The UK energy system: the challenge of institutional inertia

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Does the new government mean business for solar?
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What institutions matter for DNOs?

Economic regulation (i.e. RPI-X, RIIO)

Network codes and standards (DCUSA, D-Code, ER P2, SEC)

What DNOs want to do

Distribution Network Operators

What DNOs can do

Network outcomes
RIIO-ED1

- Intended to incentivise greater innovation
  - LCNF extended + new funding for transferring lessons to BAU investment
  - Innovation strategy required for fast-tracking
  - Longer price control period
  - Capex bias addressed by change in RAV additions
  - Greater engagement with customers
  - More output targets and incentives
- But DNOs still taking a cautious view
- Proposals for savings to 2023 from smart grid solutions
  \(<2\%\) of planned expenditure
RIIO-ED1: ‘best views’ of LCT growth

• ‘Best views’ of LCT growth required in RIIO-ED1 business plans
• Based on Transform model scenarios, in turn taken from 2011 Carbon Plan
• Major growth expected only after 2020
• DNO best views mostly based on ‘low’ scenarios, or in a few cases ‘low’ to ‘medium’
Solar PV

MW installed capacity

Sources: EA Technology 2012, DECC
Review mechanisms

• Re-openers
  – Load related expenditure reopener
    • Window May 2017 to May 2020
  – High value projects (£25m>) reopener
    • Window May 2019

• Mid-period review of output requirements
  – Aimed at responding to changes in government policy
  – Consultation starts 2018
Codes and standards

• Codes and standards matter
  – Charging methodologies (remain complex, opaque and unpredictable for potential DG investors)
  – Limits on short-term flexibility (e.g. on voltage management)

• Codes and standards for DNs designed for meeting loads

• Code modifications supporting micro-generation, DG, DSR have been difficult

• Engineering Regulations P2 planning standards review
  – Started Dec 2012, but likely to last several years
Code governance issues

• Initiative lies with industry (although Ofgem has veto)
• Codes and governance processes are highly complex and labour intensive
• Lack of sustainability objective (w. exception of Smart Energy Code)
• Large established actors predominate on modification panels; new actors not within codes
Explaining inertia

• Institutional design
  – Delegation of decision-making (once for economic regulation, twice for codes)

• Ideas
  – Economic efficiency

• Interests
  – Bulk of opportunities for RoR still (expected to be?) in meeting loads through conventional investment and operation
What to do?

• Short term challenge
  – Mechanisms for greater operational flexibility
“a highly fragmented institutional landscape” (IET 2013)

Source: Woodman 2014
What to do?

• Short term challenge
  – Mechanisms for greater operational flexibility

• Long-term
  – Mechanisms for greater coordination at a system level, e.g. IET ‘system architect’
  – Political consensus needed for stability of policy direction and pace (hard in UK?)
References

- Institute of Engineering and Technology (2013) Electricity Networks: Handling a shock to the system – IET position statement on the whole system challenges facing Britain’s electricity network IET: London