

# BUILDING SUPPLY CHAIN

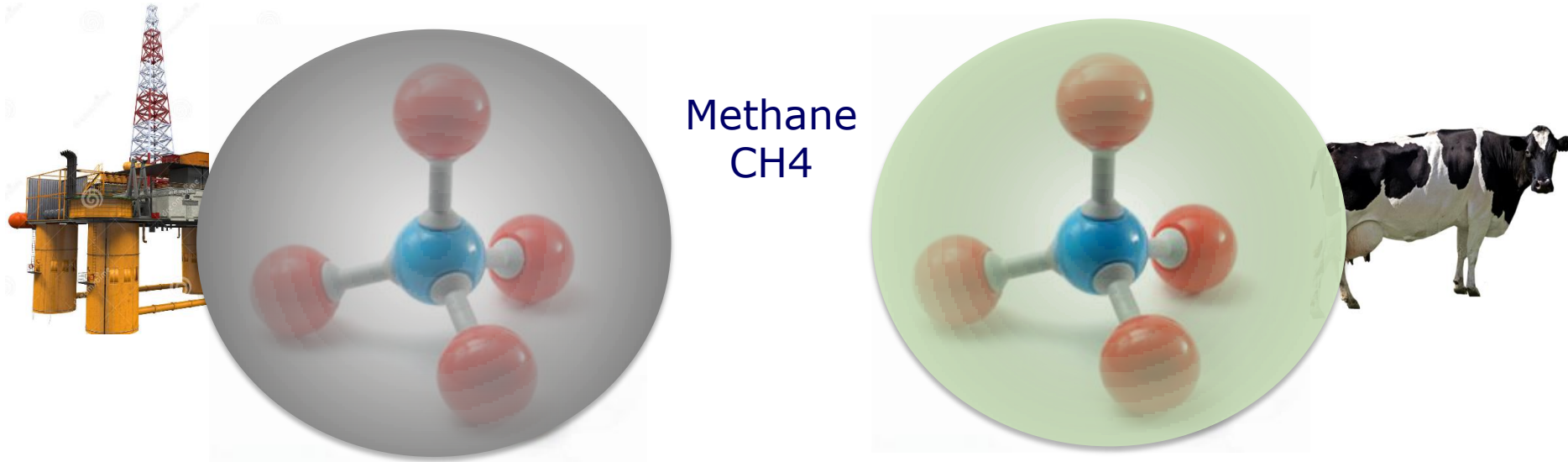
**September 2018**

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**Skangas**

PART OF GASUM GROUP

# LNG or LBG basically the same



LNG and LNG infrastructure a necessity to a future LBG supply chain.

The market will decide LNG/LBG based on pricing and regulations  
(driven by opinion and availability)

LNG/LBG should go «hand in hand», focusing those markets that can  
justify or prepare for more LBG production



Large  
Scale  
LNG

Pluto, Australia 4,4 MTPA



Galea 135 000 m<sup>3</sup>



Gate 540 000 m<sup>3</sup>



Small  
Scale  
LNG

Risavika, 0,3 MTPA



Coral Energy 15 600 m<sup>3</sup>



Lysekil 30 000 m<sup>3</sup>









# LNG for Marine and Industry

Cleanest available marine fuel and rapidly becoming more common as a cost-effective alternative

Skangas offers LNG bunkering services from English channel to St Petersburg



**Cost efficient**



**Reduced emissions**



**Reliable**



**Partnership**

LNG has replaced oil products in a variety of industries which has led to increased competitiveness and reduced emissions

Skangas offers LNG to all industrial regions outside the gas network in the Nordic markets









# The mission!

- Supply LNG in;
  - Nordic industry markets
  - North European ECA for marine
- Operate a competitive LNG supply chain;
  - Liquefaction and sourcing
  - Distribution by ship and truck
  - Operating terminals
- Our aim is zero accidents







# Building a supply chain....



**Risavika LNG Plant**

2010



**Øra LNG Terminal**

2011



**Lysekil LNG Terminal**

2014



**Pori LNG Terminal**

2016



**Trucks**

2010



**Coral Energy**

2013



**Coralius**

2017



**Coral Energence**

2018



# LNG portfolio

<b>Liquefaction plant</b>	Risavika	Design capacity: 300,000 t/y
<b>Other supply</b>	3 <sup>rd</sup> party FOB	
<b>Terminals</b>	Risavika	30,000 m <sup>3</sup>
	Øra	6,400 m <sup>3</sup>
	Lysekil	30,000 m <sup>3</sup>
	Pori	30,000 m <sup>3</sup>
	Tornio, Manga*(2018)	50,000 m <sup>3</sup>
<b>Ships</b>	Coral Energy	15,600 m <sup>3</sup>
	Coralius	5,800 m <sup>3</sup>
	Coral EnergICE	18,000 m <sup>3</sup>
<b>Trucks</b>	29 Trailers	22.5 ton
	5 Jumbo Trailers	30.0 ton

