9	5%	9%	9%	0.2%	0.2%	0.2%
Falck Renewables	7.2	0.2	13.0	12.2	0.0	6.4	6.2	0.3	38.3	34.0	18%	50%	51%	100%+	1.0%	1.0%
Iberdrola	10.4	13.1	10.5	9.8	3.8	3.2	3.0	18.9	16.2	15.3	29%	30%	31%	3.1%	4.4%	4.7%
Orsted	981.4	19.0	18.4	17.6	7.4	7.3	7.0	43.6	44.4	43.4	39%	40%	40%	1.3%	1.4%	1.5%
PNE	7.4	28.8	18.9	13.6	5.2	5.3	4.0	-	100+	89.5	18%	28%	30%	0.5%	0.5%	0.5%
Terna Energy	12.0	12.2	12.1	8.1	7.7	7.1	5.2	65.1	24.1	16.2	63%	59%	63%	3.0%	3.1%	3.3%
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	20.1	0.3	11.4	11.0	0.1	11.4	11.2	0.8	23.6	20.0	18%	100%	101%	100%+	4.7%	4.7%
Xcel Energy	69.8	13.9	12.8	12.1	5.0	4.9	4.7	23.4	22.0	20.7	36%	38%	39%	2.6%	2.8%	2.9%
median		13.9	13.0	12.1	5.0	6.4	5.2	25.2	24.1	22.0	29%	40%	40%	1.7%	1.4%	1.5%
Solar																
Azure Power	21.8	24.5	13.0	10.1	12.4	10.3	8.2	-	100+	40.9	51%	79%	81%	-	-	-
Clearway Energy	31.7	13.9	12.8	12.6	12.0	11.0	11.2	30.2	19.4	22.0	86%	86%	89%	4.2%	4.5%	4.8%
Neoen	35.0	0.3	15.9	12.6	0.1	12.9	10.3	1.4	68.5	46.5	18%	81%	82%	100%+	0.1%	0.5%
Renova	4900.0	47.0	39.3	36.0	25.0	16.7	14.9	32.7	80.8	100+	53%	42%	41%	-	-	-
Solaria Energia	16.5	29.6	17.7	13.1	23.8	14.2	10.4	52.6	32.0	23.5	81%	80%	79%	-	-	-
median		24.5	15.9	12.6	12.4	12.9	10.4	31.5	50.3	32.2	53%	80%	81%	4.2%	2.3%	2.7%
Mix																
Erg	25.6	10.7	11.3	10.7	5.0	5.1	5.0	27.7	32.3	31.2	47%	45%	46%	2.9%	2.9%	2.9%
Innervex	20.5	15.6	14.4	13.7	11.7	11.0	11.1	-	65.1	80.8	75%	77%	81%	3.5%	3.6%	3.6%
Nextera	81.0	0.8	10.0	9.1	0.1	11.0	9.4	3.3	26.7	27.9	18%	110%	103%	100%+	3.7%	4.2%
Northland Power	42.6	14.3	12.9	11.9	8.0	6.9	7.0	46.9	28.0	27.3	56%	54%	58%	2.8%	2.8%	2.8%
Brookfield Renewable	41.7	26.4	25.3	24.2	12.3	11.6	10.7	-	100+	76.7	46%	46%	44%	2.9%	3.1%	3.2%
Meridian Energy	5.1	16.3	19.8	19.5	3.4	4.0	4.3	30.7	54.5	51.2	21%	20%	22%	3.3%	3.3%	3.4%
Verbund	94.6	27.5	20.1	19.4	11.1	8.7	8.4	52.0	37.6	36.0	40%	43%	43%	0.8%	1.3%	1.4%
median		14.9	13.6	12.8	6.5	9.0	8.2	29.2	32.3	41.2	47%	50%	52%	2.9%	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	58.28	3.7	4.6	3.7	0.5	0.4	0.4	6.3	12.8	8.3	13%	10%	11%	0.0%	5.1%	5.1%
