



PRESS RELEASE

Haddock Research responds to the UK government's 2009 "Heat and Energy Saving Strategy Consultation" document

Using a 'whole-house', 'whole-person' and 'whole-society' approach to the Great British Refurb

May 8, 2009

Purpose of this document

In February 2009, the UK government launched a consultation document to seek views "on a radical new Heat and Energy saving strategy¹" for each home and business. The aim is "for emissions from existing buildings to be approaching zero by 2050". As part of that, "all homes to have received by 2030, a 'whole house' package including all cost-effective energy savings measures, plus renewable heat and electricity measures as appropriate. All lofts and cavity walls will be insulated where practical by 2015²".

This document summarizes our thoughts to some of the issues raised. It follows the response structure requested by the consultation document – and answers specifically Q1, Q3, Q4, Q5, Q8, Q13, Q19 and Q26.

Our evidence

Apart from desk research, the basis of this response comes from our syndicated Environmental Choices survey and from personal experience of making energy efficiency improvements in houses in both the UK and Canada.

The Environmental Choices survey was run amongst nationally representative samples of over 1,000 people per country in Canada, England and the USA in late-September/early-October 2008³. The survey included questions related to:

- The awareness and impact of organizations and marketing campaigns concerned with energy efficiency and climate change (including the 'A to G' energy efficiency rating scale; Act on CO2; Energy Savings Trust (EST); Carbon Trust and Carbon Reduction Label)
- Details about people's homes which included house type, ownership, main and secondary heating systems, any renewable heating systems used, standard of insulation
- Household responsibilities towards deciding on major house improvements
- Personal enthusiasm for thinking about domestic energy efficiency and micro-energy
- Barriers to undertaking major house improvements
- A product profile test on a hydrogen Fuel Cell home boiler, based on the Ceres 1kW Fuel Cell Module

¹ "Heat and Energy Strategy Consultation document", 12 February 2009, Department of Energy & Climate Change, UK government, page 2, <http://hes.decc.gov.uk/>

² *ibid*, page 3

³ Conducted as part of the Environmental Choices study, see http://www.haddock-research.com/public_opinion_monitor

We also have personal experience of making energy efficiency improvements in houses in both the UK and Canada. In the UK house, we installed a ground source heat pump and extra insulation prior to getting an EPC rating and then selling the house in December 2008. In Canada, we are undergoing an ecoENERGY retrofit⁴ which will include extra insulation, a ground source heat pump (aka geothermal system) and solar thermal system.

About Haddock Research & Branding, Inc.

With offices in the UK and Canada, Haddock Research & Branding Inc. is a full-service market research agency focusing on climate change and the low-carbon economy. Making use of the latest advances in survey design, Haddock advises businesses on how best to develop profitable low-carbon opportunities; and provides governments with the vital information they need to mobilize people to take action on climate change. For further information, visit our website - www.haddock-research.com

Response to Q1: Do you agree with the level of ambition and the indicative pathway set out in this chapter? If not, why, and what alternative would you suggest?

Addressing climate change is an urgent challenge and we do agree with the level of ambition set out in the consultation document. Our comments are mainly to do with identifying the best way of marketing this plan to the British people.

The plan correctly talks about the benefits of a holistic 'whole-house' approach to addressing the energy needs of a home⁵.

Yet, there are also benefits in a 'whole-person' approach. The 'central hero' of marketing activity is the householder who would, or would not, undertake the work^{6,7}. We need to have a complete understanding of what could motivate him to action, and what the potential barriers might be.

And there are also benefits in a 'whole-society' approach. This acknowledges that people interact and influence each other in what they do – and certain ways of doing things become the norm⁸ for a particular time. It is usually quite easy to judge the age of a house by how it was built!

Government policy needs to have a detailed holistic understanding of people and society in developing policies to reach its objectives. We will give examples of what this means in the following sections.

⁴ ibid, Consultation document, Box 4.1, page 72

⁵ ibid, Consultation document, Box 1.3, page 22

⁶ A good article which explains this idea is - "To Sell More, Tell The Customer's Story", Geoffrey James, 7 April 2009, <http://blogs.bnet.com/salesmachine/?p=2106>

⁷ A holistic customer orientation is the first benchmark identified by the UK national Social Marketing Centre, http://www.nsms.org.uk/images/CoreFiles/NSMC_Social_Marketing_BENCHMARK_CRITERIA_Sept2007.pdf

⁸ An excellent summary of thinking about social interaction is "Critical Mass: How one thing leads to another" by Philip Ball, 2004

Response to Q3: How can the Government encourage people and communities to change behavior to save energy? What is the appropriate balance between changing attitudes, and providing advice and information?

