

# Thailand Energy

## Will Russia fail or will Europe prevail in the gas war?

- EU ministers are now mulling a cap on the wholesale gas price in response to Russia's cuts in gas supply.
- We believe the price of gas will soften temporarily if the EU enacts a price cap policy, but then rebound once winter demand for gas and other substitute fuels rises.
- PTTEP and BANPU are the two best plays on the rising prices of coal, gas, and oil.

### Emergency plan to dodge Russia's 'weaponisation' of gas

According to Reuters, EU ministers are now mulling whether to put a cap on the wholesale gas price in response to Russia's supply cuts to the EU. The measure involves two options, with the first to limit the price paid for gas imported from Russia, and the second to introduce a system of price caps that would differ from country to country depending on their energy mix.

### Three-pronged strategy of reduction, price cap, and user supports could fail

In addition to the proposed price cap, a potential windfall tax on the inflated profits of power companies is now under scrutiny. The EU could also set a maximum price on the electricity produced from non-gas sources, mainly renewables and nuclear, which are now benefiting greatly from the high gas price. The three-pronged strategy – reducing consumption, capping prices, and supporting consumers – have all but failed to materialise thus far. A 'marginal pricing' system, where all power producers from renewables to fossil fuels would bid into the market and offer power based on their production costs – with the final and most expensive bidding price accepted – is also under consideration.

### Even at 100%, EU gas storage capacity represents only 46-48% of its winter needs

Despite being 81.9% full as of 4 Sep-22 – one month ahead of the 80% target by 1 Oct-22 – total EU gas storage at 1,110TWh (76.8mt of LNG) is able to cover less than 50% of winter gas needs, based on the amounts of gas used in 2020/21 and 2021/22. We believe that even if all EU countries manage to fill their gas storage facilities to the maximum level, they will still be highly exposed to the risk of gas supply shortages in the coming winter, which we estimate will see total gas demand between 1,945TWh (134.6mt) and 2,034TWh (140.8mt) based on 15% lower gas demand than in the winters of 2021/22 and 2020/21. Furthermore, we remain convinced that EU countries still face a high risk of gas supply shortages even if they supplement their fuel requirements with coal, diesel, and LNG.

### Buy ahead of the energy price rallies this coming winter

We believe the price of gas will soften, but only temporarily, if the EU enacts a price cap, then resume rising as demand for gas and other substitute fuels like coal and diesel starts to surge ahead of the coming winter. We project the Newcastle coal price index to hit USD500/t, Brent oil to reach USD120/bbl, and Henry Hub gas to hit USD10-11/mmbtu by the end of 2022. Our top picks are PTTEP and BANPU as the two best plays on the rising prices of coal, gas, and oil, while we think ESSO, TOP, SPRC, and BCP will be the winners on the higher diesel price and their higher margins for diesel over crude oil.



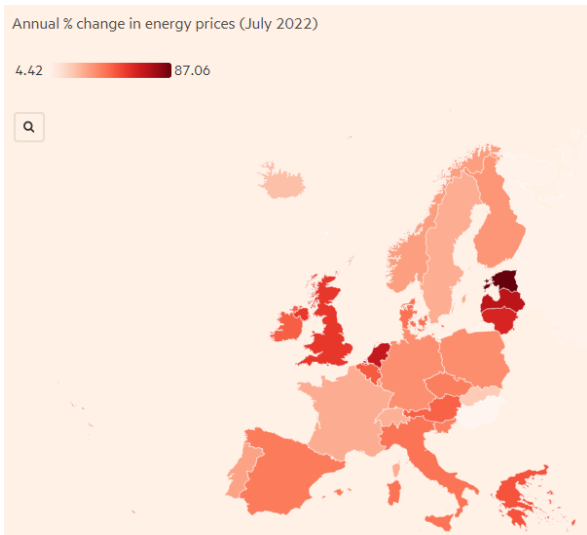
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## This winter in Europe is likely to be cold and cruel

