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Renewable Energy Strategy Consultation A Response From Environmental Protection UK

We are writing in response to your Renewable Energy Strategy Consultation. Environmental Protection UK have considered the consultation documents and welcome the opportunity to comment on the proposals.

1. About Environmental Protection UK

Environmental Protection UK brings together organisations from across the public, private and voluntary sectors to promote a balanced and innovative approach to understanding and solving environmental problems, through policy development and education. We are a registered charity with 110 years experience of environmental campaigning, public information provision, producing educational resources and policy formulation.

Environmental Protection UK's noise and air quality policy committees have been involved in the development of this response. These committees bring together policy makers, regulators and practitioners from local authorities, consultants, developers, academics, industry, interested NGOs as well as members from Environmental Protection UK's regional divisions. As such they are able to draw on a wide range of expertise and views from representatives of the entire air quality and noise communities.

2. Scope of Our Response

Environmental Protection UK is active in the fields of air quality and climate change, noise and land quality. As such our response centres on these areas where we are able to offer our expertise.

3. Our Conclusions on the Renewable Energy Strategy Consultation

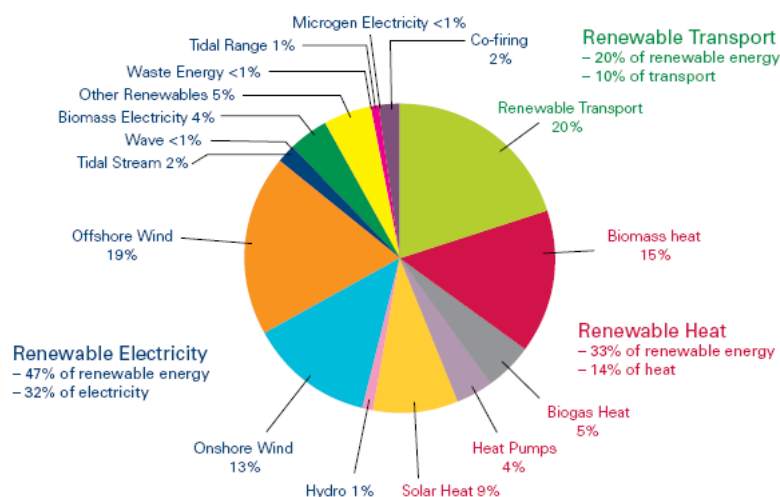
Environmental Protection UK recognises the compelling need to increase the proportion of the UK's energy needs drawn from renewable resources. We therefore welcome the production of this ambitious strategy, albeit with the caution that potential negative effects on local environmental quality need to be identified and addressed.

We recognise that meeting the 15% target will be a major task, and offer the following suggestions for improving the draft strategy.

a) The Illustrative Mix and Targeting

We understand that 2020 renewable energy mix shown below (from page 8 of the strategy) is illustrative only, and that market forces will be allowed to shape the overall mix.

Figure 2: Illustrative renewable technology breakdown to reach 2020 target



Source: Redpoint et al (2008), NERA (2008), Department for Transport estimates.³

With this in mind however, we have the following comments:

- The contribution from biomass heat is likely to be too large to implement without a major negative impact on urban air quality, unless very careful targeting is used and/ or major steps forward in emissions abatement equipment are made. Please see section 3(c) of this response.
- Biomethane could make a major contribution towards the transport energy target, and, if biomethane production was targeted towards transport use, the proportion of renewable transport energy could be expanded.
- The contribution from microgeneration represents less than 1% of predicted overall capacity. In view of concerns that allowing permitted development for micro wind turbines and air source heat pumps could generate numerous noise complaints, and the findings of the recent Carbon Trust Report¹ that urban roof mounted turbines may not pay back the carbon emitted in manufacture and installation, we feel it would be wise and economic to retain planning controls on these until their efficiency is proven.

¹ Small Scale Wind Energy – Carbon Trust August 2008

Whilst we understand the need for a flexible framework for supporting renewable energy development rather than rigid sector targets, some planning is needed for renewable fuels that can be used across economic sectors. Our example here is biomethane, which we believe should be targeted towards the difficult to decarbonise transport sector rather than used for electricity generation where many other renewable options exist.

