



6TH BALTIC OIL AND GAS  
TRADING AND TRANSPORTATION CONFERENCE

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Instytut  
Studiów Energetycznych

# „Long-term and spot LNG & LPG markets”

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RIGA, October 24th., 2016

# Disclaimer

**The information on which this presentation is based derives from our own experience, knowledge, data and research.**

**The opinions expressed and interpretations offered are those of University of Science and Technology in Cracow and Energy Studies Institute in Warsaw and have been reached following careful consideration.**

**However, the Oil&Gas business is characterized by much uncertainty and all of our comments and conclusions should be taken in that light.**

**Accordingly, we do not accept any liability for any reliance which our clients may place on them.**

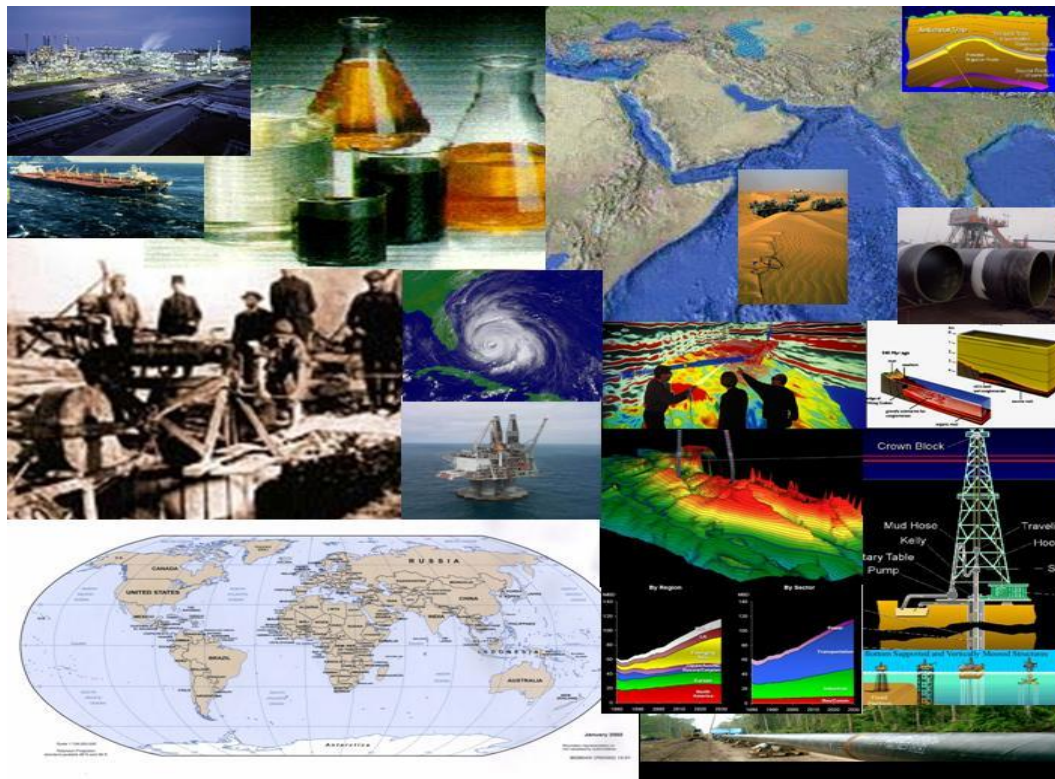
## About Energy Studies Institute

**Energy Studies Institute**  
is a Polish consulting company  
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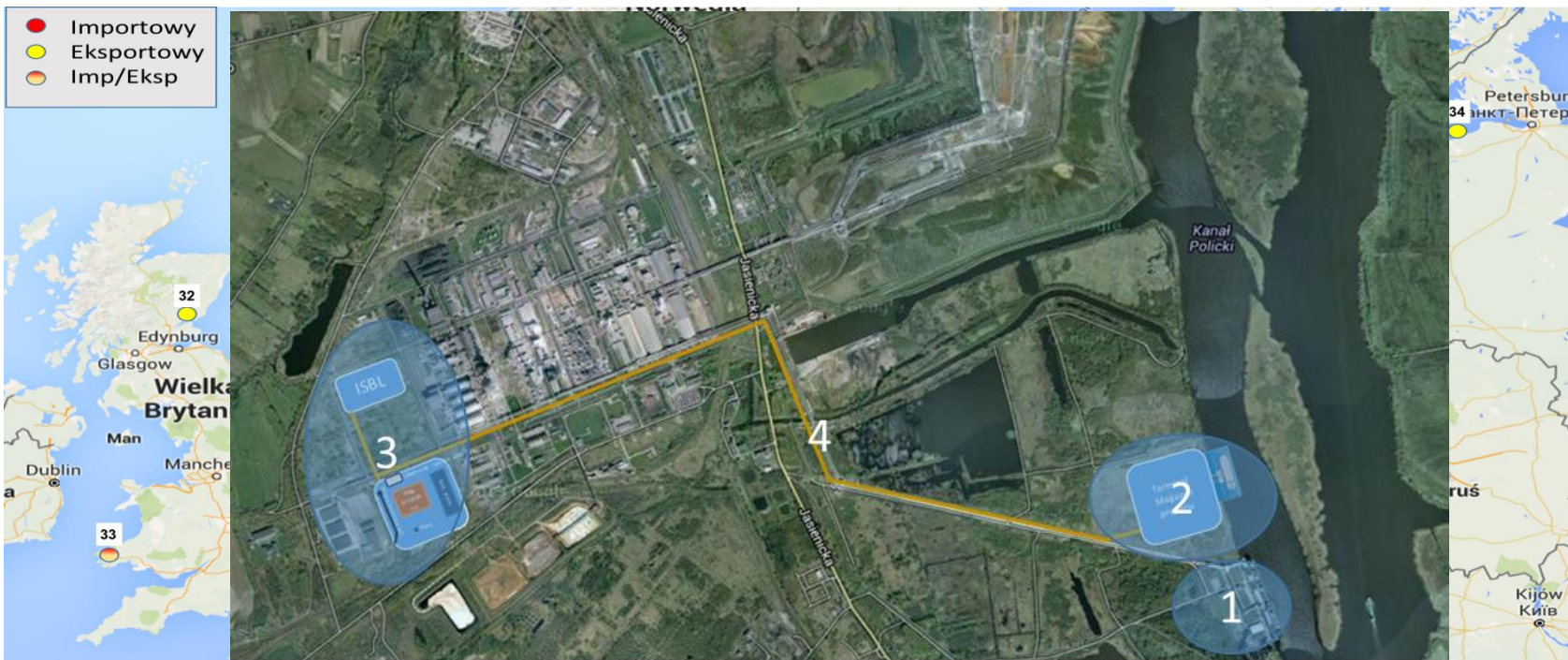
Our services are well-known  
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and power generation (CHP)  
based on natural gas.

Our offer:  
[www.ise.com.pl](http://www.ise.com.pl)

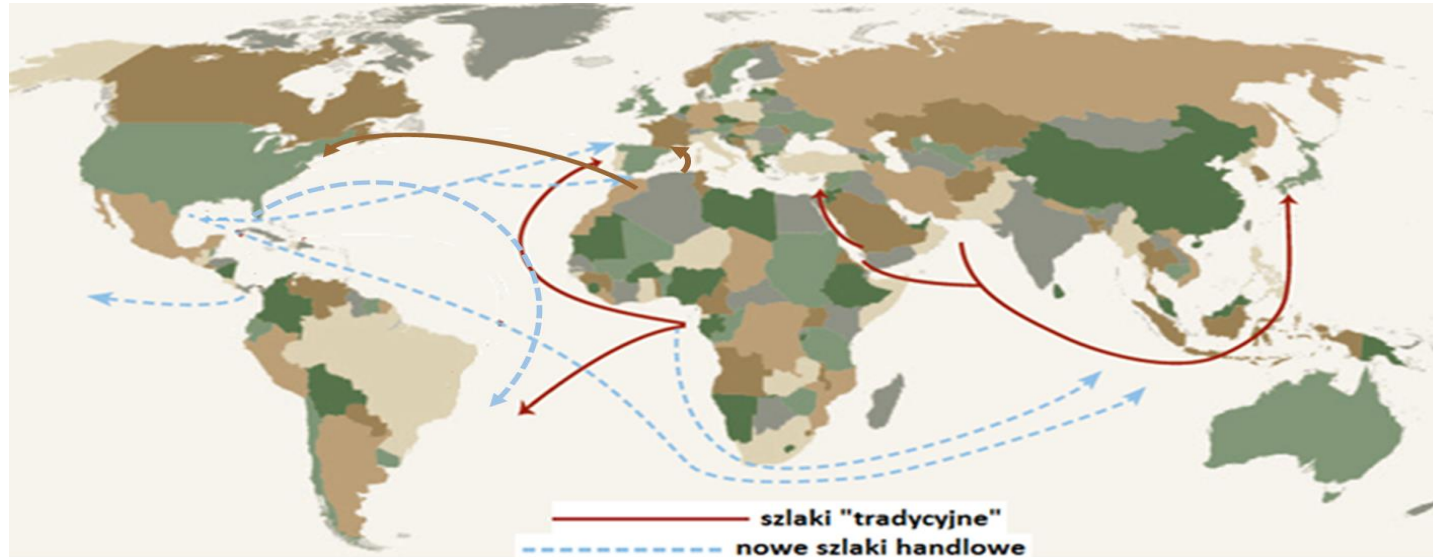
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# LPG terminals in ARA region



