

# Capital Markets Day



## Oil and Energy



Executive Vice President Tore Torvund  
Norsk Hydro ASA December 14, 2000

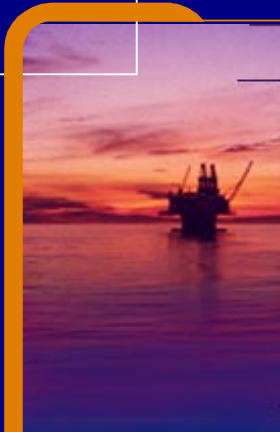
# What we said and what we have done

## Direction October 1999:

- ✓ Develop 4 - 5 international core areas
  - ▶ Each with a production potential >50,000 boe/day
  - ▶ Deep water vs. low cost areas
  - ▶ Balanced portfolio: NCS vs International diversification
- ✓ Reduce finding and development cost to below 5 USD/boe
- ✓ Increase production to 800,000 boe/day
- ✓ Strengthen Hydro's position as a gas company

## Actions taken:

- ✓ Further developed existing core areas
  - ▶ Iran added as a potential core area
  - ▶ Stronger focus on international exploration activity
- ✓ Increased focus on lead time from exploration to development decisions. Ormen Lange of great importance
- ✓ Production target within reach based on existing portfolio
- ✓ Gas strategy under development



## International activities - competitive advantages

- ✓ Hydro is a technology driven company, with deep water expertise and experience from operating in harsh environments
- ✓ Hydro can offer a differentiated approach and has good tradition of co-operation with authorities
- ✓ Hydro is a leading company in a successful oil province (NCS)
- ✓ Hydro has the opportunity to utilise NCS assets in international swaps

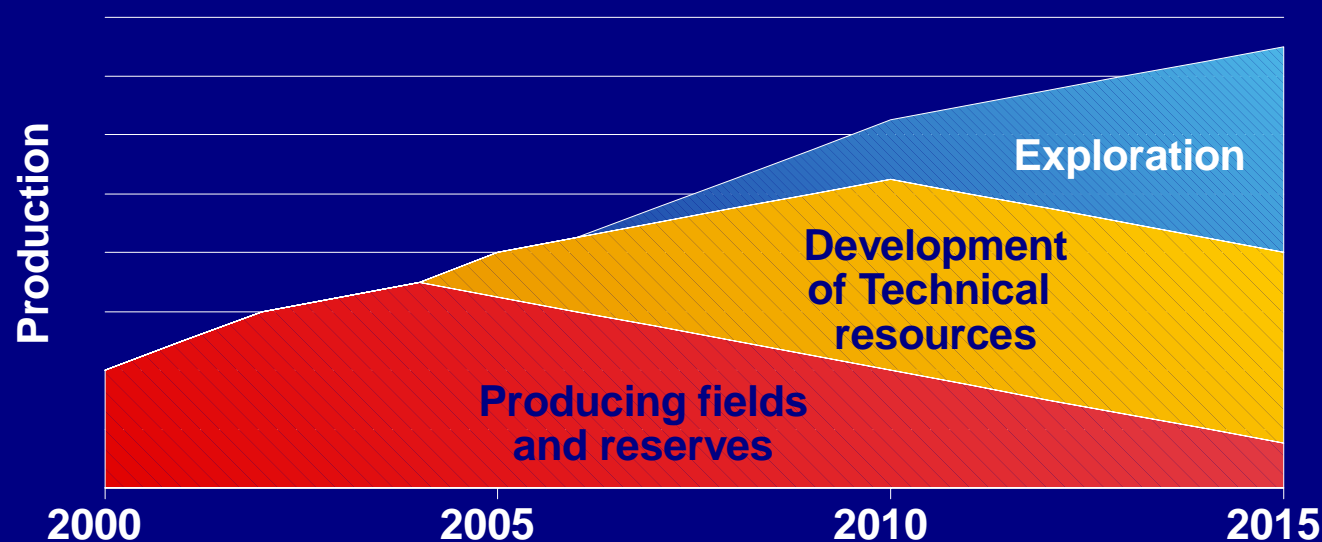


# Deep water oil resources



# Core area entry strategy

- ✓ Build on Hydro's NCS operator competencies
- ✓ Secure access to an initial portfolio with long term field development and exploration potential
- ✓ Pursue possibilities for co-operation with existing companies in the area
- ✓ Focus on competitive fiscal and commercial environment



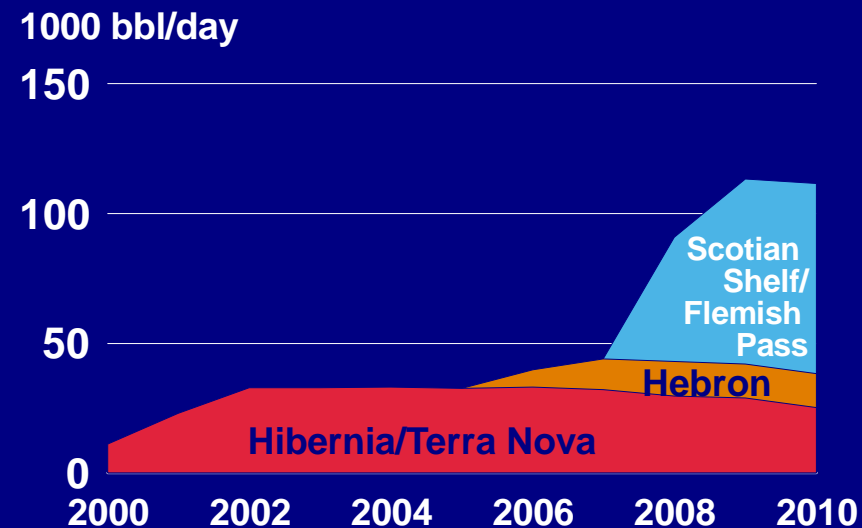
# Canada East coast - future dependent on successful exploration

- ✓ **Producing field**
  - **Hibernia on stream (9.000 bbl/day)\***
- ✓ **Fields under development**
  - **Terra Nova production start summer 2001 (20.000 bbl/day)\***
  - **Hebron - sanctioning expected in 2003 (~ 15.000 bbl/day)\***
- ✓ **High potential exploration acreage to be drilled in 2002/2003**
  - **Scotian Shelf**
  - **Flemish Pass**

