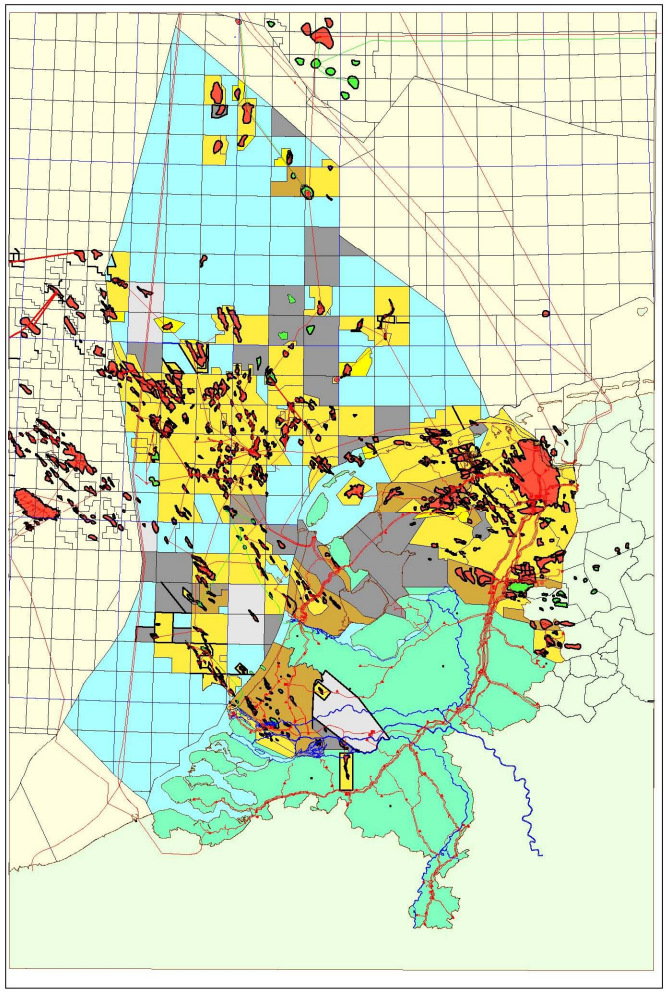
E&P in the Netherlands: Past, Present and Future

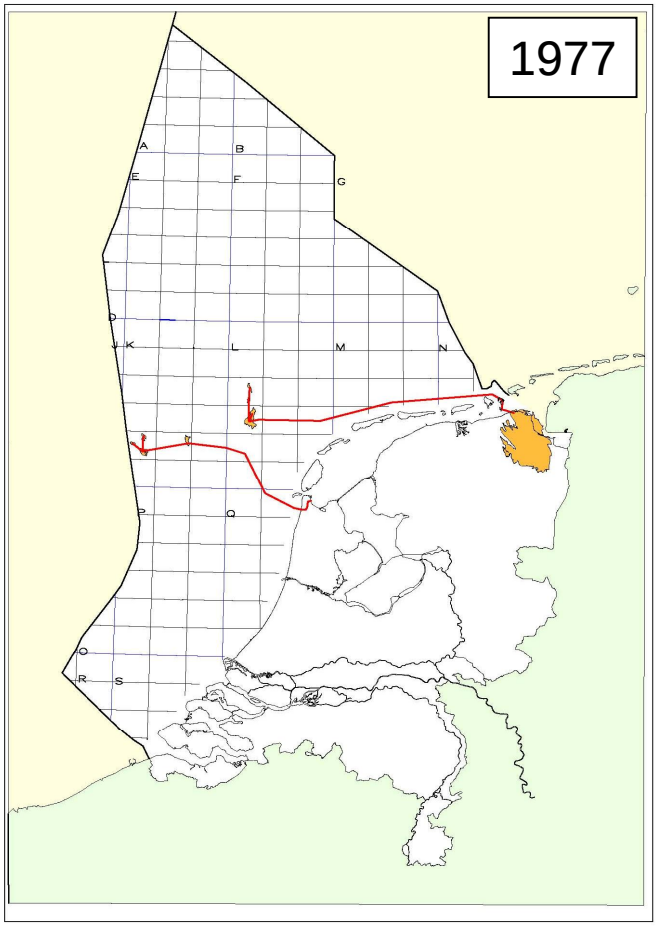
Presentation to SPE NL
16/17 April 2007

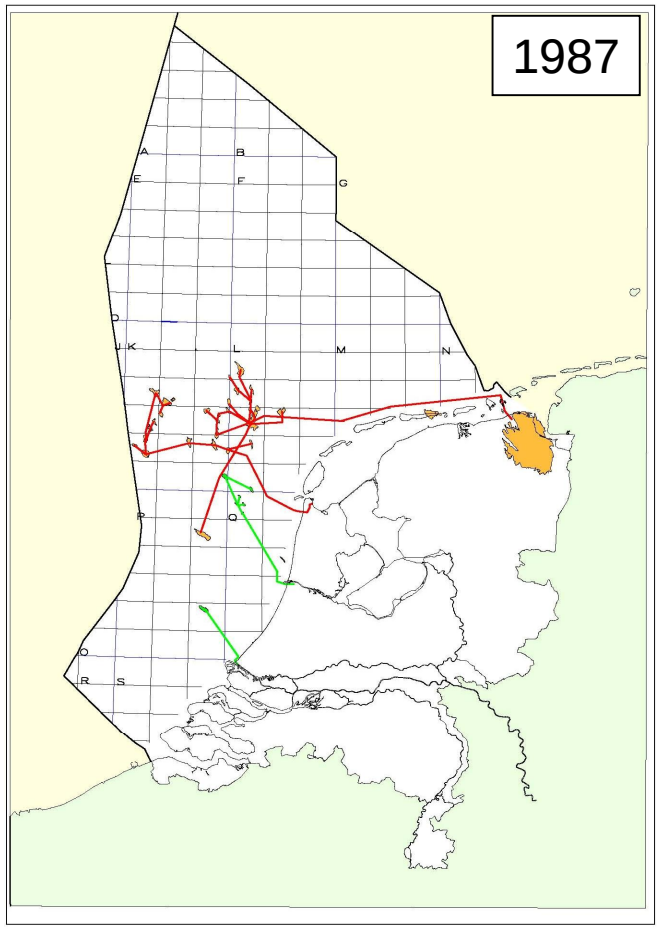
When did it all start?



- 1933: Bataafsche Petroleum Maatschappij gets exclusive oil exploration rights in North and East Netherlands
- 1938: First “oil discovery” by BPM in The Hague
- 1943: Discovery of the Schoonebeek oilfield
- 1947: Establishment of NAM (JV of Shell en Exxon) to produce oil from Schoonebeek
- 1948: First gas discovery by NAM in Coevorden
- 1959: NAM discovered the Groningen field
- 1961: NAM drilled first offshore well just of The Hague (Kijkduin)

The offshore “Gas Rush”





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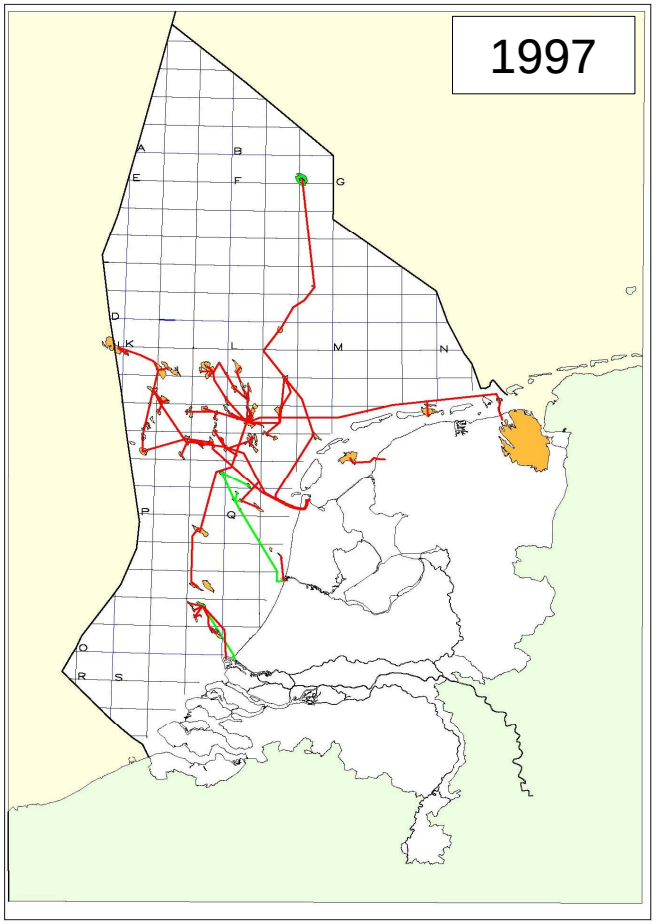

