
Energy Systems Catapult Response to the BEIS Call for Evidence: *Building a Market for Energy Efficiency*

Introduction

1. This response is submitted on behalf of the Energy Systems Catapult (ESC). The ESC supports innovators in unleashing opportunities from the transition to a clean, intelligent energy system. We are part of a network of world-leading centres set up by the government to transform the UK's capability for innovation in specific sectors and to help drive future economic growth.
2. By taking an independent, whole energy systems view, we work with stakeholders across the energy sector (consumers, industry, academia and government) to identify innovation priorities, gaps in the market and overcome barriers to accelerating the decarbonisation of the energy system at least cost. In doing so, we seek to open up routes to market for innovators, as well as supporting them to understand how their products, services and value propositions fit into the transforming energy system.
3. The ESC is working with the UK government and local authorities to deliver the SSH Programme, determining the most effective means of decarbonising the UK's 27 million homes and contributing to the target of an 80% reduction in the UK's Greenhouse Gas emissions by 2050. A key element of this work is the development of Local Area Energy Strategies using the EnergyPath Networks modelling tool, jointly developed by the ETI and Baringa. These local area energy strategies seek to determine the most appropriate forms of heating in specific areas.
4. A key element of the SSH programme is the development of a Home Energy Systems Gateway (HESG) which will allow the smart operation of domestic heating and other applications. HESG is currently being trialed in up to 150 homes.
5. If you wish to discuss the contents of this submission, please contact Tony Diccico at: tony.diccico@es.catapult.org.uk

Summary

6. The key points that the ESC would like to make are:
 - ***A coherent local area planning process should be the basis of developing energy efficient plans for local areas, with a number of partners including local authorities, Energy Service Providers (ESPs), the ESC, as well as network companies working together to deliver these plans.***

A partnership approach between private firms and local authorities may be the best approach to deliver significant energy efficiency improvements. The specialist provider will have expertise in delivery of energy efficient interventions and the local authority will have local area knowledge, is likely to have a favourable customer profile and potentially access to finance at a more competitive rate than the private firm.

- ***Integrated demonstrations of increasing scale are required to show how energy efficiency measures can be financed, delivered and how they bring benefits to householders. Demonstrating the benefits will be key to overcoming the barriers to installing new heating technologies and encouraging uptake.***

The demonstrations will provide confidence to consumers in the benefits from the technologies, increasing market demand. Stable policy framework and enhanced market demand will create both supply-chain and investor interest to supply the market. Key to generating this upward spiral is a series of large-scale, integrated demonstration projects across the UK.

- ***Consumer engagement is key to changing behaviour significantly in order to improve and extend household take-up of energy efficiency measures.***

Energy efficiency measures, by themselves, can have very long payback periods and may be unattractive to consumers. *Consumer Focus* has reviewed various insulation campaigns and recommends that energy efficiency improvements be viewed as part of ongoing house refurbishment, so helping to provide comfort, amenity and fitness for purpose in 2050, rather than just being an energy saving issue.

- ***The ESC believes that the introduction of a portfolio obligation on Energy Service Providers to reduce the carbon intensity of energy services over time (in principle similar to the EU emissions standards applied to fleet average emissions of automotive manufacturers) could significantly enhance incentives to integrate innovative approaches to energy efficiency into service offerings to consumers.***

An over-arching policy of this kind could be directly aligned with legislated carbon targets (thus anchoring the regime within the Climate Change Act), while reducing the need for other micro-level or technology-specific market interventions to incentivise uptake of low carbon and energy efficiency measures.

- ***Smart devices that can learn about the heating characteristics of buildings, such as the Home Energy Services Gateway (HESG) (which is being tested currently by the ESC), will allow more accurate measurement of the thermal performance of buildings than smart meters on their own. HESG will also enable tailored business models, such as Heat as a Service, to be offered to customers based on how they use energy. This is expected to optimise (and reduce) energy consumption when used in conjunction with energy efficient retrofits, whilst maximising customer satisfaction.***

HESG will enable innovative new business models and allow the householder to automatically control energy usage and potentially help to balance the energy system. To realise the benefits from HESG, new energy supply licence arrangements and consumer protection will need to be developed to allow energy service providers to offer levels of comfort rather than merely supplying kWh of energy. Digitalisation may also have a key role, with ICT enabling integration and sophisticated customer interaction through the acquisition and use of data and information.

