



# The story of GASSLED

– *how a 9'000km offshore pipeline network developed*

March 2017

# Gassled, May 2016

***What did we have?***

***What did we get?***

***Why did it change?***

***Statoil's experience***

# Gassled

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# NCS Pipeline Development



- Joint Gas Sales,  
(by Gas Sales Committee)
- 'Joint' Portfolio planning  
(by Gas Supply Committee)
- One JV per pipeline
- Balanced ownership(s),  
*Field and pipeline*
- Negotiated use of
  - *transportation*
  - *processing*
- Approval by authorities
- Statoil (100% state):
  - *Operator,*
  - *Major owner*
  - *'Architect'*

Source : Gassco AS

# Gassled

***What did we have?***

***What did we get?***

***Why did it change?***

***Statoil's experience***



# Gassled

- From 1 January 2003 most of the upstream gas pipelines on the Norwegian Continental Shelf (NCS) were merged into one system called – **GASSLED** –

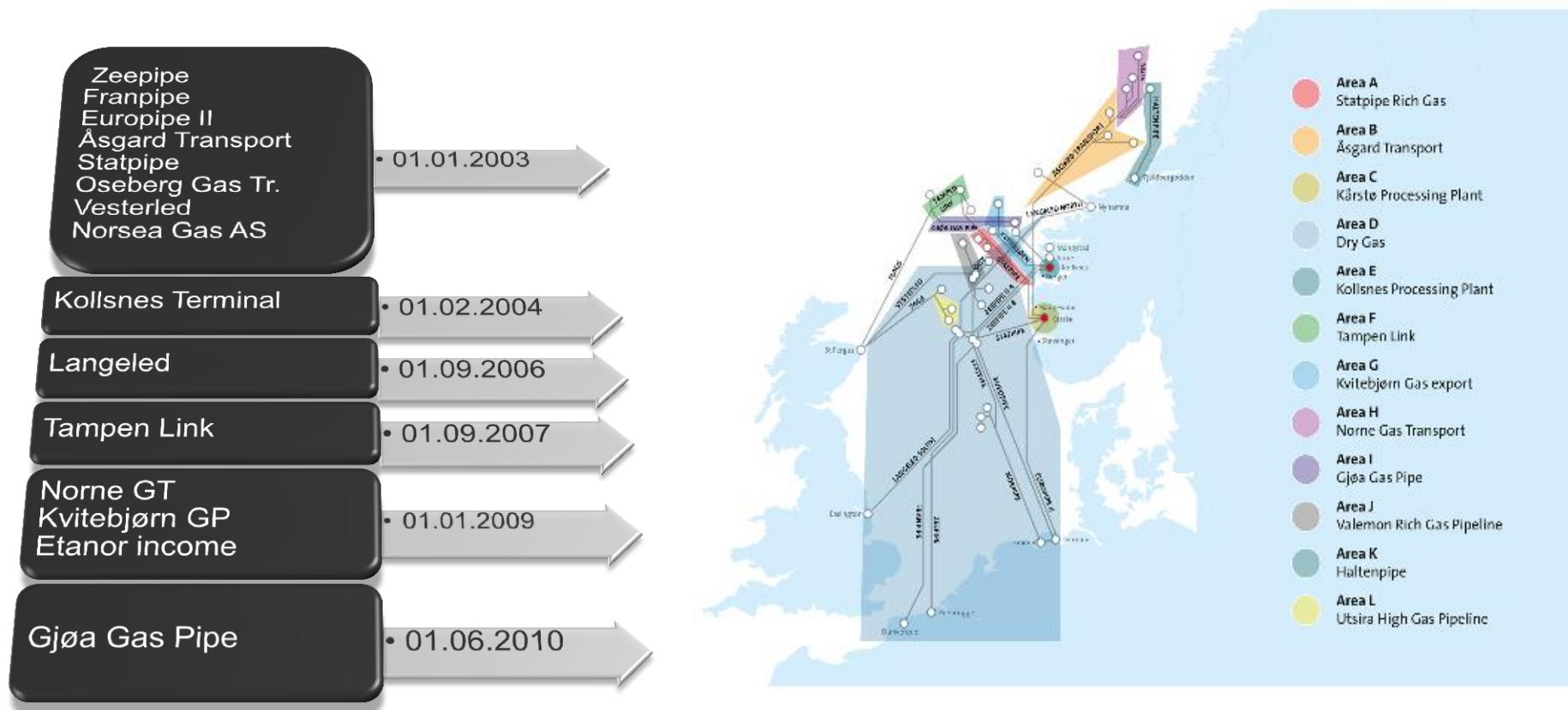
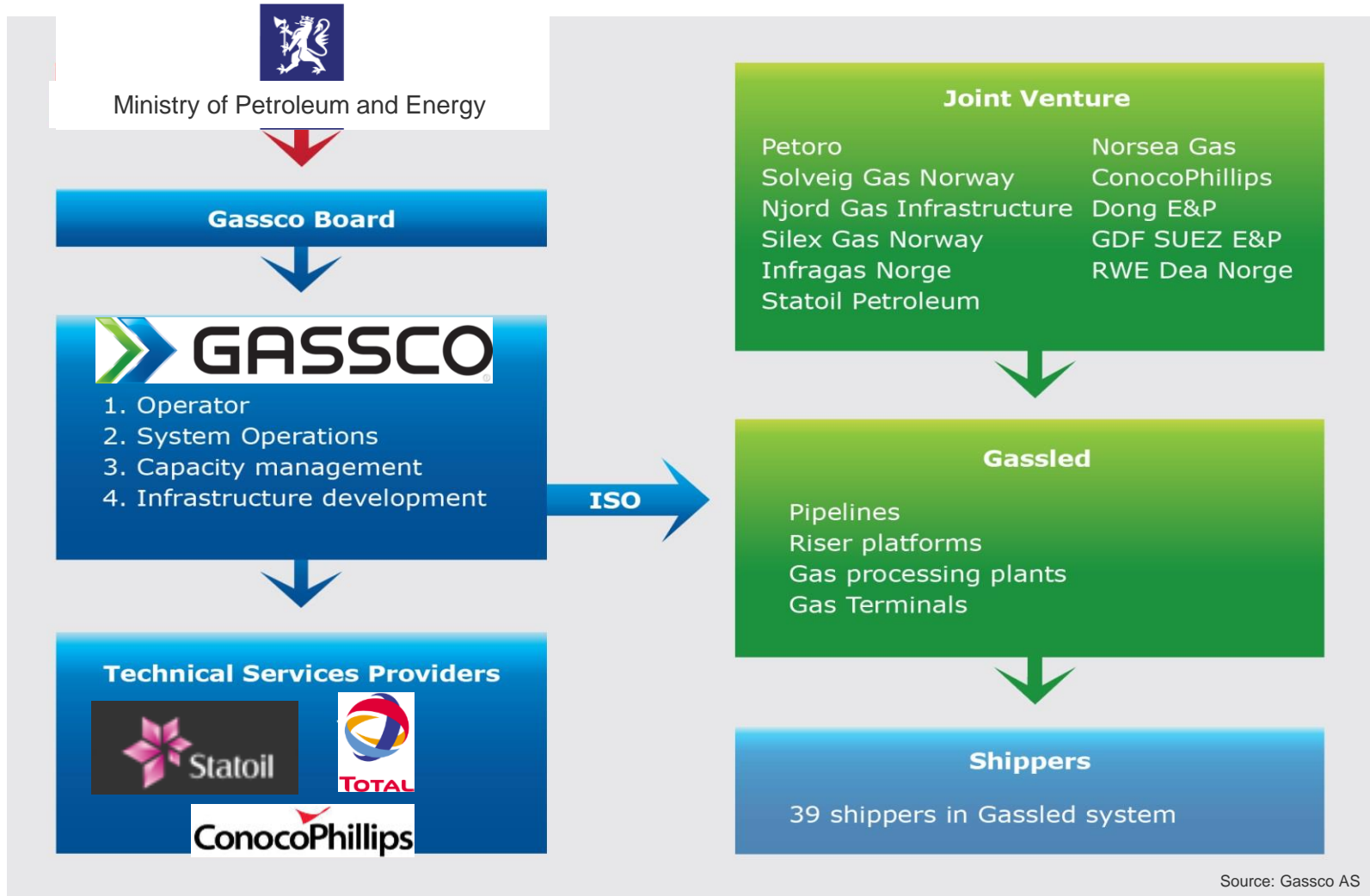
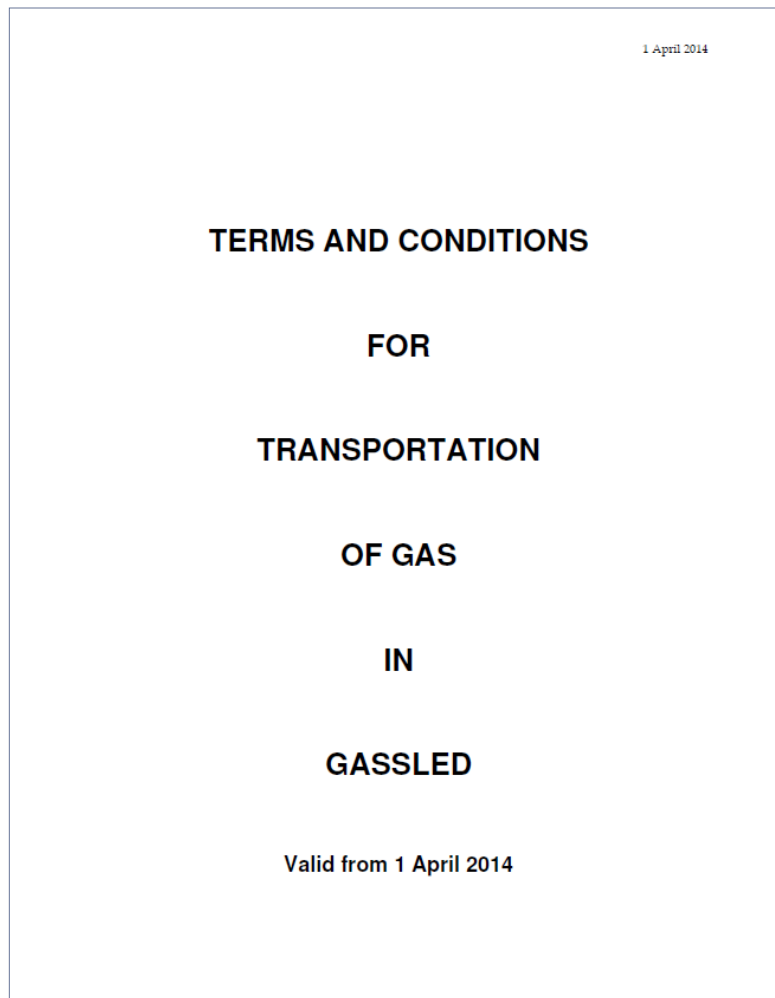