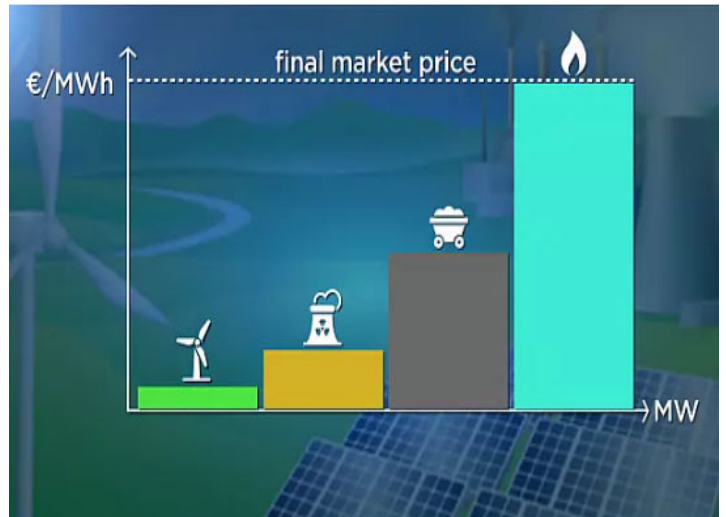
In Europe, the wholesale electricity price is linked to the gas price regardless of source. Given that the gas price has risen by over 10x y-y, the wholesale electricity price is now skyrocketing, leading to grave concerns about potential gas shortfalls this coming winter in all of Europe. The Iberian model of a subsidised cap on the gas price has already been ruled out.

Exhibit 1: Annual % change in energy prices in Jul-22



Source: OECD

Exhibit 2: Marginal pricing system using the final market price from the most expensive fuel needed to meet all energy demand

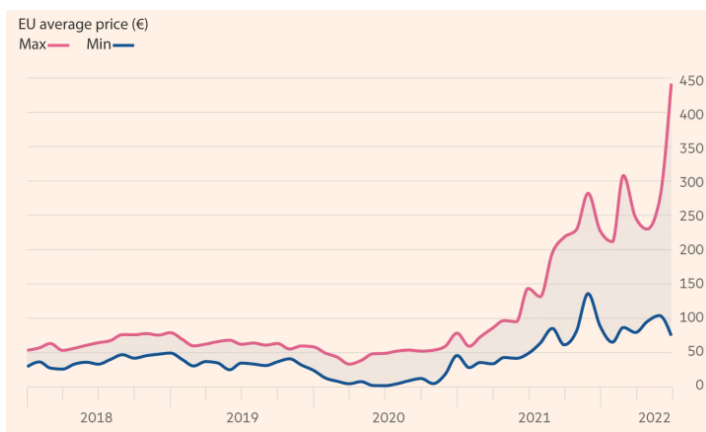


Source: Euronews

### The Iberian model of subsidised prices would not work for continental Europe.

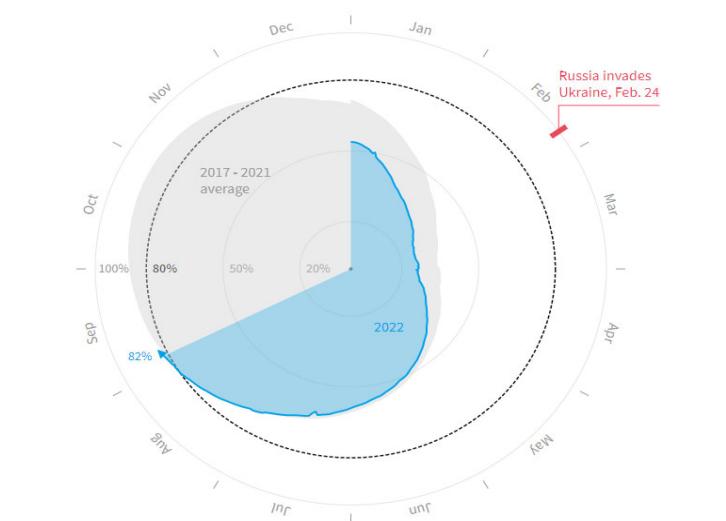
Portugal and Spain reached an agreement with the EU in April allowing them to cap the price of gas used in their power plants. The Iberian model will be in effect for one year from May-22 to Apr-23 at the price cap average of €48.8/MWh, thanks to €8.4b in subsidies shouldered by the governments of Portugal and Spain that will be paid to gas companies and funded mostly by charges levied on the electricity distributors benefiting from the price cap policy. Based on a report by the Financial Times, the measure has worked well with the price averaging €49.85/MWh – less than the uncapped price during Jun-Aug 2022.

