

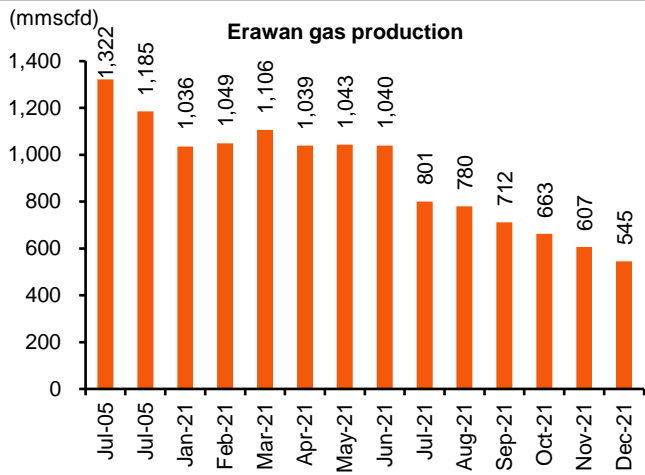


**Tighter gas market post threat to Thailand energy cost**

Spike in European gas price has also impacted global LNG market, which will lead to higher gas cost for Thailand.

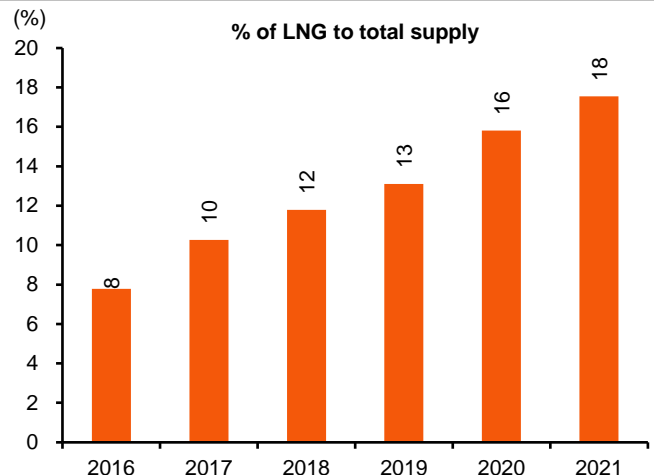
- **Nord stream 2 on ice for the foreseeable future.** Apart from potential near term supply disruption in Europe, longer term supply is also at risk. Germany on Tuesday also halted certification of the Nord Stream 2 gas pipeline project which would double Russia's pipeline export capacity via the Baltic Sea to Germany. Therefore, it is highly unlikely that the pipeline will be allowed to operate until a diplomatic solution to the Ukraine crisis is found. It looked increasingly unlikely anyway that Nord Stream 2 would come online before Winter 2022- 23.
- **LNG price spike.** Asian spot liquefied natural gas (LNG) prices surged more than 50% this week as they tracked a jump in European gas prices after Russia's invasion of Ukraine. The average LNG price for April delivery into north-east Asia was estimated at \$37.50 per mmbtu, up 53.6% from the previous week.
- **PTT most impact but mitigates by higher price.** We see Thailand will have higher pressure on energy cost especially in this year as Erawan output is expected to decline further and thus Thailand will have to depend more on LNG import. We expect LNG import to increase to nearly 30% in 2022 of total supply from 18% in 2021. Note that domestic gas pool price stand at US\$8.4/mmbtu in 4Q21. We see PTT is most at risk for higher gas cost as sale to industrial user (9% of total sale) can't pass be cost pass through. However, this will be mitigated by higher-than-expected oil price currently as selling price for Industrial customers are linked to fuel oil price.

**Ex 4: Key Domestic Gas Field's Output Declines**



Sources: EPPO

**Ex 5: Thailand Becoming More Dependence On LNG**



Sources: EPPO

**China diesel shortage coming to an end**

Despite rising tension on Russia-Ukraine, Asian gasoil slipped this week, but still lingered near a multi-year high touched earlier this month. Diesel crack spread was at US\$17/bbl vs US\$18/bbl last week. Jet spread also trended lower to US\$12.7/bbl vs US\$13.8/bbl last week.

- **China holiday travel demand misses official forecast.** Covid-19 outbreaks have disrupted the usual travel rush during the Lunar New Year holiday. Daily trips as of February 17 averaged 25.5 million. This represents a 17% increase compared to 2021, but still falls short of the earlier forecast of 30 million trips per day made by the Ministry of Transport.
- **Lackluster diesel demand.** Diesel demand remains under pressure as weak spending weighs on road cargo transport. Road freight volume dropped 1% m-m to 616bln tons-km. We expect lackluster demand to weigh on refinery run rates in the coming weeks.