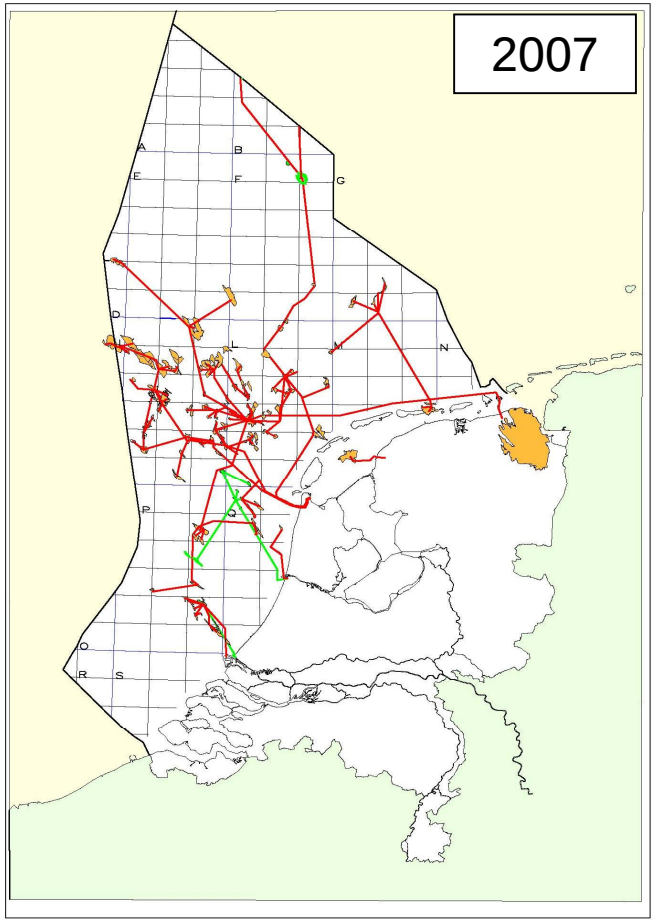

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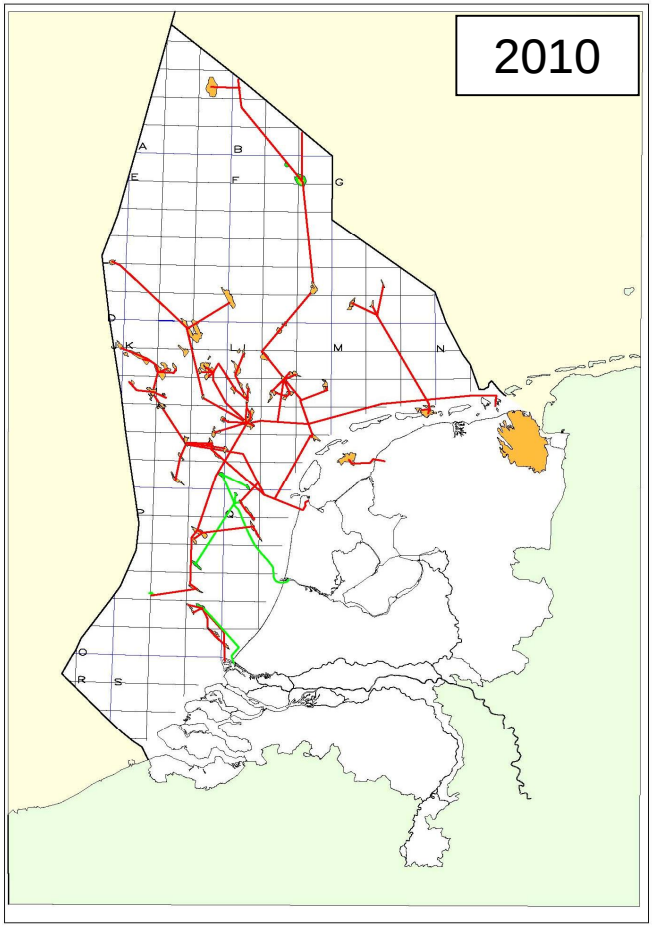

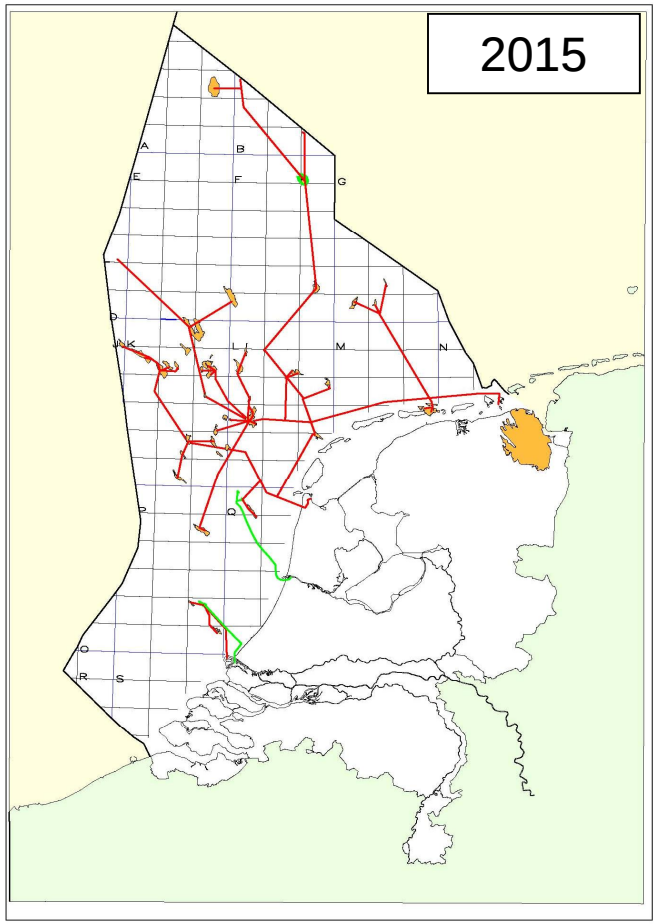

