

Background Information

This consultation response was generated through two workshops hosted by the Joule Centre and the North West Energy Forum, and facilitated by Envirolink Northwest. The views expressed do not necessarily represent the views of these organisations but rather those of individuals, organisations and relevant stakeholders from the northwest who attended the events. Not all of the comments were supported unanimously but represent in the main the majority consensus.

Chapter 1 – Renewables and the Energy and Climate Challenge

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?

- What are the longer term goals past 2020 (zero carbon?) – we should have a strategy beyond the current targets.
- Policies should first focus on reducing energy demand.
- Policies to introduce further renewable energy generation and develop renewable energy technologies should accompany this.
- There need to be substantial resources behind other types of renewable energy suppliers e.g. tidal and wave – not just wind – in order to balance the risk. We need to have a broader portfolio of renewable technologies for times when the wind isn't blowing.
- The UK is likely to fail to meet the 15% targets, primarily due to the slow planning decision-making process (especially for onshore wind and incineration). The planning process should be reviewed and decisions made in the broader context of sustainability.
- Can the private sector be relied on to develop core renewable capacity? Focus should be on funding technology developments where knowledge remains available to all.

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

- Depends if it is beneficial to the UK to import from other countries bearing in mind likely energy efficiency losses from transportation, if it is, we should be open to the idea.
- Potentially it could raise more potential problems/issues.
- Deployment in other countries could be used to raise renewable levels above and beyond the 15% domestic target. If we do purchase from overseas we would need to ensure that this contributes to sustainability in the producing nation.

Chapter 2 – Saving Energy

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?

- Measures should be aimed at the refurbishment of existing building stock – since this is generally much more expensive than with new build, some kind of legislative intervention may be necessary.
- We believe that solid state lighting could have a large impact and should be making much more progress in replacing incandescent lamps than currently is the case.
- Behavioural changes could be achieved through increasing uptake of SMART metering.
- Designing buildings to minimise energy consumption i.e. removing the control capability of occupiers.
- The most effective policy would be to tax fossil fuels themselves more heavily (including their use in aviation, power stations etc.) – carbon tax – as this is linked directly to usage. To mitigate the inevitable accusations of ‘stealth tax’ the revenue raised could be ring-fenced and used only for sustainability and environmental developments.

Chapter 3 – Centralised Electricity

Q4 – Are our assessments of the potential of different renewable electricity technologies correct?

- We predict that there will be greater levels of offshore wind than indicated, whereas the onshore targets may be too ambitious.
- Tidal projections are optimistic considering the time-scale.

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

- Provide financial benefits to local communities where developments are sited – ensure that they are fairly compensated.
- Introduce regional and local targets.
- Upfront costs for developers are large because of (often overlapping) planning procedures, this constrains innovative planning applications. Speeding up the process or shifting the procedures so that a decision is made before large amounts of time and money are spent would make deployment more attractive for developers.
- Adopt fair awareness campaigns for ‘good science’ - covering climate change, energy supply/demand, nuclear - as much current negative media coverage is incorrect.

- Provide training for Local Authority planners, developers, architects, construction and energy supply organisations on planning requirements and how to meet them, incorporating this within quality assurance schemes. Ensure this is beyond the residential market and reaches all sectors of development and refurbishment.
- Priority access to the grid for renewable technologies.

Q6 – What more could the Government or other parties do to ensure community support for new renewable generation?

- Communities should be engaged at an early stage through awareness campaigns in schools and local communities. There is a need for new ways to involve local communities as stakeholders in projects.
- Could provide financial benefits for local communities who are affected by developments.
- Ensure developers provide the opportunity for local communities to become financial stakeholders.

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**

- Marine navigation – Should not be a problem as turbine locations can easily be mapped on charts (as for oil rigs) and could be located in no-shipping or fishing zones. Modern location and navigation techniques may allow a reduction in shipping lanes.
- Aviation and radar – The positions of turbines can be mapped and upgrading of radar should be able to adapt to effects of wind turbines. MOD, commercial, and private operators and users of radars should not be able to object in principle to wind turbines but have to demonstrate a strong case for objection. Financial compensation should be considered if they are adversely affected.
- Environmental legislation – Provision of wind power can be environmentally sensitive but will rarely fulfil conservationists demands, therefore climate change should be considered an ‘over-riding public interest’ when considering developments.