The mix of incentives that the Government puts in place to encourage renewable energy deployment is crucial in determining the energy mix created, and, again, where renewable technologies can be used in more than one economic sector (e.g. biomass, biomethane) the overall balance of incentives and obligations will determine their end use. For this reason the overall package of incentives and obligations should be considered as a whole rather than sector-by-sector to avoid creating market barriers and distortions. These already exist, for example electricity generated from biogas gains 'double Renewable Obligation Certificates', which precludes the economic use of biogas in other applications.

b) Reducing the Demand for Energy/ Energy Efficiency

It is positive that the consultation document recognises reducing the demand for energy (and energy efficiency) as key to achieving renewable energy targets, and the most cost effective means of reducing carbon dioxide emissions. Energy efficiency also provides important benefits in other policy areas, such as air quality and fuel poverty.

Despite this, the consultation document puts forward few new suggestions of how energy demand could actually be reduced in real terms beyond existing programmes. Energy efficiency has traditionally suffered from slow progress and a 'swings and roundabouts' syndrome, with improvements in the efficiency of individual items and processes cancelled out by energy demands of new applications. Examples here are efficiencies in home heating being undermined by the spread of power hungry consumer appliances, and greater efficiencies of vehicle engines being cancelled out by a trend for bigger, heavier vehicles and accessories such as air conditioning.

To place energy demand on a downward trajectory will take a huge step forward in action on energy efficiency, and we make the following suggestions:

Identify and tackle split responsibilities – Split responsibilities for capital expenditure vs. energy costs exist throughout every sector of the economy and greatly impede opportunities to reduce energy consumption. Perhaps the most obvious examples are privately rented housing, where the landlord controls the fabric of the building and the tenant pays energy bills, and rented offices where the landlord often pays energy bills, yet the tenant controls energy consuming appliances within the office. As a result there are few incentives to improve energy efficiency.

Increase the ambition of current programmes – Current programmes are not addressing energy efficiency quickly enough. In the domestic sector, for example, there are still millions of uninsulated cavity walls and poorly insulated roofs despite more than 10 years of Government and fuel supplier programmes designed to improve home energy efficiency.

Identify and overcome barriers to uptake – There are often barriers that prevent individuals and companies taking up energy efficient products. Examples include capital investment costs, enabling work that needs to be completed before energy

efficiency measures can be installed and/ or unattractive or inappropriate product design. These barriers need to be identified and measures implemented to overcome them.

Bring forward the introduction of product standards where needed –

Improvements in energy efficiency of existing items and processes have been almost consistently outstripped by the energy demands of new devices and processes, perhaps most evidenced by the mushrooming of consumer electronics in the modern home. Product standards and legislation have failed to keep pace with these developments, taking an approach that very much closes the stable door after the horse has bolted. An example is set top boxes for digital television that are still without binding product standards as dates for analogue television switch off draw ever closer. Product standards should be enacted as soon as possible when deemed necessary, with the UK Government pressing hard for actions at appropriate levels (for example action under EU Energy-Using Products Directive).

Don't be afraid to legislate – Legislation, sensitively introduced, can break down barriers for energy efficient products. Perhaps the best example here is domestic condensing boilers, which despite having been on the market for 20 years formed only a small percentage of the UK domestic boiler market until building regulation mandated them in 2005. Condensing boilers now account for 95% of the domestic market. The Government should not be afraid to legislate in favour of similar proven energy saving products when other means to encourage their uptake are showing little effect.

c) Air quality

Air quality considerations are in the main raised in the renewable heat section of the document, although there are policy links to air quality throughout the draft strategy.

The expansion of biomass heat and power plant in urban areas in recent years has been of great concern to air quality professionals. This is mainly down to a lack of information, and air quality officers in local authorities have been unable to make informed decisions on planning applications as they have not been able to ascertain the impact of individual biomass plant, or find realistic scenarios for biomass deployment in their areas. It is therefore encouraging to see a detailed consideration of the issues in the consultation document.

