Setting the stage for energy efficiency investment

9 January 2013

Massive investment in energy efficiency might well be a ‘no brainer’, but a whole suite of enabling conditions need to be put in place first – not least ‘investment-grade’ policy. **Steven Fawkes** sets out where to start

Energy efficiency is increasingly recognised as a key component of efforts to mitigate climate change. Even where there is scepticism about climate change, energy efficiency brings so many benefits – increased productivity and profitability, insulation from energy price volatility, job creation, greater energy security, increased comfort and reduced pollution – that adopting it should be a ‘no brainer’ everywhere.

Yet energy efficiency is still largely under-valued and under-developed.

To meet the challenge, and waken what Angela Merkel called "the sleeping giant" of efficiency, we need to increase three things: demand for energy efficiency; supply of energy efficiency goods and services; and the flow of finance into energy efficiency investment. To do this, governments need to implement ‘investment-grade’ energy efficiency policy.

The right conditions are needed to light up energy efficiency finance

So what should investment-grade energy efficiency policy look like? One of the first principles of such policies has to be that there is a long-term target with short- and medium-term intermediary targets. The overall target should be to achieve an increase in the underlying, historical rate of decline in energy intensity. Several countries, including China, have set such targets. Of course, energy intensity is driven by the structure of the economy as well as energy efficiency measures, but it is possible to disentangle the effects. Improving the rate of reduction of energy intensity has recently been put forward as a policy aim by the International Energy Agency (IEA)[1].

Under the macro energy intensity target, there needs to be a whole

range of indicators, covering different sectors (and sub-sectors), including energy productivity for each sector, (e.g. energy per production unit for different industrial sectors, energy per floor area for buildings), as well as total investment in energy efficiency.

Governments need to develop these indicators, in concert with the industrial sectors involved. These can often be developed by combining data that already exists, which can then be regularly reported. Within each sector, they can be used to gauge the success of sector specific programmes. As we all know, if it is not measured, it can't and won't be managed.

Given targets and measurement tools, what would be the other characteristics of an investment-grade energy efficiency policy? The triple aims of demand, supply and finance require a focus on what innovation theory calls enabling conditions.

As with measurement, the enabling conditions have to be thought through and understood for each sector of the economy and for each segment of each sector. This requires a deep understanding of the segments from a marketing perspective. Unlike successful sales organisations (whether selling to consumers or businesses), energy efficiency actors in business and policy generally do not truly understand market segmentation. Instead, we tend to stay at sector level e.g. housing, non-domestic buildings, industry, transport. (This is, incidentally, often true of energy supply companies.)

We need to increase three things: demand for energy efficiency; supply of energy efficiency goods and services; and the flow of finance

For any segment, the enabling conditions will be a combination of things that are best addressed by government (regulations for example), and things that are best addressed by the industry involved, but which can be encouraged, catalysed or supported by the government.

As well as sector/segment specific conditions, there will be some cross-sector actions that can be taken – including the elephant in the room, namely opening up the electricity market to encourage the use of the demand-side resource. Where this has been done, e.g. in the US Pennsylvania-New Jersey-Maryland (PJM) electricity market, the demand side has been proven to be a large, reliable and very cost-effective resource. However, in most jurisdictions, energy efficiency remains a minor bolt-on to the electricity system, enforced by regulation, rather than lying at the heart of the electricity market.

In developed countries, buildings account for around 40% of energy

use. EU countries now have to meet Article 4 of the 2012 Energy Efficiency Directive, which requires member states to “establish a long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private.”

The building retrofit/renovation market is starting to grow rapidly in the US but, in other markets, there is a need to stimulate growth by addressing demand generation, supply capacity and financial mechanisms.

If we take a sub-sector of the building sector, commercial property, we can start to think through what the enabling conditions for scale-up are likely to be. The following is a first pass, but the definitive list in each country needs to be developed in concert with industry and investors:

- Transparency of energy use;
- Valuation mechanisms that recognise any additional value from energy efficiency:
- Standardisation of measurement and verification (M&V);
- Widespread adoption of the ISO50001 energy management standard by building operators;
- Better, independently verified data on the performance of relevant energy saving investments;
- Regulations that cover energy performance for new build, retrofit and renovation situations;
- Resolution of the split incentive between landlords and tenants through ‘green leases’ or alternative mechanisms;
- Terms in commercial leases requiring tenants to reinstate the building to how it was when they took on the lease need to be addressed;
- The better understanding among design teams of integrative design techniques, which have been proven to produce large and very cost effective energy savings compared to conventional design techniques; and
- Owners and specifiers of buildings also need to understand and insist upon the use of integrative design techniques.

In the UK, the government has made some moves in the right direction towards an investment-grade efficiency policy by establishing the Energy Efficiency Deployment Office (EEDO), consulting on electricity demand reduction, and considering opening up the electricity market to demand-side initiatives.

These measures are a starting point for building a policy that can lead to massively scaling up energy efficiency, but by themselves they will not achieve the desired result. The UK now needs to work to understand the enabling conditions in each sector and segment and

then design policies and programmes to put those conditions in place. A major issue which needs to be resolved in the coming months is whether the demand side will be fully incorporated into the UK Electricity Market Reform or whether it will be sidelined.

In all countries, an understanding of the enabling conditions in each sector (and segment) needs to emerge before appropriate energy efficiency policies can be implemented. It is not easy, and requires government working in partnership with each industry sector as well as investors. Only when that urgent work is done can a coherent, investment-grade energy efficiency policy be written.

Steven Fawkes is chairman of Day One Energy, based in London. E-mail: ***sfawkes@dayoneenergy.com***

Published in Environmental Finance online
http://www.environmental-finance.com/features/view/818
9 January 2012