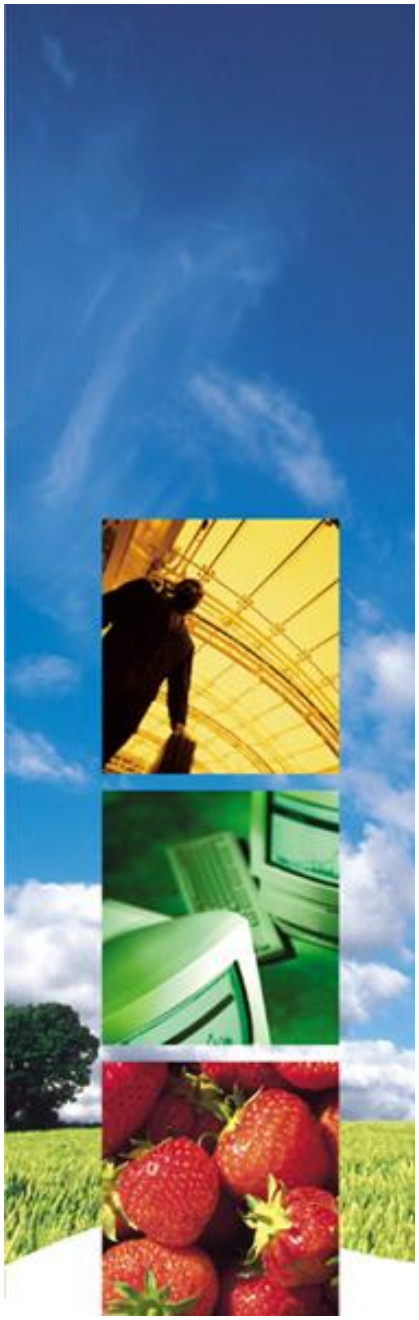

Country Land & Business Association
RURAL ECONOMY IS OUR BUSINESS

DNO connections: the customer perspective

Ofgem workshops 2011

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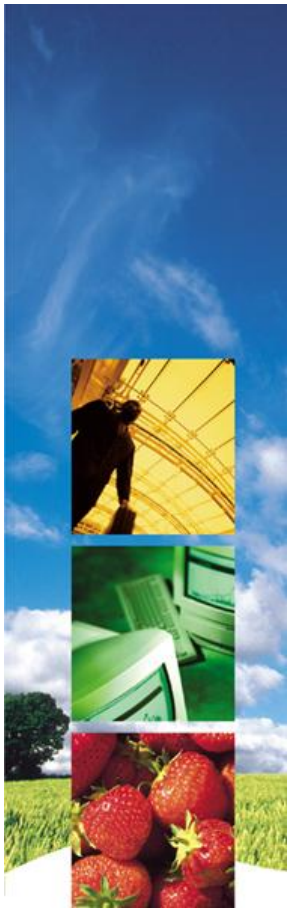
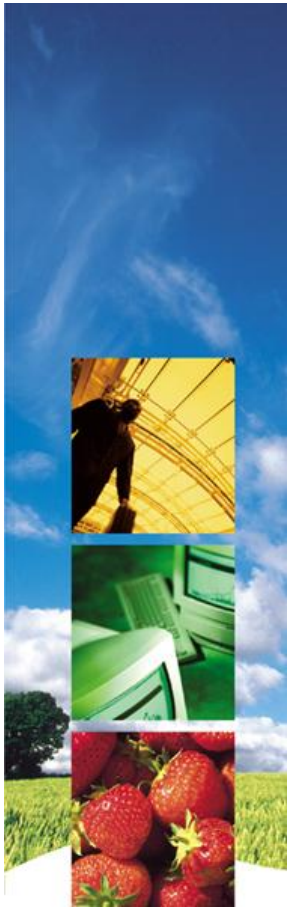
Chief Surveyor
CLA