The proposals as we understand them are:

- Production of emission standards for biomass boilers, perhaps with a two-tier system allowing different standards for different areas (the Clean Air Act may need to be amended to allow this to take place).
- Provision of better control for local authorities, to allow them to set and enforce standards for biomass boilers.
- MoT style tests to ensure biomass boilers are appropriately maintained.
- More research to investigate where and where not biomass boilers represent a threat to air quality standards, to help set appropriate uptake targets.

We support all of these proposals, and recommend that work to take them forward be urgently pursued. In the area of (MoT style) maintenance checks we support the concept of requiring operators of biomass plant to provide appropriate maintenance documentation when placing submissions under a renewable heat incentive or obligation.

Despite these positive suggestions, we do still have areas of concern. These are:

Insufficient Consideration of Binding European Limit Values - The consultation document repeatedly mentions ‘minimising’ the effect of biomass on air quality. European air quality standards are legally binding in the same way as European renewable energy targets, and we are currently not on track to meet these air quality limit values in all parts of the UK. If all sectors only seek to ‘minimise’ effects, rather than actively improve, the UK will be infringed by the European Commission.

No consideration of PM_{2.5} Exposure Reduction Targets - Urban exposure reduction targets for PM_{2.5} have now been set at both UK and EU levels, however there is no mention of these targets within the consultation document. Modelling work needs to be undertaken to ascertain the effects of a large increase in biomass burning on the exposure reduction target, and, if it is deemed to be significant, how geographical targeting can minimise this.

Lack of geographical targeting – The text of the draft strategy is contradictory, stating in places that it may be best to target biomass deployment in rural areas and/or areas with no mains gas, and elsewhere conceding that these opportunities simply aren’t big enough to meet the likely amount of biomass heat needed. The document also fails to recognise that the vast majority of biomass heat deployment is currently development driven, and that development is predominantly taking place in urban areas, many of which suffer from poor air quality.

Environmental Protection UK is not opposed to expansion of biomass heat, but we are opposed to measures that will negate hard won urban air quality improvements. With this in mind we recommend that work should be carried out to:

Allow a proper assessment of the effect of biomass heat on air quality – a full understanding is needed of the potential effects of biomass heat deployment on ambient air concentrations of the nine pollutants covered under the air quality strategy, both from individual plant and also cumulative effects under a range of deployment scenarios. This should include work on fuel substitution that, in some cases, may reveal positive impacts from biomass deployment where it replaces ‘dirtier’ fuels.

Create a consensus with local authority air quality practitioners on biomass deployment – The potential to grow biomass heat without impacting air quality will differ from area to area, and appropriate targets need to be agreed on a geographical basis. These should not be top down targets, but be set by an inclusive process once the research base is able to quantify potential impacts. Environmental Protection UK is willing and able to assist in this process, with our proven expertise in building consensus, and also by bringing into play our strong divisional structure.

Provide appropriate legislation to allow local authorities to control biomass deployment – Provisions under the Clean Air Act date from the 1950s, and simply are not designed to meet current air quality standards and control modern combustion appliances. Amendments to the Clean Air Act are necessary to provide local authorities with the ability to control biomass plant in new build developments, and retrofitting to existing buildings.

Create flexibilities and allow policy links – Renewable energy targets may be difficult to meet in urban developments, where space is both constrained and costly. At the same time policy links cry out for targeted renewable energy deployment, for example the link with fuel poverty (see section 3(f)). These links need to be identified,

and organisations affected by renewable energy targets given sufficient flexibility in meeting their targets to take advantage of them.

d) Noise

We are disappointed that there is almost no consideration of noise in the strategy. While we accept that there will inevitably be some trade off between the need for new infrastructure and local environmental quality, we are concerned that potential noise impacts of renewables on local communities are barely considered. In making policy links, we believe that the development of renewables needs to be compatible with existing and anticipated policy, which aims to promote health and quality of life. Better consideration needs to be given to how co-ordination between overlapping policy areas will be achieved.

Our main concerns on potential noise are:

That Noise Impacts are Properly Considered in the Planning Process

This is mainly addressed in 3.3 – Improving Delivery Through Planning. As the Planning Bill, currently progressing through Parliament, aims to provide National Policy Statements on major infrastructure developments, and an Independent Planning Commission is proposed, this should lead to consistency in decision-making that should serve the interests of both business and communities. Our major concern is that the thrust of this consultation is that environmental legislation is perceived as a barrier to development of renewables – we seek assurance that the requirements of, for example, the Environmental Noise Directive, are fully integrated into this strategy.

