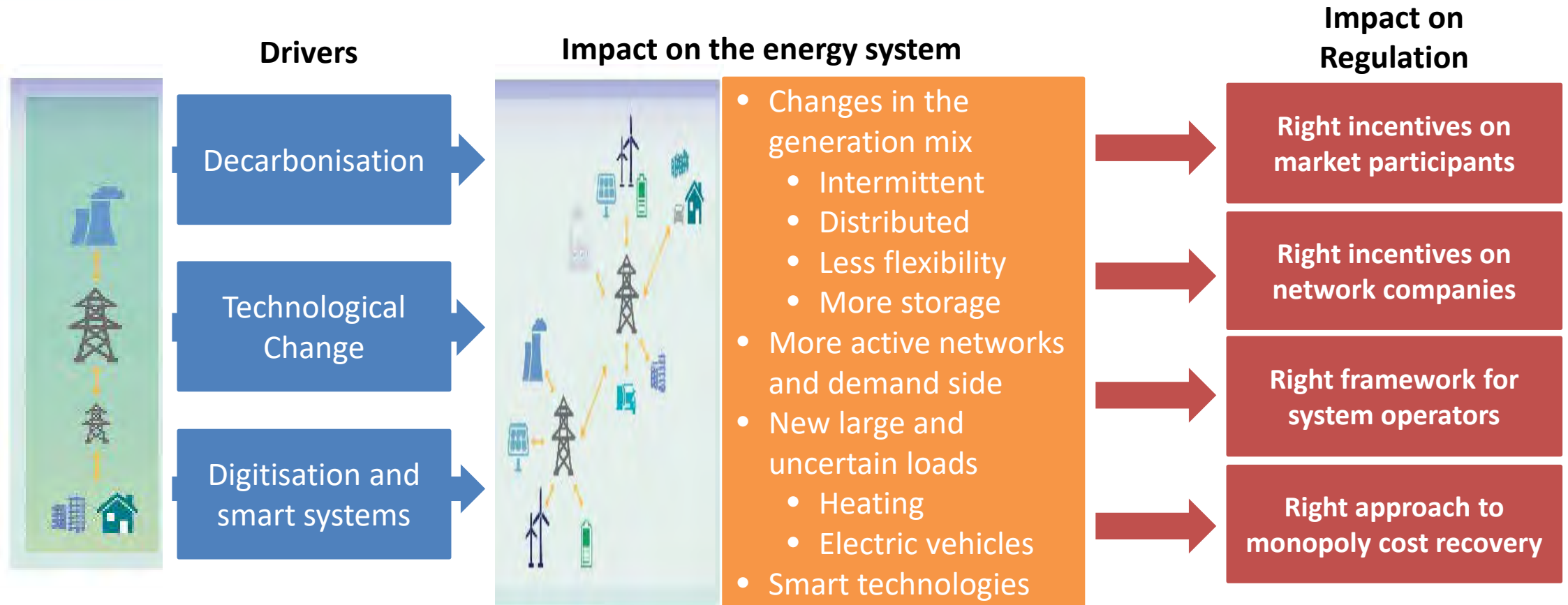


# Access & charging reforms enabling efficient future energy markets

13 December 2019



**Andrew Self**  
Deputy Director, Electricity Access & Charging



Facilitating change in future energy systems is an important part of our forward work programme

## Retail reforms

- Retail market reforms need to:
  - Ensure the retail market works well and facilitates the access of benefits of flexibility to consumers
  - Protect consumers, in particular those in vulnerable situations

## RIO2 price controls

- RIO2 incentivises overall efficiency through total expenditure ('totex') mechanism, which addresses bias toward capital over operating expenditure
- In RIO2, we will extend role of competition, ensure outputs include flexible options for meeting network needs and embed whole systems incentives

## Future Charging & Access

- Access reform will deliver better access right choice and stronger network charging signals to incentivise efficient use of the system and minimise future costs (called "network price signal flexibility")
- Targeted Charging Review (TCR) will reform residual charges and address Embedded Benefits

## System Operation reforms

- We want the Electricity System Operator (ESO) and Distribution Network Operators (DNOs) to:
  - Clarify boundaries & mitigate conflicts
  - Enable competitive markets, including through making data accessible
  - Neutrally tender network management and reinforcement requirements
  - Embed whole systems coordination

## Key enablers

- Smart meter rollout
- Half Hourly Settlement

The energy system transformation will create challenges and opportunities for our electricity networks. We are considering how electricity network access and charging should be reformed to address these changes and existing issues:

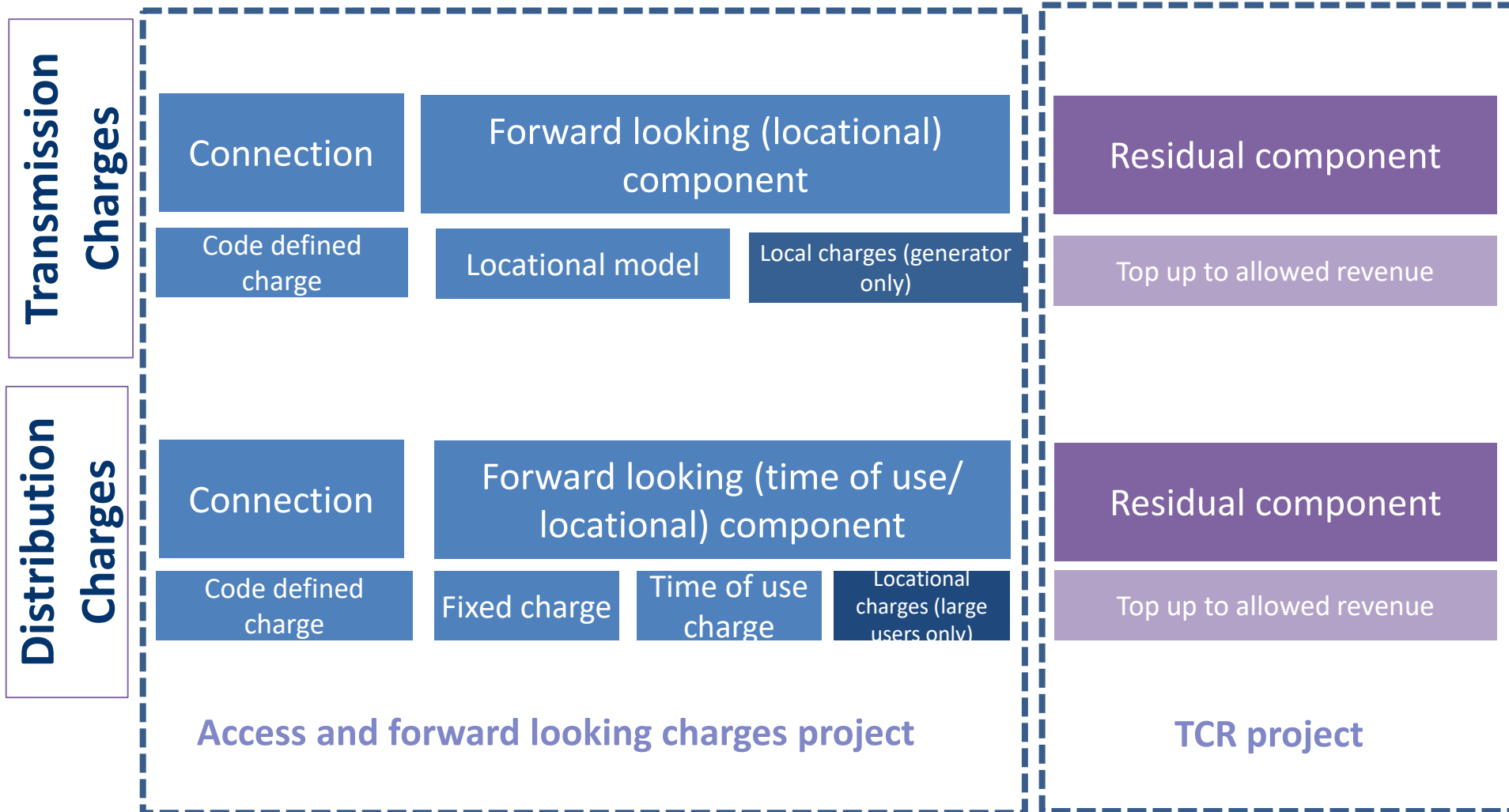
**Access and forward looking charging reform (Access SCR).** We want to get better value out of electricity networks by using them more efficiently and flexibly. If we do this, the system will be able to accommodate more electric vehicles and other new technology at lowest cost.

Mostly  
Ofgem -  
led

The **Targeted Charging Review (TCR).** This seeks to remove some of distortions which are sending the wrong signals and costing consumers money, and to allocate residual charges in a fairer way.

The **Balancing Services Charges Task Force.** The Electricity System Operator has led a review of balancing services charges in parallel with the Access reform and the TCR. It concluded that these charges recover costs rather than send signals.