PHOTO: [Trym Ivar Bergsmo](#) / Statoil

# ... and Gassco



# Gassled terms



## Regulation of:

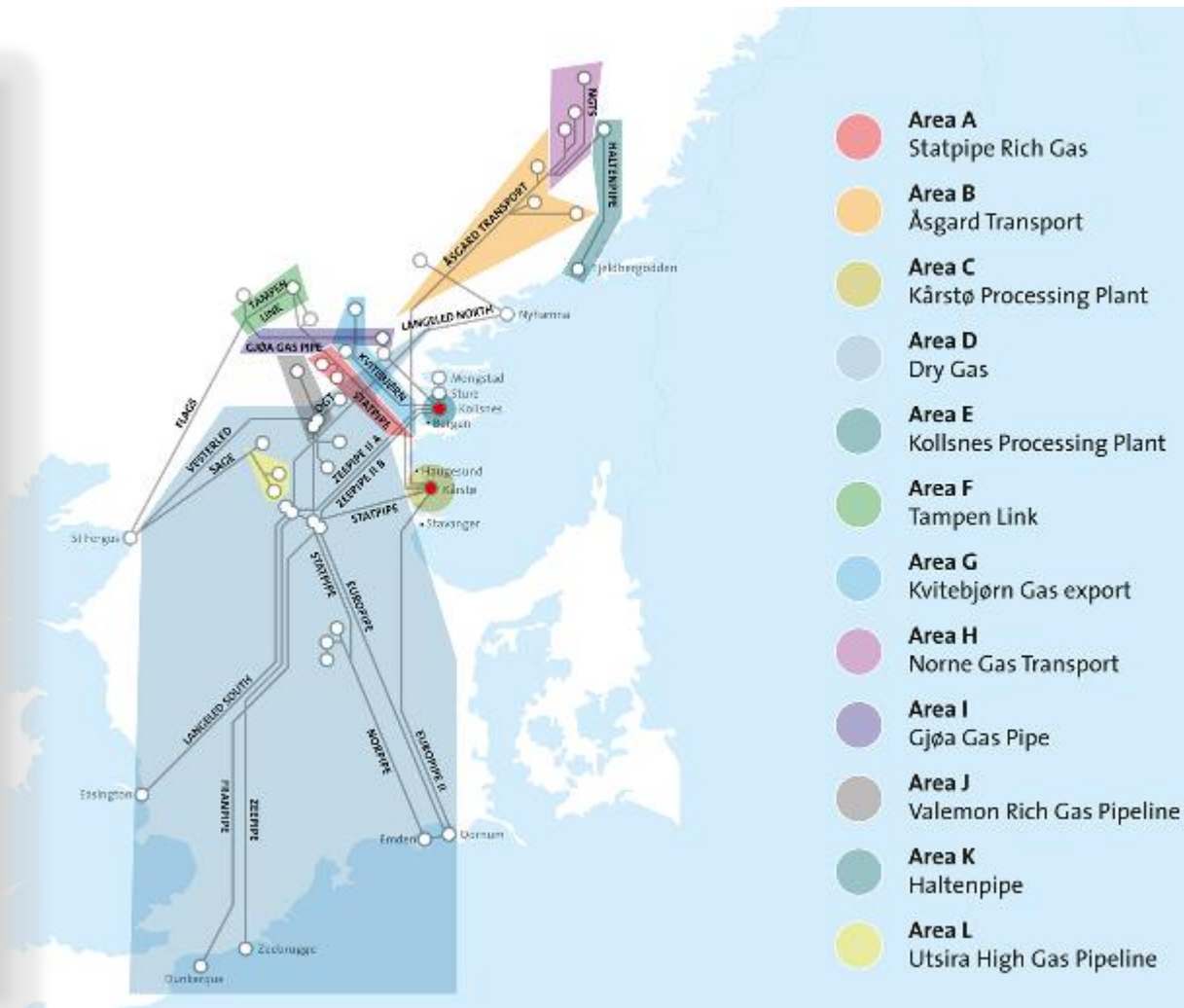
- Transportation Commitments
- Delivery Rights
- Operating and Quality Requirements
- Invoice and Payment
- Measurements
- Liability
- Force Majeure
- Term of Agreement
- Applicable Law
- ...

