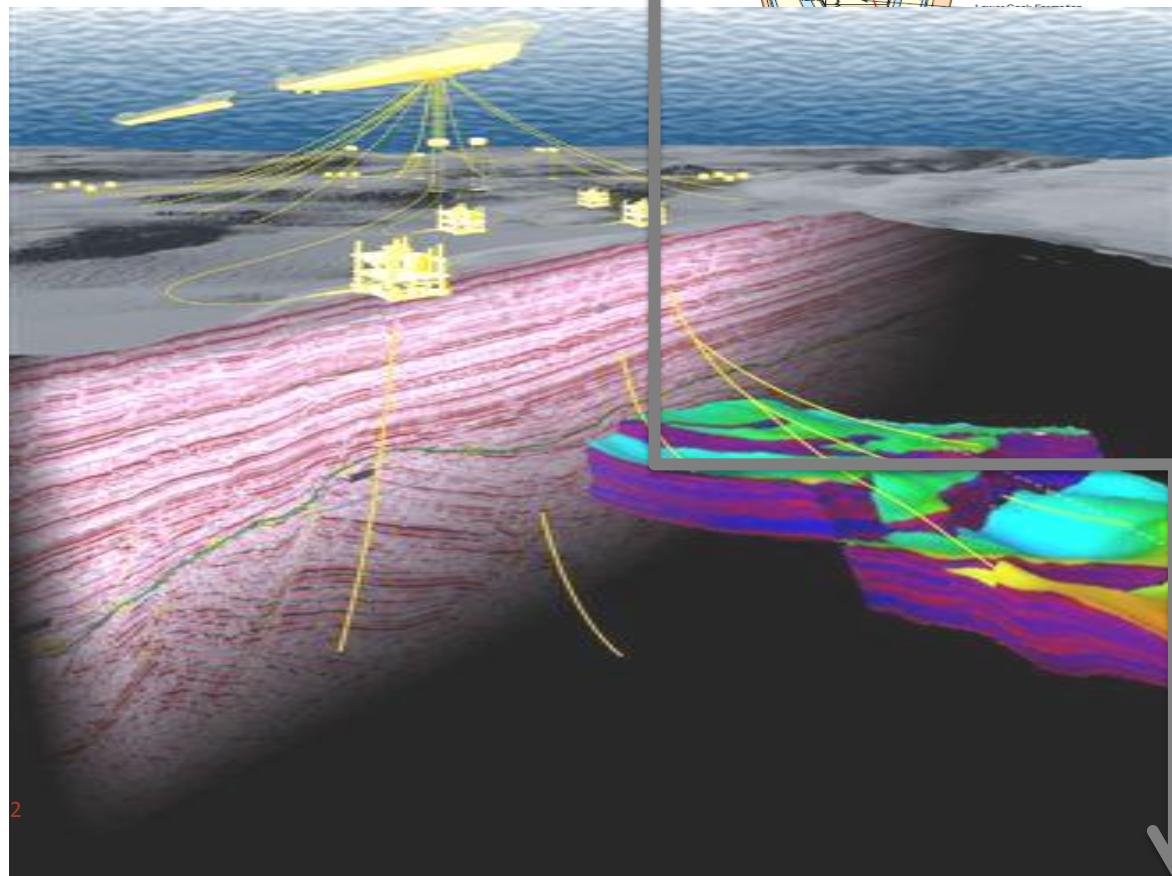
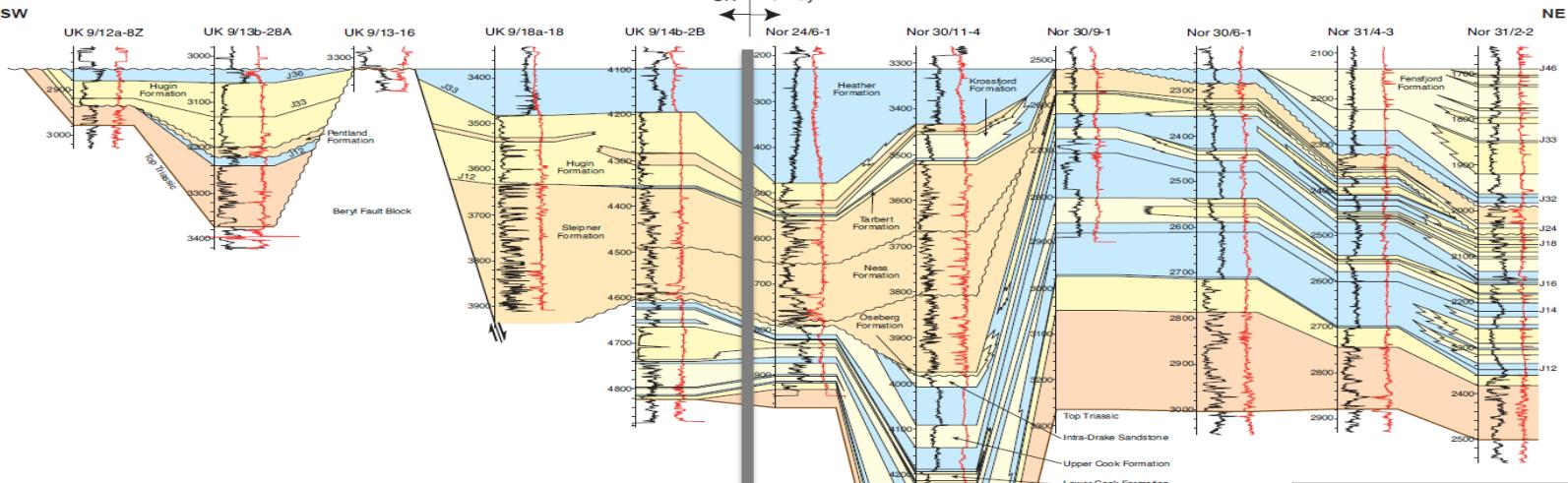