\* (NH-share of plateau production)



Canada - production potential (NH-share)



# Angola - a well established core area

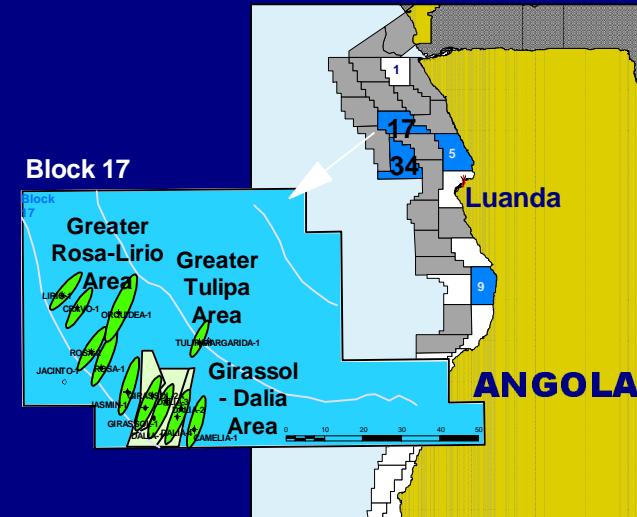
## Fields under development

- Girassol on stream 4Q 2001 (20.000 bbl/day)\*
- Sanctioning of Dalia in 3Q 2001 (20.000 bbl/day)\*
- Concept selection Rosa/Lirio 2001

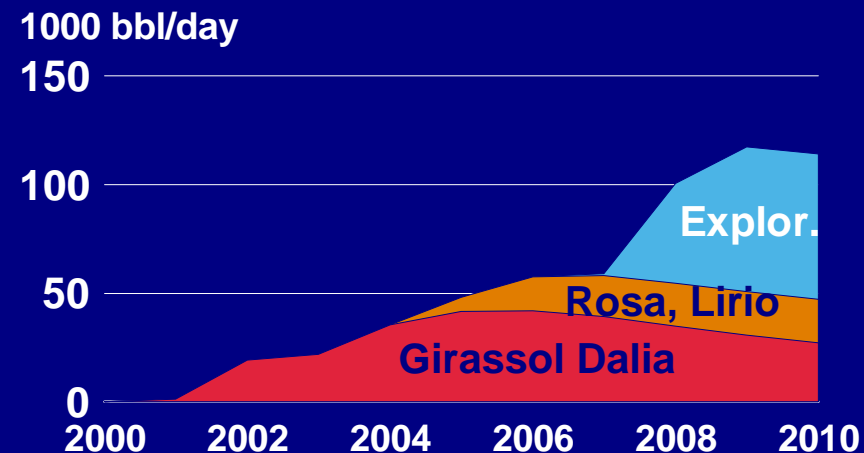
## High potential exploration acreage

- Block 34; Signing of PSA 1st/ 2nd Q 2001, Preparations for 1st well 2001
- Block 17; Drill remaining exploration wells
- Block 5; 3d seismic acquisition completed, 1st well 2001
- Block 9; Dry well 2000 Next commitment well 2002

\* (NH-share of plateau production)



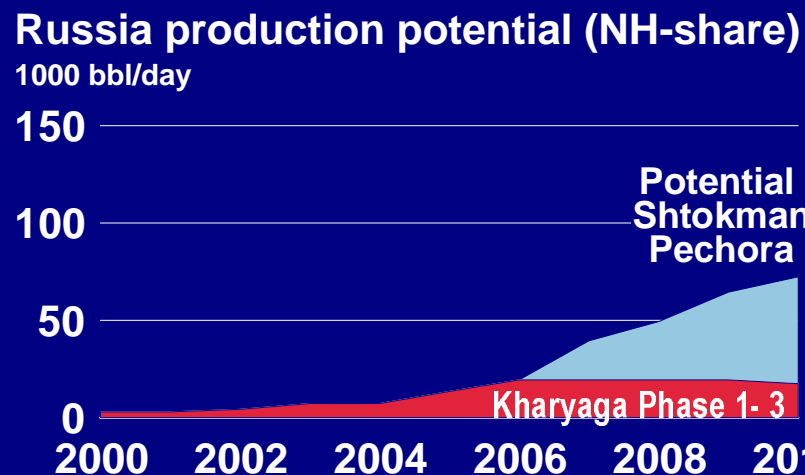
Angola production potential (NH-share)



# Russia - Long term view and patience

- ✓ **Field in production - Kharyaga**
  - ▶ First Russian oil under PSA agreement (1999)
  - ▶ 2nd phase was decided this month
  - ▶ 3rd phase to be decided 2002
  - ▶ Total production 20.000 bbl/day \* (Phase 1-3)
  
- ✓ **Field development potential**
  - ▶ Timan Pechora Project
  - ▶ Shtokman Gas Development
    - Approved in Duma for PSA - producing field
    - Hydro participates in Western alliance (Fortum, Total/Fina/Elf, Conoco)
  
- ✓ **Exploration potential**
  - ▶ Pechora Sea co-operation with Gazprom

\* (NH-share of plateau production)



