

# **UK Renewable Energy Strategy Consultation**

**June - September 2008**

**Response from the Renewables Advisory Board**

QUESTION	RAB RESPONSE
<b>Chapter 1: Renewables and the Energy and Climate Challenge</b>	
<p><b>Q1:</b> 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?</p>	<p>RAB agrees that in a market economy policy alone cannot guarantee outcomes. Success in meeting these challenging targets will rely on the market responding positively to the signals provided by Government within a challengingly short timescale. In order to commit to capital investments totalling some £100 billion a high level of economic certainty is required. This is especially true at the point of commitment to capital spend (“financial close”) but also at the time of committing development resources (“risk money”) prior to that.</p> <p>RAB believes that the following measures need to be in place to provide the certainty required:</p> <ul style="list-style-type: none"> <li>• A financial support mechanism which will be secure over a period commensurate with the economic life of the renewable energy asset.</li> <li>• “Grandfathering” of that mechanism such that financial support will remain unaffected by future changes in legislation, R.O. banding, etc.</li> <li>• Primary legislation which enshrines these principles.</li> <li>• Political leadership at senior level demonstrating a national commitment to achieve the targets.</li> </ul> <p>In addition, business needs assurance that the potential penalties in the event of the UK failing to achieve its 2020 “binding” target are sufficiently painful to strongly motivate Government to succeed. A system of review dates, at which adequate progress towards the 2020 target needs to be demonstrated, is unconvincing. By necessity the bulk of new renewable capacity will be added in the latter half of the next decade. It will be easy to make (and difficult to challenge) forecasts of 2020 success during the period up to 2015 but if it transpires to be a false forecast it will be too late to remedy. For this reason RAB supports the principle of <i>binding interim targets</i> which we understand is being advocated within the EU debate.</p> <p>However RAB recognises the need for flexibility as sector-specific renewables production, generating costs and displaced fossil fuel prices evolve. Within the bulk electricity market the system of banding proposed within the recent RO Review provides the necessary flexibility for adjusting financial support, provided that existing investments are grandfathered. RAB is</p>

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	<p>willing to work with Government to peer review proposed changes to RO banding.</p> <p>Until support mechanisms for renewable heat are better defined it is not appropriate to propose detailed future adjustment processes but RAB suggests that similar general principles should apply.</p> <p>Policy changes addressing grid, planning and regulatory issues are equally essential and are addressed elsewhere in this response.</p>
<p><b>Q2:</b> To what extent should we be open to the idea of meeting some of our renewable energy target through deployment in other countries?</p>	<p>RAB has difficulty with the concept of meeting UK targets through deployment in other countries because:</p> <ul style="list-style-type: none"> <li>• Although carbon reduction is a global challenge, the reasons for renewables also include energy self-sufficiency and domestic wealth creation. Deploying some of our 15% target elsewhere negates these advantages.</li> <li>• The statement (1.5.4) that “one percentage point of the proposed target could save 15-20% of the cost of meeting the target domestically” seems unlikely. The economic model used to arrive at this conclusion is necessarily approximate (and granular) and RAB believes that the UK market will provide less expensive domestic energy at the margin than indicated in the Consultation.</li> <li>• Other countries will be struggling to meet their own challenging targets. UK policy should not rely on others providing excess energy 12 years and beyond into the future. Developing auditable, sustainable trading mechanisms will take time leading to delay. Our immediate focus should be on renewables deployment in the UK and trading issues should be resolved later if they prove necessary.</li> <li>• Much of UK renewables generation capacity is owned by European multi-nationals. These companies may choose to trade internally across the EU boundaries and their trading decisions are likely to be made on the basis of best financial return. This effectively creates an auction across the EU, driving up support costs as nation states compete to augment financial support mechanisms so that their targets can be achieved. For example if feed in tariffs in Germany were to provide higher support levels (designed to compensate for lower wind speeds) owners of assets in the UK would seek to sell their generation into Germany: the RO would be depleted and costs to the UK consumer would rise.</li> <li>• The national targets are Government targets. Any bi-lateral trade would necessarily be</li> </ul>

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	<p>between companies. Achievement of national targets would be difficult to manage and control.</p> <p>However if trading is to take place, RAB would support the alternative approach being proposed by the UK/Germany/Poland. The crucial factor is that the Government should not delay action domestically in the hope that the UK's target can be achieved with a major contribution from trading. In many respects trading already takes place through the demand for investment capital. The Government needs to ensure that the UK is seen as an attractive investment location. It must also ensure that the UK's regulatory environment does not discourage domestic investment (e.g. through more onerous grid code requirements than elsewhere).</p>
<b>Chapter 2: Saving Energy</b>	
<p><b>Q3:</b> 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?</p>	<p>RAB agrees that saving energy must sit alongside renewables as a key priority. In general, energy saving measures cost less than equivalent new renewable energy or other low carbon generation options. RAB's own projected requirement for renewables deployment in 2020 assumes significant savings from energy efficiency.</p> <p>Although RAB's remit does not extend to detailed commentary on specific energy saving measures we are conscious that the absolute level of the 2020 renewables target depends crucially upon the level of energy demand at that date and therefore the actual achievements in efficiency improvement. We therefore encourage the Government to implement all reasonable and cost-effective measures to reduce energy demand. Wherever possible renewables and energy efficiency policies must be implemented synergistically.</p>
<b>Chapter 3: Centralised Electricity</b>	
<p><b>Q4:</b> Are our assessments of the potential of different renewable electricity technologies correct?</p>	<p>We agree broadly with the assessments but capacities will only be delivered if all supporting measures are put in place: Government controls this. Removing grid and planning challenges will be critical to the success of delivery. Ability to remove barriers has been limited in the past and further action is needed to make changes happen (for grid see Question 8).</p> <p>Achieving a significant contribution to targets from Severn tidal power by 2020 will require a formidable effort on the part of the developers, the Government and IPC, investors and constructors.</p>

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	<p>RAB is particularly concerned about some of the statements on capability of the offshore wind supply chain to deliver and the very ambitious contribution expected from renewable heat at the expense of biomass electricity (reference later sections on biomass and heat).</p> <p>We understand that the 14GW figure in the RES Consultation document is not a BERR target, aspiration or expectation, however it has been perceived as such by many commentators. The deployment of offshore wind by 2020 could be significantly higher than 14GW and as such RAB supports a clear message from BERR that at least 18GW (the RAB figure) is achievable by 2020. RAB believes that in relation to offshore wind, constraints may not be as severe as expected by BERR. For example:</p> <ul style="list-style-type: none"> <li>i) With revised access arrangements (including GBSQSS) a significant volume of offshore wind may be accommodated without significant new transmission investment onshore and therefore without consequential grid-related planning delays (cf SKM report);</li> <li>ii) Planning constraints for offshore wind farms are lower than for onshore developments (note: no offshore wind farm has yet been refused planning permission). However, there are significant planning issues that need to be resolved (such as aviation) and it is important that there remains a focus on resolving these issues within the next few years.</li> </ul> <p>Supply chain constraints may not be as severe as expected by BERR's consultants and there is evidence that the supply chain for offshore wind is already expanding with, for example, the construction of new cable and turbine installation vessels. Also a new cable manufacturer is establishing a manufacturing facility in North East England.</p> <p>We are particularly concerned about the low estimate for offshore wind since in 10.4.8 the Consultation document indicates that Government expect just 4-7GW of new renewables to be added in 2020-2030. With expected substantial developments in wave and tidal during that period, it seems that the Government's ambitions for offshore renewable generation fall some way short of industry's own expectations.</p> <p>We believe that the RES underestimates the potential for biomass electricity from both CHP and electricity-only power plants (see RAB's projections published in June 2008). This view is underpinned by the current level of project development activity in this sector. Biomass generation has a high capacity factor and can support security of supply.</p>

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<p><b>Q5:</b> What more could the Government or other parties do to enable the planning system to facilitate renewable deployment?</p>	<p>The proposed measures on planning are expected to assist in reducing delays in reaching application decisions and should lead to a reduction in the number of appeals. RAB welcomes the development of stronger national policy statements and an expert body to provide specialist advice to local planners and developers, but it would need to provide impartial advice to determining agencies, consultees and applicants. Many professionals required to assess and provide opinion on renewable development are without full and proper knowledge of the key issues (and non-issues).</p> <p>RAB supports clear deployment strategies at regional level, although there is a real risk of a moratorium on decisions from LPAs whilst new measures are awaited or are in the process of being implemented. The IPC needs to work quickly, with S36 keeping pace in the meantime, driving statutory consultees, and ensuring local authority buy in. Government departments and agencies need to work to common goals: recent difficulties have been experienced with several statutory consultees.</p> <p>Good quality applications and providing appropriate resources is the key to speeding up the planning process. Improving the quality of applications would reduce the need for repeated requests for information and hence reduce timescales. This could be achieved by introducing a thorough pre-application registration audit. Provision of adequate, appropriate resources is equally important not only for determining bodies (local authorities and central government), but consultees too. In Scotland significantly increased fees for section 36 and 37 applications were introduced a number of years ago to assist with funding local authorities in dealing with renewable energy applications. A review of this has just been announced and will also examine the possible extension of this to other consultees in order to help the Scottish Government meet its target of nine months for section 36 determinations. A scoping and application checklist has also been introduced to help meet this target.</p> <p>More generally RAB and other groups have suggested the concept of a 'task force', made up of representatives from industry, local and central government, that would oversee the incorporation of the NPS into the local plans, provide a central source of expertise as described above, gather and share best practice (to local authorities and developers) as well as monitor performance in the planning process of not only local authorities but also of statutory consultees and developers - assessing the quality of their pre-application consultations and applications.</p>