**Ex 6: Prices And Spreads**

(US\$/bbl)	1Q21	2Q21	3Q21	4Q21	QTD	Nov-21	Dec-21	Jan-22	MTD	Last
<b>Oil prices</b>										
Dated Brent	60.84	68.63	72.94	78.40	90.17	80.75	74.27	85.49	95.37	97.68
Dubai	59.70	66.43	71.31	76.02	87.46	79.78	72.69	83.05	92.36	95.23
WTI	58.07	66.10	70.52	76.08	86.97	78.65	71.69	82.98	91.40	91.59
<b>Crack spreads over Dubai</b>										
Gasoline	7.49	10.67	12.41	15.59	15.44	16.31	14.49	14.79	16.16	16.96
Jet fuel	4.25	5.36	5.80	11.02	11.62	9.17	10.37	12.36	11.01	13.36
Diesel	5.37	6.09	7.48	10.12	12.54	8.89	10.71	12.10	13.02	14.52
High-sulfur fuel oil	(4.28)	(6.80)	(5.42)	(5.83)	(8.73)	(8.88)	(6.45)	(7.23)	(10.40)	(11.62)
<b>Refining margins</b>										
FCC / Dubai	1.21	0.95	0.85	5.81	5.69	4.21	5.78	5.93	5.41	5.27
Hydrocracking / Dubai	0.71	0.77	1.11	6.11	6.66	4.50	6.19	6.79	6.51	6.37
FCC / Espo	1.47	1.55	1.24	6.20	6.08	4.60	6.18	6.33	5.81	5.67
FCC / Arab Light	0.56	(0.51)	(0.64)	4.32	4.20	2.72	4.30	4.45	3.92	3.78
Hydrocracking / Murban	2.29	2.81	3.41	8.41	8.95	6.80	8.49	9.08	8.81	8.67
<b>(US\$/tonne)</b>										
<b>Aromatics spreads</b>										
PX-naphtha	185	232	229	127	189	112	119	175	207	208
BZ-naphtha	191	367	350	231	230	193	223	239	217	228
<b>Olefin spreads</b>										
HDPE-naphtha	583	576	462	505	433	510	536	431	435	473
LDPE-naphtha	959	936	821	920	772	962	918	771	772	803
PP-naphtha	771	709	557	562	462	565	538	459	465	493
Ethylene-naphtha	416	406	304	321	207	307	319	156	274	358
Propylene-naphtha	461	436	294	242	240	228	254	240	239	278
Henry Hub Gas (US\$/mmbtu)	2.73	2.97	4.32	3.72	4.36	5.12	3.86	4.26	4.47	4.47
Coal (Newcastle) (US\$/tonne)	87.47	106.49	165.89	169.60	221.00	153.53	164.42	209.07	234.24	238.60

Source: Bloomberg

## Ex 7: Valuation

	Rating	Current	Target	Upside/	Market	Norm EPS growth		— Norm PE —		EV/EBITDA		— Yield —	
		price	price	(Downside)	cap	2021F	2022F	2021F	2022F	2021F	2022F	2021F	2022F
		(Bt)	(Bt)	(%)	(US\$ m)	(%)	(%)	(x)	(x)	(x)	(x)	(%)	(%)
BANPU	BUY	10.90	22.00	101.8	2,270	na	(41.5)	2.7	4.7	4.6	3.7	4.1	7.3
BCP	BUY	31.25	32.00	2.4	1,324	na	(4.2)	9.4	9.8	4.3	7.2	6.4	6.4
ESSO	HOLD	7.55	8.00	6.0	804	na	na	na	11.0	24.6	8.5	0.0	0.0
IRPC	BUY	3.78	4.40	16.4	2,377	na	38.2	19.8	14.3	9.2	8.7	2.1	3.5
IVL	BUY	46.50	60.00	29.0	8,034	260.7	22.9	11.3	9.2	7.6	6.7	5.3	5.5
PTG	BUY	14.30	19.00	32.9	735	(45.8)	50.8	23.7	15.7	6.0	6.9	1.7	3.2
PTT	BUY	39.00	46.00	17.9	34,281	133.3	14.0	12.5	11.0	4.1	4.2	5.1	5.1
PTTEP	BUY	132.50	152.00	14.7	16,188	105.6	32.0	12.0	9.1	3.6	2.8	3.8	4.5
PTTGC	HOLD	55.00	56.00	1.8	7,632	270.7	(13.3)	8.8	10.1	8.3	8.0	6.8	7.3
SPRC	SELL	8.75	8.40	(4.0)	1,168	na	na	na	11.7	15.1	5.7	2.0	3.0
SUSCO	BUY	3.62	5.20	43.6	123	(4.6)	35.0	18.3	13.6	6.6	5.7	3.0	3.7
TOP	SELL	53.50	46.00	(14.0)	3,359	na	16.2	19.5	16.8	15.3	17.7	4.9	2.4

Sources: Company data, Thanachart estimates

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