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WWF-UK Policy Position Statement on Renewable Energy

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WWF-UK position statement on Renewable Energy

1. PURPOSE

This position paper sets out WWF-UK's main views on the large suite of renewable energy technologies and policies, and explains why we strongly support the swift deployment, common usage and sensible siting of the many different types of renewable energy technologies around the UK.

2. WWF-UK POSITION

A major and urgent switch from polluting fossil fuels to renewable energy sources in the UK is essential to mitigate the impacts of climate change.

The extraction and burning of fossil fuels to produce energy results in CO₂ emissions that are the main cause of human-induced climate change. WWF-UK regards climate change as one of the greatest threats to global biodiversity and human well-being. The UK has both a moral responsibility and strategic interest in minimising its contribution to climate change, and renewable energy will play a key part in this. Furthermore, strong policies and investment in renewables in the UK (and EU) will promote low carbon and sustainable development globally by facilitating stronger commitments in international negotiations and spreading technological advances.

WWF's Climate Solutions research¹ describes WWF's Vision for 2050 and shows that the world has more than enough sustainable energy and technology to curb climate change, but key decisions need to be made now. A clear role for renewable energy is envisaged in the context of a broader range of necessary solutions:

- Reducing energy demand through energy efficiency and conservation – the top priority;
- stopping forest loss;
- accelerating the development of low-emissions technologies such as wind, hydro, solar PV and thermal, wave, tidal stream and range, and bio-energy;
- developing flexible fuels, energy storage and new infrastructure;
- replacing high-carbon coal with low-carbon gas; and
- equipping fossil-fuel plants with carbon capture and storage technology.

In assessing the suitability of solutions, WWF applies the same strong sustainability criteria to renewables as it does to other forms of electricity generation, such as nuclear power and fossil-fuelled power plants.

In the UK, the Government now has a legally binding target of at least 80% reduction in greenhouse gas emissions on 1990 levels by 2050. In addition, in order to meet its obligation to deliver its fair share of the EU renewable energy target, the UK will need to achieve a ten-fold expansion of final energy demand from renewables by 2020 (1.5% to 15%). Despite being one of the wealthiest economies in Europe with some

¹ WWF-UK (2007), Climate Solutions report:
<http://assets.panda.org/downloads/climatesolutionweb.pdf>

of the most abundant renewable resources, the UK is near from the bottom of the European league table for renewables as a proportion of the national energy mix.

The government's top priorities must therefore be to lead a strong drive for energy efficiency and create the best conditions for a transformative expansion in sustainable, low-impact renewable energy production capacity in and around the UK.

As well as mitigating climate change, a major expansion of renewable energy development in the UK will have a range of other benefits, including:

- Economic development: job creation and positioning the UK as a world leader of renewable energy innovation;
- energy security: reducing dependence on imported and finite fossil fuels, and also reducing exposure to increasingly volatile fossil fuel prices; and
- improved environment and quality of life: reducing other harmful impacts of fossil fuel extraction and burning, e.g. open cast mining and air pollution, and avoiding the adverse impacts of nuclear power generation, e.g. radioactive waste, pollution and security/proliferation risks.

The UK's energy needs and climate change obligations can be met through expanded renewable energy capacity and energy efficiency measures, and without the need for new nuclear capacity.

The UK has some of the best potential renewable energy resources in Europe, if not the world, but as yet these remain hugely untapped. For example, the UK possesses 50% of the EU's tidal resources, 35% of wind resources and wave resources estimated to be 15% of current UK electricity demand. Any failure to meet the 2020 target will therefore be due to a lack of political will, and not a lack of renewable resources.

WWF-UK, together with IPPR and RSPB, has demonstrated that it is both technically and economically feasible to reduce the UK's CO₂ emissions by 80% by 2050.² We also demonstrated that it is possible to achieve this goal through renewables, energy efficiency and Carbon Capture and Storage (CCS), and without relying on unsustainable options, such as nuclear power or unsustainably sourced biomass.

We strongly support the new commitment from the government to deliver the UK's fair share of the EU renewable energy target for 2020 to ensure energy security and climate change mitigation in the future. This is the first of many steps the UK needs to make in order to fully decarbonise the power sector by 2030 and to decarbonise the whole of the UK and create a low carbon, sustainable economy by 2050.

Ambitious renewable energy targets should be met in ways that minimise environmental impact by ensuring selection of suitable proposals only after robust environmental assessment of all alternative options.

WWF-UK acknowledges that there may be a balance to be struck between the benefits of mitigating climate change through renewable energy technologies and their adverse impacts on the natural environment. Some significant onshore and offshore renewable energy resources are situated in or near designated areas, including Natura 2000 sites (Special Areas of Conservation and Special Protected

² WWF-UK (2007), The 80% Challenge: <http://www.wwf.org.uk/filelibrary/pdf/80summary.pdf>

Areas, which are protected by EU Directives), Sites of Special Scientific Interest (which are known as Areas of Special Scientific Interest in Northern Ireland) and other regionally and locally important sites. The Government must ensure that in achieving renewable energy targets, guiding policies and individual proposals are developed and undertaken in compliance with the UK's obligations under European Directives, such as the Habitats, Birds, Environmental and Strategic Environmental Assessment Directives, and national legislative requirements.

