Ofgem, distributed generation and innovation: recent initiatives

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Overview

- Role of Ofgem
- Outline of some barriers to distributed generation (DG)
- New measures to provide incentives for DG
- Results so far

Ofgem's role in regulation and innovation

- Duties: cost effective operation
- Monopoly Distribution Network Operators (DNOs) mainly regulated through 5 yearly price controls
  - Main focus 2005 - 2010
- But has also recognised the role of networks in ensuring security of supply and meeting Government targets for renewables and CHP
  - How to enable more DG cost effectively?

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Innovation in distribution networks

- Currently ‘passive’
  - Power shipped from transmission network to consumer
  - Generation on distribution networks not controlled – it operates outside the main system
- More DG could imply more active management
  - Voltage control, fault levels, managing power flows
  - Longer term: managing generation and load, self-controlling areas of the network, participation from individual consumers

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Innovation/DG in the price control

- Emphasis on cost reduction
- Income largely driven by asset base
- R&D declined since privatisation
- Value of DG not reflected
- “Under the present price control rules there is no financial incentive for the DNOs to connect distributed generation to their networks. We therefore believe that the regulatory framework needs to be amended so that the DNOs connect and use higher levels of distributed generation” (DTI 2003, paras 4.21 – 22)

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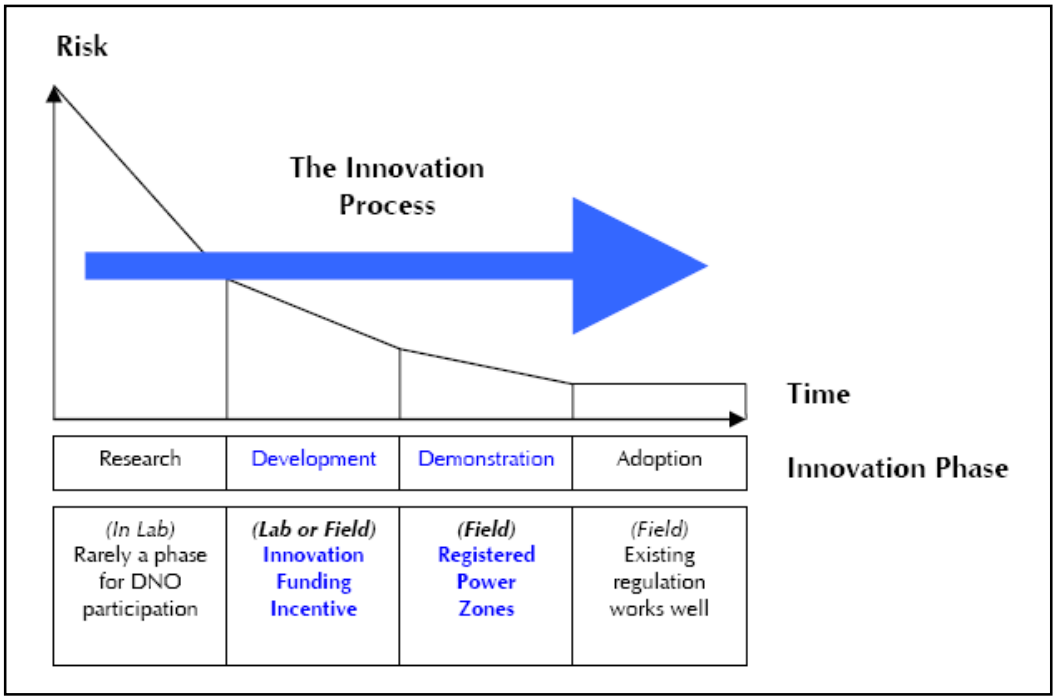
2005 – 2010 price control