Exhibit 3: Gas prices in Europe



Source: Ember

Exhibit 4: EU gas storage levels

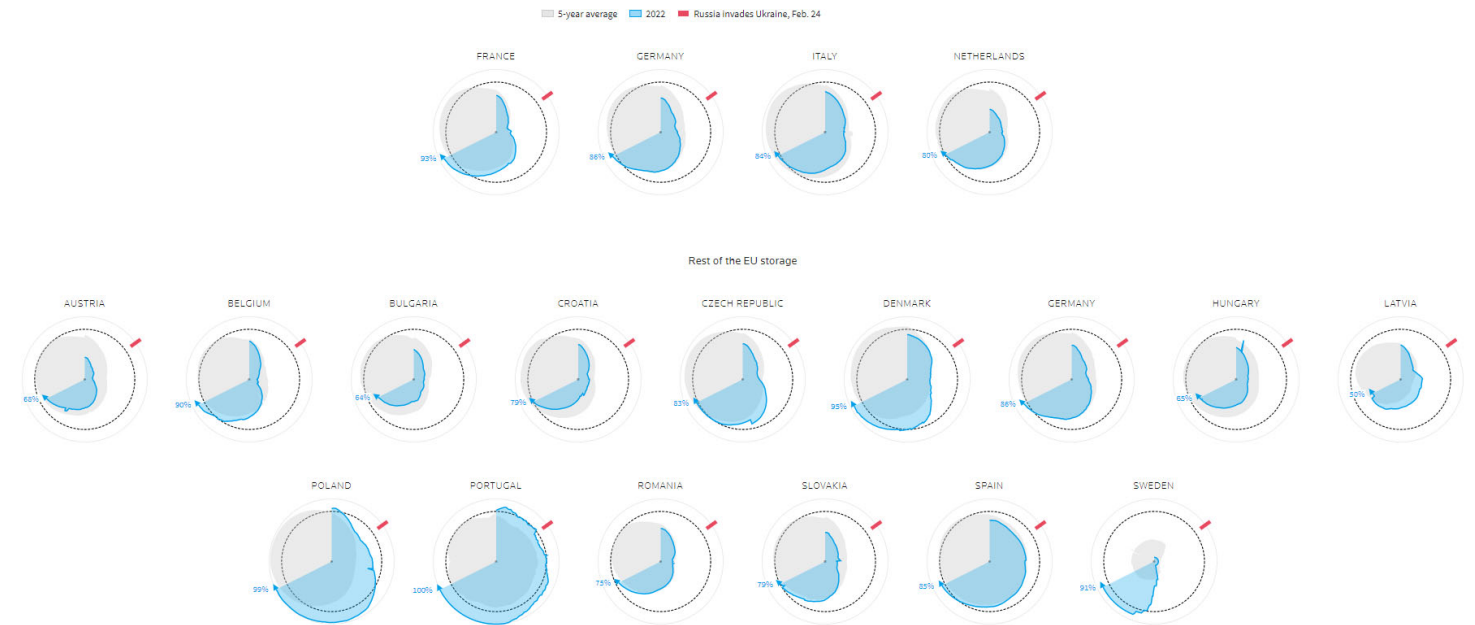


Source: Aggregated Gas Storage Inventory

**Which countries face the greatest risk of gas supply shortfalls this winter?**

Based on data from Aggregated Gas Storage Inventory, nine EU countries have already filled their gas storage to over 85% of full capacity. From the highest to the lowest levels for gas in storage, Portugal (100%) ranks number one with full tanks, followed by Poland (99%), Denmark (95%), France (93%), Sweden (91%), Belgium (90%), Germany (86%), Spain (85%), Italy (84%), Czech Republic (83%), Netherlands (80%), Slovakia (79%), Croatia (79%), Romania (75%), Austria (68%), Hungary (65%), Bulgaria (64%), and Latvia (50%). The remaining EU countries have no gas storage.

**Exhibit 5: Percentage of total gas storage already filled in EU member states**



Source: [Aggregated Gas Storage Inventory](#)

**Which European countries have no gas storage?** According to the European Council (EC), the gas stored in five countries – Germany (245.3TWh capacity), Italy, France (128.5TWh), the Netherlands (143.8TWh), and Austria – makes up two-thirds of the EU’s total gas storage capacity. Under the EU’s proposal, the countries without gas storage facilities will collaborate with member states with gas storage facilities to secure their gas reserves.

The European countries without gas storage facilities are Cyprus, Estonia, Finland, Greece, Ireland, Lithuania, Luxembourg, Malta, and Slovenia. As these countries need to rely on other EU member states for their gas reserves in winter, we think it will be questionable at best whether other members will be willing to share gas supplies with them amid the high risk of gas supply shortages for heating this coming winter (Oct-22 to Apr-23).