Where there are potential impacts on Natura 2000 sites arising from a particular renewable energy proposal, the government must undertake an Appropriate Assessment and consideration of alternative solutions for achieving the objectives of the project. In general, proposals with potentially significant environmental impacts should only be approved when there are no alternative options for achieving equivalent climate change mitigation benefits through more benign technologies and/or sites, where the test for imperative reasons of overriding public interest (IROPI) has been met and only then when adequate compensatory provisions can and will be provided. In some situations, an Environmental Impact Assessment or even a Strategic Environmental Assessment may also be required through which measures to avoid, reduce and offset adverse impacts must be properly assessed.

WWF-UK is calling on the UK government to:

- monitor and enforce an assured support mechanism for large-scale renewables so that it *will* deliver the level and variety of renewables needed and on time to achieve the new EU renewable energy target by 2020;
- reinforce this with additional policies, such as research, development and demonstration funding, to ensure new offshore wind, wave and tidal power technologies are brought to market quicker, so they are commercially competitive and deployable by 2020;
- mandate priority access to the grid for renewables *ahead* of coal and nuclear power plants, in terms of both physical connection to the grid and also selling electricity from the grid;
- promote the newly introduced attractive Feed-in Tariffs (FITs) and review every few years so that the tariff rates are attractive and sufficient to support the take-up of small-scale renewable power by households and community initiatives;
- ensure investment in new energy infrastructure is much smarter so it facilitates new renewables and prevents carbon lock-in. For example, the development of new offshore grid networks and the strengthening of the onshore electricity grid is essential, and it will allow the balancing of intermittency by linking with other countries green electricity potentials;
- Support EU and national policies aiming to develop and implement a robust sustainability scheme for bioenergy (including biofuels and biomass for heat and electricity) addressing all the relevant potential environmental and social impacts including indirect land use changes; and
- enable effective implementation of recent legislative and policy reforms to the planning system to ensure:
 - (a) a faster and more effective decision making process for speedier commencement of renewable projects; and

(b) a sound policy basis which achieves sustainable development, minimises environmental impact and ensures appropriate siting of renewable energy infrastructure.

3. BACKGROUND

UK Government targets and obligations

The UK Government has a number of legally binding obligations that are the main legislative drivers for renewable energy development. Under the first phase of the Kyoto Protocol the UK government has a commitment to reduce the emissions of a basket of greenhouse gases, including CO₂, by 12.5% of the 1990 level by 2008-2012. In late 2008 the UK Climate Change Act came into being and commits the UK to reduce emissions from 1990 levels by 34-42% by 2020 and 80% by 2050. Also, in late 2008, the EU voted through a new package of energy and climate regulations (the Renewable Energy Directive), including a new renewable energy target for the EU. The EU block must source 20% of its final energy demand from renewables by 2020, with the UK's own share for 2020 set at 15%.

Official figures from government show that in 2008/9 only around 1.5% of our final energy consumption came from renewable sources and that the UK only generated around 6.6% of electricity from renewables, much of which was from landfill gas and onshore wind.³ So, in order to meet the new 2020 target the UK must increase the proportion of its energy coming from renewables ten-fold from 2006 levels, which is three times more than current 2008 policies are designed to achieve. However, the scale of this is achievable as evidenced by Germany and Spain's successes over a similar if not shorter time period (2000-2008).⁴

In order to meet the new EU 2020 targets, the Government has said it could expect 32% of UK's **electricity**, 14% of UK's **heat** and 10% of UK's **transport** energy needs to be met by renewables⁵. These proposals are welcomed as today the UK has meagre levels of <1% of renewables in both UK heat and transport sectors. However, these words need to be backed up with robust and well-funded policies to ensure delivery by 2020.

Here is a summary of the UK's various renewable energy targets and obligations:

³ BERR (2008), Renewable Energy Strategy consultation:
<http://renewableconsultation.berr.gov.uk/consultation/chapter-1/executive-summary/>

⁴ Climate Change Committee (2008), Building a low-carbon economy:
<http://hmccc.s3.amazonaws.com/pdf/TSO-ClimateChange.pdf>, page xxv

⁵ DECC (2009) The UK Renewable Energy Strategy (RES):
http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx

	Current	Kyoto 2012	EU 2020 (RE Directive)	UK 2020 (e.g. CC Act)	UK 2050 (e.g. CC Act)
Emissions reduction from 1990 levels	19.4% (2008)	12.5%		34-42%	80%
Final energy consumption	1.5%		15% for UK 20% for EU		
Renewable electricity	5%			32%	almost full decarbonisation by 2030: CC Committee
Renewable heat	< 1%			14%	
Renewable transport	< 1%		10% (all EU countries)	10%	

UK Government's Renewable Energy Strategy

It is clear from the latest climate science and from the new EU renewable energy targets that a 'business as usual' attitude is no longer remotely an option. Instead a radically different and much more ambitious approach is urgently needed, and the UK government should design the Renewable Energy Strategy (RES) on this basis. WWF-UK provided a detailed response to the consultation on this strategy in September 2008.

The over-riding priority for government policy must be to deliver on the new UK energy efficiency and renewable energy targets from the EU. In doing so, it will ensure that the key objectives on energy security, energy independence and climate change mitigation are achieved. While there may be some significant costs involved initially, an efficient energy system powered by renewables will be less exposed to shocks in fossil fuel prices – and the shift to such a low carbon economy can be expected to yield huge benefits in terms of job creation and new opportunities for British businesses.

WWF-UK remains frustrated that, despite the existence of formal targets for renewable energy and energy efficiency, much of the UK government's focus remains on the promotion of fundamentally unsustainable technologies, such as unabated coal and nuclear power - with only weak promises to clean them up later if engineering solutions are found and proven. These will only detract essential investment away from the more sustainable and clean technologies and behaviours that will create our low-carbon future.