Proposed Permitted Development for Microgeneration

We are not convinced that giving micro wind turbines permitted development rights at this stage of knowledge will 'free up resources' as stated at section 3.3.12 of the strategy document. Current² advice suggests that it will in fact place an extra burden on local authorities, as noise complaints from unsolicited installation at the levels currently proposed are inevitable. As micro wind would be only a proportion of the less than 1% predicted from microgeneration in the 2020 mix, we feel it would not significantly undermine our ability to meet the renewables target if a phased approach to permitted development were introduced, allowing experience to inform future permissions. This would be more resource effective than blanket deployment (see also p.2).

Impact on the Environment

In section 10.3.2 noise is not listed as a potential environmental impact – this must be considered as well as air quality. Section 10.3.3 refers to reform of the planning system as integrating 'economic, social, and environmental' policy objectives. We reiterate, that while Government currently has no overarching noise policy per se, regard must be had to the requirements of European policy on noise as stated in the Environmental Noise Directive.

² Likelihood of Complaints from the installation of Micro Wind Turbines

e) Transport

Transport is perhaps the most difficult sector to boost the use of renewable energy, especially in the light of the Gallagher review which will restrict the near term uptake of liquid biofuels. Options are therefore to reduce overall energy demand through improving vehicle efficiency and modal shift, which we support, and by introducing alternatively powered vehicles.

For alternative powered vehicles in the timeframe covered by the strategy there are only really two options – battery electric vehicles (which are well considered in the strategy) and biomethane powered vehicles (which are not well considered). Both types of vehicles offer additional benefits of quieter operation and lower emissions of local air pollutants.

Electric Vehicles

Electric vehicles potentially have a great deal to offer in terms of higher efficiency operation and, by using renewable electricity from the grid, boosting the use of renewable energy in transport. However, the technology for practical road vehicles is currently immature, and therefore it will be difficult to quantify their potential impacts. The technology is also likely to need careful geographical targeting unless the driving range of vehicles significantly improves.

Environmental Protection UK is supportive of efforts to increase the uptake of these vehicles, and offers the following suggestions.

Geographical/ market targeting is essential – Suburban commuters (who have the space to charge a vehicle on their premises) and urban car clubs are two potential early adopters of electric vehicles. Incentives for people to adopt electric vehicles should target these potential markets.

Working with local authorities and parking providers is essential – Local authorities and parking providers have the potential to incentivise the use of electric vehicles through preferential parking charges and provision of charging points. The City of London is an example here, having hugely boosted the use of electric vehicles through free parking and providing charging points. Several other London boroughs have introduced similar incentives.

Working with vehicle manufacturers is also essential – Currently available vehicles such as the successful niche vehicle ‘G Whizz’ have limited appeal to most drivers. A close dialogue with vehicle manufacturers is needed to ensure they bring newer, more attractive vehicles to the UK.

Further research is needed on ‘grid balancing’ – The potential for electric vehicles to provide distributed storage for the electricity grid is noted in the consultation document, however the public acceptability of this concept is not well understood. The public may be resistant to a system where vehicles could have a significantly different state of charge to when they were last driven.

Biomethane

The potential for producing biogas from organic waste via anaerobic digestion has been a missed opportunity for many years now, and it is therefore encouraging to see this potential recognised in the draft strategy. However, the strategy makes only limited considerations of the use of biomethane (upgraded biogas) in transport applications, or the web of policy barriers that, at the present time, largely confine biogas use to electricity generation.

We believe that transport is the best use for biogas/ biomethane for two main reasons. Firstly transport is by far the hardest sector to decarbonise; there are many renewable sources of energy available for generating electricity, whilst the options for transport are limited by technology and sustainability constraints. Secondly biomethane powered vehicles operate with lower noise and emissions of local air pollutants than the diesel vehicles they replace, creating strong policy links with air quality and noise objectives.

Our analysis, contained in our 2006 report 'Biogas as a Road Transport Fuel' is that at least 16% of the UK's road fuel demand could be met via biomethane produced from organic waste alone, exceeding the 10% in the renewable energy strategy's illustrative mix. We offer the following transport specific suggestions to take advantage of this resource.

