UK must put efficiency first to deliver on Clean Growth Strategy

I have spent the last seven years critiquing UK energy efficiency policy and asking for more policy ambition, which has gone downhill since 2010. For the first time, there are positive signs that energy efficiency is again getting the recognition it deserves. The Clean Growth Strategy, launched in October, is pretty ambitious when it comes to energy efficiency. Especially for buildings, the targets set out are laudable – all homes as far as possible should reach Energy Performance Certificate Band C by 2035, and all fuel poor homes by 2030.

In a recent research project I undertook with the UK Energy Research Centre we calculated that energy use in UK homes could be halved, technically, and reduced by one quarter cost-effectively. In our report, we called for a bold and long-term ambition to be set out in the Clean Growth Strategy. This has happened and it is an important first step. The government deserves credit for this and also for the excellent Call for Evidence on energy efficiency launched alongside the Clean Growth Strategy. The real work of policy implementation, however, begins now.

If we are serious about making energy efficiency a key pillar of UK energy policy a radical rethink is required. In a new report we explain how this goal can be attained by implementing the principle of ‘Efficiency First’.

What is Efficiency First?
More than £200bn will be invested in new energy supply infrastructure over the coming years, ultimately out of the pockets of energy consumers. But surprisingly little attention is devoted to reducing the need for such investment in the first place.

Before billions of consumer-funded pounds are locked into new energy supply infrastructure, we should ask where we can reduce the need for supply-side investment through energy efficiency and more flexible demand.

This decision-making logic has been coined Efficiency First. It is a principle applied to policymaking, planning, and investment in the energy sector. Put simply, it prioritises investments in customer-side efficiency resources (including end use energy efficiency and demand response) whenever they would cost less, or deliver more value, than investing in energy infrastructure, fuels, and supply alone.

But does this really work? Here’s a tangible example from New York: in 2014, one of the world’s oldest utility companies faced a $1.2bn substation upgrade because electricity demand for the Brooklyn-Queens area was increasingly putting stress on the distribution system. Most network companies would have simply approached the substation upgrade in the old-fashioned way. ConEd, however, decided to do things differently.

It designed a $200mn demand-side management programme instead. So far, participating customers include about 6,000 small businesses, 1,400 apartment blocks, and 8,800 homes. Participants have reduced load on the distribution system, while reducing their own energy bills, deferring the need to invest in new substation equipment. Now, ConEd is rolling out this successful approach across different neighbourhoods.

How can this be applied in the UK?
In the Regulatory Assistance Project’s (RAP’s) new report, we identify a number of key areas where we see potential for the Efficiency First principle to lower emissions, whilst also delivering a wide range of benefits associated with energy efficiency improvements. One area where Efficiency First can be applied imminently is network regulation – this is also one of the ideas on which the government consulted in its call for evidence on building a market for energy efficiency.

Ofgem, the Office of Gas and Electricity Markets, is currently reviewing the RIIO (Revenue = Incentives + Innovation + Outputs) price control framework for network companies. In its open letter to stakeholders, Ofgem stated that: ‘rolling out energy efficiency measures may well defer or avoid the need for costly network enhancement.’ Building on RIIO’s current outcomes and incentive structure, Ofgem should introduce additional incentives and/or primary and secondary deliverables that provide impetus for energy efficiency investment by the network companies. This would reduce the need for network investment – a prime example of Efficiency First in practice.

What needs to happen next?
The UK government should build on the momentum and carry out a systematic review of how the Efficiency First principle can be applied to all other energy policy areas and then draft an appropriate action plan.

Both Germany and the EU are already investigating where and how the Efficiency First principle should be applied across the energy system. In the UK, network regulation provides a promising opportunity to jump-start this process. Adopting ‘a hard look’ policy to examine and invest in Efficiency First is the most important step the government can take toward unlocking the huge reservoir of low cost, low carbon savings that sits untapped in every part of the UK.

The UK needs to meet the demand for energy services more efficiently and more flexibly on the demand side. This not only avoids more costly investments in energy infrastructure and fuel, it is essential to the cost-effective, timely decarbonisation of the economy.