Exhibit 6: EU gas supply in winter

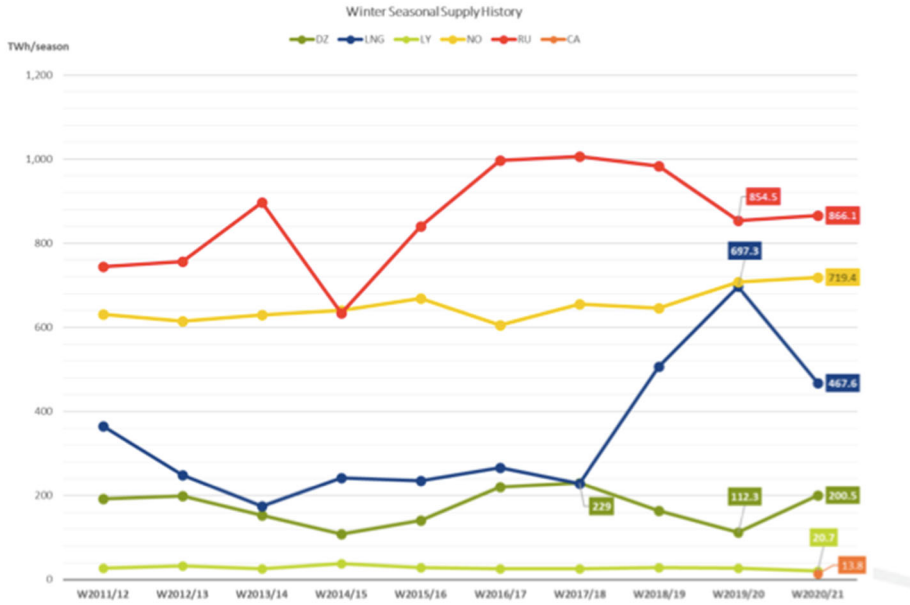


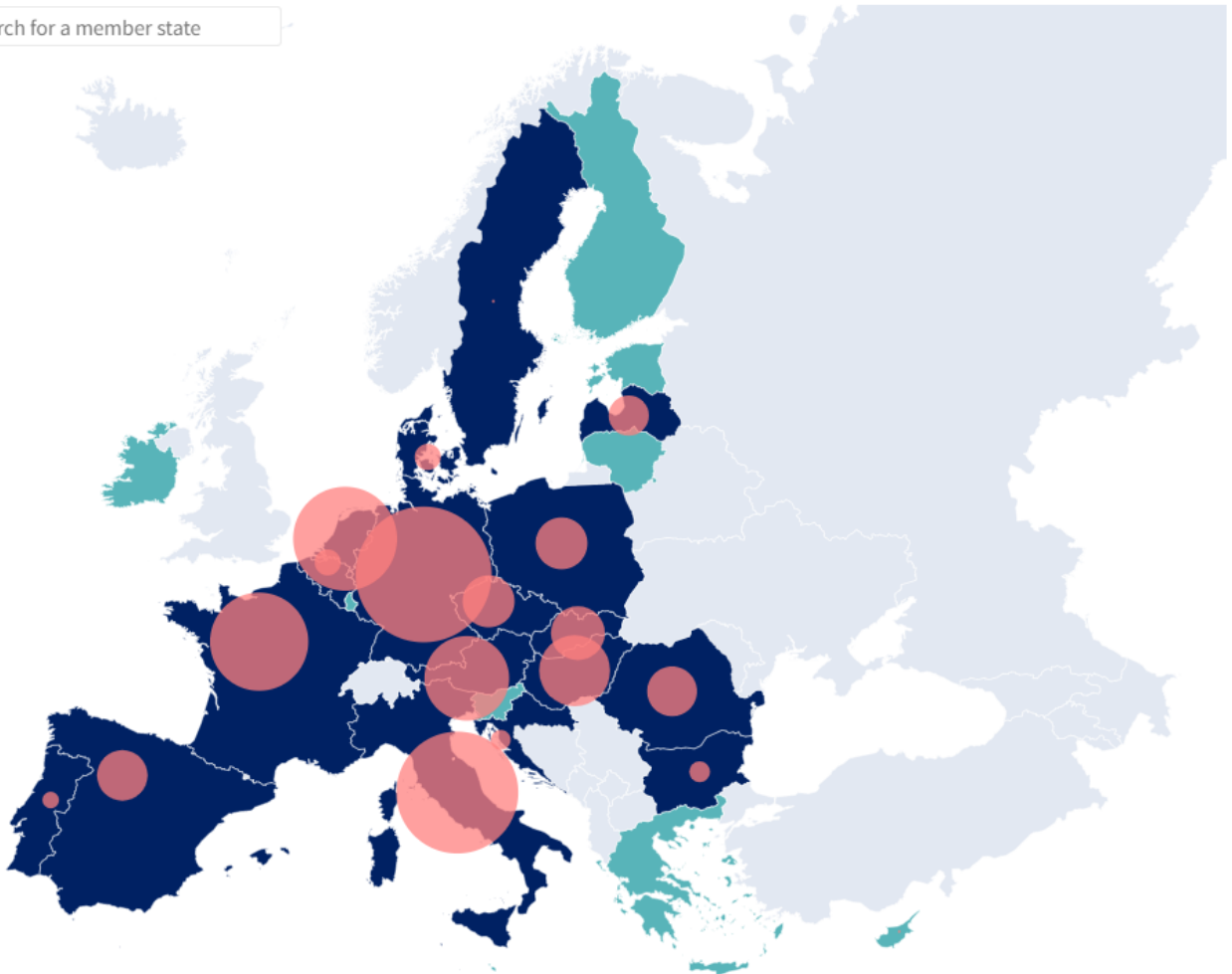
Figure 4.- Winter supply limitation.