Consider renewable energy policy as a whole rather than sector by sector -

Climate and renewable energy policy needs to be considered as a whole, rather than area by area, however at the moment this is simply not happening. Our example here is the 'double Renewable Obligation Certificates' given to electricity generated from biogas. Although a wise policy in the field of renewable generation, it has effectively locked in biomethane to electricity generation where only the carbon dioxide benefits are realised rather than the wider environmental benefits described above. Government policy therefore needs to take a wider view, particularly when a fuel can be used across sectors.

Reform the Bus Service Operators Grant (BSOG) - Buses are a natural market for biomethane (as are captive fleets in general) however their uptake is hindered by the bus fuel duty rebate system. This current system based on 'diesel consumed' makes diesel very cheap for bus operators to use, hindering growth in efficiency and the development of alternative fuels including biofuels and hydrogen. In the bus support consultation earlier this year we recommended reform of BSOG to a system encompassing distance driven and CO₂ per km (with weighting for bus capacity), implemented carefully to ensure that passenger numbers are not adversely affected.

Establish a renewable methane via the gas grid system - The gas grid potentially allows easy transport and storage of biomethane, allowing production to be separated from use in both location and time. This would effectively 'free' biomethane, allowing it to be put to the most economic use, and also allowing the UK's existing natural gas vehicles to run on biomethane. However, biomethane injected into the gas grid currently loses its renewable status and a 'green gas via grid' system is needed that would work on a similar basis to the arrangements for renewable electricity. We strongly support moves to amend the Energy Bill, or equivalent action, to this effect.

Provide guidance on 'environmental optimisation' for cities introducing congestion charging schemes - Local congestion charging schemes can act as drivers for change in the vehicle markets. London congestion charge exemptions have provided strong support for natural gas heavy goods vehicles, and also hybrid cars. With other cities considering congestion charging options better guidance is needed from central Government to ensure that congestion charging maximises environmental benefits, especially with larger vehicles such as HGVs.

Consider best practice from the UK and abroad – Significant experience in using biomethane in transport applications exists abroad, which the UK can learn from. Perhaps one of the best examples is Lille, France where 400 buses have been

converted to run on biomethane generated from the city's organic waste. Trials are also now taking place in the UK – for example Sainsbury's are now trialling a biomethane powered delivery vehicle – and a dialogue should be established with the companies involved to consider how the Government can support these initiatives. More information about these examples can be found at the website, www.biomethane.org.uk.

f) Policy Links

The renewable energy strategy makes a number of policy links, which we support, however it tends to consider these in a one sided way. Two examples are:

Impact on energy prices and fuel poverty – The strategy document acknowledges that reaching the 15% target will result in an increase in energy prices, potentially increasing the number of households experiencing fuel poverty. However, renewable energy also has the potential to ease fuel poverty by providing long-term low cost energy to vulnerable households. Current policy initiatives to tackle fuel poverty such as Warm Front grants, the Carbon Emissions Reduction Commitment (CERT) and Winter Fuel Payments have a significant cost (over £2 billion per annum for Winter Fuel Payments alone), and aligning these initiatives with policies to provide decentralised renewable energy has the potential to benefit both policy objectives at a lower overall cost.

Biomass heat in particular would seem to offer a potential solution to reducing fuel bills in 'hard to treat' homes that do not have mains gas, and we suggest that sufficient flexibility is built into a renewable heat obligation/ incentive to allow developers to fund such work, rather than being fixed to providing renewable heat or power in their new development. A buy out fund may be one way of achieving this.

Consideration of potential policy links as obstructions, but not synergies – Question 7 in the consultation document asks what could be done to reduce constraints on wind generation from regulation, including environmental legislation. However, the converse question 'What synergies can be exploited between renewable energy targets and environmental legislation' is not asked. Many synergies do exist, for example those highlighted in this response between renewable energy, noise and air quality by encouraging the use of electric vehicles. These should be identified and exploited to reduce the overall cost of meeting policy objectives.