Recent reporting by Ernst & Young⁶ shows China has now passed UK in the league table of investor confidence to invest in renewables, mainly as a result of the government in China, like Germany and Spain, implementing more supportive policy regimes for renewables and better incentives for investors. The lesson is simple - having the right policies and incentives in place is key. WWF-UK urges the UK government to ensure the new UK's 2009-2020 Renewable Energy Strategy (RES) and National Policy Statements (NPSs) under the Planning Act 2008, particularly the Overarching NPS for Energy and the NPS for Renewable Energy Infrastructure, will do just this.

Keeping the lights on: bridging the UK energy gap

The fact that a large part of the UK's current fleet of coal-fired and nuclear power stations is ageing and due to close in the next decade should be seen as a positive opportunity by government, rather than a challenge. In 2008 WWF-UK and Greenpeace commissioned Pöyry energy consultants to look at the implications for the UK electricity sector of meeting the UK's share of the EU renewable energy target which requires the UK to produce 15% of its final energy demand from renewables by 2020.

The Pöyry report⁷ was based on the assumption (supported by government analysis) that there was around 76GW of connected capacity in 2007. Of this, 22.5GW is expected to close by 2020. Pöyry consultants constructed various scenarios of energy demand and renewable energy growth to ascertain whether these technologies would be able to meet the so-called 'energy gap'. The key finding of the Pöyry analysis was that if the government meets its own energy efficiency and renewable targets, new baseload electricity generation capacity will not be needed until the period beyond 2020. By this point other low carbon technologies will be close to commercialisation – potentially including fossil-fuelled stations with CCS, provided the technology has been demonstrated to be economically and technically feasible. This analysis shows that in contrast to the views of government and industry, there is no need to build new fossil-fuelled power generation to keep the lights on in the UK. Instead, the focus should be on delivering existing targets and commitments for energy efficiency and renewable energy.

⁶ Ernst & Young renewable energy country attractiveness indices:
http://www.ey.com/global/content.nsf/International/Utilities_Overview

⁷ Pöyry report (2008): Implications of the UK achieving its 2020 renewable energy target:
http://assets.wwf.org.uk/downloads/Pöyry_2020renewabletarget.pdf

4. THE ISSUES

In this section WWF-UK sets out its position on the key issues in relation to renewable energy, including technology types, government policy and hot topics currently featuring in the media.

i) Technology issues

- Connection and Transmission

WWF-UK is of the strong opinion that government needs to make **additional large investments in a new on and offshore electricity grid network that is fit for purpose in the 21st century a priority**, as the existing grid was built in the middle of the last century for the connection of only a few large centralised power plants onshore and far from the major cities due to the pollution risk of coal-fired and nuclear power stations. To achieve this transformation the UK will need to:

- transform electricity networks with new 'smart grid' and 'smart meter' technology;
- create a decentralised energy revolution by introducing a system of 'feed in tariffs' for electricity generation to increase electricity production from micro-generation;
- expand the amount of offshore wind and marine power by encouraging the construction of a new offshore grid network (of under-sea Direct Current (DC) cables) and supporting efforts to achieve commercial feasibility of wave and tidal technologies;
- improve the banding of the Renewables Obligation to adequately support wave and tidal technologies; and
- cooperate with other EU countries to create a common electricity grid that allows for optimal balancing of variable power sources.

- Managing variability of supply from renewables

According to a study commissioned by WWF in 2009:⁸

'Although aspects of the management of wind variability can be controversial, utilities the world over generally agree that there is no fundamental technical reason why high proportions of wind energy cannot be assimilated into the system. There is a large body of literature on the topic and the steady growth of wind power, worldwide, indicates that it is seen as a robust choice for reducing greenhouse gas emissions.'

Modern integrated networks already have the capacity to deal with uncertainties in supply and demand, but additional reliance on wind power will require additional short-term reserves to guarantee the security of the system. The extra cost of these reserves can be mitigated by a range of technologies at various stages of development, such as:

- Improved methods of wind prediction
- Smart grids
- Supergrids: e.g. connection with grids across Europe
- Electric vehicles, which could act as a form of storage of surplus electricity produced during times of low demand

⁸ Milborrow, D (2009) Managing variability

- Scale of Developments

In considering any renewable scheme, regardless of size, it should first be established that the proposed technology is appropriate both for the energy needs of the users and the site itself. In terms of renewable energy and homes, WWF-UK believes that the thermal envelope of the home should be addressed first through the installation of energy saving measures such as insulation, and then the most appropriate renewable technology should be established for the remaining energy demand in line with any local planning requirements.

In addition, like any new large-scale development, government and industry must also respect and address any wider concerns over environmental sustainability. It is therefore important that strong sustainability criteria are set and adhered to in line with obligations under relevant European Directives and the most immediate areas where this must be addressed are related to the development of wind farms, the life-cycle impacts of biomass and the impacts of harnessing tidal range energy in the Severn and other estuaries. These issues are addressed in greater detail in later sections.

- Potential Benefits and Impacts

WWF-UK considers renewable energy to be defined as electricity or heat generated from natural sources - such as sunlight, wind, waves, tides and geothermal - which are naturally replenished and theoretically inexhaustible. Therefore, this position paper on renewable energy refers to the following technologies; solar power (solar PV, solar thermal and concentrated solar power), wind power (onshore and offshore), wave power, tidal power (range and stream), geothermal power, sustainably sourced biomass and hydro-electric power.