# LPG trade routes



International LPG turnover - maritime trade routes  
Source: own analysis.

# Inland transport



# The concept of the model

Auxiliary sheets

Computing and data sheets

XXXX  
MODEL ROBOCZY / TABLICE FINANSOWE  
Panel nawigacyjny modelu

Panel nawigacyjny

**Sterowanie modelem i funkcje wspomagające**

Tytuł

Nawigacja

Kontrola

Słownik

**Drukowanie (klawisze do wydruku nie do nawigacji!)**

Wydruk PTE

Wydruk P&ST

Wydruk PTE i P&ST

wersja Plan 1.1 data sporządzenia 19-02-2015  
Spółka 1.2

**Część obliczeniowa**

Założenia  
STER

Planowanie kontraktowe  
Kontrakty

Planowanie Rachunku Zysków  
Przychody  
Koszty

Planowanie Bilansu (środki trwałe)  
Inw  
AM\_BIL  
AM\_POD  
Dezinw

Planowanie Bilansu (pozostałe pozycje)  
AP

Wyniki  
SF  
Wycena

**Część prezentacyjna PTE**

PTE-Sprzedaz  
PTE-Efektywność  
PTE-Kontrakty  
PTE-Geografia  
PTE-Bilans  
PTE-Specyfikacja Bilans  
PTE-Rachunek  
PTE-Specyfikacja RK  
PTE-Przepływy  
PTE-Segmenty  
PTE-Produkty  
PTE-Aftermarket  
PTE-Koszty zarządu  
PTE-Koszty sprzedaży  
PTE-Inwestycje  
PTE-Dezinwestycje  
PTE-Remonty  
PTE-Zatrudnienie  
PTE-Usługi obs.  
PTE-Klienci