The challenge

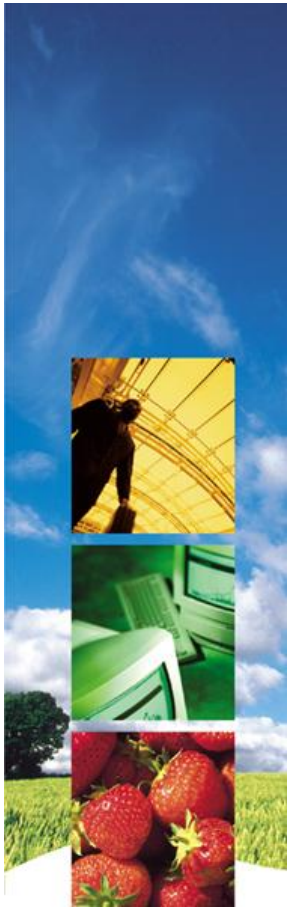
- Rising energy costs (up 40% in three years)
- Future rises inevitable
  - Power station replacements (25% by 2020)
  - Cheap oil running out (newer supplies more expensive to get - BP Florida deep drilling)
- Climate change
  - Climate Change Act of 2008
  - Future carbon taxes?

Distributed energy is part of the answer



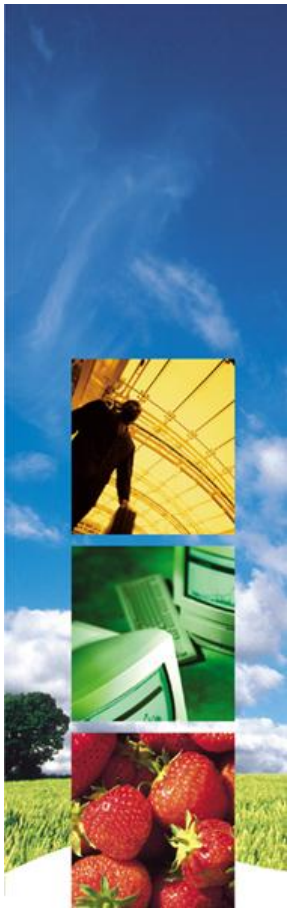
The opportunity

- Generous support for investment in renewable electricity (FIT)
- Access to capital and entrepreneurial skills
- Access to resources for delivering generation (wind, sun, biomass, water, land and buildings)
- Flexible in choice of system and output
- But **not** mobile: customers want connections where they are (They are not developers with a choice of sites)
- Lack of understanding and communication with grid owners.



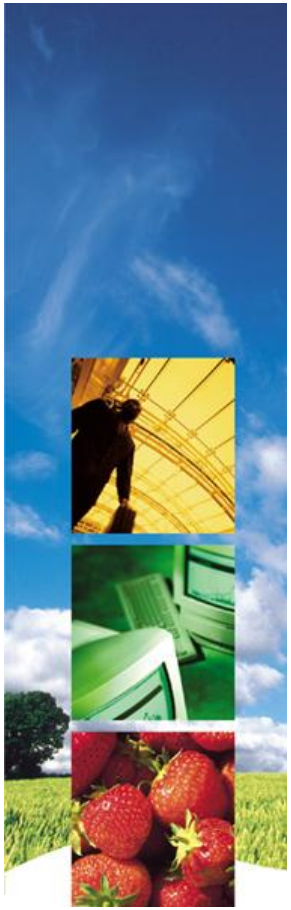
The analysis

- Distribution grid designed to meet supply (top down) for the lowest cost
- Higher voltages drive flows to the end of the line
- Resilience built to meet demand: no spare capacity (save by accident)
- Monopoly businesses with insufficient incentive to invest in building distribution resilience to meet future demand
- Regulation that puts the entire cost of re-engineering the system onto the generator as an up-front cost
- Poor customer service/ uneducated customers.



The customer

- Differentiation of customers
- Electrical skills levels – expert or first timer?
- Obvious preference for DNO engineers to engage with customers who speak their language
- Poor customer service for the uninitiated?

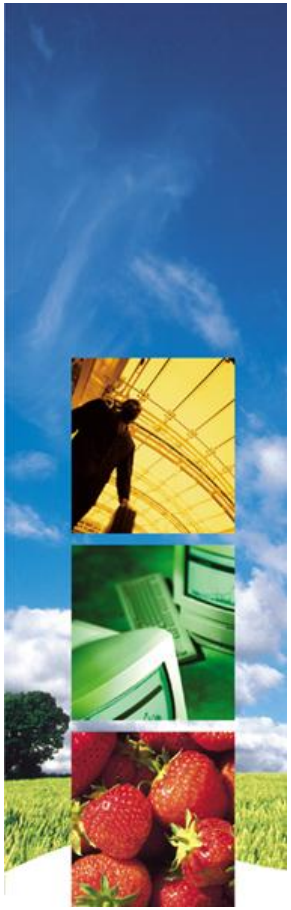


Case study: 1.2MW AD

- Initial budget estimate (without site visit or discussion) £675,000 (approx 30% capex)
- Customer had to engage consultant
- Negotiations took 3 months
- Revised budget quotation £350,000
- Consultant estimate real cost only £150,000 if competition open for contestible works (3.5km cabling)