Different energy projects have different impacts on the natural environment, in terms of scale of impact, type of impact (i.e. positive or negative), significance and reversibility of impact, dependent on the technology and location of the given development. For example, the clear difference in emissions pollution between a coal-fired power station (several pollutants emitted, including CO₂ and particulates) and an onshore wind farm (no emission pollution in operation).

Therefore, a strategic and sensible approach is needed to manage the significant expansion of a wide range of renewable energy technologies planned in the UK, on land, coastal and offshore. The optimal clean energy mix for tackling climate change and minimising potential harm to the natural environment is essential, so the right technologies are built in the right places.

ii) Policy issues

- Support Mechanisms

Meeting the 2020 renewable energy target is crucial to getting the UK 'back on the decarbonisation track', and we find it compelling that the Member States which have had much more success than the UK in deployment of small and large-scale renewables to date (such as Germany and Spain) have a Feed-In Type (FIT) support mechanism for large-scale renewables, and not a quota-based obligation like the UK. It is clear that major reform of the way the UK supports and encourages renewables is essential in order for the UK to at least meet the new minimum targets.

WWF-UK urges government to introduce many of the following ‘no-regrets’ measures and changes immediately to drive the UK renewables, as we and the planet cannot afford further delays in modernising the power sector to reduce carbon emissions. For example, WWF-UK believes the UK government must:

- Introduce and enforce an **assured and proven support mechanism for large-scale renewables that will deliver** the level and variety of renewables needed and on time to achieve the new EU renewable energy target by 2020.
- Reinforce this with **additional policies, such as research, development and demonstration funding, to ensure offshore wind, wave and tidal power technologies are brought to market quicker**, in a way that minimises environmental impact. This future-proofing policy would enable the UK to go further after 2020 so that renewables can continue to make a growing contribution by 2030, 2040 and 2050 – with the aim of a completely decarbonised power sector in the UK well before 2050.
- Promote attractive **Feed-in Tariffs (FITs) to support the take-up of small-scale renewable power by households and community initiatives**. The powers for the government to do so are included in the Energy Act 2008, whereby the introduction of a tailor-made scheme to financially-support low-carbon generation of electricity in projects up to 5MW is possible.
- Introduce a **bold, water-tight support scheme for renewable heat and renewable gas without delay**, and one that learns from the shortcomings and problems encountered with previous policies to promote renewable electricity.
- Swiftly **mandate priority access to the grid for renewables ahead of coal and nuclear power plants, in terms of both physical connection to the grid and also selling of electricity on the grid**.
- Continue development of national, regional and local planning policy for the purpose of **achieving sustainable development** that adopts the ecosystem approach and incorporates greater energy efficiency and demand management measures, onsite renewables for large-scale residential and/or mixed use developments and the construction of zero carbon buildings.
- Ensure that the **NPSs for Overarching Energy and Renewable Energy Infrastructure are not only conducive to expanding the renewables network, but also ensure that all renewable projects are undertaken in such a way as to further sustainable development whilst mitigating and adapting to climate change**. For instance by:
 - ensuring that the statement of need for energy infrastructure is properly quantified and expressed according to what is actually needed to meet the UK’s energy, climate change and environmental policy objectives;
 - requiring the Infrastructure Planning Commission to consider climate change impacts of proposals;
 - requiring any new development proposal to be subject to all relevant and necessary environmental assessments, such as Appropriate Assessment and Environmental Impact Assessment (EIA), and ensuring that any recommendations from such assessments are properly addressed;

- ensuring there is consistency in approach between all energy related NPSs and the Marine Policy Statement (to be developed under the Marine and Coastal Protection Act 2009).

In addition, WWF-UK also strongly believes that a **simple ‘back-stop’ measure is required in order to prevent the new build of largely unabated coal-fired power plant and so direct cash flows to cleaner forms of electricity generation.** WWF-UK believes the introduction of a new legal standard - setting a limit on CO₂ emissions via a plant based emissions performance standard (EPS) for all new generating plants that have yet to secure planning consent – is the best way to provide ample certainty to business and investors. We consider this should be set at 300g CO₂ per kWh – for new plant now (a standard which could be achieved by highly efficient gas-fired plant with some heat recovery) tightening in the early 2020s and expanding in scope to include existing plant..

- Investment Decisions

Energy efficiency and renewable energy are widely recognised as sectors where the energy market has failed to deliver. This fact was highlighted by Sir Nicholas Stern in his authoritative report to government⁹ where he emphasised that although emission markets will be crucial to climate change policy:

“carbon pricing alone will not be sufficient to reduce emissions on the scale and pace required.” ...“in addition to direct emissions pricing through taxes and trading and R&D support, there are strong arguments in favour of supporting deployment in some sectors when spill-overs, lock-in to existing technology, or capital market failures prevent the development of potentially low carbon alternatives.”

The Stern Review also estimates that if we do not act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more. In contrast, the costs of action – reducing greenhouse gas emissions to avoid the worst impacts of climate change – can be limited to around 1% of global GDP each year.

The recent recession created a very poor private sector investment climate for renewables at the most crucial time. WWF-UK is strongly of the view that far greater levels of public investment for renewables are required. If multibillion-dollar rescue packages can be put together in the wake of the 2008 banking crisis, why then shouldn't politicians produce a proportional response to a threat graver than recession, climate change, and indeed retool the economy with green jobs to pull the UK out of recession?