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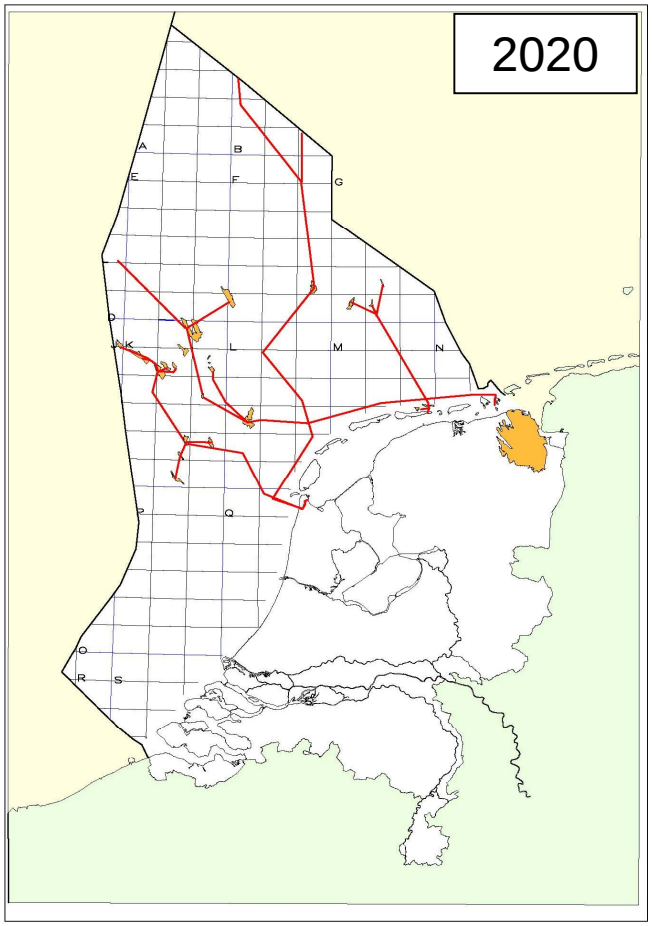
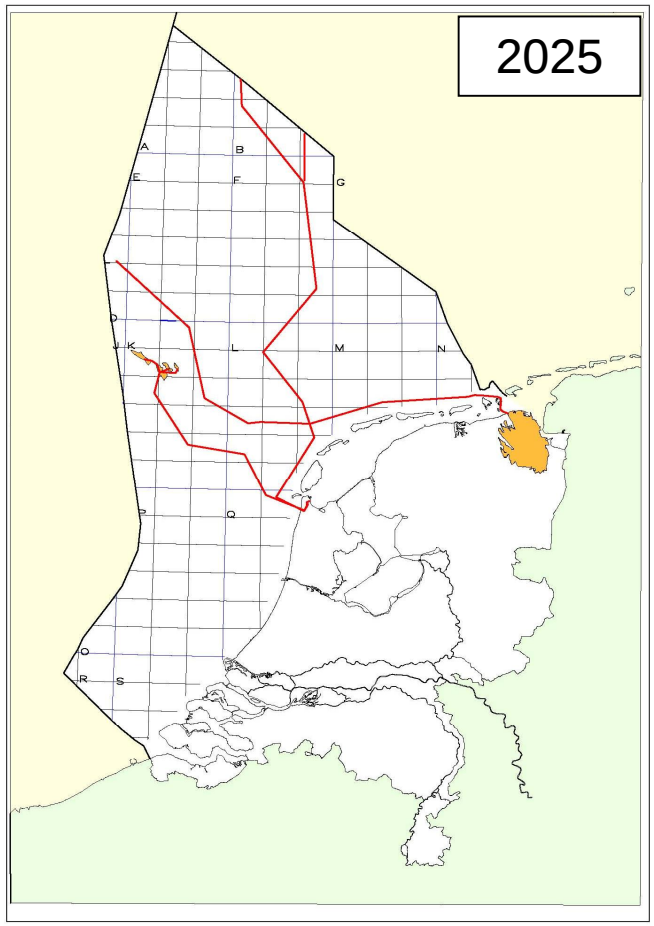
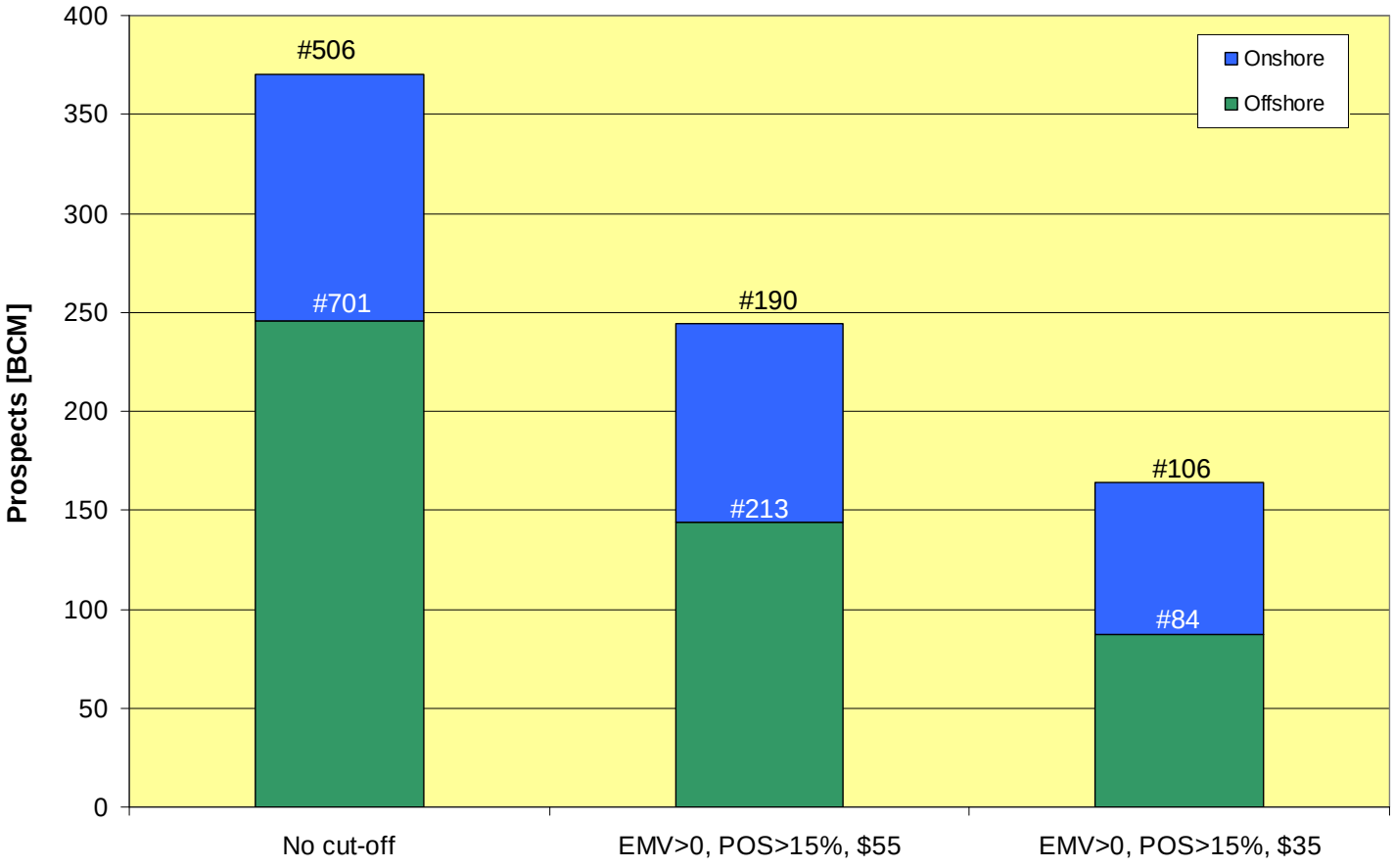
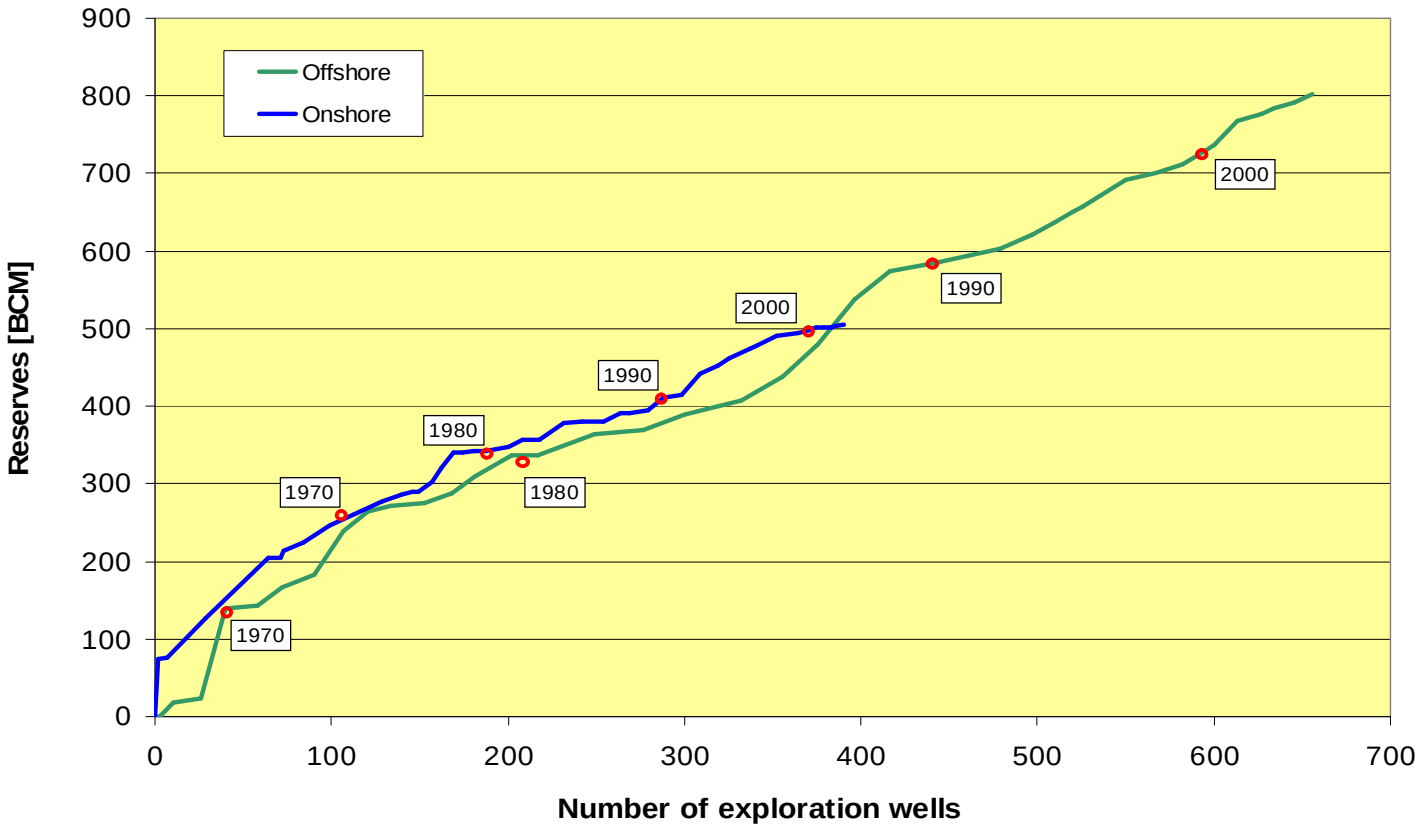