*At the personal level, a way to think about this is to separate things which might **motivate** people to action and what are potential **barriers**. What is relevant here is that 'saving money' is unlikely to be a core motivator given the sums involved (although it can be a 'call-to-action' with a time-limited offer).*

In terms of motivators, research has shown that 'emotion is a crucial factor in advertising effectiveness'⁹. Motivators tend to be things that make us feel good. In terms of making a house more energy efficient, it could be to do with emotions associated with:

- *Doing something to mitigate the worry¹⁰ you feel about climate change.*
- *Making yourself more self-sufficient*
- *Protecting your family*
- *Getting a good deal with a time-limited offer*
- *Enjoying a pleasant social interaction*

Barriers to action could be to do with:

- *Money concerns (see more detailed answers at Q8)*
- *Disruption*
- *Lack of responsibility for major house improvements*
- *Not getting agreement with other household members*
- *Not planning to stay at a house for a long time*
- *Not sure of 'next steps'*

Finding the money for house improvements is certainly a major barrier for residents¹¹ yet the Government approach should consider all these aspects and help develop policies which both motivate and facilitate action!

Part of the excitement could come from TV programs such as Kevin McCloud's 'Great British Refurb'¹². However, there is quite a way to go!

⁹ See page 29, Selling sustainability report, NESTA, June 2008, <http://www.nesta.org.uk/selling-sustainability-report/>

¹⁰ See Haddock Research & Branding, Environmental Choices 2008, Section report 3.c, Climate change and the home, www.haddock-research.com

¹¹ See Haddock Research & Branding, Environmental Choices 2008, Section report 1.a, Attitudes towards climate change, www.haddock-research.com

¹² <http://www.greatbritishrefurb.co.uk/>

Currently there are still relatively few houses with micro-generation in the UK¹³, indicating a low current knowledge base. The Environmental Choices survey indicates that the English are rather less likely to have some form of renewable energy systems in the home than North Americans. Given the definition of household renewable energy systems to include "wood/woodchip/pellets; ground source heat pumps/geothermal; air pump/heat pumps; solar thermal, solar photovoltaic (PV), hydrogen fuel cells", 17% of Canadians, 18% of Americans and 7% of English adults live in a house using at least one of these systems for home heating (either as the main heating system, or as providing secondary heating).

An analysis of specific attitudes towards the concepts of environmental efficiency and home power generation indicates that these are not (yet) very popular ideas. These ideas are even less popular in England than in Canada or the USA. Just 3% of English people (compared to 5% of Canadians and Americans) are identified as potential 'micro-energy leaders'¹⁴.

'Micro-energy leaders' are defined as those adults with at least some responsibility for deciding on major house improvements, and agree very strongly that they both 'like the idea of their home being a mini-power station' and 'are passionate about improving the energy performance of their home'. The profile of the 'micro-energy leaders' is the same in every country we ran the study. 'Micro-energy leaders' tend to be Climate Citizens, men with children and those living in larger households. These leaders could be used as a focus for encouraging others to make improvements to their homes – and they are particularly likely to discuss climate change (and creating the need to address it).

Response to Q4: How can home energy audits be made most useful, and do you agree that the Government should use Domestic Energy Assessors, who have been suitably trained, to deliver them as widely as possible?

The home energy audits should learn from the Canadian ecoENERGY Retrofit assessment which gives measures of insulation (in terms of 'RSI') and 'air sealing' (in terms of 'air change rate per hour at a pressure of 50 pa'). There should be more specific information about window insulation levels.

British people should have a much better idea about the measurements which contribute to the energy efficiency of their houses, and perhaps Domestic Energy Assessors could help here?

Response to Q5: Should the Government work with industry to develop accreditation standards for advice about, and installation of, energy efficiency technologies? What would be the best model for such a scheme, and why?

Yes, such an accreditation should raise standards, can be aligned to a grant system and, crucially, helps to reduce risk for the home-owner planning to make a major capital investment in their homes. This is the basis of the Canadian GeoExchange Coalition¹⁵ for Canadian geothermal systems.

¹³ Current estimates are available in "Numbers of microgeneration units installed in England, Wales, Scotland, and Northern Ireland, Final Report, For BERR, 17/11/2008",

<http://www.berr.gov.uk/whatwedo/energy/sources/sustainable/microgeneration/research/page38208.html>

¹⁴ See Haddock Research & Branding, Environmental Choices 2008, Section report 3.c, Climate change and the home, www.haddock-research.com

¹⁵ See http://www.geo-exchange.ca/en/accreditation_program_description_p34.php

Response to Q8: What will be the most effective way for Government to develop RHI and FIT policy so that combined financing packages of insulation, renewable heat and small-scale low carbon electricity technologies might be offered?