**Część prezentacyjna P&ST**

P&ST-Sprzedaz  
P&ST-Efektywność  
P&ST-Bilans  
P&ST-Rachunek  
P&ST-Przepływy

**Część eksportu danych do konsolidacji (zablokowane)**

Eksport-Rachunek  
Eksport-Bilans  
Eksport-Segmenty

Presentations sheets

EXAMPLE ISE  
MODEL

# Total cost of maritime logistics propane to[...]

Trasa	Opcja logistyczna	Fracht do NWE/ Świnoujścia USD/MT	Fracht do Polic USD/MT	Magazyn w NWE USD/MT	Rurociąg do Polic USD/MT	Całkowity koszt logistyki do Polic USD/MT
Ameryka Płn. - NWE – Police	84 tys. CBM charter + Magazyn + 10 tys. CBM charter	55,9	58,6	13,8	N.D.	128,4
Ameryka Płn. - NWE – Police	84 tys. CBM charter + Magazyn + 20 tys. CBM charter	55,9	48,0	13,8	N.D.	117,7
Ameryka Płn. - NWE - Police	84 tys. CBM charter + Magazyn + 35 tys. CBM charter	55,9	42,8	8,8	N.D.	107,5
Zach Afryka - NWE - Police	84 tys. CBM charter + Magazyn + 10 tys. CBM charter	49,6	58,6	13,8	N.D.	122,0
Zach Afryka - NWE - Police	84 tys. CBM charter + Magazyn + 20 tys. CBM charter	49,6	48,0	13,8	N.D.	111,4
Zach Afryka - NWE - Police	84 tys. CBM charter + Magazyn + 35 tys. CBM charter	49,6	42,8	8,8	N.D.	101,2
Algieria - NWE- Police	84 tys. CBM charter + Magazyn + 10 tys. CBM charter	33,4	58,6	5,4	N.D.	97,4
Algieria - NWE- Police	84 tys. CBM charter + Magazyn + 20 tys. CBM charter	33,4	48,0	5,4	N.D.	86,7
Morze Płn - Police	10 tys. CBM charter	N.D.	69,2	N.D.	N.D.	69,2
Rosja - Police	10 tys. CBM charter	N.D.	41,5	N.D.	N.D.	41,5
Algieria - Police	10 tys. CBM charter	N.D.	94,5	N.D.	N.D.	94,5
Zach. Afryka- Police	10 tys. CBM charter	N.D.	176,1	N.D.	N.D.	176,1
Ameryka Płn - Police	10 tys. CBM charter	N.D.	200,3	N.D.	N.D.	200,3
Morze Płn - Police	20 tys. CBM charter	N.D.	52,9	N.D.	N.D.	52,9
Rosja - Police	20 tys. CBM charter	N.D.	32,9	N.D.	N.D.	32,9
Algieria - Police	20 tys. CBM charter	N.D.	71,9	N.D.	N.D.	71,9
Zach. Afryka- Police	20 tys. CBM charter	N.D.	135,5	N.D.	N.D.	135,5
Ameryka Płn - Police	20 tys. CBM charter	N.D.	149,7	N.D.	N.D.	149,7
Morze Płn - Police	35 tys. CBM charter	N.D.	40,9	N.D.	N.D.	40,9
Rosja - Police	25 tys. CBM charter	N.D.	30,4	N.D.	N.D.	30,4
Algieria - Police	35 tys. CBM charter	N.D.	57,5	N.D.	N.D.	57,5
Zach. Afryka- Police	35 tys. CBM charter	N.D.	101,1	N.D.	N.D.	101,1
Ameryka Płn - Police	35 tys. CBM charter	N.D.	114,0	N.D.	N.D.	114,0
Ameryka Płn - Świnoujście - Police	84 tys. CBM charter + rurociąg do Polic	63,3	N.D.	N.D.	12,3	75,6
Zach Afryka - Świnoujście - Police	84 tys. CBM charter + rurociąg do Polic	57,0	N.D.	N.D.	12,3	69,3
Algieria - Świnoujście - Police	84 tys. CBM spot + rurociąg do Polic	44,0	N.D.	N.D.	12,3	56,3
Morze Płn. - Świnoujście- Police	60 tys. CBM spot + rurociąg do Polic	36,2	N.D.	N.D.	12,3	48,5
Rosja - Świnoujście - Police	60 tys. CBM spot + rurociąg do Polic	27,3	N.D.	N.D.	12,3	39,6
NWE - Świnoujście - Police	84 tys. CBM spot + rurociąg do Polic	28,8	N.D.	N.D.	12,3	41,1

Source: own analysis.



