



WWF *for a living planet*

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Conserve and Save A Consultation on the Energy Efficiency Action Plan for Scotland

WWF Scotland Response
January 2010

Executive Summary

WWF welcomes the Scottish Government *Conserve and Save* consultation, which provides a thorough overview of the need and opportunities for action on energy efficiency. WWF believes this consultation, and the policy proposals it contains, represents one of the most significant opportunities for delivery on the Scottish Climate Change Act targets.

WWF recommends the Energy Efficiency Action Plan include a Scottish Retrofit Programme which aims to achieve at least a 42% reduction in carbon emissions by 2020 and is made up of the following components:

- **Radical expansion of Home Insulation Scheme (10 times current funding levels – to £150 million per year) with street-by street retrofit programmes Scotland-wide, with free loft and cavity wall insulation and whole-house retrofit plans**
- **Financial packages for more expensive measures (loans and grants)**
- **Introduction of minimum energy efficiency standards for private homes within 5 years, starting first with the private rented sector**
- **Doubling support for the Energy Assistance Package (to £120 million per year), as part of the area-based schemes and available as required nationally to achieve the 2016 target for eradicating fuel poverty**

WWF bases these recommendations on its work on existing homes in Scotland and corresponding work with its counterparts in WWF UK, WWF Cymru and WWF Northern Ireland. In September 2008 WWF published *Carbon Countdown for Homes*¹, which set out an agenda for making all of Scotland's homes low carbon. Several of the recommendations from that report appear in the consultation as areas for consideration. The report recommended:

- area-based low-carbon zones
- financial support packages based on need (including soft loans)
- minimum energy efficiency standards for domestic housing
- increased support for community heating schemes
- single gateway for advice through the Energy Saving Trust
- effective monitoring and review.

WWF published a report in October 2009 with the Energy Agency, *Achieving Our Potential: an analysis of area-based approaches to improving energy efficiency in Scotland's homes*², which

¹ *Carbon Countdown: How to make Scotland's existing homes low carbon*, WWFScotland, 2008, CAG Consultants and Energy Action Scotland

² *Achieving Our Potential: an analysis of area-based approaches to improving energy efficiency in Scotland's homes*, WWF Scotland and the Energy Agency, 2009, Cambium Advocacy



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added more evidence to the call for an area-based approach. The report concluded that a non-means-tested area-based approach was beneficial in terms of lifting people out of fuel poverty, reducing carbon emissions, and was very cost-effective in delivery.

Finally, WWF Scotland hosted a conference on area-based approaches, *Street by street, house by house, area based retrofit for low carbon homes - Best approaches for Scotland³ in October 2009*. While the report from the conference is not yet available (due in January 2010), delegates gave strong support for a national programme of area-based retrofit schemes, with financial packages based on need. WWF will submit this report as soon as it is complete to supplement our consultation response.

WWF believes the Scottish Government must introduce a bold programme as we have suggested if it is to meet the statutory emissions reduction target of 42% by 2020. It is already clear from existing analysis that the housing sector can more easily contribute to emissions reduction – because it is cost-effective, achievable, popular with homeowners, and politically acceptable. It also will help eradicate fuel poverty and generate green jobs. Therefore WWF believes the housing sector needs to take action fast and early, aiming to achieve – at a minimum – 42% reduction in emissions by 2020. Indeed, given the challenges in achieving change in other sectors such as transport, it is likely that the housing sector will have to deliver even more in emissions cuts to allow for achievement of 42% across the board. The consultation acknowledges the need for a ‘step-change’ in approach and we urge the government to respond to the challenge with radical measures to achieve this purpose.

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Consultation Questions

Q 1: Should Scotland’s energy efficiency target be based, as discussed, on energy savings achieved or total consumption? Or are there alternative ways in which a target should be set and monitored? If so, what would be the benefits of such an approach?

WWF believes that the Scottish Government should set energy efficiency targets based on: 1) total consumption and 2) energy savings achieved through policies and programmes. Targets on overall energy consumption will enable Scotland to quantify its contribution to the EU target of reducing energy demand, and can be better related to reduction in overall CO₂ emissions. Targets for energy saving will help ensure that Scotland’s energy needs are met in the most efficient way

1) Total consumption: It is essential to understand Scotland’s *overall* progress in reducing energy demand. Only then can we know if we are being successful at meeting carbon emission reduction targets. If we only rely on measuring the success of specific policies and programmes, we will not know the overall impact on what we are trying to influence – overall energy demand.

In the report, *The Power of Scotland Renewed*,⁴ WWF along with Friends of the Earth Scotland, RSPB Scotland and the World Development Movement, make the case for a 20% demand

³ http://www.wwfscotland.org.uk/what_we_do/changing_the_way_we_live/low_carbon_homes22/street_by_street/

⁴ *The Power of Scotland Renewed: clean, green energy for the nation’s future*, a summary for policy makers, based on research conducted by Paul Gardner of Garrad Hassan, written by Ben Murray. 2009. Friends of the Earth Scotland, RSPB, World Development Movement, WWF.

reduction by 2020 and 26% by 2030 to achieve a decarbonised energy sector by 2030. These targets are believed to be prerequisites for achieving the 2050 emissions reduction target of 80%. The report states that “by combining increased development of renewables with a realistic programme of demand reduction means that Scotland’s renewable resource can meet – and exceed – our annual electricity demand.”⁵

2) Energy savings achieved

Any policy or programme should have clearly defined targets for reduction in energy demand and carbon emissions saved. These programmes need rigorous monitoring and evaluation in place, providing benchmark figures and progress over time. The targets for the EEAP as a whole need to demonstrate how they are contributing sufficiently to the 42% emissions reduction target by 2020.

Q 2: What should be the basis for the energy efficiency target? For example, should any “energy savings achieved” target take into account UK ambition and programmes? If so, how ambitious should Scotland be in its energy efficiency targets compared to the UK?

Yes, the ‘energy savings achieved’ target should take account of UK ambition and programmes in terms of their impact on Scotland. For example, changes in the CERT programme will directly affect take up of energy efficiency measures. However, while there is a lower level of CERT activity in Scotland compared with the rest of Britain at the moment, the Scottish Government should expand its efforts to 1) create a more attractive funding environment; and 2) influence Ofgem policies to eliminate any disadvantage to Scotland (eg not taking account of climate factors).

Q 3: What approach do you consider we should take to setting out how different sectors will contribute to our target? What further evidence should be collected and assessed?

It is important that lengthy analysis of abatement costs does not delay action at the scale and pace required. It is already clear from existing analysis that certain sectors can more easily contribute to emissions reduction – because it is cost-effective, achievable, and politically acceptable. This is the case with existing homes and for these reasons WWF believes the housing sector needs to take action fast and early, aiming to achieve – at a minimum – 42% reduction in emissions by 2020. Indeed, given the challenges in achieving change in other sectors such as transport, it is likely that the housing sector will have to deliver even more in emissions cuts to allow for achievement of 42% across the board.