Detailed Responses to Questions 1-42

State of the Market

1) *What information do you have on current rates of delivery of measures outside of Government programmes, including through DIY etc.?*

7. No answer.

2) *What information do you have on the remaining potential for energy efficiency improvements and what savings could be expected from these measures?*

8. No answer.

3) *Do you agree with our assessment of the current market for energy efficiency amongst owner occupiers, including the trigger points and supply chain relationships?*

9. The ETI carried out some research to test consumer preferences and found that individual households are more likely to invest in energy efficient measures at particular trigger points in their lifecycle.

4) *Do you agree that it makes sense to prioritise those groups most likely to be open to investing in energy efficiency? And do you agree with our assessment of who those groups are most likely to be?*

10. It makes sense to allocate resources where they can make the biggest impact. It may be better to identify the properties that would benefit most from retrofitting energy efficient measures: these can include insulation, efficient and low carbon equipment such as heat pumps, connection to low carbon district heating networks and smart building controls.

11. **Local Area Energy Strategies**¹ that take account of local geography, house types, energy resources and targets, could be the basis of developing *strategic* energy efficient plans for local areas, with a number of partners including local authorities, Energy Services Providers (ESPs), the ESC, as well as network companies working together to deliver these plans. This strategic approach has to be aligned with a more *market-driven* approach when householders invest in home improvements and energy efficient

¹ The ESC has been working with Newcastle City Council, Bridgend County Borough Council and Bury Metropolitan Borough Council to develop Local Area Energy Strategies (LAES), using a software tool, "EnergyPath™ Networks" (EPN), developed by the ETI, to transition to a lower carbon future.

measures at certain trigger points² e.g. replacing a boiler when it breaks down, or installing double glazing, improving insulation etc when home improvements are made.

12. The most cost-effective way to deliver energy is to optimise the balance between demand side measures (such as energy efficiency) with supply side measures (such as district heat using waste heat from a local power station). **Local Area Energy Strategies (LAES)** identify the most cost-effective paths to decarbonisation and energy efficiency but how these measures will be funded is still to be confirmed. It is likely that this will be a mixture of private and public funding, with new business models developed to meet customer needs.

Barriers to Market Growth

5) Do you agree with our assessment of the current barriers to market growth?

13. Yes, we agree with your assessment of the current barriers to the growth of the energy efficiency market (as listed in the Call for Evidence)³, and that these can be categorised as either **demand side** or **supply/investment** side barriers.
14. The main barriers to deploying low carbon building solutions have been identified in the ESC's *Domestic Building Retrofits Accelerator*⁴ project. These are: the cost of implementation; poor logistics and supply chain; disruption to the home; and, if only considering reduced energy consumption, there is a long payback. Hence alternative business models are being considered where ESPs could be incentivised to cover, at least in part, the costs of low carbon solutions.

6) Are there other barriers that you think we should be addressing?

15. A key barrier is the current lack of **'integrated solutions'** and markets not being structured to provide these integrated service offerings to consumers. Failure to address the carbon externality from using domestic gas for heating acts as a barrier to building a market for efficiency.
16. The ESC believes that the presence of service providers might be required to act as integrators with an appropriate governance structure that allows for them to make capital investments and recover their expenditure without unduly raising costs for the consumer. The introduction of a **carbon intensity standard** on service providers that reduces over time (similar that introduced in the automotive industry) and applied to such businesses should encourage deployment of innovative, integrated solutions.

² The VERD (*Value propositions for Energy efficient Renovation Decisions*) Project² carried out by the UK Energy Research Centre (UKERC) found that **that designing retrofit policy around home improvement practices offers the most effective solution.**

³ <https://www.gov.uk/government/consultations/building-a-market-for-energy-efficiency-call-for-evidence>

⁴ As presented to BEIS and Innovate UK, 2016.

7) Do you think there are any other important lessons to learn from past attempts to stimulate the market?

17. There is an argument that some previous approaches have indeed delivered significant improvements with almost all UK homes having some form of insulation. Mandatory policies such as the Energy Companies Obligation (ECO) have been successful because they have placed an obligation on suppliers to improve energy efficiency. Voluntary schemes such as the Green Deal, which incentivise the uptake of energy efficient measures by consumers, generally have been less successful. So, either energy efficient schemes must be more attractive to the consumer or there should be an obligation placed on suppliers/ESPs, local authorities or possibly consumers.
18. Even with the ECO, some providers have found it challenging to identify households where measures could be applied. DECC's GB Housing Insulation Survey (2013) indicated that there were very few "Easy-to-Treat (ETT)" lofts and cavity walls left to insulate (around 500,000 in total). There are around 7 million "harder to treat/of limited potential" lofts, plus around 7 million solid walls: the cost of insulating these could be significant. We recommend approaches therefore that provide easier and more accurate targeting of those households in most need of energy efficiency improvements to raise awareness in these households.
19. Evidence from the review of the **Green Deal** by the Energy Committee on Climate Change⁵ suggests that the relatively high interest rate of the Green Deal loan, the high cost of the assessment, the possible effect on property prices of having an existing Green Deal loan to repay and the "hassle factor" have meant that take-up was low. However, the Green Deal may not be economically viable for many households given many of the easy-to-treat interventions have already taken place, and around one-third of consumers may not be interested in such an "energy efficiency" scheme anyway.