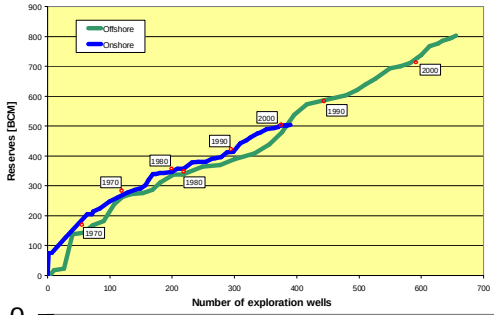
Exploration Potential

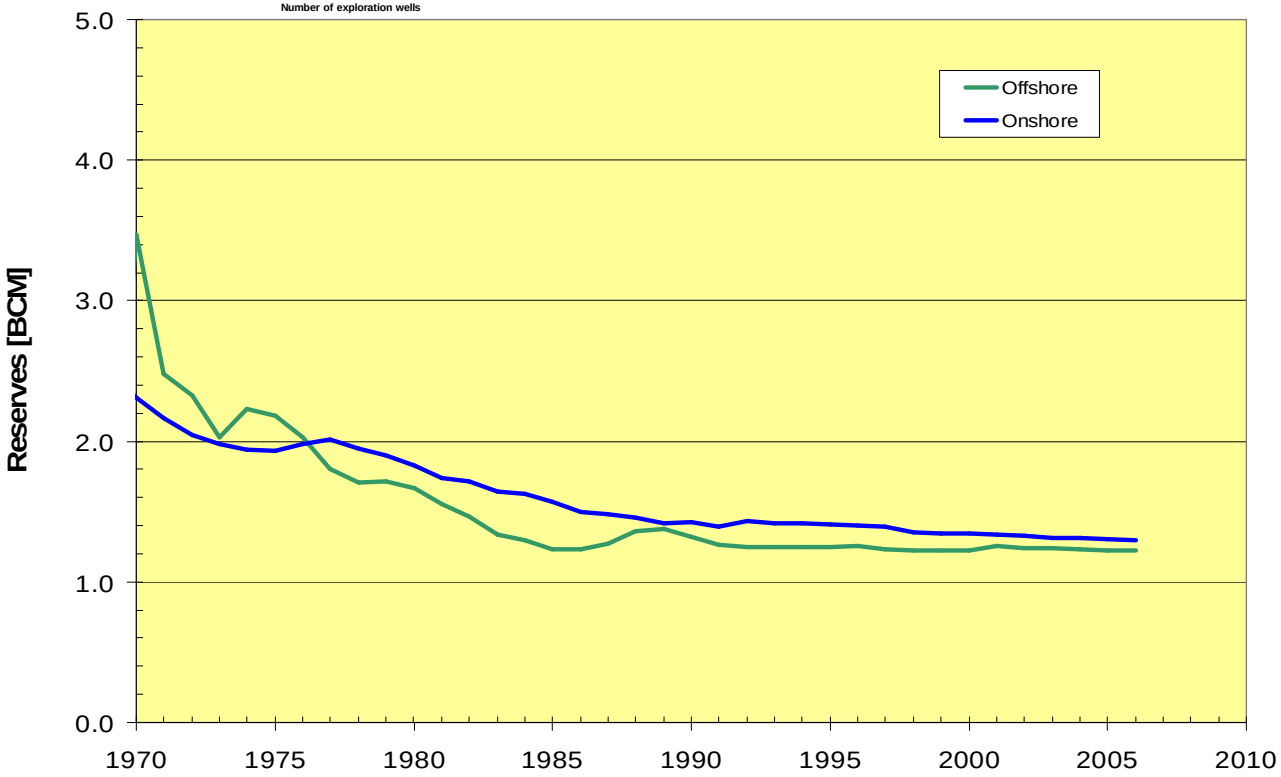


Exploration Successes



Exploration Average Find





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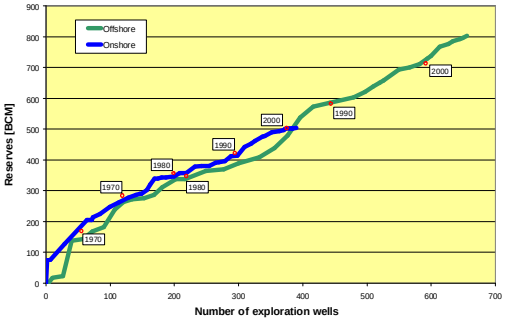
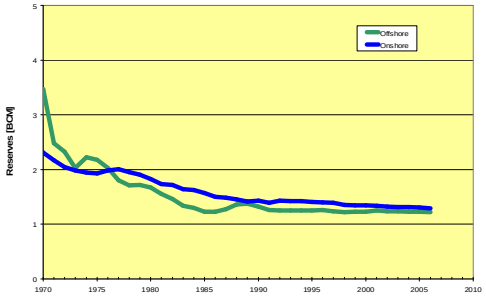
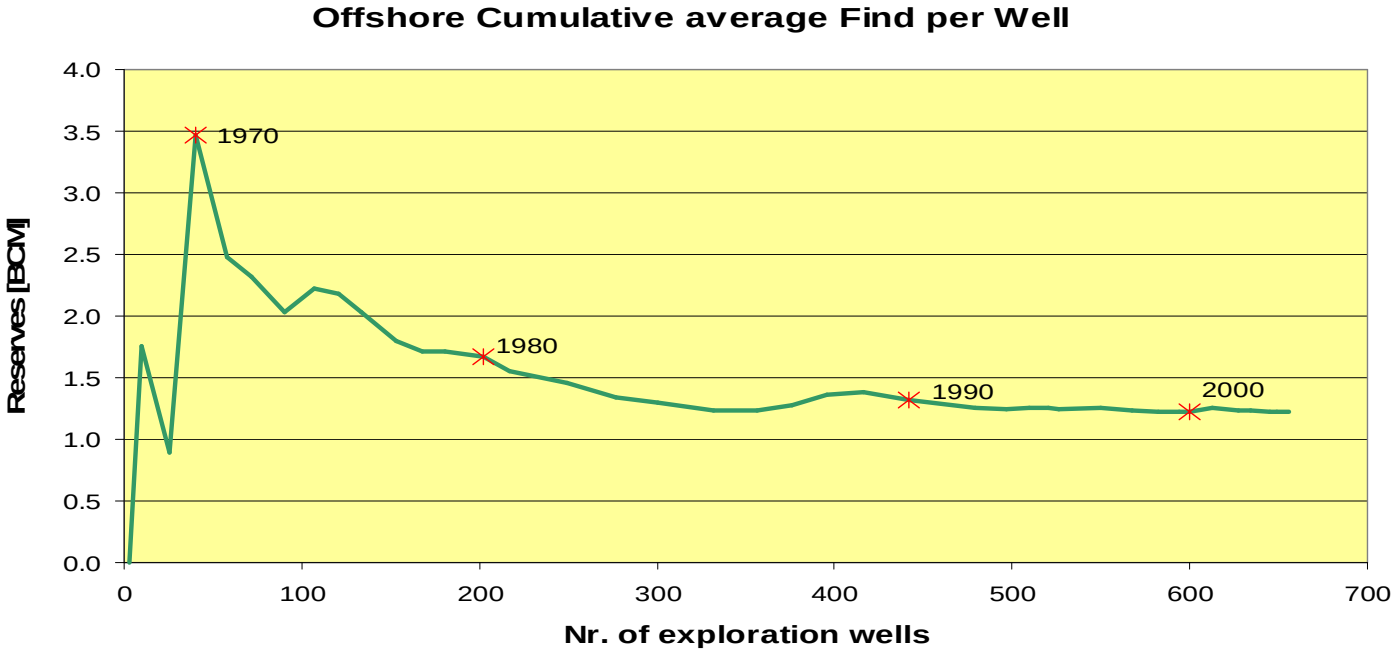
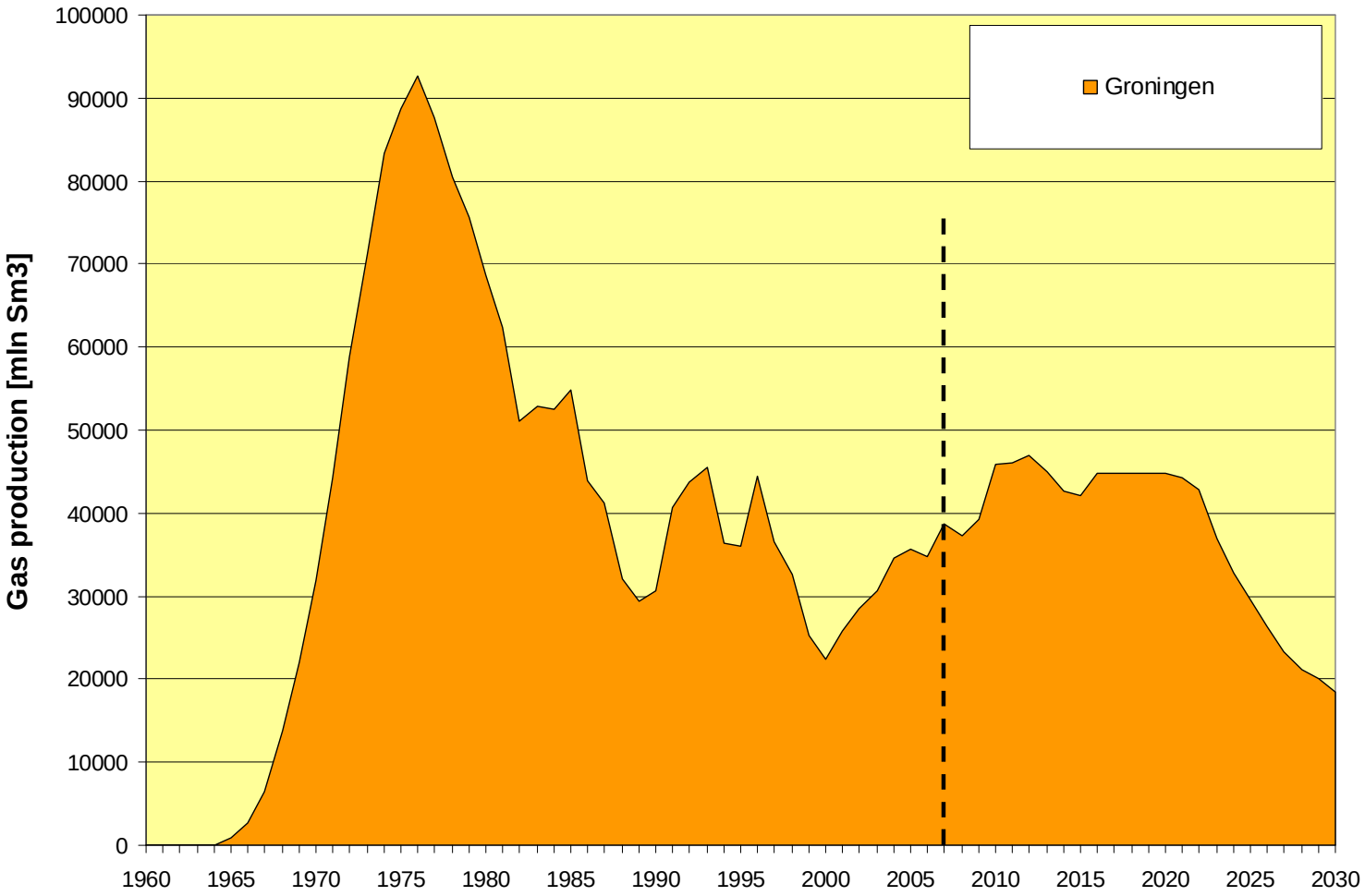






Gasproduction 1962-2030



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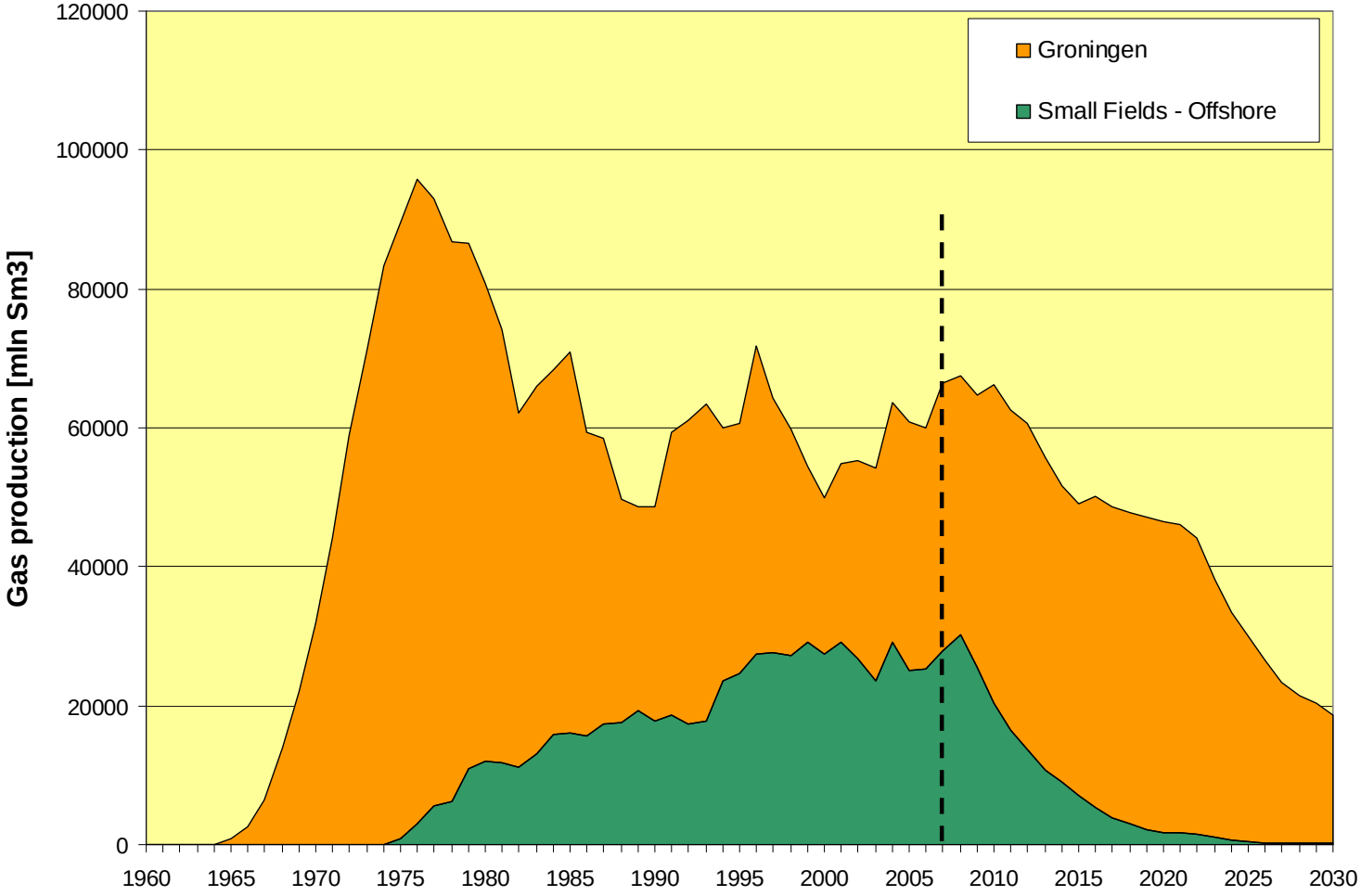