However, WWF acknowledges that some analysis is required of marginal abatement cost curves for each sector, to identify in more detail the most cost-effective opportunities in the next 10 years. In so doing, it is important the carbon price is sufficient to incentivise the necessary action to achieve the 2020 target. Decision-making will also need to allow for significant upfront investment for longer-term gains with infrastructure such as community heating and public transport. Finally, the analysis should allow for economies of scale, net benefits to the economy, and benefits to health and well-being. It will also be recognised that some low carbon policies will be more politically acceptable than others, driving some sectors such as housing to take on a greater share of reductions than others.

Based on this analysis, and assessment of opportunities, targets for each sector can be set, ensuring they add up to the 42% emissions reduction target for 2020.

⁵ *The Power of Scotland Renewed*, 2009

Q 4: What evidence do you have to suggest that the different levels of saving identified in the broad sectoral indications may or may not be achievable?

There are many publications available which demonstrate the potential to achieve our 2020 emissions reduction target. A few examples are given below:

Power of Scotland Renewed, clean green energy for the nation's future, 2009,
A Low Carbon Transport Policy for the UK – Campaign for Better Transport, November 2008.
Livestock Consumption and Climate Change, WWF and Food Ethics Council, September 2009
Climate Solutions II – Low Carbon Re-Industrialisation, WWF International, October 2009

Q 5: What other research do you think is required, with specific reference to energy efficiency and behaviour change?

Energy efficiency:

We are pleased that many of the areas recommended for further research in WWF's *Carbon Countdown* report are either underway or are discussed in this consultation. Many of the recommendations still stand:

- Set a specific baseline for residential carbon emissions in order to set future targets. Neither the Scottish Energy Study nor the SHCS provide a robust and accurate baseline.
- In the Housing Carbon model, develop a methodology for factoring in the decarbonisation of Scotland's electricity supply into the monitoring and targets for the retrofit strategy.
- Timely information on actual installations and spending through CERT should be entered into HEED.
- An audit of current expenditure on energy efficiency and microgeneration in existing housing in Scotland from all sources should be carried out to identify the current total, help target resources and plan for the future.
- Research into the wider benefits of a significant improvement in the energy performance of all Scottish housing with a primary focus on health and well-being.
- Research into existing community energy schemes to identify where main areas of support are needed and how Scottish Government can facilitate
- Review of government fiscal measures to identify what devolved powers exist to mitigate the rebound effect. The only way to counteract the rebound effect is through fiscal levers. Incentives, subsidies and grants can provide a pricing framework which minimises the rebound effect by rewarding more sustainable behaviours⁶.

Behaviour change:

There is already a body of theoretical research on behaviour change but what is lacking is Action Research in practical applications of the theory. Resources should be put into running Action Research pilot projects that both put behaviour change theory into practice and build the body of practical research evidence on what does and does not work.

An evaluation of awareness-raising campaigns such as GoGreener are required to understand what works and what doesn't before further significant government investment is directed in this way. The consultation paper lists several such campaigns, but provides no evidence on what change can be attributed to them.

Q 6: What more do we need to do to change attitudes and influence behaviour?

⁶ *Towards a Low Footprint Scotland*, a report to Scotland's Global Footprint Project, Barrett J., Minx J, Paul A., Frey S, Stockholm Environment Institute, 2007

WWF's answers to this question are based in part on our recent publications, *Meeting Environmental Challenges: the Role of Human Identity*⁷, and the *Natural Change Report*.⁸

At several points, this consultation paper makes the assumption that people do not change their behaviour because they lack knowledge. On the contrary, research, including that quoted in this paper, shows that people do understand the issues and what they should do to reduce their energy consumption, they just don't do it. Human beings are incredibly sensitive to social status and much of our behaviour is shaped by how we believe that behaviour will impact on our social status. For example, driving is a higher status activity than taking the bus, hence the preference for doing the former over the latter in each case. This is also one of the reasons why campaigns that urge behaviour change to save money fail – people are willing to pay for the higher status, and would like to appear as if saving £50 a year is of no consequence to your income.

What we do in our own homes is shaped more by financial issues; but the size and timing of the costs/savings are important. Switching energy suppliers shows you what you are saving now, making it an attractive option as it frees up money that can be spent now on more fun things (it is at this point that care needs to be taken to avoid encouraging re-bound behaviours). Energy efficiency shows you what you might possibly save in the future but as it is not 'cash in the hand' it is less attractive as it does not immediately free up finances for other activities. Installing microrenewables is another example, where a large upfront cost and payback over the long term act to make it less attractive. Also installing microrenewables is not generally perceived as a status enhancing activity.

In tackling behaviour change with regards to energy efficiency a range of approaches will be needed that cover technological and financial measures to directly influence our choices at home and more social science/psychology based actions to address 'public sphere' behaviour choices.

One of the most effective ways to change behaviour at home is to make the benefits of energy efficiency as immediate and tangible as possible. The following action points are recommended:

- Plans to roll out Smart Meters across the whole of the UK have already been announced. Getting this roll-out completed in Scotland by the earliest possible date should be a top priority. Smart meters could be designed to have green/amber/red warning lights which indicate when the load drawn from the grid becomes excessive. This is likely to encourage a phasing of activity that will avoid the peaks and troughs in demand that are so problematic in addressing national electricity supply. Linking the installation of meters to area-based retrofit schemes so people can take immediate action is vital.
- Energy efficiency advice should be targeted on a neighbourhood basis. Messages that emphasise that everyone around you is paying less for the same thing motivates the desire to want to fit in with a group and not appear to be doing worse than others around you, and are more likely to result in action being taken.
- The current interest-free loan scheme to encourage the uptake of energy efficiency measures is a step in the right direction but this scheme needs much greater funding and extensive marketing through area-based retrofit schemes.

'Public Sphere' Behaviour

⁷ http://www.wwf.org.uk/what_we_do/campaigning/strategies_for_change/?uNewsID=3105

⁸ <http://www.naturalchange.org.uk/natural-change-report/>

There is good evidence that behaviour can be influenced by peer groups and that group-based approaches to changing behaviour are more successful than approaches focussed on the individual (AA, Weight Watchers and smoking secession groups are an example of this in action). In seeking to change behaviour around energy efficiency this would indicate that investment in cultivating and supporting 'carbon clubs' and 'carbon cutting' residents groups is more likely to result in long term changes in behaviour rather than the short term and/or minor changes that result from advocating for individual change. The Climate Challenge Fund evaluation and future development should consider how that approach worked and how it could be developed to make it widespread rather than opportunistic.