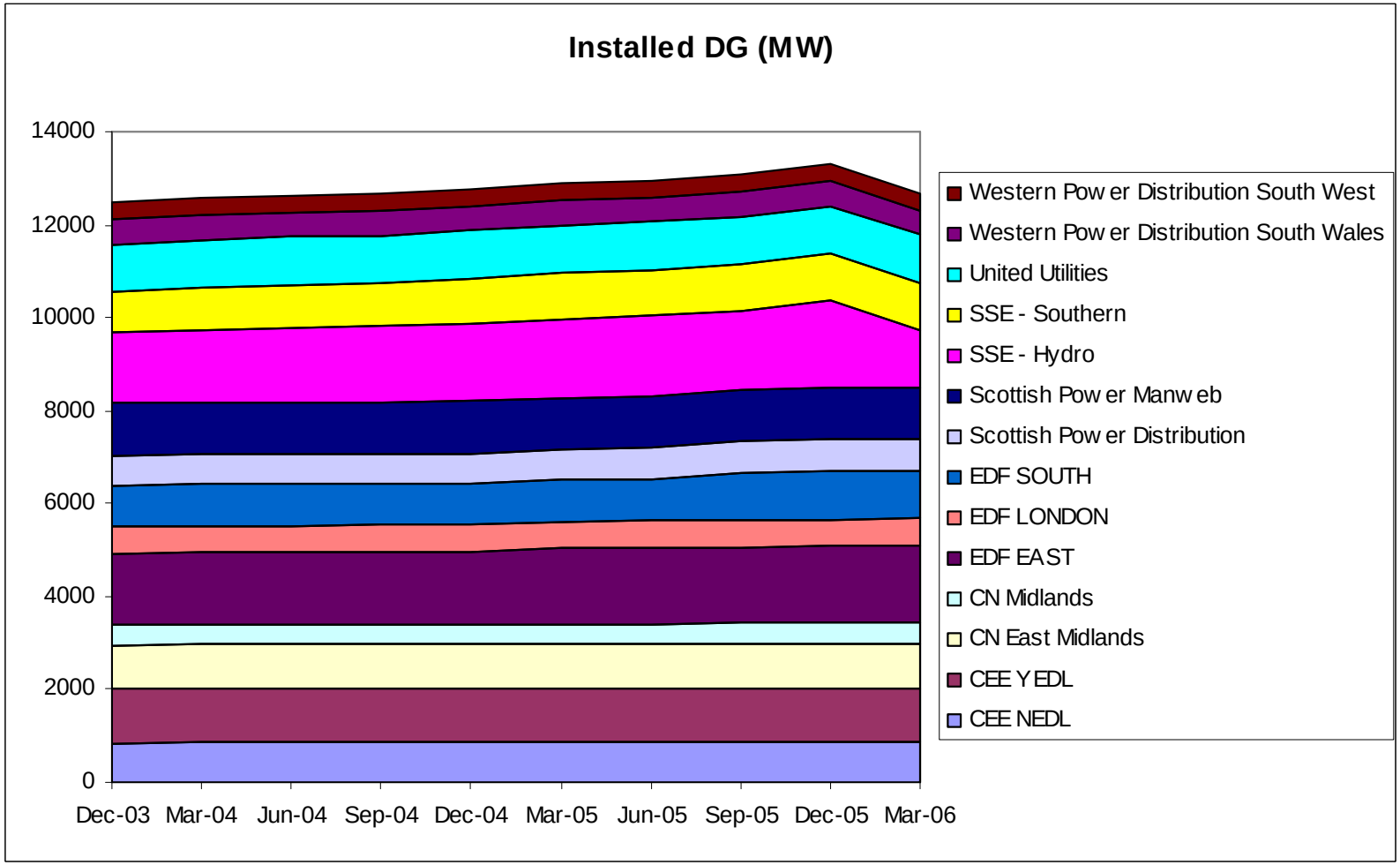
- Wide DNO consultation
- Removal/adjustment of some barriers
- 3 specific incentives for DNOs:
  - DG incentive: shallow connection charges and premium use of system charge (£1.5/kW/yr)
  - Innovation Funding Incentive: up to 0.5% of network revenue
  - Registered Power Zones: sector of network for demonstration of innovative solutions for new DG. Additional premium (£3/kW/yr). Revenue limit of £0.5 million/yr
- Introduced 1 April 2005