\*Skangas 25% share





# People



**“Developing the market, together with our customers”**

Jouni Bedda, Sales Manager



**“Efficiently meeting changing demands with LNG”**

Espen Brevik, Sourcing Portfolio Manager



**“Supplying LNG at the right time to our customers”**

Cecilie Fuglestad, Logistics Co-ordinator



# Skangas year in 2017



Revenue **200** million euro



Deliveries **412,000** tons



Investments  
**38.5** million euro



Accidents and injuries  
**0**

**Gasum**  
**70%**



People **79**



LNG truck loading  
**5,226** operations

**Lyse**  
**30%**



LNG ship bunkering  
**1,000** operations

# Supply chain

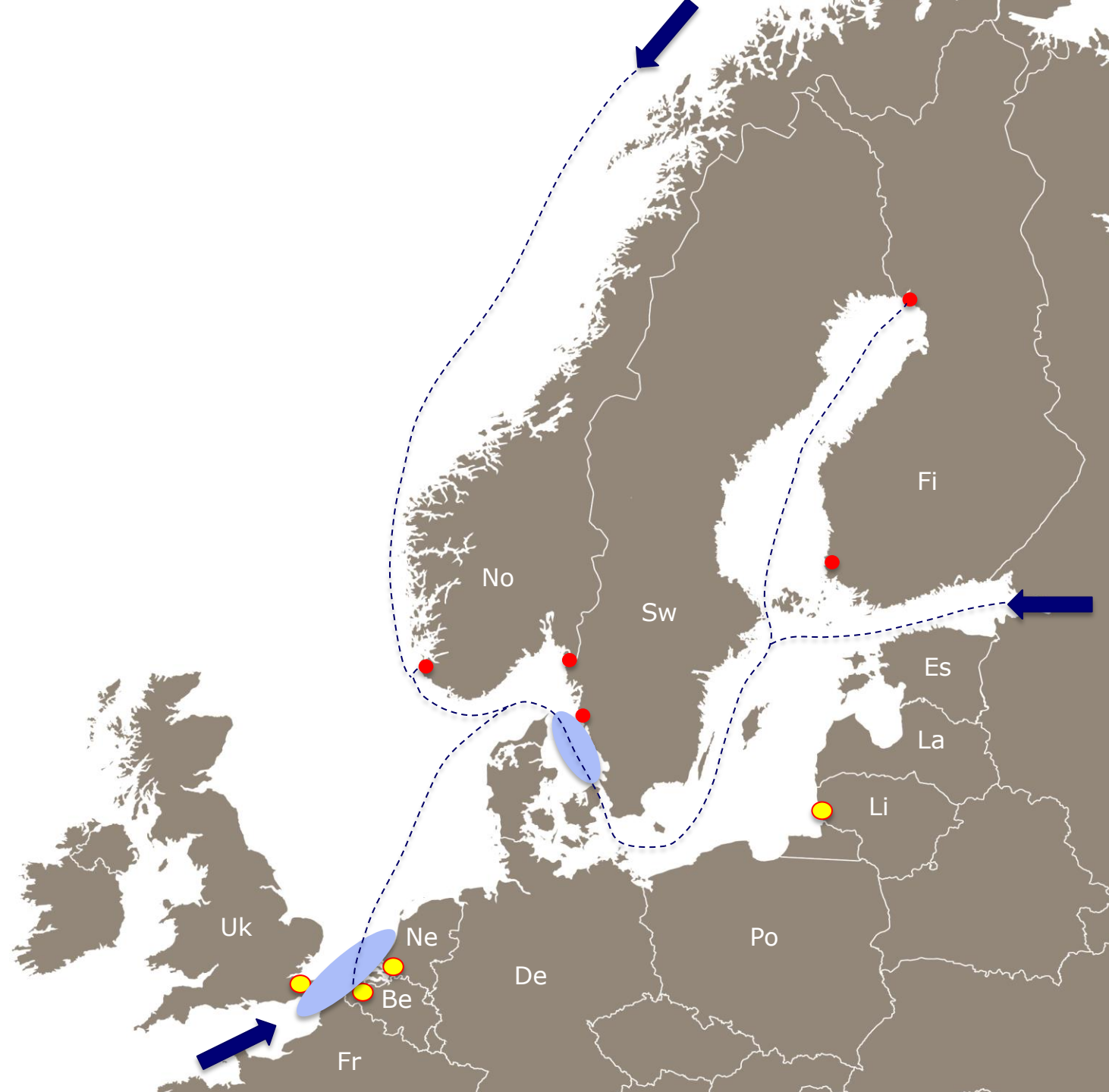
➡ LNG main import routes

● Breakbulk terminals

● Skangas terminals

- - - Skangas shipping routes

○ Focused bunkering areas





# Fure West – 3 different bunkering modes

Ship to Ship



Truck to Ship



Terminal to Ship



# Navigator Aurora – cool down and bunkering





# Ship to Ship Operations

Customer	Vessel	Port	Date
Coralius			
Furetank	Fure West	Intl water Swe/Dk	
Neot OY	Ternsund	Gothenburg, 519	
Preem	Tern Ocean	Gothenburg	
Navigator Gas	Navigator Aurora	Gothenburg	
Neot OY	Ternsund	G	
Neot AS	Tern Sea		
Preem	Tern Ocean		
Furetank	Fure West		
Neot Oy	Ternsund		12.11.2017
Preem			20.11.2017
Neot AS			21.11.2017
Preem			7.12.2017
Neot OY		Ruta C	17-19.12.2017
Neot		burg, 511	11.12.2017

Skangas has performed 60 StS bunkering!  
The capacity is readily available,  
.....need more brave ship owners!



# LNG as a marine fuel is here....

- Acceptable - Affordable and Available
  - Lets reduce emissions now, ....we can not wait for the one “silver bullet”
  - LNG part of the future energy mix, .....together with renewables
- 
- Deepsea vessels together with oil/gas majors will make LNG a world wide fuel
  - Big ships entering the market will increase LNG throughput in supply chain
  - There will be rapidly extended infrastructure – hence availability
  - Volume increase and supply chain development will attract technological development
  - Extensive competition on supplier side

- ✓ Will put a pressure on the prices





# LNG, ....FUTURE FUEL TODAY

THANK YOU!

**Skangas**

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