MOL	2410.00	3.7	4.6	3.9	0.6	0.6	0.6	7.5	16.5	9.8	16%	13%	15%	4.0%	4.3%	4.3%
PKN Orlen	74.50	4.7	6.9	6.2	0.5	0.6	0.6	7.8	24.0	14.4	11%	8%	10%	4.7%	4.7%	4.7%
Hellenic Petroleum	6.00	-	6.3	5.9	0.7	0.5	0.5	-	9.8	7.8	-	8%	8%	1.7%	6.1%	7.4%
HollyFrontier	30.73	-	5.0	4.7	0.7	0.5	0.5	-	9.3	8.0	-	9%	10%	4.6%	3.7%	4.7%
Marathon Petroleum	58.24	-	6.8	6.2	0.8	0.6	0.5	-	19.0	14.6	-	9%	9%	4.0%	4.2%	4.4%
Motor Oil	13.57	7.5	5.6	5.4	0.4	0.4	0.4	9.6	5.9	5.5	5%	6%	7%	6.6%	8.7%	9.7%
Neste Oil	53.72	30.3	18.0	14.5	3.6	2.9	2.6	57.8	28.6	22.5	12%	16%	18%	1.5%	1.8%	2.3%
OMV	47.55	11.5	5.0	5.1	2.1	1.2	1.2	12.4	7.5	7.8	18%	23%	23%	3.9%	4.5%	4.8%
Phillips 66	69.62	-	8.4	7.8	0.7	0.4	0.4	-	13.1	11.9	-	5%	6%	5.2%	5.3%	5.4%
Saras	0.69	-	4.9	4.1	0.2	0.2	0.2	-	27.7	11.2	-	3%	4%	-	1.0%	3.5%
Tupras	104.30	65.4	5.3	5.1	0.6	0.3	0.3	-	7.5	6.1	1%	5%	6%	-	9.6%	14.0%
Valero Energy	64.70	32.3	6.2	5.7	0.6	0.4	0.5	-	13.6	11.7	2%	6%	8%	6.1%	6.1%	6.2%
median		9.5	5.6	5.4	0.6	0.5	0.5	8.7	13.1	9.8	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	74.50	4.7	6.9	6.2	0.5	0.6	0.6	7.8	24.0	14.4	11%	8%	10%	4.7%	4.7%	4.7%
Axiall	86.93	10.5	5.5	6.6	1.8	1.4	1.4	33.8	9.4	11.2	18%	25%	21%	1.2%	1.3%	1.5%
Braskem	67.07	21.2	4.4	5.8	1.4	0.9	1.0	-	6.6	11.1	7%	22%	17%	-	5.3%	4.9%
Eastman Chemical	112.56	14.8	9.0	8.7	2.4	2.0	2.0	31.9	11.9	11.1	16%	23%	23%	2.4%	2.6%	2.9%
Huntsman Corp	26.69	9.6	6.1	6.4	1.3	1.0	1.0	5.7	8.6	8.9	13%	16%	15%	2.4%	2.9%	3.1%
Lotte Chemicals	248,500	7.1	3.2	3.1	0.7	0.5	0.5	53.8	6.4	6.2	10%	15%	15%	1.4%	4.1%	4.2%
LyondellBasell	95.73	13.8	5.7	6.0	1.7	1.2	1.2	22.6	6.3	6.4	12%	20%	19%	4.4%	4.8%	5.2%
Mitsubishi Chemical	986.00	13.9	7.5	7.3	1.2	1.0	1.0	-	11.4	10.7	8%	14%	14%	2.4%	2.4%	2.7%
Mitsui Chemicals	3830.00	7.9	5.6	5.7	1.0	0.8	0.8	12.9	8.4	9.2	12%	15%	14%	2.6%	2.9%	3.0%
Westlake Chemical	86.93	10.5	5.5	6.6	1.8	1.4	1.4	33.8	9.4	11.2	18%	25%	21%	1.2%	1.3%	1.5%
median		10.5	5.7	6.3	1.4	1.0	1.0	27.2	9.0	10.9	12%	18%	16%	2.4%	2.9%	3.0%

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	6.28	3.5	3.5	3.5	0.7	0.7	0.7	8.4	9.2	10.1	20%	21%	21%	3.3%	3.6%	3.3%