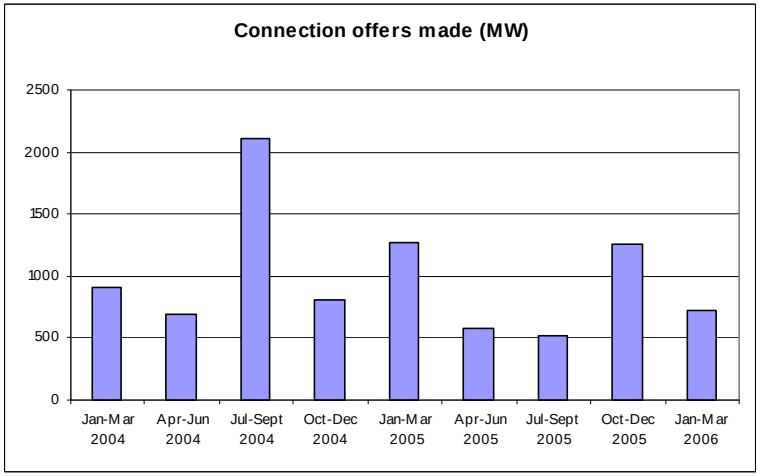
Ofgem view of innovation

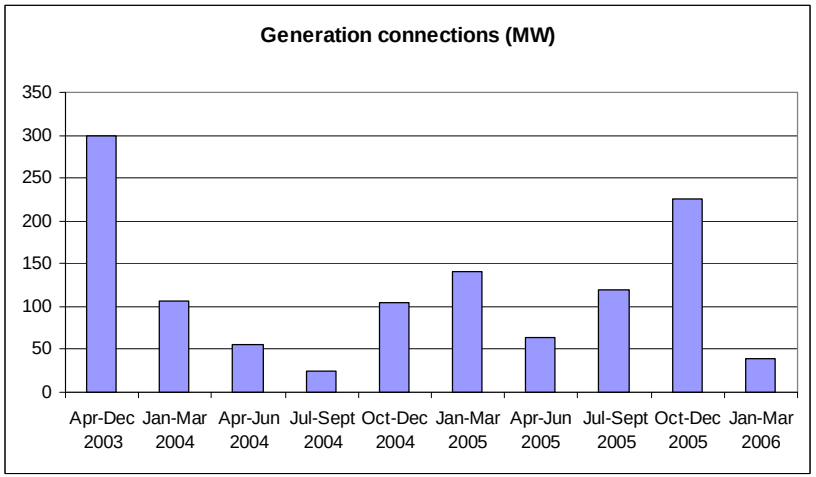


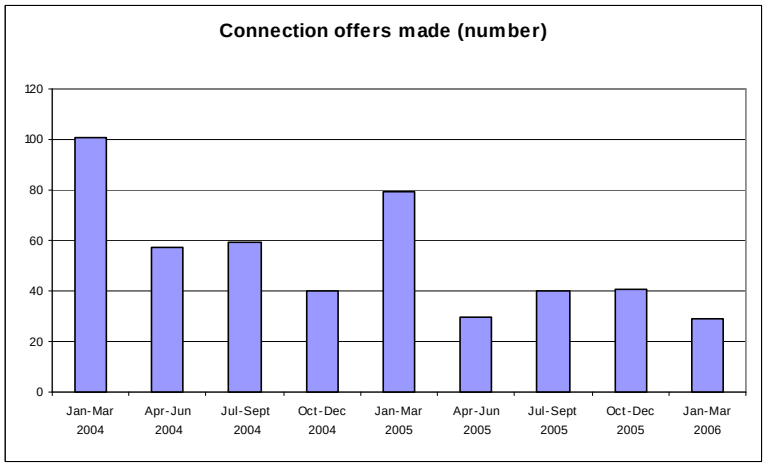
- *"The use of a piece of equipment of genuinely new design could alone constitute material innovation. This would not extend to the incremental development of existing technology. It may be appropriate for more than one RPZ to be justified in relation to a new piece of equipment if the specific application or duty of the equipment was sufficiently different." [ENA p 20]*

