

# **National Renewable Energy Action Plan for the United Kingdom**

**Article 4 of the Renewable Energy Directive  
2009/28/EC**

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# 1. Summary of National Renewable Energy Policy

## The importance of renewables in the UK

The UK needs to radically increase its use of renewable energy. The UK has been blessed with a wealth of energy resources. Until now we have relied on the use of our coal, oil and gas supplies to supply our homes; support our businesses; and power our transport. As we look forward, we need to ensure that we also make the most of our renewable resources to provide a secure basis for the UK's future energy needs. The depletion of our domestic fossil fuels reserves, combined with projected growth in global energy demand, puts our security of energy supply at risk. Exploiting our renewable resources will make a strong contribution to our energy needs and allow us to be less reliant on others.

Our drive to increase the proportion of energy we obtain from renewable sources will not only increase the security of energy supplies in the UK, it will also provide opportunities for investment in new industries and new technologies. The UK Government will help business develop in this area to put the UK at the forefront of new renewable technologies and skills.

The UK Government believes that climate change is one of the gravest threats we face, and that urgent action at home and abroad is required. We need to use a wide range of levers to decarbonise the economy. The development of renewable energy sources, alongside nuclear power and the development of carbon capture and storage, will also enable the UK to play its full part in international efforts to reduce the production of harmful greenhouse gases.

## The Way Forward

This National Renewable Energy Action Plan provides details on a set of measures that would enable the UK to meet its 2020 target. But we want to go a lot further. We want to secure our energy supplies through 2020 and beyond and provide a sound framework for business to develop in the new industries, providing jobs and cutting harmful greenhouse gases. *The Coalition: our programme for government*<sup>1</sup> sets out a range of proposals to ensure that we go as far as we can in exploiting the UK's renewable energy resources.

We are commissioning the independent UK Committee on Climate Change to review the renewables target and provide advice on increasing the level of ambition. We have also committed to make an Annual Energy Statement to the UK Parliament to set strategic energy policy and guide investment in all forms of energy including renewables. At the European level we are pushing for greater leadership in tackling international climate change by supporting an increase in the European Union emission reduction target to 30% by 2020.

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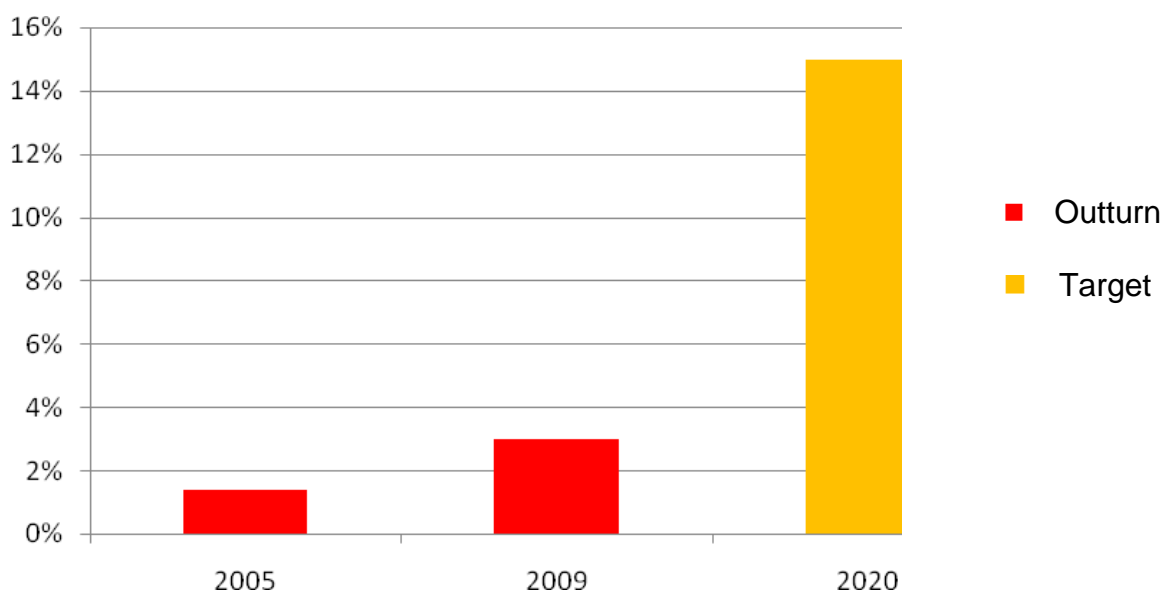
<sup>1</sup> [http://www.cabinetoffice.gov.uk/media/409088/pfg\\_coalition.pdf](http://www.cabinetoffice.gov.uk/media/409088/pfg_coalition.pdf)

## Meeting our 2020 target

The history of energy production in the UK has been based around our natural resources of fossil fuels. This means that we have not been as active in our exploitation of our renewable resources – this must change. Compared to many other Member States, the UK is starting from a very low level of renewable energy consumption and this means that our challenge to meet the 2020 targets is even greater.

The 2009 Renewable Energy Directive sets a target for the UK to achieve 15% of its energy consumption from renewable sources by 2020. This compares to only 1.5% in 2005. As chart 1 below shows, while there has been a small increase in renewable energy use in recent years, there will have to be a much greater level of deployment over the next decade in order to meet the target.

**Chart 1. Energy consumed from renewable sources in the UK<sup>2</sup>**



DECC published the results of analysis and modelling to demonstrate how it might be possible to meet the 15% renewables target by 2020 as part of the UK Renewable Energy Strategy in 2009<sup>3</sup>. The results of this analysis are the basis of the analytical work in this document.

This analysis indicates that delivering 15% renewable energy by 2020 is feasible through domestic action and could be achieved with the following proportion of energy consumption in each sector coming from renewables:

- Around 30% of electricity demand, including 2% from small-scale sources;
- 12% of heat demand;
- 10% of transport demand.

<sup>2</sup> Outturn data from *Digest of UK Energy Statistics* (2009)

<http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx>

<sup>3</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)

It is important to stress that these figures are purely illustrative of how the overall 15% target for the UK could be met. They should not be taken as an upper limit to the UK ambition for renewables deployment. Given the dynamic nature of the energy market and the advances in technology that are being made, it is likely that the balance between different sectors could change as we go forward. Whatever the precise breakdown may be, we are putting in place the framework and taking the actions necessary to ensure that we meet our renewable goals.

## **The framework for action**

The UK renewables policy framework is made up of three key components:

- Financial support for renewables;
- Unblocking barriers to delivery; and
- Developing emerging technologies

### *Financial support for renewables*

The UK is establishing a financial framework that provides long-term, comprehensive and targeted support for renewable technologies.

We are looking at establishing a system of feed-in tariffs in electricity, as well as the maintenance of banded Renewable Obligation Certificates in order to ensure that our greater ambitions for renewable energy are supported and have the required investment. The Renewable Transport Fuel Obligation (RTFO) is also under review. We are reviewing how it could be aligned with the Renewable Energy Directive and we will consult on any proposed changes later this year.

In addition to this support, we are looking into the possibility of a Green Investment Bank to help fund the introduction of renewable energy. As part of the creation of this bank, we will create financial products to provide individuals with opportunities to invest in the infrastructure needed to support the new green economy.

It is not only business which will see benefits from higher levels of renewables. We will be providing opportunities for communities to benefit through the promotion of community-owned renewable energy schemes. We are currently investigating the opportunity for communities that host renewable energy projects to keep the additional business rates they generate as part of these schemes. This way local people will benefit from the power they are producing.

### *Unblocking barriers to delivery*

We will be taking steps to identify and address those issues that affect the timely deployment of established renewable technologies such as: the planning system; supply chains; connection to the grid; and availability and use of sustainable bioenergy.

The UK is taking positive steps to ensure that the grid is made smarter. A smarter grid will enable efficient use of networks, and greater renewable and distributed generation. We are looking into ways to accelerate the rollout of the smart grid and smart meters. We will be seeking industry views on this and publishing proposals this summer.

### *Developing emerging technologies*

Offshore wind is a key area for development. We will work to develop an offshore electricity grid to support our continuing commitment to being world leaders in this technology. This new generation of offshore wind power will play a key role in meeting our 2020 target.

Marine energy is also a priority for development in the UK. The UK is a natural place from which to develop marine energy and we are lucky to have such a uniquely rich wave and tidal resource. We will be encouraging the development and commercialisation of this industry over the coming decade. The world's first full-scale wave and tidal stream devices are British innovations, which show we have the skills and know-how to develop a new world-leading UK-based energy sector. We are currently considering in detail how creating a network of marine energy parks can work to push the sector forward. Each marine energy park will be unique and different; building on the strengths of the region in which it is based.

The Government has also announced the promotion of anaerobic digestion as a key area for further development, and we are currently working with stakeholders to develop a strategy for delivering this commitment.

### **Co-ordinating Delivery**

Within the Department of Energy and Climate Change (DECC), there is the Office for Renewable Energy Deployment (ORED) whose job it is within Government to ensure we meet our targets for renewable energy. This will be done by working closely with delivery partners and stakeholders to help accelerate deployment. ORED is currently undertaking a programme of work to develop a coordinated delivery plan to implement the commitments made in this National Renewable Energy Action Plan. This delivery plan is due to be published later this year.

It should be noted that, while energy in Great Britain is generally a reserved matter for the UK Government, many of the mechanisms to help deploy greater levels of renewables are matters for Devolved Administrations. The UK Government is working closely with the Devolved Administrations in Wales, Scotland and Northern Ireland who have a key part to play in meeting our overall target. The Devolved Administrations are keen to increase the use of renewable energy, for example, the Welsh Assembly has recently published its own Low Carbon Energy Policy statement<sup>4</sup> and the Scottish Government have chosen to implement a target of 20% of energy to be derived from renewable sources by 2020<sup>5</sup>.

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<sup>4</sup> <http://wales.gov.uk/topics/environmentcountryside/energy/renewable/policy/lowcarbonrevolution/?lang=en>

<sup>5</sup> <http://www.scotland.gov.uk/Publications/2009/07/06095830/0>

## 2. EXPECTED FINAL ENERGY CONSUMPTION 2010-2020

Table 1 includes estimates of final energy consumption that are consistent with the scenarios presented in the UK Renewable Energy Strategy, and underlying assumptions are given in the analytical annex published in July 2009<sup>6</sup>. The additional energy efficiency forecasts include planned measures as of June 2009, but do not include additional measures such as those included in the UK Low Carbon Transition Plan<sup>7</sup>, published in July 2009. The reference scenario excluded planned measures, including the supplier obligation, smart meters and the carbon reduction commitment. We are undertaking work to factor these additional policies into our analysis and will update our trajectory in the near future.

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<sup>6</sup>The analytical annex for the Renewable Energy Strategy can be found online at:

[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)

<sup>7</sup>[http://www.decc.gov.uk/publications/basket.aspx?FilePath=White+Papers%5cUK+Low+Carbon+Transition+Plan+WP09%5c1\\_20090724153238\\_e\\_%40%40\\_lowcarbontransitionplan.pdf&filetype=4](http://www.decc.gov.uk/publications/basket.aspx?FilePath=White+Papers%5cUK+Low+Carbon+Transition+Plan+WP09%5c1_20090724153238_e_%40%40_lowcarbontransitionplan.pdf&filetype=4)



**Table 1: Expected gross final energy consumption of the UK in heating and cooling, electricity and transport up to 2020 taking into account the effects of energy efficiency and energy saving measures 2010 – 2020 (ktoe)**

	2005	2010		2011		2012		2013		2014	
	Base Year	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency
<b>Heating and cooling</b>	66900	60000	60000	59200	58900	58600	58000	58100	57100	57500	56200
<b>Electricity</b>	32100	31800	31700	32000	31700	32300	31800	32600	31900	32900	32000
<b>Transport</b>	41704	40485	40485	40935	40935	41427	41427	41746	41746	41936	41936
<b>Gross final energy consumption</b>	154500	146600	146500	146800	146200	147300	146200	147700	146100	148100	145900
<b>Final consumption in aviation</b>	13200	12900	12900	13100	13100	13400	13400	13700	13700	14100	14100
<b>Reduction for aviation limit</b>	3600	3800	3800	4000	4100	4300	4400	4600	4700	4900	5100
<b>Total consumption after reduction for aviation limit</b>	150900	142800	142700	142700	142100	143000	141800	143100	141400	143200	140800

**Table 1 Continued (2015 - 2020)**

	2015		2016		2017		2018		2019		2020	
	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency	reference scenario	additional energy efficiency
<b>Heating and cooling</b>	56900	55300	56300	54400	55800	53500	55500	52900	55100	52200	54800	51500
<b>Electricity</b>	33100	32100	33300	32100	33500	32100	33700	32200	33900	32300	34200	32400
<b>Transport</b>	42002	42002	42030	42030	42013	42013	41957	41957	41878	41878	41779	41779
<b>Gross final energy consumption</b>	148300	145600	148200	145100	148400	144800	148600	144600	148800	144300	149000	144100
<b>Final consumption in aviation</b>	14500	14500	14900	14900	15200	15200	15600	15600	15900	15900	16200	16200
<b>Reduction for aviation limit</b>	5300	5500	5700	5900	6100	6300	6400	6700	6700	7000	7000	7300
<b>Total consumption after reduction for aviation limit</b>	143000	140200	142500	139200	142300	138500	142200	137900	142100	137300	142000	136700

**Notes to Table 1**

1. 2005 figures are DECC statistics. Forecasts use assumptions that are consistent with those underpinning the Renewable Energy Strategy (see analytical annex<sup>8</sup>).
2. Additional Energy Efficiency measures do not include additional measures announced under the Low Carbon Transition Plan or any more recent proposals.