Source: European Gas Hub

Exhibit 7: EU gas storage capacity

- having storage capacity
- no storage capacity but solidarity arrangements with other member states

Q Search for a member state



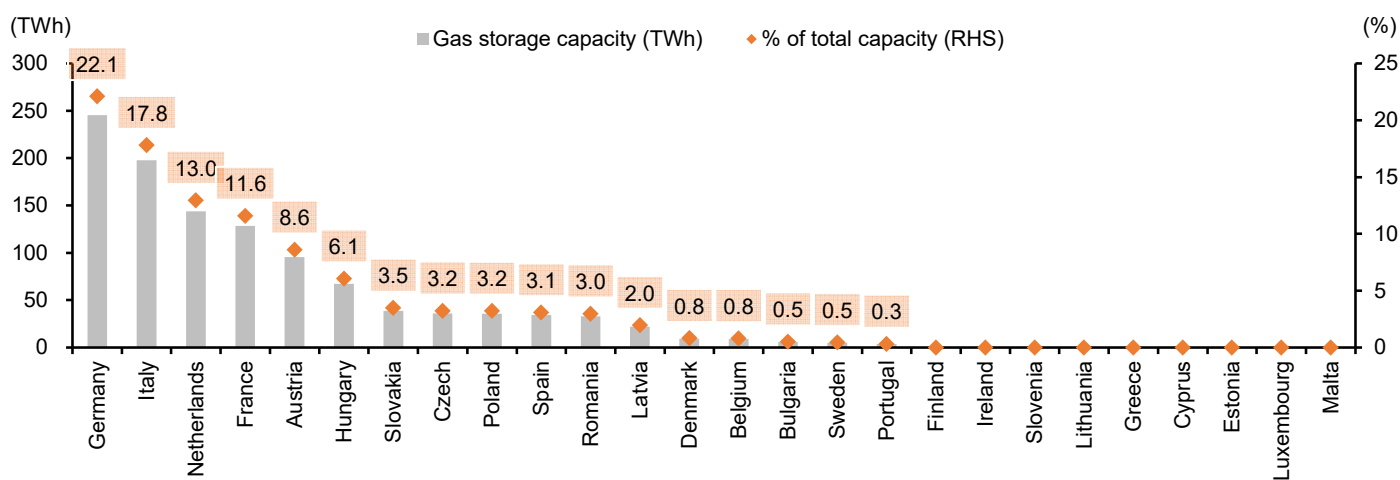
Source: EC

**Even if full, EU gas storage represents only 46-48% of winter gas demand.** Based on data from the EC, the total gas storage capacity in the EU is 1,110TWh (76.8mt of LNG). Historically, this accounted for only 46.4% of the total gas demand in the winter of 2020/21 and 48.5% in the winter of 2021/22.

Even with its 1,110TWh of total gas storage filled to the brim, we believe the EU is still highly exposed to the risk of gas supply shortages this coming winter, which we think will require somewhere between the 2,288TWh (158.4mt of LNG) consumed during the winter of 2021/22 and the 2,392TWh (165.6mt of LNG) required for the winter of 2020/21.

At 15% lower gas consumption, gas demand this winter would fall to between 1,945TWh (134.6mt) and 2,034TWh (140.8mt) based on gas demand during the winters of 2021/22 and 2020/21. Hence, we remain convinced that without supplies of Russian gas, EU countries face a high risk of supply shortfalls this winter.

### Exhibit 8: EU gas storage capacity by country



Source: [European Council](#)

### Exhibit 9: Top EU gas suppliers over the past two winter seasons

Gas supplier	Gas demand	
	Winter 2021/22 (Oct-21 to Apr-22) (TWh)	Winter 2020/21 (Oct-20 to Apr-21) (TWh)
1 Russia	866	855
2 Norway	719	697
3 LNG	468	697
4 Germany	201	112
5 Canada	21	20
6 Algeria	14	11
<b>Total</b>	<b>2,288</b>	<b>2,392</b>
<b>Gas storage capacity as % of gas demand (%)</b>	<b>48.52</b>	<b>46.41</b>

Source: [European Council](#)