4. Answers to Selected Consultation Questions

Chapter 1

Q1: How might we design policies to meet the 2020 renewable energy target that give enough certainty to business but allow flexibility to change the level of ambition for a sector or the level of financial incentive as new information emerges?

The mix and level of incentives that the Government puts in place to encourage renewable energy deployment is crucial in determining the amount of renewable energy capacity installed, and the energy mix created. Where renewable technologies can be used in more than one economic sector (e.g. biomass, biomethane) the overall balance of incentives and obligations will determine their end use.

For this reason the overall package of incentives and obligations should be considered as a whole rather than sector-by-sector to avoid creating market barriers and distortions. These already exist, for example electricity generated from biogas gaining ‘double Renewable Obligation Certificates’, which precludes the economic use of biogas in other applications.

Whilst we understand the need for a flexible framework for supporting renewable energy development rather than rigid sector targets some planning is needed for renewable fuels that can be used across economic sectors. Our example here is biomethane, which we believe should be targeted towards the difficult to decarbonise transport sector rather than used for electricity generation where many other renewable options exist.

Q2: To what extent should we be open to the idea of meeting some of our renewable energy target through deployment in other countries?

Deployment abroad should be minimised, as there will be a number of subsidiary benefits that the UK will enjoy as part of the growth in renewable capacity, for example better energy security and the potential to reduce fuel poverty. With the challenging targets set EU-wide other European countries are unlikely to have much in the way of spare capacity to trade.

Chapter 2

Q3: In the light of the EU renewable energy target, where should we focus further action on energy efficiency and what, if any, additional policies or measures would deliver the most cost-effective savings?

Please see our response under section 2 (b). There is still a great deal of potential to reduce overall energy demand via energy efficiency, and therefore reduce the amount of renewable energy needed to meet the EU target. The key is to upscale levels of ambition, target underperforming sectors and take a pro-active approach in terms of product standards and legislation.

Chapter 3

Q5: What more could the Government or other parties do to enable the planning system to facilitate renewable deployment?

The wording of the question implies that the planning system is purely an enabling mechanism rather than a system for managing appropriate development. This raises some alarm. We agree that there should be business confidence in the viability of proposals, and this should be secured once sound National Policy Statements are in place, which take into account health, quality of life and amenity of developments, as well as their practical and economic viability. While allowing permitted development for micro wind turbines (and air source heat pumps) may facilitate installation, evidence to date indicates that these may not necessarily save carbon and are very likely to cause noise problems. Keeping these in the planning system until their economic and carbon saving viability is proven would be the best option.

Q7: What more could the Government or other parties do to reduce the constraints on renewable wind power development arising from:

- a. marine navigation;***
- b. environmental legislation;***
- c. aviation and radar;***
- d. any other aspects of regulation?***

Again, the question here implies that environmental, and other aspects, of legislation are a constraint on the development of wind power (which is, after all, necessitated

by environmental concerns). Government should be looking to balance the requirements of environmental legislation with the need to generate energy. In particular, consideration needs to be given to the Environmental Noise Directive, which is aimed at “preventing or reducing noise exposure and preserving environmental noise quality where currently good”. Timely and clear communication of energy needs, realistic assessment of potential impacts and clarity on any mitigation measures should be in place to address concerns of communities potentially affected by any proposed developments. For our views on micro wind power see Q5 and p.2.

Q10: Do you agree with our analysis on the importance of retaining the Renewables Obligation as our prime support mechanism for centralised renewable electricity?

Yes, but with our previously mentioned caveat that the Renewables Obligation must be developed within the overall cross-sector package of incentives and obligations to avoid creating market barriers and distortions.

Chapter 4

Q14: Are our assessments of the potential of renewable heat deployment correct?

We have no reason to doubt the assessment, however contribution from biomass heat is likely to be too large to implement without a major negative impact on urban air quality, unless very careful targeting is used and/ or major steps forward in emissions abatement equipment are made. Please see section 3 (c) of this response.

Q17: What more could the Government or other parties do to encourage renewable heat deployment with regard to:

- a. awareness raising;***
- b. air quality;***
- c. building regulations;***
- d. planning;***
- e. anything else?***

Please see section 3 (c) of this response for our views on air quality considerations. It is important that these air quality issues are addressed to help create a framework for renewable heat deployment.