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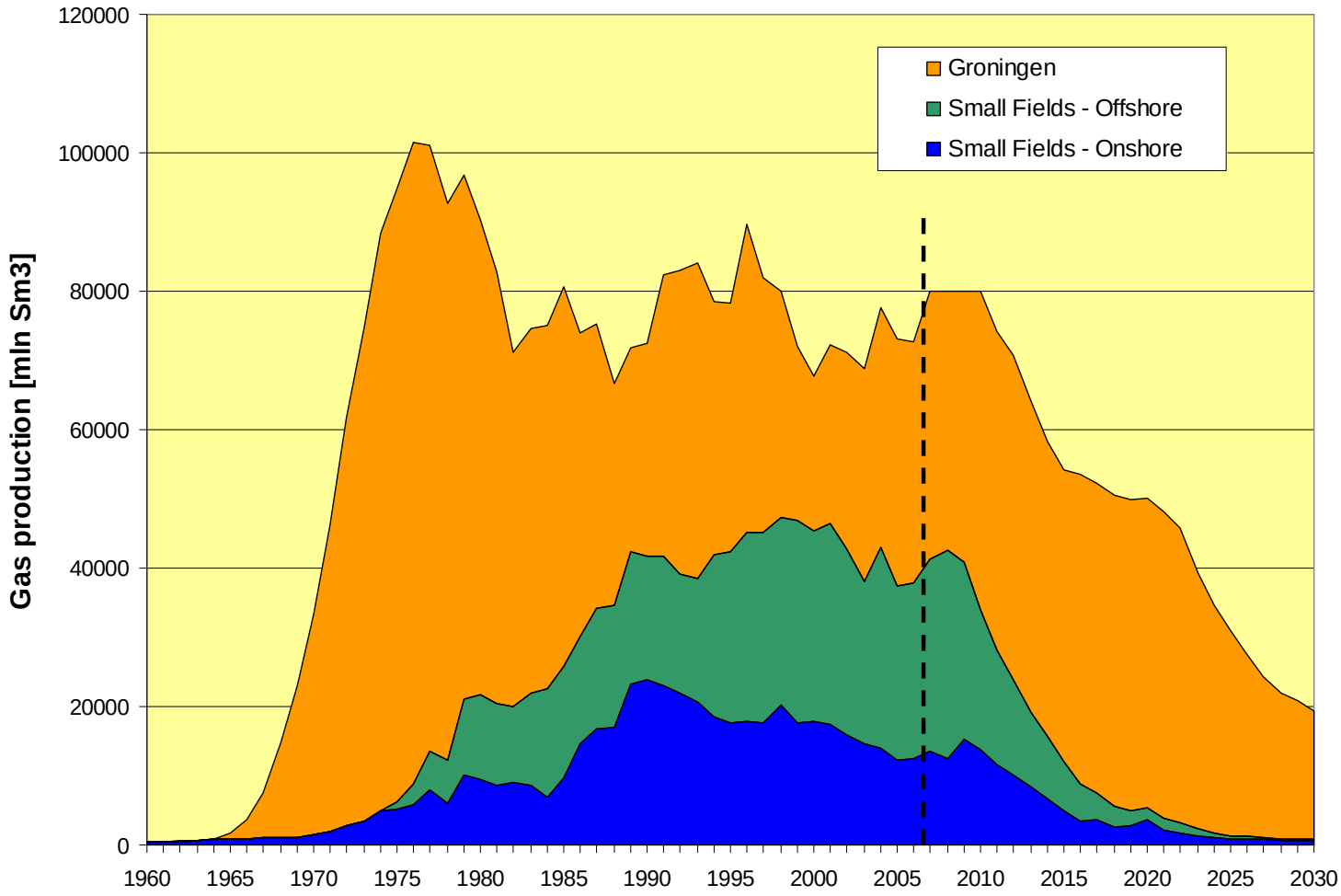
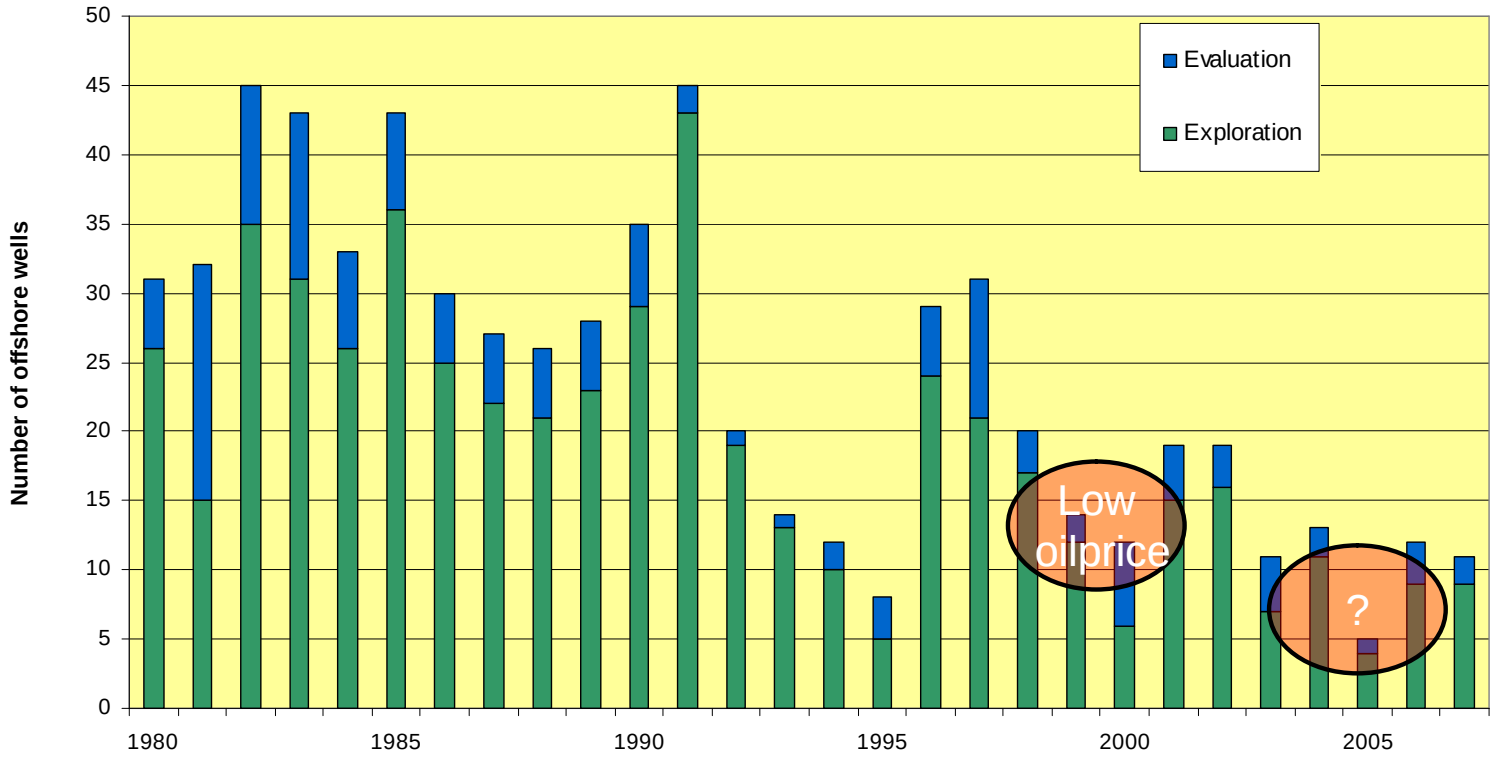
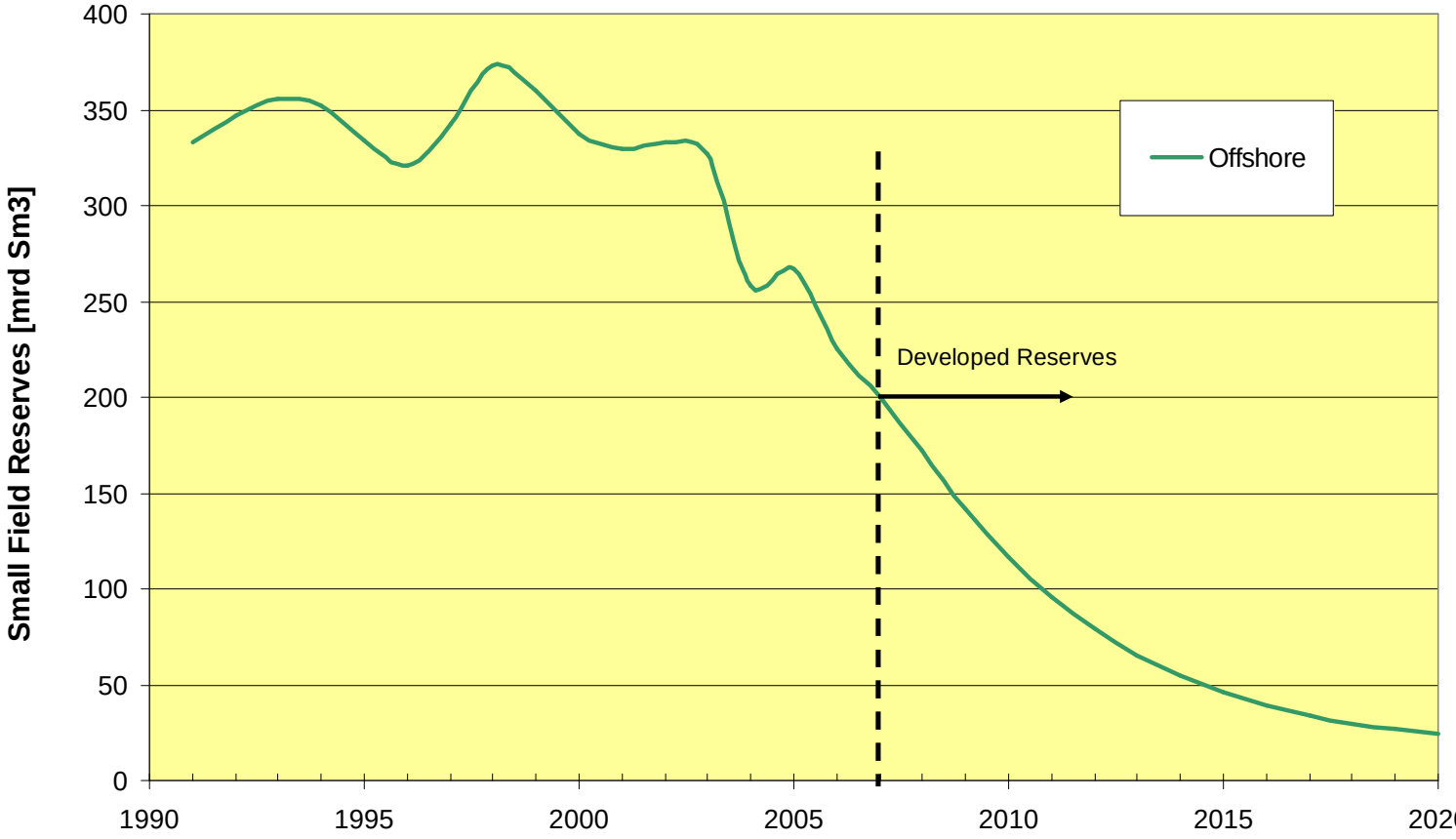