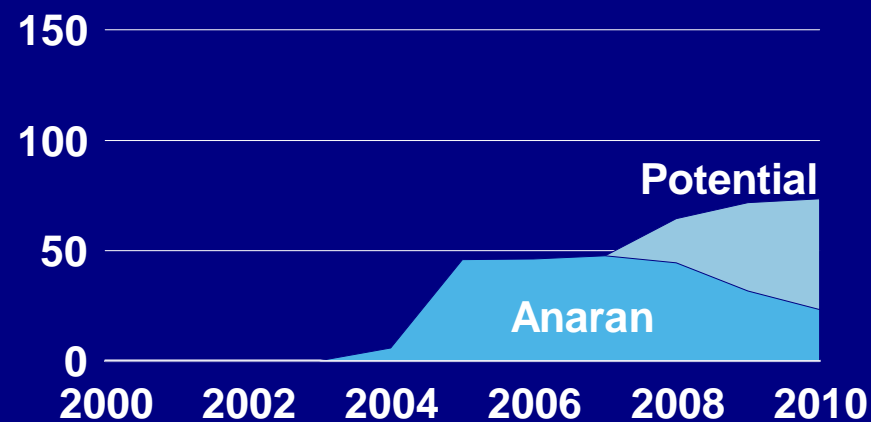


# Iran - new potential core area

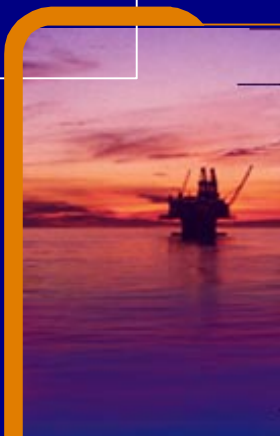
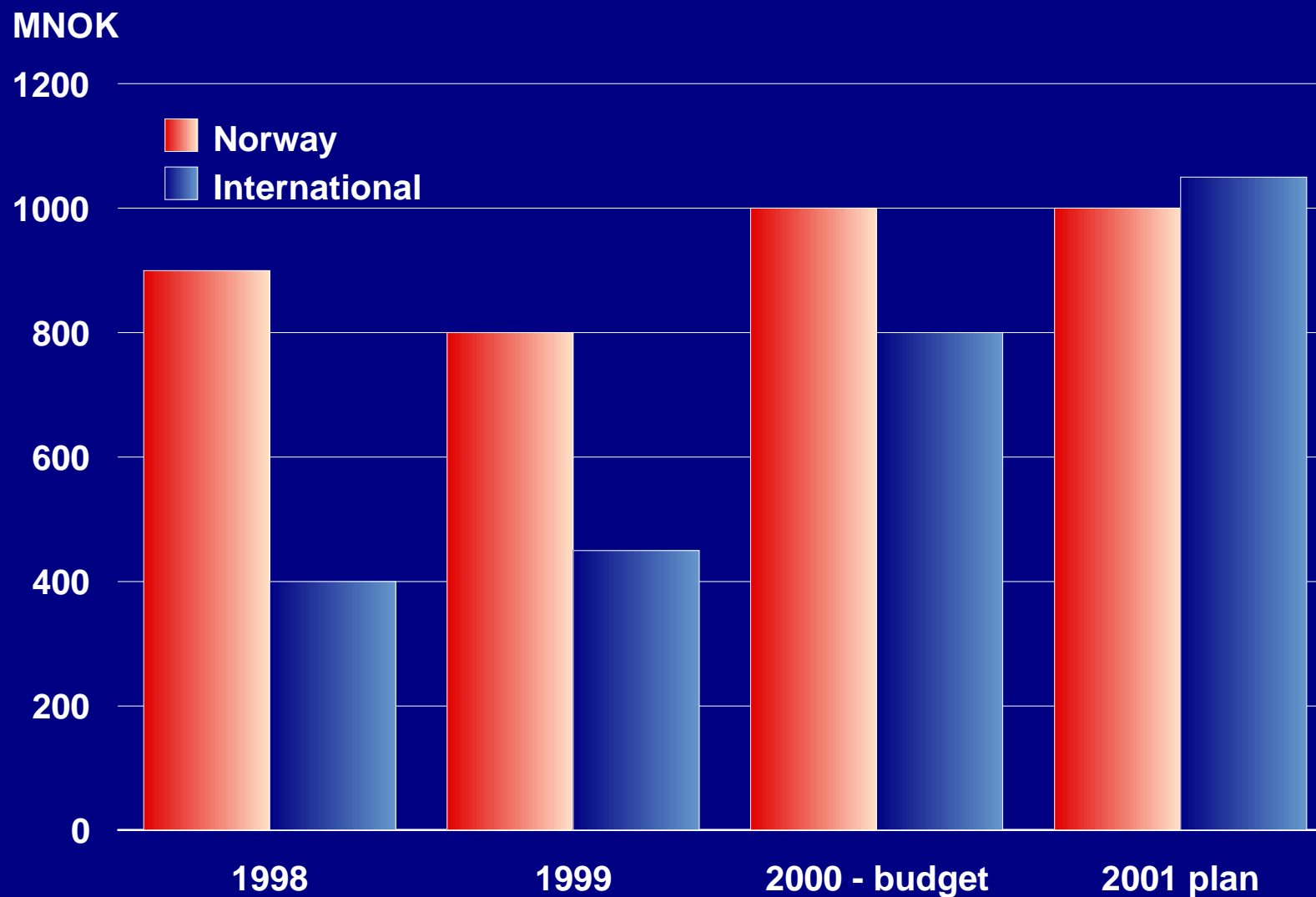
- ✓ Anaran: first exploration contract signed in Iran by a Western company
- ✓ Abadan: rights to negotiate exploration opportunities
- ✓ Hydro negotiates further co-operation with NIOC