Reducing carbon emissions from the UK's existing housing stock is by far the biggest and most important challenge in terms of reducing emissions from the UK's housing sector as a whole, given that 80% of housing stock in 2050 already exists now. In March 2008 WWF-UK launched the *How Low?* report¹⁰ detailing how the Government could reduce emissions from this stock by 80% by 2050. The report recommended fiscal and financial measures that could be implemented to enable further action and would support the implementation of renewable energy technologies:

⁹ HM Treasury (2006), “The Stern Review on the Economics of Climate Change”

¹⁰ How Low? Report (2008) - http://assets.wwf.org.uk/downloads/how_low_report.pdf

- Low interest loans for energy measures based on the German model would help to stimulate the uptake of renewable energy technologies and make them more affordable for home owners and landlords of residential property;
- stamp duty rebates to incentivise the improved energy efficiency of housing and council tax rebates to “reward” more sustainable actions with regards to homes; and; and
- grants: one of the biggest barriers to the uptake of renewable energy technologies for owner occupiers is the high upfront costs associated with implementation. In a EST survey¹¹ of 900 households who were considering or buying micro-generation heat technologies one of the key barriers was the level of grant funding available to support householders through the Government’s Low Carbon Buildings Programme. The current grant levels available are seen as too low by many and many householders feel that if tackling climate change is so important then the Government should back this up with action and do more to help householders “do their bit”.

- Planning System

We have now seen the passing of the Planning Act 2008 and the Marine and Coastal Access Act 2009. A key objective of the Planning Act was to streamline the terrestrial planning system to improve the speed and efficiency with which applications for major infrastructure projects, including renewables, are decided. WWF believes that these changes will assist in bringing forward renewable energy projects in order to contribute to meeting the 2020 targets.

The Marine and Coastal Access Act introduces a new marine planning system which aims to provide a clear direction for managing and protecting the UK’s seas using the ecosystem based approach and sustainable development principles. WWF-UK has long called for the introduction of a marine planning system to take a strategic view to the use of marine space and resources, increase certainty, reduce conflicts and ensure space for marine biodiversity.

For the first time, we will see the introduction of national planning policy in the form of a renewables NPS and the Marine Policy Statement which will guide the way in which applications for large onshore and offshore renewable developments are decided. WWF believes that such policies provide a timely opportunity for the government to ensure a balanced, sustainable and consistent approach in the expansion of the renewables network. To achieve this, we consider that not only must there be consistency in the policy statements themselves, but also consistency in their application and coordination between all the relevant decision making bodies, such as the Marine Management Organisation and the Infrastructure Planning Commission. Further, they must provide a strategic vision for development of renewables which truly integrates the ecosystem based approach and sustainable development principles in order to ensure that such development is within environmental limits.

However, despite the recent changes to the planning system there will still be some onshore renewable projects (those below 50MW) that will continue to be decided by local planning authorities under the existing system, subject to the applications being called in for consideration by the Secretary of State or the Infrastructure Planning

¹¹ Energy Saving Trust (2007): YIMBY generation – Yes in my back yard

Commission. WWF-UK believes that the consistency and efficiency in decision making sought at national level must also apply and filter down to the local level.¹²

- Protecting habitats

In developing and applying these national policies, the government must not forget other important objectives of the planning system, such as achieving sustainable development, conservation and protection of biodiversity and habitats through site designation and management and through a new marine spatial planning system and specialist Marine Management Organisation. The principle of living within environmental limits must be at the forefront of any national policy considerations.

While WWF-UK agrees that the planning process can be made more efficient to ensure a positive contribution to the expansion of renewable projects, we do not think this should be done at the expense of rigorous environmental assessments and a transparent democratic process. We have made these points clearly in the consultation process for the Planning Act and the Marine and Coastal Access Act.

The government must ensure that in delivering renewables now and in the future, any guiding policy and individual proposals are developed and undertaken in full compliance with the UK's obligations under European Directives¹³ which are important for the environment. Where there are potential impacts on designated sites, the government must undertake a comprehensive assessment of all other alternatives, including the "do nothing" option, with a view to ensuring that the environmentally benign options are utilised and/or that sufficient compensatory habitat can and will be provided.

WWF's position on particular types of renewables and habitat protection is as follows:

Wind power:

As explained earlier in this paper, WWF-UK is very much in support of both renewables and conservation, and we believe the win-win locations (and no-go areas) on and around the UK should be sought as priority, so that a great deal more renewable energy can be captured without unduly damaging the terrestrial and marine environments.

Furthermore, we believe the development of wind farms should be managed well and framed within national, regional and local spatial planning policy. This should include development of national, regional and local wind energy targets and the assessment of high value habitats onshore and offshore to enable the identification and mapping of the most appropriate sites for wind farm development. In this way, any environmental impacts and conflicts with other land or marine uses, users and protected habitats would be identified and minimised.

Marine renewables

¹² Note: The MMO will decide all offshore renewable projects up to 100MW. The IPC will decide offshore projects over 100MW and onshore projects over 50MW. Then, local decisions will only be made for onshore renewable energy projects under 50MW.

¹³ These include the Habitats Directive, Wild Birds Directive, Strategic Environmental Assessment Directive, Environmental Impact Assessment Directive, Water Framework Directive and Marine Strategy Framework Directive.