<sup>8</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)

### 3. RENEWABLE ENERGY TARGETS AND TRAJECTORIES

#### 3.1. National overall target

**Table 2: National overall target for the share of energy from renewable sources in gross final consumption of energy in 2005 and 2020**

(A) Share of energy from renewable sources in gross final consumption of energy in 2005 (S2005)	1.3%
(B) Target of energy from renewable sources in gross final consumption of energy in 2020 (S2020)	15%
(C) Expected total adjusted energy consumption in 2020 (ktoe)	136700
(D) Expected amount of energy from renewable sources corresponding to 2020 target (BXC) ktoe	20505

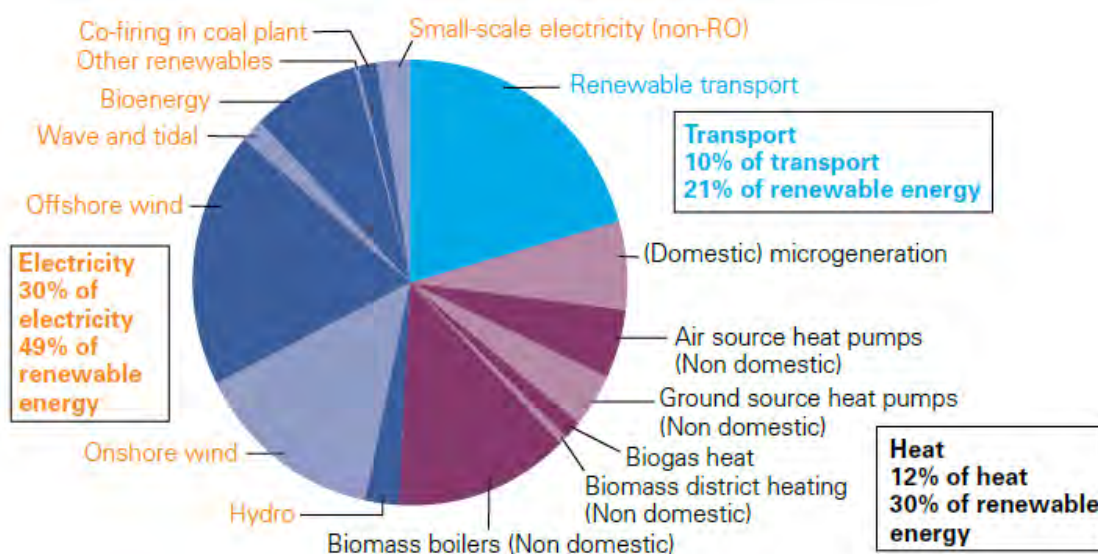
**Notes to table 2:**

1. 2005 figures are DECC statistics
2. Source of other figures: see notes to Table 1

#### 3.2. Sectoral scenarios and trajectories

Chart 2 shows the illustrative mix of technologies developed from our lead scenario. This suggests we could see around 30% of electricity, 12% heat and 10% transport energy come from renewable sources by 2020. This is one indication of the technology mix we could see come forward to meet the UK's 15% target for renewable energy and does not represent fixed targets for particular sectors. It should not be taken as an upper limit to our ambition for renewables deployment. We are keen to go further and have commissioned the Committee on Climate Change to provide independent advice on increasing the level of ambition for renewables in the UK. Alongside this we are also taking strong, co-ordinated action to accelerate delivery by identifying and tackling the barriers to deployment that will enable the market to respond.

**Chart 2 – Illustrative mix of technologies in lead scenario, 2020 (TWh)<sup>9</sup>**



<sup>9</sup> Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009) and Nera (2009) and DfT

**Table 3: National 2020 target and estimated trajectory of energy from renewable sources in heating and cooling, electricity and transport**

	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
RES - H&C (%)	0.7	1	1	1	2	2	3	4	5	7	9	12
RES - E (%)	4.7	9	10	11	13	14	16	19	22	25	28	31
RES-T (%)	0.2	2.6	3.4	4.0	4.5	5.3	6.2	7.0	7.8	8.6	9.5	10.3
Overall RES share (%)	1.4	3	4	4	5	6	7	8	9	11	13	15
Of which from cooperation mechanism												
Surplus for cooperation mechanism			-0.08	-0.08	-0.15	-0.15	-0.18	-0.18	0.03	0.03	0.00	0.00
<i>As part B of Annex I of the Directive - relating to indicative trajectory</i>												
			2011-2012	2013-2014	2015-2016	2017-2018	2020					
RES minimum trajectory			4.04%	5.41%	7.47%	10.21%	15%					
RES minimum trajectory (ktoe)			5735	7634	10429	14105	20511					

**Notes to table 3:**

1. Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009), Nera (2009) and DfT
2. Renewable heat generation as a percentage of total heating and cooling energy demand
3. Renewable electricity generation as a percentage of total electricity demand
4. Renewable transport as a percentage of total transport energy demand
5. Renewable energy as a percentage of capped gross final energy demand

**Table 4a: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)**

	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Expected gross consumption of RES for Heating and Cooling</b>	475	518	621	756	937	1186	1537	2039	2719	3604	4746	6199
<b>Expected gross final consumption of RES for Electricity</b>	1506	2720	3195	3613	4061	4582	5189	6077	7053	8052	9008	10059
<b>Expected final consumption of energy from RES from Transport</b>	69	1066	1383	1663	1859	2223	2581	2927	3265	3596	3925	4251
<b>Total</b>	2050	4304	5200	6032	6856	7992	9307	11043	13037	15252	17679	20510
	<b>1.4%</b>	<b>3.0%</b>	<b>3.7%</b>	<b>4.3%</b>	<b>4.8%</b>	<b>5.7%</b>	<b>6.6%</b>	<b>7.8%</b>	<b>9.4%</b>	<b>11.1%</b>	<b>12.9%</b>	<b>15%</b>

**Notes to table 4a:**

1. Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009) and Nera (2009) and DfT
2. According to Art.5(1)of Directive 2009/28/EC gas, electricity and hydrogen from renewable energy sources shall only be considered once. No double counting is allowed.
3. Containing all RES used in transport including electricity, hydrogen and gas from renewable energy sources, and excluding biofuels that do not comply with the sustainability criteria (cf. Article 5 (1) last subparagraph).

The figures in Table 4(b) below are based on the results of the 'lead scenario' from the UK's Renewable Energy Strategy. Further factors to be considered include planned analysis of the availability and deployment of biomass across the sectors and the European Commission's clarification on definitions of terms such as 'wastes and residues' for the purpose of the 'double counting' of certain biofuels under the Renewable Energy Directive. It should be noted that this scenario is an illustration of one path to reaching our target and is therefore subject to amendment. The table includes an illustrative central scenario for uptake of electric vehicles, as assumed in the 'lead scenario' from the UK's Renewable Energy Strategy.

**Table 4(b): Calculation table for the renewable energy in transport share (ktoe)<sup>10</sup>**

	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Expected RES consumption in transport<sup>23</sup></b>	69	1,066	1,383	1,663	1,859	2,223	2,581	2,927	3,265	3,596	3,925	4,251
<b>Expected RES electricity in road transport</b>	0	0	0	1	1	2	4	7	11	16	22	29
<b>Expected consumption of biofuels from wastes, residues, non-food cellulosic and lignocellulosic material in transport</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>Expected RES contribution to transport for the RES-T target : (C)+(2,5-1)x(H)+(2-1)x(I)</b>	69	1066	1384	1664	1861	2227	2587	2937	3281	3619	3958	4295

**Notes to table 4b:**

1. Containing all RES used in transport including electricity, hydrogen and gas from renewable energy sources, and excluding biofuels that do not comply with the sustainability criteria (cf. Article 5 (1) last subparagraph).

<sup>10</sup> The Renewable Fuels Agency (RFA) reported that in 2008/09 157 million litres (12.2%) of biofuel supplied in the UK was from wastes and by-products (Based on the current UK definition of waste and residues). This figure is expected to increase with the retention of the 20ppl duty differential and introduction of double rewards as part of the proposed amendments to the Renewable Transport Fuel Obligations Order 2007

## 4. MEASURES FOR ACHIEVING THE TARGETS

### 4.1. Overview of all policies and measures to promote the use of energy from renewable resources

Table 5 shows a broad overview of measures the UK is undertaking to promote the use of energy from renewable resources.

**Table 5: Overview of all policies and measures to promote use of renewable resources**

Name & reference of the measure	Type of measure	Expected Result	Targeted group and or activity	Existing or Planned	Start & end dates
Renewables Obligation (RO)	Regulatory	Increase generation of renewable electricity from a range of technologies across all scales (excepting most types of microgeneration following introduction of FITs) to 30%.	Primarily large scale renewable electricity generation by professional energy companies.	Existing  Planned	Started 2002 with support available to 2037 (2033 in Northern Ireland).  The new Government has proposed introducing a feed-in tariff for larger generation to operate alongside the RO.
Feed in Tariffs (FITs)	Financial	Incentivise generation of low-carbon electricity from a range of small scale technologies.	Households, communities and small businesses investing in projects up to 5MW.	Existing	Introduced on 1 April 2010, this will close to new entrants in 2021 (although these new entrants will be eligible for 20 years support)

Renewable Heat Incentive (RHI)	Financial	A significant increase in renewable heat generation from a range of technologies to 12%	Individuals, communities and businesses generating renewable heat at all scales.	Planned	Proposed to be introduced in April 2011 subject to Ministerial decision.
European Investment Bank (EIB)	Financial	EIB will provide up to £700 million towards bringing forward onshore wind projects up to the value of £1.4bn over the next three years	Onshore developers	Existing	
Green Investment Bank	Financial	To be determined	Developers of renewable generation	To be determined	To be determined
Biogas feasibility study & demonstration projects	Soft/ Financial	Grant support to construct new composting and anaerobic digestion facilities to process food waste.	Investors, end users.	Planned	Proposed to be introduced in 2010-11 period subject to Ministerial decision



Bioenergy Infrastructure Scheme	Financial	Assist the development of the supply chain required to harvest, process, store and supply biomass to heat, combined heat and power, and electricity end-users.	Small or medium-sized producers of biomass in England supplying end-users in Great Britain.	Existing	Started 2004. Round 3 of the scheme closed to applications in February 2010.
Bioenergy Capital Grants Scheme	Financial	Promoting efficient use of biomass for energy by awarding capital grants toward the cost of equipment.	Businesses, organisations and charities in the commercial, industrial and community sectors that are considering investing in biomass-fuelled heat and/or combined heat and power projects, including anaerobic digestion	Existing	Started 2002. Round 6 closed to applications in April 2010.
Woodfuel Implementation Plan and Woodfuel Strategy	Soft	Forestry Commission England will launch its Woodfuel Implementation Plan in 2010. This aims to deliver a sustainable biomass industry that brings forward	English suppliers of woodfuel – such as chips, pellets and logs	Strategy is existing, Implementation Plan is new.	Launch of Plan in 2010.

		an additional two million green tonnes of material per annum by 2020 from under-managed woodlands.			
The Rural Development Programme for England 2007-13 (RDPE)	Financial	Regional Development Agency grants are available to develop energy projects or small scale on farm renewable energy technologies, including AD, biomass boilers and CHP, and hydro or wind turbines. RDPE can also support alternative agriculture such as growing the feedstocks for use in low carbon renewable materials and fuel This includes bioenergy crops and niche and novel crops.	RDPE supports a range of eligible beneficiaries depending on the measures being enacted.	Existing	2007-2013
Energy Crops Scheme (ECS)	Financial	The ECS aims to increase the amount of perennial energy crops grown in England in appropriate locations for use in heat and electricity generation. It offers grants to farmers in England for the establishment of energy crops such as miscanthus and short rotation coppice.	Farmers (including tenants) and land owners (including local authorities but not central government).	Existing	The ECS is part of the RDPE 2007-2013. It is in place for the life of the programme.

Better Woodlands for Wales (Grant Scheme) from Forestry Commission Wales	Financial	Supports good quality woodland management and replaces the Woodland Grant Scheme in Wales. Provides support for many aspects of forest management including design, operations, protection, maintenance and conservation.	Owners and farmers with woodlands and forests.	Existing	Introduced 2006
Scottish Biomass Heat support scheme	Financial	The Scottish Biomass Heat Scheme (SBHS) offers total grants available to £3.3 million. It prioritises support for small-medium sized enterprises, and is restricted to heat-only biomass applications	Provide grants for installation of biomass heating systems in business premises and district heating demonstrators in Scotland.	Existing, this was the third round	Closing date for applications was 12 February 2010
Northern Ireland Biomass Processing Challenge Fund (DARD)	Financial	The purpose of the Scheme is to support the purchase of a range of technologies and approaches that improve business efficiency and sustainability at farm/forestry level, utilising cost effective and sustainable methods of processing agricultural wastes and other appropriate biomass material to generate renewable energy.	Primary producers from the land based sector in Northern Ireland.	Planned	June 2010

Renewable Transport Fuel Obligation (RTFO)	Regulatory	Increase the proportion of renewable fuel in road fuel	Fuel suppliers	Existing	15/04/08 – ongoing
Green Bus Fund	Financial	Increased capacity in vehicle pool	Investors, end users,	Existing	Nov 2009 to Mar 2012
Duty differential on fuel produced from Used Cooking Oil	Financial	Behavioural change to increase the uptake of biofuels.	Investors, end users	Existing	April 2010 to March 2012
Research on Indirect Land Use Change (ILUC) & sustainability	Soft	Behavioural change to understand the impacts of biomass use.	Investors, end users, public administration	Existing	Oct 2009 to Mar 2011
Biofuel deployment strategic review (Modes, infrastructure and economic analysis)	Soft	Behavioural change	Investors, end users, public administration	Existing	Feb 2010 to Nov 2010
Development of advanced biofuels (Carbon Trust Grants)	Soft / Financial	Behavioural change /Installed capacity	Investors, end users	Existing	April 2009 to Mar 2011
Research on impacts of biofuel use (air quality, fuel consumption, vehicle performance)	Soft	Behavioural Change	Investors, industry, end users	Existing	April 2007 to June 2010
National Planning Policy Statements	Regulatory	Large renewables projects (Nationally Significant Infrastructure Projects as defined in Planning Act 08) will benefit from a clear statement of national policy.	Decision making body for major projects Also relevant to local planning authorities and the Marine	Existing	New Planning regime commenced March 2010