Iran production potential (NH-share)  
1000 bbl/day

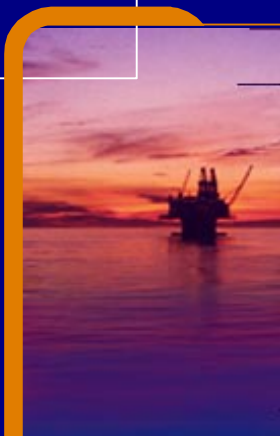


# Increased international exploration activity



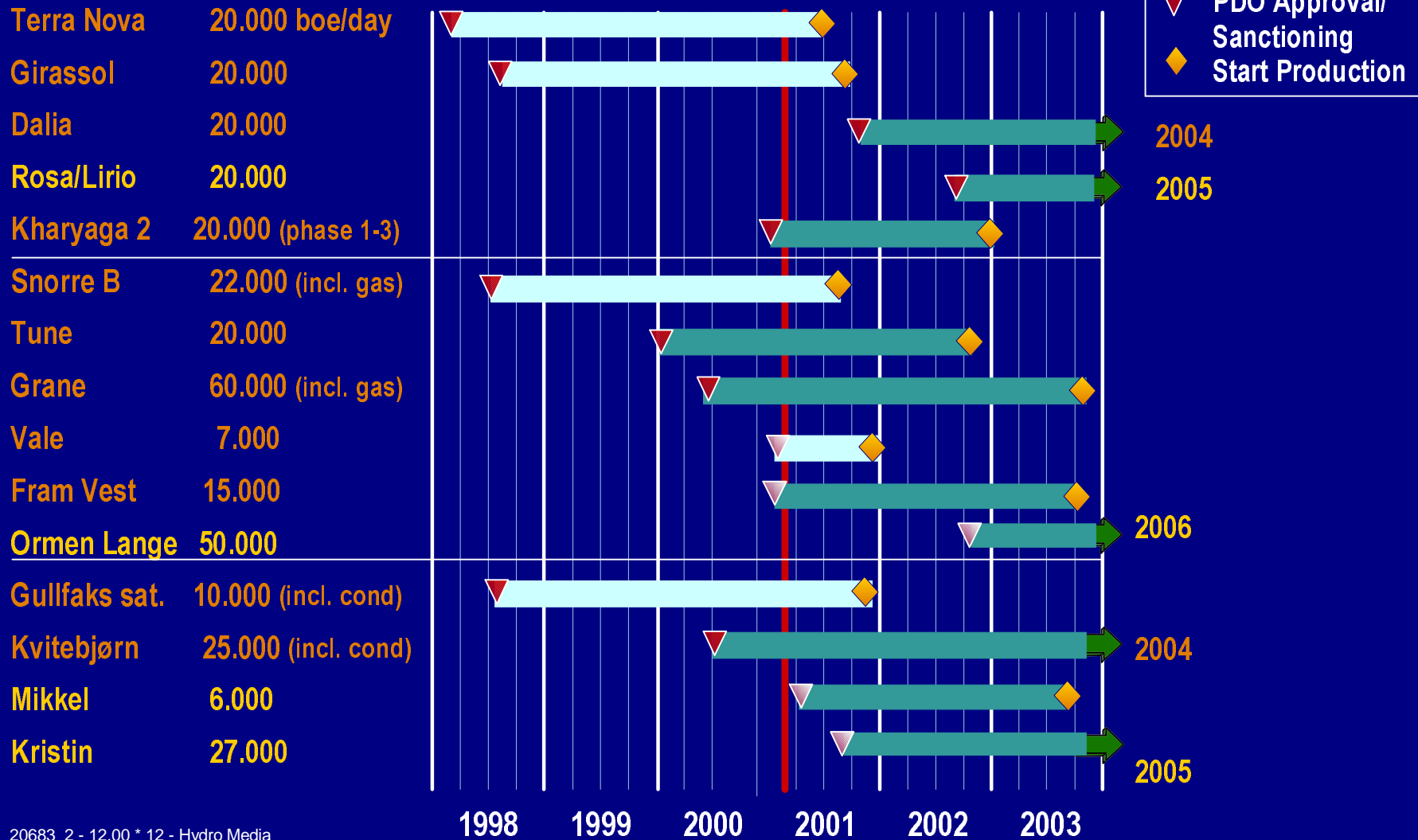
# Continued strong development of NCS in 2001

- ✓ **Exploration drilling**
  - ▶ Around 15 exploration wells
  - ▶ PL 252 east of Ormen Lange with large potential
  
- ✓ **North Sea round**
  - ▶ Hydro will apply for new licences with significant potential
  - ▶ Award expected in February 2001
  
- ✓ **8% production increase expected for Hydro, NCS**



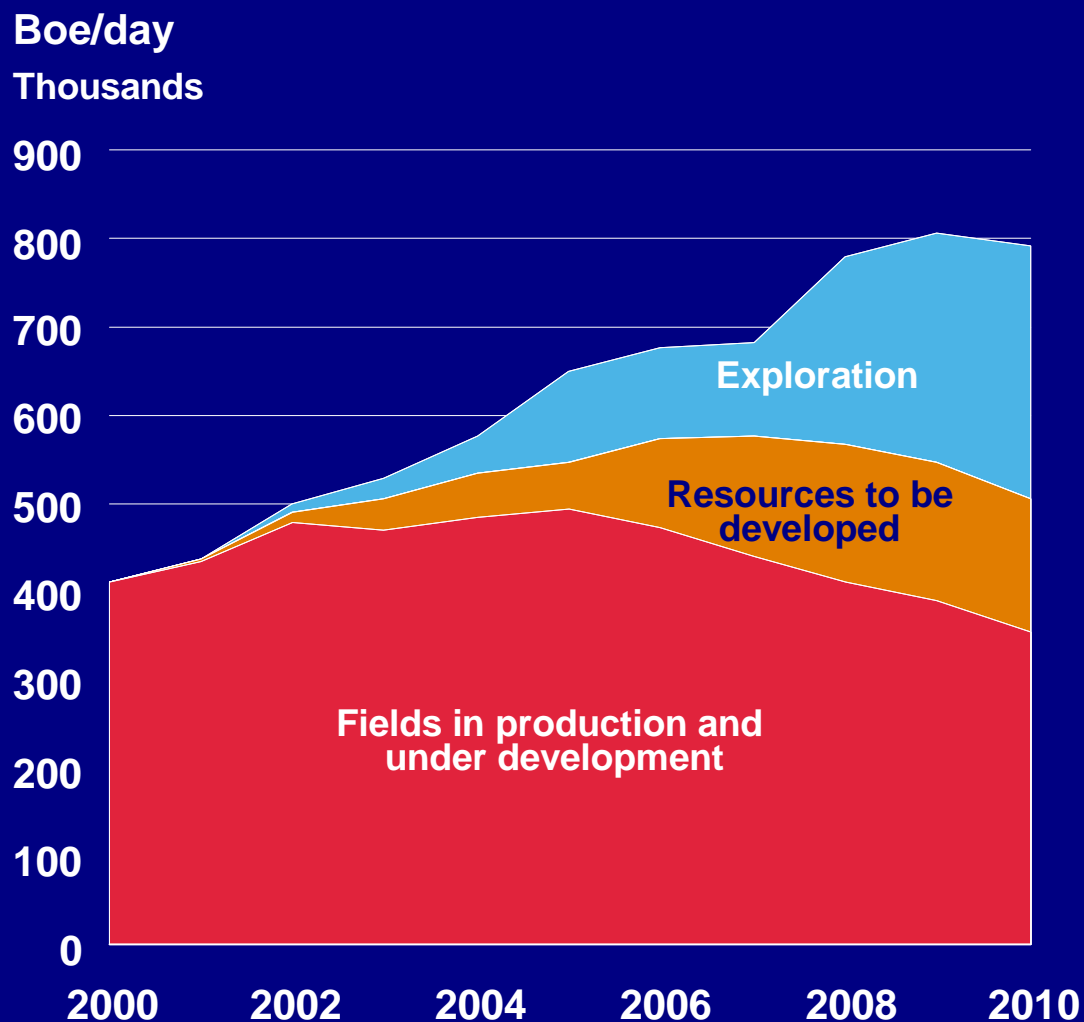
# Field development - existing portfolio