Timescale if you accept a quotation

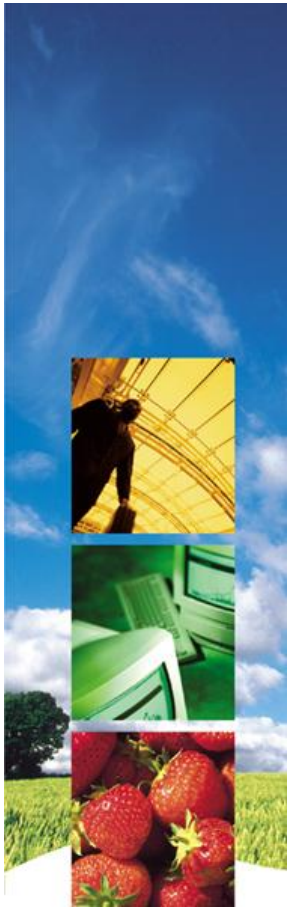
If you accept a quotation from us, we may need up to 18 Months to provide the connection particularly if difficulties are encountered in obtaining the necessary consents, wayleaves, materials, etc.



FIT

- No guarantee until project complete, connected and registered
- Emergency review cut rates from 1.8.11 for large solar – much uncertainty, need for speed/ certainty
- Lenders now very cautious
- All rates under review (probably downwards) from 1.4.12

Grid connection takes (too much) time



Project planning

Timescales

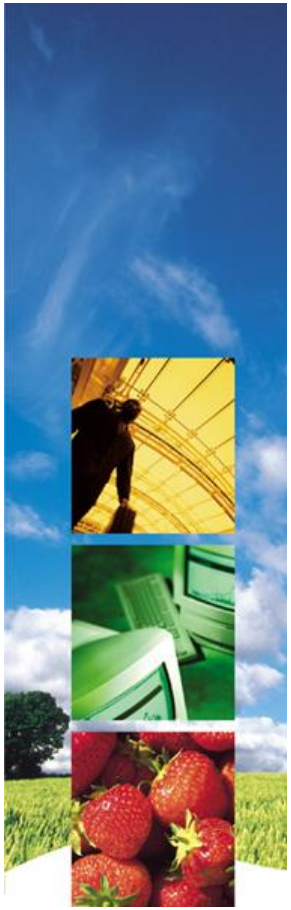
- Long lead times for planning consent (EIA etc)
- Long lead times for anenometry for wind
- Long lead times for equipment supply

Timescale is externally driven: not in control of customer

- But grid connection quotes valid only 3 months

Project can be sized to suit available grid connection

- But application process not iterative: no discovery of optimum scale



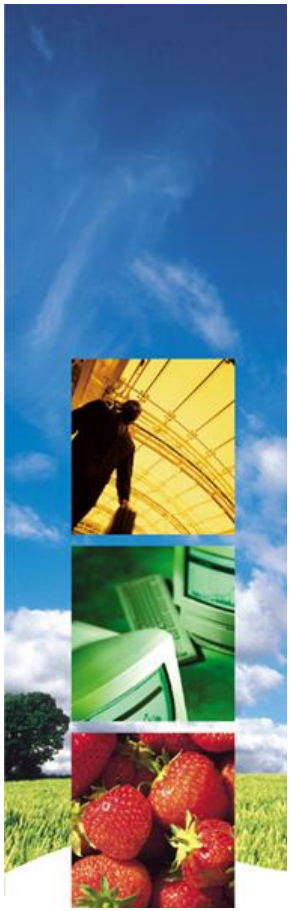
Information

Asymmetry

- DNO has monopoly of grid capacity info
- DNO has established relationships with preferred suppliers who can set prices (even where works contestible)
- and may have monopoly supply of apparatus
- Budget quotations inadequate