If we are to change travel choices then it is important to send out social signals that taking public transport, walking and cycling are admired. There is a prevailing attitude that business leaders and government officials are 'too important' to wait for public transport or take the train rather than fly. This sends out the very damaging signal that low carbon forms of transport are only for the 'unimportant'. Government and public sector employees should be expected to take public transport as the default option – only driving or flying in exceptional circumstances. In addition to reducing the carbon footprint of the public sector and building credibility by 'walking the talk', this would also send out the strong social signal that no one is 'too important' to take public transport – this would also be a valuable opportunity to demonstrate how work levels can be maintained using modern technology. Furthermore, it gives government the credibility to influence others to do likewise.

Longer Term Strategies

Resource efficiency and sufficiency measures (the technological fix) are not making the change required to reduce absolute emissions, forcing us to focus increasingly on consumer patterns.⁹ In research which explored various levels of resource efficiency in the UK economy, it became clear that "material efficiency alone cannot deliver an 80% reduction in GHG emissions by 2050." Clearly, it must play a part in any overall strategy that also recognises the need to decarbonise the electricity sector, achieve deep cuts in the transport sector, and engage the public in changing their behaviour.

The evidence linking over-consuming and inefficient use of energy and the pursuit of a high status, materialistic lifestyles is very robust. There tends to be a direct correlation between individual income levels and carbon footprints, and the same goes for more affluent local authority areas vs those with significant areas of deprivation.¹⁰ Further, there is little evidence that shows decoupling of high levels of energy use from high levels of consumption (without 'offshoring' impacts). Behaviour change will therefore have to lead to a lower level of consumption (with the potential for a better quality of life).

There is good evidence that materialistic values and the association between high levels of consumption and status are picked up at a very early age. There is also good evidence that emotional attachment to the natural world and critical thinking/media literacy skills that enable individuals to recognise and question the social signals they are receiving are effective in counteracting this. The following recommendations stem from our work on sustainable development education and relate to the wider sustainable development challenge, though are still relevant to this consultation on energy efficiency.

⁹ *Meeting the climate challenge: the contribution of resource efficiency*, WRAP, November 2009, K. Scott, J. Barrett and J. Minx from the Stockholm Environment Institute, G. Baiocchi from the University of Durham Business School.

¹⁰ Carbon footprint results for Scotland by local authority areas - <http://www.resource-accounting.org.uk/downloads/scotland/?page=downloads&area=scotland>

- contact with the natural world should be a regular feature of early years and primary provision (drawing on the expertise of existing Eco Schools Scotland, grounds for learning, and forest school initiatives).
- consider what action the Scottish Parliament can take to minimise consumer advertising to very young children
- continued support for Eco Schools and ensure that schools embed Eco Schools into their core activities and do not perceive it as an 'add on'.
- critical thinking and media literacy should be built into the Curriculum for Excellence and the national qualifications, and provide capacity building for teachers to enable them to teach this effectively.
- commercial advertising should be banned in and around schools
- school travel plans should include staff travel, setting an example for pupils
- the schools estate must set an example of low carbon living - through the infrastructure (eg wood chip boilers, high levels of insulation, micro-renewables) and use of energy (level of heating, turning lights out, using equipment efficiently).

Q 7: Various organisations, including EST and the Carbon Trust (which deals primarily with the business and public sectors, see chapters 8 and 9) are currently involved in public engagement. Should we seek to develop a single brand for all energy saving advice in Scotland? If so, why?

WWF believes EST's role as the sole brand for providing energy advice to the general public should be strengthened, with the smaller Carbon Trust's niche of working with business maintained. Merging the two organisations could lead to unnecessary disruption of service at this critical time, and the benefits are not proven.

More resources and staff should be made available to the EST to improve the quality and quantity of advice given. For example, the EST Energy Saving Advice Centres should be able to provide more tailored advice on measures for hard-to-treat homes, including home visits, recommendations for local delivery of measures, personalised travel options, and follow-up with 'clients'.

Question 8: Do you agree that these are the key concerns for Scottish Government to consider when developing action on energy efficiency in housing?

Section 6.14 provides a useful summary of the key concerns facing energy efficiency in the housing sector. WWF agrees with most of the analysis, and would add the following topics as equally important:

- Maintain priority for fuel poverty groups as part of an overall programme of retrofitting existing homes in order to meet the 2016 target for fuel poverty eradication
- Providing a 'whole house' approach and how would it be delivered
- What cost savings can be expected through economies of scale
- In terms of comments on the bullet points in 6.14, WWF believes that there should be a presumption in favour of energy efficiency improvements in historic and traditionally built stock. These improvements can be done in a way that is sensitive to the historic environment and work with the building structure.

Question 9: What do you think are the key issues that the Scottish Government should consider in the design and location of new housing and the maintenance and improvement of the existing housing stock to ensure that they are adapted to future climatic conditions?

The Sullivan Report, *A Low Carbon Building Standards Strategy for Scotland*, sets out an excellent route map for new build standards. WWF calls on the government to officially endorse the 'eventual and staged standards' for new buildings as government policy. This will make it clear to the building industry what future standards hold and allow them to invest in low carbon design and technologies. WWF believes the net zero carbon standard is achievable for 2016 and should be set as policy now. This would also allow for a level playing field with England and the Code for Sustainable Homes which makes it easier for the volume builders such as Miller Homes. The ambition of total-life zero carbon buildings by 2030 should also be set more firmly in government policy as a target with a programme of work to achieve it.

Some of the greatest opportunities for energy efficiency exist in urban planning based on the concept of a compact city with short distances between residential areas, working and shopping locations. A locational approach recognises that new businesses need to be located close to public transport links and ideally be accessible by walking and cycling ("business in the right place"). A review of development plans and guidance to ensure this 'locational approach' is being employed in action and not just in words is recommended.

In terms of adaptation, low carbon housing will be better able to meet the challenges of the future – in terms of energy security and rising temperatures.

Question 10: With regard to traditional and historic buildings as defined in footnote 40, what do you think are the most important energy efficiency issues?

With regard to the definition, which is contained in footnote 112, WWF believes there is a need for a more precise definition to assist implementation of energy efficiency schemes, awarding of grants, and minimum standards. This should be consulted on with a broad stakeholder group. At the moment, this definition is insufficiently clear or understandable to the layperson.

We agree that most traditional buildings can be made more energy efficient without compromising their character. We would like to see a shift in the interpretation of planning and conservation area designations such that the presumption is in favour of energy efficiency improvements and low carbon technologies, rather than against. Solar thermal panels on historic buildings should be seen as a 'badge of honour' rather than a blemish to be hidden away. Microrenewables such as these should increasingly be the norm even in conservation areas.

We welcome the research and projects that Historic Scotland is undertaking on treating traditional buildings. It is vital that this experience is made available to a wider audience through the Energy Saving Advice Centres. Historic Scotland's new Climate Change Action Plan (under development) offers an opportunity to maximise their powers and influence to take forward the energy efficiency agenda.