## Plateau production : NH share



# Growth within existing licence portfolio

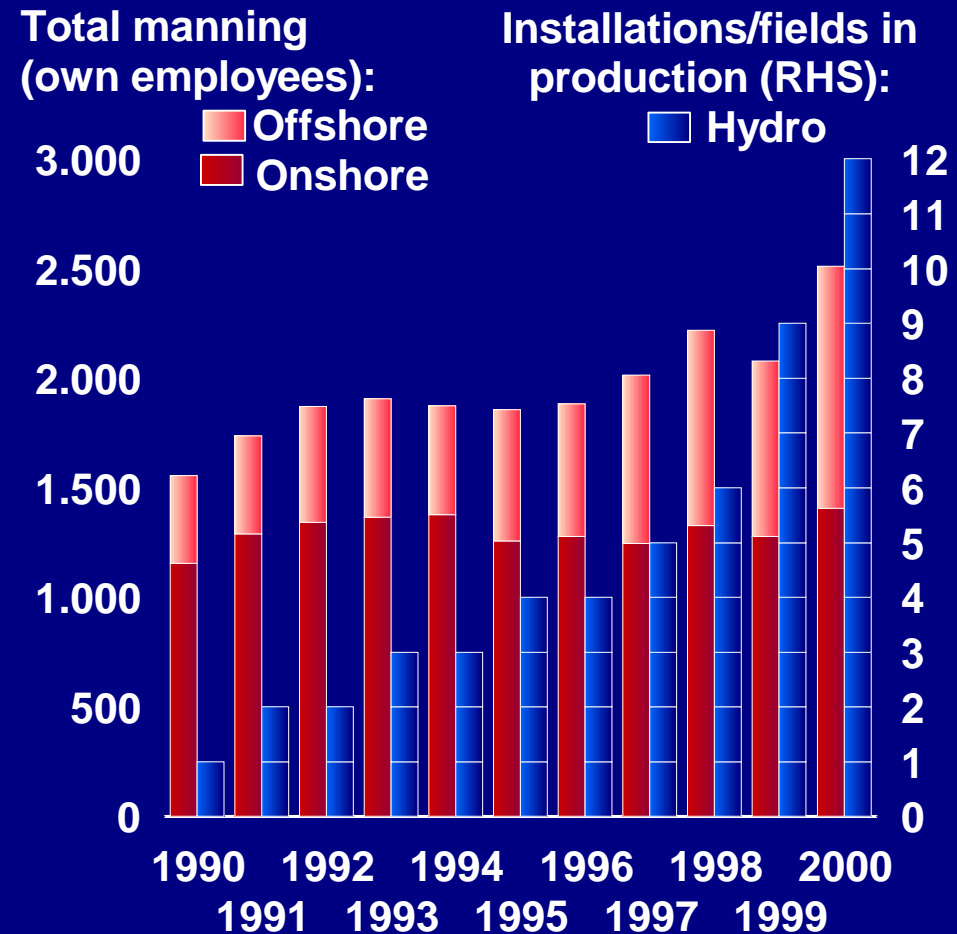
- ✓ Expected production in 2001 is around 435.000 boe/day
- ✓ Stronger production development expected in 2002
  - ▶ 5 new fields in production by year end 2001
- ✓ Production start Ormen Lange 2006



# Continued strong focus on cost performance

## Ambitious targets for 2001

- ✓ Maintained position as efficient operator and low cost producer on NCS
- ✓ Marginal manning increase in spite of 50% production growth from 1998
- ✓ No increase in cost per barrel in 2001, in spite of major fields on decline



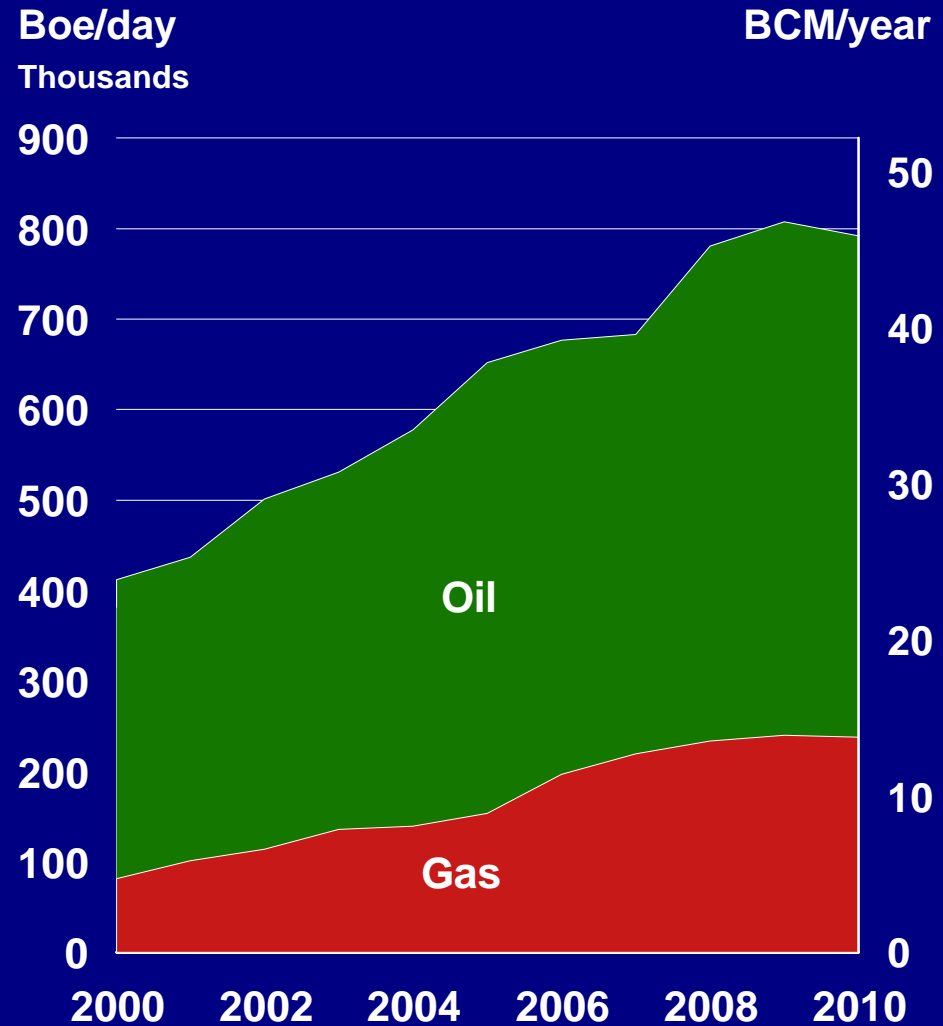
# Hydro is positioned to acquire SDFI shares