Fiscal Measurements when the Requirements of different Nations should be maintained.

Cross border activities related to the
Norwegian Continental Shelf

Eva Halland,
Project Director
Norwegian Petroleum
Directorate, Norway



The geology does not follow the borderline!



YOU ARE NOW
LEAVING THE BRITISH SECTOR
ENTERING THE NORWEGIAN SECTOR



A national willingness to cooperate



Framework for cooperation within metering between Norway and the United Kingdom



Agreements for each field and transport system:

Frigg 1973,
Statfjord 1979,
Murchison 1979,
Ekofisk (Norpipe) 1973,
Heimdal (Vesterled) 1985

The Framework Agreement between Norway and the United Kingdom, signed April 4th. 2005

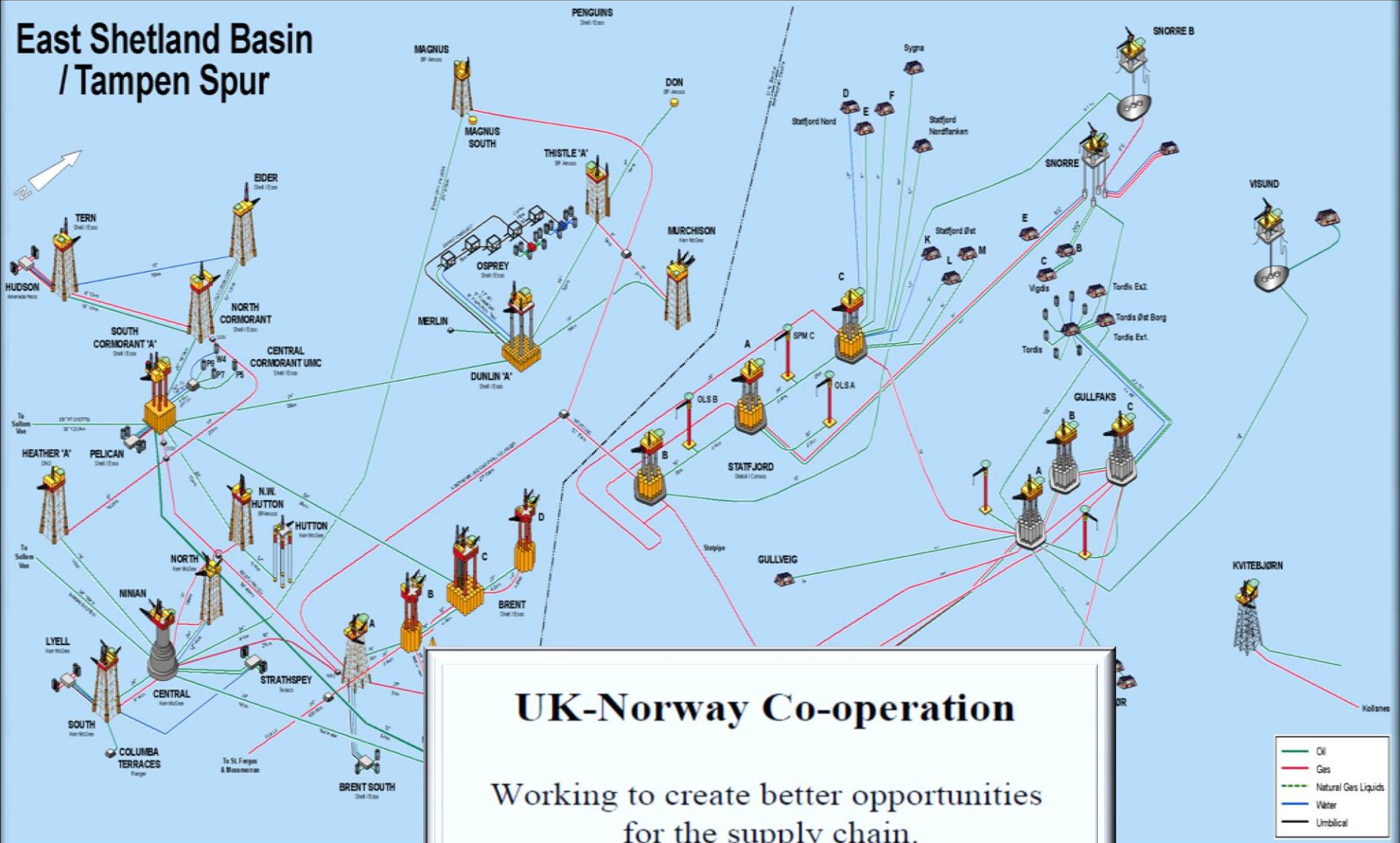
General guidelines for cooperation in metering between UK and Norway. (Article 1.7)