The particular issues for traditional and historic buildings are:

- Strong association between fuel poverty and historic buildings. According to the SCHS, households living in older dwellings are also more likely to experience fuel poverty with around a third of households (138,000) living in dwellings built before 1919 being fuel poor compared to around a fifth (88,000) of those living in dwellings built after 1982¹¹.
- Role and responsibilities for Historic Scotland in providing research and best practice advice on energy efficiency for traditional buildings need to be clarified.
- Continuing perception and in many cases reality that conservation designations are a barrier to energy efficiency improvements.
- Additional costs in terms of permissions and actual measures

¹¹ Scottish House Condition Survey, Revised Key Findings 2008, Scottish Government

- Energy efficiency ratings for traditional buildings remain significantly worse than newer dwellings despite several years of home energy advice and promotion. “Newer dwellings are more likely to have a 'good' energy efficiency rating than older dwellings; 76% of dwellings built after 1982 have a 'good' energy efficiency rating compared to around a quarter of the pre-1919 occupied stock. Around 1% of dwellings built after 1982 have 'poor' NHER ratings compared to 9% of those built before 1919”¹²

Question 11: What is the right balance in funding between Government, landlords and individual households?

The consultation paper makes clear there is little dispute over what needs to be done, the real question is how it is to be done, and who pays. Clearly, the massive uplift in measures and pace of change cannot all be funded by government. Funding will need to come from householders and business as well, and government must use its public funds and policies wisely to leverage as many funds from these and other sources as possible. In WWF's view, this will require a carefully coordinated set of measures. First, WWF would like to make the following points:

Housing Model: The consultation paper makes an assessment of what would be needed to be done, and the associated costs, to achieve a 42% cut in non-traded emissions by 2020 from a 2005 baseline. The scenario concludes there would need to be substantial upgrades to all stock and the total cost would be around £16 billion.

While there is no question that substantial investment will be required, WWF has some issues with the assumptions in the model. The model makes no allowance for cost savings due to the economies of scale of such an uplift in measures. At the very least, the model should include an estimate of what cost savings are likely to be. We also question the baseline year for the model of 2005, given that the 42% target relates to a 1990 baseline year. Finally, the model does not demonstrate the value to the economy of this activity in terms of lifetime fuel savings and economic activity generated, so we can understand the net value to the economy. WWF's own analysis in its *Carbon Countdown for Homes*¹³ report estimated that by taking these factors into account there could actually be a net benefit to the economy from a large scale retrofit programme.

In a more recent report from the Association for the Conservation of Energy, the additional value to the Scottish economy of such a retrofit effort would be in excess of £4 billion over 10 years. Over 10,000 jobs would be created (or safeguarded) – creating and maintaining good local jobs at a very cost-efficient investment¹⁴.

CERT 'fair share'

The consultation states that the current phase of CERT is expected to deliver roughly £60-80 million of investment by suppliers in Scotland per year compared to approximately £100 million if it were done on a pro-rata basis. The CERT Strategy group was set up in 2008 to help address this problem. It would be useful if the consultation could report on the progress of this group and what steps are being taken to redress the balance. For example, what effort has been made to allow for climatic factors and rural locations that discourage CERT activity in many parts of Scotland?

¹² *ibid*

¹³ Carbon Countdown for Homes: How to make Scotland's existing home low carbon, WWF Scotland, September 2008

¹⁴ *Warm Homes, Green Jobs – the economic impacts of the Climate Change (Scotland) Act in the residential sector*, ACE and eaga Scotland, 2009

Boiler Scrappage Scheme: The Scottish Government should not let Scots miss out on fuel bill savings and an economic boost from the boiler scrappage scheme and should use newly-available funds for home energy efficiency. The English scheme will provide £400 to each of 125,000 English households to replace costly old boilers with new, efficient models. The Association for the Conservation of Energy estimates the Scottish Government will receive around £11.5m in additional funding for 2010-11 due to boiler scrappage and energy efficiency spending in England and Wales, under 'Barnett consequential' rules. These funds should be allocated to the expanded HIS and EAP as suggested in this consultation response.

In WWF's view, the Scottish Government, and working with local authorities, needs to make the environment much more attractive for investment. The Scottish retrofit programme we proposed in Carbon Countdown is exactly the type of large scale activity, delivered in a cost-effective way through area-based schemes, which would attract more CERT investment. This in turn will unlock investment from private householders.

In order to maximise investment from a wide range of sources we need:

- Scotland-wide programme of area-based retrofit schemes with free loft and cavity wall insulation
- Increased support for Energy Assistance Package as part of area-based and as a reactive scheme
- Finance (loans) for more expensive measures
- Introduction of minimum energy efficiency standards, starting first with the private rented sector.

Q 12: Taking into account the scale of the challenge and behaviour issues, and the work set out in this chapter and Chapter 7 (housing regulation), what other policies should be taken forward to meet our climate change objectives in respect of housing?

The consultation is right to emphasize the scale of the challenge. As noted in our answer to Question 12, WWF believes a coherent set of policies, set under the umbrella of a national retrofit strategy will provide the right leadership, direction and priority to this agenda. The Strategy must include:

- Area-based retrofit schemes with free loft and cavity insulation led by local authorities throughout Scotland; complemented by the Energy Assistance Package
- Introduction of minimum energy efficiency standards, starting first with the rented sector
- Attractive financial packages tailored to ability to pay and recognising the need to pump prime certain industries
- Greater investment in community energy systems including requirements for heat mapping by local authorities as part of the planning process

These recommendations are supported by the UK Committee on Climate Change report, Meeting Carbon Budgets – the need for a step change (October 2009), which notes that the current policy framework is not sufficient to meet emissions reduction targets. It recommends whole house energy audits, street by street delivery, attractive financing packages, and the consideration of regulation¹⁵.

Other policies which should support this work are planning and carbon accounting for major policies and infrastructure projects. A carbon account of the Scottish Budget is already a commitment, now is the time to require policy appraisal of carbon impacts for all major policies and infrastructure projects likely to have an effect on Scotland's carbon footprint.

¹⁵ Meeting Carbon Budgets – the need for a step change, Progress report to Parliament, Committee on Climate Change, October 2009

This requirement should also be made of local authorities in parallel with the Carbon Reduction Commitment for operations. Local development plans, local housing strategies and energy strategies should all demonstrate how they will lead to a reduction in carbon emissions. Local authorities should be given responsibility and the resources to reduce emissions from all housing – private and social. The Local Footprints service can support local authorities in conducting scenarios for low carbon housing and communities.¹⁶

A careful analysis of the Scottish Government's economic recovery plan should demonstrate how this investment will help lead to a low carbon economy. For example, bringing forward investment in affordable housing should not lead to lesser standards. And investment should not only be made for new housing, but bringing existing social housing up to SHQS standard and ultimately future-proofing it against fuel poverty (NHER 8).

Q 13: If Scottish Government were to prioritise the expansion of any individual existing programme, which should that be, and why?