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%	4.6%	4.8%
BG Group	14.43	7.7	3.9	4.0	1.2	0.7	0.7	-	6.7	7.2	15%	18%	19%	3.5%	4.8%	5.3%
BP	2.99	-	4.0	4.1	0.7	0.7	0.7	-	6.9	7.1	-	17%	17%	8.2%	5.4%	5.6%
Centrica	0.52	2.1	2.5	2.4	0.2	0.2	0.2	74.3	8.1	7.4	8%	10%	10%	-	6.0%	6.7%
Enagas	19.08	13.0	10.7	11.0	8.6	9.6	10.2	11.3	13.1	13.5	66%	90%	92%	8.8%	9.0%	9.1%
Endesa	20.74	7.7	7.3	7.0	1.8	1.5	1.5	15.7	12.9	12.6	23%	20%	21%	5.8%	5.4%	5.5%
Engie	12.06	10.3	5.6	5.4	1.0	1.0	1.0	-	11.1	10.4	10%	18%	19%	4.4%	6.5%	6.8%
Eni	10.59	13.3	3.3	3.2	1.2	0.8	0.8	-	10.0	9.9	9%	25%	24%	3.4%	7.9%	7.5%
Equinor	199.72	12.4	2.8	2.9	1.6	1.1	1.2	-	11.6	12.4	13%	41%	40%	1.9%	3.4%	3.7%
Gas Natural SDG	21.64	11.4	9.6	9.3	2.4	2.0	2.0	-	16.9	16.1	22%	21%	21%	6.5%	6.1%	6.0%
Gazprom	324.68	3.7	3.7	4.0	1.2	1.2	1.2	3.7	3.9	4.2	32%	31%	30%	12.2%	12.2%	11.0%
Hera	3.69	7.2	7.0	6.9	1.2	1.0	1.0	18.1	15.7	15.4	16%	15%	15%	3.0%	3.3%	3.5%
NovaTek	254.40	36.5	12.7	13.0	7.8	5.4	5.2	15.7	15.7	16.2	21%	42%	40%	2.9%	3.1%	3.0%
ROMGAZ	32.35	5.3	4.0	-	2.4	1.8	-	9.9	7.3	-	45%	46%	-	5.0%	6.8%	-
Shell	16.93	8.0	3.9	4.0	1.2	0.7	0.7	-	6.7	7.3	15%	18%	19%	3.4%	4.8%	5.2%
Snam	4.94	14.3	13.7	13.2	11.1	10.4	9.9	15.1	14.3	14.1	78%	76%	74%	5.1%	5.7%	5.7%
Total	#N/A N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
median		8.6	4.0	4.8	1.2	1.1	1.1	15.4	11.1	11.4	18%	21%	21%	4.3%	5.4%	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	2410.00	5.2	3.6	3.5	0.7	0.6	0.6	-	6.3	6.3	14%	16%	16%	3.5%	4.7%	4.9%
Bashneft	1448.00	11.5	3.1	2.9	0.7	0.5	0.5	-	6.1	4.2	6%	15%	16%	7.4%	8.2%	11.9%
BP	2.99	-	4.0	4.1	0.7	0.7	0.7	-	6.9	7.1	-	17%	17%	8.2%	5.4%	5.6%
Dana Gas	1.02	-	8.8	8.6	5.4	5.7	5.6	-	14.0	16.7	-	65%	65%	19.8%	10.1%	10.1%
Eni	10.59	13.3	3.3	3.2	1.2	0.8	0.8	-	10.0	9.9	9%	25%	24%	3.4%	7.9%	7.5%
Equinor	199.72	12.4	2.8	2.9	1.6	1.1	1.2	-	11.6	12.4	13%	41%	40%	1.9%	3.4%	3.7%
Gazprom Neft	437.20	7.4	3.8	3.6	1.4	0.9	0.9	17.5	6.0	5.3	18%	24%	25%	5.7%	8.1%	8.6%
Gulf Keystone	1.88	8.5	2.1	2.1	4.0	1.4	1.4	-	6.1	5.5	47%	66%	67%	-	6.4%	6.6%