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<p><b>Q6:</b> What more could the Government or other parties do to ensure community support for new renewable generation?</p>	<p>RAB is currently revisiting its work on community benefits and will be providing advice to Government on how perceptions of community benefits can be improved and marketed. RAB considers that a single benchmark for local community benefits is unlikely to be workable and recommends that projects be treated on a case-by-case basis, with developers, local authorities and communities continuing to work together. Other benefits e.g. local business involvement, must also not be overlooked. RAB recommends that training be provided to planning councillors. RAB does not agree with proposals to implement a Community Infrastructure Levy for renewables projects as the concept of “planning gain” in the renewables sector is totally different from the issues faced by other sectors.</p> <p>The RAB community benefits toolkit and protocols for public engagement are being refreshed, including updated case studies and a clearer explanation of financial relationships between communities and developments (referencing the work on bankable models). In addition, BWEA and SRF are undertaking a survey of their members to establish the extent of current provisions of community benefits. The work should be completed in September and launched, with Government backing, shortly afterwards.</p> <p>Empowering local communities can be achieved through early consultation, giving their opinion weight in the decision making process and clear communication from the applicant on what changes have been made as a result. Unfortunately these approaches must be accompanied by a realisation that one can never meet everyone’s objectives.</p>
<p><b>Q7:</b> What more could the Government or other parties do to reduce the constraints on renewable wind power development arising from:</p> <ul style="list-style-type: none"> <li>marine navigation;</li> <li>environmental legislation;</li> <li>aviation and radar;</li> <li>any other aspects of regulation?</li> </ul>	<p>RAB recognises that significant efforts are underway but this area needs Government to insist on a top down solution; inaction is not an option.</p> <p><u>Marine navigation:</u> the shipping industry must speak with a single co-ordinated voice and Government must ensure that commercial concerns are separately identified from technical and safety issues.</p> <p><u>Environmental legislation:</u> Government must ensure that renewables potential is considered whilst designating protected areas and that management flexibility is built in to allow renewable projects where compatible. Government should promote data gathering to allow concerns to be addressed through a scientific case where possible.</p> <p><u>Aviation and radar:</u> Government should help fund solutions and continue to ensure co-ordination between aviation and renewable industries. Government’s role will be key here in ensuring concerted action (across all relevant Government departments) to implement the</p>

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	<p>Aviation Plan within reasonably short timescales to allow onshore and offshore wind projects to be released from the planning system in a timely fashion. Government may also have a role in ensuring the necessary funding of the Aviation Plan if the current framework does not provide sufficient timely funds.</p> <p><u>Other aspects of regulation:</u> Ofgem priorities need to be refocused to include a duty to support Government environmental and security of supply objectives, and to take a longer term view of their 'cost to consumer' duty which accounts for increasing costs and volatility of fossil fuels to 2020 and beyond. Better engagement from Ofgem is needed and a clear acceptance of their responsibility in delivery of UK obligations. If they consider that there is a conflict with their legal obligations, these should be reviewed and their duties amended so that they do not hinder renewables development. We expand on this in our response to Question 40.</p>
<p><b>Q8:</b> 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?</p>	<p>RAB reiterates the need to expedite the removal of electricity network constraints, with emphasis on implementing TAR recommendations, driving forward 'Connect and Manage' and investment in new infrastructure. RAB also supports the emphasis on energy efficiency measures and demand side management.</p> <p>RAB remains seriously concerned that the Connect and Manage proposals, whilst well-intentioned, will fail to be implemented due to entrenched views within elements of the industry and governing bodies. We welcome Government's intention to review delivery at the end of 2008 and urge close scrutiny with a willingness for radical measures (including changes to the governance process) if required.</p> <p>RAB supports the development of "a vision of the UK electricity networks" and the introduction of mechanisms to enable early investment in networks. Such a vision is a precursor to enable delivery of the UK's 2020 Targets. The renewables industry will contribute to this process. Early work on onshore reinforcements for offshore transmission is essential. There is a need to understand the costs in detail quickly. RAB supports the re-establishment of the ENSG with the objective of providing an appropriate strategic overview for networks and establishing an industry wide commitment to drive that vision forward.</p> <p>More efficient use of the existing network is required and hence early implementation of Connect &amp; Manage (with costs either socialised or fixed ex-ante) is essential. This change is proving unnecessarily slow. The principal barrier in relation to this and many other issues is the governance process for the implementation of industry code changes. RAB wish to engage with Ofgem to try and facilitate a change to this process so that Connect &amp; Manage</p>

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	<p>can be implemented by April 2009.</p> <p>To fully remove grid constraints (so that grid access is available within project (effectively consenting) timescales) further industry code changes need to be implemented so that optimum use is made of networks.</p> <p>A firm connection date reasonably consistent with the development time of individual projects is welcomed but we now need to see the methodology for dealing with an excess of potential demand for transmission over transmission capacity if projects are going to have the certainty to proceed. Project developers will need to be able to secure long-term transmission access rights at stable and predictable prices prior to commitment of significant development and construction spend on new renewable projects. It is not yet clear how Ofgem's preference for an auction based system of allocating transmission access rights will deliver this.</p> <p>For example, project developers will need certainty as to the availability and cost of long-term (15 years plus) transmission access prior to committing tens of £m on offshore wind farm development. This can currently be achieved at the right time, i.e. several years ahead of financial close, and usually at an acceptable cost/commitment, through the connection application process. We do not believe that an auction based system will allow such reservation of capacity several years ahead of financial close, or that it can be achieved at an acceptable cost/commitment.</p> <p>The Government needs to ensure that the outcome of the TAR process is one that ensures that the Government's policy objectives with respect to the growth in new grid connected renewable electricity generation by 2020 is met, and that in rightly seeking to minimise costs to the consumer, sight is not lost of this overriding policy objective.</p> <p>There is a need for commitment to processes already consulted on, such as offshore transmission. For example Ofgem's "re-evaluation of the treatment of offshore sub-stations" is a particularly bad example of regulatory uncertainty.</p> <p>The current approach for offshore transmission must be implemented for the 'Round 2' offshore wind projects but then reviewed with a view to moving to a possibly more co-ordinated approach for 'Round 3' projects.</p> <p>The re-constituted ENSG will be critical in facilitating the development of network infrastructure to ensure access for the 'Round 3' offshore projects.</p>

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<p><b>Q9:</b> What more could the Government or other parties do to reduce supply chain constraints on new renewables deployment?</p>	<p>Supply chain constraints on new renewable deployment are lessened by a known regular deployment of technology. The UK is competing in a global market place. The available plant can be deployed anywhere, and the developers are looking for the easiest solutions. If a developer has clear visibility on when they can build projects over a 5 year period they are then able to contract with their supply chain for delivery slots and clear pricing policies. An irregular approach adds uncertainty. The RES itself is useful in sending a market signal to suppliers. Sectors where the UK is taking the lead, i.e. offshore wind and marine, should be given maximum priority in terms of start-up funding and institutional support. Such support should also factor-in the potential for the industry to become a major exporter for the UK.</p> <p>We would expect Government to be clear in its requirements for 2020, the support measures that it will put in place, and clarity that it will deliver a consistent approach from other Government departments.</p> <p>Investment will be made by the supply chain when it can see a clear future. It will only do this in the UK if there are clear advantages for the technology providers. There are immense opportunities for Tier 1 and Tier 2 suppliers with a steady flow of projects. The UK can follow the example of other European countries to attract the supply chain by allocation of projects or grid access for a guaranteed period of time.</p>
<p><b>Q10:</b> Do you agree with our analysis on the importance of retaining the Renewables Obligation as our prime support mechanism for centralised renewable electricity?</p>	<p>RAB strongly agrees that the Renewables Obligation should be retained as the prime support mechanism for centralised renewable electricity. Maintaining investor confidence is essential and RAB believes that a change in support mechanism at this stage would cause a damaging hiatus for investment plans. It also believes that it is not the support mechanism which is the barrier to increased deployment of centralised renewable electricity in the UK, and a feed in tariff would face the same barriers as the RO currently faces.</p> <p>RAB disagrees with the analysis that a Feed in Tariff (FIT) would be more cost-effective than the RO for the following reasons:</p> <ol style="list-style-type: none"> <li>1. IRR for wind varies considerably from project to project due to yield and cost variations. Any FIT would therefore have to be pitched at the high end if growth is to be maintained and there is thus no advantage over the RO.</li> <li>2. Different developers have different cost of capital requirements, so that again the tariff needs to be at the high end to maintain growth.</li> <li>3. There is no evidence to suggest that investors would be any more comfortable with FIT</li> </ol>

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	<p>than with the RO. In fact experience elsewhere (e.g. Spain) shows that FIT can be just as susceptible to future political interference, causing market nervousness.</p> <p>4. In fact if the UK switches from the RO to FIT then without a doubt there will be a fundamental impact on investor confidence, both slowing growth, and further increasing cost of capital requirements.</p> <p>5. The RO, post 2015, will have guaranteed headroom and therefore offer stable tariffs in any case. An RO with banding and headroom will create some of the effects of a “feed in” type mechanism, whilst retaining the ROC based system with which UK investors are familiar.</p> <p>Whilst the RO should remain the principal support mechanism for centralised generation, RAB believes there is a strong case for a FIT for small-scale/domestic generation that focuses on the requirements of domestic consumers, including simplicity and stability.</p>
<p><b>Q11:</b> What changes (if any) should we make to the Renewables Obligation in the light of the EU 2020 renewable energy target?</p>	<p>RAB supports an extension to the Renewables Obligation beyond 2027 – we recommend 20 years support for all new projects. It will also be necessary to increase the annual targets beyond the current 20% aspiration – both to match the new ambition for centralised renewable electricity to be contributing at least 32% of generation, and also to recognise that the target is now expressed in terms of ROCs and not MWh, and will need to be higher in order to deliver the same volume of generation.</p> <p>We suggest keeping a watching brief on guaranteed headroom for now – for although the mechanism is valuable in terms of avoiding the “cliff edge”, it might restrict the ability to increase targets rapidly enough to achieve the 2020 requirements.</p> <p>The RO needs to be adjusted to support technologies as they develop and costs change, however we agree with the aim of minimising the total number of bands. New technologies which require more than 2 ROCs should receive additional support from other sources, where appropriate, in order to stimulate development. RAB welcomes the proposal that it be given a formal role to peer review the independent work on banding levels.</p> <p>Linking the ROC price to the wholesale price would need a clearly defined mechanism that investors can understand and predict – we believe this is unlikely to be achievable in practice.</p> <p>We would also like to draw your attention to RAB’s response to the concurrent RO Consultation, as well as our responses to previous RO consultations.</p>

