Energy Sector – Overweight

News Update

Yupapan Polpornprasert | Email: yupapan.pol@thanachartsec.co.th

A slowdown following big rally

- **Slower US distillate demand**
- **IEA March forecast update**
- **Refinery margins eased from record high**
- **Energy cost to hit record 13% of global GDP**

Over the past week, Brent crude oil price decline 13% from peak to US$98 due to concern on weak China demand following COVID-19 outbreak before recovered 9% to US$108 after International Energy Agency (IEA) warned on Wednesday that the market could lose 3mbd of Russian oil supply starting next month.

Slower US distillate demand

- US commercial crude oil inventory build 4.3m bbls w-w, against 1.375m bbls draw expected by the market and 1.9m bbls draw last week. Gasoline inventories decreased by another 3.6m bbls while distillate inventories turn into a build of 0.3m bbls w-w.
- US petroleum products supplied (a proxy for demand) decline by 0.4mbd this week after increased by 0.1mbd last week. The decrease is led by lower middle distillate demand which shows a big drop of 0.8mbd.
- US oil rig count decline by 2 rigs w-w to 524 rigs.
- US crude oil production remained steady w-w at 11.6kbd.

IEA March forecast update

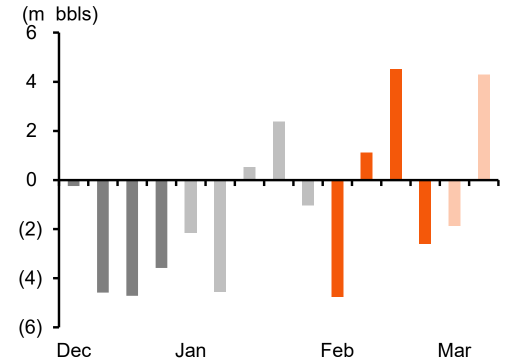
- **The global oil market could lose 3mbd of supply from Russia** starting in April, as sanctions on banks and buyers' reluctance to purchase Russian oil could result in the biggest oil supply crisis in decades. Russian oil continues to flow for the time being due to term deals and trades made before Moscow sent its troops into Ukraine, but new business has all but dried up.
- **But big cut in global oil demand growth**. The agency cut its global oil demand forecast by 1.3mbd through the end of this year, which would result in 950,000 bd slower growth for 2022 than anticipated in mid-February. Total demand is now seen at 99.7mbd in 2022, an increase of 2.1mbd from 2021.
- **Balance.** Even if the expected demand growth slowdown materializes, it will not offset the loss of Russian supply, leaving the market in deficit if the shunning of Russian oil accelerates and continues throughout the year

Ex 1: US Weekly data

('000 bbls)	Weekly change		
Crude Oil	+4,345		
Gasoline	(3,616)		
Distillates	+332		
Jet Kerosene	(396)		
(kbpd)	**Weekly change**	**% Change**	**Current number**
Production	0	0.0%	11,600
Refinery Runs	+225	1.5%	15,601

Source: EIA

Ex 2: US Crude Oil Inventory

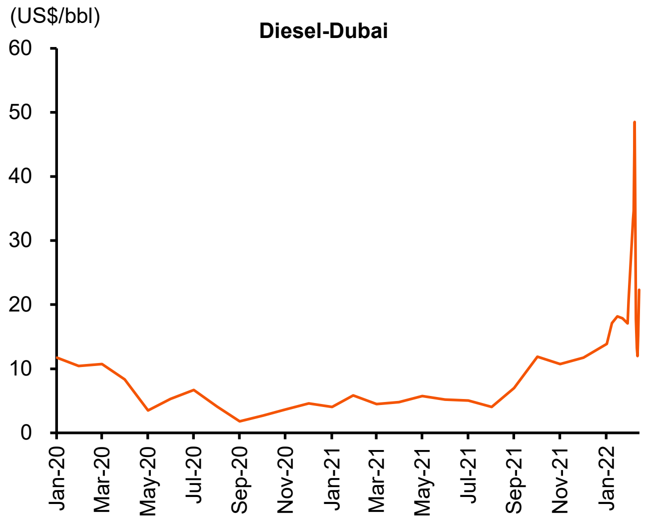


Source: EIA

Refinery margins eased from record high

- **Easing products spreads.** After reaching record high level last week of US$48.5/bbl, diesel-dubai spread has already come down to US$22.3 on 17th March 22, but still high relative to historical range. Gasoline spread was also remains alleviated at US$22.8/bbl vs historical average of US$13.5/bbl.
- **Due to weaker China demand and lower oil price.** We believe the decline was attribute to lower oil price and slowdown in Chinese oil demand. China's oil demand has taken a heavy hit by the omicron variant. Lockdown restrictions in major cities have led to a plunge in mobility levels. More than 50% of flights were canceled at the 20 largest airports from March 11-17.
- **Russia supply remains a wild card**. The global oil refining market could be in a structural shortage in 2022 due to the potential exclusion of Russian energy. European refiners' operations could be disrupted, while about 1mbd of diesel exports from Russia could be loss. However, refinery operations in Western Europe have not been severely affected so far by the Russia-Ukraine conflict, as many refiners begin to shift from Russian crude to alternative sources. Meanwhile, demand has also been boosted by panic buying in Germany, as buyers fear further price rises.