Lukoil	6328.50	6.5	2.1	1.8	0.8	0.5	0.5	100+	7.5	8.1	12%	26%	29%	6.3%	10.7%	9.6%
Occidental Petroleum	25.92	-	5.5	5.9	4.1	2.8	2.9	-	23.5	42.7	-	50%	49%	3.2%	0.5%	0.8%
Repsol	9.60	-	3.7	3.6	0.7	0.5	0.5	-	6.5	6.4	-	14%	14%	9.5%	6.4%	6.9%
Rosneft Oil	552.30	9.8	4.2	4.2	1.7	1.1	1.1	37.1	4.9	5.1	17%	27%	26%	1.8%	9.4%	9.1%
Shell	16.93	8.0	3.9	4.0	1.2	0.7	0.7	-	6.7	7.3	15%	18%	19%	3.4%	4.8%	5.2%
Surgutneftegas	38.40	-	-	-	-	-	-	4.6	3.9	4.8	-	-	-	5.6%	7.4%	7.6%
Tullow Oil		8.5	3.7	3.6	1.2	0.8	0.8	17.5	6.6	6.8	14%	25%	25%	5.6%	6.9%	7.2%
median		8.5	3.7	3.6	1.2	0.8	0.8	17.5	6.6	6.8	14%	25%	25%	5.6%	6.9%	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	48.87	3.6	1.6	2.2	0.6	0.5	0.6	13.3	3.7	6.6	18%	31%	25%	0.0%	0.0%	13.4%
KGHM	180.80	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	315.00	3.2	3.5	3.2	0.4	0.4	0.4	7.0	9.7	9.5	12%	11%	11%	1.9%	7.1%	6.2%
LW Bogdanka*	31.90	1.5	1.5	1.5	0.5	0.4	0.4	14.9	6.6	6.9	32%	28%	28%	-	-	-
Anglo American	30.79	2.9	3.7	4.5	1.4	1.6	1.8	5.4	7.3	9.0	50%	43%	39%	9.5%	6.4%	5.0%
Antofagasta	14.35	7.8	5.1	5.2	3.9	3.2	3.2	35.9	14.8	15.6	50%	62%	62%	3.0%	3.8%	3.2%
BHP Group	21.18	5.0	4.6	5.7	3.2	2.9	3.4	12.8	7.5	10.5	63%	64%	60%	9.8%	10.9%	7.6%
Freeport-McMoRan	36.14	16.3	5.2	5.3	4.6	2.7	2.7	88.1	10.6	12.8	28%	51%	51%	0.1%	1.9%	1.7%
Glencore	3.38	9.8	5.2	5.6	0.6	0.4	0.4	-	8.7	9.7	6%	8%	8%	-	6.2%	5.5%
Grupo Mexico	90.84	6.9	5.1	5.2	3.6	2.9	2.9	14.1	9.5	9.6	52%	57%	56%	3.2%	6.0%	5.1%
Kaz Minerals	8.49	6.2	5.0	2.8	3.2	2.7	2.0	8.1	6.2	4.0	53%	53%	72%	0.4%	1.1%	3.1%
Rio Tinto	53.37	5.5	3.8	5.0	2.6	2.3	2.6	11.3	6.7	9.5	47%	59%	52%	6.8%	11.4%	7.9%
Boliden	304.20	18.7	5.0	5.3	1.2	1.3	1.3	100+	10.0	11.0	6%	25%	25%	0.0%	5.2%	4.9%
OZ Mineralz	24.18	6.6	7.1	7.5	1.2	4.1	4.1	9.4	12.8	12.9	18%	58%	55%	4.4%	1.4%	1.6%
Lundin Mining	10.21	0.4	3.5	3.9	0.1	2.0	2.1	0.4	7.3	8.3	18%	57%	55%	100%+	5.6%	5.9%
First Quantum Minarals	25.67	5.9	4.8	5.1	3.0	2.7	2.9	14.9	8.2	8.6	51%	58%	57%	0.0%	0.2%	0.6%
Norilsk Nickiel	33.75	5.9	5.5	5.9	3.6	3.4	3.5	8.4	8.0	9.0	61%	61%	60%	8.1%	7.6%	6.9%