			Management Organisation.		
Planning Policy Statements, including Planning Policy Statement 1 supplement: planning for climate change (PPS1); and Planning Policy Statement 22 on renewable energy (PPS22)	Regulatory	Planning Policy Statements set out the Government's planning policies, which local authorities and developers are expected to take into account in plan making or preparing and determining planning applications.	Local planning authorities Developers for smaller projects	Existing	PPS 1 Supplement was published in December 2007 PPS 22 was published in August 2004
Planning Policy Wales (PPW)	Regulatory	Delivering sustainability and tackling climate change through the planning system. Including planning for renewable energy and sustainable buildings.	Planning Authorities Developers	Existing	TAN 8 (July 2005) TAN 22 (June 2010)
Technical Advice Note 8 (Wales)		TAN Identification of suitable areas for large scale wind. Planning considerations in relation to other renewable energy technologies			
Technical Advice Note 22 (Wales)		Delivering a minimum level of sustainability in new buildings (including carbon reduction) through the planning system.			
Second National Planning Framework for Scotland	Regulatory	Development strategy supports the realisation of Scotland's renewable energy	Strategic Development Planning Authorities;	Existing	In force from June 2009, to be reviewed within

		resources and facilitation of power and heat generation from all clean, low carbon sources.	Planning Authorities; Reporters for Planning Appeals and Examinations; Industry; and Developers		five years.
Scottish Planning Policy	Regulatory	Encourages planning authorities to support the development of a diverse range of energy technologies.	Strategic Development Planning Authorities; Planning Authorities; Reporters for Planning Appeals and Examinations; Industry; and Developers	Existing	In force from February 2010
Northern Ireland Planning Policy Statement 18	Regulatory	Planning Policy Statements set out the planning policies, which the NI Planning Service, local councils and developers are expected to take into account in plan making or preparing and determining planning applications. Specifically, PPS18 creates a positive framework for renewable energy to help facilitate greater renewable energy delivery.	Planning Service, local councils and developers.	Existing	In force from August 2009
Zero Carbon Homes	Regulatory	All new homes in England to be zero carbon from 2016 – to stimulate greater uptake of on-site renewables (under	Development of new housing	Planned (under review)	To come into effect (subject to review) from 2016

		review).			
Zero Carbon Non-domestic buildings	Regulatory	Ambition (under review) for all new non-domestic buildings in England to be zero carbon from 2019 (2018 for public sector buildings) – to stimulate greater uptake of on-site renewables.	Development of non-domestic buildings.	Planned (under review)	To come into effect (subject to review) from 2018-2019
Low Carbon Buildings Programme	Financial	Individuals can apply for up to £2,500 per property and Charities, Schools communities and not for profit organisations up to £200,000 per project towards the cost of microgeneration technologies. It has supported over 19,600 projects to date.	Public	Existing	April 2006 - Spring 2010
Building Regulations	Regulatory	Progressive reduction in overall energy demand/carbon emissions of buildings – likely to stimulate greater uptake of on-site renewables.	All builders of new homes and non-domestic buildings and people carrying out work to existing homes and buildings.	Existing and planned	Ongoing  New approved documents and guidance documents were published in April 2010
Technology development - facilities	Innovation	Develop open access test facilities for offshore wind components and test sites for prototype turbines (£30m)	Industry	Planned	Announced 2009
Information/Ad campaigns	Soft	Motivating the public to act on climate change through take up of renewable energy	Public consciousness	Existing and planned	Ongoing

Scottish Low Carbon Economy Strategy Discussion Paper	Innovation	Create a new framework to prioritise innovation support in Scotland towards low carbon technologies (renewables, energy efficiency, CCS)	Industry Universities	Existing	Announced March 2010
Departmental Carbon Budgets	Regulatory	Set targets for Government Departments to reduce their carbon emissions	Government Departments	Existing	Set out in Low Carbon Transition Plan <sup>11</sup> (July 2009)
The Code for Sustainable Homes	Soft	Behavioural change. Voluntary standards for development of low carbon, and more environmentally sustainable homes, including promoting the role of renewable technologies.	Private and public sector house builders	Existing	Ongoing  The Code was launched in December 2006
Community and Renewable Energy Scheme	Soft and Financial	Provide information, advice and grant funding of up to 150k to provide social and economic benefits from renewable energy projects.	All legally constituted, non-profit distributing community organisations in Scotland	Existing	May 2009 for three years
Wave and Tidal Energy Research and Development Scheme (WATERS)	Financial	To support wave and tidal energy developers in research and development. (£12m fund)	Wave and tidal developers deploying in Scottish waters	Existing	Applications until June 2010
GPWIND – Good Practise in reconciling wind energy with environmental objectives and community	Soft	Information dissemination between member states. To identify and examine case studies of good practice in the planning and approval of wind farms. Led by the	The project will focus on facilitating deployment of practices which positively address environmental issues	Planned	May 2010 –May 2012

<sup>11</sup> [http://www.decc.gov.uk/en/content/cms/publications/lc\\_trans\\_plan/lc\\_trans\\_plan.aspx](http://www.decc.gov.uk/en/content/cms/publications/lc_trans_plan/lc_trans_plan.aspx)



engagement		Scottish Government, the consortium of developers and partners from across the EU, including; Ireland, Malta, Greece, Spain and Norway, will produce a 'how to' toolkit to generate better quality windfarm proposals.	and the concerns of local communities.		
Saltire Prize	Financial	£10m innovation prize to accelerate the development of wave and tidal technologies in Scottish waters.	Prize is open to anyone to apply but project must be deployed in Scottish waters.	Existing	Award to be made in July 2017
Scottish National Renewables Infrastructure Plan	Soft and Financial	Project led by enterprise agencies to assess the suitability of Scotland's port and harbours facilities to support offshore renewables. Tailored investment packages will then be considered for the key sites identified.	Scottish port/harbour owners and operators.	Existing	Ongoing

## **4.2. Specific measures to fulfil the requirements under Articles 13, 14, 16 and Articles 17 to 21 of Directive 2009/28/EC**

### **4.2.1. Administrative procedures and spatial planning (Article 13(1) of Directive 2009/28/EC)**

#### **(a) List of existing national and, if applicable, regional legislation concerning authorisation, certification, licensing procedures and spatial planning applied to plants and associated transmission and distribution network infrastructure**

The table below outlines the legislation concerning authorisation, certification, licensing procedures and spatial planning. In some areas, authority is devolved. The table, therefore, also specifies the nations in the UK where the legislation is applicable. Energy is generally a reserved matter in Great Britain, but policy for delivery is often formulated and delivered at the devolved national level. Planning, for example, is a devolved matter. Local authorities also have a role to play in interpreting national policy and developing plans for specific areas. Amendments have been made to some of the legislation listed below; details of the amending legislation are not included in this list.

#### **Key**

E –England

W – Wales

S-Scotland

NI – Northern Ireland

**Table 4.2.1 (a)**

<b>Legislation:</b>	<b>Applying to</b>	<b>Applicable area:</b>
s.36 and 37 and schedules 5, 8 and 9 to the Electricity Act 1989	<p>Electricity Act consent required for:</p> <ul style="list-style-type: none"> <li>- Generating stations in Scotland over 50MW</li> <li>- Generating stations in territorial waters adjacent to Scotland over 1MW</li> <li>- Generating stations in the Scottish part of the renewable energy zone over 50MW</li> <li>- Generating stations in territorial waters adjacent to England and Wales over 1MW and up to 100MW.</li> <li>- Generating stations in the renewable energy zone (other than the Scottish part) over 50MW and up to 100MW.</li> <li>- Above ground electric lines over 20kv in Scotland</li> <li>- Above ground electric lines over 20kv and below 132kv in England and Wales</li> </ul> <p>Electricity Act consent is not required for infrastructure included in a Planning Act 2008 consent. An Electricity Act consent can also include deemed planning permission meaning a further planning application is not required.</p>	E, W, S
Offshore Generating Stations (Exemption) Order 1990 (SI 1990/443)	Exemption from s.36 of the Electricity Act 1989 for certain offshore generating stations	E, W, S
Overhead Lines (Exemption) Regulations 1990 (SI 1990/2035)	Exemption from s.37 of the Electricity Act 1989 for certain above ground electric lines in Scotland	S
Overhead Lines (Exemption) Regulations 1992 (SI 1992/3074)	Exemption from s.37 of the Electricity Act 1989 for certain above ground electric lines	E, W, S
Overhead Lines (Exemption) (England and Wales) Regulations 2009 (SI 2009/640)	Exemption from s.37 of the Electricity Act 1989 and the Planning Act 2008 for certain above ground electric lines in England and Wales	E, W

Electricity (Applications for Consent) Regulations 1990 (SI 1990/455)	Electricity Act consent procedure for: <ul style="list-style-type: none"> <li>- Generating stations in Scotland over 50MW</li> <li>- Above ground electric lines over 20kv in Scotland</li> <li>- Above ground electric lines over 20kv and below 132kv in England and Wales</li> </ul>	E, W, S
Electricity (Offshore Generating Stations) (Applications for Consent) Regulations 2006 (SI 2006/2064)	Electricity Act consent procedure for: <ul style="list-style-type: none"> <li>- Generating stations in territorial waters adjacent to England and Wales over 1MW and up to 100MW.</li> <li>- Generating stations in the renewable energy zone (other than the Scottish part) over 50MW and up to 100MW.</li> <li>- Generating stations in territorial waters adjacent to Scotland over 1MW</li> <li>- Generating stations in the Scottish part of the renewable energy zone over 50MW</li> </ul>	E, W, S
Part 3 of the Marine and Coastal Access Act 2009	Marine policy statement for the UK marine area and marine plans (except for the Scottish and NI inshore regions)	UK
s.12 Marine and Coastal Access Act 2009	Enables the Marine Management Organisation to grant the Electricity Act consent for: <ul style="list-style-type: none"> <li>- Generating stations in territorial waters adjacent to England and Wales over 1MW and up to 100MW.</li> <li>- Generating stations in the renewable energy zone (other than the Scottish part) over 50MW and up to 100MW.</li> </ul>	E, W
Marine (Scotland) Act 2010	Marine plans for the Scottish marine area	S
Part 1 of the Planning Act 2008	National policy statements	E, W
Parts 3 to 8 of the Planning Act 2008	Planning Act consent required for: <ul style="list-style-type: none"> <li>- Generating stations in England and Wales over 50MW</li> <li>- Generating stations in territorial waters adjacent to England and Wales and in the renewable energy zone (except the Scottish part) over 100MW</li> <li>- Above ground electric lines of 132kv and above in England and Wales</li> </ul>	E, W

	<p>Planning Act consent can optionally include:</p> <ul style="list-style-type: none"> <li>- development associated with the infrastructure listed above and situated in England or in waters adjacent to England or in the renewable energy zone (except the Scottish part).</li> </ul>	
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (SI 2009/2264)	Procedure for applications under the Planning Act 2008	E, W
Infrastructure Planning (Examination Procedure) Rules 2010 (SI 2010/103)	Procedure for applications under the Planning Act 2008	E, W
Infrastructure Planning (Fees) Regulations 2010 (SI 2010/106)	Fees for applications under the Planning Act 2008	E, W
Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010 (SI 2010/105)	Various provisions relating to projects considered under the Planning Act 2008, including the protection of certain operational and devolved consents.	E, W
Parts 2 and 3 of the Planning and Compulsory Purchase Act 2004	Local development plans	E, W
Part 9 of the Greater London Authority Act 1999	Spatial development strategy	E
Town and Country Planning Act 1990	<p>Planning permission required for:</p> <ul style="list-style-type: none"> <li>- Generating stations in England and Wales up to 50MW</li> <li>- Above ground electric lines in England and Wales below 132kv</li> <li>- Underground electric lines in England and Wales</li> <li>- Other transmission and distribution network infrastructure in England and Wales (but excluding electric lines and pipelines falling within the Planning Act 2008)</li> <li>- Gas storage facilities in England and Wales (but excluding those falling within the Planning Act 2008)</li> </ul>	E, W

	<ul style="list-style-type: none"> <li>- Development in England and Wales for the transformation of biomass into biofuels or other energy products.</li> </ul> <p>Electricity Act consent can include deemed planning permission. Planning permission is not required for infrastructure included in a Planning Act 2008 consent.</p>	
Town and Country Planning (General Permitted Development) Order 1995 (SI 1995/418)	Removes the need to apply for planning permission for certain development in England and Wales, such as certain transmission and distribution network infrastructure and certain domestic Microgeneration.	E, W
Town and Country Planning (Referrals and Appeals) (Written Representations Procedure) (Wales) Regulations 2003 (SI 2003/390)	Procedure and time limits for planning applications and appeals in Wales.	W
Town and Country Planning (Scotland) Act 1997	Requirement for planning permission for development in Scotland.	S
Planning etc. (Scotland) Act 2006	Sets out the modernised approach to planning applications, development planning, appeals and enforcement.	S
Town and Country Planning (General Permitted Development) (Scotland) Order 1992/223	Removes the need to apply for planning permission for certain development in Scotland	S
The Town and Country Planning (Fees for Applications and deemed Applications) (Scotland) Regulations 2004	Fees for making planning applications in Scotland.	S
Town and Country Planning (Fees for Applications and Deemed Applications) Regulations 1989 (SI 1989/193)	Fees for applications for planning permission in England and Wales	E, W
Town and Country Planning (Timetable for Decisions) (England) Order 2005 (SI 2005/205)	Exceptions to the requirements for timetables in England	E

Town and Country Planning (General Development Procedure) Order 1995 (SI 1995/419)	Procedure for applications for planning permission in England and Wales	E, W
Town and Country Planning (Hearings Procedure) (England) Rules 2000 (SI 2000/1626)	Procedure for applications for planning permission in England	E
Town and Country Planning (Hearings Procedure) (Wales) Rules 2003 (SI 2003/1271)	Procedure for applications for planning permission in Wales	W
Town and Country Planning (Inquiries Procedure) (England) Rules 2000 (SI 2000/1624)	Procedure for applications for planning permission in England	E
Town and Country Planning (Major Infrastructure Project Inquiries Procedure) (England) Rules 2005 (SI 2005/2115)	Procedure for applications for planning permission in England	E
Town and Country Planning (Inquiries Procedure) (Wales) Rules 2003 (SI 2003/1266)	Procedure for applications for planning permission in Wales	W
Town and Country Planning (Mayor of London) Order 2008 (SI 2008/580)	Procedure for applications for planning permission in England	E
Town and Country Planning (Determination of Appeal Procedure) (Prescribed Period) (England) Regulations 2009 (SI 2009/454)	Timetables for determination of the planning permission appeal procedure in England	E
Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) Regulations 1997 (SI 1997/420)	Procedure for planning permission appeals in England and Wales	E, W