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<p><b>Q12:</b> What (if any) changes 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?</p>	<p>This is an important area that must be kept under review. The structure of the UK energy market means that the overall generating mix will have a significant impact on the electricity wholesale price. There needs to be clear guidance as to how back-up plant (which is likely to be gas-fired) will be rewarded and NGT must be allowed to contract for sufficient back up capacity. There also needs to be additional storage capacity and a strong focus on demand side management, which could be facilitated by the deployment of an ESCO model that allowed renewable generation to be linked directly to demand in a local community.</p> <p>The SKM report suggests that 39GW of wind can be introduced to the UK system (assuming planned upgrades go ahead) before wind curtailment becomes a necessity. The current proposal suggests that wind will deliver 28GW by 2020. This suggests that security of supply should not be a major concern at this stage.</p> <p>We believe that Ofgem's remit with respect to renewable energy and managing the conflict between implementation of renewable projects and transmission, distribution and trading issues needs to be resolved. This is essential if the massive deployment of renewable generation required is to take place in a timely manner.</p>
<b>Chapter 4: Heat</b>	
<p><b>Q13:</b> Assuming financial support measures are in place, what more could the Government do to realise the full potential of renewable Combined Heat and Power?</p>	<p>RAB believes that the incentives should be heat-led, not electricity-led. In particular a regulatory environment needs to be created that encourages the development of heat networks, as this will be one of the keys to stimulating renewables CHP.</p> <p>Specific financial incentives for renewable or low-carbon heat will not be in place for some time. The Government should ensure that existing support mechanisms for CHP (LECs, ECAs, Business Rate relief, etc) apply equally to biomass CHP and to all classes of developer/operator. The LEC mechanism in particular should be extended beyond 2012 on an urgent basis to provide incentives for CHP until such time as any replacement mechanism is introduced.</p> <p>The biggest concentrated and non-seasonal heat demands are likely to come from industries where investment decisions can be made quickly but which operate in a risk averse environment with a long time horizon and where capital has to compete with other projects. These factors will need to be considered in the support mechanism, particularly its long-term security and speed of introduction. Uncertainty is likely to cause delay in project implementation.</p> <p>The highest potential for renewable CHP in the built environment lies in serving the existing building stock. The encouragement of heat networks for industrial and commercial sites as</p>

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	<p>well as domestic consumers, even if they do not fully embrace renewable energy at the beginning, would provide the infrastructure for large-scale and complementary roll-out of renewable heat. Networks for mixed use consumers (e.g. that include an absorption chiller requirement to provide summer cooling) should be encouraged to flatten the seasonal nature of heating demand.</p> <p>New buildings will require very little heat and are therefore poor customers for district heating unless they are part of a wider scheme. The present technical compliance requirements for supplying renewable electricity and heat under the Code for Sustainable Homes would preclude the use of 'community' level renewable CHP by requiring on-site systems. This requirement should be reconsidered urgently to allow them as compliant systems given suitable quality standards.</p> <p>The proposals under the RO banding have already provided a significant stimulus to the development of biomass. The prospect of a further 0.5 ROC for good quality CHP is a big incentive to engage heat customers, as it compensates for the resulting loss of electrical output. The ability to earn the 0.5 ROC in a situation where an alternative heat incentive is available must be maintained if biomass CHP applications are to achieve their full potential.</p>
<p><b>Q14:</b> Are our assessments of the potential of renewable heat deployment correct?</p>	<p>The RES is right to highlight the problems of rural fuel poverty however RAB believes that policy should focus across the whole of the built environment sector not on off-grid properties only. The potential for the built environment to deliver is substantially more if the right policy drivers are applied. RAB also wants to emphasise that this chapter pays insufficient attention to the potential for renewable cooling. The use of renewable heat to generate renewable cooling using absorption technology is a key point for the non-residential sector. This technology should be eligible under any incentives for renewables heat.</p> <p>Higher levels of fuel poverty are in the isolated, rural, off-gas grid locations. Air to water heat pumps offer one of the most cost effective options to address fuel poverty. Air source heat pumps (ASHP) represent the greatest potential for drop-in replacement of existing gas boilers with existing wet systems. As such market potential is very much greater than the 10 TWh in Figure 4.3 for both the 11% and 14 % heat scenarios, which represents only 500,000 installations by 2020 or 45,000 a year in a market with 1.2m gas boiler replacements per year. By comparison the figure for solar thermal at 23 TWh represents 7.6m homes which we consider is too high and likely to under-achieve given that out of 26m homes a considerable proportion are flats or lack suitably orientated roofs.</p> <p>RAB welcomes the ambition for renewable heat, but believes that the biomass heat-only targets are too high. The preferred application of biomass is not in wood pellet boilers in individual properties but combusted on a community scale with heat networks into existing</p>

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	<p>higher energy users such as swimming pools and older housing stock. Biomass hierarchy is covered elsewhere in the RAB response, suffice it to say the overall efficiencies of output per tonne of biomass fuel used in this way is almost double that of single use combustion if the power generated is used to power heat pumps.</p> <p>Some of the assumptions used for the availability of biomass heat are over simplistic. While usable heat should be maximised, technical and practical considerations mean that many biomass fuels will require processing in large-scale facilities. RAB estimates that a large majority of the available indigenous biomass resource would not be suitable for use in small boilers.</p> <p>Also, much of the biomass available from waste streams, process co-products and recycled sources will require specialist technology which is not suitable for small-scale biomass combustion.</p> <p>The Consultation Document promotes small scale boilers in residential, rural and small commercial applications. RAB supports such uses only if they meet high standards with respect to supply chain, air quality, human health and emission of greenhouse gases. However it is concerned that issues at this scale can result from:</p> <ul style="list-style-type: none"> <li>• the un-regulated and subjective nature of the categorisation of biomass fuels;</li> <li>• the practical aspects of fuel production, processing, storage and handling;</li> <li>• the relatively low efficiency and un-controlled combustion in some boiler systems;</li> <li>• use of conversion plant lacking adequate flue-gas clean-up and monitoring systems.</li> </ul> <p>Additionally, heat from renewable electrical sources should also be rewarded by any such scheme.</p>
<p><b>Q15:</b> 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?</p>	<p>RAB does not have a strong view as to whether an obligation or an incentive would provide the better mechanism to stimulate the uptake of renewable heat. The important thing is the outcome, not the nature of the mechanism. Both mechanisms could have their merits but we would need more information on the proposed detail before reaching any conclusion. The important thing is for incentive mechanisms to avoid market distortions or perverse outcomes and for the overall incentives package to create a resource and energy efficient solution that can be implemented with minimum delay.</p> <p>As all heat consumers are likely to end up funding any heat obligation or incentive, the effects on the fuel poor must be considered. Therefore, for biomass, RAB believes that the RO</p>

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	<p>provides the best mechanism to stimulate the <b>production</b> of heat from that resource, by providing at least a further 0.5 ROC for CHP projects.</p> <p>Given this framework, RAB believes that few biomass projects would be built without the capability to supply both power and heat to industrial, commercial and domestic end-users. This provides significant efficiency gains and allows biomass to be used with the highest environmental control standards.</p> <p>However, <b>renewable heat distribution and supply</b> must be encouraged and supported through a separate incentive. Therefore RAB proposes that a support measure be applied to underpin the installation and operation of renewable heat distribution and supply networks and systems. This should include heat from renewable electrical sources, either directly or by way of a heat pump or other technological solution. RAB believes that a full techno-economic assessment of the available options is required in order to identify those most likely to meet market needs, including the options for appropriate support measures, and would be happy to contribute to such a study.</p>
<p><b>Q16:</b> Do you agree with our assessment that a Renewable Heat Incentive would work better in the heat market?</p>	<p>As mentioned above, RAB does not believe there is sufficient evidence to favour the introduction of a RHI compared with a RHO. The decision should be based on the following principles:</p> <ul style="list-style-type: none"> <li>• The speed with which the new mechanism can be implemented;</li> <li>• Its ability to integrate with complementary measures (e.g. the RO, zero-carbon buildings policy, community infrastructure levy, etc);</li> <li>• Simplicity such that the atomised heat market is able to rapidly understand and utilise the incentives;</li> <li>• The need to avoid perverse outcomes e.g. over-incentivising inefficient uses of heat at the expense of high efficiency processes.</li> </ul>
<p><b>Q17:</b> What more could the Government or other parties do to encourage renewable heat deployment with regard to:</p> <p style="padding-left: 40px;">awareness raising; air quality;</p>	<p><b>Awareness raising:</b> The easiest and quickest win for biomass technology would be to target the industrial and large-scale commercial heat and power users and provide support and information regarding the benefits of using biomass CHP systems.</p> <p>In the small commercial, residential and domestic sectors, more information should be made available on the benefits available from heat-pump technology coupled with the use of</p>

