

Ofgem Chairman David Gray's keynote speech for Ofgem's 'Future of Local Energy Event', Cardiff, March 14, 2018.

Introduction:

We are here today to talk about local energy in Wales and the future of Britain's energy system in a period of rapid change in how energy is generated and used.

This morning I saw an example of this at first hand when I visited Solcer House – a smart energy home that sends more electricity back to the grid than it takes from it.

It is a great example of what we can expect in the future.

Consumers and communities are already interacting with the energy system in different ways.

New entrants with new technologies are entering the energy market.

That is only going to increase in the future, helped by the ambitious targets that Wales has set for local and renewable generation.

Increasingly these developments are challenging arrangements which have existed since privatisation and I will be talking about what Ofgem is doing to make sure regulation keeps pace.

We need to break down any barriers that may be preventing new business models from entering the market while ensuring that customer interests are always protected.

This may lead to fundamental reform of the retail market arrangements so that new business models can compete more easily against traditional energy suppliers.

The role that network companies play in the energy system is already changing as a result of these developments.

We must make sure that they perform their role efficiently and that the cost of the networks is recovered fairly from users and consumers.

Significant investment is also needed in the networks so that we can have an efficient, flexible energy system in which local energy can play a full role.

That investment must be delivered at the lowest possible cost to consumers.

So I will finish by talking about our plans for tougher network price controls from 2021.

Wales

Wales now generates over 43 percent of its electricity consumption from renewables, contributed to by over 67,000 renewable energy projects.

The Welsh Government has set a target of Wales generating 70 per cent of its electricity consumption from renewable energy by 2030.

It has also set an expectation that from 2020 new renewable energy projects should have at least an element of local ownership and that by 2030 at least 1GW of renewable capacity should be locally owned.

Partnership working will play a role in helping to achieve these goals and reducing carbon emissions.

Solcer House is an example of that.

The Welsh School of Architecture led on designing and building it in partnership with several Welsh universities.

Completed in 2015, it was the first purpose built smart energy house of its kind. It is a prototype for meeting targets set by the UK Government for zero carbon housing.

The Welsh Government's Local Energy Service is another example of partnership working.

Set up in 2016 and led by the Energy Saving Trust, the service provides financial and technical support to help social enterprises and small and medium sized businesses across Wales to develop their own renewable energy schemes.

One of the organisations it has helped is Swansea Community Energy and Enterprise Scheme which is developing community-owned solar projects in Swansea.

Energy systems

I want to talk about what Ofgem can do to help Wales reach its goals for greater amounts of renewable and locally produced energy.

Electricity storage could play a more prominent role in solving supply and demand bottlenecks by taking excess generation from renewables off the grid during the day, and flowing it back onto the grid at times of peak demand.

In our smart systems and flexibility plan, which we developed jointly with Government last year, we committed to remove regulatory barriers to storage, and other new technologies.

The plan includes actions to ensure storage owners do not pay residual charges twice for taking electricity off the grid, and sending it back on to the networks.

I will talk more about these residual charges later.

We also expect distribution networks to improve the way they deal with connections for storage.

Ofgem will licence storage as a specific type of generator, so that it is not double - charged for the costs of Government environmental programmes, which are charged to end users.

We want to see storage services and other forms of flexibility such as demand side response competing in the power markets.

This is why we have said that monopoly network owners should not own or operate storage except in certain circumstances for example to keep customers on supply in the event of an outage.

Last summer we decided that the owner of several large solar sites in England could claim payments under the Government's Renewables Obligation subsidy scheme for all the renewable electricity generated, including any that is used to charge the storage devices.

So called 'co-location' of electricity storage and renewable generation makes for efficient use of grid infrastructure.

At the recently opened Pen y Cymoedd wind farm, Vattenfall is in the process of deploying a storage system which could also provide frequency response services to help balance the grid.

Innovation Link:

We want to encourage more innovation in the energy sector and in my introduction I mentioned that we want to support new business models.

Through our Innovation Link we have so far helped around 150 new business by offering a 'one stop shop' service to advise them on energy regulation.

They include Gower Power, a community led scheme supported by Juno Energy, seeking to supply local consumers with electricity.

The Innovation Link has also helped *Ynni Lleol Wnion* which is looking to supply electricity to consumers that are near to hydro-electric generation in North Wales.

Any innovators that want to use the service should get in touch at innovationlink@ofgem.gov.uk

The reason we want to encourage innovations is that it can improve consumers' experience of using energy.

New companies with fresh ideas could potentially deliver what consumers want better than traditional suppliers. Innovative products and services could also help customers to reduce their bills.

We need to make sure that regulation is not a barrier to these sorts of developments.

One point that is very clear from conversations we have had through the Innovation Link is that the burdens that some new entrants face in complying with the full-scale supply licence and the associated network codes are a substantial barrier.

Some of these new business models may not want to be an energy supplier in the conventional sense.

Remedying this may involve a break with the traditional 'supplier hub' model in which all relationships with consumers are routed through suppliers.

We have asked for views on this and will set out next steps before the summer

Network innovation:

Innovation is not just for new entrants.

Through our network price controls we provide specific funding to trial innovation.

An example is a trial by Western Power Distribution of software to help manage substations in parts of South Wales and provide data to local communities about the network.