- ✓ Increased equity for operators gives stronger incentives for value creation
- ✓ Hydro wants to strengthen position in operated fields
- ✓ SDFI shares provides a basis for international asset swaps
- ✓ Acquisition of SDFI shares is dependent on acceptable commercial terms



# Hydro has an ability to commercialise large gas volumes

- ✓ Strong growth in Hydro's NCS gas production
- ✓ Liberalisation represents challenges and opportunities
- ✓ Possible dismantling of Norwegian Gas Negotiations Committee (GFU)



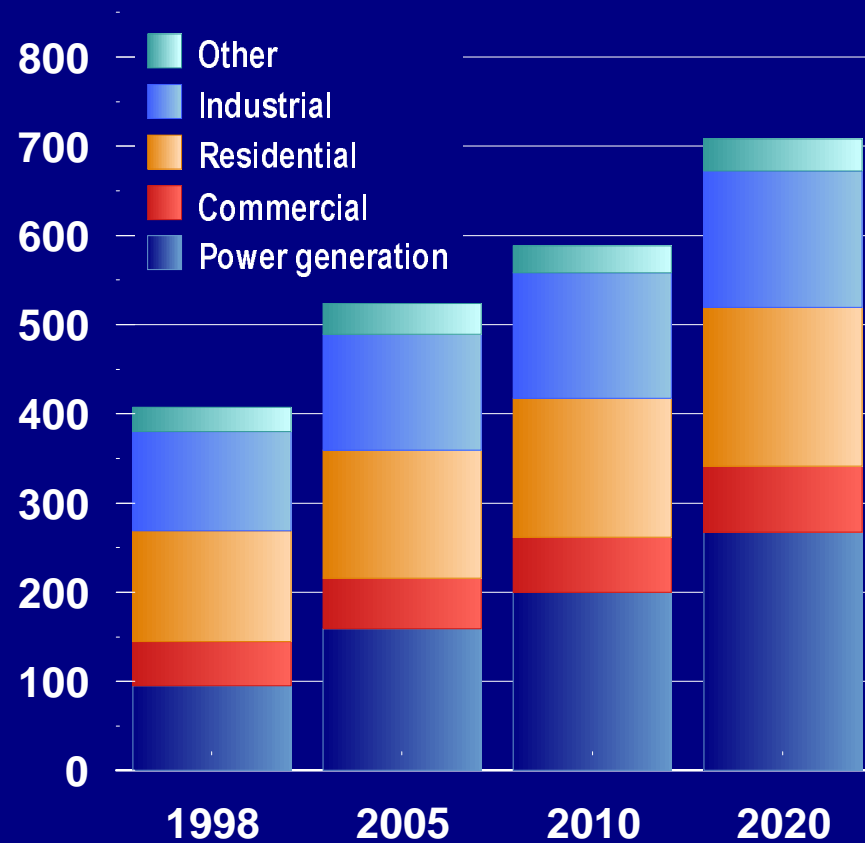


# Increased demand for gas expected in Europe

- ✓ **Gas the logical long term energy source for Europe**
- ✓ **Main growth in gas for power**
  - **Cost competitiveness**
  - **Environmental friendly**

## European Gas Consumption

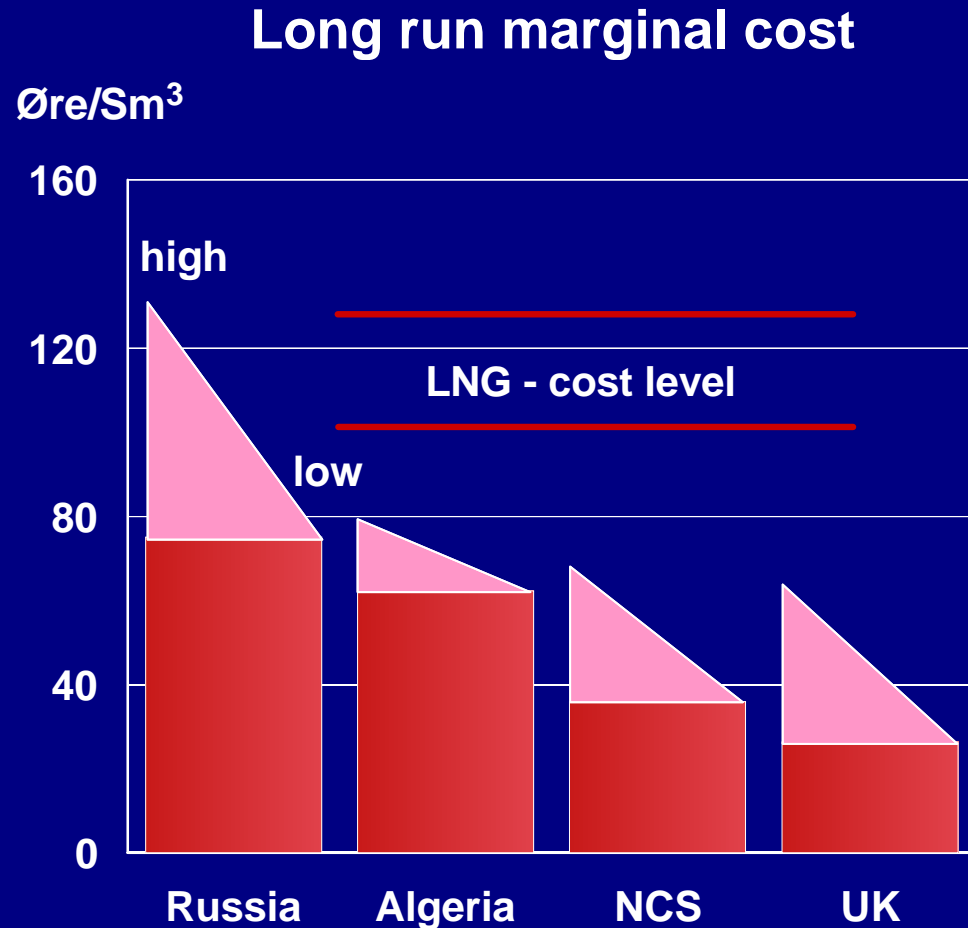
BCM



Source: WEFA

# Norwegian gas is a competitive source of new supply

- ✓ Transport is key cost element
- ✓ New supplies from Russia/Algeria at substantial cost
- ✓ Ormen Lange ready for production in 2006