Tariffs are documented in the Tariff Regulation



# Gassled tariff areas

- **Area A**
  - Rich gas from Tampen to Kårstø (Statpipe)
- **Area B**
  - Rich gas from Halten to Kårstø (Asgard Transportation System)
- **Area C**
  - Processing facilities at Kårstø
- **Area D**
  - Dry gas pipelines
- **Area E**
  - Processing facilities at Kollsnes
- **Area F**
  - Rich gas pipeline Tampen Link
- **Area G**
  - Rich gas from Kvitebjørn/Visund to Kollsnes
- **Area H**
  - Rich gas from Norne to area B
- **Area I**
  - Rich gas from Gjøa to FLAGS
- **Area J**
  - Valemon Rich Gas Pipeline
- **Area K**
  - Haltenpipe
- **Area L**
  - Utsira High Gas Pipeline

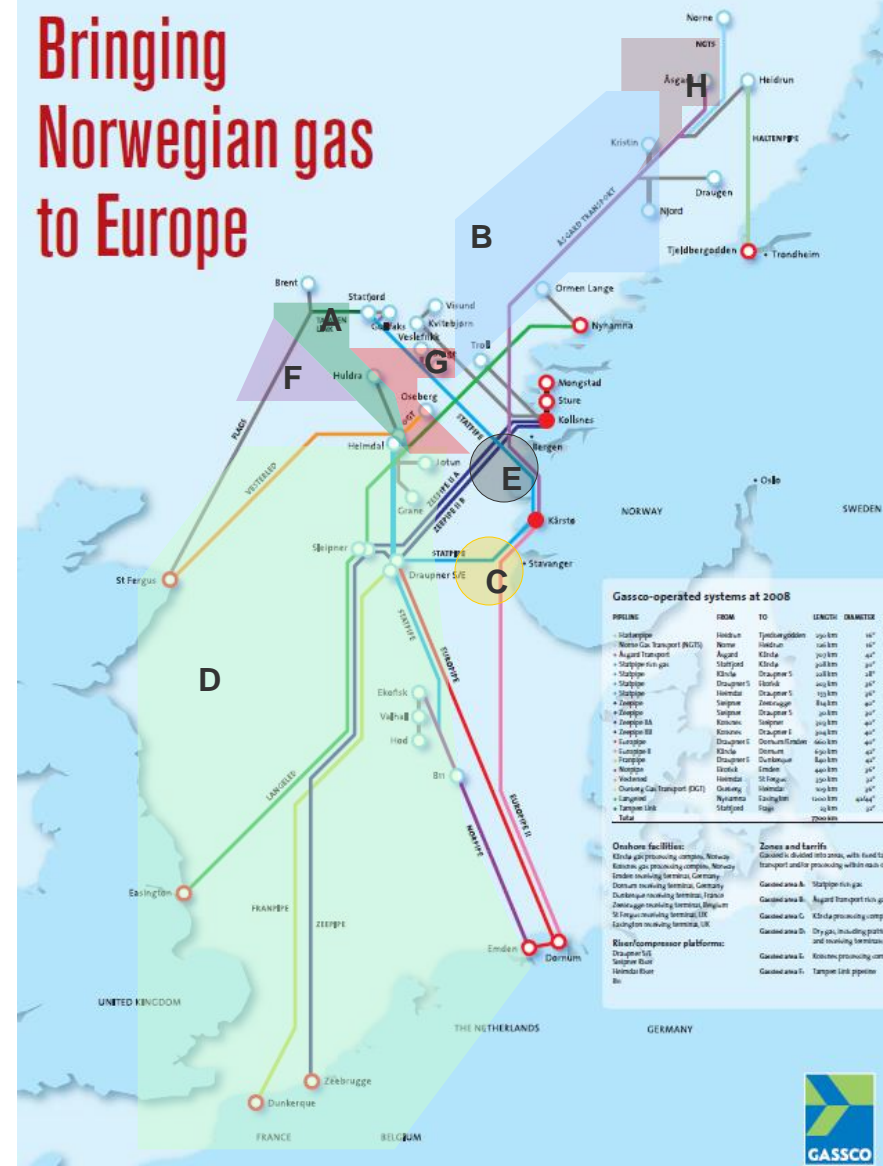


# The NCS Pipeline System

## - Regulated access and tariffs

NORWEGIAN GAS TRANSPORT SYSTEM				
GasViaGassled				
<a href="#">About GVG</a> <a href="#">Contact us</a> <a href="#">Tariffs</a> <a href="#">Booking Pts.</a> <a href="#">Log in</a>				
Tariffs				
Unit tariff cost in fixed 2009 value				
Area / Service	Unit	Operating Cost <sup>1</sup> 2009	Capital Cost <sup>2</sup> 2009-2028	Capital Cost <sup>3</sup> from 2011
Area A	NOK/Sm <sup>3</sup>	0,0099413	0,0646581	
Area B	NOK/Sm <sup>3</sup>	0,0028441	0,0400781	
Area C Services				
Area C - EXT	NOK/Sm <sup>3</sup>	0,0283157	0,1145087	
Area C - ETSL	NOK/tonne	212,1122282	251,9191919	
Area C - FSL	NOK/tonne	166,8919639	343,5281708	
Area C - CSL	NOK/tonne	81,4059420	0,0000000	
Area C - CO <sub>2</sub> -R	NOK/tonne	804,1422152	241,6134068	
Area C - CO <sub>2</sub> -K/B	NOK/tonne	804,1422152	120,8067034	
Area D - Entry				
Kollsnes	NOK/Sm <sup>3</sup>		0,0392765	0,0221002
Kårstø	NOK/Sm <sup>3</sup>		0,0278256	
Oseberg	NOK/Sm <sup>3</sup>		0,0278256	
Nyhanna	NOK/Sm <sup>3</sup>		0	
Other entries	NOK/Sm <sup>3</sup>		0,0049239	
Area D - Exit				
UK & Continental exits	NOK/Sm <sup>3</sup>	0,0215199	0,0930003	0,0637814
Norwegian exits	NOK/Sm <sup>3</sup>	0,0215199	0,0005918	
Area E	NOK/Sm <sup>3</sup>	0,0322273	0,0515289	
Area F	NOK/Sm <sup>3</sup>	0,0213568	0,0687052	
Area G	NOK/Sm <sup>3</sup>	0,0046349	0,0170618	
Area H	NOK/Sm <sup>3</sup>	0,0124281	0,0400781	