ESO-  
led



*“The  
TCR”*

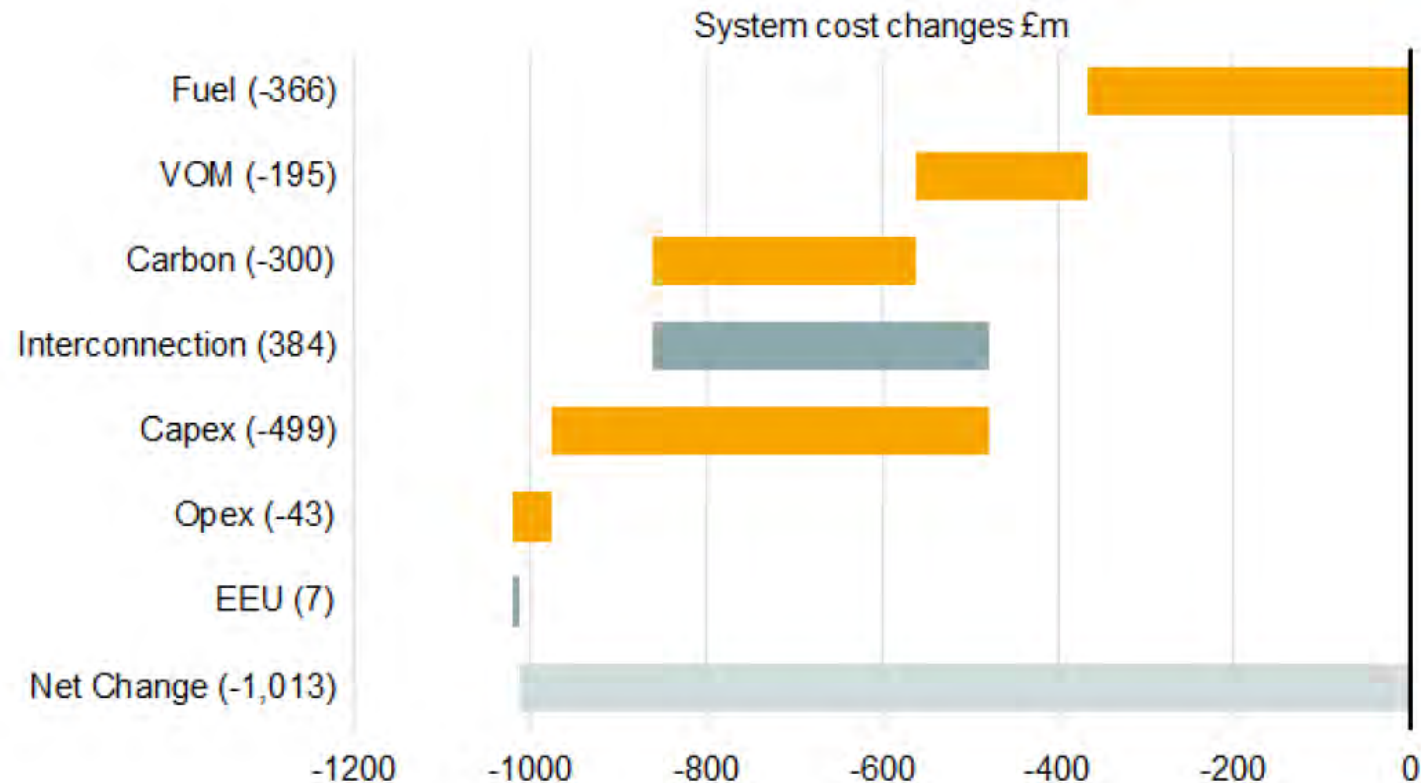
## What is the problem:

The current charging framework for recovering the costs of building, maintaining and operating our electricity networks is designed for a system with very different characteristics than today. As cost recovery charges, residual charges should not send signals to users to influence their behaviour.

## Under the current system, we believe that:

- Some users may make decisions based (in part) on residual charges. These decisions result in that user paying less towards the residual charges as a result, although their actions have not reduced the total level of costs which need to be recovered.
- The increase in availability and affordability of smaller scale generation means that some consumers can reduce their net demand by generating on-site or alternatively users can reduce their use when they know it is being measured for billing purposes.
- The current way that residual charges are set creates some incentives that could lead to a more expensive system overall.
- As more people take action to reduce their charges a greater proportion of the residual charges falls increasingly on groups of customers who are less able to take action.