## Corporate Governance report of Thai listed companies 2021

EXCELLENT LEVEL – Score range 90-100										
AAV	BCPG	CPALL	GCAP	K	MSC	PLANET	SAMART	SPI	THRE	TVD
ADVANC	BDMS	CPF	GFPT	KBANK	MST	PLAT	SAMTEL	SPRC	THREL	TVI
AF	BEM	CPI	GGC	KCE	MTC	PORT	SAT	SPVI	TIPCO	TVO
AH	BGC	CPN	GLAND	KKP	MVP	PPS	SC	SSSC	TISCO	TWPC
AIRA	BGRIM	CRC	GLOBAL	KSL	NCL	PR9	SCB	SST	TK	U
AKP	BIZ	CSS	GPI	KTB	NEP	PREB	SCC	STA	TKT	UAC
AKR	BKI	DDD	GPSC	KTC	NER	PRG	SCCC	STEC	TMT	UBIS
ALT	BOL	DELTA	GRAMMY	LALIN	NKI	PRM	SCG	STI	TNDT	UV
AMA	BPP	DEMCO	GULF	LANNA	NOBLE	PROUD	SCGP	SUN	TNITY	VGI
AMATA	BRR	DRT	GUNKUL	LH	NSI	DRSH	SCM	SUSCO	TOA	VIH
AMATAV	BTS	DTAC	HANA	LHFG	NVD	PSL	SDC	SUTHA	TOP	WACOAL
ANAN	BTW	DUSIT	HARN	LIT	NWR	PTG	SEAFECO	SVI	TPBI	WAVE
AOT	BWG	EA	HMPRO	LPN	NYT	PTT	SEAOIL	SYMC	TQM	WHA
AP	CENTEL	EASTW	ICC	MACO	OISHI	PTTEP	SE-ED	SYNTEC	TRC	WHAUP
ARIP	CFRESH	ECF	ICHI	MAJOR	OR	PTTGC	SELIC	TACC	TRU	WICE
ARROW	CHEWA	ECL	III	MAKRO	ORI	PYLON	SENA	TASCO	TRUE	WINNER
ASP	CHO	EE	ILINK	MALEE	OSP	Q-CON	SHR	TCAP	TSC	ZEN
AUCT	CIMBT	EGCO	ILM	MBK	OTO	QH	SIRI	TEAMG	TSR	
AWC	CK	EPG	INTUCH	MC	PAP	QTC	SIS	TFMAMA	TSTE	
AYUD	CKP	ETC	IP	MCOT	PCSGH	RATCH	SITHAI	TGH	TSTH	
BAFS	CM	FPI	IRPC	METCO	PDG	RS	SMK	THANA	TTA	
BANPU	CNT	FPT	ITEL	MFEC	PDJ	S	SMPC	THANI	TTB	
BAY	COM7	FSMART	IVL	MINT	PG	S & J	SNC	THCOM	TTCL	
BBL	COMAN	GBX	JSP	MONO	PHOL	SAAM	SONIC	THG	TTW	
BCP	COTTO	GC	JWD	MOONG	PLANB	SABINA	SPALI	THIP	TU	
VERY GOOD LEVEL – Score range 80-89										
2S	ASIMAR	CHOW	FLOYD	IT	LOXLEY	OCC	RPC	SKY	TCC	TVT
7UP	ASK	CI	FN	ITD	LRH	OGC	RT	SLP	TCMC	TWP
ABICO	ASN	CIG	FNS	J	LST	PATO	RWI	SMIT	TEAM	UEC
ABM	ATP30	CMC	FORTH	JAS	M	PB	S11	SMT	TFG	UMI
ACE	B	COLOR	FSS	JCK	MATCH	PICO	SA	SNP	TFI	UOBKH