WWF-UK promotes a positive vision for the rapid deployment of marine renewables and new offshore transmission infrastructure in an environmentally sensitive and sustainable way. We recognise that a substantial contribution from marine renewable energy sources must be a vital component of any credible strategy to deliver steep cuts in carbon emissions and to avoid dangerous climate change. By 'positive vision' we mean a future in which renewables are deployed within a robust marine planning system, we mean a future in which marine biodiversity is given appropriate protection and we achieve full decarbonisation of the UK and EU power sector in tandem with full compliance with UK, EC and international law and guidance.

- Regional and local planning

At the same time as ensuring sound and consistent national policy statements, WWF considers that the government must continue to encourage sound policy development at the regional and local level. WWF supports the passing of the Planning and Energy Act 2008 which puts into legislation the 'Merton Rule'¹⁴ and provides powers for local planning authorities to develop policies imposing reasonable requirements for, amongst other things, the incorporation of renewable energy into proposed developments. It would be disappointing if these new powers were not utilised by local planning authorities to increase local renewable projects and for this reason, WWF encourages the government to provide appropriate support and guidance on how these powers can be implemented. A regular review on the adoption and use of these powers by local planning authorities would be welcomed.

- Community engagement

WWF believes that stakeholder engagement and community ownership (or low carbon energy co-operatives) are under-used in the UK and this is an important issue the government needs to address. In other countries (and in the few areas of the UK) where such co-operatives exist there are extremely high levels of community support for renewable energy projects, and as a by-product renewed interest in reducing energy consumption and waste in homes is also observed.

WWF is concerned about the "Not in My Back Yard" (NIMBY) mentality adopted by some resident groups and the affect this may have on progressing planning decisions for renewable projects. One example is the Gwynt y Mor offshore wind farm which WWF-Cymru positively supported, but which was threatened with judicial review on the grounds that the residents believed they had a right to a view which would be detrimentally impacted by the wind turbines. Another example is in July 2008, when Redcar and Cleveland Borough Council suffered a defeat in its High Court bid to block a wind farm just one and a half miles off the North-East coast after a costly two-day hearing. In his judgement, Mr Justice Sullivan dismissed the Council's judicial review challenge, stating:

¹⁴ The 'Merton Rule' is the groundbreaking planning policy, developed by Merton Council, which requires the use of renewable energy onsite to reduce annual carbon dioxide (CO₂) emissions in the built environment. The exact policy states: "The council will encourage the energy efficient design of buildings and their layout and orientation on site. **All new non residential developments above a threshold of 1,000sqm will be expected to incorporate renewable energy production equipment to provide at least 10% of predicted energy requirements.** The use of sustainable building materials and the re-use of materials will also be encouraged, as will the use of recycled aggregates in the construction of buildings. This will be subject to the impact on the amenity of the local environment, taking into account the existing character of the area."

"I am fundamentally of the view that this application must be rejected. The mere assertion that a wind farm may spoil the outlook generally, and may affect the value of property is not a sufficient basis on which a challenge can be based".¹⁵

We believe that more is needed to dispel the myths surrounding, in particular, wind farm developments and that thorough investigations are undertaken to ensure that the most appropriate sites are chosen for such developments. We reiterate that there needs to be a balanced and inclusive approach to the planning and implementation of renewable projects, ensuring that proper stakeholder engagement is undertaken at appropriate stages and that climate change mitigation, biodiversity conservation and protection and sustainable development are given equal consideration in the examination of any proposal.

iii) Hot Topics

There are a few 'hot topics' that occasionally appear in media debates which focus on particular renewable energy related issues around the UK. We summarise our position on some of these below.

- Tidal Power and the Severn Estuary

The Department for Energy and Climate Change (DECC) is currently undertaking a feasibility study into the utilisation of the tidal range of the Severn Estuary for renewable electricity generation. WWF agrees that there is huge potential for electricity generation from the tidal range of the Severn Estuary, as it has one of the highest tidal ranges in the world. However, we assert that our absolute priorities must be a strong drive for reduction in energy demand, improved energy efficiency and rapid deployment of sustainable, low-impact renewable energy technologies.

The long list of options for consideration within the feasibility study included proposals based on known technology (barrages, tidal lagoons) and those which are innovative and untested, such as the tidal fence and tidal reef. We assert that all these options must be given proper and equal consideration as part of the feasibility study, with the newer technologies being fully explored and tested, to determine which option can best achieve high levels of energy generation at low cost and with minimal impact on the environment .

Phase One of the feasibility study has now been completed. Following Ministerial Review and public consultation on the Phase One studies, a shortlist of five options was produced, all comprising barrage or lagoon technology. We now await the outcomes of Phase 2 of the Study and the more detailed investigations into the strategic feasibility of these options.

WWF is concerned that traditional engineering concepts, such as the barrage, may impose unacceptable environmental impacts on the Severn Estuary and entail a serious breach of the Habitats Directive. There is a very real concern as to whether an adequate compensatory package can ever be provided, with reference to the extent of habitat that would be needed to compensate for the loss of the mudflats and

¹⁵ Practical Law, 22 July 2008: <http://environment.practicallaw.com/0-382-6098?q=&qp=&qo=&qe=>

(in particular) how the UK can compensate for the impact on species of migratory fish for which the Severn provides a stronghold.

WWF welcomes the government's decision to fund and assist in further development of innovative, low impact technologies through the Severn Embryonic Technologies Scheme. We call on the government to ensure that alternative, lower-impact options to exploit the Severn's tidal energy are given proper investigation and consideration before a final decision is made, and to ensure that the UK's overall energy/climate change policy is designed to deliver rapid uptake of lower impact technologies both in the Severn and across the UK.

