



# Global Decommissioning Cost Modelling

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November 2011

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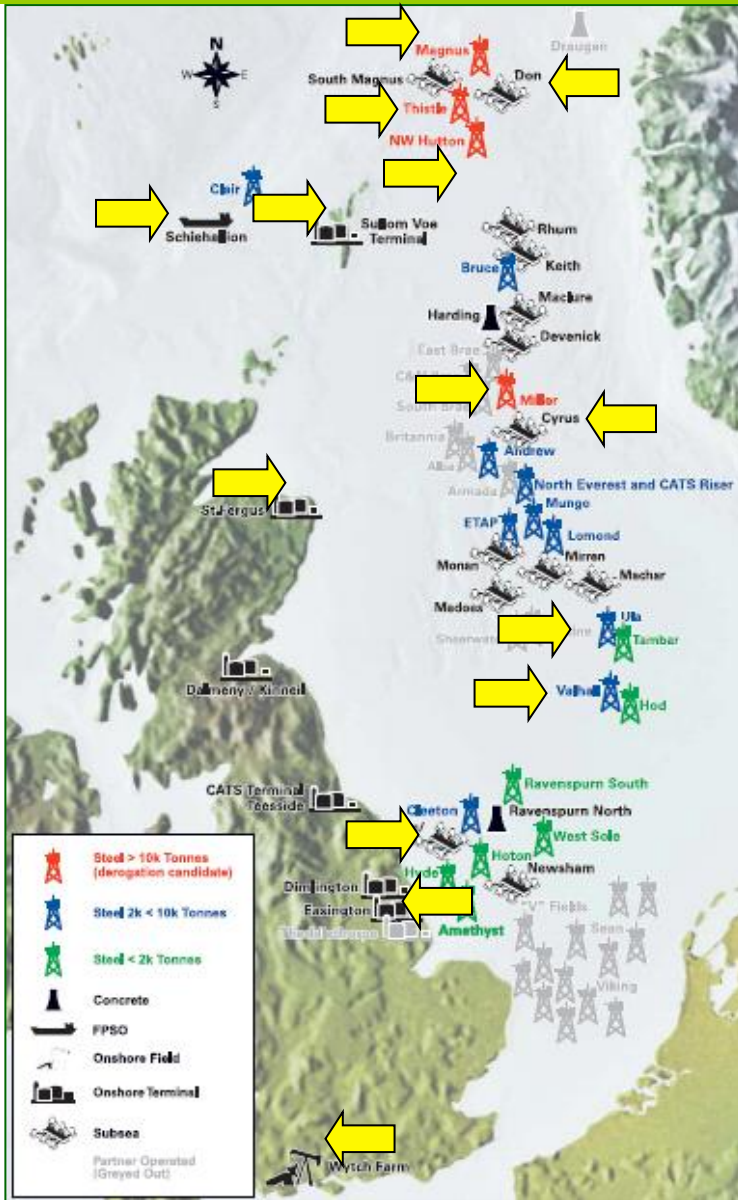
## Decommissioning Function

- Provides a realistic assessment of decommissioning costs
- Developing a strategic approach to decommissioning
- Embedding decommissioning thinking in project design and operations
- Ensures decommissioning projects are delivered to the highest standards

## Decommissioning Project Team

- Operations makes facilities HC free, cleans, flushes & manages integrity until time of removal
- Drilling & Completion responsible for wells plugging and abandonment
- Subsea & Pipelines team involved in pipeline & subsea prep and abandonment
- Decom Projects Team develops removal strategy and is overall integrator of activity
- Decom Projects Team work & obtain regulatory approval
- Decom Project Team responsible for execution of facilities removal & disposal

# Decommissioning in BP – N Sea



## • Platforms

- 8 large steel platforms > 10K tonnes jackets
- 32 medium steel platforms 2K – 10K tonne jackets
- 51 small steel platforms < 2K tonne jackets
- 965,000 tonnes of steel
- 3 concrete jackets

## • Wells

- Approx 800 platform wells
- Approx 100 subsea wells
- Approx 50 E&A wells
- Approx 100 onshore wells

## • Pipelines and Terminals

- Over 6,500kms of pipelines and umbilicals
- 8 onshore terminals

# Why a global decommissioning provision cost model?



- Decommissioning is a significant future cost
  - Need to account for it (accounting provision)
  - Need to plan for it (long term business plan, cash flow forecasting)
  - Need to do this without developing ‘project quality’ estimates for every asset
- Business drivers for a common global provision model
  - Consistent definition of decommissioning scope and activity
  - Benchmarking, challenge & learning across the asset portfolio
  - ‘What if’ capability
  - Strategic planning, innovation & engagement with supply chain
  - Efficiency & reduced dependency on individual, region-specific models
  - Assurance of compliance policy & standards
- Are these drivers be applicable outside BP, across the industry?