ACG	BA	CPL	FTE	JCKH	MBAX	PIMO	SAK	SO	TIGER	UP
ADB	BAM	CPW	FVC	JMART	MEGA	PJW	SALEE	SORKON	TITLE	UPF
AEONTS	BC	CRD	GEL	JMT	META	PL	SAMCO	SPA	TKN	UPOIC
AGE	BCH	CSC	GENCO	KBS	MFC	PM	SANKO	SPC	TKS	UTP
AHC	BEC	CSP	GJS	KCAR	MGT	PMTA	SAPPE	SPCG	TM	VCOM
AIT	BEYOND	CWT	GYT	KEX	MICRO	PPP	SAWAD	SR	TMC	VL
ALL	BFIT	DCC	HEMP	KGI	MILL	PPP	SCI	SRICHA	TMD	VPO
ALLA	BJC	DCON	HPT	KIAT	MITSIB	PRIME	SCN	SSC	TMI	VRANDA
ALUCON	BJCHI	DHOUSE	HTC	KISS	MK	PRIN	SCP	SSF	TMILL	WGE
AMANAH	BLA	DOD	HYDRO	KOOL	MODERN	PRINC	SE	STANLY	TNL	WIK
AMARIN	BR	DOHOME	ICN	KTIS	MTI	PSG	SFLEX	STGT	TNP	WP
APCO	BROOK	DV8	IFS	KUMWEL	NBC	PSTC	SFP	STOWER	TOG	XO
APCS	CBG	EASON	IMH	KUN	NCAP	PT	SFT	STPI	TPA	XPG
APURE	CEN	EFORL	IND	KWC	NCH	QLT	SGF	SUC	TPAC	YUASA
AQUA	CGH	ERW	INET	KWM	NETBAY	RBF	SIAM	SWC	TPCS	
ASAP	CHARAN	ESSO	INSET	L&E	NEX	RCL	SINGER	SYNEX	TPS	
ASEFA	CHAYO	ESTAR	INSURE	LDC	NINE	RICHY	SKE	TAE	TRITN	
ASIA	CHG	ETE	IRC	LEO	NRF	RML	SKN	TAKUNI	TRT	
ASIAN	CHOTI	FE	IRCP	LHK	NTV	ROJNA	SKR	TBSP	TSE	
GOOD LEVEL – Score range 70-79										
A	BGT	CITY	GIFT	JTS	MDX	PK	SGP	SUPER	TQR	YGG
AI	BH	CMAN	GLOCON	JUBILE	MJD	PLE	SICT	SVOA	TTI	ZIGA
AIE	BIG	CMO	GREEN	KASET	MORE	PPM	SIMAT	TC	TYCN	
AJ	BLAND	CMR	GSC	KCM	MUD	PRAKIT	SISB	TCCC	UKEM	
ALPHAX	BM	CPT	GTB	KK	NC	PRAPAT	SK	THMUI	UMS	
AMC	BROCK	CRANE	HTECH	KKC	NDR	PRECHA	SMART	TNH	UNIQ	
APP	BSBM	CSR	HUMAN	KWI	NFC	PTL	SOLAR	TNR	UPA	
AQ	BSM	D	IHL	KYE	NNCL	RJH	SPACK	TOPP	UREKA	
ARIN	BTNC	EKH	IIG	LEE	NOVA	RP	SPG	TPCH	VIBHA	
AS	BYD	EMC	INGRS	LPH	NPK	RPH	SQ	TPIPL	W	
AU	CAZ	EP	INOX	MATI	NUSA	RSP	SSP	TIPIP	WIN	
B52	CCP	F&D	JAK	M-CHAI	PAF	SABUY	STARK	TPLAS	WORK	
BEAUTY	CGD	FMT	JR	MCS	PF	SF	STC	TPOLY	WPH	