Further detail can be found in WWF-UK's position statement on Tidal Energy in the Severn Estuary:

http://assets.wwf.org.uk/downloads/final_tidal_energy_in_the_severn_estuary.pdf

- Bioenergy and Sustainable Sourcing

The use of biomass will have an important role to play in realising the overall EU 20% renewable energy target. In the 2008 EU Energy Package, the EU has set new targets, including for renewable energy (biofuels, electricity etc.) to represent 10% of all road transport fuel consumption by 2020. While contribution of the member states to the overall 20% EU target will be variable, the 10% transport target is legally binding for all countries. Additionally the policy framework sets sustainability criteria for biofuels and other bioliquids and requires the EU Commission to consider extending the sustainability requirements to biomass in energy production. WWF considers that the proposal is a good step in the direction of a robust sustainability framework but further urgent work is needed to transform the proposal into a credible, operational scheme. The support of the UK government (one of the forerunners) is crucial, and thus WWF will closely follow its position.

WWF believes that effective robust and strict sustainability criteria and standards are essential and need to be applied across the board for all types of biomass, including uses for heat and power production, as well as for biofuels. Various commodities already have well established standards and certification schemes in place, efforts in the bioenergy sector should build on existing roundtables and certifications schemes such as the Forestry Stewardship Council and the Roundtable on Sustainable Palm Oil.

The UK has potential for some home-grown biomass production and WWF would like to see this encouraged much more by the UK government, in line with the EU and national environmental safeguards. WWF urges the UK and the EU to convert the existing reporting scheme for biofuels in road transport applications into a mandatory environmental and social standard for all bioenergy, and to support independent monitoring and policing procedures.

WWF understands that if energy crops are to be used as bioenergy feedstocks then they must be selected on the basis of their environmental, social impacts and carbon (soil and air) and energy balance, from production through to processing, transport and use.

WWF recommends that any incentives introduced by government should be proportional to the benefits delivered by bioenergy. For example, incentives such as tax rebates should be linked to well-to-wheel greenhouse gas savings of biofuels, biogas or renewable electricity for transport. However, if incentives linked to greenhouse gas savings aren't sufficient to support the most environmentally friendly

options, such as electrification of transport, then additional support measures and incentives will be needed.

WWF sees huge potential and benefit in the increased use of 'plug-in' electric vehicles with regards to balancing the UK electricity grid, as not only are electric vehicles more efficient than conventional fossil-fuelled vehicles – they could collectively act as a huge UK battery, storing the electricity generated from renewable sites over-night, ready for the use of the car the next day. With regards to manufacture and timescales, WWF is calling for one fifth of the 10% renewable energy in transport target (i.e. 2% of overall transport energy) to be achieved with electric cars or hydrogen and we ask the UK government to introduce a similar new mandatory target in order to increase the number of electric vehicles on the UK's roads.

- Renewable Heat

There is still no coherent UK policy for **renewable heat** despite nearly five years of consultation in this area. In fact the use of renewable heat is in decline in the UK and existing grant programmes are piecemeal and erratic. A support mechanism is now long overdue and the industry's strong preference is for an effective tariff-based support measure for renewable heat in the UK, a position shared by WWF-UK.

The Government's policy on Zero Carbon homes is likely to have an impact on how we heat our homes in the UK and while the policy details are yet to be finalised, it is likely that to achieve homes that are truly zero carbon we will require large scale Combined Heat and Power systems (CHP) that are fuelled with sustainably sourced biomass. Further work is required to establish the likely levels of resource needed to sustain such systems and how this can be achieved within robust sustainable criteria.

Smaller renewable heat schemes do not need massive infrastructure provision, so may reduce capital costs as they can tap into locally available resources and will be different in different parts of the UK. The government needs to provide many more grants to household, community and business in order to stimulate demand for renewable heat and the use of biomass, whilst at the same time the industry needs to invest in the supply chains, or better still loops – processing, marketing and distribution networks.

In addition to this, WWF-UK believes that if the UK government were to plan, implement and enforce a robust 'Supplier Obligation' type of regulation after the proposed Community Energy Saving Programme (CESP) ends in 2012 it could drive a wholesale shift in the market towards energy services. This could then have beneficial knock-on effects for small-scale renewable heat solutions by encouraging the take-up of more decentralised community-based energy options, such as biomass CHP and household solar thermal technologies.

- Green Energy Tariffs

WWF-UK believes that as a minimal requirement to ensure that the green tariff market retains some credibility, the government and regulator (Ofgem) should require all energy suppliers to have their so-called 'green' tariffs for domestic customers independently assessed, audited and certified by an independent third party such as the Energy Saving Trust or Ofgem.

Without a credible accreditation scheme, we fear that consumers and the media will increasingly see green tariffs at best a distraction from the real task at hand – the

need to dramatically increase the rate of deployment of renewable energy technologies. At worst, green tariffs may be seen as little more than green wash – and even those suppliers which offer relatively credible tariffs may well be caught up in a wider backlash.

WWF-UK has also asked government and the regulator to describe how they think the energy suppliers can show additional investment over and above business as usual (BAU) from 2009 onwards when the new BAU is to meet the UK's new renewable energy target of sourcing 15% of final energy consumption from renewables by 2020. In this new regulatory environment it is unlikely that any current or future green energy tariff would pass the additionality test over and above the new BAU frame they operate in.