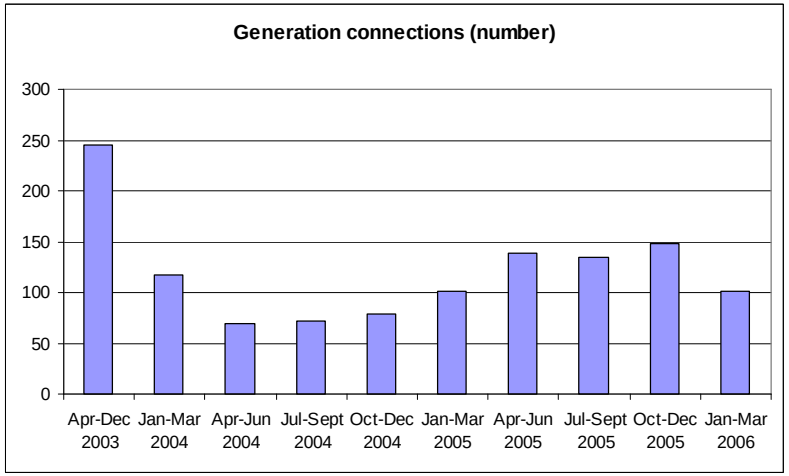
Early results: DG installed




Connection offers made (MW)
2500
2000
1500
1000
500
0
Jan-Mar 2004
Apr-Jun 2004
Jul-Sept 2004
Oct-Dec 2004
Jan-Mar 2005
Apr-Jun 2005
Jul-Sept 2005
Oct-Dec 2005
Jan-Mar 2006


Generation connections (MW)
350
300
250
200
150
100
50
0
Apr-Dec 2003
Jan-Mar 2004
Apr-Jun 2004
Jul-Sept 2004
Oct-Dec 2004
Jan-Mar 2005
Apr-Jun 2005
Jul-Sept 2005
Oct-Dec 2005
Jan-Mar 2006


Connection offers made (number)
120
100
80
60
40
20
0
Jan-Mar 2004
Apr-Jun 2004
Jul-Sept 2004
Oct-Dec 2004
Jan-Mar 2005
Apr-Jun 2005
Jul-Sept 2005
Oct-Dec 2005
Jan-Mar 2006


Generation connections (number)
300
250
200
150
100
50
0
Apr-Dec 2003
Jan-Mar 2004
Apr-Jun 2004
Jul-Sept 2004
Oct-Dec 2004
Jan-Mar 2005
Apr-Jun 2005
Jul-Sept 2005
Oct-Dec 2005
Jan-Mar 2006

IFIs

- DNOs supportive of scheme, but none spend up to the 0.5% of revenue cap – range from less than 0.1 – 0.36%
- Concentrate on lifetime extension for assets rather than shift to more active networks
- Constraints:
  - Internal expertise
  - Uncertainty about length of scheme
  - Keeping the benefits of innovation

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Registered Power Zones

- 3 RPZs registered so far:
  - No new generation connected in 2
  - Orkney ANM scheme the most innovative
- Constraints:
  - Too limited in terms of turnover?
    - Don’t interest management
    - Can’t connect big schemes
  - Disconnect between network upgrade needs and generator siting priorities
  - Can’t replicate innovation
  - Risk of stranded assets?

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Next steps

- First attempt by Ofgem to encourage innovation and technical change
  - Review of IFIs and RPZs end 2006
- Possible adjustments:
  - Certainty on timescales
  - Differentiate between lifetime extension and ANM measures
  - Expand potential RPZ revenue
  - Allow more learning in RPZs
  - Engage generators