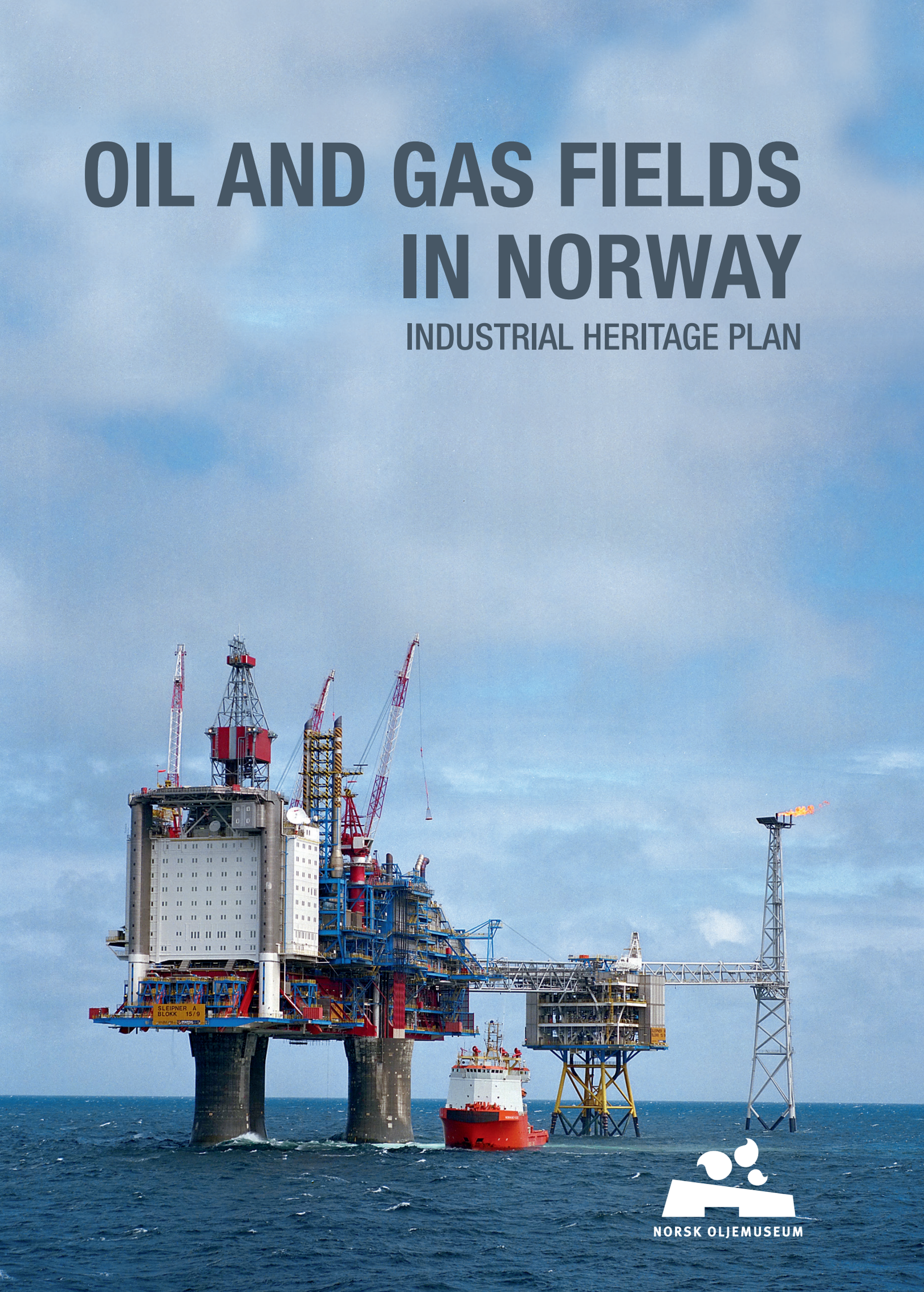
OIL AND GAS FIELDS IN NORWAY

INDUSTRIAL HERITAGE PLAN



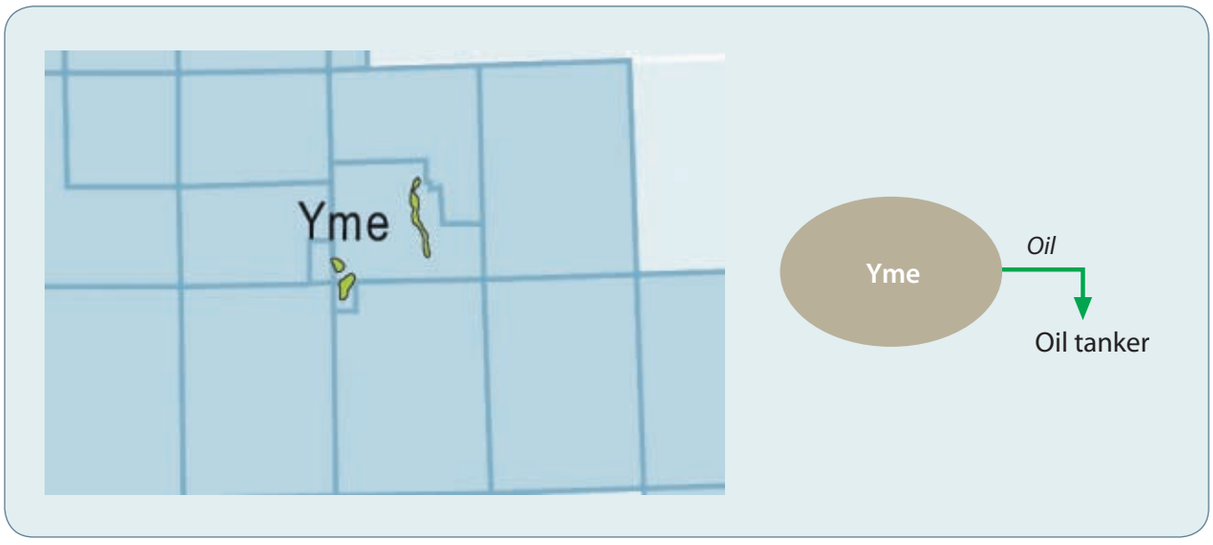
NORSK OLJEMUSEUM

YME

This oil field lies in 77-93 metres of water at the south-western end of the NCS, and ranks as the first Norwegian offshore discovery to be redeveloped. Yme originally came on stream during 1996 in production licence 114 with Statoil as operator, and ceased to produce in 2001 because continued operation was regarded as unprofitable. New licensees in production licence 316, with Talisman as operator, resolved in 2006 to recover the remaining resources with a new jack-up production platform.

Reservoir

Yme comprises the main Gamma West field and the Gamma South-East, Gamma North-East, Gamma North-North-East and Beta East segments. The area also embraces the Beta West, Epsilon and Eta prospects. It is dominated by fault patterns running north-north-east/south-south-west and north-south. Permian Zechstein salt and a thick layer of Triassic sediments overlie the basement rock. Of fluvial and estuarine origin, the sediments comprise sandstones and claystones. Both the proven oil reservoirs lie about 3 150 metres down in the Sandnes formation of Jurassic age.



Yme 1996 - 2001

The Yme field was proven in 1987 and approved for development in 1995. It came on stream a year later but ceased production as early as 2001 because of low oil prices and production problems. About 50 million barrels of oil were produced. The operator at the time was Statoil.

Development solution

Yme was originally developed with the jack-up Maersk Giant production platform tied to subsea installations and a storage vessel. Owned by A P Møller, the jack-up was chartered from Maersk Contractors Norge (MCN). It incorporated modules for production, drilling and quarters, and stood in 92 metres of water.