Q8 – Taking into account decisions already taken on the offshore transmission regime and the measures set out in the Transmission Access Review, what more could the Government or other parties do to reduce the constraints on renewable development arising from grid issues?

- Renewable developments should receive priority access to the grid. Access procedures should run parallel with the planning process, both of which should be shorter.
- The UK could make greater use of undersea cables to create a transmission network around the island rather than relying heavily on the current infrastructure.
- Promote the introduction of local heat and power micro-grids giving access to the national grid in one point.
- We need a longer-term view of investment in the grid after 2020 targets.

Q9 – What more could the Government or other parties do to reduce supply chain constraints on new renewables deployment?

- Industry needs confidence in the market; strong positive communication by government would provide much needed clarity for supply chain companies.
- Investment in the grid and ports infrastructure would encourage major first tier contractors to locate in the UK, hence encouraging the supply chain companies to invest.
- There is a need for greater training in the workforce; this could be supported by reducing university fees for renewables-related courses.

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

- Yes but there should be greater use of double/triple ROCs for technologies. Most importantly there should be certainty in support measures as soon as possible.

Q11 – What changes (if any) should we make to the Renewables Obligation in light of the EU 2020 renewable energy target?

- In general we agree with the Renewables Obligation, but urge clear decision making.

Q12 – What changes (if any) are needed to the current electricity market regime to ensure that the proposed increase in renewables generation does not undermine security of electricity supplies, and how can greater flexibility and responsiveness be encouraged in the demand side?

- Could introduce variable electricity costs i.e. cheap electricity off-peak and expensive electricity on-peak. Economic pressures on energy costs should influence consumers behaviour.

Chapter 4 – Heat

Q13 – Assuming financial support measures are in place, what more could the Government do to realise the full potential of renewable Combined Heat and Power?

- Support for industry should be expertise rather than just finance e.g. facilitated technological assistance to those interested in installing renewable CHP. Finance for feasibility studies would be beneficial as they can be very expensive (at a very early stage in the project) and can deter potentially suitable businesses from considering renewable CHP.
- Sharing of EU best practice in the field.
- Review and assess potential planning problems based on experience. We are concerned that incineration issues could be raised and delay planning applications.
- As far as we are aware there is no specific financial support for CHP.
- Investment in small to medium scale biomass CHP technology is required.

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

- We feel that it may be a bit optimistic/wishful thinking – heat is a large part of the agenda but interest from industry seems lacking.
- The assessments for biomass may be uncertain - potential users cannot be sure that the fuel stock is sustainable.
- Targets shouldn't be rigid but reflect changing technologies.
- Seems to be a large investment in solar thermal, this seems disproportionate and we are not sure it is justified. Emphasis might be better placed on stimulating new technology options.

Q15 – Have we captured the key features of a Renewable Heat Incentive and a Renewable Heat Obligation as they would apply to the heat sector correctly? Would both of these schemes be workable and are there alternative ways of structuring the schemes to ensure they can operate effectively?

- How does an Obligation work in the absence of “suppliers” e.g. such as in the electricity sector. Who would the obligation be on?
- Incentives could be difficult to control; they should focus on using less energy not more renewable heat. How do we know what a target energy use should be – need to avoid encouraging the generation of heat for its own sake e.g. to generate power just for ROCs.

Q16 – Do you agree with our assessment that a Renewable Heat Incentive would work better in the heat market?

- Agree that an incentive would be better but need to be clear about when “heat” is not “heat” e.g. steam boilers come under ETS, but direct fired/process heat would not be. An incentive should apply equally to reducing heat use as well as generating renewable heat or we may risk the generation of renewable heat for its own sake. The incentive needs further definition and detail – we worry that this means it may not be deployed in time.

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?**
- Awareness raising - Use existing facilities e.g. Energy Saving Trust centres. Target “support” for larger schemes as well as microgeneration. Segment awareness programmes to specific audiences and technologies e.g. solar heat ≠ microCHP ≠ large CHP. The government must be bold to fight NIMBYism rather than leave developers to fight it on a project by project basis.
 - Air quality – Enforce standards and back them. There should be a single system based on local Environmental Assessment.
 - Planning – Training for planners, developers, construction industry, suppliers and fitters to ensure renewable heat is seen as a viable option.