Inter-connecting Submarine Pipelines 1998

Guidelines for development of trans-boundary oil and gas fields (2010)



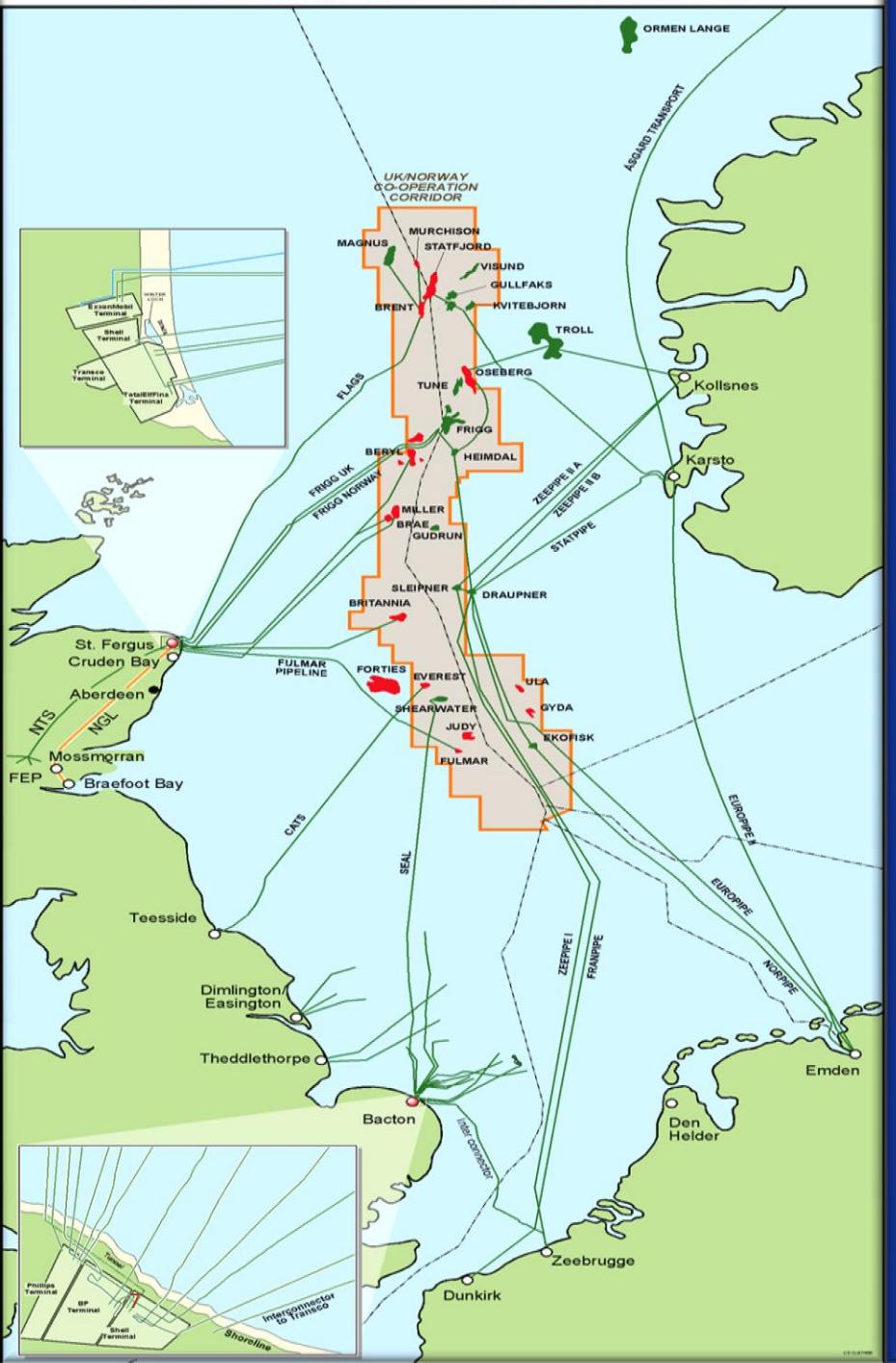
East Shetland Basin / Tampen Spur



UK-Norway Co-operation

Working to create better opportunities
for the supply chain.
Developments and re-developments
operational synergies
decommissioning economies
60km each side of median line

NORTH SEA GAS INFRASTRUCTURE OVERVIEW



KON-KRAFT

Unlocking Value
Through
Closer Relationships

Report of the
UK-Norway
North Sea Co-operation
Workgroup



MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DEPARTMENT OF TRADE AND INDUSTRY

AND

THE NORWEGIAN PETROLEUM DIRECTORATE

CONCERNING

FISCAL MEASUREMENT SUPERVISION
AND COHERENT PRACTICAL ARRANGEMENTS
RELATED TO PIPELINES AND INSTALLATIONS
GOVERNED BY EXISTING AGREEMENTS
BETWEEN THE UK AND NORWAY

Supplement to the Memorandum of Understanding

Dated from 23.6.1998

Fiscal measurement supervision and coherent practical arrangements related to pipelines and installations governed by existing agreements between the UK and Norway

between

Department of Trade and Industry (DTI)

and

The Norwegian Petroleum Directorate (NPD)

Signed 2006

Relevant Agreements / Treaties:	Pipelines and Installations Covered :			
	Norway		United Kingdom	
	Installation	Operator	Installation/ Terminal*	Operator
Ekofisk	Ula	BP	Judy	Conoco Phillips