Ex 3: Diesel-Dubai Spread



Source: TOP

Ex 4: Russia Export To Global

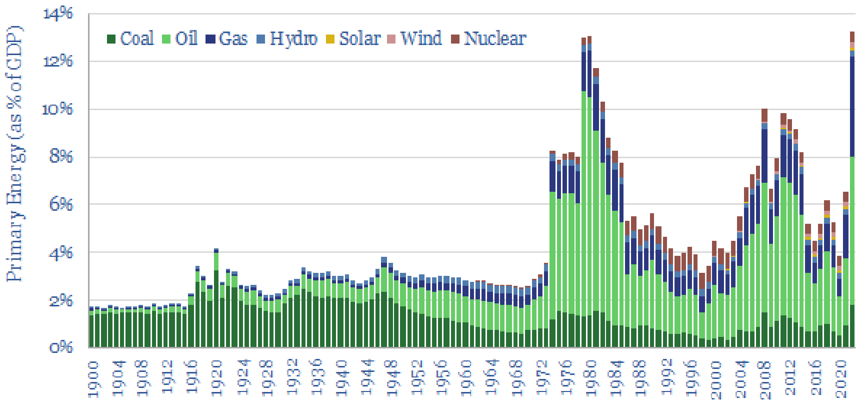
2021 Russian Export (KBD)	Crude	Mogas/Jet	Gasoil	Fuel Oil
Europe	2,720 (27%)	30 (2%)	700 (11%)	330 (33%)
US	210 (1%)	50 (1%)	15 (0.3%)	220 (35%)
Asia	1,540 (4%)	20 (0.3%)	80 (0.8%)	200 (7%)
Other Region	100 (0.1%)	80 (1%)	120 (2%)	70 (3%)
Total	**4,570**	**180**	**915**	**820**
% Global Demand	**4.60%**	**1%**	**3%**	**12%**

Source: TOP

Energy cost to hit record 13% of global GDP

- Rallying energy commodity prices are expected to drive up primary energy expenditures globally to a record 13% of world gross domestic product (GDP), comparable to the energy cost levels in the 1979-80 energy crisis, research consultancy for energy technologies. The expected record 13% energy expenditure would be three times the average level of 4% between 1900 and 2020, and 1.3 times the 2018 levels
- The estimate of a record energy expenditure as part of global GDP assumes prices of $250-$300 per ton of coal, $125-$150 per barrel of crude oil, and $40-45/mcf price of global natural gas.

Ex 5: Estimate Energy Expenditure To Global GDP



Source: Company data

Ex 6: Prices And Spreads

(US$/bbl)	1Q21	2Q21	3Q21	4Q21	QTD	Dec-21	Jan-22	Feb-22	MTD	Last
Oil prices										
Dated Brent	60.84	68.63	72.94	78.40	97.20	74.27	85.49	95.66	116.02	111.97
Dubai	59.70	66.43	71.31	76.02	94.72	72.69	83.05	92.60	114.25	109.19
WTI	58.07	66.10	70.52	76.08	92.59	71.69	82.98	91.63	107.62	104.70
Crack spreads over Dubai										
Gasoline	7.49	10.67	12.41	15.59	15.46	14.49	14.79	16.28	15.30	20.73
Jet fuel	4.25	5.36	5.80	11.02	11.17	10.37	12.36	11.10	8.94	15.01
Diesel	5.37	6.09	7.48	10.12	12.60	10.71	12.10	13.16	12.53	18.95
High-sulfur fuel oil	(4.28)	(6.80)	(5.42)	(5.83)	(10.66)	(6.45)	(7.23)	(10.43)	(15.88)	(14.00)
Refining margins										
FCC / Dubai	1.21	0.95	0.85	5.81	6.46	5.78	5.93	5.68	8.96	8.26
Hydrocracking / Dubai	0.71	0.77	1.11	6.11	8.27	6.19	6.79	5.92	12.78	13.03
FCC / Espo	1.47	1.55	1.24	6.20	6.85	6.18	6.33	6.08	9.35	8.66
FCC / Arab Light	0.56	(0.51)	(0.64)	4.32	4.97	4.30	4.45	4.19	7.47	6.78
Hydrocracking / Murban	2.29	2.81	3.41	8.41	10.56	8.49	9.08	8.22	15.07	15.33
(US$/tonne)										
Aromatics spreads										
PX-naphtha	185	232	229	127	191	119	175	209	184	218
BZ-naphtha	191	367	350	231	219	223	239	220	177	193
Olefin spreads										
HDPE-naphtha	583	576	462	505	411	536	431	433	327	383
LDPE-naphtha	959	936	821	920	755	918	771	773	687	753
PP-naphtha	771	709	557	562	438	538	459	460	352	403
Ethylene-naphtha	416	406	304	321	220	319	156	283	222	283
Propylene-naphtha	461	436	294	242	226	254	240	243	164	203
Henry Hub Gas (US$/mmbtu)	2.73	2.97	4.32	3.72	4.45	3.86	4.93	4.46	4.70	4.76
Coal (Newcastle) (US$/tonne)	87.47	106.49	165.89	169.60	263.21	164.42	221.63	236.36	377.00	340.00

