Big scale LNG

Qatar gas 4

Gate terminal

Sakhalin LNG

LNG vessel Hammerfest
Risavika Havn
Offshore supply base
Increasing traffic in container port
Node to Europa

Skangass
The Worlds most energy efficient & environmentally friendly LNG plant
The Small Scale LNG market, ...this is what we do...
Small Scale LNG is becoming attractive

- Until recently small scale LNG was under the radar screen
- Several global developments has made the technology attractive, enabling faster market development with less risks, as well as quicker commercialization of smaller gas reserves
- In countries with little or no pipeline infrastructure, there are good examples of small scale solutions. One example is Norway, another one is China for large inland fields
- The environmental side has been a driver for switching from oil products to gas
- "Virtual pipelines" enabled by trucks and ships are easier for investors to decide upon
- Majors are entering the small scale LNG market
Small Scale LNG for the Marine segment
Possible Market Development

Virtuous Circle:
More volume,
More infrastructure,
Lower costs,
More volume

LNG cheaper than oil fuels
Infrastructure in place
Scale economies

Source: Sund Energy
Maritime supply chain

- LNG production
- LNG import
- Coral Athelia
- Coral Energy
- HUB (Risavika – Øra - Lysekil – Gävle)
- Bunkering by truck
- Onshore bunker station
- Loading arm
- Bunker vessel
Bunkering PSV
2-3 trucks
Challenge; scale effect

100 m³/ bunkering (3 h)

130 m³/ bunkering (45 min)

5000 m³/ bunkering (? min)
Fredrikstad LNG terminal - 2012

6 500 cbm
9 x pressure vessels
Truck loading & local gas grid
Bunker pipe
Borg Havn (Øra), Fredrikstad
Lysekil LNG terminal - 2014

- Lysekil terminal project
Lysekil terminal project

- Tank capacity 30,000 cbm
- Operational as from Q2, 2014
- Bunker barge loading facility
- Truck loading facilities
Gävle LNG terminal - 2016

- Tank capacity 30 000 cbm
- FID to be taken 2013
LNG feeder vessels
LNG Carrier “Coral Energy” - 2012

- Capacity 15,600 m³
- Dedicated LNG carrier
- Ice class 1A
- 155 meters long
Next step;

Small LNG feeder with ability to make ship-to-ship bunker operations

- 6500 cbm capacity
- 100 meters long
- Q4 - 2014
Risavika, LNG bunker port

1000 m³/h

200 m³/h

350 m³/h

1000 m³/h

Truck deliveries 50 m³/h
Bunker operations using tank trucks

- 1 or 2 trucks simultaneously
- Supply rate; 50 – 100 cbm/h
Fjord Line interim solution
Tank you!

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