QUESTION	RAB RESPONSE
<p>building regulations; planning; anything else?</p>	<p>renewable energy to operate such systems, particularly as an alternative to gas.</p> <p><b>Air Quality:</b> Conversion plant is currently licensed under the Environmental Permitting Regulations, Waste Incineration Directive, the Large Combustion Plant Directive or otherwise largely unregulated if it uses less than 50kg/hr of fuel, which is the size that most residential and small commercial plant will be. Where regulated, this provides adequate protection since the plant must be equipped with suitable combustion control and monitoring equipment, including flue gas clean-up and monitoring equipment, and is operated by qualified and experienced personnel. However, this is only the case where the fuel quality is known and thoroughly understood. In the case of smaller boiler plant, these criteria are often not met and, in particular, the fuels that are used are currently NOT regulated in any objective manner, often being categorised in a subjective manner according to their source, branding or the perspective of the supplier, end-user or, sometimes, relevant statutory authority. In many cases, smaller plant and the fuel they use are entirely un-regulated. Consequently, un-controlled emissions of harmful flue gases can occur as a consequence of inadequate control processes or the use of fuels other than those that the equipment was designed to accept.</p> <p>RAB believes that accredited quality assurance systems for biomass fuels based on CEN standards should be established as a route to compliance with whatever regulations and legislation are developed as a consequence of the RES consultation. CEN standards are a core process for development of both quality and sustainability standards and should be supported by UK Government and industry. RAB believes that quality assurance systems and standards for solid biofuels, solid recovered fuels and the introduction of sustainability criteria for biomass standards should be adopted into regulation at a mandatory level by 2011.</p> <p>Equally, they should be applied to, or specified in, contractual documents. By integrating the standards into regulation there will be a standard approach to all the methodologies and specifications, ensuring there is a level playing field when establishing regulatory compliance. It will also enable international trading of the fuels on the basis that compliance with EU &amp; UK regulations can be demonstrated appropriately and easily.</p> <p>Small-scale biomass plant, operated by unqualified individuals, particularly in an urban setting where there is no local 'wisdom' to draw on, will almost certainly lead to a reduction in local air quality, additive to poor urban air quality from vehicle emissions. It should be noted that Germany and Austria have significant chimney sweep programmes that audit the quality and operation of the flues as they go and such a system could be considered for the UK.</p>

QUESTION	RAB RESPONSE
	<p>Keeping track of what is burned in the boiler will be difficult, if not impossible, especially if a 'bin tax' system is used to try to reduce urban waste as there is an obvious risk of waste material being burnt inappropriately.</p> <p>Air quality is currently the responsibility of the local authority environmental health officer, whereas climate change mitigation is the responsibility of the planning office. Where biomass is concerned there will be conflicting drivers here, and clear guidance must be given to local authorities on how this should be managed.</p> <p><b>Building Regulations and Planning:</b> The uptake of renewable heat is being channelled through both the building regulations and planning legislation. The issues are complex and require levels of professional expertise that are new to each department. Without an increase in income streams, Building Control and Planning bodies will be unable to secure employees with the appropriate professional qualifications and level of knowledge to maximise uptake. As the complexity of the designs increases, planners, in particular, will need to be able to critically evaluate the design to a level comparable to that of the original design team.</p> <p><b>Anything else:</b> The issue of bioenergy feedstock sustainability has been rising rapidly up the agenda and there is a need for Government and the industry to agree clear sustainability standards on which investment and operational decisions can be based. Waste heat from power stations clearly represents a significant opportunity and its use in existing developments and industry should be incentivised. Finally regulation: we need a regulator that supports and facilitates Government renewables targets.</p>
<p><b>Q18:</b> How far should the Government go in focusing on areas off the gas grid as offering the most potential for renewable heat technologies?</p>	<p>RAB does not believe that areas off the gas grid should receive any priority focus; indeed, fuel poverty issues aside, these consumers already have the greatest incentive to invest in renewables. The proportion of UK heat demand which is not currently met by gas is relatively small – we therefore need to tackle the wider market. The gas grid itself may provide a vehicle to large-scale uptake of renewable heat through, for example, the use of bio-methane. Nevertheless off-gas customers should probably receive preferential treatment under grant schemes such as the LCBP.</p> <p>RAB believes that there is a significantly greater potential uptake for renewable heat by targeting industrial and large scale commercial CHP users as a priority (including networked residential, public and commercial users in the built environment).</p>

QUESTION	RAB RESPONSE
	<p>In the small commercial, residential and domestic sectors, more use should be made of heat derived indirectly from renewable sources, either electrical or by way of a heat pump coupled with the use of renewable energy to operate such systems or other technological solution.</p> <p>We note that the Consultation Document is promoting small scale boilers in areas off the gas grid as offering the most potential for renewable heat technologies. As noted in our reply to Question 14, RAB supports such uses only if they meet high standards with respect to supply chain, air quality, human health and emission of greenhouse gases.</p> <p>Therefore, RAB would support the development of heat generation from small scale boilers in areas off the gas grid provided that the CEN Standards become mandatory from 2011 and that compliance and emissions are in accordance with WID, LCPD or other similar legislation.</p>
<b>Chapter 5: Distributed Energy</b>	
<p><b>Q19:</b> Do you agree with our analysis of the mechanisms for support of small-scale renewable electricity?</p>	<p>RAB broadly agrees with the analysis, but wants to emphasise that microgeneration is an expensive way of supplying renewable electricity, so the main benefit is consumer engagement. The key to uptake will be the detailed way in which support is provided. We have significant concerns over the benefits of a German-style FIT (as this does not encourage the most efficient use of the power generated) and believe that there is potential to support microgeneration through a modified form of the RO, whereby technologies are provided with a maximum of 2 ROCs, together with top-up funding from an alternative source such as the ETF. The ultimate price available to the generator is more important than the mechanism by which the incentive is delivered and there are major benefits in not having to introduce a whole new funding mechanism (in particular, avoiding the delay this would produce). The key to stimulate consumer uptake will be simplicity and up-front capitalisation.</p> <p>RAB wants to again emphasise that that the priority for the UK should be micro-heat, not microgeneration. There is also a significant potential for renewable cooling in the non-residential sector.</p> <p>The design of dwellings, particularly at low density development can be achieved at low cost to provide a large area of south facing roof which would become available for use if and when cheaper PV technology (and solar thermal) becomes commercially available and this could become a policy in planning, potentially driven through PPS1. Policy mechanisms need to be structured to support cheaper PV becoming available to encourage the development and</p>

QUESTION	RAB RESPONSE
	supply of this technology.
<p><b>Q20:</b> Given the analysis on the benefits, costs and potential, in what way and to what extent should we direct support to microgeneration electricity?</p>	<p>Objective analysis shows that the cost per kW, or per kWh, of microrenewables is greater (sometimes considerably so) than the cost for larger scale developments. Nevertheless we accept the benefits of empowering individuals to take action at the domestic level, and that micro and large scale renewables are not necessarily exclusive in any way. There is a case therefore for considerable support to be given. It is also key to engaging individuals in energy efficiency. We do not however believe it would be correct to artificially create a market for DIY biomass CHP given the lack of reliable sub 1MW technology.</p> <p>In many respects this is a cultural as well as a technical issue. The mind set of the consumer is currently based entirely around the use of centrally produced power and gas delivered through the grids to direct acting appliances e.g. electric fires, lights and boilers.</p>
<p><b>Q21:</b> If you agree that better information will aid the development of distributed energy, where should attention be focused?</p>	<p>Attention should be focused at the domestic and commercial sectors and their suppliers. Householders and companies need information on the quality of the installers and the products, something like the BSI or an equivalent is key to achieving consumer confidence. Information campaigns should always stress the importance of implementing energy efficiency measures in tandem with any renewables investments. Suppliers need to understand the market opportunities, financial support and products available to them in this rapidly growing sector.</p> <p>Information will only be truly effective if coupled with financial policy drivers to enable families to afford the investment necessary or to engage with providers of financed systems. This needs to be part of a wider public acceptance programme that the age of cheaper energy is over, as is the age of natural gas as an automatic first choice fuel for heating.</p> <p>RAB believes that there should be a major focus to inform the market of the opportunities for renewable cooling in the non-residential sector.</p>
<p><b>Q22:</b> Do you agree with the Government's current position that it should not introduce statutory targets for microgeneration at this stage in its development?</p>	<p>RAB considers that the answer is dependant upon the extent to which other drivers (in particular the provision of feed-in tariffs and/or heat ROC and/or renewable heat incentive) are introduced and in particular the way in which funding mechanisms for accessing these to offset capital expenditure are made available. Given the rapidly rising base costs of electricity, gas and other fossil fuels, appropriate financial mechanisms should in a demand led economy be all that is required to stimulate sufficient growth to make micro generation happen at the scales envisaged and required.</p>

QUESTION	RAB RESPONSE
	<p>If however, as a result of the consultation, the proposals for incentives for heat and electricity are scaled back or abandoned then micro generation will not happen to the extent required and the current problem of excessive capital expenditure verses return versus house ownership duration periods will continue to remain as principal barriers to deployment. The lack of deployment will then only be solved by the introduction of statutory targets. These would clearly need to be imposed on corporate bodies rather than individual householders. Were this burden to fall on the new build market it is likely to lack effectiveness as the most high energy use in properties is within the existing built environment sector.</p>
<p><b>Q23:</b> What more could the Government do to incentivise retrofit of distributed energy technologies?</p>	<p>RAB wants to emphasise that heat is the real prize in the built environment and is concerned that this chapter pays insufficient attention to its potential. RAB believes zero carbon building developers should be allowed to achieve carbon compliance by contributing to providing new district heating networks carrying low and zero carbon heat to supply the existing building stock and industry. The use of a joined up policy with local authority energy strategies and CIL funding is vital here to deliver zero carbon in a cost effective way that maximises the community benefit.</p> <p>Funding is key as is the tax position around the installation of microgeneration. The taxation and legislative framework for the installation of renewables and access to incentives needs to be overwhelmingly compelling and simple. In particular it will be important for the incentives for small-scale systems to be capitalised in order to encourage home-owners to make the up-front investment.</p> <p>Government also needs to ensure that regulation in terms of the rules and the codes are not a barrier.</p> <p>We note in passing that tariffs abroad typically pay approximately 40p/kWh for small scale renewable distributed electricity. As mentioned earlier the reasons are as much to do with cultural change as with fossil fuel saving.</p>
<p><b>Chapter 6: Transport</b></p>	
<p><b>Q24:</b> How can we best incentivise renewable and low-carbon transport in a sustainable and cost-effective way?</p>	<p><b>Efficiency and demand reduction</b></p> <p>A low carbon transport strategy should start by first of all focusing on reduced demand, thereafter on improved conventional vehicle efficiency and, finally on ownership. Existing Vehicle Excise Duty (VED) differentials are inefficient (and unpopular) in that they focus</p>