WWF believes there is a requirement for a major expansion of the Home Insulation Scheme and the Energy Assistance Package. The EAP would work both within the HIS and on a national basis in a reactive capacity.

Home Insulation Scheme: To provide for the scale and pace of change required, we suggest the following changes to HIS – which has made a useful start to area-based delivery on retrofit:

- Increase funding to at least 10 times its current funding levels, or at least £150 million per year.
- Provide loft and cavity wall insulation for free. This can be justified on the basis of evidence which shows far greater take up of the measures when offered for free, lower administration costs per measure installed, and the payback in emissions reductions in a short time.¹⁷ CERT funding will be pooled and used with government funding to provide the most attractive environment for CERT investment. This approach would ensure that the most effective measures for carbon reduction – loft and cavity wall insulation – are taken up rapidly, while at the same time providing a steady, guaranteed business for insulators to invest. In Kirklees Council, this approach increased installer productivity by 50%.
- Each home should be provided with a 'whole house retrofit plan' with recommendations on how and when measures should be implemented, over what timescale, financial packages available, and advice on local contractors for installation.
- Aim to bring all properties up to NHER 8 to future proof all properties against fuel poverty. It is understood some properties may not be able to achieve this level but these should be in the minority.
- Maximum use of community groups and awareness-raising measures such as neighbourhood thermal images
- give priority to fuel poverty groups, and those at risk of falling into fuel poverty; high energy consumers, and areas with significant numbers of loft and cavity insulation opportunities
- Best practice from the CCF funded retrofit projects should be taken on board in an expanded HIS. For example, the importance of working with local contractors, community groups and local assessors has contributed to the success of these projects

¹⁶ Local Footprints, Sustainable Scotland Network, www.localfootprints.org

¹⁷ *Achieving Our Potential, 2009 and 2009 Ashden Awards Case Study*, Kirklees Council

Energy Assistance Package: This programme should be extended as follows in order to meet the fuel poverty target while at the same time reducing carbon emissions:

- Double the funding from £60 million to £120 million
- Raise the funding cap to allow installation of all measures required to lift such properties to NHER 8 or above – since this is the energy efficiency level currently estimated by voluntary organisations such as Energy Action Scotland to ‘fuel poverty-proof’ a property. The current funding cap of £6,500 per property under the EAP is too low to allow both heat pump and solid wall insulation to be installed in most off-gas grid properties.
- Eligibility should be extended beyond those on benefits and over 70 years of age to reach the ‘working fuel poor’. How this is achieved will be a challenge, and should be taken up through the Fuel Poverty Forum’s current workplan
- Extend the measures available for solid wall and off-gas grid properties under the EAP beyond solid wall insulation and air source heat pumps (ASHP). ASHPs are effective at delivering low and moderate heating loads, they may struggle with larger properties or with particularly thermally inefficient properties. Thus, it may be appropriate to include additional technologies in the EAP such as ground source heat pumps, biomass boilers and solar water heating.
- The home energy check should be augmented to provide a whole house refurbishment plan which can be implemented in one phase or several phases, depending on what is required and costs involved. Detailed advice on measures, delivery, local contractors, funding sources and energy saving behaviour should be provided in the visit. Maximum use of community groups and networks should be made.¹⁸

Home Energy Loan Scheme

The Scottish Home Energy Loan Scheme is very welcome and anecdotal evidence suggests it is proving very popular. WWF recommends that this scheme be expanded in order to maximise leverage in attracting private householder investment in energy efficiency. After this initial pilot, it may be necessary to consider extending the term of the loan and maximum loan allowed. Analysing the experience of the pilot PAYS schemes in England and how that might work in Scotland as a complement to the loan scheme would be worthwhile. The availability of attractive financial packages in advance of and alongside the introduction of minimum energy efficiency standards.

Q 14: What research and/or consultation needs to be undertaken to determine whether or not the existing Energy Report/EPC regime would be sufficient to provide a basis for regulation?

WWF’s view is that the current EPC methodology is not sufficient to provide a basis for regulation or for that matter, for programmes like the EAP. The assessment is too simplistic and does not offer the detailed recommendations that would be required for use in a regulatory situation. Furthermore, the methodology (RD SAP) does not take account of geography (climate, aspect, exposure) which is crucial particularly in Scotland.

WWF believes the NHER methodology is better suited and is already used to set standards in the SHQS, and for the SHCS.

In terms of presentation, WWF agrees that the A-G colour-banded scale is useful for raising awareness. What is important is improving the methodology for providing the rating.

¹⁸ *Achieving Our Potential*

Q 15: Should energy efficiency standards be applied to all homes, or should the option of targeting regulatory requirements be considered?

Energy efficiency standards should be applied to all homes – private, social, rented and owner-occupied. A common system for all domestic properties should be designed, though its implementation may vary for the rented vs the owner-occupied sector. In addition, the standards should be implemented at point of sale, rental, or major extension, in order to maximise ‘trigger’ points for refurbishment. It may be practical to introduce the regulation in phases, as were the EPCs. WWF recommends that the standards are introduced first in the private rented sector as it has the worst record in terms of energy efficiency and is a serious concern in terms of its effect on fuel poverty. The social rented sector is already required to achieve NHER 5 by 2015 under the Scottish Housing Quality Standard, so this would bring the private rented sector up to the same standard. However, it is clear that NHER 5 will not be sufficient to achieve statutory targets on fuel poverty or climate change emissions, so an escalator will be required to raise this minimum by 1 NHER point every 1-2 years thereafter.

To help private landlords, the current Energy Saving Scotland Small Business Loans scheme would need to be considerably expanded to offer landlords zero-interest credit in order to carry out the required work.

For further information on applying energy efficiency standards to the private rented sector, please refer to the Scottish Warm Rented Homes Coalition briefing to the Private Rented Sector Strategy Group (attached)¹⁹.

Q 16: What are your views on which types of homes and/or neighbourhoods should be targeted?

Regulations should be applied across the board. Targeting for reaching the fuel poor, hard-to-treat and high energy consumers can be achieved through the area-based programme.

Q 17: What are your views on which energy efficiency standards should be applied?

Energy efficiency standards should be introduced within 5 years, or by 2015. As the social rented sector already needs to achieve NHER 5 by 2015, the same standard should apply to the private rented sector, with the rest of the private sector to comply by 2016.

The NHER methodology should be employed as it is more accurate, and is used for the SHQS and the SHCS. It is a better basis from which to make recommendations tailored to bring a particular house up to a specific NHER standard.

Q 18: How regularly should these standards be reviewed?

The minimum standards should be reviewed every 1-2 years, rising up a NHER level each time, aiming to achieve NHER 8 as close to 2020 as possible. NHER 8 is judged to be the necessary level to ‘future proof’ properties against fuel poverty (eg 2018 NHER 6, 2020 NHER 7 and 2022 NHER 8).

Q 19: What are your views on the kind of organisation that should manage the enforcement of the standards?