Customer service

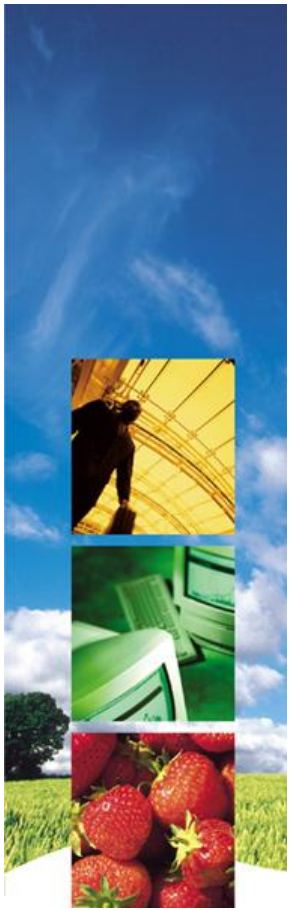
- No evident ambition to enable grid connection
- Application process not user friendly
- Lack of explanation/advice



Case study: best practice?

CE electric proposals for open access to information

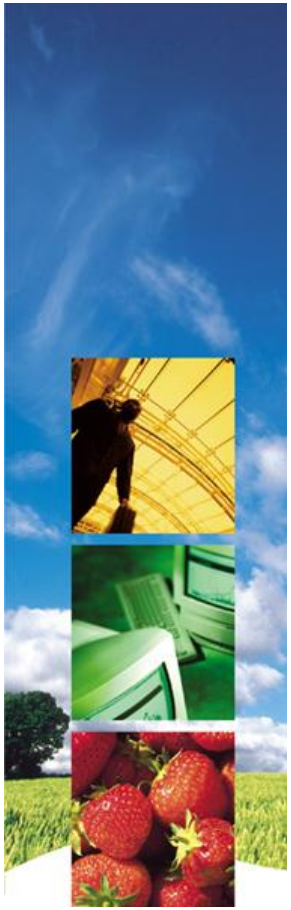
- Plans for improving the information on website
- Identifying current capacity in local network for new connections and interactive web location tool
- Identifying where local generation can assist resilience, reducing transmission costs
- **Web tool at early stages of planning**
- **But currently offering "surgeries" with CE network planners and managers so customers can resolve the connection issues face to face**



Case study: worst practice?

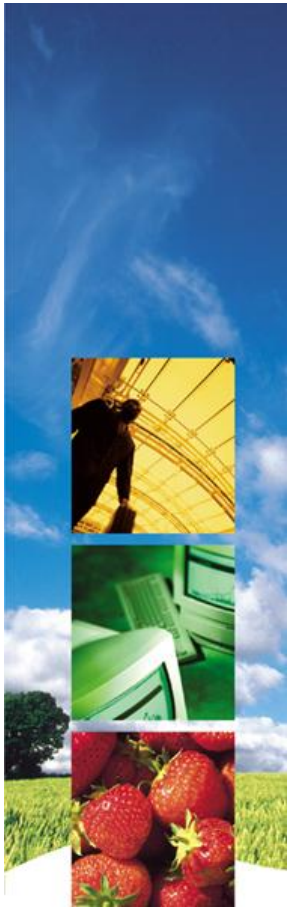
“Apart from costs my main complaints are:

- dreadful service - you always end up hanging on the phone & they never turn up when they say they are going to
- Advance payment - pay in advance or they won't schedule the work in & even when you pay they'll only give you an approximate date for the work - no other business would get away with this.
- absurdly long lead times for anything - to get them out, to get the quote & to get the work done.
- In any other industry they'd have been bust years ago”.



Case study: technology

"I recently lost a prolonged battle to get the DNO to adopt a new type of transformer, used elsewhere in the UK and preferable owing to low visual impact, ease of installation and maintenance. I was royally led round the houses on the subject (each department saying it was OK with them and passing the buck) but eventually gave up as I had to move on. In the meantime they reduced the connection charges for this scheme (40kVA on single phase) from £38,000 to £29,000, for reasons not clear. I shouldn't complain but the lack of transparency within DNOs is truly unhelpful".