QUESTION	RAB RESPONSE
	<p>mainly on ownership (rather than purchase decisions) and efficiency and do not take usage into consideration. Government could consider a system like the one introduced in Germany where incentives have been introduced for lower VED where Limited Mileage Insurance policies are used; similar alternatives include pay-at-the pump insurance. The concept of rewarding lower usage therefore needs to be incorporated into strategy. An efficient way of encouraging lower usage could be to replace VED with an additional levy on fuel although it is recognised that its introduction would require careful management.</p> <p>Reducing demand and increased vehicle efficiency offer very significant scope for cost-effective carbon reduction (e.g. smaller, turbo-charged, light-weight engines), and could be implemented relatively quickly, without the need for significant technological break-through, or costly infrastructure development. Reduced fuel consumption will also enable increased percentage renewables penetration.</p> <p>In addition to regulating for improved efficiency (e.g. by strengthening the EU 130gm/km target by 2012), there may be scope, preferably at EU level, for the increased use of fiscal instruments. For example, to overcome unusually high consumer discount rates for the purchase of efficient vehicles, consideration could be given to some form of net revenue neutral 'feebate' system.</p> <p><b>Biofuels</b></p> <p>With respect to renewables, biofuels will be the most significant option in the near to medium and perhaps the longer term, certainly to 2020. For that reason, it is essential for Government to act decisively to restabilise the biofuels policy support framework in light of recent challenges and uncertainties that have been introduced, in order to regain and retain investor confidence.</p> <p>As a priority, the export issue created by the US Federal Tax Credit for B99.9 production must be resolved, and all forms of export support or import constraints need to be examined and rationalised through a carefully managed international process. Of critical strategic importance, just as for the RO, so with the RTFO, there is a need for clear targets through at least 2020, and clarity about the period over which support will continue to be provided. To accommodate the Gallagher recommendations to slow the UK timetable, but also to recognise the EU context and create long-term stability, it would be prudent to re-set RTFO targets only to 2010-2011, with post 2011 targets to be confirmed once the Renewable Energy and Fuel</p>

QUESTION	RAB RESPONSE
	<p>Quality Directives have been concluded.</p> <p>Firm, consistent biofuels regulation is also necessary, especially with respect to mandatory, crop-specific sustainability standards, including both environmental and social impacts. Consistency means a harmonised approach across Europe, and between biomass for power and biofuels in the UK. CEN's work on a harmonised standard should be supported, and support will also be needed to implement it. Given the currently poor state of scientific knowledge about indirect effects, a variety of approaches will be needed, both outside and within biofuels policy, including greater international focus on land use management generally (especially forests), and the application of comparable standards to all forms of agricultural land use. Within biofuels policy, feedstock-specific caps might be considered, up to thresholds that minimise the risk of indirect land use change.</p> <p>For both carbon saving and sustainability purposes, biofuels support policy should move as quickly as possible towards providing incremental reward for GHG savings beyond a minimum threshold, and for advanced technologies which are not yet cost effective but which have the potential to deliver significant savings sustainably at scale, especially if they reduce or avoid competition for land (e.g. ligno-cellulosic processes, wastes, residues, algae, etc.). Such support could take the form either of multiple (energy-based) RTFO credits, or sub-targets within the RTFO – two alternative forms of RTFO banding.</p> <p>Finally, it is critical to develop an integrated biofuel-vehicles strategy at an EU level so that fuel-engine incompatibilities do not act as a constraint on biofuels penetration. This strategy needs to avoid the piecemeal development of niche vehicle types and fuel grades that become locked in. It should encourage the progressive and harmonised introduction of engines able to accept higher percentage biofuels blends, and should encourage biofuels that inherently overcome these limitations. Flexible fuel vehicles could also be encouraged.</p> <p><b>Electric Vehicles and hybrids</b></p> <p>A critical first step will be for HMG to assess the possible shortfall in the 10% renewables transport target by 2020, assuming demand reduction, vehicle efficiency and biofuels have been effectively and fully supported. The feasibility of delivering that quantity of EVs in the 2020 timeframe, and the various direct and indirect implications of doing so need to be carefully assessed, for manufacturing (given industry planning timescales), battery supply and disposal, transport infrastructure, grid infrastructure, and renewables for power (see Q 25).</p>

QUESTION	RAB RESPONSE
<p><b>Q25:</b> 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:</p> <ul style="list-style-type: none"> <li>a: energy demand and carbon emissions;</li> <li>b: providing distributed storage capacity;</li> <li>c: smoothing levels of electricity demand on the grid?</li> </ul> <p>What factors would affect the scale and timing of these impacts?</p>	<p><i>Prima facie</i> there seem likely to be positive effects from the introduction at scale of Electric Vehicles (EVs) in the UK. However, there are complex engineering, behavioural and policy questions which are not fully understood, and which need to be subjected to full analysis before moving aggressively in this direction. It must be remembered that moving to EVs will only increase renewables' contribution if the power originates from renewables sources, augmenting the already considerable challenge in the electricity sector. However there may be opportunities for the patterns of renewable generation to work synergistically with power demand from battery charging (e.g. overnight charging).</p> <p>With respect to energy demand and carbon emissions, it will therefore be important to ensure that electricity used in transport is renewable or low-carbon, and to understand the implications of that use for renewable energy in the power sector per se. In particular, it will be important to avoid double counting, and to understand the system effects of displacing other transport fuels, relative to the effects of displacing fuels in other sectors.</p> <p>Recent developments in fast charge technology suggest that future EV recharging could take place in minutes, challenging the conventional view that recharging will take place at night. Indeed it is now technically feasible using Lithium based batteries and nano-technology to recharge in a comparable time to filling a fuel tank. This will be especially useful for longer journeys. However, these options are unlikely to become commercial for some time.</p> <p>In the meantime, it may be that a combination of extreme ICE efficiency, through smaller, lighter turbo-charged engines could actually achieve comparable or better range, performance, and cost reduction than EVs using current technology. In combination with biofuels, extremely efficient ICE could also achieve comparable or better carbon performance, especially compared with EVs drawing on average grid electricity.</p> <p>With respect to the provision of storage capacity, and smoothing, Government needs to consider the introduction of incentives such that most recharging will be done at night, when electricity demand levels are low, and renewable penetration will be at its highest. Night charging, while probably beneficial, may not happen automatically if, for example, regular commuters choose day charging to overcome range constraints. Controllability should be relatively easy to introduce, which should help both smoothing and (renewables) storage. Increased electricity demand may not significantly increase the need for capacity, and may more effectively utilise what (renewables) capacity already exists, by storing and then using (renewable) energy that might otherwise be generated but wasted. The use of smart metering</p>

QUESTION	RAB RESPONSE
	<p>provides opportunities to optimise this process. Given the international nature of the transport market, there is a strong need for international standardisation for the developing technologies.</p> <p>Similar arguments may also apply to hydrogen vehicles. The hydrogen is likely to be generated at the fuelling station, again over night, again with the potential to help with smoothing and storage. However, overnight hydrogen generation from the electricity grid at the fuelling point will have infrastructure implications of its own – in particular the need for high voltage local substations.</p> <p>However, these conclusions come with the strong caveat that full-scale engineering and policy analyses need to be conducted in the context of a better understanding of what the penetration (number) of electric or plug-in hybrid or hydrogen vehicles might actually be, and how those numbers might grow over time. At high levels of penetration interactions with the grid might be fundamentally different. Supply chain constraints might also become relevant at high levels of penetration, along with planning considerations and impacts on the built environment.</p> <p>One different but relevant point is that opportunities should be sought for interactions between power and biofuels production, in particular by seeking to use waste heat from power generation to supply biofuel conversion process needs.</p>
<p><b>Q26:</b> Over what timescales do you think electric vehicles could plausibly contribute to our renewable energy and carbon reduction targets and what could the Government most effectively do to accelerate the introduction of such vehicles in the UK?</p>	<p>Eventually, EVs could make a material contribution, and significant progress continues to be made globally, mainly by OEMs, though it is not yet clear whether batteries or hydrogen will be the preferred storage mechanism. Both approaches suffer significant challenges around energy density, durability, cost and the need for new infrastructure, as well as a need to change consumer expectations and values.</p> <p>For EVs the main challenges are technology-related (battery cost, durability and range), and infrastructure-related (the need for access to power where they are parked). Fundamental R&amp;D on battery technology is likely to be pursued mainly by major actors in the private sector, and Government's role may therefore lie more in developing appropriate infrastructure, perhaps through investment incentives for developing recharging stations. In particular, it will be necessary for Government to ensure sufficient grid flexibility to accept renewable sources of power supply, and cater for increased transport sector demand. There will also need to be some policy mechanism to incentivise low-carbon electricity use in transport, without double</p>

<b>QUESTION</b>	<b>RAB RESPONSE</b>
	<p>counting, and recognising impacts on renewables contribution in the power sector per se (see above).</p> <p>For hydrogen, too, challenges lie in both the technology (low-cost, low-carbon sources of supply), and in the need for new distribution infrastructure. Government's role here, too, is likely to be on the infrastructure development side rather than technology, again possibly by offering investment incentives for appropriate refuelling systems.</p> <p>In addition to supporting appropriate infrastructure development, there may also be a role for Government in creating market pull by incentivising early adopters of advanced technologies (where justified by cost reduction potential and scale), and in changing consumer expectations and values about vehicles of the future.</p> <p>Nevertheless, the combined technology, infrastructure and consumer challenges make significant penetration of EVs unlikely before 2030, and hydrogen probably after that.</p> <p>It is likely, however, that conventional hybrids, with more efficient internal combustion engines, and using low-carbon biofuels, will achieve significant penetration by 2020, though it is not clear at exactly what level. Hybrids overcome some of the challenges to pure EVs, and have already entered the market at scale. Plug-in hybrids will also be commercially available in the near future, although it is unclear whether they will achieve significant penetration by 2020.</p> <p>The question of whether, when and to what extent EVs can contribute to carbon reduction and renewables targets is obviously different from the question of whether, when and to what extent EVs can penetrate the vehicle market. The former question depends on the renewable portion of electricity available, how this might be used by and allocated to transport, and what interactions might occur between the power and transport. In other words, the deep penetration of EVs is not in itself any guarantee of a lower carbon or more renewable economy as a whole.</p>
<b>Chapter 7: Bioenergy</b>	
<p><b>Q27:</b> How can we best ensure that our use of biomass is sustainable?</p>	<p>From the point of view of greenhouse gas emissions, biomass use is sustainable as its growth by definition removes carbon from the atmosphere. However RAB recognises the importance of biomass use meeting wider sustainability criteria.</p> <p>Development of sustainability criteria for biomass standards is underway in CEN (European Committee for Standardisation) and also will soon be developed within ISO (International</p>