# Bringing Norwegian gas to Europe



# Gassled shippers



Source: Gassco AS

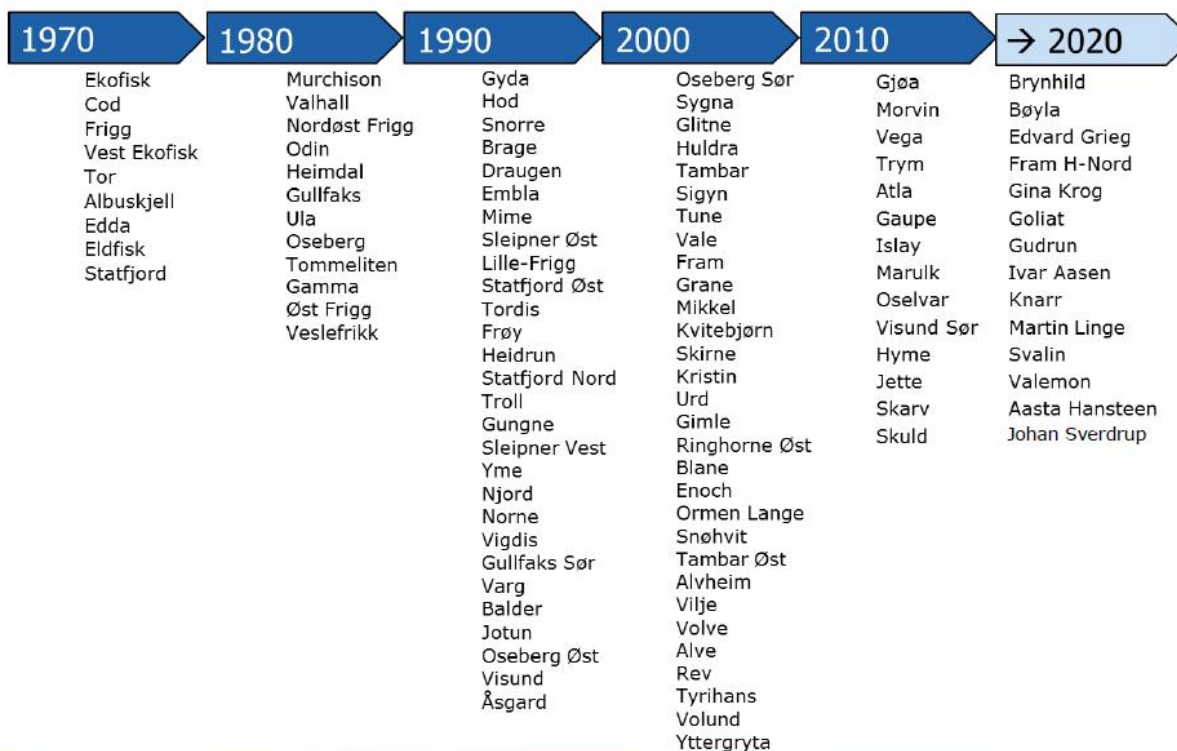




# Pipeline construction and installation Capacity Expansions

- System expansion is regulated
- Gassco is responsible for coordination
- Identify the need - DSRM; *'Duly Substantiated Reasonable Need'*
  - Field licence developments
  - Individual shipper needs
  - Annual Gassco Transport Plan
- Development of expansion projects are funded by the participating companies.
- Large expansion projects are often organised as dedicated Joint Ventures.