Town and Country Planning Appeals (Determination by Inspectors) (Inquiries Procedure) (England) Rules 2000 (SI 2000/1625)	Procedure for planning permission appeals in England	E
Town and Country Planning (Appeals) (Written Representations Procedure) (England) Regulations 2009 (SI 2009/452)	Procedure for planning permission appeals in England	E
Town and Country Planning Appeals (Determination by Inspectors) (Inquiries Procedure) (Wales) Rules 2003 (SI 2003/1267)	Procedure for planning permission appeals in Wales	W
Town and Country Planning (Applications) Regulations 1988	Procedure for applications for planning permission in Wales	W
Town and Country Planning (Appeals) (Scotland) Regulations (SSI 2008/434 )	Procedure for planning permission appeals in Scotland	S
Town and Country Planning (Charges for Publication of Notices) (Scotland) Regulations (SSI 2009/257)	Sets out when the publicity costs of an application for planning permission can be recovered from the applicant.	S
Town and Country Planning (Development Management Procedure)(Scotland) Regulations (SSI 2008/432)	Sets out the requirements for processing applications for planning permission in Scotland.	S
Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) (Scotland) Regulations 1987/1531	Enables planning permission appeals to be determined by a person appointed by but other than the Secretary of State (i.e. Reporters).	S
Electricity Works (Environmental	Environmental impact assessment for infrastructure requiring Electricity	E, W



Impact Assessment) (England and Wales) Regulations 2000	Act consent in England and Wales, in the adjacent territorial sea or in the renewable energy zone (except the Scottish part).	
Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2009/2263)	Environmental impact assessment for infrastructure requiring Planning Act consent.	E, W
Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 1999, SSI 1999/1	'Environmental impact assessment for infrastructure requiring planning permission in Scotland'	S
Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999	Environmental impact assessment for infrastructure requiring planning permission in England and Wales.	E, W
Marine Works (Environmental Impact Assessment) Regulations 2007 (SI 2007/1518)	Environmental impact assessment for marine development requiring a Food and Environment Protection Act licence or a Coast Protection Act consent.	UK
Conservation of Habitats and Species Regulations 2010	Site feature assessment for infrastructure in England, Wales or Scotland or in adjacent territorial waters (under Reg 61 of 2010 regs) and potential protected species licence requirement (under Reg 53/54 of 2010 regs)	E, W, S
Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 (SI 2007/1842)	Habitats assessment for infrastructure in the renewable energy zone.	E, W, S
Part 2 of the Food and Environment Protection Act 1985	Food and Environment Protection Act licence required for the deposit of substances and articles in the sea.  Infrastructure in waters adjacent to England or in the renewable energy zone included in a Planning Act consent can obtain a deemed Food and Environment Protection Act licence as part of the Planning Act consent.	UK
s.34 Coast Protection Act 1949	Coast Protection Act consent required for works detrimental to navigation. Coast Protection Act consent is not required for generating stations in	E, W, S

	waters adjacent to England and Wales and in the renewable energy zone if Electricity Act consent has been obtained. Infrastructure included in a Planning Act consent can obtain deemed Coast Protection Act consent as part of the Planning Act consent.	
Schedule 4 to the Electricity Act 1989	Procedure to obtain wayleaves for electric lines. Infrastructure included in a Planning Act consent can obtain wayleaves as part of the Planning Act consent.	E, W, S
s.36A and s.36B Electricity Act 1989	Procedure for generating stations in GB territorial waters to extinguish navigation rights. Infrastructure included in a Planning Act consent can extinguish navigation rights as part of the Planning Act consent.	E, W, S
Water Resources Act 1991	Requires hydropower schemes to obtain an abstraction, impoundment and (occasionally) discharge licences.	E, W
Animal By-Products Regulations 2005 (SI 2005/2347)	Approval of premises in England for the different types of treatment of animal by-products (such as incineration or bio-gas)	E
Animal By-Products (Wales) Regulations 2006 (SI 2006/1293)	Approval of premises in Wales for the different types of treatment of animal by-products	W
Animal By-Products (Scotland) Regulations 2003 (SSI 2003/411)	Approval of premises in Scotland for the different types of treatment of animal by-products	S
Environmental Permitting (England and Wales) Regulations 2010 (SI 2010/675)	Requirement for an environmental permit for various combustion activities and various activities involving waste	E, W
Pollution Prevention and Control (Scotland) Regulations 2000	Requirement for an environmental permit for a range of industrial activities including energy industries and waste management and for activities involving the incineration and co-incineration of waste.	S
Section 41 Environment Act 1995	Charging schemes in relation to environmental permits	E, W, S
Greenhouse Gas Emissions Trading Scheme Regulations 2005 (SI 2005/925)	Greenhouse gas emission permit required for biomass combustion over 20MW (excluding hazardous or municipal waste installations)	UK
Planning (Hazardous Substances) Act 1990	Hazardous substances consent required for the presence of a hazardous substance on, over or under land in England or Wales Infrastructure included in a Planning Act consent or an Electricity Act	E, W

	consent can obtain deemed hazardous substances consent as part of the Planning Act or Electricity Act consent.	
Planning (Hazardous Substances) Regulations 1992 (SI 1992/656)	Procedure for hazardous substances consent in England and Wales	E, W
Planning (Hazardous Substances) (Scotland) Act 1997	Hazardous substances consent required for the presence of a hazardous substance on, over or under land in Scotland	S
Electricity (Guarantees of Origin of Electricity Produced from Renewable Energy Sources) Regulations 2003 (SI 2003/2562)	Guarantee of origin for electricity produced from renewable energy sources	E, W, S
Guarantees of Origin of Electricity Produced from High-efficiency Cogeneration Regulations 2007 (SI 2007/292)	Guarantee of origin for electricity produced from high-efficiency cogeneration	E, W, S
Renewables Obligation Order 2009	Accreditation of generating stations as eligible for renewables obligation certificates	E, W
Renewables Obligations (Scotland) Order 2009	Accreditation of generating stations as eligible for renewables obligation certificates	S
Climate Change Levy (General) Regulations 2001	Accreditation for climate change levy exemption certificates	UK
s.6 Electricity Act 1989	Licences for the generation, distribution, transmission or supply of electricity	E, W, S
Electricity (Class Exemptions from the requirement for a licence) Order 2001	Exemptions from the requirement for a licence.	E, W, S
Electricity (Applications for Licences, Modifications of an Area and Extensions and Restrictions of Licences) Regulations 2008	Procedure for applications for a licence	E, W, S
s.7 and s.7A Gas Act 1986	Licences for gas transporters, gas suppliers and gas shippers	E, W, S
Gas (Applications for Licences and Extensions and Restrictions of	Procedure for applications for a licence	E, W, S

Licences) Regulations 2009 (SI 2009/3190)		
Article 39 Electricity (Northern Ireland) Order 1992	Electricity Order consent required for generating stations in Northern Ireland	NI
Article 40 Electricity (Northern Ireland) Order 1992	Electricity Order consent required for above ground electric lines in Northern Ireland	NI
Part 3 of the Planning (Northern Ireland) Order 1991	Development plans	NI
Part 4 of the Planning (Northern Ireland) Order 1991	Requirement for planning permission for development in Northern Ireland	NI
Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999	Requirement for environmental impact assessment	NI
Pollution Prevention and Control Regulations (Northern Ireland) 2003	Requirement for an environmental permit for various combustion activities in Northern Ireland	NI
Waste Management Licensing Regulations (Northern Ireland) 2003	Covers applications for waste management licences in Northern Ireland	NI
Animal By-Products Regulations (Northern Ireland) 2003	Approval of premises in Northern Ireland for the different types of treatment of animal by-products	NI
Electricity (Guarantees of Origin of Electricity Produced from Renewable Energy Sources) Regulations (Northern Ireland) 2003	Guarantee of origin for electricity produced from renewable energy sources	NI
Guarantees of Origin of Electricity Produced from High-efficiency Cogeneration Regulations (Northern Ireland) 2008	Guarantee of origin for electricity produced from high-efficiency cogeneration	NI
Renewables Obligation Order (Northern Ireland) 2009	Accreditation of generating stations as eligible for renewables obligation certificates	NI
Article 10 Electricity (Northern	Licences for the generation, distribution, transmission or supply of	NI

Ireland) Order 1992	electricity	
Article 8 Gas (Northern Ireland) Order 1996	Licences to convey or supply gas	NI

**(b) Responsible Ministry(/ies) / authority(/ies) and their competences in the field:**

Table (i) below gives the relevant consenting authorities and the type of application upon which they give consent.

Table (ii) shows the relevant licensing authorities that deal with applications for renewable energy installation.

**(i) Consenting decisions**

<b>Size/level</b>	<b>Area</b>	<b>Responsible Ministry/Authority</b>	<b>Type of application</b>
Large –scale National	England & adjacent territorial sea & the renewable energy zone (except the Scottish part)	- Secretary of State for Energy and Climate Change	- Onshore generating stations over 50MW and associated infrastructure  - Offshore generating stations over 100MW and associated infrastructure  - Above ground electric lines of 132kv and above and associated infrastructure  - Above ground electric lines below 132kv and ancillary development
		- Marine Management Organisation (once s.12 of the Marine and Coastal Access Act is in force)	- Offshore generating stations under 100MW
	Wales & adjacent territorial sea	- Secretary of State for Energy and Climate Change	- Onshore generating stations over 50MW  - Offshore generating stations over 100MW (unless consented by Welsh Ministers under the Transport & Works Act)  - Above ground electric lines of 132kv and above

		<ul style="list-style-type: none"> <li>- Marine Management Organisation (once s.12 of the Marine and Coastal Access Act is in force)</li> </ul>	<ul style="list-style-type: none"> <li>- Offshore generating stations under 100MW (unless consented by Welsh Ministers under the Transport &amp; Works Act)</li> </ul>
		<ul style="list-style-type: none"> <li>- Welsh Ministers (acting under the Transport &amp; Works Act)</li> </ul>	<ul style="list-style-type: none"> <li>- Offshore generating stations</li> </ul>
		<ul style="list-style-type: none"> <li>- Secretary of State for Energy and Climate Change</li> </ul>	<ul style="list-style-type: none"> <li>- Above ground electric lines below 132kv and ancillary development</li> </ul>
	Scotland & adjacent territorial sea and the Scottish part of the REZ	<ul style="list-style-type: none"> <li>- Scottish Minister for Enterprise, Energy and Tourism</li> </ul>	<ul style="list-style-type: none"> <li>- Onshore generating stations over 50MW</li> <li>- Offshore generating stations over 1MW in territorial waters</li> <li>- Offshore generating stations over 50MW in the Scottish part of the Renewable Energy Zone</li> <li>- Above ground electric lines</li> </ul>
	Northern Ireland & adjacent territorial sea	<ul style="list-style-type: none"> <li>- Minister for the Environment, Northern Ireland</li> </ul>	<ul style="list-style-type: none"> <li>- Onshore generating stations over 50 MW and associated infrastructure.</li> <li>- Offshore generating stations in territorial waters</li> <li>- Above ground electric lines</li> </ul>
Smaller scale – local level	England, Wales and Scotland	<ul style="list-style-type: none"> <li>- Local Planning Authorities</li> </ul>	<ul style="list-style-type: none"> <li>- Onshore generating stations up to 50MW and associated infrastructure.</li> <li>- Development for the transformation of biomass into biofuels</li> </ul>
	Northern Ireland	<ul style="list-style-type: none"> <li>- Minister for the Environment, Northern Ireland</li> </ul>	<ul style="list-style-type: none"> <li>- Onshore generating stations up to 50MW and associated infrastructure.</li> <li>- Development for the transformation of biomass into biofuels</li> </ul>

## (ii) Licensing decisions

There are a range of environmental and other permits which operate alongside the planning system and are required before development can proceed.

<b>Responsible Agency</b>	<b>Type of licence</b>	<b>Area</b>
Marine Management Organisation	- Marine licence (currently a Coast Protection Act consent and a Food and Environment Protection Act licence issued by the Secretary of State) - S.36 Electricity Act consent	Territorial sea adjacent to England
	- S.36 Electricity Act consent	Territorial sea adjacent to Wales
Local Planning Authority	- Planning permission - Hazardous substances consent	GB
Environment Agency	- Environmental permits - Greenhouse gas emission permit - Water abstraction, impoundment and discharge licences	England and Wales
Scottish Environment Protection Agency	- Environmental permits - Greenhouse gas emission permit - Water abstraction, impoundment and discharge licences	Scotland
Northern Ireland Environment Agency	- Environmental permits - Waste Management licence	Northern Ireland
Secretary of State	- Planning permission - Planning Act consent (and deemed hazardous substances consent) - S.37 Electricity Act consent - Approval of premises for treatment of animal by-products	England



	<ul style="list-style-type: none"> <li>- Planning Act consent (and deemed hazardous substances consent)</li> <li>- S.37 Electricity Act consent (and deemed planning permission)</li> </ul>	Wales
	<ul style="list-style-type: none"> <li>- Planning Act consent (and deemed marine licence)</li> </ul>	Territorial sea adjacent to England
	<ul style="list-style-type: none"> <li>- Planning Act consent</li> </ul>	Territorial sea adjacent to Wales
Welsh Ministers	<ul style="list-style-type: none"> <li>- Planning permission</li> <li>- Approval of premises for treatment of animal by-products</li> </ul>	Wales
	<ul style="list-style-type: none"> <li>- Marine licence (currently a FEPA licence)</li> </ul>	Territorial sea adjacent to Wales
Scottish Ministers	<ul style="list-style-type: none"> <li>- Planning permission</li> <li>- S.36 and s.37 Electricity Act consent</li> <li>- Approval of premises for treatment of animal by-products</li> <li>- Pipe-lines Act authorisation</li> </ul>	Scotland
	<ul style="list-style-type: none"> <li>- Marine licence (currently a FEPA licence)</li> <li>- S.36 Electricity Act consent</li> </ul>	Territorial sea adjacent to Scotland
Northern Ireland Department	<ul style="list-style-type: none"> <li>- Planning permission</li> <li>- Electricity Order consent</li> <li>- Approval of premises for treatment of animal by-products</li> </ul>	Northern Ireland
	<ul style="list-style-type: none"> <li>- Marine licence (currently a FEPA licence)</li> <li>- Electricity Order consent</li> </ul>	Territorial sea adjacent to Northern Ireland
Ofgem	<ul style="list-style-type: none"> <li>- Electricity generation, transmission, distribution and supply licences</li> <li>- Gas transporters, suppliers and shippers licences</li> <li>- Issue of guarantees of origin</li> <li>- Accreditation for renewables obligation certificates</li> <li>- Accreditation for FITs</li> <li>- Accreditation for climate change levy exemption certificates</li> </ul>	Great Britain

Northern Ireland Authority for Utility Regulation	<ul style="list-style-type: none"> <li>- Electricity generation, transmission, distribution and supply licences</li> <li>- Gas conveyance or supply licences</li> <li>- Issue of guarantees of origin</li> <li>- Accreditation for renewables obligation certificates</li> <li>- Accreditation for climate change levy exemption certificates</li> </ul>	Northern Ireland
The Crown Estate	<ul style="list-style-type: none"> <li>- Developments in the marine environment require a Crown Estate lease</li> </ul>	UK

**(c) Revision foreseen with the view to take appropriate steps as described by Article 13(1) of Directive 2009/28/EC**

*Reducing Regulation*

People who run businesses are very concerned about the time and money they have to spend dealing with rules and regulations - time and money not then available to develop new products, win new customers and contribute to economic growth. Capping the growth in business regulation is a central element of the Government's growth plans. Wherever possible, the Government's approach will be to get out of business's way and make life as simple as possible. This will aid the deployment of renewable energy helping to speed up licensing and enabling better coordination between regulators and local government. The Better Regulation Executive (BRE), part of the Department for Business, Innovation and Skills (BIS), leads the better regulation agenda across government to improve the business environment.