8) Are there other international examples we could learn from?

20. According to a 2014 study by the *American Council for an Energy Efficient Economy (ACEEE)*, the UK ranked 8th (out of 16 nations studied – including the EU average) for efficiency in buildings. Whilst the UK scored well for implementing effective building codes in both residential and commercial properties, it ranked joint bottom with South Korea and Russia for energy intensity in residential buildings. This reflects the relatively poor quality of the UK's housing stock and highlights the retrofit challenge that we face.
21. The study praised Germany's comprehensive energy strategy and awarded the country a maximum score for its building codes, retrofit policies, and tax credit and loan programmes. The ACEEE study praised Germany's state development bank's building renovation loan programme which stimulated private investments of over €34 billion in 2013. The report also praised Germany's target of a 20% reduction in primary energy consumption by 2020 and 50% by 2050 (compared to 2008 levels).

⁵ Energy Committee on Climate Change: "Green Deal: Watching Brief", May 2013

22. In terms of learnings for the UK, the success of Germany's state development bank's building renovation loan programme in stimulating private investment is a key consideration - access to low-rate finance was identified by the Energy Committee on Climate Change as a key measure that would have improved take-up of the Green Deal. Relaxing the "Golden Rule", to allow a wider range of interventions including more expensive measures such as solid wall insulation, could also have made the scheme more attractive.

9) *Are there any barriers preventing business models for energy efficiency that have developed in other countries from also developing in the UK?*

23. The main barriers currently preventing new business models for energy efficiency are the lack of integrated solutions, access to finance and the attractiveness and potential profitability of the market. The ESC is planning to test new business models in upcoming trials as part of the Smart Systems and Heat (SSH) Programme⁶. A key element of the programme is the development of a *Home Energy Services Gateway (HESG)* which will allow the smart operation of domestic heating and other applications. HESG is currently being trialled in a number of homes.

24. The data that will be collected through the HESG will enable innovative new business models and allow the householder to automatically control energy usage and potentially help to balance the energy system. To realise the benefits from HESG, new energy supply licence arrangements and consumer protection will need to be developed to allow energy service providers to offer levels of comfort rather than merely supplying kWh of energy. Digitalisation may also have a key role, with ICT enabling integration and sophisticated customer interaction through the acquisition and use of data and information.

Proposed Approach

10) *Do you agree with the set of proposed principles for guiding our approach?*

25. Yes, we agree with the basic principles and believe that some form of internalised carbon cost, or obligation consistent with climate change targets, is important. Local Area Energy Strategies (LAES) will be key to developing coherent plans to improve energy efficiency – this activity needs to be led by an organisation in conjunction with other stakeholders. A key issue will be access to resources to do implement the LAES. Other key principles will be installation standards for energy efficient measures and effective consumer protection.

11) *Do you agree that the policy areas we have set out are the correct ones to focus on?*

26. The ESC **believes that the introduction of a portfolio obligation on Energy Service Providers to reduce the carbon intensity of energy services over time (in principle**

⁶ The ESC is responsible for delivering the Smart Systems and Heat Programme (SSH). SSH is determining the most effective means of decarbonising the UK's 26 million homes and contributing to the target of an 80% reduction in the UK's Greenhouse Gas emissions by 2050

similar to the EU emissions standards applied to fleet average emissions of automotive manufacturers) could significantly enhance incentives to integrate innovative approaches to energy efficiency into service offerings to consumers. An over-arching policy of this kind could be directly aligned with legislated carbon targets (thus anchoring the regime within the Climate Change Act), while reducing the need for other micro-level or technology-specific market interventions to incentivise uptake of low carbon and energy efficiency measures.