Local authorities are best placed to enforce these standards however it is recognised that local authorities are hard pressed and an assessment of resources required to properly implement the standards is required. After all, standards are only as good as their implementation, and experience shows that the lack of enforcement in building standards has led to poorly built, leaky houses that simply do not performed to the design standard.

¹⁹ Scottish Warm Rented Homes Coalition, 19 November 2009, Age Concern, ACE, Energy Action Scotland, FOES, Help the Aged in Scotland, Poverty Alliance, Oxfam, and WWF Scotland

Replacing HECA (or amending) to give local authorities a statutory duty to improve the energy efficiency of homes in their area would help accord priority to this activity.

Q 20: What are your views on when regulation should be introduced?

As stated in Question 17, within 5 years from 2010.

Q 21: Should SG seek to introduce regulation in a way that maximises CERT investment?

Yes. By providing adequate lead-in time, householders would be motivated to access CERT subsidies in advance of the introduction of minimum standards. Preparation of regulation should be done in consultation with Ofgem to ensure Scottish householders will be eligible for CERT funding in advance of the regulations coming into force, and eligible for enhanced measures that take the property above the minimum standard.

By the same principle, the Scottish Government should expand area-based delivery to better attract CERT investment during this period. This is a proven policy which has worked very well with Warm Zone projects.

Q 22: What support should be provided to low income and/or vulnerable households to enable them to meet the required standards?

Given an expanded EAP, low income and/or vulnerable households should have adequate financing and advice so that they can meet the required standards. See answer to Q 13.

Q 23: Should Scottish Ministers seek to regulate to raise energy efficiency standards in the private rented sector ahead of other tenures, or should it introduce requirements that cover all tenures at the same time?

See response to question 15.

Q 24: Should any regulation of energy efficiency standards in the private rented sector be tackled through the mechanism of the Repairing Standard, or through the broad enabling powers introduced in the Climate Change (Scotland) Act?

WWF believes it should be done through the enabling powers introduced in the Climate Change (Scotland) Act. If this is not possible, new legislation could be introduced through the Housing Bill, due before Parliament in 2010.

Q 25: If the Repairing Standard is used to regulate energy efficiency standards in the private rented sector, should this be done:

- a) by adding the energy efficiency criteria of the Scottish Housing Quality Standard to it;**
- b) by adding the energy efficiency criteria of the Scottish Core Standards for Accredited Landlords to it; or**
- c) by some other means?**

WWF does not recommend the use of the Repairing Standard for the implementation of minimum standards.

Q 26: Do local councils consider HECA to be important in ensuring that the energy efficiency of all housing stock is a priority for the council?

For the most part, no. Where it has worked, HECA's statutory basis has strengthened local authority investment and action in home energy efficiency. This is what must be maintained.

HECA's purpose remains – that is to give local authorities statutory duty to improve energy efficiency in the housing sector – but its only requirement is to collect data and this is not done in any meaningful way.

Thus, if HECA is not ensuring energy efficiency is a priority, what will? HECA needs to be replaced with a statutory requirement on local authorities to improve the energy efficiency of all housing stock. The means to achieve this would be the area-based schemes. Reporting should be required, but made a part of the Local Housing Strategies and designed to be compatible with HEED, SHCS, so as to provide useful data. HECA should not be repealed until this new duty is in place.

Q 27: Does the information gathered under the HECA process make a significant contribution to planning local activity on energy efficiency?

No. There is a need to design a better system which will allow us to understand the current status of home energy efficiency, the level of investment in home energy efficiency (from all sources), and change over time. This need ties into the ability to measure progress against energy efficiency targets discussed in Questions 1 and 2.

Q 28: Should HECA remain as a distinct duty on local councils or should it be incorporated within local housing strategies with local action on energy efficiency reflected, as appropriate, within Single Outcome Agreements?

As stated above, HECA should be replaced with a distinct statutory duty on local councils to improve the energy efficiency of all stock. It is not sufficient to rely on Local Housing Strategies and Single Outcome Agreements, which may or may not reflect energy efficiency as a local priority. The duty should be combined with a process for scrutiny and penalties for poor performance.

Q 29: If HECA is retained, what steps, if any, should be taken to improve its effectiveness?

HECA should be retained only until a means to provide local authorities with a statutory duty as noted above is put in place. In the interim, the reporting framework should be revised and improved to meet the needs identified in this consultation paper on data collection. This should accord with intentions to make reporting part of the LHS. Significant penalties should be given if targets are not met.

Q 30: Given this information, is there a case for Government to introduce legislation to require business compliance? For example, should there be a minimum criteria required for energy efficiency based on a sub-sector approach to drive a greater up-take of energy efficiency measures?

WWF Scotland has not engaged with the business sector on energy efficiency and so has no comment on questions 30 – 35.

Q 31: Consideration is being given to the potential role for operational ratings. Should submetering be considered for existing non-domestic buildings which are part of a large campus? Or will financial drivers such as the introduction of the Carbon Reduction Commitment be sufficient?

Q 32: How could the Scottish Government improve its understanding of industrial energy end-use consumption in Scotland?

Q 33: What is the role for Scottish Government in regulating the industrial sector to drive a greater up-take of energy efficiency?

Q 34 What more could the Scottish Government, its agencies and the wider public sector be doing to drive a greater up-take of energy efficiency in the SME sector and in non-domestic buildings and processes?

Q 35 What steps could be taken by the Scottish Government to encourage the use of waste industrial heat?

Q 36: Should the Scottish Government use regulation to ensure public bodies undertake energy efficiency measures and place greater emphasis on energy efficiency in their policies?

Many public bodies already have carbon management plans with targets in place. The Scottish Government should provide greater scrutiny of the implementation of these plans (undertaken with SG support) and meeting of targets.

Q 37: Should energy efficiency targets be set for the public sector as a whole or for individual organisations?

As noted above, many public sector organisations have carbon management plans and targets in place. The new public sector duty in the Scottish Climate Change Act should require all public sector bodies to have a rigorous plan and targets. The Scottish Government should then have a mechanism in place, perhaps through the Carbon Trust, to have oversight over these plans to ensure they are ambitious enough, looking at the sum total of emissions savings across the sector, and to scrutinize implementation. Each organisation is different, and will need targets, always ambitious, but tailored to their circumstances and opportunities. There should be consequences for failing to meet targets and rewards for those exceeding them.

We believe there are three main ingredients for effective action:

- a requirement to act, clearly directed through the Climate Change Duty with penalties for inadequate performance
- a delivery plan, which for most organisations is the Carbon Management Plan (and collectively these should link to the Climate Change Delivery Plan for Scotland)
- a standard reporting system which allows comparison across the whole of the public sector and encourages different bodies to work together to deliver shared targets

Q 38: Should training on the procurement of energy efficient, low-carbon buildings be rolled out across the public sector?