Understanding the financing barriers facing the 'whole-person' has the potential for greatly improving Government policies. Imagine that a home-owner needs to replace his oil-fired boiler and is considering either a new oil-fired boiler or a ground source heat pump (GSHP). He might ask himself these financial questions:

- 1. What is the pay-back period? (strictly speaking - How much more does the GSHP cost to install than the oil-fired boiler; and then how quickly can I pay back the difference from cheaper running costs given my best estimates of likely unit fuel costs?)*
- 2. How much will the new system add value to my house, if at all?*
- 3. Will it make my house easier to sell (in a difficult market)? Or would it make it harder to sell if people were suspicious of the technology, or it was thought unattractive?*
- 4. What are the risks involved of trying a novel technology? Could I waste my investment; or damage my house?*
- 5. Will it benefit me if I wait? Perhaps the technology will get cheaper and/or better? Will the Government introduce a substantial grant which undervalues the investment I make today?*
- 6. Does it make strategic sense to go with the GSHP given the way the world is moving with massive volatility in oil prices?*

The Government needs to be careful to implement policies which help overcome barriers. This could involve financial assistance, setting-up regulatory bodies, ensuring service guarantees, encouraging user-groups, and implementing advertising campaigns.

Let's try and get a sense of excitement, buzz and social desirability for energy efficiency and home power generation! This will also encourage people to feel that investments they make are going to pay off.

According to the Environmental Choices survey¹⁶, both The Carbon Trust and The Energy Savings Trust (EST) already have a reasonable level of recognition amongst the public, and have had some impact on claimed behavior. Presumably these bodies can take on some responsibility for coordinating appropriate policies for the 'Great British Refurb'!

Careful analysis is required to understand how people value 'energy efficiency' in choosing a home. As an example of one apparent incorrect inference, one study in 2008 concluded that:

"Despite widespread media coverage of climate change, the study found that energy efficiency was not a major factor when it came to choosing a new home"¹⁷

Yet surely this is not surprising! The important factors in choosing a new home are to do with the things that cannot be changed – such as location and its essential size and shape. If energy efficiency is important to the buyer, then the energy rating would be reflected in the price paid rather than choosing the house. If the house had poor energy efficiency, a buyer would pay a lower figure and then make the improvements himself.

¹⁶ See Haddock Research & Branding, Environmental Choices 2008, Section report 3.b, Climate change campaigning organisations & marketing campaigns, www.haddock-research.com

¹⁷ "Concern over 'zero carbon' homes, BBC, 2 April 2008, <http://news.bbc.co.uk/2/hi/science/nature/7324234.stm>

Response to Q13: Do you think that financial institutions, such as banks or other loan companies, would be an effective way of assisting potential small-scale heat generators (such as householders) with financing of the initial capital cost of renewable installations? What other considerations, if any, should be taken into account when determining eligibility for an up-front payment (for example, only generators with equipment below a certain size can apply, such as domestic customers)?

I suspect that there is a significant amount of mistrust between mortgage holders in the UK, and their lenders – and this could be much improved. Also, the mortgage terms tend to be quite fixed where any changes cost money. This is in contrast to Canadian banks, such as the RBC, which allows for a 'line of credit' for home renovations, and specific support for eco-renovations¹⁸.

Response to Q19: Should we require marketing material for property sales and rental to feature the EPC rating more prominently? If so how? What delivery bodies or industry groups could be given access to the EPC database, and how could they make best use of it whilst ensuring that it is not misused?

Yes, the aim should be to make the EPC rating a key piece of information for property sales and rentals. People should recognize it and it should guide their actions. Also, an objective could be to communicate, as clearly as possible, the typical lifecycle costs associated with buying anything using the 'A to G' scale, as utilized by the EPC. This would likely need to be managed by a dedicated governmental body, as happens with car labeling¹⁹. Indeed, the approach should be harmonized with all other sectors where the 'A to G' rating is applied.

The 'A to G' rating scale is already a valuable labeling asset. According to the Environmental Choices survey, around three-quarters (72%) of English adults recognize the 'A to G' rating scale, and around a half (47%) of all adults say it has had an impact on their behaviour²⁰. An objective should also be to make the 'A to G' rating influential to those less concerned about climate change. Only 32% of 'Sceptics & Uninvolved' indicated that this rating scale has had an impact on their behaviour – compared to 59% of 'Climate Citizens'.

Another idea is that manufacturers are required to take back household energy items, for disposal, at the end of their useful life – perhaps for payment of a deposit. Appropriate data from the EPC database could be made available to 'micro-energy leaders'. These people can provide word-of-mouth advice and recommendations to others considering home energy improvements – and they need the hard data to work with²¹.