	Gyda	Talisman	Fulmar	Talisman
	Valhall	BP	Teeside*	Conoco Phillips
	EkoFisk/Eldfisk	Conoco-Philips	CATS*	BP
Frigg Vesterled	Heimdal Riser (Vesterled)	Gassco	Janice	Maersk
			Alwyn North	Total
			Bruce	BP
			Claymore	Talisman
			Piper	Talisman
			Tartan	Talisman
			Galley	Talisman
			MacCulloch	Conoco Philips
Statfjord	Statfjord A,B,C	Statoil	St Fergus*	Total / Gassco
			Tampon Link	Shell
			St Fergus*	Shell
			Mossmorran*	Shell
			Northern Gas Pipeline - Metering stations	(Pipeline Operator)
			Leg	
Murchison	Gullfaks A		Metering stations	
			on all pipeline entry-points	
			Murchison	CNR
			Northern Gas Pipeline - Metering stations on all pipeline entry-points	(BP Operator) (Pipeline)
Heimdal	Heimdal	Statoil	Brent Pipeline	Off TAQA
			Metering stations on all pipeline entry-points	(Operator) (Pipeline)
			Sullom Voe*	BP
			St Fergus*	Shell
Langeled	Easington Terminal	Gassco	Brae A, B, E	Marathon
			Kinneij*	BP
			Easington Terminal	Gassco
Alvheim Boa	Alvheim FPSO	Marathon Norge	SAGE Pipeline System Relevant metering stations for allocation system.	Exxon Marathon Mobil / (Pipeline Operators)
			SAGE	
			System Relevant metering stations for allocation system.	
Blane	Ula	Talisman Norge / BP	SAGE Pipeline System Relevant metering stations for allocation system.	Exxon Marathon Mobil / (Pipeline Operators)
Enoch		Talisman UK		
Rev		Talisman N		