Source: Bloomberg

Ex 7: Valuation

	Rating	Current price (Bt)	Target price (Bt)	*Upside/ (Downside) (%)*	Market cap (US$ m)	Norm EPS growth 2022F (%)	Norm EPS growth 2023F (%)	— Norm PE — 2022F (x)	— Norm PE — 2023F (x)	EV/EBITDA 2022F (x)	EV/EBITDA 2023F (x)	— Yield — 2022F (%)	— Yield — 2023F (%)
BANPU	BUY	11.10	22.00	*98.2*	2,253	(41.5)	(29.9)	4.8	6.8	3.7	3.9	7.2	5.2
BCP	BUY	29.00	32.00	*10.3*	1,198	(4.2)	(6.9)	9.1	9.8	7.0	8.2	6.9	6.9
ESSO	HOLD	7.90	8.00	*1.3*	820	na	17.3	11.7	9.9	8.8	7.3	0.0	0.0
IRPC	BUY	3.56	4.40	*23.6*	2,183	38.2	19.6	13.5	11.3	8.4	7.7	3.7	4.4
IVL	BUY	46.00	60.00	*30.4*	7,749	31.7	11.5	9.6	8.6	7.6	7.8	5.2	5.8
PTG	BUY	13.60	19.00	*39.7*	681	50.8	19.5	15.0	12.5	6.8	6.4	3.3	4.0
PTT	BUY	39.00	46.00	*17.9*	33,422	10.1	(3.6)	11.4	11.8	4.9	4.6	5.1	5.1
PTTEP	HOLD	145.00	148.00	*2.1*	17,271	42.9	(23.8)	9.2	12.0	3.0	3.5	4.1	4.8
PTTGC	HOLD	50.50	56.00	*10.9*	6,832	(13.3)	(0.5)	9.3	9.3	7.7	7.3	7.9	5.4
SPRC	SELL	9.15	8.40	*(8.2)*	1,190	na	(10.7)	12.2	13.7	6.0	5.5	2.9	4.9
SUSCO	BUY	3.36	5.20	*54.8*	111	35.0	30.1	12.6	9.7	5.3	4.4	4.0	5.2
TOP	SELL	51.00	46.00	*(9.8)*	3,122	16.2	2.8	16.0	15.6	17.4	17.6	2.5	2.6

Sources: Company data, Thanachart estimates

General Disclaimers And Disclosures:

This report is prepared by analysts who are employed by the research department of TNS. While the information is from sources believed to be reliable, neither the information nor the forecasts shall be taken as a representation or warranty for which TNS or TCAP or its group companies or any of their employees incur any responsibility. This report is provided to you for informational purposes only and it is not, and is not to be construed as, an offer or an invitation to make an offer to sell or buy any securities. Neither TNS, TCAP nor its group companies accept any liability whatsoever for any direct or consequential loss arising from any use of this report or its contents.

The information and opinions contained herein have been compiled or arrived at from sources believed reliable. However, TNS, TCAP and its group companies make no representation or warranty, express or implied, as to their accuracy or completeness. Expressions of opinion herein are subject to change without notice. The use of any information, forecasts and opinions contained in this report shall be at the sole discretion and risk of the user.

TNS, TCAP and its group companies perform and seek to perform business with companies covered in this report. TNS, TCAP, its group companies, their employees and directors may have positions and financial interest in securities mentioned in this report. TNS, TCAP or its group companies may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any entity mentioned in this report. Therefore, investors should be aware of conflict of interest that may affect the objectivity of this report.