QUESTION	RAB RESPONSE
	<p>Standards Organisation). Other organisations, including the Global Bioenergy Partnership (GBEP) are also discussing standards. It will be critical that there is continuity in the standards to ensure that trading is not restricted. RAB approves of the meta standard approach, utilising existing standards where possible. Any system for sustainability must take account of lifecycle carbon balance. RAB calls on the Government to actively support the UK's engagement in the development of the CEN/ISO standards.</p> <p>RAB believes that the current use of biomass in the UK is not unsustainable and should be deemed as sustainable until the relevant CEN standards are agreed and can be adopted. RAB would propose 2011 as the date when mandatory standards be adopted. In the meanwhile we recommend that developers should introduce CEN/ISO-based quality assurance systems verified by independent audit, as this is likely to become mandatory in due course.</p> <p>There needs to be a strong, clear and un-equivocal message to the public on acceptability of biomass (particularly energy from waste, and certain types of biofuels for transport) in terms of health &amp; safety and the sustainability of UK resources.</p> <p>We must not allow the drive for sustainability standards to exceed those used in other industries and sectors (e.g. food production, other non-food crops, conservation, etc) thereby preventing delivery of renewable energy solutions that are needed urgently.</p> <p>RAB supports incentives for renewables heat, however Government must ensure that market incentives encourage the most energy efficient and cost-effective options.</p>
<p><b>Q28:</b> How do you see the market for biomass developing to 2020? What are the implications for:</p> <p>a: imports;</p> <p>b: longer-term prices and costs?</p>	<p><b>Imports:</b> As a relatively small island with a finite land-base, importation of resources is inevitable (look at existing energy sources). Safeguards for sustainability and economic development in supplier economies should be introduced.</p> <p>As noted above, the Consultation document's analysis of the potential for electricity from biomass appears overly conservative at 4%; it should be increased to 10% by 2020. In either case, biomass demand in the UK will grow and alternative sources of biomass will need to be found.</p> <p>With the development of 2nd and 3rd generation biofuels in the later period, not only will there be a requirement for more imported fuels, it is likely that there will be more competition for the various fuel feedstocks. Therefore, we would reiterate our comment above that there is an</p>

QUESTION	RAB RESPONSE
	<p>urgent requirement to establish quality and sustainability standards for fuels.</p> <p>Therefore RAB believes that appropriate imports will need to increase significantly to meet 2020 bioenergy deployment targets.</p> <p><b>Longer-term prices and costs:</b> With regards to trends in biomass end-uses and scale, we believe that there will be increasing use of biomass for CHP at the industrial and large commercial scale, but that there will be limits to the growth of the use of biomass for heat-only at the micro and medium-scale. This is due to the drive for commercially efficient use of capital and resources.</p> <p>However, feedstock, technology installation, operation and maintenance costs are all likely to increase significantly as the market expands.</p>
<p><b>Q29:</b> 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?</p>	<p>The tax on landfilling biomass should be substantially increased, with a view to phasing out landfilling by 2020 (except in exceptional circumstances).</p> <p>To encourage the use of bioenergy, CEN standards for fuel certification and quality assured production systems should become mandatory from 2011 and Government must ensure that conversion plant compliance and emissions are in accordance with EPR, WID, LCPD or other similar legislation. This should be coupled with a public campaign on the benefits of energy from Solid Recovered Fuels, including reassurance on health and safety concerns.</p> <p>The Government should discourage composting in favour of energy production as a treatment system which yields renewable energy before ultimate conversion back to CO<sub>2</sub>. Consideration should also be given to measures to promote the recovery of materials and energy from existing landfill sites, where feasible.</p>
<p><b>Q30:</b> 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?</p>	<p>More consumer-focused education needs to be carried out to ensure that WID combustion plants are viewed positively by the public, planners and environmental groups.</p> <p>Measures to promote WID compliant plants and the development of WID compliant facilities vs. non-WID must not be penalised by planning policy. Local authorities should be rewarded for converting their solid recovered fuel resource to energy.</p>
<p><b>Q31:</b> What further actions will improve supply chain efficiency, consumer confidence and</p>	<p>Future sustainable growth of the supply chain would be aided by adoption of CEN standards for fuel certification and quality assured production systems. However RAB stresses that</p>

QUESTION	RAB RESPONSE
sustainable growth of the biomass supply chain?	there is currently no evidence of any supply chain problems in the supply of biomass.
<b>Q32:</b> 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?	<p>In terms of power generation, there seems to be too much focus in RES on anaerobic digestion (AD) and questionable application with dry fuels such as energy crops. It is generally accepted that AD does not remove prions, which significantly limits its ability to provide a usable compost. AD is also relatively inefficient at converting fuel to electricity and, whereas it is a good waste disposal technology for clean liquid wastes, it should not be a priority in a low carbon policy. RAB therefore supports the principle of AD but only in the right circumstances and we must certainly avoid over stimulation of the technology to the extent that water is added to dry materials in order to create liquid wastes.</p> <p>The use of biomethane from AD seems to be the only focus in discussing solutions for heat from gas grids. We need to recall that in the days of town gas in the UK, coal was gasified in large gasifiers and injected into the gas network. Those same gasifiers will gasify biomass but further work is required on the practical and technical implications of doing so. We recommend that the potential for use of syngas for heat from gas grids is reviewed.</p>
<b>Q33:</b> 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?	<p>A national publicity campaign promoting the use, safety and sustainability of biomass would improve consumer confidence. We need to make sure that the biofuels debate does not wrongly prejudice biomass. There is no conflict between the food sector and wood, waste wood or residues. In fact, the purchase of straw provides additional income to food production. Knowledge of biomass is still very sparse throughout consulting organisations, Government and the general public.</p> <p>The document refers to lack of public support for biomass installations. This may be true of waste but our collective experience is that support is the same or better than wind depending on where you are in the country.</p>
<b>Q34:</b> Are there issues constraining biomass supply and use other than sustainability, supply chain and information issues? How should these be tackled?	<p>Generic grid connection issues, shortage of industry skills and the lack of a mandatory set of standards and related quality assurance systems are significant constraints.</p> <p>The last can be resolved by adoption of CEN Standards for fuel certification and quality assured production systems.</p>

QUESTION	RAB RESPONSE
<b>Chapter 8: Innovation</b>	
<p><b>Q35:</b> 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?</p>	<p>RAB welcomes the support initiatives set out in the RES consultation, however measures must be applied, structured and better aligned to support the development, demonstration and deployment of technologies in a seamless way. New technologies will require capital support in addition to maximum ROCs. Also, as well as providing long-term support (through the RO), Government must also support the establishment of additional testing and demonstration facilities.</p> <p>RAB welcomes the focus and investment in applied R&amp;D and demonstration projects through TSB and the ETI, although there is concern that ETI is limiting itself to support only generic projects / testing rather than new technologies due to IPR issues. Similar additional effort must also be placed in the early stage basic science and engineering to support industry; innovation creates new commercial opportunities and can accelerate current technologies, skills, training and workforce needs for industry.</p> <p>New technologies which require more than 2 ROCs should receive the required additional support from other sources, where appropriate, in order to stimulate deployment. RAB believes that the ETF and MRDF should be specifically used for this purpose. RAB is happy to take a lead, focussing on marine technologies. A previous RAB report identified the issues; we now need to find solutions. We need technology consolidation – c/f wind development – in order to accelerate progress.</p> <p>For novel small-scale technologies the LCBP ends in 2010 and it is essential that a mechanism be found to follow this as any funding hiatus could have a devastating effect on this emerging industry.</p>
<p><b>Q36:</b> Is there evidence that specific emerging renewable and associated technologies are not receiving an appropriate form of support?</p>	<p>Yes. Marine renewables will not be developed with support of only 2 ROCs. Investors need to see support mechanisms tailored to suit the continuous technology development from early demonstration, pre-commercial to fully commercial. It is likely that this support will be most effective if it moves gradually from capital (or tax) to generation-related incentives, in addition to the basic 2ROCs; RAB will report presently on this topic.</p> <p>Microgeneration technologies also need additional support.</p> <p>As mentioned in the transport section, development of infrastructure for electric and hybrid vehicles should be a priority.</p>