Drilling Activity Offshore

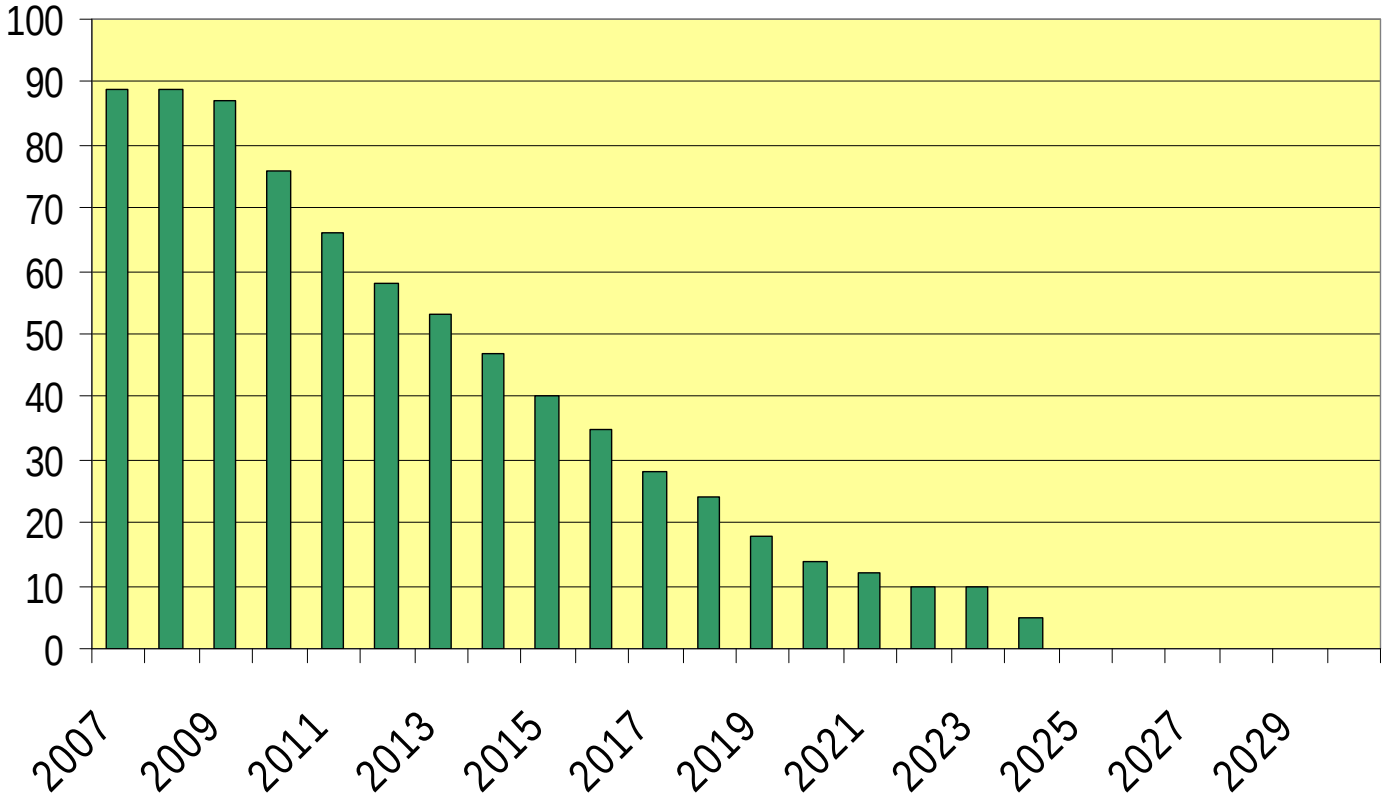


Small Field Reserves



How much time have we left?

- The offshore infrastructure will remain operational for another 15-20 years



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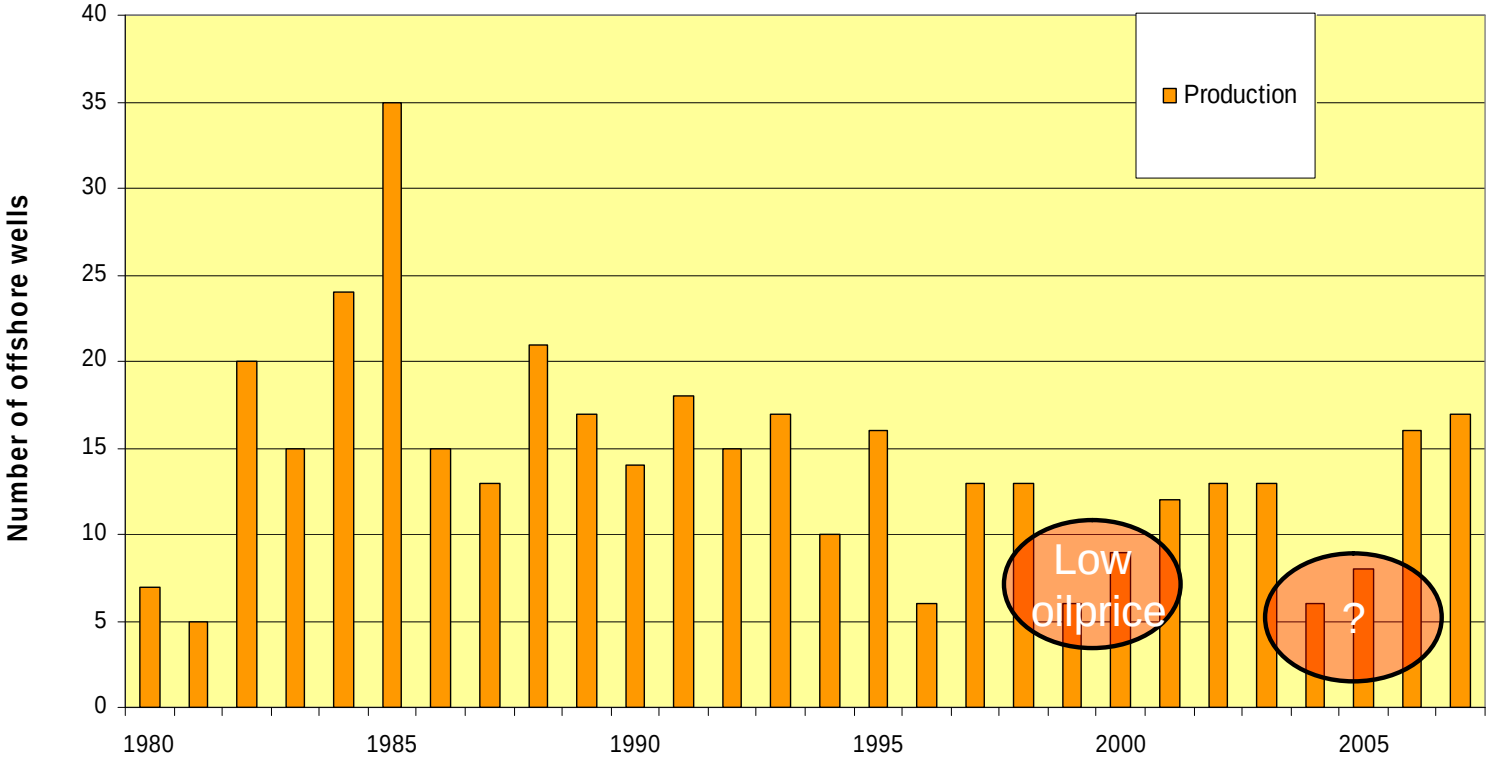
Let's assume

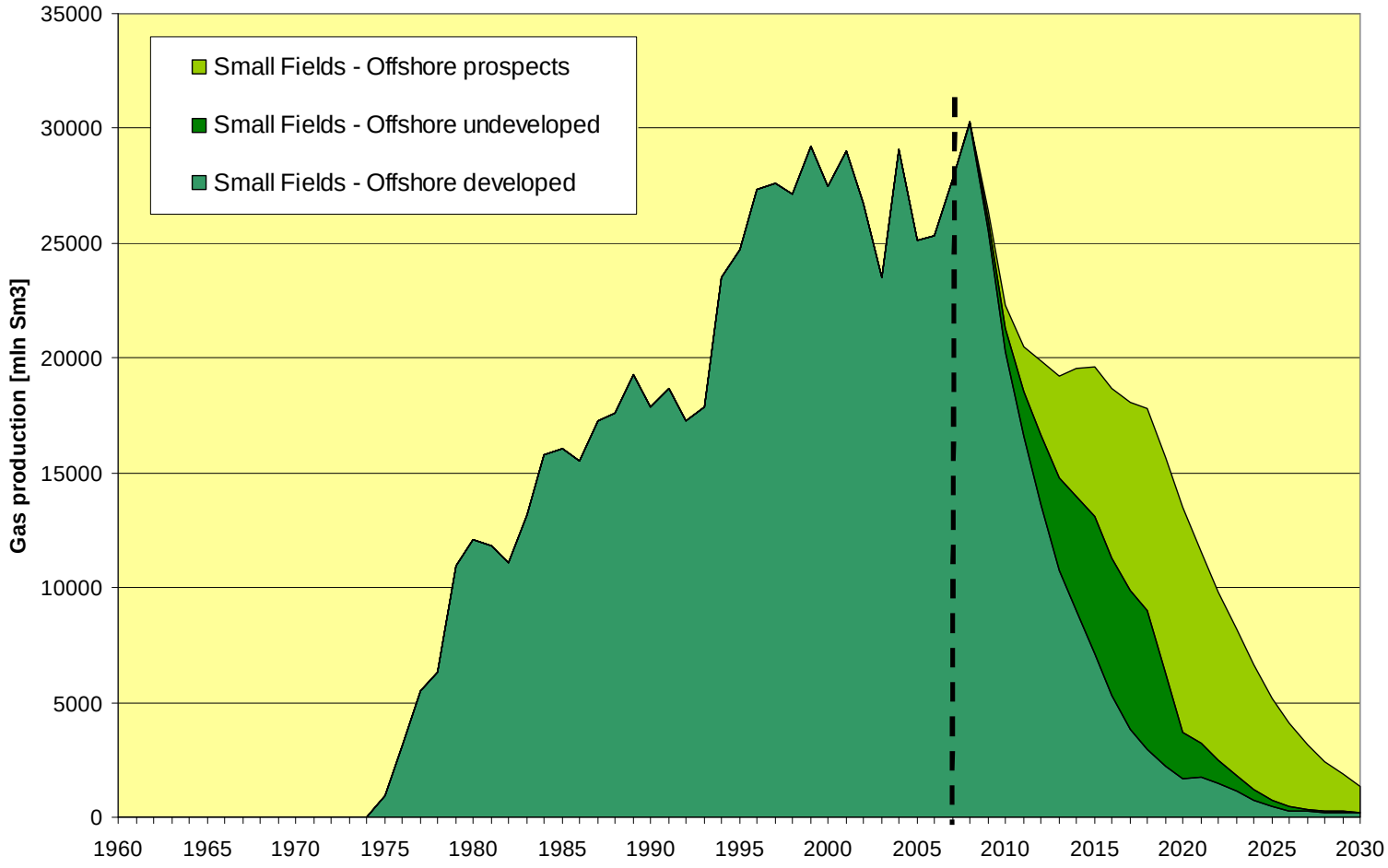
- It takes on average 5 years from idea generation to start of production
- The smaller gas fields produce about 5-10 years

- This means that prospects need to be drilled in the next 5 to 10 years max
- And with some 100 prospects this requires 10-15 exploration wells per year!