# Close to 100 fields developed since 1970

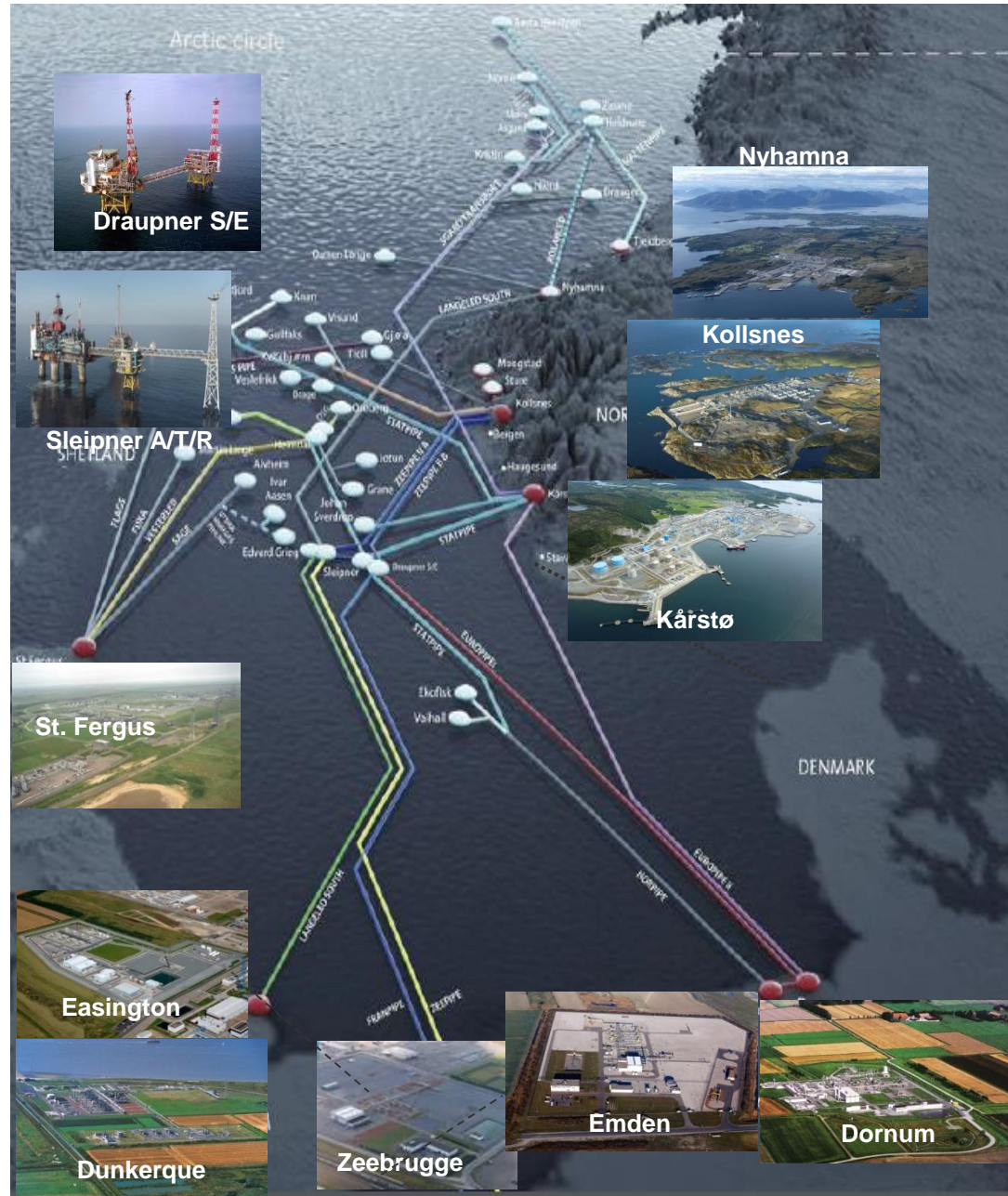




# Gassled

7975 km of integrated offshore pipelines

- 4 riser platforms  
Draupner S/E, Sleipner R, Heimdal R
  - 3 gas processing plants  
Kårstø, Kollsnes and Nyhamna
  - 6 gas terminals  
St. Fergus, Easington, Zeebrugge, Emden, Dornum, Dunkerque
- ~390 MSm<sup>3</sup>/day gas export capacity





# Kårstø Gas Processing Plant





# Kårstø feed and exports

Njord  
Hyme  
Alve  
Draugen  
Heidrun  
Norne  
Åsgard  
Mikkel  
Kristin  
Tyrihans  
Morvin  
Yttergryta  
Marulk  
Skuld  
Skarv