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

- Incentives should be nationwide (grid or not). There are far more areas on the grid than off, and therefore a large potential for renewable heat technologies.

Chapter 5 – Distributed Energy

Q19 – Do you agree with our analysis of the mechanisms for support of small-scale renewable electricity?

- In general we agree that the 3 possible support mechanisms identified (renewables obligation, feed-in tariff and grants) are the right ones. Transparency and continuity should be central to any support mechanisms.

Q20 – Given the analysis of the benefits, costs and potential, in what way and to what extent should we direct support to microgeneration electricity?

- We are concerned that this question only covers electricity, and are keen to see a single support mechanism that is appropriate for both heat and electricity.
- We are concerned that the suggested values of the feed-in tariff for electricity (40p/kWh) and for heat (2p/kWh) which are used as the basis for the analysis are disproportionate and do not reflect the relative value of renewable heat and electricity, nor are they correct levels for this support.
- Our experience of individuals and organisations installing distributed generation shows us that the current system of ROCs is too complex/confusing for most, and a simple tariff system would be better.
- Our experience is also that for most individuals and smaller organisations, capital cost is a high barrier, so removing grants altogether would have a negative impact on the market, even with a system of longer-term reward through ROCs or feed-in tariffs. However, we may support a system of front-loading the ROC or tariff support such that it is seen as initial capital (in the form of soft loans repaid through ROCs or tariff payments).
- Our preferred mechanism would be;
 - a. A feed-in tariff rate based on a percentage above the appropriate energy price at the time.
 - b. A phase-out of the current grant programme to be replaced by soft loans as detailed above, with the option to front-load.
 - c. The carbon saved by the technology to be taken into account in the value of the capital support as much as the capital cost of the equipment.
 - d. The mechanism should be available to all sectors, removing the current segmentation into householders, community organisations etc, which misses some key sectors e.g. small businesses.

Q21 – If you agree that better information will aid the development of distributed energy, where should attention be focussed?

- We agree that better information particularly aimed at SME and community level will aid distributed energy.
- We agree with the proposal for community outreach activity, which has worked successfully in Cumbria and Lancashire in the past (CLAREN) and this role should be funded to cover similar areas to the ESTAC network.
- We recommend that information activity is predominantly provided via existing networks e.g. the ESTACs, Carbon Trust, Eco-schools, Enworks (in the NW).
- We feel that a concerted effort needs to be made to ensure that planning officers and planning committee members are educated in the role, potential and suitability of different distributed energy technologies.
- Provide training locally for developers, architects, construction professionals, energy supply/related organisations and fitters on

renewable energy technologies incorporating this within industry quality assurance schemes.

Q22 – Do you agree with the Government’s current position that it should not introduce statutory targets for microgeneration at this stage in its development?

- Emphatically no. We feel that a statutory target is essential to ensuring that distributed generation is not seen as an add-on to a strategy concentrating on large-scale centralised renewable energy generation. Targets should be set overall rather than for individual technologies.

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

In the short term, the government should;

- Revise the current grants support programmes such that all potential buildings could be eligible for a grant, removing the current lack of support for smaller businesses in particular – e.g. guest houses, shops, offices.
- Revise the criteria for renewable energy payback in support schemes such as Salix Finance and the Carbon Trust’s interest free loans under which very few distributed energy schemes qualify for support (e.g. < 7.5 year payback for Salix)
- Work with the finance sector to develop innovative loan products for investment in distributed energy technologies across all sectors.
- As soon as possible announce the long-term programme of support proposed in this consultation to give the industry confidence to develop the supply chain and increase installer capacity.
- Revise planning policy such that developers are required to consider district heat and private-wire networks as the preferred option in larger developments, with the expectation that the network could be expanded to supply existing buildings.

In the medium term;

- Incentivise cities/local authorities to take responsibility for energy supply in their area – e.g. where appropriate technologies such as deep geothermal heating. Energy improvements to properties could be encouraged by moving council tax banding or levying stamp duty for energy efficient properties.

Chapter 7 – Bioenergy

Q27 – How can we best ensure that our use of biomass is sustainable?