Q18: How far should the Government go in focusing on areas off the gas grid as offering the most potential for renewable heat technologies?

These areas should receive priority treatment. Deploying renewable heat in areas off the gas grid areas is likely to provide minimal, or even positive, air quality impacts and have a beneficial effect on fuel poverty. To accomplish this it will be necessary to divorce renewable heat deployment from new development, as currently most renewable heat is development driven. Providing a flexible means for developers to meet renewable energy targets is likely to be the most effective way of doing this.

Q 22 Do you agree with the Government’s current position that it should not introduce statutory targets for microgeneration at this stage of development?

Yes – in particular with regard to micro wind (especially in urban areas), there is too much uncertainty in potential capacity and local environmental impacts.

Q23: What more could the Government do to incentivise retrofit of distributed energy technologies?

We believe policy on distributed, renewable energy should be allied with that on fuel poverty, as this has potential to ease fuel poverty by providing long term low cost energy to vulnerable households. Current policy initiatives to tackle fuel poverty such as Warm Front grants, the Carbon Emissions Reduction Commitment (CERT) and Winter Fuel Payments have a significant cost (over £2 billion per annum for Winter Fuel Payments alone), and aligning these initiatives with policies to provide decentralised renewable energy has the potential to benefit both policy objectives at a lower overall cost.

Chapter 6

Q24: How can we best incentivise renewable and low-carbon transport in a sustainable and cost-effective way?

Many of the necessary incentives for low carbon vehicles are in place or under development, for example emissions related VED, CO₂ banded company car taxation and EU rules for new car CO₂ emissions. The RTFO is also in place for renewable fuels, although as previously mentioned we think this should be further developed within an overall package of measures to encourage renewable energy rather than focusing on transport fuels in isolation.

We believe the most near term potential lies with battery electric vehicles and biomethane. Two actions that can be taken to encourage these technologies are:

- Reform the Bus Service Operators Grant (BSOG) away from simple 'diesel consumed' to incentivise low carbon buses.
- Provide guidance to local authorities on encouraging low carbon and renewably fuelled vehicles, through, for example, car parking schemes and environmentally optimised congestion charging.

Q25: What potential is there for the introduction of vehicles powered through the electricity grid in the UK? What impact would the widespread introduction of these kinds of vehicles have on:

- a. energy demand and carbon emissions;**
- b. providing distributed storage capacity;**
- c. smoothing levels of electricity demand on the grid?**

What factors would affect the scale and timing of these impacts?

Please see section 3(e) of this response. We believe there is a great deal of potential to use battery electric vehicles providing there is careful targeting for deployment, e.g. suburban commuters and urban car clubs, and central Government works closely with local authorities to develop infrastructure and incentives.

Q32: What barriers exist to the cost-effective deployment of anaerobic digestion, biogas and the use of biomethane injected directly into the gas grid, and what are the options to address them?

Please see our view of barriers in the section e) - 'biomethane'

Q 39: Do you agree with our analysis of the likely impacts of proposed increase in renewable deployment on:

- a) carbon dioxide emissions
- b) the local environment
- c) security of supply
- d) energy prices
- e) fuel poverty
- f) the energy market
- g)
- h) the economy
- i) any other wider issues that should be considered

- j)

We believe there has been insufficient consideration of impacts on the local environment, in particular with regard to air quality and noise.

There is almost no acknowledgement of potential noise impacts in the consultation. In deploying a renewable infrastructure regard must be given to potential health and quality of life impacts at local level, and to the requirements of the Environmental Noise Directive³ to 'preserve environmental noise quality where it is good and to 'protect quiet areas in open country'.

Q41: Do you agree with our overall approach to developing a UK Renewable Energy Strategy?

While we are pleased to see links being made and acknowledgement of potential conflicts with other policy areas, we would be more satisfied if a greater emphasis were placed on balancing these interests, and on consideration of local environmental quality and health impacts, rather than any potentially conflicting legislation being seen as a 'constraint' on developing renewables. A move towards renewable energy is after all an 'environmental' target as well as a move towards better energy security, and as such this strategy should strive to complement other aspects of environmental policy rather than contradict them.

5. Contact Us

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³ Directive 2002/49/EC

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