Markets do not work well in all circumstances and well-designed, proportionate regulation can be necessary where there is market failure. The new Government's Coalition Agreement sets out some key commitments that will require regulation by both the UK and EU: for example reform of the banking sector; tackling climate change; and strengthening consumer protection. Wherever possible the Government wants to find new intelligent ways to encourage, support and enable people to make better choices for themselves, and will move away from the assumption that central government can only change people's behaviour through rules and regulations.

The UK Government is putting in place a new approach to managing regulation:

- introducing a 'one-in-one-out' rule whereby no regulation is brought in without another regulation being cut by a greater amount;
- ending the culture of 'tick-box' regulation, and instead target inspections on high-risk organisations through co-regulation and improving professional standards
- requiring 'sunset clauses' for regulations and regulators to ensure that the need for each is regularly reviewed.
- giving the public the opportunity to challenge the worst regulations; and
- bringing new discipline to the implementation of EU rules, so that British businesses are not disadvantaged relative to their European competitors and gold-plating is stopped.

The new 'one-in-one-out' approach will change the incentives for Ministers and civil servants, encouraging them to give as much attention to removing and simplifying existing regulations as to bringing in new ones. The 'one-in-one-out' discipline will result in an ongoing review of the current stock of regulation.

Key to progress will be developing the capacity of government departments to identify alternatives to regulation where government intervention is justified. A new “challenge group” is being established in the Cabinet Office to come up with innovative approaches to achieving social and environmental goals in a non-regulatory way. This team will work with experts including Richard Thaler, the US behavioural economist.

All of this means a radical new approach, with the emphasis on regulation as a last, not a first, resort.

The UK has put considerable effort into making this one of the best places in the world in which to start and grow a business. A well-functioning planning and wider consents regime is an essential component of the overall attractiveness of the business environment in the UK. The focus of recent reforms has been on the planning system and the planning application process – not on those consents which have to be obtained alongside or after, and separate from, planning permission in order to complete a development: ‘non-planning consents’. It is important to ensure that these broader development-related consents do not create unnecessary barriers to economic development. With work on the planning system itself well underway, it was decided it was time to investigate the other consents which developers have to negotiate in order to complete a development project. The Penfold Review was therefore established to explore whether the process for obtaining non-planning consents is delaying or discouraging businesses from investing, with a view to identifying areas where there is scope to support investment by streamlining the process. It has recently published an interim report, which showed that:

- In some cases, “non-planning” consents can make or break investment decisions. Unforeseen and unnecessary delays increase development costs and can have an adverse economic impact;
- There is no overall system of “non-planning” consents: they are fragmented in their ownership, their purpose and their operation, making them difficult to navigate, especially for small businesses; and
- There is overlap and duplication between planning permission and “non-planning” consents, which can add unnecessary costs and delay.

The Penfold Review will make recommendations later in the summer aimed at addressing these issues.

## *Planning reform onshore*

The planning system plays a central role in delivering the infrastructure we need to reduce our carbon emissions and ensure continued security of energy supply. A great deal of work has been undertaken to make sure that we are reducing administrative barriers in the planning system. Equally the planning system plays a vital role in safeguarding our landscape and natural heritage and allowing communities and individuals the opportunity to shape where they live and work. The Government works with stakeholders to resolve particular areas of conflict and address some of the avoidable barriers to planning approval. In particular, the recently established Planning Act 2008 regime was designed to ensure a more efficient process for translating national policy objectives into decisions on nationally significant infrastructure. The scope of this new regime includes large scale renewable energy developments (over 50MW onshore: over 100MW offshore) in England and Wales. The new regime became operational in March this year for energy and transport projects, including for renewable electricity generating plants. The aim of the new regime is for decisions on projects to be typically made in under a year from the application date.

National Policy Statements provide the basis for planning decisions on nationally significant energy infrastructure. A suite of six energy National Policy Statements (NPSs) (an overarching Energy NPS and one each for renewables, nuclear, fossil fuels, transmission networks and oil and gas pipelines) were published for consultation in November 2009. The Government intends that NPSs should be ratified by Parliament before being designated.

Town and Country Planning is a function devolved to Scotland. In 2009 the second National Planning Framework for Scotland<sup>12</sup> was published. It sets a long term strategy for the development of Scotland to 2030. The strategy will inform Scottish spending decisions and the programmes of public agencies and local authorities. In preparing development plans, planning authorities must have regard to the content of the National Planning Framework. The second National Planning Framework identifies 14 national developments. Designation as a national development establishes the need for the development, and the issue of need will not normally be reconsidered at any subsequent examination or inquiry. Included in the 14 national developments are clean coal baseload power stations and a reinforced electricity transmission network, which will assist in the harvesting of energy from renewable sources.

In Scotland the responsibility for determining applications for large scale energy infrastructure is split between planning authorities and Scottish Ministers. Planning authorities determine applications for onshore wind farms and power stations not mainly driven by water which do not exceed 50 megawatts. Scottish Ministers consider applications for onshore wind farms and power stations exceeding 50 megawatts, offshore wind farms and generating stations driven mainly by water where the output is in excess of one megawatt, as well as overhead power lines, gas and oil pipelines.

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<sup>12</sup> <http://www.scotland.gov.uk/Publications/2009/07/02105627/0>

Scottish Planning Policy<sup>13</sup> sets out the issues which should inform the content of development plans, is a consideration in decisions on planning applications and should be used to inform development proposals from the outset. Scottish Planning Policy includes statutory guidance on sustainable development as well as climate change and renewable energy.

In March 2009 and March 2010 the Scottish Government introduced permitted development rights for microgeneration equipment on domestic properties. Designation as permitted development means that a planning application is not required and the associated application and time costs in securing planning permission are removed. The March 2010 amendment to the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 was required by section 70 of the Climate Change (Scotland) Act 2009. Further consultation on extending permitted development rights for microgeneration technologies on domestic properties has taken place<sup>14</sup>.

Section 71 of the Climate Change (Scotland) Act 2009 requires that permitted development rights for microgeneration technology be introduced for non-domestic properties by 1 April 2011. Local development plans prepared by planning authorities in Scotland will, from 1 April 2010, be required (by Section 72 of the Climate Change (Scotland) Act 2009) to contain policies on ensuring that all new buildings within their area avoid a specified and rising proportion of the projected greenhouse gas emissions from their use through the installation of low and zero-carbon generating technologies.

The Planning Service in Northern Ireland provides a unified planning system that has clear policies which set the context for development. Planning reform encourages the use of performance agreements between developers and the planning authority. Work is ongoing in Northern Ireland on the reform of the planning system and for the implementation of the Review of Public Administration (RPA). The RPA work is currently planned to come into force in April 2011 and will devolve planning powers to the district councils.

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<sup>13</sup> <http://www.scotland.gov.uk/Publications/2010/02/03132605/0>

<sup>14</sup> <http://www.scotland.gov.uk/Publications/2010/02/05083644/0>

### *Planning reform offshore*

Planning and consenting reforms are also being introduced for offshore developments. Through streamlining the legislation on licensing marine development, the whole process should be faster and simpler.

The Marine and Coastal Access Act 2009 provides for the creation of the Marine Management Organisation (MMO). An executive Non-Departmental Public Body, the MMO will be the UK's centre of marine expertise. It will also be the strategic delivery body for marine-related functions in the waters around England and in the UK offshore area for matters that are not devolved. The MMO will licence offshore energy installations with a generating capacity of 100 MW or less and declare safety zones around them where necessary. The MMO will also be a statutory party to the examination of projects under the Planning Act 2008 regime over 100 MW generating capacity in waters in or adjacent to England and Wales.

The Act also introduces a new Marine Planning system. This will start with a Marine Policy Statement that will set out policies for contributing to the achievement of sustainable development in the UK marine area. This will be followed by a series of Marine Plans. The MMO must take authorisation and enforcement decisions in accordance with the Marine Policy Statement and applicable Marine Plans unless relevant considerations indicate otherwise.

In Scotland, the Marine (Scotland) Act 2010 introduces a new statutory marine planning framework to manage competing demands for the use of the sea while protecting the marine environment. Under the 2010 Act, Scottish Ministers must prepare and adopt a national marine plan. The Act requires that the national plan states Scottish Ministers' policies for sustainable development of Scotland's seas - this includes setting economic, social and marine ecosystem objectives and objectives relating to the mitigation of, and adaptation to, climate change. The national plan must also state Scottish Ministers' policies on the contribution of designated conservation sites to the protection and enhancement of the sea.

The Marine (Scotland) Act 2010 allows for a system of regional marine planning to be developed for Scottish waters. The Act gives Scottish Ministers the power to designate the boundaries of Scottish marine regions in secondary legislation. The Act also allows Scottish Ministers to delegate regional planning to an individual nominated by them and either a public authority, or a person nominated by a public authority, within the region.

**(d) Summary of the existing and planned measures at regional / local levels (where relevant):**

*Better regulation locally*

At a local level, the Local Better Regulation Office (LBRO) has statutory powers to improve the quality and consistency of local authority regulatory enforcement. LBRO is already delivering improvements through the introduction of the Primary Authority scheme – where one local authority becomes a single point for advice and guidance for businesses that operate across council boundaries. The scheme aims to ensure regulatory consistency for businesses and will give greater confidence that the compliance advice provided by local authority regulators is robust and reliable – regardless of where it is given.

*Improving planning locally*

The Government has committed to radically reforming the planning system in the longer term to give neighbourhoods far more ability to determine the shape of the places in which their inhabitants live.

**(e) Are there unnecessary obstacles or non-proportionate requirements detected related to authorisation, certification and licensing procedures applied to plants and associated transmission and distribution network infrastructure for the production of electricity, heating or cooling from renewable sources, and to the process of transformation of biomass into biofuels or other energy products? If so, what are they?**

As described above, the UK has a radical new approach to regulation. Alongside this, it has taken steps to introduce reforms to planning and consenting on offshore developments to make the process of authorisation faster. As mentioned above, the Government will give the public the opportunity to challenge regulations. Similarly, the Planning Portal provides the public with an opportunity to raise issues concerning the planning process.

There are legitimate requirements – largely stemming from National and EU legislation – related to authorisation and licensing that are designed to address wider issues arising from the development of renewable energy. We need to work to try to make these regimes as smart and effective as possible. We are therefore working closely with the relevant statutory authorities and have established groups, for example on environmental and aviation radar issues, to help achieve this.



**(f) What level of administration (local, regional and national) is responsible for authorising, certifying and licensing renewable energy installations and for spatial planning? (If it depends on the type of installation, please specify.) If more than one level is involved, how is coordination between the different levels managed? How will coordination between different responsible authorities be improved in the future?**

National, devolved, regional and local levels of administration currently have a role in authorising, certifying and licensing renewable energy installations and spatial planning.

#### *Planning onshore*

In the UK planning is largely a devolved issue and therefore the Devolved Administrations (Wales, Scotland and Northern Ireland) set policy in their respective nations.

In England, applications for renewable energy installations of 50MW and below for onshore renewables are dealt with at local authority level under the Town and Country Planning Act. Those above 50MW for renewables are dealt with under the Planning Act 2008 regime, with decisions by the Secretary of State.

Co-ordination is achieved through a plan led system. Under the town and country planning system in England and Scotland, planning applications are determined in accordance with the development plan unless material considerations indicate otherwise. In England the development plan currently consists of the relevant local development framework prepared by the local planning authority.

Local plans should reflect national policy, set out in Planning Policy Statements issued by the Secretary of State. The policies within Planning Policy Statements must be taken into account by local authorities when preparing local development frameworks. In the Coalition Agreement the Government stated that it will publish and present to Parliament a simple and consolidated national planning framework covering all forms of development. The Government will make an announcement on how it proposes to take forward the national planning framework and the implications for specific areas of planning policy.

Planning Permission decisions on specific installations which fall below the thresholds for the Planning Act 2008 regime are taken at the local level but should be made in accordance with relevant national policies and the development plan.

Under the town and country planning system in Wales, planning applications are determined in accordance with the development plan unless material considerations indicate otherwise. The development plan consists of a local development plan prepared by the local planning authority. Local planning authorities are expected to take into account Planning Policy Wales, Technical Advice Notes and circulars (issued by Welsh Ministers) in the preparation of local development plans.

In Wales, applications for onshore renewable energy installations of less than 50MW are dealt with at local authority level under the Town and Country Planning Act; those above 50MW are dealt with under the Planning Act 2008 regime, with decisions by the Secretary of State.