- The use of waste could be key as it would divert materials from landfill – particularly for agricultural and food waste (currently there isn’t the

- infrastructure to support the use of food waste in biomass). Advice and promotion in these areas could increase uptake.
- Wood fuel from within the UK can be managed sustainably but the sustainability of imported fuels can't be equally assured. How would this be managed?
 - There has been work carried out to quantify the resource for biomass in Cumbria, has such work been carried out elsewhere? It is important to understand the limit of available resources. An audit of sustainable UK biomass capability should be undertaken.
 - It should be recognised that there will inevitably be conflicts of land resources.

Q28 – How do you see the market for biomass developing to 2020?

What are the implications for:

- a. imports;**
- b. longer-term prices and costs?**

- We foresee problems regulating imports in terms of their sustainability.
- In the short-term prices may be more expensive than equivalent fossil fuels, but in the long-term this is not necessarily so at all.

Q29 – Should the Government take further regulatory measures to discourage biomass waste, including food waste, from going to landfill? If so, which types? What, if any, other measures should be taken to encourage its use to generate bioenergy?

- We believe the current legislation to be adequate; however the supply chain is not there to support the use of biomass waste as a fuel. In Cumbria there are several major food industry processors and a large hospitality industry (hotels and restaurants in the Lake District), both producing volumes of food waste; however the infrastructure is not there yet to support its use as a fuel. This must be an affordable option or waste will continue to go to landfill.

Q30 – What more could the Government or other parties do to help to ensure the provision of sufficient Waste Incineration Directive-compliant combustion capacity to burn available waste wood alongside other biomass, and what else might constrain the development of this capacity?

- Don't use the word 'Incineration' as perceptions of the word are negative and this can cause delays in potential projects. Perhaps 'combustion' (or 'oxidation') would be a better alternative?
- What is the sustainable limit?
- The cost of sending waste to landfill will drive change in this area.
- Promote waste minimisation more extensively which will reduce energy demand.

Q31 – What further actions will improve supply chain efficiency, consumer confidence and sustainable growth of the biomass supply chain?

- Initiatives to develop demand, production and infrastructure in conjunction (an integrated approach). In the whole of Cumbria there are only two people working on this, it isn't surprising that there isn't greater uptake. Since biomass is expensive to transport demand should be assessed on a local level and matched to potential sources.
- Work with specifiers (planners, architects) to ensure that biomass fuel handling and storage is planned into a project from the beginning.
- Local Authorities encourage the application of the 'Merton Rule'

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?

- Anaerobic digestion should be viewed as a fuel source as well as a method of waste disposal. There should be incentives for the use of the heat as well as for the electricity (e.g. ROCs). It is expensive technology therefore to be cost-effective you must be able to maximise the outputs (for example in a large plant) or build the digestors very cheaply. Government departments are not working together on this – BERR needs to talk to DEFRA.
- Biogas → gas grid? Purity is an issue especially in the agricultural sector (NH₃?) There could be better uses at the source of production.

Q33 – What action could we take to make biomass communications more effective to both improve public awareness and help to address acceptability issues, and how should this be delivered?

- This could be delivered through the Energy Saving Trust – providing one source of information through local call centres, the knowledge and training of advisers would need to be developed as well as funding for more local advisers. They could provide a link to other resources.

Q34 – Are there issues constraining biomass supply and use other than sustainability, supply chain and information issues? How should these be tackled?

- Transport costs – these are bulky energy sources and often not economical to move around. The fuel sources and existing and potential developments need to be mapped.
- There are major users of biomass fuel outside the region which would impact fuel availability within the region e.g. Lockerbie, Hexham, (Jenkinsons of Penrith supplying wood to both).

- If there is major use of local biomass fuels by major power stations (e.g. in the northwest Fiddler's Ferry) this could impact on local fuel availability.
- Funding for kick-start measures and inter-departmental action would be beneficial.
- Radical developments can happen – e.g. Germany, where projects have received heavy subsidies. As a consequence, there are over 3,000 AD plants on farms in Germany.

Chapter 8 – Innovation

Q35 – How can we adapt the Renewables Obligation to ensure that it effectively supports emerging as well as existing renewable technologies? Are there more effective ways of achieving this?

- Renewables Obligation does not encourage innovation – it is too prescriptive. It could be improved through
 1. Splitting by technology
 2. Varying with development stage – using a sliding scale not step changes, it would essentially work as a feed-in tariff at early stages.
- Review EU best-practice.
- ROCs should be for energy not just electricity.