27. Another important aspect of improving energy efficiency is delivery. A partnership approach between private firms and local authorities may provide the best results to deliver significant energy efficiency improvements. The specialist provider will have expertise in delivery of energy efficient interventions and the local authority will have local area knowledge, is likely to have a favourable customer profile and potentially access to finance at a more competitive rate than the private firm. We are working with three local authorities potentially to deliver a demonstration of smart heating systems after 2017.
28. Whilst the ESC believes that local authorities and local firms provide “*on-the-ground*” knowledge, there is the issue of installation quality and assuring that the benefits aimed for have been achieved. **Therefore, there may still be a role for central government working with industry to generate quality/installation frameworks as well as post-installation quality guarantees.**

Developing New Ways for Financing Energy Efficiency

12) Which of the fiscal levers described here would drive the greatest consumer demand?

29. Subsidies and incentives are probably going to be required for a significant period of time in order to stimulate the take-up of energy efficient measures, before new business models and customer propositions become established. Offering low interest loans has proved to be effective in stimulating the energy efficient market in Germany. Of course, the number of households that can gain access to interest-free loans for energy efficiency improvements will depend on the total amount of money available to support these.

13) Is there evidence to suggest that any other fiscal levers not described here could drive consumer demand?

30. No answer.

14) What would be the profile of homeowners likely to take up these different incentives?

31. No answer.

15) How could these incentives be designed to deliver the best value for money for Government and best savings for consumers?

32. The Renewable Heat Incentive offers some incentive to consumers to switch to low carbon heating systems but analysis by Frontier Economics and the ETI⁷ found that **financial incentives should in general be delivered through upfront rather than ongoing payments, given consumers' tendency to focus on upfront rather than lifetime costs and benefits.**
33. Approaches such as the Green Deal have not delivered the desired scale of energy efficiency improvements. The main reason for this is that consumers have not been sufficiently excited and attracted by the proposition: the cost of the loans has been too high, paybacks too long and the scheme administration too complex.
34. Consumers focus on near term costs and benefits in their decision making, while businesses face limits to the extent they can spread costs for consumers⁸. So, the introduction of competitive loans to consumers, either through central or local government or through private companies, would likely improve the uptake of low carbon heating solutions for some, but not all, consumers. To further increase uptake, it would seem sensible to focus on home improvements⁹ as this is when energy retrofit decisions are likely to be made. However, consumers do not want anything that places a charge on their property that makes it less attractive at the time of sale e.g. outstanding interest on loans etc.

16) What barriers, regulatory or otherwise, exist to financial institutions developing any of these products or incentives themselves?

35. A key barrier for all parties looking to participate in the energy efficiency market is the lack of consistent, long-term policy direction. Other barriers applicable to financial institutions are likely to be: lack of experience/presence in the energy supply market; lack of familiarity and/or favourability amongst consumers in this market; lack of access to data to enable the development of suitable business models and other products.

17) How could Government assist financial institutions with a retail presence, local authorities and other actors to run trials of these ideas?

36. The ESC is looking to develop and trial new business models and customer propositions as part of the SSH Programme. The ESC is already working with local authorities and other stakeholders but there may be scope for other actors to take part.

18) How could we ensure that any trials would lead to the development a self-sustaining market for support?

37. Integrated demonstrations are required to show how these activities can be financed, delivered and how they bring benefits to householders. Demonstrating the benefits

⁷ Frontier Economics, "Overcoming barriers to smarter heat solutions in UK homes – A report prepared for the ETI", April 2015.

⁸ This is because investments in these interventions are largely sunk and therefore spreading costs is akin to offering an unsecured loan.

⁹ Research by Wilson, Chrysochoidis, and Pettifor⁹ suggests that home improvement (around 90%) is the most important reason for renovations: only around 10% of consumers renovate their properties to improve energy efficiency in isolation.

will be key to overcoming the barriers to installing new heating technologies and encouraging wider uptake. The demonstrations will provide confidence to consumers in the benefits from the technologies, increasing market demand. **A stable policy framework and enhanced market demand should create both supply-chain and investor interest to supply the market. Key to generating this upward spiral is a series of large-scale, integrated demonstration projects across the UK.**

Price Signals to Encourage Homeowners to Prioritise Energy Efficiency

19) What price signals would best drive uptake of energy efficiency measures?