In Scotland, applications for renewable energy installations of 50MW and below for onshore renewables are dealt with at local planning authority level under the Town and Country Planning (Scotland) Act. Those above 50MW are dealt with by the Scottish Ministers.

In Scotland the development plan consists of a Strategic Development Plan in the four city regions of Aberdeen, Dundee, Edinburgh and Glasgow, prepared by Strategic Development Planning Authorities; and a Local Development Plan prepared by all local planning authorities. Development plans must take into account the National Planning Framework for Scotland, which is a statutory spatial strategy for the long term development of the country.

In Northern Ireland, applications for renewable energy installations are dealt with by Northern Ireland Departments. Development plans are prepared by Northern Ireland Departments in general conformity with their regional development strategy. The Department has a statutory duty to formulate and co-ordinate policy for securing the orderly and consistent development of land and the planning of that development. The Department's planning policies are normally issued through Planning Policy Statements (PPSs).

### *Planning offshore*

For consenting of offshore renewable developments, the Marine Management Organisation (MMO) will consider projects up to 100MW in territorial waters adjacent to England and Wales and in the Renewable Energy Zone (excluding the Scottish area). Decisions by the MMO are taken in accordance with the Marine Policy Statement and any applicable marine plans. Projects in those waters over this threshold will go to the decision-making authority under the Planning Act 2008 for consideration who will take decisions in accordance with the relevant National Policy Statement. However when the decision-making authority considers these large-scale projects, the MMO will be a statutory consultee and so provide its expertise and advice – for instance recommending requirements that it believes should be included in any consents granted under the Planning Act 2008 regime (such as to mitigate adverse impacts).

Scottish Ministers consent renewable developments in territorial waters adjacent to Scotland and in the Scottish part of the renewable energy zone. The Marine (Scotland) Act 2010 provides for marine planning in the Scottish marine area.

Northern Ireland Departments consent renewable developments in territorial waters adjacent to Northern Ireland.

## Licensing

The Gas and Electricity Markets Authority (Ofgem) has a number of statutory duties, one of which is the granting of licences for electricity generation activities. This function is conferred on the Authority through Section 6 of the Electricity Act 1989.

Unless a renewable generation installation is considered to be exempt under the Electricity (class exemptions for the requirement of a licence) Order 2001<sup>15</sup>, it must submit an application for an Electricity Generation Licence to Ofgem<sup>16</sup>. An electricity generation licence is granted to renewable and non-renewable generation installations.

The manner and form in which applications for electricity licences must be made, the information they must contain, and the application fees are set out in *The Electricity Licence Application Regulations*<sup>17</sup>. In addition, Ofgem's *Gas and electricity licence applications – Guidance*<sup>18</sup> sets out the minimum criteria that have to be met by an applicant to obtain a licence. These take into account:

- Ofgem's duty to protect consumers, wherever possible, by promoting effective competition;
- The fact that various industry codes and agreements set out in detail the industry processes to which licensees must adhere; and
- Ofgem's aim of minimising regulatory burden and maximising the opportunity for new market entrants.

Ofgem is the sole body responsible in Great Britain for the granting of such licences.

In Northern Ireland, electricity generation licensing responsibilities are discharged by the Northern Ireland Authority for Utility Regulation<sup>19</sup>.

The Environment Agency for England and Wales is responsible for the environmental licenses for bioenergy, biomass, anaerobic digestion, hydropower and open loop ground source heat facilities. The Environment Agency manages licenses in a national centre in consultation with local and regional staff and delivery partners such as local authorities.

The Scottish Environment Protection Agency provides a similar function in Scotland, providing a consistent standard of regulation for all licence holders.

In Northern Ireland the Northern Ireland Environment Agency provides licenses for similar applications.

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<sup>15</sup> Electricity (class exemptions for the requirement of a licence) Order 2001 .

<sup>16</sup> The Office of the Gas and Electricity Markets <http://www.ofgem.gov.uk/Pages/OfgemHome.aspx>

<sup>17</sup> The Electricity (Applications for licences, Modifications of an area and extensions and restrictions of licences) Regulations 2008

<sup>18</sup> <http://www.ofgem.gov.uk/Licensing/Work/Documents1/Guidance%20Doc%202009.pdf>

<sup>19</sup> <http://www.uregni.gov.uk/>

## *Designation of renewable energy*

Ofgem, on behalf of DECC and Her Majesty's Revenue and Custom (HMRC) administer the Renewables Obligation (RO), Climate Change Levy exemptions for Renewables (CCL), the Renewable Energy Guarantees of Origin (REGO) and as of 1 April 2010 the Feed-in Tariff (FIT) schemes. All these schemes are designed to promote the increased take up of renewable generation and can provide evidence that the electricity generated is renewable, as defined by the different eligibility requirements of each scheme.

Ofgem is responsible for the accreditation of renewable generators in relation to these schemes<sup>20</sup>. If Ofgem assess that a station meets all the eligibility criteria under a particular scheme it can award accreditation. This accreditation allows renewable generators to claim support in the form of certificates that are sold to and used by suppliers for a variety of different purposes.

In Northern Ireland, these responsibilities are discharged by the Northern Ireland Authority for Utility Regulation, although the administrative work for the Northern Ireland Renewables Obligation and the Northern Ireland Renewable Energy Guarantees of Origin is contracted to Ofgem.

### **(g) How is it ensured that comprehensive information on the processing of authorisation, certification and licensing applications and on assistance to applicants is made available? What information and assistance is available to potential applicants for new renewable energy installations on their applications?**

The UK Government has an ongoing agenda to generally improve and ensure comprehensive information and assistance is provided to members of the public.

Information on application processes is provided by the responsible decision making authorities in a variety of forms, including on websites and in published guidance and information. Local planning authorities must, under the Town and Country Planning (General Development Order) Act 1995, publish a list of their information requirements on their website before it can demand that information from applicants<sup>21</sup>.

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<sup>20</sup> Accreditation for the FIT scheme will partly be carried out by the Microgeneration Certification Scheme (MCS)

<sup>21</sup> Information on the Killian Pretty Review can be found on the CLG website at:  
<http://www.communities.gov.uk/planningandbuilding/planning/planningpolicyimplementation/reformplanningsystem/killianprettyreview/>

In March 2010 Communities and Local Government (CLG) published new policy and updated guidance on information requirements. This is available online<sup>22</sup>. The new policy states that local planning authorities should only ask applicants to provide information that is relevant, necessary and material to their planning application<sup>23</sup>. Local planning authorities are strongly advised to take a proportionate approach to their information requirements. They are advised to review their local lists of information requirements in light of the new policy and to set out clearly the items of information that will, or will not, be required for each type of planning application. This is expected to provide greater certainty for applicants than in the past.

The Planning Portal website also has a guide on the permitted development rights for householders, including microgeneration rights<sup>24</sup>. This guide shows the different types of microgeneration equipment (e.g. solar panels, ground source heat pumps) that can be installed without requiring planning permission.

The Environment Agency publishes guidance for environmental permits on its website<sup>25</sup>. They have developed specific guidance for hydropower schemes<sup>26</sup> that clearly communicates the standards that developers must meet to receive their environmental licenses and are currently developing similar guidance for ground source heat.

The Welsh Assembly Government have commissioned a comprehensive review of the operation of the planning application process. The research study will examine barriers to the efficient delivery of timely planning decisions and will identify good practice. It will consider the whole process and the role of all the users and operators. The Planning Portal website also contains Welsh content to reflect the policy and legislative changes present in Wales.

Planning Policy Wales (2002) and Technical Advice Note 8 *Planning for Renewable Energy (2005)* provides national guidance to those proposing renewable energy applications in Wales. Local authorities may provide additional local guidance to applicants through supplementary planning guidance.

Scottish Planning Policy<sup>27</sup> guides planning authorities to explain within development plans or supplementary guidance prepared by them the factors that will be taken into account in decision making on all renewable energy generation developments. Developers can also seek advice from planning authorities before making a planning application, through pre-application discussions.

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<sup>22</sup> <http://www.communities.gov.uk/publications/planningandbuilding/validationguidance>

<sup>23</sup> <http://www.communities.gov.uk/publications/planningandbuilding/developmentannexinfo>

<sup>24</sup> <http://www.planningportal.gov.uk/uploads/hhg/houseguide.html>

<sup>25</sup> <http://www.environment-agency.gov.uk/business/topics/permitting/default.aspx>

<sup>26</sup> <http://publications.environment-agency.gov.uk/pdf/GEHO1009BRET-E-E.pdf>

<sup>27</sup> <http://www.scotland.gov.uk/Publications/2010/02/03132605/0>

In Northern Ireland the Department of the Environment has published a companion guide to Planning Policy Statement 18 (PPS 18) *Renewable Energy*<sup>28</sup>, which provides information on various renewable energy technologies. The guide is to be read in conjunction with PPS 18 and contributes to the development management process by providing a summary of technical information on the range of renewable technologies available, as well as identifying the potential planning issues raised by each technology. The guide also identifies, for each technology, the type of information required to accompany a planning application. The guidance takes account of similar material available elsewhere in the UK and Ireland. The Northern Ireland Planning Service website<sup>29</sup> provides information on processing applications and the information needed. PPS 18 is a recent addition in that respect.

Information for completing gas and electricity licence applications is available in the guidance note on Ofgem's website<sup>30</sup>.

**(h) How is horizontal coordination facilitated between different administrative bodies, responsible for the different parts of the permit? How many procedural steps are needed to receive the final authorisation/ licence/permit? Is there a one-stop shop for coordinating all steps? Are timetables for processing applications communicated in advance? What is the average time for obtaining a decision for the application?**

There is no one stop shop arrangement for all forms of licensing for renewable energy installations in the UK. However, the consultation process associated with planning applications, permits and licences ensures the required coordination between the range of administrative bodies involved in the process.

Horizontal coordination between local authorities and other permitting agencies is provided through the opportunity for statutory consultees to comment on planning applications. Statutory consultees are organisations and bodies, defined by statute, which must be consulted on relevant planning applications. Statutory consultees include the Environment Agency, Natural England, Countryside Council for Wales, English Heritage and the Highways Agency. Most statutory consultation requirements are contained in the Town and Country Planning (General Development Procedure) Order 1995, (SI 1995 No. 419 as amended). However, some bodies are required to be consulted under other legislation. Statutory consultees can object to a proposed development, and the local planning authority should treat their objection as a material consideration when determining a planning application. They can also recommend conditions to be attached to the grant of planning permission where appropriate.

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<sup>28</sup> [http://www.planningni.gov.uk/index/policy/policy\\_publications/planning\\_statements.htm](http://www.planningni.gov.uk/index/policy/policy_publications/planning_statements.htm)

<sup>29</sup> <http://www.planningni.gov.uk/index.htm>

<sup>30</sup> <http://www.ofgem.gov.uk/Licensing/Work/Documents1/Guidance%20Doc%202009.pdf>

The General Development Procedure Order (GDPO) 1995 sets out a timeframe for determining planning applications in England. Minor applications should be determined within eight weeks of the local authority receiving the planning application and major applications determined within 13 weeks. Major applications are defined in Article 8 of the GDPO. For applications which require an environmental impact assessment a period of 16 weeks is allowed for decision. The applicant and local authority may agree a different timetable in writing.

In 2008/09, in England, 71% of major planning applications determined by District Councils were decided within 13 weeks and 76 % of minor applications within eight weeks<sup>31</sup>. Where County Councils were the determining authority, in 2008/09 45% of all major county matters (including minerals and waste) were decided within 13 weeks and 69% of minor applications within eight weeks.

The Planning Act 2008 sets out a timeframe for applications for nationally significant infrastructure projects in England and Wales. The aim of the new regime is for decisions on projects to be taken, typically, in under a year from the application date.

In England and Wales, the Environment Agency is the sole body responsible for environmental licenses for bioenergy, biomass (>50MW & >3MW if waste is used), anaerobic digestion, hydropower and open loop ground source heat facilities. However, these facilities will also need planning permission or development consent in most instances. The Environment Agency therefore works closely with the relevant Local Authority where planning permission is also required. They have recently begun a programme of simplifying and streamlining the licensing processes in place for renewable energy developments. This programme has commenced with hydropower. Hydropower schemes currently require multiple permits as a result of different legislative requirements. The Environment Agency is currently consulting stakeholders on how these processes can be brought together and how the time it takes to determine permits can be reduced. Environmental licenses have maximum statutory time limits within which applications must be determined, ranging from two months for flood defence consent to four months for an Environment permit.

Ofgem's current target is to grant 90% of licence applications within eight weeks of a duly made application, including the inclusion of all supporting documentation and information. This relates to all competitive licences applications – supply, gas shipping and electricity generation. In Great Britain, these licences are granted solely by the authority (Ofgem) and therefore do not require horizontal coordination with other administrative bodies. The Northern Ireland Authority for Utility Regulation has a target of licences issued within 60 – 90 days.

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<sup>31</sup> Source: CLG Live Table P101  
<http://www.communities.gov.uk/documents/planningandbuilding/xls/1343835.xls>

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008<sup>32</sup> set out a time frame for dealing with planning applications in Scotland. Developments classed as national or major should be determined in four months unless a written agreement is in place to extend this time limit, local developments should be determined in two months. In all cases where environmental impact assessment is required the planning authority has four months to determine the application.

**(i) Do authorisation procedures take into account the specificities of the different renewable energy technologies? If so, please describe how. If they do not, do you envisage taking them into account in the future?**

Authorisation procedures are determined on the merits of each individual case, and will, therefore, by their nature take into account the specificities of renewable energy. National policy and guidance has been produced to ensure that the specificities of renewable energy are taken into account. For example, in England, the companion guide which accompanies Planning Policy Statement 22<sup>33</sup> on renewable energy provides more information about the different characteristics associated with the various technologies.

The Energy National Policy Statements (NPS) under the Planning Act 2008 consist of an Overarching Energy NPS that sets out policy and generic considerations for all energy infrastructure and five technology specific ones, including one for renewables. This includes details specific to biomass/waste, and on- and off-shore wind. In the future there is likely to be a need to add other types of renewables infrastructure such as wave and tidal, although this is currently not included as there are unlikely to be schemes large enough to be caught by the new regime coming forward.

Environmental licenses, provided by the Environment Agency, are tailored to the renewable energy technology. For example, the permits relating to hydropower deal principally with impacts on fish, meeting Water Framework Directive requirements, and managing flood risk. The permits for biomass address emissions to air and waste management issues.