# The appearance of a standard sheet

**Obszar techniczny**

**Blok do raportowania**

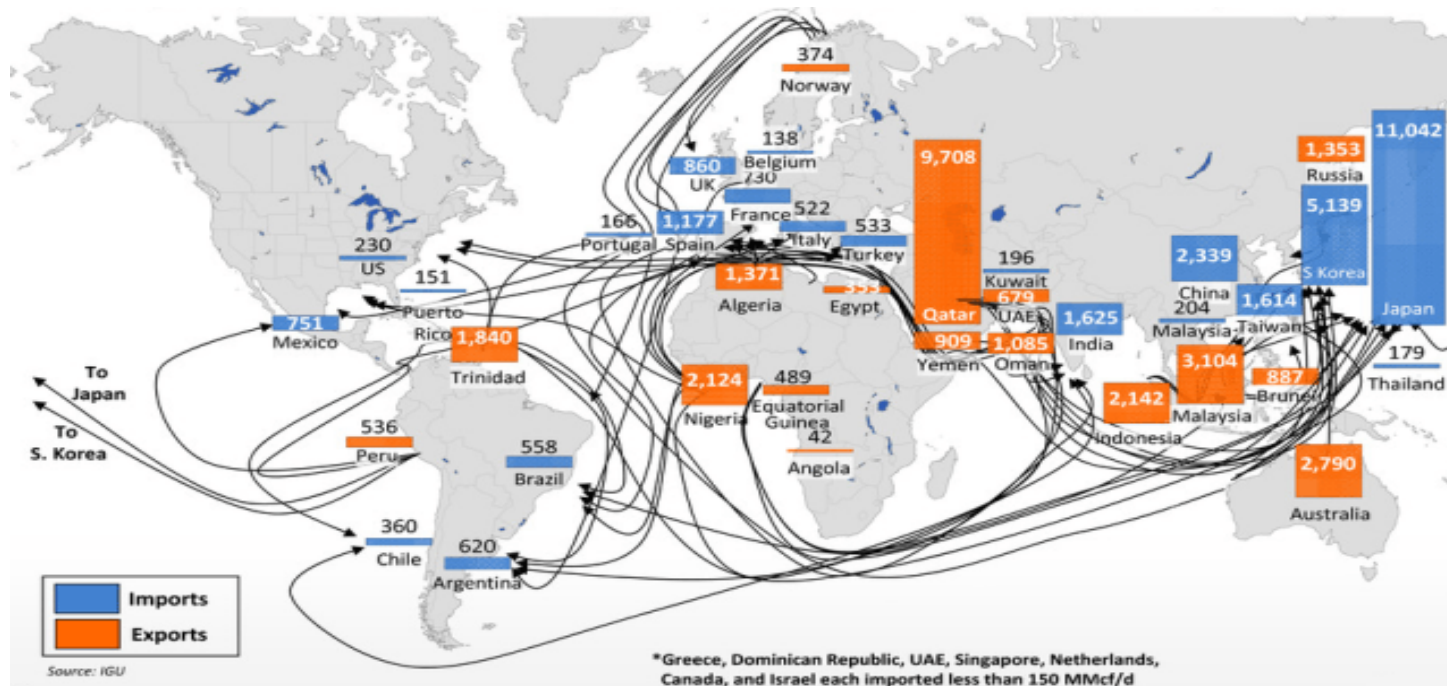
**Blok roboczy**

**Legenda**

2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
21 000 000	22 000 000	23 000 000	24 000 000	25 000 000	26 000 000	27 000 000	28 000 000	29 000 000	30 000 000	4 050 000	4 850 000	4 950 000	4 150 000	4 220 000	4 950 000	4 950 000	4 150 000	4 220 000	4 950 000	4 950 000	4 150 000	4 220 000
21 000 000	22 000 000	23 000 000	24 000 000	25 000 000	26 000 000	27 000 000	28 000 000	29 000 000	30 000 000	4 050 000	4 850 000	4 950 000	4 150 000	4 220 000	4 950 000	4 950 000	4 150 000	4 220 000	4 950 000	4 950 000	4 150 000	4 220 000
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
9 000 000	9 000 000	9 000 000	9 000 000	9 000 000	9 000 000	9 000 000	9 000 000	9 000 000	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
0,96%	-2,10%	-2,10%	-2,10%	-2,10%	-2,10%	-2,10%	-2,10%	-2,10%	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
20,6%	20,6%	20,6%	20,6%	20,6%	20,6%	20,6%	20,6%	20,6%	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	
2012	2013	2014	2015	2016	2017	2018	2019	2020	B.O.	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	

Example – based on ISE own model

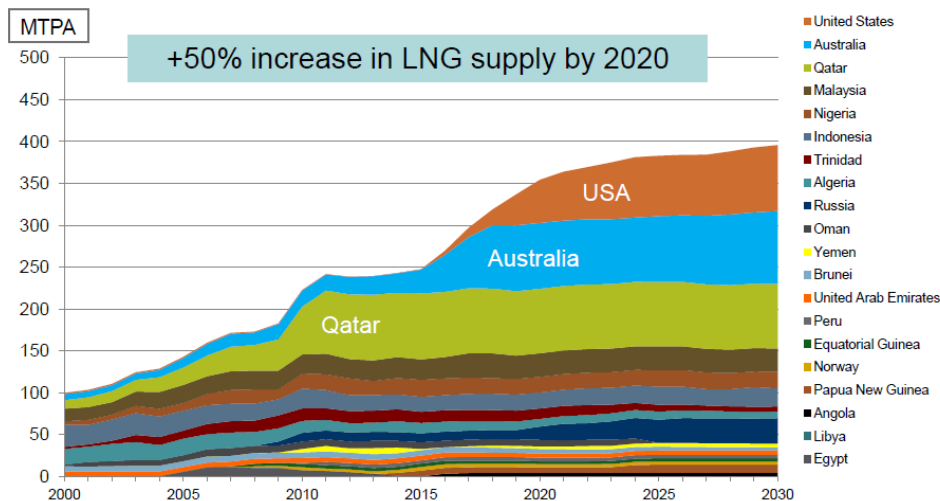
# LNG routes & flows '2015.