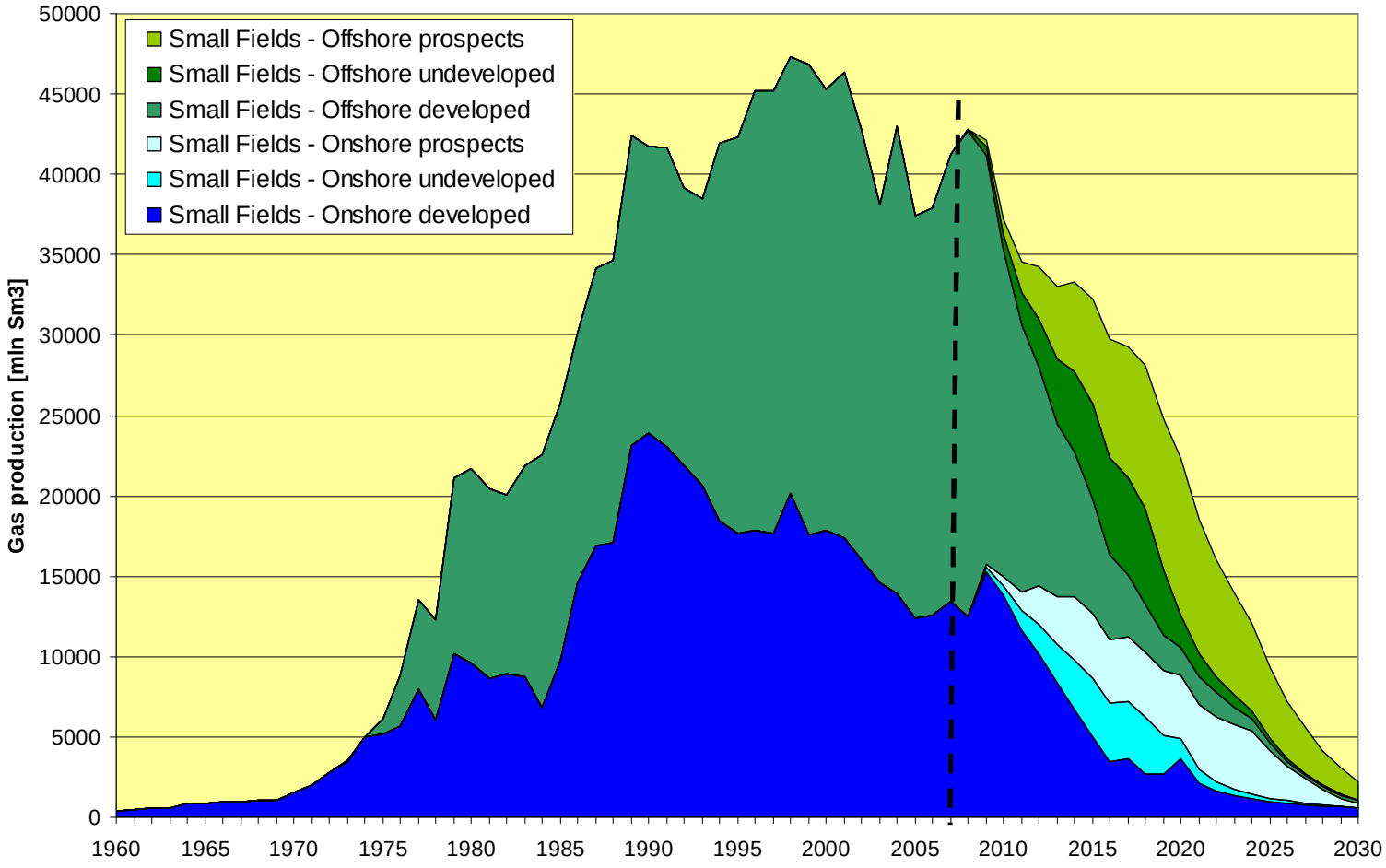
Drilling Activity Offshore



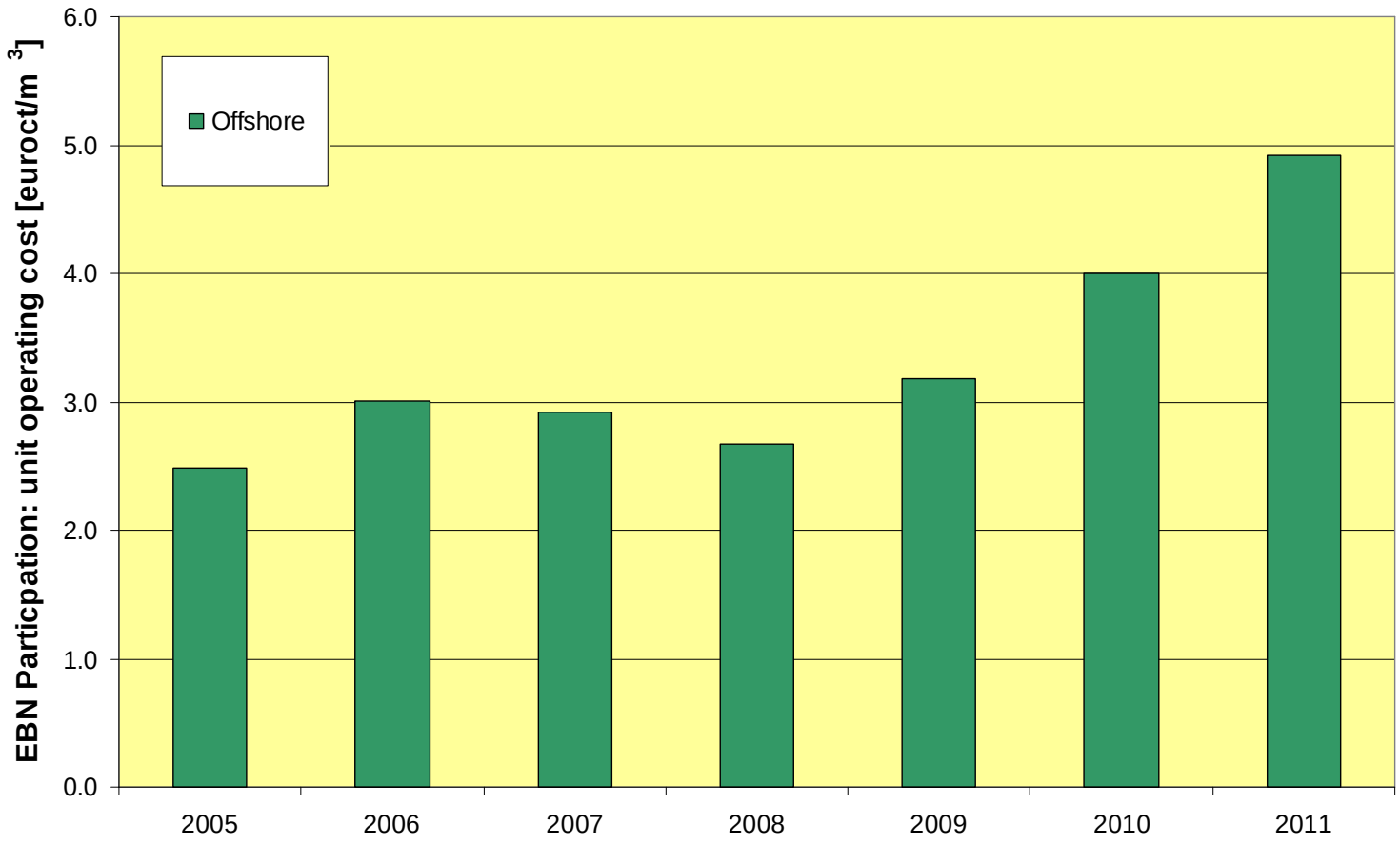
Offshore Production Outlook



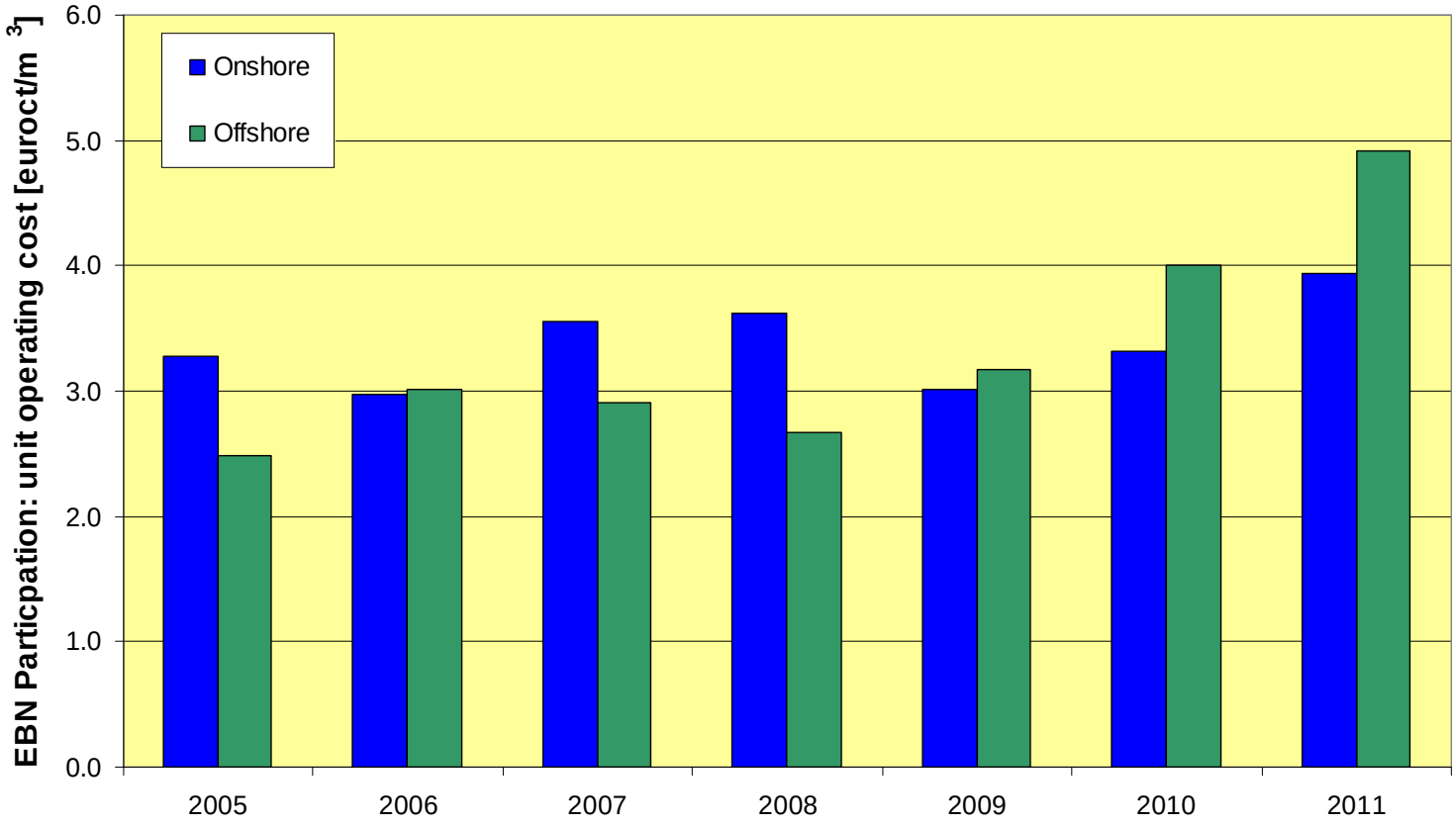
Small Fields Production Outlook



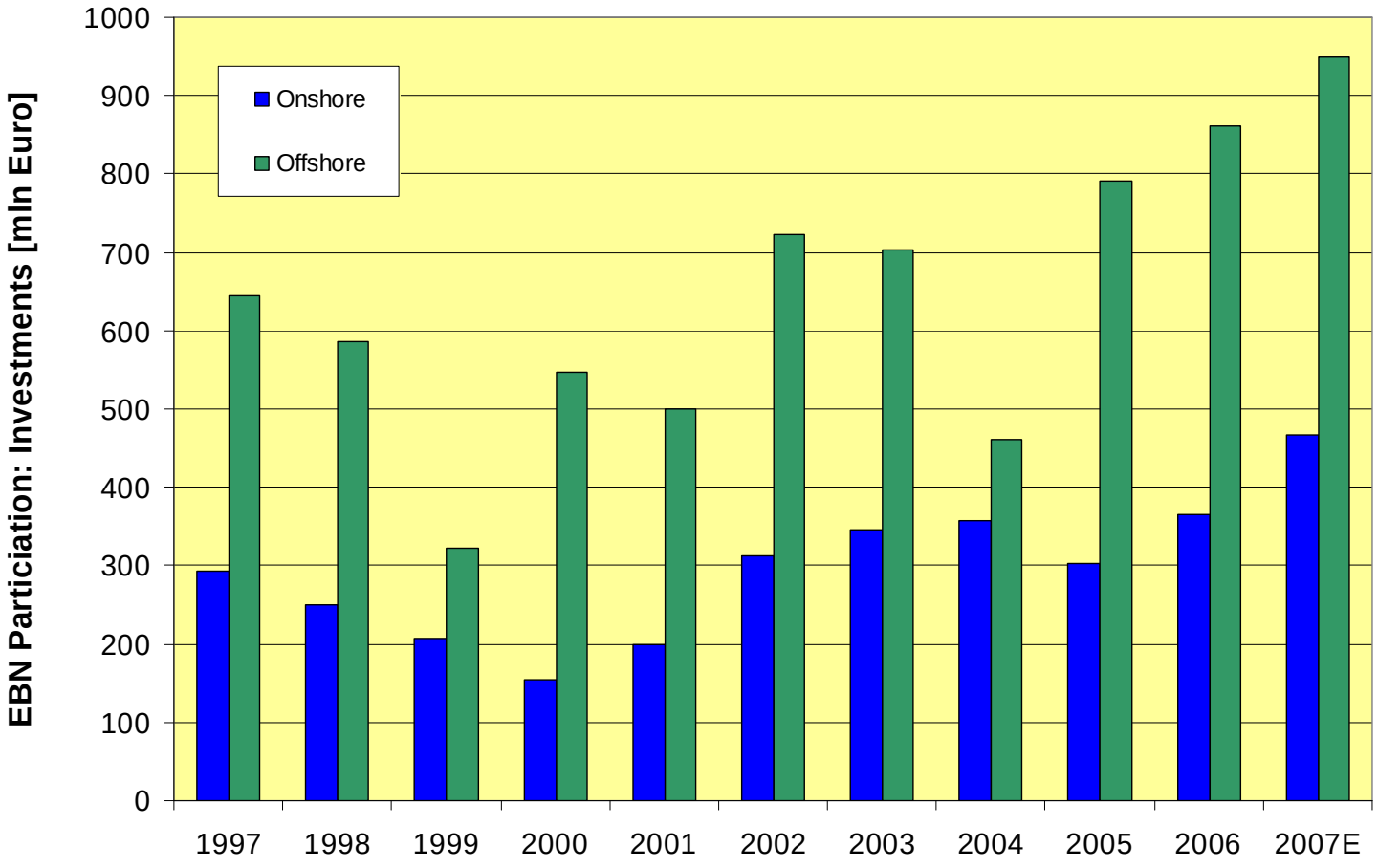
Operating Expenditure Offshore



Gas Operating Expenditure



Gas Capital Expenditure



Technology Challenge (1)

- Reservoirs
  - Size → smaller than 1 bcm
  - Tight gas reservoirs → productivity, multiple fracs
  - Carboniferous → connectivity
  - Poor(er) gas quality → blending or CO_2 removal

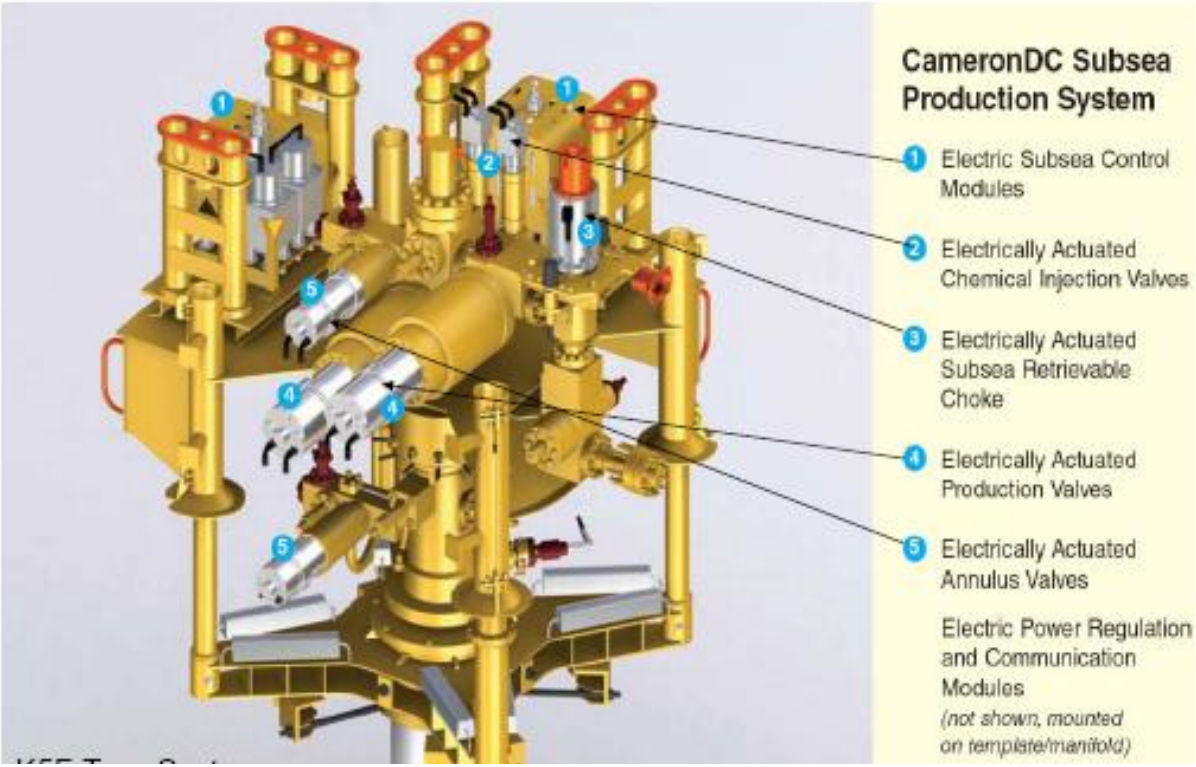
- Operations
  - Operating costs → maintenance, unmanning