38. It is arguable whether price signals, by themselves, would ever drive uptake of energy efficiency measures as payback periods for these investments are usually long compared to average house ownership of around seven years. If price signals are to be implemented, there are several options, including a carbon tax on fossil fuels – this would incentivise consumers to reduce their energy consumption and/or switch to low carbon alternatives such as heat pumps. However, the imposition of a carbon tax is a fairly blunt instrument in that it makes no distinction about ability to pay: vulnerable customers who may not have the means to pay for energy efficient measures could be disproportionately affected. It would be important to shield these customers through initiatives such as the ECO which is now being better targeted to vulnerable customers.
39. An alternative approach is to introduce a carbon intensity standard for ESPs, as described above. This should be more targeted and equitable than a carbon tax.

20) What would be the impact on the housing market of such price signals?

40. Schemes such as the reduction in stamp duty and council tax for more energy efficient properties would mean that these homes would likely command a premium over less efficient homes when being sold or rented.

21) What protections would need to be in place to ensure that vulnerable or fuel poor customers are not unduly affected by these price signals?

41. See answer to Q.19.

22) Could these ideas be rolled out in a smaller scale, to a particular subset of homes or in a particular geographic area, to test feasibility before a national rollout?

42. The ESC is already planning to test a number of policy ideas and business models in a demonstration as part of the SSH Programme: this is likely to take place in a particular geographic area, covering a subset of homes. This approach may require derogations from some of the existing licence and industry code obligations – this is currently being explored with Ofgem. We see no reason why the ideas discussed in this CfE could not be trialled in such a way.

Improving Awareness of Energy Efficiency Products and Technologies, their Benefits and Advice to Consumers

23) What evidence do stakeholders have on the link between installing an energy efficiency measure and the value of property? What research could bolster this evidence base?

43. No answer.

24) How could Government effectively deliver messages to promote energy efficiency through intermediaries and which are the most important intermediaries to target?

44. Local authorities are important intermediaries in promoting energy efficiency and are key stakeholders in the SSH Programme. They are generally trusted by consumers to give impartial advice and support. **Other important players are energy suppliers/energy service providers** as they already have a relationship with the consumer. However, these organisations may not be viewed as being impartial. Network operators do not currently have a relationship with the consumer and may not be familiar to them.

25) At which additional points could homeowners be required to have an EPC, and how could this improve their value and the awareness of potential energy efficiency improvements?

45. There are opportunities to improve efficiency when other work is being done on the property and many of these are cost-effective in terms of reduced operating costs and improved comfort. The co-benefits of improved comfort, security, reduced maintenance etc are usually more significant than cost savings in the consumer's mind.

46. **Designing retrofit policy around home improvement practices offers the most effective solution.** This is because householders are far more likely to consider funding energy retrofit within their broader home improvement plans rather than as a standalone initiative. **It may be appropriate to require homeowners to obtain/update an EPC when they have home improvement work carried out that requires planning consent – local authorities could administer the granting of a new EPC as part of the planning consent process.**

26) How could EPCs be displayed more prominently to prospective homebuyers at different stages of the home buying process?

47. The EPC rating is already displayed in information provided by estate agents to prospective homebuyers. It is not clear how this could be improved but perhaps a clearer understanding of what the EPC rating is, and what it means in terms of likely heating costs, should be provided in information provided by the seller/estate agent. It is also important that the information displayed is up to date and accurate.

Creating the Conditions so that those who Derive Value from Energy Efficiency can be Key Players in the Market

27) Have we captured all the main sources of additional value of energy efficiency?

48. Yes.

28) What other ways could we seek to monetise the benefits of energy efficiency?

49. No answer.

29) How could both Distribution Network Operators (DNOs) and Gas Distribution Network (GDNs) be incentivised or required to deliver energy efficiency savings?

50. A partnership approach between private firms and local authorities may be best in delivering energy efficiency improvements through coherent Local Area Energy Strategies (LAES). The specialist provider will have expertise in delivery of energy efficient interventions and the local authority will have local area knowledge, is likely to have a favourable customer profile and potentially access to finance at a more competitive rate than the private firm. These LAES should allow network operators to build and develop infrastructure in the most efficient way for consumers.

51. It may be difficult to incentivise DNOs and GDNs effectively to deliver energy efficiency savings. One way, of doing this might be to build specific performance incentives into network price controls. Ofgem should explore more fully how incentives can be aligned in ways that promote behaviours by network operators that are favourable from a whole system perspective. This is likely best achieved if there is a LAES, where DNOs and GDNs can invest efficiently, and at an appropriate point in time, rather than just respond to various, uncoordinated requests.