<http://www.energyanalyst.co.uk/the-global-outlook-for-lng/>

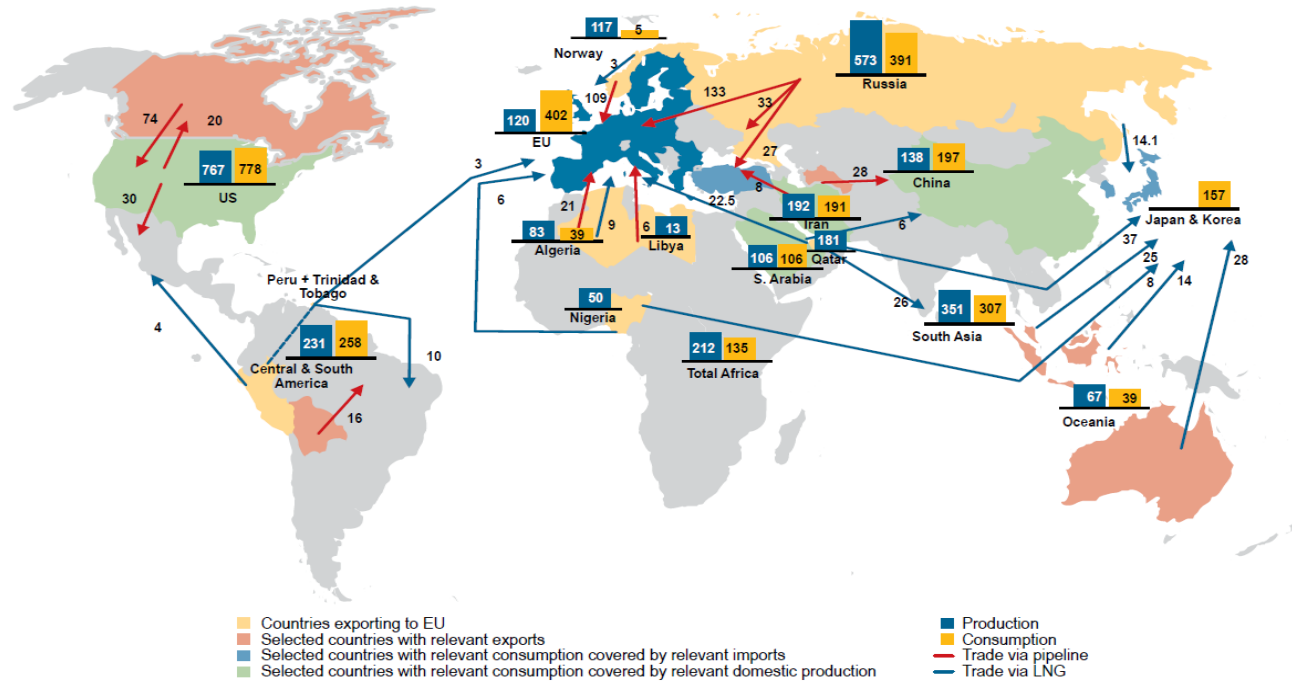
# Is there any future for LNG in the region?

LNG IS AVAILABLE: 240 → 360 MILLION TON/Y IN 2020



LNG terminals in the Baltic Sea Basin

# Natural gas world: consumption, production, flow 2015.



## LNG price in Poland

*American gas could occur in Poland, its price point Henry Hub should be well below 2 dol./mmBtu or as shown by the British example, low today, European natural gas prices on the stock markets would bounce.*

*It is also a political attitude of Gazprom, and above all, how low can be Russian pipe gas offer to block competitors... .*

*Today Europe – Spain is the main (re)exporter of LNG.*

*I am waiting for the first in the Europe SWAP (LNG vs natural gas delivery by pipe.)*

## Analysis of the price of US gas and the difference in relation to the price of Russian gas..

dol./ mmBtu	dol./ 1000m <sup>3</sup>	200 dol./1000m <sup>3</sup>	195 dol./1000m <sup>3</sup>	190 dol./1000m <sup>3</sup>	180 dol./1000m <sup>3</sup>	177,6 dol./1000m <sup>3</sup>
2	74	126	121	116	106	103,6
3,5	129,5	70,5	65,5	60,5	50,5	48,1
3,8	140,6	59,4	54,4	49,4	39,4	37
4	148	52	47	42	32	29,6
4,2	155,4	44,6	39,6	34,6	24,6	22,2
4,5	166,5	33,5	28,5	23,5	13,5	11,1

For example, the 2 USD / MMBtu at the Henry Hub price for Russian gas 200USD for 1000m<sup>3</sup> difference is 126 USD. Similarly, the 4,5 USD / MMBtu at the Henry Hub price for Russian gas 177,6USD for 1000m<sup>3</sup> difference is already 11,1 USD... .

# Thanks for your attention 😊



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**Questions ?**