**Åsgard Transport 42"**  
707 km

**Statpipe 28"**  
Dry gas  
228 km

**Local offtake**  
Dry gas

**Europipe II 42"**  
Dry gas  
650 km

**Ship**  
NGLs  
Condensate

**Statpipe 30"**  
308 km

**Sleipner Kondensat 20"**  
245 km

Snorre  
Gullfaks  
Tordis  
Gimle  
Veslefrikk  
Brage  
Statfjord  
Visund Sør

Sleipner E/W  
Gungne  
Sigyn  
Volve  
Gudrun



Source: Gassco AS

# EU gas directive

## TPA and access to upstream pipelines



### *Article 32*

#### **Third-party access**

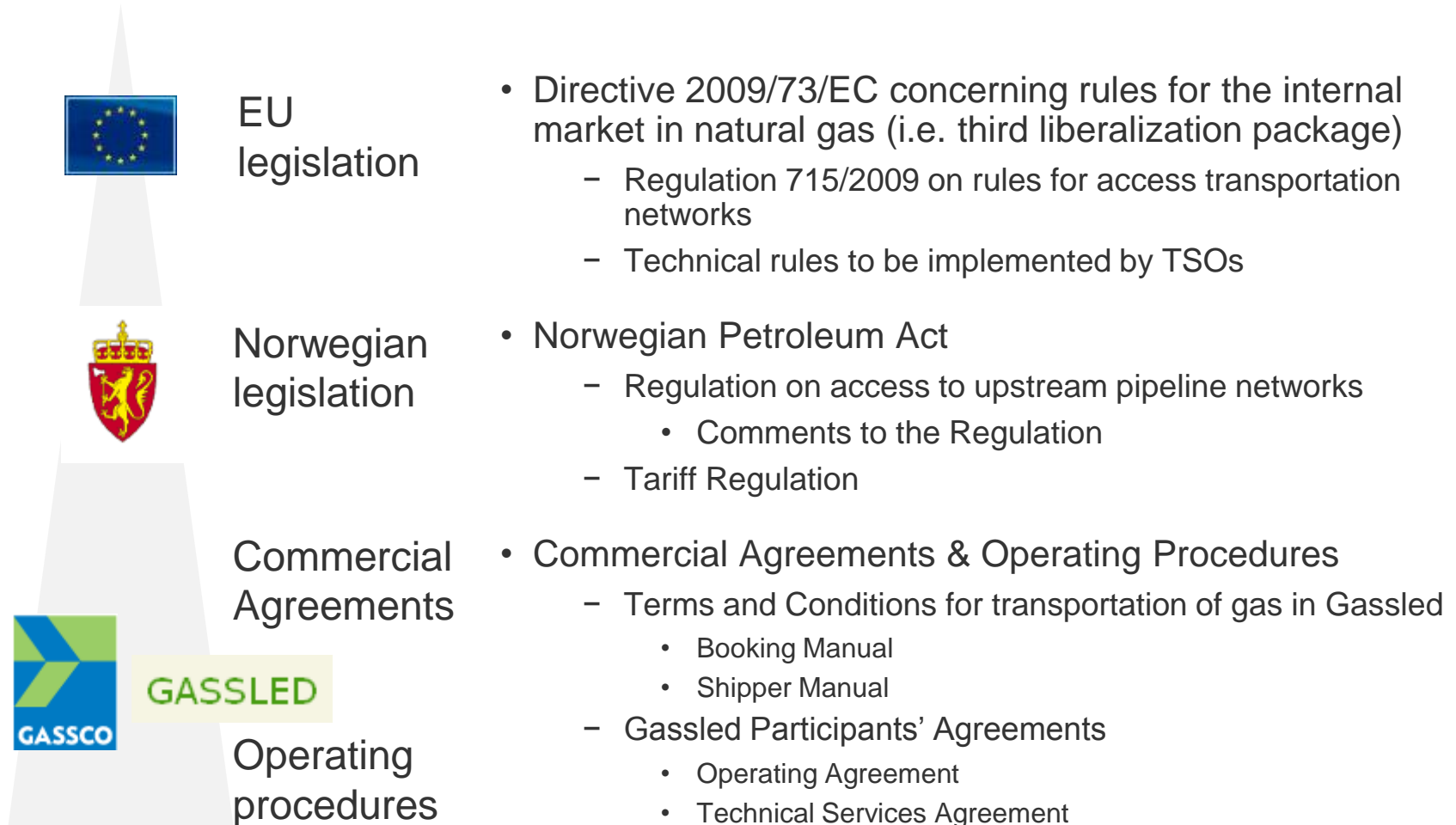
1. Member States shall ensure the implementation of a system of **third party access to the transmission and distribution system**, and LNG facilities based on published tariffs, applicable to all eligible customers, including supply undertakings, and applied objectively and **without discrimination between system users**. Member States shall ensure that those **tariffs**, or the methodologies underlying their calculation are approved prior to their entry into force in accordance with Article 41 by a regulatory authority referred to in Article 39(1) and that those tariffs — and the methodologies, where only methodologies are approved — are published prior to their entry into force.

### *Article 34*

#### **Access to upstream pipeline networks**

1. Member States shall take the necessary measures to ensure that **natural gas undertakings** and eligible customers, wherever they are located, are **able to obtain access to upstream pipeline networks**, including facilities supplying technical services incidental to such access, in accordance with this Article, except for the parts of such networks and facilities which are used for local production operations at the site of a field where the gas is produced. The measures shall be notified to the Commission in accordance with the provisions of Article 54.

# Legislation and Management of Natural Gas transportation



# Gassled – summing up

- The Norwegian organisation model for gas pipeline infrastructure is established in accordance with EU legislation. The model is working well.
- Gassled objectives and challenges
  - Maintain cost effective and safe operations
    - Focus on operating costs, HSE and regularity
  - Ensure appropriate maintenance and adjustments
    - Adjustment of Gassled capacity to demand
    - Maintain technical integrity and HSE standards
    - Maintain high regularity and availability
- Adapt fit for purpose Regulation and Governance



There's never been a better  
time for **good ideas**

Thank you for your kind attention!

Presentation title

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Presenters title: Vice President

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