**(j) Are there specific procedures, for example simple notification, for small-scale, decentralised installations (such as solar panels on buildings or biomass boilers in buildings)? If so, what are the procedural steps? Are the rules publicly available to citizens? Where are they published? Is the introduction of simplified notification procedures planned in the future? If so, for which types of installation / system? (Is net metering possible?)**

Planning law treats as 'development' all external installations, including, for example, solar panels or an external flue to a biomass boiler in an existing building.

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<sup>32</sup> [http://www.opsi.gov.uk/legislation/scotland/ssi2008/pdf/ssi\\_20080432\\_en.pdf](http://www.opsi.gov.uk/legislation/scotland/ssi2008/pdf/ssi_20080432_en.pdf)

<sup>33</sup> <http://www.communities.gov.uk/publications/planningandbuilding/planningrenewable>



The Town and Country Planning (General Permitted Development) Order 1995 (as amended) grants automatic planning permission for many classes of 'permitted development' subject to certain constraints. This means that for development which meets criteria to be 'permitted development', planning permission does not need to be sought from the local planning authority. In April 2008, CLG brought forward permitted development rights for most domestic microgeneration technologies including solar photovoltaic, solar thermal, ground and water source heat pumps in England. In November 2009, CLG consulted on introducing permitted development rights for further domestic microgeneration technologies (wind turbines and air source heat pumps) and for a broad range of non-domestic microgeneration technologies in England. CLG have analysed the responses to this consultation and are currently working through issues with a view to finalising the policy. CLG intends to announce key decisions and the way forward in the coming months. If the consultation proposals are adopted, many other small-scale microgeneration installations will not need specific planning permission. Legislation<sup>34</sup> and guidance<sup>35</sup> on permitted development rights are available online.

In respect of microgeneration installation, separate generation meters would normally be required if the generator wished to claim a subsidy such as the Feed-in Tariff (detailed in section 4.3 below). Otherwise it may not be possible to work out the amount of each different technology tariff to which the owner would be entitled.

In Scotland, permitted development rights for solar panels, biomass flues, ground source heat pumps and water source heat pumps were introduced for domestic properties in March 2009. In March 2010 permitted development rights were introduced for air source heat pumps and domestic wind turbines in Scotland<sup>36</sup>. A consultation for extending the scope of permitted development rights for air source heat pumps and domestic wind turbines to more urban settings was launched in February 2010 with a view to introducing these rights in the near future<sup>37</sup>. The Climate Change (Scotland) Act 2009 requires that permitted development rights for microgeneration technology be introduced for non-domestic properties by April 2011. Legislation and guidance is available online<sup>38</sup>.

The General Development Order in Northern Ireland grants planning permission for classes of development described as permitted development (often referred to as 'permitted development rights') subject to exceptions, limitations and conditions specified in the Schedule. Generally, permitted development rights are applied to relatively minor non-contentious development where it is considered that, subject to the specified exceptions, limitations and conditions, do not need to be subject to the planning application process. Permitted development rights are a long-standing part of the development control system and reduce the regulatory burden of the planning system. Where small scale renewable technologies are installed within an existing building and this does not affect the appearance of the existing building, planning permission is not required.

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<sup>34</sup> [http://www.opsi.gov.uk/si/si1995/Uksi\\_19950418\\_en\\_1.htm](http://www.opsi.gov.uk/si/si1995/Uksi_19950418_en_1.htm)

<sup>35</sup> <http://www.planningportal.gov.uk/england/public/buildingwork/responsibilities/workresppp/workresppppermitteddev/>

<sup>36</sup> [http://www.oqps.gov.uk/legislation/ssi/ssi2010/ssi\\_20100027\\_en\\_1](http://www.oqps.gov.uk/legislation/ssi/ssi2010/ssi_20100027_en_1)

<sup>37</sup> <http://www.scotland.gov.uk/Publications/2010/02/05083644/0>

<sup>38</sup> <http://www.scotland.gov.uk/Publications/2009/03/23162738/0> and <http://www.scotland.gov.uk/Publications/2010/03/05114236/0>

**(k) Where are the fees associated with applications for authorisation/ licences/ permits for new installations published? Are they related to the administrative costs of granting such permits? Is there any plan to revise these fees?**

Fees for planning applications in England are set out in the Town and Country Planning (Fees for Applications and Deemed Applications) Regulations 1989 (as amended) and in Circular 04/2008 (as amended)

The Planning Portal website has a planning fee calculator which tells applicants the required fee for all planning applications in England and Wales<sup>39</sup>.

In 2008 planning fees were increased by an average of 23%. This followed an increase in 2005 which saw fees raised by between 20% and 25% across the various fee categories. The effect of the fee increases in April 2008 has tended to mean that fee income has remained more stable, but has not generally increased mainly due to the fall in the number of applications received. CLG has agreed to keep this under review and reconsider the situation before April 2011.

An announcement on planning fees was made on 19 January 2010 which stated that fees would remain at the current level. That decision was taken in the light of the current economic climate and the need to ensure that all opportunities were taken to help with economic recovery and investment.

Last year CLG commissioned research which builds on the previous work they have undertaken on fees and costs. CLG's general policy is that fees should cover the cost of processing applications. The research indicates that if you take all overheads into account then there is still a gap of some 10% between costs and planning fee income. However this is set against the background where costs have been rising by 4% per annum and it is important that Local Authorities continue to focus on making efficiency savings to ensure that services are as cost effective as possible.

The Fees Circular 04/2008 (as amended), sets out that the calculation of fees for wind turbines are done on the basis of the land over which the blades of each turbine can rotate rather than the total site area to which the application relates. This significantly reduces the site area on which the fee is based and therefore produces a much reduced fee for applications for wind turbines.

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<sup>39</sup> <http://www.planningportal.gov.uk/england/public/planning/applications/feecalculator>

'Permitted development' means that qualifying developments already have planning permission and so do not need a planning application to the Local Planning Authority. For that reason there are no application fees just to implement a development that is 'permitted'. However, if the costs or the value of a development are high, a person or organisation undertaking it might want assurance that what they are doing really is 'permitted' and that the planning authority could not at some point initiate enforcement action that could lead to it being removed. This assurance may be important, for example to potential purchasers of a property or where a development might attract opposition from neighbours. To obtain this assurance you can apply to the planning authority for a lawful development certificate (LDC) - a legal document certifying the development is lawful<sup>40</sup>. There are charges for LDC applications. If the application is made before the development goes ahead the charge is 50% of what it would cost to make an equivalent planning application. If the application is made after the development has been done the cost is the same as it would have been for a full planning application for the development. LDC charges, like planning application charges are different in England and Wales and are available online<sup>41</sup>.

A guidance document for electricity licence applicants is available on the Ofgem website<sup>42</sup>. This provides step by step guidance on submitting an application to Ofgem including the application fees. The licence fees cost recovery principles are published by Ofgem and available on their website<sup>43</sup>.

In Wales, fees for planning applications are set out in the Town and Country Planning (Fees for Applications and Deemed Applications) Regulations 1989. The most recent amendments came into force on 6 April 2009<sup>44</sup>. This represented an average increase of 4.2% to planning application fees in Wales.

In Scotland, planning application fees are set out in The Town and Country Planning (Fees for Applications and Deemed Applications) (Scotland) Regulations 2004 as amended. There is a general policy that planning fees should cover the cost of processing applications although the fees are capped. Work is currently ongoing on possible changes to the fee structure. From 1 April 2010 the fees rose by 10% as set out in the Town and Country Planning (Fees for Applications and Deemed Applications) (Scotland) Amendment Regulations 2010.

Planning fees in Northern Ireland are set out by the Planning (Fees) Regulations (Northern Ireland) 2005<sup>45</sup> and the Planning (Fees) (Amendment) Regulations (Northern Ireland) 2009<sup>46</sup>, administered by the Northern Ireland Planning Service. These fees are cost related. The fees are reviewed annually and amended as required. Current fees in Northern Ireland can be found online<sup>47</sup>.

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<sup>40</sup> <http://www.communities.gov.uk/documents/planningandbuilding/pdf/developmentcertificates.pdf>

<sup>41</sup> The charges for England are at [http://www.opsi.gov.uk/si/si2008/uksi\\_20080958\\_en\\_1](http://www.opsi.gov.uk/si/si2008/uksi_20080958_en_1). For Wales the charges are at [http://www.opsi.gov.uk/legislation/wales/wsi2009/wsi\\_20090851\\_en\\_1](http://www.opsi.gov.uk/legislation/wales/wsi2009/wsi_20090851_en_1)

<sup>42</sup> <http://www.ofgem.gov.uk/Licensing/Work/Documents1/Guidance%20Doc%202009.pdf>

<sup>43</sup> <http://www.ofgem.gov.uk/Licensing/Work/Documents1/Revised%20licence%20fee%20cost%20recovery%20principles%202009.pdf>

<sup>44</sup> The Town and Country Planning (Fees for Applications and Deemed Applications) (Amendment) (Wales) Regulations 2009 (No.851/W76)

<sup>45</sup> [http://www.planningni.gov.uk/index/advice/advice\\_legislation/advice\\_key\\_legislation/legislation\\_fees.htm](http://www.planningni.gov.uk/index/advice/advice_legislation/advice_key_legislation/legislation_fees.htm)

<sup>46</sup> [http://www.opsi.gov.uk/sr/sr2009/nisr\\_20090256\\_en\\_1](http://www.opsi.gov.uk/sr/sr2009/nisr_20090256_en_1)

<sup>47</sup> [http://www.planningni.gov.uk/index/advice/fees\\_forms/notes\\_for\\_applicants\\_09-1.pdf](http://www.planningni.gov.uk/index/advice/fees_forms/notes_for_applicants_09-1.pdf)

Renewable energy activities in England and Wales requiring environmental permits from the Environment Agency under the Environmental Permitting Regulations are subject to a fee. These permits regulate emissions to land, air and water, and ensure good waste management. Fees for the permits are charged to recover the Environment Agency's costs of regulating the activities. This is current policy and is in accordance with the polluter pays principle. The charges for these permits to recover costs are covered under the Environmental Permitting Charging Scheme<sup>48</sup>.

The fees are variable and are calculated based on the environmental risk posed by an individual scheme. The objective of this is to make the level of regulatory effort proportionate to the environmental risk of the permitted activity – and then for this to be reflected in our charges. In this way, well managed or low hazard activities that present less of a risk are charged less, with high risks activities being charged more. Thus the charging scheme encourages good environmental performance.

The Environment Agency divides the level of risk (and required regulation) of the activities covered by a registration or a permit into three tiers. The higher the risk presented by an activity, the higher the regulatory tier it is placed in. Tier 1 covers low risk activity; registrations are issued automatically on request and only basic details are recorded. Tier 2 covers activities with a level of risk that is generally higher than for registrations. Tier 3 covers facilities requiring more detailed and individually tailored ('bespoke') permits.

Tier 2 and 3 schemes must carry out a risk assessment using the Environment Agency's Operational Risk Appraisal (OPRA) tool. This assesses risk based on the complexity, emissions and inputs, location, operator performance and compliance rating. The higher the OPRA score, the higher the fee paid. For example, a biogas combustion scheme at a sewage works would pay £2535 for a standard permit (2010 levels), whereas a large biomass electricity scheme would pay considerably more. There are exemptions from fees in place for small-scale anaerobic digestion (<0.4MW).

Consent under Food & Environment & Protection Act & Coast Protection Acts (and the marine licence that will replace these) also attracts an application fee.

## **Bioenergy**

Biomass heat and electricity schemes that are larger than 50MW or 3MW if they use waste feedstocks and anaerobic digestion schemes require permits under the Environmental Permitting Regulations.

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<sup>48</sup> <http://www.environment-agency.gov.uk/business/regulation/38811.aspx>

## Ground source heat

Ground source heat pumps get their abstraction licences for free, but must pay a charge for their discharge licence. From April 2010, the discharge licence will be replaced by an environmental permit, the fees for which vary according to environmental risk as described above.

## Hydropower

Hydropower schemes require a number of licences – an abstraction licence, flood defence consent and potentially other permits under the Environmental Permitting charging scheme. Currently, the fee charged for these by the Environment Agency is fixed at £135 regardless of the scheme size and environmental risk. This does not pay for the actual administration costs. They must also pay £50 for a flood defence consent. More details of the Environment Agency's Environmental Permitting charging scheme for 2010/11 are published on their website <sup>49</sup>.

Similar schemes exist in Scotland administered by the Scottish Environment Protection Agency.<sup>50</sup>

**(I) Is official guidance available to local and regional administrative bodies on planning, designing, building and refurbishing industrial and residential areas to install equipment and systems using renewable energy sources in electricity and heating and cooling, including in district heating and cooling? If such official guidance is not available or insufficient, how and when will this need be addressed?**

Planning Policy Statement 22<sup>51</sup> sets out the national planning framework for renewable energy in England, which all local authorities are expected to have regard to when determining planning applications or preparing plans. This is supported by a companion document, which provides guidance on implementing the policies it contains, and more detailed information about individual renewable energy technologies.

Planning Policy Wales is the Welsh Assembly Government's guidance on planning policy in Wales and is available online.<sup>52</sup> Technical Advice Note 8, produced by the Welsh Assembly, sets out guidance specifically relating to renewable energy<sup>53</sup>.

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<sup>49</sup> <http://www.environment-agency.gov.uk/business/regulation/38811.aspx>

<sup>50</sup> [http://www.sepa.org.uk/about\\_us/charging\\_schemes.aspx](http://www.sepa.org.uk/about_us/charging_schemes.aspx) and

[http://www.sepa.org.uk/air/process\\_industry\\_regulation/pollution\\_prevention\\_control/opa.aspx](http://www.sepa.org.uk/air/process_industry_regulation/pollution_prevention_control/opa.aspx)

<sup>51</sup> <http://www.communities.gov.uk/publications/planningandbuilding/pps22>

<sup>52</sup> <http://wales.gov.uk/topics/planning/policy/ppw2002/?lang=en>

<sup>53</sup> <http://wales.gov.uk/topics/planning/policy/tans/tan8/?lang=en>

The Second National Planning Framework for Scotland<sup>54</sup> clearly sets out the move towards renewable sources of energy and for the development of technologies to capture and store carbon from large scale coal fired power plants. In addition, the National Planning Framework signals the move to more local patterns of energy generation including the development of local heat networks. Scottish Planning Policy<sup>55</sup> identifies the approach planning authorities could take in setting a local framework for decision making on planning applications for renewable energy infrastructure and in identifying areas which may be suitable for wind farm development. Planning Advice Note 45 *Renewable Energy Technologies*<sup>56</sup> and its associated annexes set out advice on good practice for the land use implications of the installation of the technology.