5. SUCCESS STORIES

Denmark

The use and growth of local co-operatives on the island region of Samsø, Denmark, has been a key to its success, as many of Samsø's residents have worked together to move from their coal, oil and gas addiction and consuming lifestyle to a more self-sufficient, renewable and energy efficient community. In 10 years the islanders on Samsø have managed to cut their carbon footprint by an amazing 140 percent. To quote but one resident from Samsø, 'No one minds wind turbines on Samsø for the simple reason that we all own a share of one'¹⁶. This is just one example of many to show there are extremely high levels of community support for renewable energy projects, especially if they take ownership and reap the rewards in terms of money, energy and carbon savings, as there is often renewed interest from participants in reducing energy consumption and waste in their homes.

Germany

The story to date of the German renewables industry is one of success - turning over 24.6 billion euros in 2007 and employing 249,000 people – and the German's feed-in tariff (FIT) system has been the key to this success. A similar success story of renewables is seen Spain after the Spanish government also introduced a FIT type support system.

When senior German executives were asked by a major economics newspaper to name the business with the greatest future potential, three quarters cited renewable energy. In the past two years, for example, 15 new solar module factories have gone into operation or been under construction in Germany. All these examples are signs of the flourishing, innovation-friendly and dynamically growing renewable energy technology sector. It owes its current standing to Germany's far-sighted renewable energy policy which, in view of globally rising demand, is the best insurance against limited fossil fuel resources/high oil prices, climate change threats and supply shortages.

In a nutshell: climate protection is the most intelligent form of economic policy. It initially costs money, but ultimately leads to a genuine 'vorsprung durch technik' (head start through technology). The export market is gaining in importance, as many countries adopt ambitious expansion targets for renewable energies.

Germany has a similar sized economy to the UK and also started from a low base for renewables (albeit 10 years ago). Yet Germany now achieves 8.5% renewables as a proportion of total energy, up from 7.5% in 2006. Thus, in one year Germany achieved a percentage point increase, whereas the UK took 10 years to move from 1% to just under 2% today.

China

By the end of 2007, cumulative capacity had reached roughly 6 GW - up from just 0.8 GW in 2004 - ranking China fifth among all the world's nations for wind installations. Cumulative installations in 2007 exceeded the target set for 2010 just one year ago, and the 2020 target of 30 GW is expected to be reached by 2012, eight years ahead of schedule. China's solar PV industry has also seen phenomenal development.

¹⁶ The Observer Magazine, 21 September, 2008, p 36.

Surging worldwide demand - particularly from Europe and the U.S. - has encouraged the development of a world-class solar PV manufacture base in China, literally from scratch. The country's total solar cell production jumped from less than 100 MW in 2005 to 1,088 MW in 2007, making it the world's top producer.¹⁷

England

The aim of the Beddington Zero Energy Development, or BedZED (developed by Bioregional and the Peabody Trust), was to demonstrate that the expertise already exists in the UK to build and live sustainably. Sustainability was at the heart of the development from the outset with a Green Transport Plan and energy and materials strategies all in place. It was also important to the development team one of the outcomes was a socially inclusive community. BedZED has 100 homes, community facilities and workspace for 100 people.

The housing design follows the principle of energy efficiency first and then renewable technologies were designed to provide the reduced energy requirements. All the houses are highly insulated with triple glazed windows to reduce energy losses and have triple storey conservatories to maximise light and warmth from the sun. This has removed the need for central heating. Homes are kept well ventilated with a wind-powered ventilation system. The energy demand is met using a Combined Heat and Power plant (CHP) and is fuelled by wood chips that would otherwise be sent to landfill.

Further renewable electricity is supplied by photovoltaic panels (Solat PV) while kitchens and bathrooms are fitted with energy and water saving devices. Data on water and energy savings has demonstrated savings of around 30% on water through the use of water efficient devices and rainwater harvesting, a 60% reduction in total energy demand and a 90% savings on space heating. The use of largely reclaimed, recycled, environmentally accredited and local materials in the construction reduced the site's embodied impact by 20-30%.¹⁸

LIST OF FURTHER INFORMATION

- WWF-UK Climate Solutions report (2007):

<http://assets.panda.org/downloads/climatesolutionweb.pdf>

- WWF-UK 80% Challenge report (2007):

<http://www.wwf.org.uk/filelibrary/pdf/80summary.pdf>

- Pöyry report – Implications of the UK achieving its 2020 renewable energy target (2008):

http://assets.wwf.org.uk/downloads/Pöyry_2020renewabletarget.pdf

- WWF-UK How Low? Report (2008):

http://assets.wwf.org.uk/downloads/how_low_report.pdf

¹⁷ UNEP – Our Planet Magazine, December 2008

¹⁸ For further information on BedZED, see:

http://www.bioregional.com/programme_projects/ecohous_prog/bedzed/bedzed_hpg.htm

OTHER RELEVANT WWF POLICY POSITION STATEMENTS

WWF-UK position statement on Tidal Energy in the Severn Estuary

http://assets.wwf.org.uk/downloads/tidal_energy_severn_estuary.pdf

WWF position statement on bioenergy

http://wwf.panda.org/about_our_earth/about_forests/forest_news_resources/?118680/WWF-position-paper-on-bioenergy-updated-June-2008

FEEDBACK

We are keen to receive your views and comments in response to this Policy Position Statement which we will be updating on a regular basis. We also need to be aware of any new piece of work/research/evidence that you have undertaken that may affect this Policy Position Statement. There may also be gaps within the current position which we may not be aware of and which you may wish to highlight for any future review. Please email your feedback to policyfeedback@wwf.org.uk. Please ensure you state which Policy Position Statement you are referring to.