



Regulating Electricity Distribution Networks to Promote "Smart" Technologies and Innovation

Richard Druce

Associate Director

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From a DSO's perspective, what is needed to deliver smart measures efficiently and how can regulation help?

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Some enabling investments, like IT infrastructure

Corporate processes for trading-off the pros/cons of Opex and Capex solutions

Commercial mechanisms for buying "smart" services from network users

Efficient use of "smart" measures

The incentives imposed on DSOs through tariff regulation determine whether these conditions for the efficient use smart grid technologies are satisfied

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European regulatory models do not tend to encourage **NERA** smart grid deployment **Types of Regulatory Regimes Used Across** 19 EU Member States Many EU jurisdictions still 10 adopt regulatory methods that suffer from these shortcomings Most DSO's surveyed by Eurelectric say their regulatory frameworks do RoR-Regulation of Capex / Output based RoR-Regulation/ Regulation Cost Plus not support smart grid Cap Regulation investments Cap for OPEX GAPEX time shift unremedied CAPEX time shift problem solved **Does the Regulatory Regime Support Innovation?** fosters rather fosters neutral rather hampers urce: Electricity Distribution Investments: What Regulatory Framework Do We Need?, Eurelectric, 2014.

A range of reforms to regulatory arrangements to DSOs might help promote smart grid measures

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- Where there is cost-plus/rate-of-return regulation, new investment approval processes or planning standards should:
 - Incorporate non-network solutions to encourage or oblige DSOs to trade-off "smart" and traditional solutions.
 - Recognise anticipatory investments, possibly combined with higher rates of return, commensurate with the risks associated with these assets
- Where there is incentive regulation, regulators should offer equal treatment of Opex and Capex to remove Capex biases
- Innovation is also important in promoting smart grids:
 - Most European regulatory regimes provide weak incentives for innovation, so some are providing significant R&D funding
 - Some less developed markets may prefer a "fast follower" model
- Cost-reflective network pricing and procurement mechanisms for nonnetwork technologies will all help third parties to provide network services

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Contact Us

Richard Druce

Associate Director NERA—London +44 20 7659 8540 richard.druce@nera.com

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