Source: McKinsey, Hydro



# Market development opens up for Ormen Lange in 2006

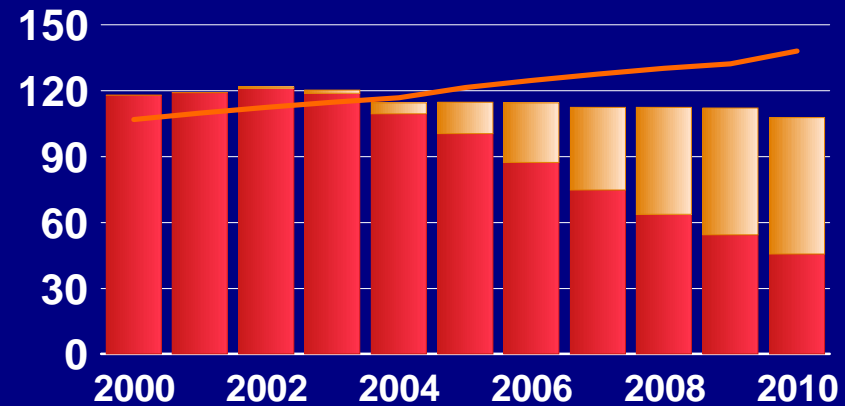
## ✓ The UK and Ireland

- ▶ Substantial import required from 2004/5
- ▶ Infrastructure established through Vesterled