Q36 – Is there evidence that specific emerging renewable and associated technologies are not receiving an appropriate form of support?

- We feel that marine technologies such as wave and tidal are largely overlooked. The UK has a huge amount of natural potential in these areas and they could provide an opportunity for the UK to be a market leader.
- Energy storage – falls between camps, the regulatory framework is problematic. There is a lack of research, development and demonstration calls in this area.

Q37 – Are there barriers to the development of renewable and associated technologies that are not addressed by current or proposed support mechanisms?

- There is no strategic direction and government leadership is lacking – needs a single government department to increase joined up thinking, better understand issues and set clear targets.
- An economic regulator does not address technical issues.
- At the moment government and large energy companies decide which technologies to invest in - usually those which are well developed and the economics are easier to justify. This is a blinkered approach. We need to identify priorities based on optimum return and the technology's potential rather than its current state.
- Market /funding is confusing for innovators.

Chapter 9 – Business Benefits

Q38 – What more could the Government or other parties do to ensure the UK secures the maximum business and employment benefits from the EU renewable energy target?

- We are already seeing job losses due to high energy costs – to offset these losses, the government needs to focus on technologies where we have good natural resources and technological expertise in order to optimise jobs e.g. follow the example of France (nuclear) and Germany (solar power). We believe that tidal technologies could be an area of expertise for the UK.
- Government, RDA and Vision boards should encourage and support supply chains in (a) energy management and efficiency, and (b) renewable energy systems.

Chapter 11 – Delivering the Target

Q40 – What more could the Government or other parties do to ensure the UK meets the EU renewable energy target?

- Incentivise the private sector to develop other forms of renewables – do not rely on wind as the largest constituent.
- Clear strategy on reducing energy demand.
- Promote domestic and local energy generation as is successfully demonstrated in Germany.

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

- If the Renewable Energy Strategy is implemented we must ensure that we offset the jobs lost due to high energy costs with increased jobs in other fields/technologies.
- The strategy seems like an extension of existing policies/ideas rather than the radical thinking that is required to meet 2020 targets.

Annex 2 – Feed-in tariffs for small-scale electricity generation

QA1 – Do you agree with our assessment of the basic starting principles that feed-in tariffs for small-scale electricity generation should adhere to? Are there other principles you think we should consider?

- Consider the possibility of additional access to incentives for small-scale electricity generation as an early stage boost to the market.

QA2 – What are your views on the option we have described? Factors we would like you to consider in your response include:

- a. if there are problems with the option described or improvements you could suggest;
 - b. if you can envisage a more effective way of implementing feed-in tariffs for small-scale electricity generation.
- The main problem is the complexity of the system.
 - At the moment there is a lack of net meters; installation of net metering and total metering is an important cost to be considered. Investment would be needed in the equipment and know how.

QA3 – Are there any other bodies or organisations that would be impacted by feed-in tariffs for small-scale electricity generation that we have not considered?

- Meter manufacturers.
- Micro-CHP – small scale heat and power generators.
- Supply chain for the renewable generation equipment.
- District heating operators (tri generation).

QA4 – Who do you think should have access to feed-in tariffs for small-scale electricity generation? Factors that we would like you to consider in your response include:

- a. different generation technologies;
 - b. size of generation station (ie to distinguish from eligibility of large-scale generation for support under the Renewables Obligation);
 - c. whether generation is primarily for own use, supply locally or for export;
 - d. whether generation is on or off-grid;
 - e. whether or not energy efficiency measures should be required.
- We agree that feed-in tariffs should apply across all technologies.
 - Incentive should relate to how much electricity is generated in total.
 - Must ensure that grid failures resulting in the disconnection of small-scale generators do not impact on eligibility to incentives.

QA5 – Do you think it is reasonable to put in safeguards to limit the potential cost of feed-in tariffs for small-scale electricity generation, and if so how could those safeguards be set, and what would the access criteria be? Possible factors and criteria we would like you to consider include:

- a. a limit on overall number of new installations in a given period;
- b. a limit on new installed capacity in a given period;
- c. whether priority should be given to particular groups; for example, people in fuel poverty.

- It was not felt that this needed serious consideration before 2020.