Yes, and it should be linked to oversight, and resulting consequences for procurement practice. At the present time 'sustainable procurement' tends to come well down the list compared with 'low price'. Otherwise all the training could be wasted as it is never taken seriously.

Q 39: Should energy saving advice be rolled out to staff in all large public sector organisations? If so, should that advice include only general energy saving information, or should more job specific advice be developed for staff whose role impacts upon energy consumption on a more significant level (e.g. planners, procurement officers)?

As answered in question 38, energy efficiency training should be rolled out to all staff. However, the training will need to be tailored to specific job requirements, and those in jobs with the greatest potential to make energy efficiency savings, should receive priority, especially those able to apply the learning immediately in their jobs – eg procurement, refurbishment, contracting. Expectations, as appropriate to the job, to make progress on energy efficiency, should be included in annual work plans and reviewed regularly by managers. Senior management teams should have energy efficiency and carbon budgets as a standing item on the agenda, where managers can be recognised, or called to task, for performance on energy efficiency.

Of course the training should not be limited to energy efficiency within the organisation, but also how the organisation's service delivery or policies can influence energy efficiency in Scotland – for example planning decisions and transport plans. The Local Footprints service²⁰ within the Sustainable Scotland Network is well-placed to provide advice and support to local authorities on how to reduce an organisation's wider impact.

Q 40: Should the Scottish Government introduce greater standardisation of how energy performance is measured and reported across the wider public sector, including the possibility of mandating particular monitoring and reporting tool(s) that enable comparability while meeting the specific needs of particular organisations?

It is important that the public sector is able to report in a standard and comparable way on its energy efficiency performance. Although many public sector bodies are using different software, they are working to the Carbon Trust carbon management plans, which should allow for standard reporting. It is important not to lose progress already made in these organisations by demanding a standard tool now, as long as they can report in a comparable and standard manner.

Q 41: Should the Scottish Government seek commitment from all public sector bodies to report energy efficiency progress at their regular board meetings?

Yes. As noted in question 39, senior management teams should have energy efficiency as a standing item on their regular agendas, and the boards should provide the strategic direction and oversight necessary to support energy efficiency programmes. If progress is not being made against targets, there should be consequences for the managers involved. Without this top level attention and leadership, individual staff will not feel they have the support to make the tough decisions necessary.

Q 42: In your view, what should a follow-up to the Carbon Management Programme include?

The Carbon Management Programme has been very successful at improving the 'carbon literacy' of organisations, highlighting data gaps, and setting a benchmark from which to measure progress. However, for the most part, organisations simply did not give the work the priority it deserved. In many cases, the work was not embraced by senior management, and follow-through on implementing the plan was not necessarily thought through. Several follow-up actions are possible:

- Establish a standard and comparable reporting mechanism
- Carbon Trust assesses data gaps, particularly in relation to the Carbon Reduction Commitment, and with the Scottish Government, assists the public sector in filling these gaps. There may be training requirements to enhance capacity in this area.

²⁰ Local Footprints, www.localfootprints.org

- Carbon Trust, Scottish Government or Audit Scotland assesses the targets set in carbon management plans across the public sector, and analyses if the sum total is ambitious enough to contribute to emission reduction targets and demonstrate leadership.
- Scottish Government or an organisation on its behalf assesses if individual public sector energy efficiency targets are sufficiently ambitious, encourage joint action where it can give added value and checks progress against the targets
- Explicitly link performance to the public sector duty within the Climate Change Act and establish clear consequences for poor performance.

All of these actions will make clear that public sector bodies are expected to make progress in these areas. If Audit Scotland is to take on the oversight role, it will require significant capacity building in this area.

Q 43: Which delivery route would be most suitable for energy saving advice to the smallest public sector bodies? The Carbon Trust (through Carbon Management Lite), EST or some other mechanism?

No comment.

Q 44: How should public sector bodies be funded to deliver energy efficiency improvements? Should organisations wishing to invest in energy saving measures provide co-funding?

We are concerned by the discussion in Para 9.36-38 which highlights the potential of energy efficiency to contribute to general efficiency savings. This approach does little to offer incentive to make energy efficiency a top priority, when instead these savings could be recycled into more energy efficiency projects. This is the approach taken by Woking District Council, which reduced carbon emissions by 30% between 1990-2008. It provides the necessary pump priming funds to invest in initiatives such as an ESCO with longer payback times and a clear incentive for the organisation to act on energy efficiency.

We are also concerned by the apparent decision not to continue CEEF. On the contrary, we need an expanded CEEF, with eligibility also extended to wider selection of public sector organisations. This would parallel developments to provide energy efficiency loans to small businesses, landlords, and private householders. This funding must be met with strong public sector energy efficiency targets and reporting. Those not meeting their targets should be required to pay penalties.

Q 45: What more should the Scottish Government and the public sector as a whole do to meet Audit Scotland's concerns? (e.g. so that clear guidance is provided on energy efficiency action required of the public sector, that monitoring and reporting is improved and that energy efficiency best practice is disseminated across the sector)?

See answers to Q 42.

Q 46: Given the powers available to Scottish Government, which actions should we focus on to support the deployment of low-carbon district heating?

WWF welcomes this question, as we believe low-carbon district or community heating offers huge potential for energy efficiency, yet for the most part, it has made little inroad in Scotland. This is due to a lack of funding for up-front capital investment, lack of experience, and short-term, piecemeal decision-making that does not allow for developing community-wide heating systems.

While the provisions mentioned in para 10.16 are starting to send some good signals about community heating, WWF believes the signals are still not strong enough – these schemes remain a high-risk option that most believe is not worth taking. Clear direction should be provided by government that the provision of community heating is a priority, and targets set (based on the FREDS heat map) for the development of a significant number of schemes by 2020. This clear direction can be set in a number of ways:

- Requirement for planning authorities to undertake heat load mapping as noted in NPF2. The government should assess compliance and provide support where necessary to fill gaps and maximise potential.
- Establishment of a non-profit organisation that can help local authorities develop community heating schemes – sharing the expertise and resources to do this work across the country. While the tool mentioned in para 10.22 will be useful, it still requires the staff resources and skills to use and apply it. This may be better shared through one common advice and delivery organisation.
- A revolving fund to provide upfront seed funding for community heating projects
- Incentivise local authorities to use an ESCO to recycle funding into energy efficiency projects
- encourage the development of ESCOs to provide a commercial incentive to make efficient use of waste industrial heat and renewable heat, and to minimise resource use over the lifespan of existing and new developments.
- Priority funding to affordable housing developments which incorporate CHP/DH

Other issues:

Pipework and rates: One of the current barriers to CHP and DH is that plant and pipework associated with a CHP or DH scheme which is outside the curtilage of a dwelling house is currently liable for non-domestic rates. The Scottish Government recently consulted on exempting some of this plant / pipework from non-domestic rates, but this does not go far enough. We believe the Scottish Government should consider options to exempt all pipes / risers and other plant and equipment associated with a CHP or DH scheme from business rates, irrespective of whether they are located within the solum of a domestic dwelling or tenement.