  - Compression (wellhead) → suction pressure <5 bar
  - Liquid loading → minimum flow rate per well
  - Abandonment → postponement, cheapest technology

Technology Challenge (1)

Technology Challenge (2)

- Development Costs
  - Pipelay → small size from supply boat
  - Subsea → more reliable system (all electric), well intervention
  - Drilling → well design, multi-laterals, coiled tubing
  - Low cost platform → jack-up, monotower, re-use

Technology Challenge (2)



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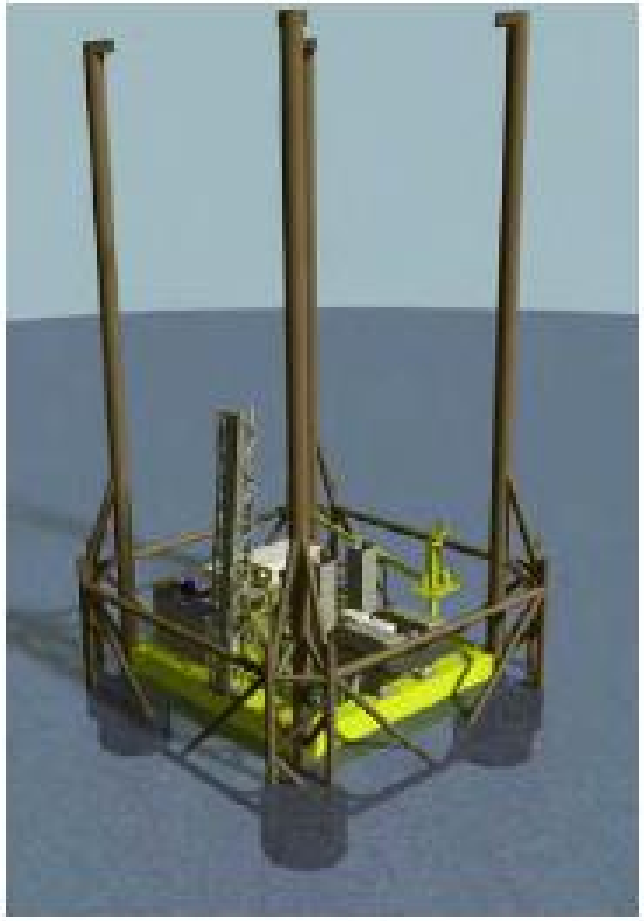

MOAB type platform

Technology Challenge (2)

EBN information

www.ebn.nl