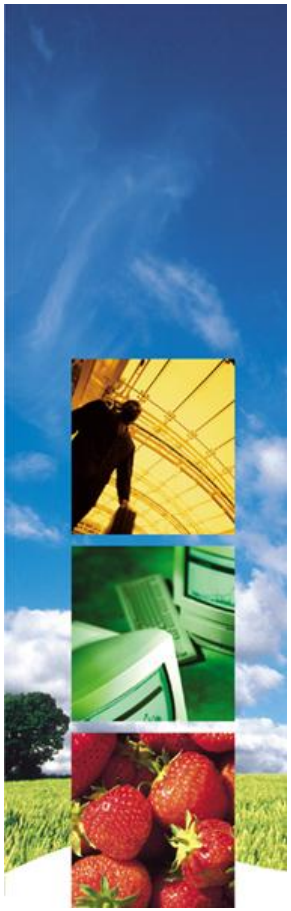


Case study: procedure

DNO has made it considerably harder to get formal price quotations. The application for these now demands a huge quantify of detailed information never asked for before and they are fiercely vetting for applications that miss information and refusing to allow them. Their preferred stance is that you pay for feasibility studies.

Timescales wholly unacceptable: three months to get a firm quotation (only after huge amounts of information provided) and up to 18 months to connect.

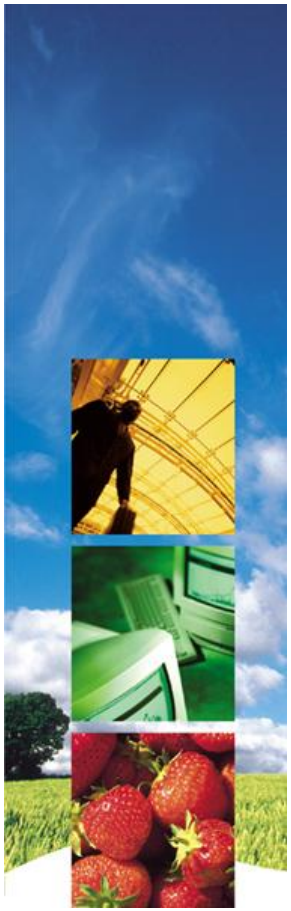
Metering separate from connection, imposes further delays and costs.



Cost

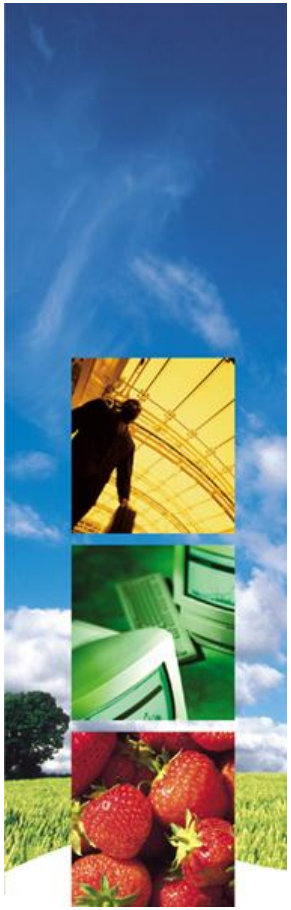
Inequitable

- Wholly accidentally, one customer who is in an area that has a big supply capacity will pay nothing while another may pay for the fact that the local grid is weak
- Customers treated as though the new generation is a gross addition to their demand, so pay twice (for their existing supply and for the generation connection)
- DNO charge out rates uncompetitive and costly
- Challenges to DNO connection quotes time consuming– no swift access to dispute resolution (and fear factor)



Cost: case studies

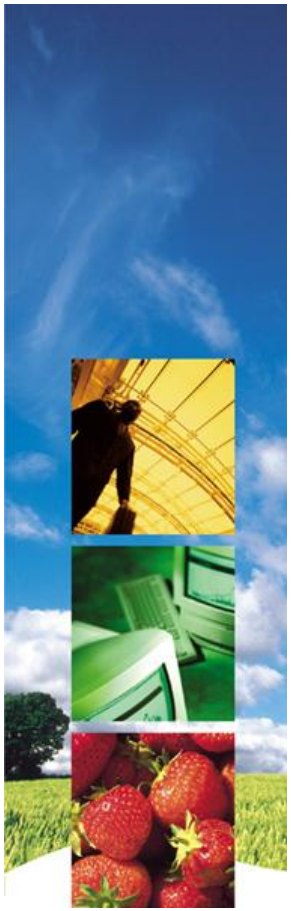
- **How much of the project is the result of the DG, and how much maintenance of existing LV connections?**
- non-contestable costs priced subjectively with little consistency e.g. sometimes they will charge you for a new pole as the existing one is ancient, other times they will decide they should bear this cost
- Local grid at capacity: only answer is a voltage regulator (cost £120,000) for the next 11kW proposal. (It is not the customer's fault the grid is at capacity)
- DNO require new separate LV supply on new route to supply neighbour to replace the one the customer paid for in 1954