- 
- 1) Both Governments shall approve any metering system which is related to a Cross-Boundary project and which is of common interest. The competent authorities of the two governments shall establish procedures for early approval of such a system
 - 2) When adopting standards for such metering systems, the two Governments shall pay particular regard to the economical impact of such standards on the Cross-Boundary Project in question, and shall ensure that the adoption of such standards not unfairly or unduly burden the economics of that Project. In case of a Cross-Boundary Project making use of a Host Facility, the two Governments shall also give due consideration as to whether new metering systems are appropriate in the light of metering arrangements already in place elsewhere on the continental shelf or in the territory of either State.
 - 3) The competent authorities of the two Governments shall establish arrangements so that Inspectors of both Governments have access to relevant metering systems on the continental shelf or in the territory of either State to ensure that their interests are safeguarded.
 - 4) Annual coordination meeting



Memorandum of Understanding

on

supervision procedures and technical requirements
for the sales gas metering station at the Emden Plant
based on the treaty of January 16, 1974

between

the Norwegian Petroleum Directorate (NPD)

and

the Physikalisch-Technische Bundesanstalt (PTB)

Braunschweig und Berlin

and

Mess- und Eichwesen Niedersachsen

(previous the Niedersächsisches Landesverwaltungamt
(NLVwA))

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE FRENCH MINISTRY IN CHARGE OF INDUSTRY AND
THE NORWEGIAN PETROLEUM DIRECTORATE

CONCERNING

REGULATORY SALES GAS MEASUREMENT SUPERVISION

RELATED TO

THE FRANPIPE TRANSPORTATION SYSTEM

GOVERNED BY

THE EXISTING AGREEMENT

BETWEEN

THE FRENCH REPUBLIC AND KINGDOM OF NORWAY

MEMORANDUM OF UNDERSTANDING

BETWEEN

HET MINISTERIE VAN ECONOMISCHE ZAKEN
BESTUUR KWALITEIT EN VEILIGHEID
DIVISIE: KWALITEIT, METROLOGISCHE DIENST

AND

THE NORWEGIAN PETROLEUM DIRECTORATE

CONCERNING

REGULATORY SALES GAS MEASUREMENT SUPERVISION RELATED TO
THE ZEEPIPE TERMINAL
GOVERNED BY THE EXISTING AGREEMENT

BETWEEN

THE KINGDOM OF NORWAY AND THE KINGDOM OF BELGIUM



Some examples



Fields

Rev (Talisman): production is piped to Armada for processing. Oil continues to Cruden Bay via FPS pipeline. Gas proceed to Teesside via CATS.

Blane (Talisman): 18% of Blane is on the Norwegian side. Blane is linked to Ula.

Enoch (Talisman UK): 20% of Enoch is on the Norwegian side. Production goes directly to the Brae A for processing. The oil proceed in FPS pipeline to Cruden Bay. Gas is sold directly to Brae

Boa (Marathon): part of the Alvheim development

Developments planned or under development:

Gaupe (BG): Norwegian field, tied up to UK installation

Islay (Total): small Norwegian ownership, tied up to UK installation

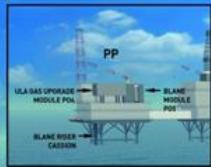
Knarr (BG): Norwegian field, the gas will be sent into the UK gas system

Brynhild (Lundin): Norwegian field planned to be tied up to a UK installation

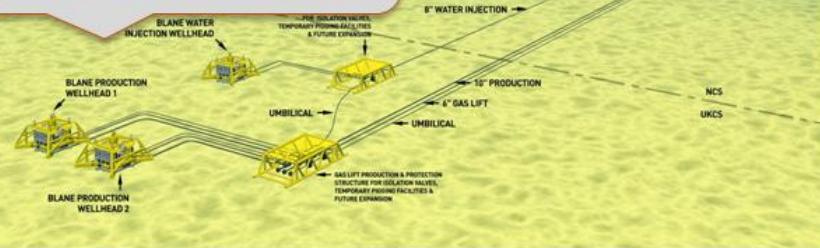
Flyndre (Maersk): small Norwegian ownership, tied up to UK installation

Hild (Total): Norwegian field planned to be tied up to UK installation

Cooperation across borders, a contribution to good value creation



Be able to develop the field.
Cost-effective processing



Cost-effective use of pipelines