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\* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive

Sources: Thai Institute of Directors Association (IOD); FSSIA's compilation; data as of 26 October 2021

## Anti-corruption Progress Indicator

CERTIFIED										
2S	BCH	CPALL	GC	K	MFC	PE	QLT	SNP	THCOM	TU
7UP	BCP	CPF	GCAP	KASET	MFEC	PG	QTC	SORKON	THIP	TVD
ADVANC	BCPG	CPI	GEL	KBANK	MILL	PHOL	RATCH	SPACK	THRE	TVI
AF	BE8	CPN	GFPT	KBS	MINT	PK	RML	SPALI	THREL	TVO
AI	BEYOND	CSC	GGC	KCAR	MONO	PL	RWI	SPC	TIDLOR	TWPC
AIE	BGC	DCC	GJS	KCE	MOONG	PLANB	S & J	SPI	TIPCO	U
AIRA	BGRIM	DELTA	GPI	KGI	MSC	PLANET	SAAM	SPRC	TISCO	UBE
AKP	BJCHI	DEMCO	GPSC	KKP	MST	PLAT	SABINA	SRICHA	TKS	UBIS
ALPHAX	BKI	DIMET	GSTEEL	KSL	MTC	PM	SAPPE	SSF	TKT	UEC
AMA	BLA	DRT	GUNKUL	KTB	MTI	PPP	SAT	SSP	TMD	UKEM
AMANAHA	BPP	DTAC	HANA	KTC	NBC	PPPM	SC	SSSC	TMILL	UOBKH
AMATA	BROOK	DUSIT	HARN	KWC	NEP	PPS	SCB	SST	TMT	UPF
AMATAV	BRR	EA	HEMP	KWI	NINE	PR9	SCC	STA	TNITY	UV
AP	BSBM	EASTW	HENG	L&E	NKI	PREB	SCCC	STOWER	TNL	VGI
APCS	BTS	ECL	HMPRO	LANNA	NMG	PRG	SCG	SUSCO	TNP	VIH
AQUA	BWG	EGCO	HTC	LH	NNCL	PRINC	SCN	SVI	TNR	WACOAL
ARROW	CEN	EP	ICC	LHFG	NOBLE	PRM	SEAOIL	SYMC	TOG	WHA
AS	CENTEL	EPG	ICHI	LHK	NOK	PROS	SE-ED	SYNTEC	TOP	WHAUP
ASIAN	CFRESH	ERW	IFEC	LPN	NSI	PSH	SELIC	TAE	TOPP	WICE
ASK	CGH	ESTAR	IFS	LRH	NWR	PSL	SENA	TAKUNI	TPA	WIJK
ASP	CHEWA	ETE	ILINK	M	OCC	PSTC	SGP	TASCO	TPP	XO
AWC	CHOTI	FE	INET	MAKRO	OGC	PT	SINGER	TBSP	TRU	ZEN
AYUD	CHOW	FNS	INSURE	MALEE	ORI	PTG	SIRI	TCAP	TRUE	
B	CIG	FPI	INTUCH	MATCH	PAP	PTT	SITHAI	TCMC	TSC	
BAFS	CIMBT	FPT	IRC	MBAX	PATO	PTTEP	SKR	TFG	TSTE	
BAM	CM	FSMART	IRPC	MBK	PB	PTTGC	SMIT	TFI	TSTH	
BANPU	CMC	FSS	ITEL	MC	PCSGH	PYLON	SMK	TFMAMA	TTA	
BAY	COM7	FTE	IVL	MCOT	PDG	Q-CON	SMPC	TGH	TTB	
BBL	COTTO	GBX	JKN	META	PDJ	QH	SNC	THANI	TTCL	
DECLARED										
AJ	CHG	DDD	ETC	JR	MAJOR	NUSA	RS	SSS	TQM	YUASA
ALT	CPL	DHOUSE	FLOYD	JTS	NCAP	NYT	SAK	STECH	TSI	ZIGA
APCO	CPR	DOHOME	GULF	KEX	NCL	OR	SCGP	STGT	VARO	
B52	CPW	ECF	III	KUMWEL	NOVA	PIMO	SCM	TKN	VCOM	
BEC	CRC	EKH	INOX	LDC	NRF	PLE	SIS	TMI	VIBHA	

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

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Sources: The Securities and Exchange Commission, Thailand; \* FSSIA's compilation

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Suwat Sinsadok, CFA, FRM, ERP FSS International Investment Advisory Securities Co., Ltd

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Company	Ticker	Price	Rating	Valuation & Risks
PTT Explor & Prod	PTTEP TB	THB 165.00	BUY	Risks to our TP, which is based on EV/EBITDA, are a sharp decline in oil price and a potential earnings downside from government intervention.
Banpu	BANPU TB	THB 14.20	BUY	We see downside risks to our SoTP-based TP from lower coal prices, higher diesel costs and any unplanned shutdowns of its power plants.
Esso Thailand	ESSO TB	THB 14.10	BUY	The downside risks to our SoTP-based TP on ESSO include 1) lower-than-expected demand for petroleum products; 2) a higher crude premium; and 3) unplanned shutdowns of its refinery and petrochemical plants.
Thai Oil	TOP TB	THB 57.25	BUY	Downside risks to our EV/EBITDA-based TP are 1) a sharp fall in oil price; 2) weak demand for refined oil products; 3) customer concentrations; 4) currency risk; 5) interest rate risk; and 6) a raw material shortage.
Star Petroleum Refining	SPRC TB	THB 12.60	BUY	TP is based on EV/EBITDA. Downside risks are a sharp rise in oil price and weak demand for refined oil products.
Bangchak Corp	BCP TB	THB 33.00	BUY	The downside risks to our SoTP-based TP include: 1) lower-than-expected demand for petroleum products; 2) higher crude premiums; and 3) unplanned shutdowns of the company's refinery plants.

Source: FSSIA estimates

### Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

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All share prices are as at market close on 07-Sep-2022 unless otherwise stated.

## RECOMMENDATION STRUCTURE

### Stock ratings

Stock ratings are based on absolute upside or downside, which we define as  $(\text{target price}^* - \text{current price}) / \text{current price}$ .

BUY (B). The upside is 10% or more.

HOLD (H). The upside or downside is less than 10%.

REDUCE (R). The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

\* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.



## Industry Recommendations

**Overweight.** The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

**Neutral.** The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

**Underweight.** The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

## Country (Strategy) Recommendations

**Overweight (O).** Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Neutral (N).** Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Underweight (U).** Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.