Peabody Enelgy Group	17.54	4.9	4.5	6.0	0.9	0.9	0.9	52.8	46.4	-	19%	19%	16%	-	-	-
ARCH Coal	81.93	0.1	4.2	5.0	0.0	1.0	1.0	3.4	6.7	7.1	18%	23%	20%	100%+	2.7%	4.5%
Bukit Asam	2310.00	4.7	4.8	4.6	1.1	1.1	1.0	7.4	7.6	7.6	24%	23%	22%	6.0%	8.2%	7.7%
Teck resources	24.62	4.9	4.7	4.4	2.1	1.9	1.8	8.5	8.3	8.8	42%	41%	41%	0.6%	0.7%	1.0%
Warrior Met Coal	24.66	5.7	4.8	5.6	1.8	1.4	1.4	33.2	9.9	13.6	31%	29%	25%	0.8%	0.8%	0.8%
Southern CC	62.64	13.2	8.7	9.6	6.6	5.1	5.4	30.9	15.2	17.0	50%	59%	56%	2.4%	4.1%	3.6%
median		5.5	4.8	5.1	1.4	1.9	1.8	11.3	8.2	9.3	32%	43%	41%	2.1%	5.2%	5.0%

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	672.00	8.9	10.0	9.8	1.8	1.8	1.7	12.7	14.6	14.5	20%	18%	17%	6.6%	7.5%	6.5%
Alumetal*	59.20	0.2	8.0	6.7	0.0	0.5	0.5	100+	10.5	9.9	6%	7%	7%	0.2%	9.0%	7.6%
Mercor*	17.90	7.4	-	-	-	-	-	10.4	-	-	-	-	-	-	-	-
Alcoa	47.21	10.6	4.3	4.2	1.2	1.0	1.0	-	9.4	10.5	11%	23%	24%	-	0.1%	0.1%
AMAG	38.00	0.1	9.3	9.2	0.0	1.3	1.3	1.6	22.7	20.1	18%	14%	14%	100%+	2.6%	2.6%
Amcor	12.68	13.5	11.9	11.6	2.0	1.9	1.9	21.0	15.7	15.1	15%	16%	16%	3.7%	3.8%	3.9%
Century Aluminum	12.70	7.5	4.6	6.9	0.7	0.6	0.7	-	7.2	13.4	9%	14%	10%	-	-	-
Granges	115.30	0.8	7.4	6.9	0.1	0.8	0.8	4.7	11.6	10.3	18%	11%	11%	100%+	2.5%	3.0%
Constellium	21.04	12.1	6.9	6.2	0.9	0.7	0.7	-	12.0	9.7	8%	11%	11%	-	-	1.3%
Fuji Seal	2612.00	7.1	6.6	6.1	0.9	0.8	0.8	17.3	15.4	14.0	13%	13%	13%	1.2%	1.3%	1.4%
Rusal	6.97	-	-	-	-	-	-	18.0	4.0	4.0	-	-	-	-	3.5%	3.6%
Kaiser Aluminum	122.61	19.6	8.5	8.4	2.3	0.9	0.7	67.4	15.8	15.3	12%	10%	8%	2.2%	2.5%	-
Nippon Steel & Sumitomo	2313.50	19.6	5.2	6.1	1.0	0.7	0.7	-	5.9	7.6	5%	14%	12%	0.4%	5.2%	4.4%
Norsk Hydro Asa	64.30	9.1	5.3	5.4	1.0	1.0	0.9	71.4	10.4	10.3	11%	18%	17%	1.9%	3.8%	4.2%
Uacj	2759.00	10.5	7.2	7.6	0.8	0.7	0.6	-	10.0	11.0	8%	9%	8%	-	1.8%	2.1%
median		9.0	7.2	6.9	0.9	0.8	0.8	17.3	11.1	10.7	11%	14%	12%	1.9%	3.0%	3.3%

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	29.74	7.9	11.3	9.1	0.7	0.8	0.8	17.8	-	-	9%	7%	8%	0.0%	0.0%	0.0%
ZA Police*	12.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acron	6942.00	11.0	8.6	8.0	3.3	2.7	2.5	79.1	12.6	10.0	30%	31%	31%	6.4%	5.4%	5.3%