- We decided that the **residual charges** should:
  - ✓ be paid by final demand only
  - ✓ be apportioned by consumption volumes at each voltage level
  - ✓ take the form of fixed charges based on agreed capacity or consumption volumes per site
- Which leads to significant system cost savings





*“Access and  
forward looking  
charges reform”*

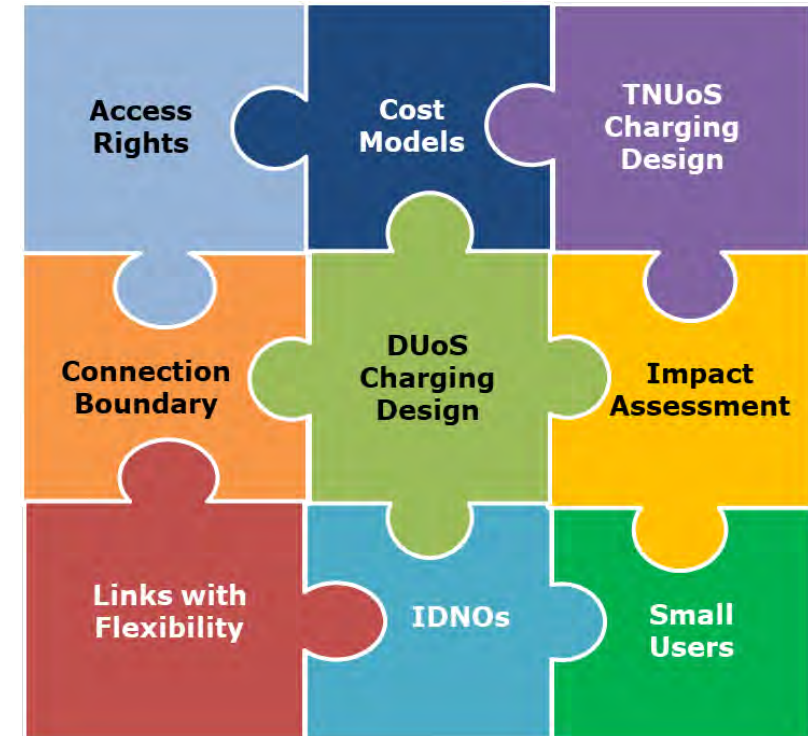
- > **Access arrangements** - the nature of users' access to the electricity networks (for example, when users can import/export electricity and how much) and how these rights are allocated.
- > **Forward-looking charges** – the type of ongoing electricity network charges which signal to users how their actions can either increase or decrease network costs in the future.

### Case for change:

- Increasing constraints caused by both generation and demand at distribution level, yet also increasing opportunity to mitigate these through flexibility. Potential savings of up to £4-15bn cumulatively to 2050 from reducing electricity network reinforcement.
- Substantially different approach across transmission/distribution and generation/demand boundaries means increasing risk of distorting investment and operational decisions

**Objective of Access Significant Code Review (SCR):** We want to ensure electricity networks are used efficiently and flexibly, reflecting users' needs and allowing consumers to benefit from new technologies and services while avoiding unnecessary costs on energy bills in general.

- 1. Connection Boundary** – considering whether there is merit in moving to a shallower connection boundary on the distribution networks
- 2. Access Rights** – reviewing the definition and choice of distribution and transmission access rights
- 3. Cost Models** – examining what costs should be in the forward looking signal, how costs vary by location and how they can be signalled to users
- 4. DUoS Charging Design** – assessing changes to how charges are designed to improve cost reflectivity and signals to users
- 5. TNUoS Charging Design** – assessing changes to the charge design for demand TNUoS and whether distribution users should face TNUoS charges
- 6. Small Users** – assessing whether the options can be applied to small users or amendments are required
- 7. Impact Assessment** – undertaking modelling to feed into the distributional, systems and behavioural impact of options



### Firmness of rights

This is the extent to which a user's access to the network can be restricted (physical firmness) and their eligibility for compensation (financial firmness) if it is restricted.

### Time-profiled rights

This would provide choices other than continuous, year-round access rights (eg 'peak' or 'off-peak' access).

### Shared access rights

Users across multiple sites in the same broad area obtain access to the whole network, up to a jointly agreed level.

### Other

- Short term rights - This would provide a choice for limited duration access (eg one year) where long term access is not immediately available or where the user does not want it.
- New access conditions - This could involve introducing conditions on access, for example 'use-it-or-lose-it' or 'use-it-or-sell-it'.



- We will publish our second working paper next week. [FutureChargingandAccess@ofgem.gov.uk](mailto:FutureChargingandAccess@ofgem.gov.uk)  
Contact us on
- We will continue to work with our Delivery Group and Challenge Group.
- We intend to determine a shortlist of options which we will assess in further detail early next year.
- We will consult on our draft SCR conclusions in summer 2020 and make a final decision in early 2021.
- Any changes will come into effect in April 2023.
- To keep up to date with all our work on Future Charging and Access - get added to the Charging Futures distribution list at <http://www.chargingfutures.com/sign-up/sign-up-and-future-events/>