Yme Beta East and Yme Gamma were developed with subsea facilities tied back to Maersk Giant. Seven wells, including five producers, one gas injector and one water injector, were drilled on Yme Gamma through a template place directly beneath the platform. Yme Beta featured two overtrawlable templates, one with three production wells and the other with one. These two units were placed 10 metres apart. Their protective structures rose about eight metres above the seabed. The larger covered 350 square metres and weighed some 70 tonnes, while the smaller was about 61 tonnes in weight. Removal of all seabed installation was proposed in the cessation plan, with two subsea Xmas trees to be returned free of charge to Kongsberg Offshore Services (KOS).

Transport

Oil was loaded into shuttle tankers on the field and shipped to Mongstad for final dewatering and fiscal metering.

Maersk Giant on the Yme field. Photo: Øyvind Hagen/Statoil

Recovery strategy

Recovery was based partly on pressure reduction and partly on waterflooding, gas lift and downhole pumps.

Yme

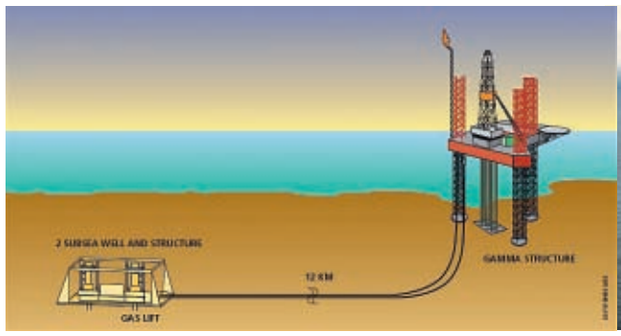
Blocks	9/2 and 9/5
Production licences	114, 114 B, 114 C and 316
Awarded	1985/95/98 and 2004
Recoverable reserves	118.2 mill bbl oil
Remaining at 31 Dec 2008	68.5 mill bbl oil
Discovery year	1987
Approved for development	6 Jan 1995
On stream	27 Feb 1996
Production ceased	17 Apr 2001
Redevelopment approved	11 May 2007
Production resumes	2010
Operator (1985-2001)	Statoil
Operator (2006-)	Talisman Energy
Operations organisation	Stavanger
Main supply base	Dusavik

Licensees (2000)

Statoil (SDFI 30%)	65%
Saga Petroleum	25%
RWE DEA Norge	10%

Licensees (2009)

Talisman Energy Norge	70%
Lotos E&P Norge	20%
Wintershall Norge	10%



Yme platform with subsea installations. Illustration: Statoil

M/t Polysaga on the Yme field. Photo: APL

Yme 2006 –

Talisman Energy Norge took over the Yme licence after its acquisition of Paladin in 2006, continued work on studies, and established a project aimed at resuming production from the field.

Reservoir and recovery strategy

Yme comprises two structures, Beta and Gamma, and produces primarily with waterflooding as the drive mechanism. Surplus gas will be injected together with water, initially as simultaneous water and gas (Swag) and subsequently as water alternating gas (WAG).

All the wells will have downhole electric pumps installed to help bring up the oil because of the low drive pressure in the reservoir.

Transport

The wellstream will be processed on the platform, with the oil stored in a tank for export via loading buoys to shuttle tankers.