<b>QUESTION</b>	<b>RAB RESPONSE</b>
<p><b>Q37:</b> Are there barriers to the development of renewable and associated technologies that are not addressed by current or proposed support mechanisms?</p>	<p>Grid, planning and regulatory barriers which are common to the sector as a whole (see comments elsewhere).</p>
<b>Chapter 9: Business Benefits</b>	
<p><b>Q38:</b> What more could the Government or other parties do to ensure that the UK secures the maximum business and employment benefits from the EU renewable energy target?</p>	<p>RAB believes that the expansion of renewables deployment provides a huge opportunity to stimulate UK economic growth and create new jobs. Nevertheless renewables operate within an international marketplace and ensuring that the gains are maximised for the UK will require a concerted approach by all parties. RAB calls upon the Government to take the lead by setting a clear and practicable strategic framework, ensuring a joined-up approach across different policy areas and ensuring that strategic infrastructure is implemented on the required timescales.</p> <p>A key issue for Government is to communicate the belief that there is an early commitment to delivery of policy. For example, for offshore wind, the RES must make clearer that the target is to get as close to 33GW, through 2020 and beyond. The other key sectors RAB believe offer greatest potential benefit to UK business are biomass, marine technologies and the built environment.</p> <p>Government must provide a clear, long-term (post 2020) policy framework to encourage investment; this is especially important to attract investment from the oil and gas sector. The longer terms requirements and potential added value for the UK/regions must also be considered. RAB hopes that BERR's new Office of Renewables Deployment will show a clear commitment to renewables infrastructure development.</p> <p>The expansion of renewable energy in the UK could provide up to 160,000 new jobs by 2020; indeed RAB believes that the figure may well be considerably greater than this. The key issue is where these jobs will be located – they could be located overseas. There are opportunities to motivate 2<sup>nd</sup> and 3<sup>rd</sup> tier 'component' manufacturing, local skills training with the attendant benefits to the local economy. A key issue for the offshore wind industry is to establish stronger partnerships between owners and manufacturers. The Government should consider measures to cover downstream risk and allow suppliers to 'gear-up' earlier.</p>

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	<p>The Douglas Westwood report presents a pessimistic view with respect to offshore wind both in the UK and the rest of Europe compared with forecasts of others (e.g. EWEA, BWEA, RAB) taking account of supply chain constraints. This is particularly true of cabling, ports and vessel issues.</p> <p>Further work must be undertaken to consider supply chain issues in the built environment and transport sectors (these sectors represent ~50% of the RAB 'central' projection). Security of supply and carbon intensity will be key issues to consider in the transport sector. For the built environment, there are not expected to be significant constraints, other than solving issues around investor confidence.</p> <p>The RES presents a regional commitment to deployment but there is a strong view within RAB that the Strategy must also include an explicit objective around local supply and demonstration support; there is clear scope for the RDAs to contribute to regional facilities. The use of renewable technologies should be introduced in public sector procurement policies more widely. This is already taking place in e.g. Spain and Portugal. It would also encourage more local manufacturing and provide local employment.</p> <p>In the UK there is currently a lack of national facilities for demonstration of components and systems integration testing. Other countries are already establishing major demonstration /test facilities. Such facilities are important to the development of supply chain capability and encouraged innovation and skills development.</p> <p>Support should also factor-in the potential for the industry to become a major exporter for the UK as foreign markets also take-off.</p>
<p><b>Chapter 10: Wider Impacts</b></p>	
<p><b>Q39:</b> Do you agree with our analysis of the likely impacts of the proposed increase in renewable deployment on:</p> <p>a: carbon dioxide emissions;  b: the local environment;  c: security of supply;  d: energy prices;  e: fuel poverty;  f: the energy market;</p>	<p>In general RAB agrees with the analysis presented in Chapter 10. However it makes many references to earlier chapters and we have commented separately on those chapters. Under the heading of "wider issues" we raise the following:</p> <ul style="list-style-type: none"> <li>In 10.1.1 the Consultation states that "independently regulated, competitive energy markets are the most cost-effective...". RAB agrees with this statement, provided that the independent regulators enshrine facilitation of the 15% renewable energy target as an integral part of their remit. This is likely to lead to an increase in energy cost to customers, which has been to date the regulator's prime consideration; the regulator's role should</li> </ul>

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<p>g: the economy; h: any other wider issues that we should be considering?</p>	<p>seek to minimise cost whilst also meeting the obligatory renewables target.</p> <ul style="list-style-type: none"> <li>• In 10.4.7 it is important to note that, whilst intermittent renewables capacity does require some backup reserve capacity from conventional power stations, the large-scale deployment of renewables significantly <u>reduces</u> the need for conventional capacity. The need for conventional capacity will also be reduced by demand-side management, energy efficiency measures and time-of-day pricing.</li> <li>• In 10.4.8 the Consultation states that the Government expects just “4-7GW of new renewables in the period 2020-2030 (and 10-12GW of conventional capacity)”. RAB believes 4-7GW is a remarkably unambitious estimate and wonders how this number has been arrived at. For example, the Consultation central scenario projects just 14GW of offshore wind in the period up to 2020; RAB believes that 18GW can be achieved by then and more after 2020. Wave and tidal technologies are expected to become commercially available during this period and many GW are possible using the UK’s abundant marine resources. RAB believes that capacities substantially greater than 4-7GW post-2020 are readily achievable. Indeed this low figure will discourage supply chain investors from entering the UK market and should be removed from RES.</li> <li>• In Table 10.2 the effect on Domestic and Industrial gas bills indicated in this table (up to 49%) causes concern. (The much smaller expected increases in electricity bills, despite the much higher percentage of renewables in the latter case, indicates how much progress has been made to date and hopefully indicates the potential for improvement with renewable heat.) Care needs to be taken in communicating this message: the context needs to be explained properly and emphasis should be placed on the level of absolute spend on energy rather than percentages.</li> <li>• The RES must reflect the long term needs (perceived and actual) of society both as energy consumers and as citizens who have to live with the impact of climate change. The justification of the RES in terms of the cost benefit analysis of energy cost implications versus mitigation of climate change should be transparent and should also be propagated to consumers to ensure the RES has widespread support.</li> <li>• There is little mention of the possible role for increased storage on the electricity system. The step change in wind capacity should provide powerful financial incentives for storage and technologies currently in development deserve attention and support.</li> </ul>

<b>QUESTION</b>	<b>RAB RESPONSE</b>
<b>Chapter 11: Delivering the Target</b>	
<p><b>Q40:</b> What more could the Government or other parties do to ensure the UK meets the EU renewable energy target?</p>	<p><b>Devolved Administrations:</b> It is acknowledged that a significant proportion, perhaps the majority, of the UK's 15% target will be supplied from Scotland, Wales and Northern Ireland. RAB encourages, wherever possible, the harmonisation of support mechanisms across the English, Scottish and Welsh administrations in order to avoid market distortions and lack of clarity in objectives and targets. If the UK-wide target is to be met it is essential for UK-wide management and co-ordination of delivery from each region. Central Government must co-ordinate this process and active co-operation of the Devolved Administrations is essential.</p> <p><b>The regulatory regime for renewables</b></p> <p>RAB feels very strongly that Ofgem plays a crucial role in setting the framework for renewables deployment. We offer the following observations on the role of regulation in the Government's renewable and carbon emission targets.</p> <p>Changing the way the UK energy market works is one of the key areas that is going to be required if Government is going to hit its own targets on carbon and renewables. The two key aspects that will need to change will be the physical infrastructure in the UK and the regulatory framework. Both of these were designed when "cost normalisation" and achieving short run competitive outcomes were the predominating drivers in policy. Since then both aspects have been subject to change at the margins to facilitate sustainability.</p> <p>Going forward there will need to be significant change both in distribution and transmission systems, and in the operation of the electricity and gas marketplaces. The role of the regulation is pivotal to achieving this and could mean the difference of 5-10 years in the implementation of the Government targets. Reviewing the remit and the guidance of the regulation is therefore key to attaining the Government targets.</p> <p>As part of this the grid networks need to become less about one- way transportation of energy, and more about balancing supply and demand between different locations. The trading arrangement need to be designed to match this requirement in an economic efficient manner rather, than at present, penalise this type of operation.</p> <p><b>Review of the Government's Guidance to the Authority</b></p> <p>The Government current proposals require Ofgem to achieve three things:</p>

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	<ul style="list-style-type: none"> <li>• Security of Supply</li> <li>• Reduction of fuel poverty</li> <li>• Sustainability and a low carbon energy market</li> </ul> <p>The advice then goes forward to list various details such as networks, smart metering, energy efficiency etc. where Ofgem should “do all it can to encourage...” or “develop confidence in”.</p> <p>However, the advice to the authority sets no real targets. Ofgem by its nature prefers a non-interventional approach, where it encourages the market to provide solutions, and then judge the changes against its statutory duties.</p> <p>There is a general feeling from the renewables and electricity industry that significant change and progress towards renewable targets could be achieved but lack of accountability and co-ordination means that work either is slowed or in some cases stopped. Even the most trivial change spends months in consultation defeating the will of the most dedicated. Six examples of this (throughout the regulatory system) are presented in Appendix 1.</p> <p>Accordingly we believe that strong advice be given by BERR to Ofgem. The advice from BERR should focus on accountability in relation to Ofgem’s work in conjunction with Government and, within the bounds of its powers, take the market forward to deliver two things:</p> <ol style="list-style-type: none"> <li>1. Security of Supply (no deterioration on current levels of security);</li> <li>2. At least 15% of energy from renewables by 2020 (recognising that not all of this target can fall into the remit of Ofgem, but to at least include the 30-40% requirements for electricity and any appropriate remit for heat).</li> </ol> <p>These should be specific targets in the guidance. Ofgem would then report annually to the Government on what it has done to meet these requirements and how far it has progressed. The targets need to be reviewed annually in their remit to ensure that they include any new and further developments in the renewable marketplace.</p> <p>The country must be clear that, in order to meet our 2020 legal commitments, time is of the essence.</p> <p>Specific targets and reporting are a key method of ensuring that the system of regulation is consistent with the achievement of the 2020 renewable energy targets, and does not end up</p>