Gas distribution networks also have to think about changing usage patterns on their networks.

There are increasing numbers of bio-methane producers injecting their gas straight on to the gas grids.

Some of the companies are using innovation funding to examine how they will manage this, and the role that natural gas blended with hydrogen can play.

Northern Gas Networks and Leeds City Council are working together to create the first compressed natural gas filling station in Leeds, to fuel the council's refuse vehicles.

Networks and connections

Network companies must also find smarter solutions to connecting local energy schemes using existing infrastructure.

One approach that has worked well in North and mid-Wales has involved generators that want to connect in the same area forming a consortium, which network operator SP Manweb can work with.

This has accelerated connections for around 700 MW of generation in the area because the costs of reinforcing the grid are shared between all those wishing to connect.

This is good progress – but we need to go further.

Smarter use of networks and making sure charges are spread fairly

As the energy system rapidly changes we need to make sure of two things:

- That electricity network capacity is being used as efficiently as possible
- And that the cost of the electricity networks is spread fairly among all consumers.

Around half of annual electricity network and grid balancing charges are 'forward-looking charges' which give users such as generators and some consumers, a price signal for connecting to and using the grid.

We think the way capacity is offered and used on the networks may need to be reformed.

The rights are allocated on a first come first served basis.

In some areas connections are only possible following investment in new network capacity – but new investment will not always be the best approach.

Some generators, such as renewables, and other users such as storage may not use their connection continually.

So the first thing we need to do is make sure that scarce capacity is used efficiently and that it is allocated to those who value it most.

To achieve this we need to think about whether capacity can be better priced. It could also be traded, or transferred between users. Doing so could speed up connections and cut the costs of the system for consumers.

We will set out our views later this year.

The remaining half of electricity network and balancing charges are the 'residual' or 'cost recovery' charges I mentioned earlier.

These charges are designed to 'top up' the revenue collected via the forward-looking charges.

They largely relate to historic or fixed costs for running the network and are based on net consumption for most users.

Therefore a customer that relies on the grid for all their electricity now pays a larger share of residual charges than someone who generates electricity themselves, for example with solar panels.

This is still the case even though that consumer still needs to take electricity from the grid on dark winter evenings when they can't use the panels.

As a result consumers who still rely on the grid for all their electricity including vulnerable households, pay an increasing share of the residual charges.

That does not seem right on grounds of fairness and efficiency.

So we are reviewing a range of options for a fairer approach which does not encourage behaviour by some users that simply drives up costs for other users.

In this, we need to think hard about what consumers who want to generate their own electricity should pay towards the cost of networks which will still be available to them all year round.

We will set out next steps later in the year.

RIIO 2

We must also make sure that overall network costs are no higher than they need to be.

Ofgem has a strong record on this, as our system of regulation has driven down the cost of the networks on bills.

For example, under our price controls the cost of transporting a unit of electricity around Britain has fallen by 17% since the mid 1990s, relative to the retail price index.

Our regulatory regime has delivered many other benefits to customers. Network companies have invested around £100 billion in national and local grids since 1990.

Power cuts on local networks have also almost halved since 2001.

We need to capitalise on our stable regulatory regime to ensure that consumers continue to benefit from high levels of investment, innovation and reliability at lowest cost.

The new "RIIO" price controls, introduced a few years ago, were an ambitious attempt to link the revenue companies can earn more directly to the outputs they must deliver for consumers and network users - and to provide sharp incentives for efficiency and innovation.

Some of this has worked well but we have learnt some lessons and, as we have recently announced, we will be setting tougher price controls for energy networks from 2021.

A key component of any price control is the cost of equity - the rate of return which the companies need to pay their shareholders.

There has been increasing evidence for some time now that investors will accept lower returns than have traditionally been allowed in the price controls.

So we are proposing a rate of between 3% and 5% for the cost of equity compared with 6% to 7% in the current controls.

We remain mindful of the need to encourage investment but we believe that even with lower returns our stable regime will continue to appeal to investors.

We are also proposing to refine how we set the cost of debt so that consumers continue to benefit from the fall in interest rates.

Taken together our proposals would result in savings of over £5 billion for consumers from 2021 (or about £15 to £25 per year in the dual fuel household bill)

The balance we need to achieve when setting the next price controls is clear:

- Network companies will need to keep investing so that we can move more quickly to a modern and flexible energy system.
- But at the same time, consumers must be confident that they are paying a fair price for the services networks offer.

So our message to network companies is simple – you must work harder to deliver good value to consumers.

We also want customers and network users to have a stronger voice in how the price controls are set. This includes proposals to set up independent user and consumer engagement groups to challenge companies' plans to ensure that they reflect what consumers want and are willing to pay for.

Conclusion

I've covered a lot of ground in a short time but I hope the message is clear.

The energy system is changing rapidly and we need to make sure that regulation can adapt so that it does not stand in the way of this.

We need to remove barriers to entry for new businesses and new ideas while making sure we are fully focussed on protecting consumers in this changing world.

In some areas we will be able to do this by adapting the regulatory regime. In others, more radical change may be required.

I hope that these changes will open up new opportunities here in Wales for consumers to benefit from the Welsh government's drive for sustainable, locally-sourced energy.