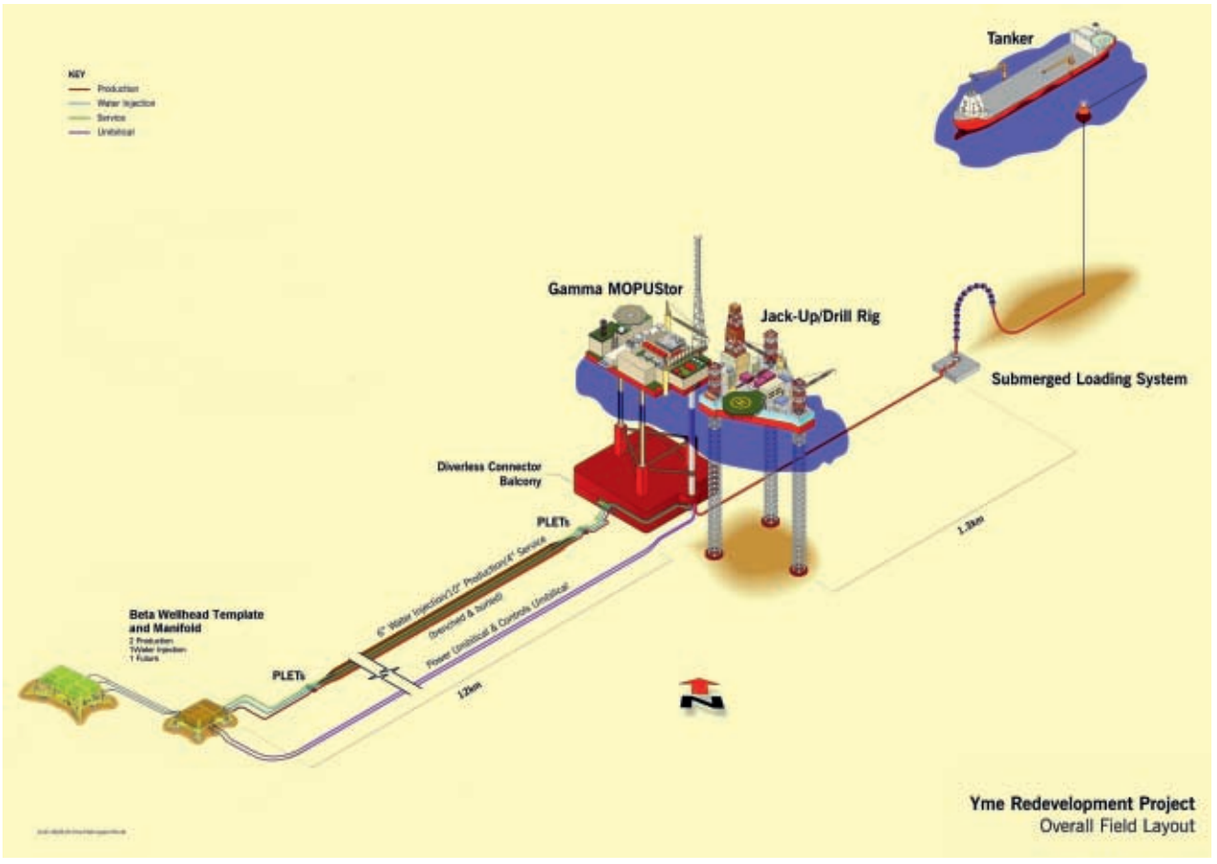
Development solution

Plans call for Yme to be developed using a mobile offshore production unit (MOPU) with storage. This solution comprises a jack-up platform with a storage tank on the seabed capable of holding 300 000 barrels. An offshore loading system will ensure periodic export to tankers.

The jack-up will be placed over the Gamma structure with platform-completed production wells, while Beta is developed with subsea wells installed 12 kilometres from the platform and tied back by flowlines. Gamma will have nine well slots and Beta four. The platform has also been designed for possible power from shore in the future.

Other platform features include solutions for injecting produced water and a closed flare system to reduce discharges/emissions.

Production capacities for Yme MOPU	
Oil processing capacity	62 000 b/d (10 000 scm/d)
Produced water processing capacity	82 000 b/d (13 000 scm/d)
Water injection capacity	82 000 b/d (13 000 scm/d)
Total fluids processing capacity	103 000 b/d (16 400 scm/d)
Gas compression capacity	0.6 mill scm/d (21 mill cu.f/d)
Oil storage capacity (net)	300 000 bbl (48 000 cu.m)
Base sediment and water content (bs&w)	<0.3%
Design max oil in water discharge to sea (Regulatory	<20 mg/l
requirement is < 30 mg/l)	
Production uptime	98%



Drawings of the Yme mobile offshore production unit (MOPU) with storage. Illustrations: Talisman Energy Norge