



Network Technological Change (and potential barriers)

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Outcomes of the LENS project

- Broad range of plausible outcomes for networks in the longer term
 - relatively large amount of uncertainty
 - status quo does not look likely
 - stranding of assets might be more tangible in future
- Forces that both support and act against a unified network development approach are evident in the scenarios
- Information and communications infrastructure plays an important role across the scenarios supporting generation (all scales), network and demand side activities - and often a mix of all three
- Interaction and interdependence of different networks grows over time (transport, gas, electricity, heat, communications) – this adds complexity
- Closer operational and planning relationship between transmission and distribution entities likely under several scenarios

Network technology prospects

- Electricity network technologies that increase efficiency and effectiveness (e.g. some power electronics solutions, ICT, condition monitoring) are more likely to be well supported by current arrangements
- Newer and riskier technologies (e.g. power electronics, active network management, advanced automation, control room decision support) seem to be not as well incentivised – network operators fear CI/CML threatening investments
- Cross-cutting technologies (e.g. active network management, demand side management, energy storage, enhanced smart metering) have many advantages but are problematic under current arrangements
- Performance, efficiency, safety and environmental objectives have a strong technological angle – network operators have not seen themselves as technology/R&D/innovative organisations – things are changing – could more be done?