## ✓ Future potential in Poland and Scandinavia

- ▶ New infrastructure required

UK and Ireland supply - demand balance

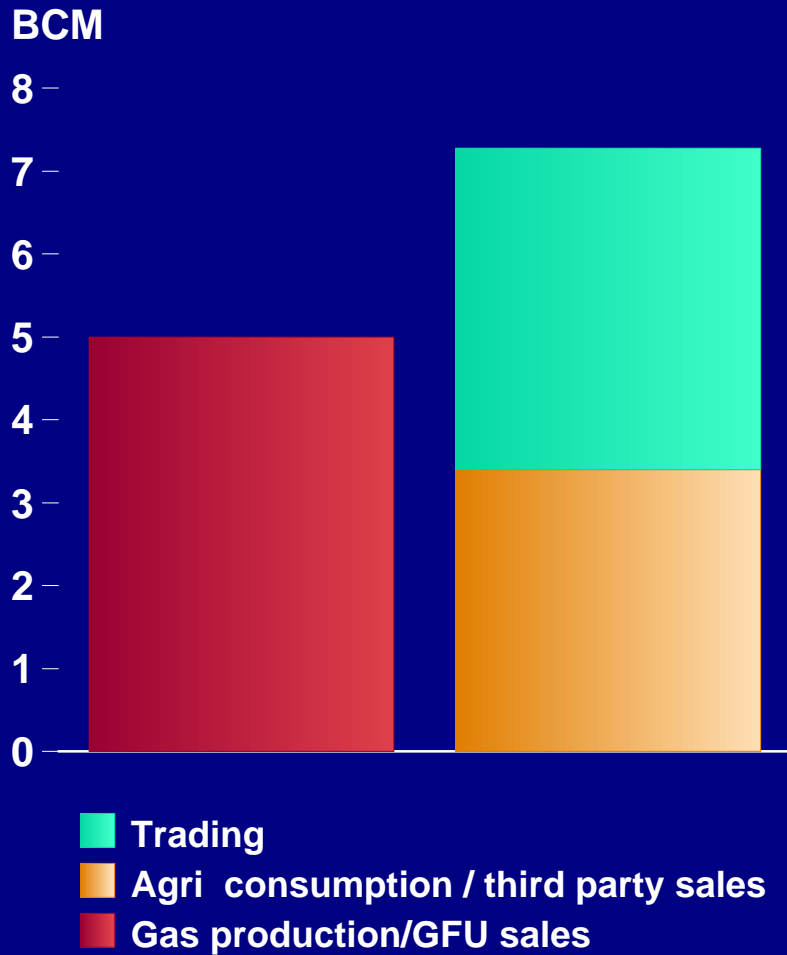


Gas pipeline to Scandinavia/Poland



# Hydro is well positioned for a post-GFU world

## Turnover European gas business 2000

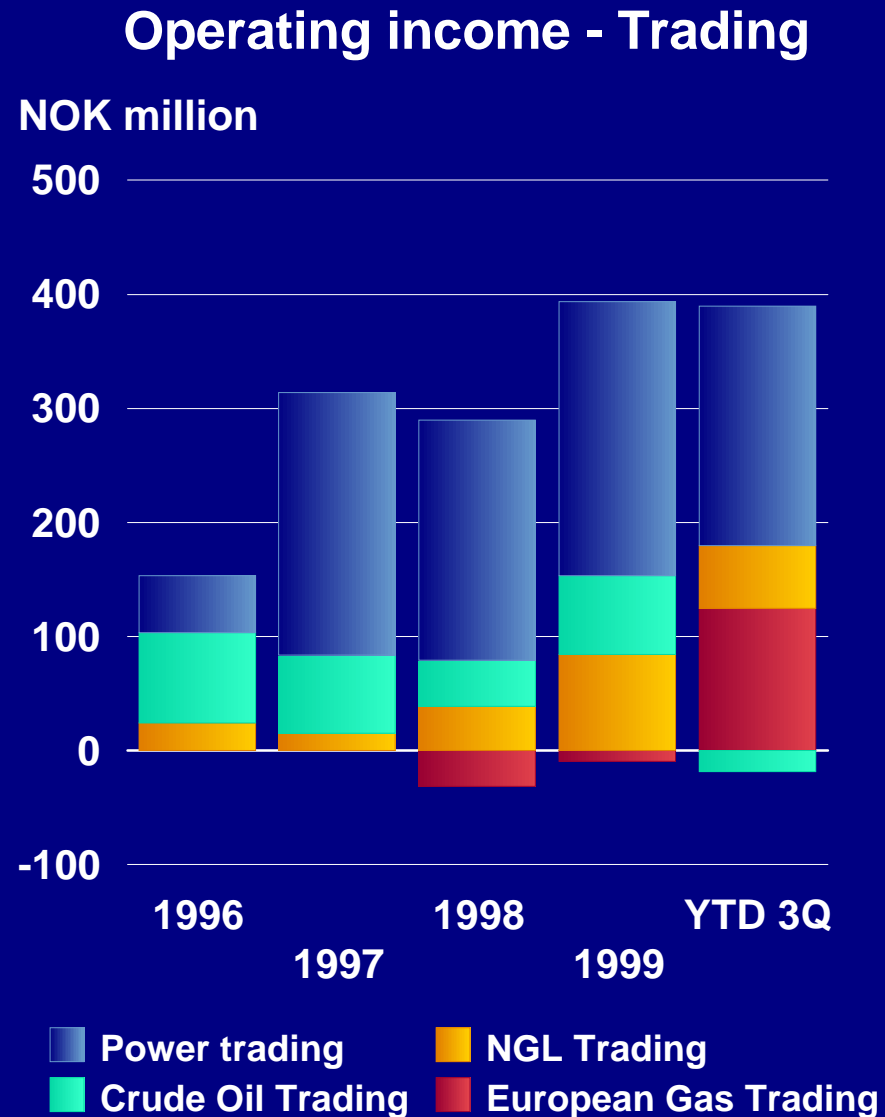


Interconnector



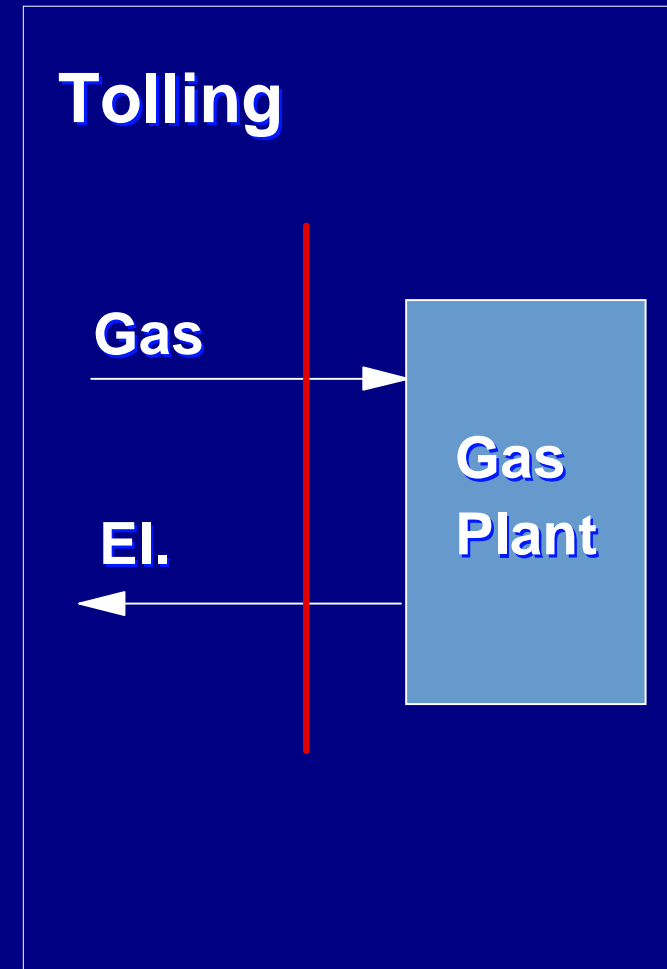
# Hydro has achieved considerable trading margins within the Energy area

- ✓ Trading activity based on sourcing to Hydro's industrial plants
  - Power (Aluminium)
  - NGL (Agri/Petro)
  - Gas (Agri)
- ✓ Interconnector position and flexibility of contracts is key in gas trading
- ✓ Market knowledge and trading skills in oil/NGL/power/gas



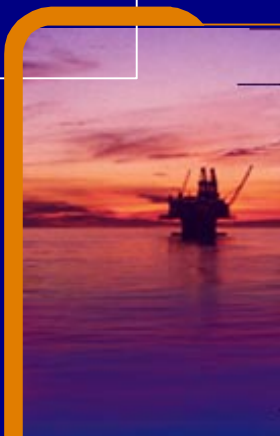
# Tolling concept of "asset light" gas for power

- ✓ **Low investments and high tolling rights**
  - 20% interest in investment and 50% in tolling
  - Supplies gas and provides offtake of electricity
  - Pays a fee over contract period to partner
  - Partner builds and runs plant
- ✓ **Capitalise on commercial skills in both gas and power**
- ✓ **Gas and power price differentials ("spark-spread") and utilising the flexibility of the plant**



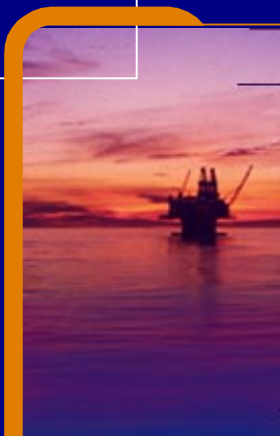
# Gas for power tolling concept in Sluiskil - a first opportunity

- ✓ **2 x 400 MW located at the Hydro Agri site in Sluiskil - Holland**
- ✓ **Competitive project and site location**
  - ▶ **Favourable gas position at Sluiskil**
  - ▶ **Synergies at an existing site**
  - ▶ **Partner's desire to generate electricity locally**



# Value creation in Oil and Energy

- ✓ Significant production growth from existing portfolio
- ✓ Strong focus on cost performance and reduction of F&D cost as result of new developments
- ✓ Positioned for SDFI shares - given acceptable commercial terms
- ✓ Increased international activity by utilising experience from NCS
- ✓ Positioned for a post GFU gas market
- ✓ Increasing returns by utilising existing asset base in other Hydro business areas





# Safe harbour statement

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