QUESTION	RAB RESPONSE
	<p>costing the consumer more than is necessary.</p> <p>The actions proposed would see Ofgem take a lead in the regulation of how to deliver a low carbon energy system, and could be a blue print for other European regulators who are reticent about using market mechanisms to deliver energy in their own countries.</p>
<p><b>Q41:</b> Do you agree with our overall approach to developing a UK Renewable Energy Strategy?</p>	<p>RAB congratulates the Government on the ambition demonstrated in the Consultation and agrees with the overall approach. As noted in the Biomass and Heat chapters we have strong concerns in this particular area which we wish to address in more detail. Elsewhere we support the general thrust of the proposed strategy but have made a number of, hopefully helpful, detailed suggestions in this submission. As ever, RAB stands ready to help the Government in finalising its strategy.</p>
<p><b>Annex 2: Feed-in tariffs for small-scale electricity generation</b></p>	
<p>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?</p>	<p>RAB considers that the key principles underpinning a “feed-in tariff” approach for small scale electricity technologies should also seek :</p> <ul style="list-style-type: none"> <li>• to provide appropriate levels of support in conjunction with other Government initiatives to ensure the development of a market for all forms of renewable electricity producing microgeneration;</li> <li>• to ensure that the funding of a mechanism is recoverable and implemented through existing systems where possible to minimise the costs of administration of all parties;</li> <li>• to ensure that the mechanism is easily accessible by customers and is designed such there are not barriers to capitalisation of the future value; and</li> <li>• to interact with the RO scheme in such a way as not to create any market distortions.</li> </ul> <p>We support the proposal that eligible generators should not be able to access both this mechanism and the RO.</p> <p>We would want to see a scheme implemented that incentivises supply companies (or others) contracting microgenerators to also connect them. Any built in disincentive in the system will create additional costs.</p> <p>We also believe that if microgenerators are going to help reduce the impact on national and local distribution networks then they should be incentivised to manage their demand to</p>

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	<p>minimise their export and use as much power onsite as possible. We understand that the German feed-in tariff structure incentivises people to export all of their power, not using any on site. We would want to avoid this market distortion in the UK.</p> <p>Any feed-in type mechanism should actually minimise the export and maximise onsite usage.</p>
<p>QA2: What are your views on the option we have described? Factors we would like you to consider in your response include:</p> <ul style="list-style-type: none"> <li>• if there are problems with the option described or improvements you could suggest;</li> <li>• if you can envisage a more effective way of implementing feed-in tariffs for small-scale electricity generation.</li> </ul>	<p>RAB consider that the most effective way of creating a “feed-in” type tariff is an adaptation of the existing ROC mechanism. A minimum or “floor” price would be set that suppliers were obligated to pay per MWh of power generated (not exported). Suppliers would then be allowed to increase the remuneration to the generator according to the market indicators, and offer an additional export tariffs where appropriate.</p> <p>This would ensure that the generator is incentivised to use as much of the power they generate on site, and are not penalised for this.</p> <p>We believe that this should be supplemented by capital grants at an appropriate level linked to the potential and the requirement of each technology. Perhaps the funding for this could come from the excess created by the NFFO auctions each year.</p>
<p>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?</p>	<p>With the approach described in our answer to QA2 we believe there is a minimal impact on the electricity market and all the existing mechanisms of the BSC and MRA can support this approach.</p> <p>Any other approach may cause significant requirement for change in the BSC, MRA and the Distribution and Supply Licences.</p>
<p>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:</p> <ul style="list-style-type: none"> <li>• different generation technologies;</li> <li>• size of generation station (i.e. to distinguish from eligibility of large-scale generation for support under the Renewables Obligation);</li> <li>• whether generation is primarily for own use, supply locally or for export;</li> </ul>	<p>RAB considers that all small scale technologies that produce electricity if incentivised correctly can have a significant impact on load management and total demand for energy in the home. This impact is difficult to measure without further research, and this would be a key role for Government to assess the additional benefits.</p> <p>Until these benefits are fully researched and a “market” value approach can be added, we believe that Government should continue to support these technologies with a combined approach of the outline in QA2 ( by implication the equivalent to 2 ROCs per MWh generated) in combination with a Government grant.</p> <p>We believe that generation should be primarily for the use onsite, and it is immaterial if it is on or off-grid.</p>

QUESTION	RAB RESPONSE
<ul style="list-style-type: none"> <li>• whether generation is on or off-grid;</li> <li>• whether or not energy efficiency measures should be required.</li> </ul>	<p>Energy efficiency is a natural extension of the scheme described in QA2 and incentivises the householders consider when they are using their energy and how much they are using! A pure export scheme would require additional incentives to implement energy efficiency.</p>
<p>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?</p> <p>Possible factors and criteria we would like you to consider include:</p> <ul style="list-style-type: none"> <li>• a limit on overall number of new installations in a given period;</li> <li>• a limit on new installed capacity in a given period;</li> <li>• whether priority should be given to particular groups; for example, people in fuel poverty.</li> </ul>	<p>If the scheme is put in place in line with the guidance above – then it does not need a cap. The only part that may need a cap would be the grant scheme.</p>
<p>QA6: How would we set the feed-in tariffs for small-scale electricity generation? Factors that we would like you to consider in your response include:</p> <ul style="list-style-type: none"> <li>• the basis for setting the number of tariffs and their level;</li> <li>• initial costs, electricity production rates and differing carbon saving potential of generation equipment;</li> <li>• how long installations should receive the relevant tariff;</li> <li>• how, when and on what basis we would vary the tariffs for new installations;</li> <li>• how different tariffs would impact on multiple installations at one location, e.g. a building with wind turbines and solar panels.</li> </ul>	<p>We believe that tariffs would be set at the same level as it is proposed in the RO banding. The additional grant funding required would need to consider other positive benefits of each type of micro-generation.</p>

QUESTION	RAB RESPONSE
<p>QA7: What arrangements should apply to:</p> <ul style="list-style-type: none"> <li>• currently existing small-scale renewable electricity installations;</li> <li>• installations which enter into operation before feed-in tariffs come into effect?</li> </ul>	<p>There is no reason why any new implementation of a scheme should not be applied to existing micro-generators, provided that income levels do not reduce as a result.</p>
<p>QA8: Do you think that financial markets will move to assist potential small-scale electricity generators with financing of the initial capital cost of renewable installations, or should we seek to introduce policies that will guarantee frontloaded support?</p>	<p>Yes it seems likely that a market in the provision of loans (to be supported by revenue from the scheme) would develop BUT only if the mechanism is designed in a way that gives security to those providing the loans.</p> <p>Customers may also need advice to ensure that they are protected from taking out high cost loans or loans that cannot be supported by expected income from the scheme.</p> <p>There may be other approaches like a lease type option that we have already seen in the US, that Government might want to consider when putting together the scheme to make sure that it does not rule out this as a financing option.</p>
<p>QA9: How should the costs of feed-in tariffs for small-scale electricity generation be met? Factors we would like you to consider in your response include:</p> <ul style="list-style-type: none"> <li>• who the payment should be administered by;</li> <li>• how payments should be monitored and regulated;</li> <li>• how the overall costs of feed-in tariffs should be disbursed and among which organisations;</li> <li>• how administrative costs should be funded;</li> <li>• how frequently payments should be made to generators and how frequently costs should be disbursed;</li> <li>• who should meet charges by the DNO for use of their system for exported electricity.</li> </ul>	<p>We consider that the payment should be administered by Ofgem.</p> <p>The payments should be monitored by Ofgem, as a similar way in which supply tariffs are monitored. Probably the most effective way would be to use energy brokers who are accredited by Ofgem to collect and monitor the information. We believe there should be no additional cost of managing this scheme if the scheme is based on the principle laid out above in our answer to QA2.</p> <p>If export is minimised then we believe the costs for the DNO should be minimal and there may be some longer term benefits, so this would be a non-material cost to the DNOs.</p>

<b>QUESTION</b>	<b>RAB RESPONSE</b>
<b>Appendix 1: Examples from Question 40 - The regulatory regime for renewables</b>	
	<p>There is a general feeling from the renewables and electricity industry that significant change and progress towards renewable targets could be achieved but lack of accountability and co-ordination means that work either is slowed or in some cases stopped. Even the most trivial change spends months in consultation defeating the will of the most dedicated. Six examples of this (throughout the regulatory system) are presented below:</p> <ul style="list-style-type: none"> <li>• <b>BSC Modification P198 – Introduction of a zonal transmission losses scheme</b></li> </ul> <p>This modification was introduced in December 2005, and the modification group sent its final report to Ofgem in September 2006. Ofgem then commissioned its own analysis, which meant approval was not received by the date set, and subsequently in July 2008 (2 ½ years later) the modification was ruled timed out by the courts.</p> <ul style="list-style-type: none"> <li>• <b>CUSC Amendment CAP148 – Deemed Access Right to the GB transmission system for renewable generators</b></li> </ul> <p>This amendment was introduced in May 2007 and is still with Ofgem for consideration. The report from the CUSC working group recommended rejection of the proposal which seeks to implement an EU directive. One of the points noted that this amendment would also require changes to other codes, and there is no process for this currently.</p> <ul style="list-style-type: none"> <li>• <b>The administration of the Renewable Obligation</b></li> </ul> <p>Not long after the introduction of the RO, it was identified that the administration did not work for micro-generation. However, it took several years for this to be amended, and to date the process is still not working effectively for micro-generation - as highlighted in the current statutory consultation.</p> <ul style="list-style-type: none"> <li>• <b>Changes to guidance on Green tariffs</b></li> </ul> <p>The first set of guidance was issued in April 2002. A consultation was issued by Ofgem in April 2005, but to no effect until a further consultation was issued in June 2007. The responses to this were generally positive. However, Ofgem in July 2008 has put forward significantly different proposals, much to the astonishment and anger of a majority of stakeholders. So customer confusion on Green tariffs continues.</p>

<b>QUESTION</b>	<b>RAB RESPONSE</b>
	<ul style="list-style-type: none"><li>• <b>Smart metering</b></li></ul> <p>Most people agree smart metering is a desirable way forward. However, to implement this would require significant changes to several codes, and need to run in parallel to existing arrangements for several years. Ofgem has left it up to the industry to find a way forward, but excluded the preferred industry route.</p> <ul style="list-style-type: none"><li>• <b>Distribution networks</b></li></ul> <p>It is recognised that distribution networks will need to radically change to deliver more decentralised energy. Ofgem is currently consulting on DPCR5, which will set distribution prices from 2010 to 2015. However, when asked about environmental issues, several network operators referred to improving facilities at sub stations to deal with oil spills, but make no reference to their role in delivering a low carbon economy. If they do not take this into account now, then the next date for action is 2015, only five years before the 2020 target must be achieved.</p>

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