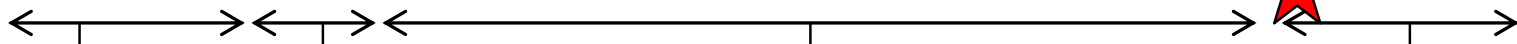
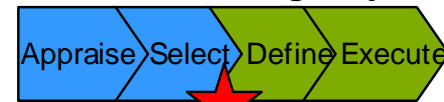
# Cost estimating through an asset lifecycle



## New Project



## Decommissioning Project



Provisions shall be recorded as agreed milestones completed using modelled estimates

Provisions shall be updated using project engineering estimates (quarterly/ annually)

Input to project economics *should* use modelled estimates

Provision shall be updated using modelled estimates (quarterly/annually)



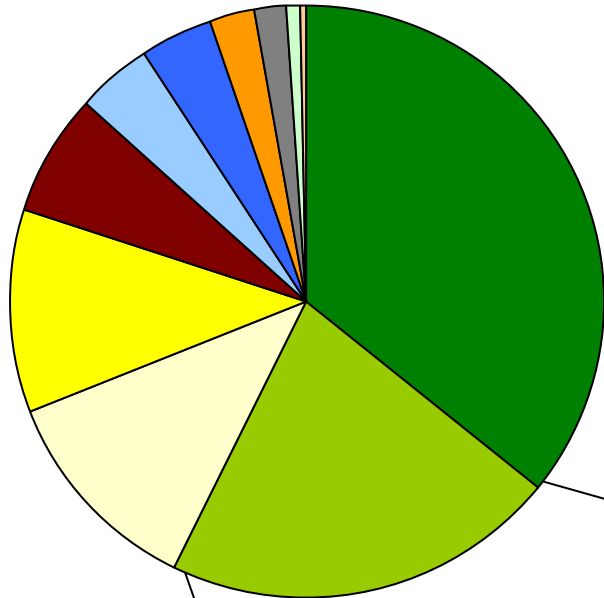
Common global cost model

**NOTE:**  
Request for funds

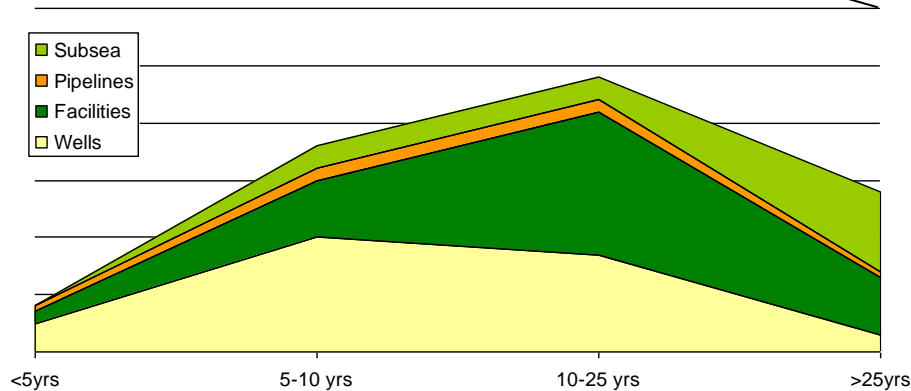
# Why a global decommissioning provision cost model?



Indicative Undiscounted Provision by Region



Analysis via region and spend type allows strategic planning



NB. These charts are for illustration only, they do not contain BP's provision data





# BP Decommissioning Work Breakdown Structure



	Physical Breakdown Structure [ PBS ] based on BP/ NORSOK standard			Standard Activity Breakdown [ SAB ]
Work Breakdown Levels	Level 0	Level 1	Level 2	Level 3
Description	Field, Asset or Project comprising one or more Level 1 types of facilities	This is the area defines the type of facility/ major cost element  Offshore Facilities   Onshore Facilities  Subsea	This level captures the physical breakdown structure for each element  Topside Substructure Substructure Anchoring Templates  Not in current scope  Trees	Oil & Gas Guideline on Decommissioning Cost Estimation:  1.Preparation for COP 2.Suspension Live 3.Well Abandonment 4.Cleaning and Decommissioning 5.Disconnection 6.Suspension Cold 7 Removal

- Define a common Decommissioning Work Breakdown Structure
- 3 levels of Physical Breakdown structure (based on BP/NORSOK capital projects WBS)
- Standard Decom Activity Breakdown structure (based on Oil & Gas UK Work Group 4)

# Project status



## Current status (November 2011)

- Facilities, Pipelines & Subsea logic complete
- Benchmarking in progress
- Well Abandonment logic under development (incorporating OGUK WG 5 guidelines)

## Next steps

- Completion & integration of models into single IT tool
- Roll out and training of users
- Population of asset inventory, rates & norms
- Go live mid 2012
- Longer term - benchmarking

# Acknowledgements



- Offshore Design Engineering (ODE) Ltd
- Pilbara Group
- NBS Consulting – John Anfield