CF Industries	45.43	9.7	6.9	7.7	3.8	2.7	3.0	30.7	10.4	11.8	39%	40%	39%	2.6%	2.7%	2.6%
Israel Chemicals	22.70	15.6	7.3	7.4	2.1	1.7	1.7	100+	12.9	13.6	14%	24%	23%	1.5%	3.6%	3.2%
K+S	12.47	8.5	4.4	5.0	1.3	1.0	1.1	-	9.5	12.1	16%	23%	21%	-	2.4%	2.8%
Phosagro	4833.00	8.7	5.8	6.1	3.0	2.2	2.2	37.0	8.4	9.6	34%	38%	36%	5.2%	8.2%	7.9%
The Mosaic Company	32.15	11.6	5.0	5.7	1.8	1.3	1.4	18.3	8.0	9.6	15%	26%	24%	0.6%	0.9%	1.0%
Yara International	442.00	6.9	6.0	5.8	1.2	1.1	1.1	18.2	11.7	11.5	18%	19%	19%	80.9%	5.5%	5.8%
median		9.2	6.5	6.7	2.0	1.5	1.5	24.5	10.4	11.5	17%	25%	24%	2.6%	3.1%	3.0%

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	57.30	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*	49.90	2.7	3.4	3.6	1.0	1.0	1.0	3.0	3.9	4.7	37%	29%	27%	4.7%	8.0%	9.2%
Agrana Beteiligungs	18.80	9.8	8.8	7.8	0.7	0.6	0.6	19.6	18.1	13.9	7%	7%	8%	4.5%	4.8%	5.1%
Bunge Limited	77.39	9.4	9.2	9.1	0.5	0.4	0.4	9.7	10.1	10.0	5%	4%	4%	2.6%	2.9%	3.0%
Cosan	22.35	34.2	6.9	6.3	1.2	0.8	0.7	10.1	16.0	13.2	4%	11%	12%	2.4%	1.7%	2.3%
MHP	5.90	5.5	4.5	4.6	1.1	0.9	1.0	-	6.1	4.5	21%	21%	21%	4.8%	4.7%	12.7%
Nisshin Oillio	3135.00	8.6	8.9	8.4	0.5	0.5	0.5	11.3	12.9	11.7	6%	5%	5%	2.6%	2.8%	2.9%
Suedzucker	14.14	9.4	7.8	6.7	0.8	0.8	0.7	-	17.5	10.7	9%	10%	11%	1.4%	2.0%	2.8%
Industrial Milk Company	32.00	4.7	6.5	-	2.2	2.3	-	-	-	-	46%	36%	-	-	-	-
Archers Daniels Midland	60.20	2.2	10.1	9.9	0.4	0.6	0.5	2.5	13.2	13.2	18%	5%	6%	100%+	2.5%	2.7%
Golden Agri Resources	0.24	4.8	5.0	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	1.43	6.2	6.9	6.9	0.6	0.6	0.6	14.4	18.3	18.3	10%	9%	9%	3.3%	3.1%	3.1%
GrainCorp	6.25	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.	4.20	12.9	11.4	10.6	0.8	0.7	0.7	12.6	11.8	11.1	6%	6%	7%	3.2%	3.9%	3.9%
median		7.4	7.4	6.9	0.7	0.7	0.6	11.0	12.4	11.1	9%	10%	9%	3.2%	3.1%	3.1%

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
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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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