52. A whole system approach would be required, with the DNOs and GDNs working with ESPs and other stakeholders including local authorities. Requiring DNOs and GDNs to deliver energy efficiency savings may prevent other parties such as ESPs developing innovative business models such as providing a level of comfort to consumers rather than just selling energy. It would be in the interests of the consumer and the ESP to improve the energy efficiency of the property so as to reduce the costs of providing an agreed level of comfort – the costs of providing the energy efficient measures could be recovered in the monthly costs to provide “heat as a service”.

30) Do current market arrangements allow for DNOs and GDNs to fully realise the potential of energy efficiency savings? If not, what needs to change?

53. DNOs and GDNs have no direct relationship with domestic customers and so it is difficult to see how they could lead any energy efficiency initiative under the current market arrangements. It would seem more appropriate for energy suppliers/ESPs to have responsibility for improving energy efficiency through schemes such as a carbon intensity standard.

31) What are mortgage lenders' plans for improving the way they factor energy efficiency into lending decisions?

54. No answer.

32) What support would lenders need in order to be able to commit to a voluntary target for improving the average energy efficiency of the properties they lend to?

55. No answer.

33) How can lenders develop a more accurate model of fuel bill savings, and would they be willing to lend 'green mortgages' on this basis?

56. Lenders could carry out studies, or work with others, to assess different property archetypes, before and after energy efficient measures have been installed. The trials that the ESC is planning to carry out to test the HESG in a number of property types will provide useful information on the energy performance of these buildings. This will inform the development of new business models. Lenders would also need to take account of potential fluctuations in interest rates, which could have a significant impact on the home owner.

34) What other changes would encourage lenders to offer more 'Green Mortgage' products?

57. No answer.

Enabling Innovative Energy Efficiency Products and Services

35) How could thinner, less intrusive insulation products be made to be compliant with building regulations?

58. No answer.

36) Are there any ways that current regulations are preventing innovative energy efficiency products and services coming to market?

59. The current energy market structures and regulations will need to change to allow new innovative business models and customer propositions. The nature of the changes will need to be debated and decided by government, regulators, industry and customer stakeholders working together. It will also be necessary to trial new solutions using derogations and "sandboxes". The ESC is working with a number of stakeholders to develop and test new low carbon solutions.

37) What changes should be made to the Energy Company Obligation to ensure that it supports the development of innovative energy products and services?

60. The ECO has been relatively successful in improving energy efficiency, especially for some of the most vulnerable (and least energy efficient) households in Britain. The obligatory nature (for suppliers) of the scheme has been a key reason for its success. However, the scheme is administratively complex and this hinders innovation. It might

be more appropriate to develop a new scheme than try to change ECO. A carbon threshold scheme for energy suppliers/ESPs may be an alternative, where overall carbon reduction targets are set but the means of achieving these is left to the supplier/ESP.

Improving Data to Open up the Market for Investment

38) Are there other ways that Government could help improve access to data energy efficiency and performance of homes for research purposes?

61. Government funding for programmes such as Smart Systems and Heat (SSH) is allowing the evaluation of real-world homes through initiatives such as the HESG trial. Funding such demonstrations is key to understanding the best approach to obtain data to improve energy efficiency.

39) What would be the impact on the market and investment in energy efficiency of the availability of better data on the actual performance of homes?

62. We assume that the availability of better data on the actual energy performance of homes would lead to an increase in energy efficient investment but have no direct evidence to confirm this at this stage.

Improving Supply Chain Capability

40) Would the supply chain benefit from having a feature in the new Energy Savings Advice service for installers to share best practice and access a repository of advice?

63. We assume that the supply chain would benefit but have no evidence currently to confirm this.

41) Would funding for local supply chain growth and coordination lead to additional retrofit measures?

64. We assume that funding local supply chain growth would lead to additional retrofit measures but have no evidence currently to confirm this.

42) Is there anything else that central Government could do to support local retrofit supply chain growth and to support builders to carry out retrofit projects?

65. There is currently limited supply chain capability to support energy efficient interventions in the UK. The best way to ensure that the UK benefits from the large-scale retrofit of energy efficient interventions required to meet the 2050 climate change targets is to boost the indigenous supply chain. This may require government grants to equipment suppliers to remain in, or re-locate to, the UK. It will also be important to ensure that there are sufficient numbers of well-trained installers to carry out the large-scale building retrofit/home improvement that will be required to meet the UK's climate change targets.

66. **A stable policy framework and a firm commitment to energy efficiency measures will also help to encourage equipment manufacturers and service companies to**

invest in the UK. The provision of people trained to install different types of energy efficient equipment will also be important – the UK and devolved governments should work with local authorities and educational establishments to offer appropriate training courses and qualifications.