Note: Thanachart Securities Public Company Limited act as a Market Maker and Derivative Warrants Issuer. At present, TNS has issued 96 Derivative Warrants which are ADVA16C2203A, AMAT16C2206A, AOT16C2204A, AOT16C2206A, AWC16C2207A, BAM16C2207A, BAM16C2206A, BAM16C2204A, BANP16C2207A, BANP16C2205A, BANP16C2204A, BBL16C2203A, BBL16C2204A, BCH16C2207A, BCH16C2203A, BEC16C2207A, BEC16C2204A, BGRI16C2203A, BGRI16C2205A, BLA16C2205A, CBG16C2207A, CBG16C2204A, CBG16C2205A, CHG16C2207A, COM716C2203A, COM716C2205A, CPAL16C2203A, CPAL16C2204A, CPF16C2205A, CRC16C2204A, DOHO16C2207A, DELT16C2203A, DTAC16C2203A, EA16C2207A, EA16C2206A, EA16C2203A, EA16C2205A, GLOB16C2203A, GPSC16C2206A, GPSC16C2203A, GPSC16C2205A, GULF16C2207A, GULF16C2203A, GULF16C2205A, GUNK16C2206A, GUNK16C2203A, GUNK16C2205A, HANA16C2204A, HANA16C2205A, HANA16C2207A, INTU16C2205A, IRPC16C2205A, IVL16C2203A, IVL16C2206A, JMAR16C2206A, JMAR16C2205A, JMT16C2203A, JMT16C2205A, KBAN16C2206A, KBAN16C2204A, KCE16C2204A, KCE16C2205A, KCE16C2205B, MEGA16C2207A, MINT16C2207A, MINT16C2203A, MINT16C2204A, MTC16C2204A, OR16C2203A, OR16C2205A, PTG16C2203A, PTL16C2202B, PTT16C2203A, PTT16C2205A, PTTE16C2203A, RCL16C2205A, RS16C2205A, S5016P2206B, S5016C2203A, S5016C2203B, S5016C2206A, S5016P2203A, S5016P2203B, S5016P2206A, SAWA16C2204A, SAWA16C2205A, SCC16C2204A, STA16C2203A, STEC16C2204A, SYNE16C2206A, TOP16C2206A, TRUE16C2205B, TRUE16C2205A, TRUE16C2203A, TRUE16C2203B, TU16C2204A, WHA16C2204A (underlying securities are ADVANC, AMATA, AOT, AWC, BAM, BANPU, BBL, BCH, BEC, BGRIM, BLA, CBG, CHG, COM7, CPALL, CPF, CRC, DELTA, DOHOME, DTAC, EA, GLOBAL, GPSC, GULF, GUNKUL, HANA, INTUCH, IRPC, IVL, JMART, JMT, KBANK, KCE, MEGA, MINT, MTC, OR, PTG, PTL, PTT, PTTEP, RCL, RS, SAWAD, SCC, SYNTEC, SET50, STA, STEC, TOP, TU, WHA, TRUE). Since TNS covers those underlying securities in research report, consequently TNS incurs conflicts of interest. Moreover, Investors are advised to carefully review the details and information in the prospectus before making investment decisions.

Note: Our major shareholder TCAP (Thanachart Capital Pcl) which holding 50.96% of Thanachart Securities and also TCAP holding 100% of Thanachart SPV1 Co. Ltd. TCAP and Thanachart SPV1 Co. Ltd has stake in THANI for 60% and being the major shareholder of THANI.

Note: Thanachart Capital Public Company Limited (TCAP), TMBThanachart Bank Public Company Limited (TTB), are related companies to Thanachart Securities Public Company Limited (TNS). Thanachart Securities Pcl is a subsidiary of Thanachart Capital Pcl (TCAP) which holds 23% of the shareholding in TMBThanachart Bank Pcl.

Note: Thanachart Capital Public Company Limited (TCAP), Ratchthani Leasing Public Company Limited (THANI), MBK PUBLIC COMPANY LIMITED (MBK) and PATUM RICE MILL AND GRANARY PUBLIC COMPANY LIMTED (PRG) are related companies to Thanachart Securities Public Company Limited (TNS) . Since TNS covers those securities in research report, consequently TNS incurs conflicts of interest.

Disclosure of Interest of Thanachart Securities

Investment Banking Relationship

Within the preceding 12 months, Thanachart Securities has lead-managed public offerings and/or secondary offerings (excluding straight bonds) of the securities of the following companies: Saksiam Leasing Pcl. (SAK TB), SCG Packaging Pcl (SCGP TB)