Q 47: What actions should other key stakeholders, such as local authorities and industry, be encouraged to focus on to support low-carbon district heating. How should Scottish Government help to achieve this?

See answer to Q 46.

Q 48: How can Scottish Government best support this activity? Are there partner organisations which can assist?

See answer to Q. 46.

Q 49: With the introduction of cash-back schemes, should Scottish Government support for small scale low- and zero-carbon technologies be adjusted? If so, how?

The low and zero-carbon technology industry is still at a relatively small scale and will require continued support from a range of sources – regulatory, planning, and finance. The grants should stay in place to continue to pump-prime the industry until economies of scale make these technologies more affordable. This will only happen through widespread uptake of these technologies through measures such as new build standards, area-based whole-house retrofit schemes and the introduction of minimum energy efficiency standards for existing homes.

Q 50: What more can we do to encourage people to reduce the amount of travel, e.g. through behavioural change or modal shift in their daily lives?

WWF refers to its recent consultation response on Low Carbon Vehicles, where we set out the following view on transport and climate change: “At the same time as Scotland’s total greenhouse gas (ghg) emissions have declined by 19%, emissions from across Scotland’s road transport sector have increased by 11.5%. It is clear that if Scotland is to be successful in meeting the 80% ghg emissions reduction target set out in the Climate Change (Scotland) Act the transport sector will have to reverse its current trend of growth in emissions and play a full part in meeting the target. Recent renewable energy targets at the EU, UK and Scottish level have further highlighted the importance of tackling the transport sectors energy demands.

If we are to successfully reduce the emissions contribution from road transport there must be an integrated policy that delivers demand management measures and supports alternative low carbon travel options. This means commitment to public transport and active travel alongside the necessary investment in more efficient driving through behaviour change measures and the vital role of low carbon vehicles. Low carbon vehicles will have a critical role to play in this policy mix but as with any technology change they do not, on their own, provide a silver bullet to remove the emissions from road transport.

WWF Scotland is currently undertaking a piece of research looking at the emissions reduction potential of electric vehicles in Scotland. This study will conclude after the consultation is closed but will provide valuable additional information that we hope the Scottish Government considers when developing its policy in this area.”²¹

Q 51: What partnerships do we need to create to enable build more sustainable infrastructure and networks and develop new technologies and fuels, e.g. with the transport industry, manufacturers and business users?

See comments above and refer to attached LCV consultation response.

Q 52: Is the Scottish Government doing enough to help the wider business community in Scotland to focus on changing how energy is used, and in identifying appropriate and effective energy efficiency measures?

WWF Scotland is not actively involved with business and energy efficiency, with two exceptions:

- One in Five Campaign—In 2009 WWF launched the One in Five Challenge, asking organisations to reduce their number of flights by 1 in 5 – a 20% reduction – over the next five years. If all European business flying was cut by 20% it would save 22 million tonnes of CO₂, equivalent to taking one third of the UK’s cars off the road. SEPA has signed up and we look forward to more businesses and public sector organisations in Scotland joining up²².

Greener office demonstration – When WWF Scotland moved to its office in Dunkeld, we had it ‘retrofitted’ to a high energy efficiency standard and installed a wood pellet boiler.

²¹ WWF Scotland consultation response, Scottish Government Low Carbon Vehicles consultation, October 2009

²² http://scotland.wwf.org.uk/what_we_do/press_centre/?3200

This was done even though it is a rented property. The full report on what measures were used and why is available on our website²³.

As WWF is not actively engaged in this area, we will not comment on Qs 53 – 58, 63.

Q 53: On what opportunities should business focus its efforts on, e.g. finding and using less energy intensive materials and developing low carbon processes?

Q 54: What more could the Scottish Government do to help drive innovation and to promote technology investment and opportunity across the extended supply-chain and business community in Scotland?

Q 55: Is there adequate support for energy-efficiency related R&D and the commercialisation of energy efficient technologies? How should this be provided?

Q 56: What could be done to support energy efficiency in the Corporate Social Responsibility agenda in Scotland?

Q 57: What needs to be done to promote the role of ESCOs and Energy Performance Contracting in Scotland?

See answers above.

Q 58: Do we need industrial networks which mirror those of the academic research centres? How should they be set up to deal best with the challenges which affect a large number of stakeholders?

Q 59: How can we ensure Scotland has the skilled workforce needed for the transition to a low carbon economy?

The consultation rightly acknowledges the opportunities and concerns associated with a major up-scaling of creating low-carbon buildings in Scotland. The Carbon Countdown report estimated that delivering on the 2020 emission reduction targets in the housing sector, jobs directly related to installing retrofit measures would increase five-fold²⁴. However, we can only seize this opportunity if we have the right skills in a Scotland-based workforce.

Q 60: Are the actions outlined the right ones at this stage?

The section on innovation and skills tends to focus on new technologies and products. While this is important, it is equally vital to focus on the quality of work on existing technologies and the oversight and quality control for energy efficiency measures.

Beyond the specific measures, there will also be new skills required in the areas of community heating (eg community ownership, social enterprises) as discussed in questions under Chapter 11.

And finally, skills related to the audit and approval process – be it planning, Audit Scotland or building control, will need significant investment.

Q 61: Is this a fair balance of activity across society?

For Questions 61-73, we believe we have covered these in previous answers to the consultation.

²³ http://scotland.wwf.org.uk/how_you_can_help/get_your_business_involved/

²⁴ Carbon Countdown

Q 62: Are there other partners who should share responsibility for delivering energy efficiency improvements?

Q 63: How do we best promote private sector investment in energy efficiency?

Q 64: How do we prioritise our financing across government, especially given that we are in a period of tighter resourcing?

A proper carbon accounting of the budget, in the early appraisal phases, should inform the right balance of financing such that Scotland can achieve its ambitious carbon emission reduction targets.

Q 65: How can we best develop partnerships (including academics, R&D, local authorities, businesses etc), in which all partners can demonstrate their proactive engagement and ability to promote energy efficiency?

Q 66: How do we tap into and better utilise the resources we have across Scotland?

Q 67: What larger programmes and funds are there, e.g. at EU level, that we can pool together to tap into (either within Scotland or with international partners)? Which international partnerships should we be pursuing?

Q 68: What do you think are the key gaps in sum of actions underway and proposed? Has anything been identified that you consider unnecessary?

Q 69: How do we ensure that our efforts add up to more than a simple summary of all the constituent parts? If so, how might this be?

Q 70: Should we make energy efficiency a core criteria for all major infrastructure investment?

Yes, as well as its downstream impacts on carbon emissions (eg the use of a second Forth crossing, not just the building of it).

Q 71: How should Scottish Government reduce negative impacts?

Q 72: What equalities implications have not already been considered?

Q 73: What have we missed? What else should we consider?