



# A View from the Inside

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As academics we often refer to those ‘on the inside’ i.e. those working in industry, policy or the third sector who are practically engaged with and implementing those things we research. **Here we interview these people to capture some of their views, challenges and realities.** We do so in order to better appreciate how academics can contribute more effectively to their work

## Jon Saltmarsh, Head of Technical Energy Analysis, DECC

*“Your research only really makes sense if it’s being used by other people in the future”*

### 1. What does your job entail?

My role within DECC is to **gather technical evidence to underpin DECC’s evidence based policies.** That’s evidence in relation to how we use energy in buildings across the UK; in housing and non-domestic stock; to understand how we reduce the demand for energy; and also understanding what drives the demand, understanding how people use energy at the moment. **We work very closely with the policy teams** to ensure that the policy produced is based on the very best technical advice available at the time they put the policy together.

### 2. What is the biggest challenge you face in your work?

The **grand challenge** is finding practical and affordable ways to cut emissions from the UK building stock to 80% or more of the 1990 levels. The **key words are “practical” and “affordable”**...**We’re looking at everything from** improving the insulation in houses, to behaviour measures to get people to use less energy and turn their heating systems down, through to entirely new technologies for producing heat such as gas driven heat pumps. We need to bring those technologies to bear in a cost effective way while minimising disruption...Our **approach to dealing with these issues is to pick off the low-hanging fruit first** so we want to do the most cost-effective measures quickly while encouraging newer technologies to mature so expensive measures today become more cost effective in the future... For example, at the moment there are issues around solid wall houses – those built without a cavity - and how we go about insulating them affordably **while avoiding unintended consequences** such as poor ventilation, damp and houses becoming too hot in summer because we’ve made them so tightly insulated for the winter.

### 3. What would it mean to you to solve these challenges?

Even if you were to dramatically improve the insulation of all the UK’s 7 million solid wall properties by fitting external or internal insulation, this would only go part way to meeting our carbon reduction targets. **So there’s plenty more scope for going further than we’ve gone so far...**Zero carbon homes can be a reality for new build but how close can we get in an affordable way for the existing housing stock? After all, 80% of the houses around in 2050 have already been built. **I don’t see this as a challenge that’s going to be solved quickly, we’ll need to find other ways** to reduce demand and to decarbonise the energy we do still use...This is a solution that’s **going to be a benefit to my children rather than me and that’s actually part of the problem.** How do we convince people that they want to spend money now that will only deliver benefit in the very long term?...Finally there is a **huge challenge simply in terms of scale** – there’s 20 million homes needing to be significantly decarbonised in the UK and less than 20 million minutes to do so before 2050.

### 4. In what ways can academics help solve this challenge?

**Reality is messy and there are no silver bullets. There are actually lots of parts to the solution** to reducing our carbon emissions and **it’s not a one-size-fits-all...There’s an awful lot of things we need to do and a lot we don’t understand yet,** so research at all levels remains vital. We need to find **innovative new products** to reduce the way we’re using energy. We need to **understand the trade-offs** between deploying different technologies. And the **whole systems modelling** that goes on in academia to understand different pathways to the future is very important. In some cases we don’t yet fully understand the impact of the new technologies that are being introduced. So again, **trials to measure and understand this impact are vitally important** too. This is a place where academia has a big role to play...We have a **very small team** looking at these areas, there’s a lot more people and brain power in academia than there is in our Science and Innovation team in DECC...Harnessing the **academic network to create new options,** to look at the energy system as a whole and individual components in detail and to understand the human element, is a huge opportunity. Often I think that **within government we can end up focusing too much on day to day issues** rather than looking a little bit more strategically – **academia can help us raise our sights.** Also you can help us think about things in a different way...Part of the **challenge is being able to tap into lots of different expertise across the whole of academia** without spending every hour of the day doing so. This is where initiatives like TEDDINET, where there’s a single focus into a wide range of different technologies and resources is a great approach...At present, different people throughout DECC have relationships with different academics and different academic organisations. This is great to promote interchange, but I think it would be **fair to say that it’s all slightly ad-hoc,** based on contacts built up over time...This is something we’re trying to improve, along with our whole approach to knowledge management and knowledge capture.

### 5. Are there constraints on your work that academics should be aware of?

I think **time scales is the obvious one.** I was talking to some academics yesterday about rapid evidence assessment and they were looking at rapid evidence assessments taking 12 months or so from the start to publishing the results. Within DECC, timeframes are much shorter. In a lot of cases, if Ministers need an answer, this needs to happen in a matter of days, quite often it needs to be even quicker than that...For the Science and Innovation team, one of the **challenges is trying to guess what questions Ministers are going to be asking 1 or 2 years from now and to put in place the research now** that enables us to be in a position to answer those questions when they come up in the future...Then there’s **the language barrier.** Every culture has a different language, the Civil Service is no different, but the language of academic papers and the language of the Civil Service are very very different. **Being able to translate between audiences and writing clearly for a particular audience** are both extremely important skills.