Expectations: Ofgem

Equitable regulation -

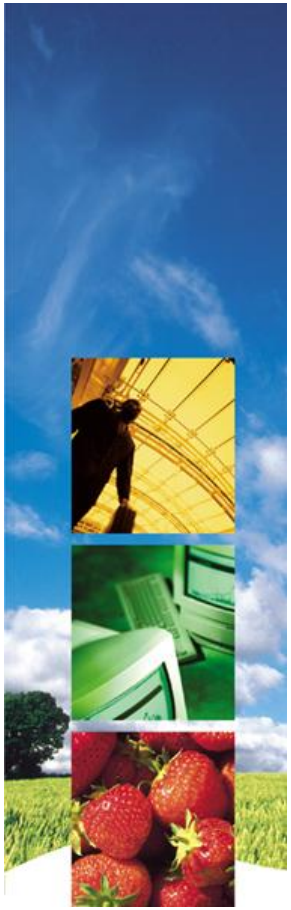
- Net charging for the impact distributed generation makes on the system: DG is reinforcement!
- Shallow charging so customers can amortise the net cost over time
- Clearer boundaries between connection and local upgrading/ maintenance of existing LV connections
- Better competition in connections: ensuring contestible works are open to any qualified electrician
- Bigger rewards to DNOs for speedy connections and customer service – carrots not sticks



Expectations: DNOs

Customer service

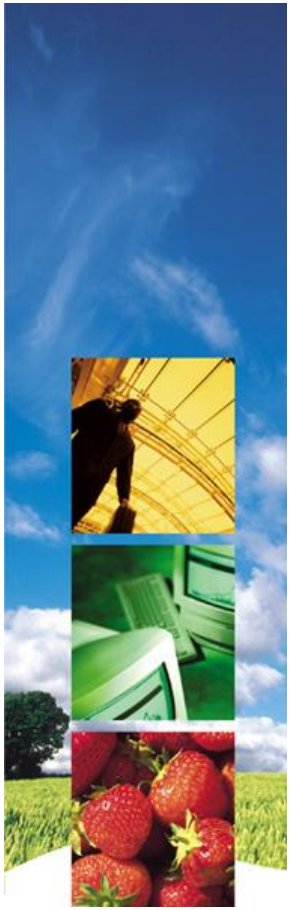
- Dedicated and accessible new “generation connection” teams with rewards for success in making connections
- A “partnership approach” to new generators
- Assistance and explanation to enable access to grid capacity information.
- Iterative planning of potential generation with customers
- Clear and detailed costings in quotations
- Low cost speedy dispute resolution



Expectations: DNOs

Charging

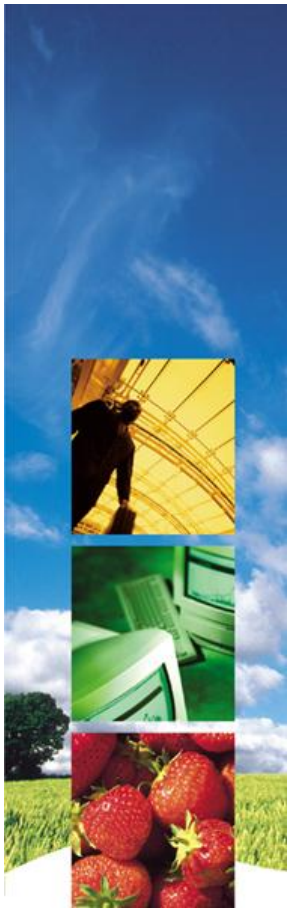
- DG connections treated as reinforcement
- Charging boundary drawn tightly to project
- Shallow charging
- Competitive contracting costs for non contestable works
- No charges for information on grid capacity and available access points
- No charges for indicative estimates/ feasibility studies



Expectations: DNOs

Technology

- Adoption of new voltage management tools (being discussed by ENA with no resolution yet)
- Adoption of new transformer types
- Open to new technology
- Quick decision making



Expectations: the future

The Electricity Internet ?

- A reactive/actively managed network
- 30% of electricity generated locally
- Rewards and technology to implement them for demand management at microgeneration level
- Open to new technology