¹⁸ See RBC - <http://www.rbcroyalbank.com/RBC:SqO2wo71A8UAKBC2Lpo/renovating/eco-renovation.html>

¹⁹ For cars, see <http://www.lowcvp.org.uk/cutting-carbon/fuels-labels-explained.asp>

²⁰ See Haddock Research & Branding, Environmental Choices 2008, Section report 3.b, Climate change campaigning organisations & marketing campaigns, www.haddock-research.com

²¹ For car information, see <http://www.vcacarfueldata.org.uk/downloads/>

Response to Q26: As electricity generation overall becomes much less carbon intensive than today, the advantages of CHP powered by fossil fuel in reducing carbon emissions will diminish, although it will continue to be a cost-effective energy efficiency measure. When do you think CHP powered by fossil fuels will no longer help to reduce emissions because the alternatives are less carbon intensive?

A key issue is to understand how a specific technology helps individuals reduce their carbon emissions given the choices they can make. The focus should not be about taking the average carbon intensity of the grid and setting a cut-off²².

To explain this point, according to the consultation document²³, the current average carbon intensity of the grid indicates that ground source heat pumps are quite a poor option for saving CO2. Yet, with the consumer as the 'environmental hero', the ground source heat pump has the potential to be a zero-carbon solution if it uses electricity from a green energy supplier, such as Good Energy. Or the householder could install his own PV electric system or wind-turbine. Strategically, it also fits well with the emerging low-carbon electrical infrastructure²⁴.

To consider the case for CHP, from the Environmental Choices study, we found that the vast majority (83%) of English people are on mains gas²⁵. As part of this study we conducted a product profile test on a hydrogen Fuel Cell CHP home boiler, based on the Ceres 1kW Fuel Cell Module. There is strong consumer interest in this boiler. In England, around a sixth of owner-occupiers, with homes connected to mains gas, can be described as "Enthusiasts" - that is that they find the boiler as "very appealing" and that they are "very likely" to install one when their current boiler needs replacing. The research also shows that the boiler has particular appeal amongst those concerned about climate change²⁶ - the Climate Citizens.

Therefore, it is clear that there is currently very substantial gas infrastructure in England. Providing a lower-carbon solution using mains gas, such as with a fuel cell CHP boiler, would make a substantial contribution to reducing emissions. It is also technology which is being particularly embraced by those wishing to tackle climate change. In England, it seems likely that CHP fuel cell boilers will be an important part of the mix to reduce emissions for many years.

²² *ibid*, Consultation document, 7.19, page 112

²³ *ibid*, Consultation document, 6.8, page 91; Chart 6.2, page 92; Chart 6.4, page 93

²⁴ *ibid*, Consultation document, 8.9, page 119

²⁵ See Haddock Research & Branding, Environmental Choices 2008, Section report 3.c, Climate change and the home, www.haddock-research.com

²⁶ See Haddock Research & Branding, Environmental Choices 2008, Section report 3.d, Green energy companies & hydrogen fuel cells, www.haddock-research.com

Canada provides an instructive contrast.

Overall, Canada is doing very badly in meeting its international obligations with regard to climate change; it is going to miss its Kyoto target by a large margin²⁷. This is mainly to do with the fossil fuel industries in the west of Canada – notably the tar sands of Alberta. Yet despite population growth, residential emissions are the same in 2007 as they were in 1990 due to the adoption of higher-efficiency furnaces and other improved appliances²⁸.

With ample local gas supply, we might expect the people of Alberta to embrace the CHP home boiler concept. Yet this did not happen! In contrast to the east of Canada, England and the USA, the Climate Citizens of Alberta are not particularly interested in installing a CHP home boiler. One explanation is that the Climate Citizens of Alberta are becoming acutely aware of the environmental damage done by the fossil fuel industries in their province. Public figures, such as Bishop Luc Bouchard, Diocese of St. Paul in northeastern Alberta²⁹, draw attention to the environmental and moral crisis of fossil fuel developments in Alberta. Consequently, many Climate Citizens from Alberta will reject any fossil fuel home boilers in favour of more "pure play" renewable energy alternatives. Alberta now has the greatest number of certified green homes of any province in Canada³⁰.

In short, public opinion and public choices will likely have a key impact on the contribution that CHP makes to reducing carbon emissions once it becomes commercialized and understanding how it is used in practice should guide policy decisions.

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²⁷ See page 120 of Human Development Report 2007/2008, Fighting climate change: Human solidarity in a divided world <http://hdr.undp.org/en/reports/global/hdr2007-2008/>

²⁸ http://www.ec.gc.ca/pdb/ghg/inventory_report/2007/som-sum_eng.cfm

²⁹ <http://www.wcr.ab.ca/bishops/bouchard/2009/bouchard020209.shtml>

³⁰ Green Provincial Report 2009, Corporate Knights, <http://www.corporateknights.ca/>