Planning Policy Statement 18 (PPS18) on Renewable Energy sets out the policy of the Department of the Environment in Northern Ireland for development that generates energy from renewable resources and that requires the submission of a planning application. It encourages the integration of renewable energy technology and greater application of the 'Principles of Passive Solar Design' in the design, siting and layout of new development.

PPS18 is supported by a document providing 'Best Practice Guidance' and more detailed information about individual renewable energy technologies. Supplementary Planning Guidance in the form of a document *Wind Energy Development in Northern Ireland's Landscapes*<sup>57</sup> identifies landscape characteristics that may be sensitive to wind turbine development. This document provides supplementary planning guidance on the landscape and visual analysis process, and the indicative type of development that may be appropriate

**(m) Are there specific trainings for case handlers of authorisation, certification and licensing procedures of renewable energy installations?**

DECC currently delivers generic training to planners, planning inspectors and councillors on renewable energy policy and technical issues. Since 2007 over 100 workshops have been delivered to over 3,000 planning officials, planning inspectors and councillors. This will increase planners' awareness of national policy on renewable energy; improve their understanding of different renewable energy technologies and their impacts; and give them practical advice on how to develop local plans that assess the true potential for renewable energy in their area.

The Centre for Aquaculture, Fisheries and Environmental Science (CEFAS)<sup>58</sup> is a specialist executive agency of the UK's Department for Environment, Food and Rural Affairs (Defra). They provide training for case handlers for offshore renewable energy developments, particularly on Food and Environmental Protection Act (FEPA) licences (to be replaced by marine licences).

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<sup>54</sup> <http://www.scotland.gov.uk/Publications/2009/07/02105627/0>

<sup>55</sup> <http://www.scotland.gov.uk/Publications/2010/02/03132605/0>

<sup>56</sup> <http://www.scotland.gov.uk/Publications/2002/02/pan45/pan-45>,

<http://www.scotland.gov.uk/Publications/2006/10/03093936/0> ,

<http://www.scotland.gov.uk/Publications/2008/11/12125039/0>

<sup>57</sup> [http://www.planningni.gov.uk/index/news/news\\_policy/pps18-supplementary-guidance16032009.pdf](http://www.planningni.gov.uk/index/news/news_policy/pps18-supplementary-guidance16032009.pdf)

<sup>58</sup> <http://www.cefas.co.uk/>

The Welsh Assembly Government has provided training to local planning officers and local elected members on sustainable buildings and good design. This training was rolled out to all 25 local planning authorities across Wales reaching over 100 local planning officers and covered such issues as carbon reduction and renewable energy. A similar training session was delivered to planning inspectors in Wales. The Assembly Government will also be publishing their Renewable Energy Toolkit later this year which will include a dissemination event for local planning officers.

#### **4.2.2. Technical specifications (Article 13(2) of Directive 2009/28/EC)**

**(a) To benefit from support schemes do renewable energy technologies need to meet certain quality standards? If so, which installations and what quality standards? Are there national, regional standards that go beyond European standards?**

The Renewables Obligation (RO) provides support for renewable electricity generating stations, including Combined Heat and Power (CHP) plants fuelled by biomass and energy crops, and CHP plants fuelled by energy from waste. Additional support is available for CHP plants (above the level of support awarded to non-CHP stations in these technologies). In order to qualify for this, stations must be accredited under the CHP Quality Assurance scheme (CHPQA).

The Microgeneration Certification Scheme (MCS) provides standards for microgeneration products and installers. The scheme references and is based on international and European standards. In terms of installer standards there are also specific references to building regulation requirements in the UK. Certification and testing in relation to the scheme is based on third party verification (EN45011 for certification and EN 17025 for product testing).

In order to be eligible for support through the Feed-In Tariffs (FITs) scheme, introduced on 1 April 2010, wind, solar PV and hydro generators of 50kW or less as well as microCHP generators have to use MCS eligible products installed by MCS-accredited installers or equivalent.

Similarly, the consultation on the proposed Renewable Heat Incentive (RHI)<sup>59</sup> scheme proposed that technologies at the small and medium scale would need to be installed by an MCS-certified installer or equivalent where this applies.

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<sup>59</sup> The Renewable Heat Incentive (RHI) is due to be introduced in April 2011. Further information can be found online at:  
[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/policy/renewable\\_heat/incentive/incentive.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/policy/renewable_heat/incentive/incentive.aspx)

### 4.2.3. Buildings (Article 13(3) of Directive 2009/28/EC)

#### **(a) Reference to existing national and regional legislation (if any) and summary of local legislation concerning the increase of the share of energy from renewable sources in the building sector:**

Legislation:

17A, B and C of the Building Regulations 2000  
Part L of the Building Regulations 2000  
Building (Scotland) Regulations 2004  
Sections 63, 64 and 72 of the Climate Change (Scotland) Act 2009  
Building Regulations (Northern Ireland) 2000

The previous Government set an objective (which is being reviewed by the new Government) for all new homes in England to be zero carbon from 2016. As steps towards meeting that objective, changes would be progressively introduced into the energy efficiency provisions of the Building Regulations 2000/2531 Part L (Conservation of Fuel and Power)<sup>60</sup> for both new and existing buildings. The achievement of net zero carbon emissions from new homes over a year involves high levels of energy efficiency in the fabric of the home and also additional measures to reach a minimum level of carbon reduction ('carbon compliance') through on-site technologies, including renewable energy technologies. In addition, there would be a range of 'allowable solutions' to deal with the remaining carbon emissions beyond the minimum on-site reduction.

The 2008 Budget set out an ambition (currently being reviewed by the new Government) for all new non-domestic buildings to be zero carbon from 2019 and an ambition for new public sector buildings (including central Government buildings, hospitals, prisons and the defence estate) to be zero carbon from 2018. Non-domestic buildings account for around 17% of the UK's carbon emissions. As steps towards meeting this, changes would be progressively introduced into the Building Regulations, as described in Section 4.2.3 (a) above.

Building Regulations are a devolved matter in Scotland and Northern Ireland, and will be devolved to Wales at the end of 2011.

Work is underway to develop proposals for changes to building regulations in Wales aimed at securing a step change in energy performance of new housing as soon as practical. To support that work and further action towards zero carbon new build more generally the Low/Zero Carbon Hub for Wales has been established to help shape proposals, to engage, disseminate and support across a range of issues including design and construction standards, future skills requirements and consumer behaviour.

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<sup>60</sup><http://www.planningportal.gov.uk/england/professionals/buildingregs/technicalguidance/bcapproveddocumentslist/>



In the public sector, Welsh Assembly funding of construction investment has been used as a driver for higher standards through the use of the Code for Sustainable Homes and the BRE Environmental Assessment Method (BREEAM). In both the non domestic sector and in housing, through the Registered Social Landlords programme and Assembly Government land disposals to private house builders, opportunities are being taken in conjunction with the development of Welsh Building Regulations to build experience of standards beyond the Building Regulations.

In 2007, Scottish Ministers published the Sullivan Report – *A Low Carbon Building Standards Strategy for Scotland*<sup>61</sup>. This set out a range of recommendations including, for new buildings, staged improvements in energy standards within building regulations, to reduce carbon dioxide emissions with the aim of net zero carbon buildings (emissions for space heating, hot water, lighting and ventilation) by 2016/17 if practical. To deliver such buildings, there will need to be a significant increase in the use of renewable energy within new development. Building regulations which come into effect in October 2010, will deliver a 30% reduction in carbon dioxide emissions, with further review programmed for 2013 and 2016. Work on the 2013 review of building regulations will consider the Sullivan recommendation for a 60% and 75% reduction of carbon dioxide emissions for dwellings and non-domestic buildings, respectively (when compared with 2007 standards), together with more recent policy development elsewhere in the UK.

**(b) Responsible Ministry(/ies) / authority(/ies):**

The installation of small scale renewable energy technology (unless it is permitted development), and all district heating and cooling systems, require planning permission under the town and country planning system. CLG provides a legislative and national policy framework for the town and country planning system in England. Large infrastructure projects in England and Wales above certain thresholds will be handled under the Planning Act 2008 regime. This includes renewable energy projects over 50MW of generating capacity.

National planning policy on climate change is set out in Planning Policy Statement 1 Supplement: *Planning and Climate Change*<sup>62</sup>. This sets a framework to which local planning authorities must have regard when preparing plans or when determining applications. The climate change PPS requires that new development should be located to cut carbon and make the most of existing and planned opportunities for local renewable and low carbon energy.

The local authority must prepare local development documents (LDDs) which set out the development strategy for an area, and determine planning applications. LDDs will often include development management policies for guiding the details of development within their boundary. Most developments require site-specific planning permission. Decisions are taken on the basis of the development plan and any other material considerations. Some small developments are permitted development and do not require a specific application for planning permission.

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<sup>61</sup> <http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/about/sullivanreport>

<sup>62</sup> <http://www.communities.gov.uk/publications/planningandbuilding/ppscclimatechange>

CLG is responsible for the building regulations in England and in Wales (until the end of 2011 when in Wales building regulations will become the responsibility of Welsh Ministers). The Department of Finance and Personnel (DFP) is responsible for the building regulations in Northern Ireland. Scottish Ministers are responsible for the building regulations in Scotland.

Building regulations are a devolved matter in Scotland and lie within the portfolio of the Minister for Transport, Infrastructure and Climate Change. The Building (Scotland) Act 2003 empowers Scottish Ministers to make regulations with respect to the design, construction, demolition and conversion of buildings and the provision of services, fittings and equipment in or in connection with buildings. The purpose of such regulations includes the furthering of both the conservation of fuel and power and the achievement of sustainable development.

In terms of existing buildings, section 63 of the Climate Change (Scotland) Act 2009 includes provisions for Scottish Ministers to make regulation for improving the energy performance and reducing greenhouse gas emissions from existing non-domestic buildings. Under section 64 of the Act, Scottish Ministers now have broad regulation making powers to require home owners and landlords to take steps to improve the energy performance of, and reduce emissions from, their homes.

**(c) Revision of rules, if any, planned:**

On 9 March 2010 CLG published *Planning Policy Statement: Planning for a Low Carbon Future in a Changing Climate*<sup>63</sup> for consultation. This document merges and updates existing planning policy on climate change (supplement to PPS1, referenced above) and PPS22 on renewable energy. As discussed in section 4.2.1(f), the Government has committed to publishing a national planning framework and will announce how it proposes to take this forward and the implications for specific areas of planning policy.

The Review of Building Control Implementation Plan<sup>64</sup>, published in September 2009 by CLG, set out a commitment to the periodic review of building regulation and guidance on a three-year cycle in future. This includes evaluation and review of Part L of the Building Regulations with new standards to be introduced from 2013.

The Scottish Government have made a commitment to further review the energy standards within building regulations for 2013 and 2016. This follows the recommendations made within the Sullivan Report<sup>65</sup> for staged improvements to energy standards with the aim of net zero carbon new buildings by 2016/17, if practical.

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<sup>63</sup> <http://www.communities.gov.uk/documents/planningandbuilding/pdf/1499780.pdf>

<sup>64</sup> <http://www.communities.gov.uk/publications/planningandbuilding/buildingcontrolimplementation>

<sup>65</sup> <http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/about/sullivanreport>

In Northern Ireland, the recent and proposed changes to Part F (Conservation of fuel and power) of the building regulations strongly encourages the use of low and zero carbon energy sources without mandating them (i.e. the designer decides whether or not they are cost effective or appropriate for the project under construction). However, in light of changes made in England and Wales further tightening of the building regulations relating to the conservation of fuel and power will be made in Northern Ireland. This will further encourage the adoption of low and zero carbon energy sources where they are functionally, economically and technically feasible.

**(d) Summary of the existing and planned measures at regional / local levels:**

The climate change PPS (1) places a number of expectations at the local level in regard to planning for climate change. These include developing an evidence-based understanding of the potential for renewable and decentralised energy in a local authority area; expecting developments to connect to identified decentralised energy systems where these exist; and setting local requirements for sustainable buildings, which exceed those set out nationally through the zero carbon homes initiative, where local circumstances warrant.

Local authorities may set local requirements for using renewable electricity in new development in planning policy, where local circumstances warrant. These expectations should be set out in local development documents (LDDs), which form part of the development plan. Planning applications should be determined in accordance with the development plan, unless material considerations indicate otherwise.

Many of the changes to the planning system described in section 4.2.1(d) can help to facilitate the installation of infrastructure generating electricity, heating and cooling from renewable sources. One particular example is the development of a Local Development Order (LDO) across three east London Boroughs. This will enable certain works associated with the installation of a district heat network to be undertaken without specific planning permission. CLG, in conjunction with the Planning Advisory Service (PAS), is providing advisory and financial support for the pilot and is working closely with the parties involved to ensure the project informs future policy development.

The Welsh Assembly Government recently produced new guidance on sustainable buildings (TAN 22)<sup>66</sup> which sets out the standards to be delivered on new houses. In addition the toolkit for local authority planners will help them to identify opportunities for increasing the supply of local electricity through, for example, co-location and appropriate strategic site allocation<sup>67</sup>.

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<sup>66</sup><http://cymru.gov.uk/topics/planning/policy/tans/tan22/?jsessionid=ytQ2MWTQBNXQ2Lp13lzyJvLnG5Lyk21V0h4JJX2L3h2P3fpsZZQ3!-309001812?lang=en>

<sup>67</sup> <http://wales.gov.uk/topics/planning/policy/ppw2002/?lang=en>

Section 72 of the Climate Change (Scotland) Act requires that the new suite of local development plans (as they come forward) prepared by local planning authorities in Scotland include policies to ensure that all new buildings in their area avoid a specified and rising proportion of greenhouse gas emissions from their use through the installation and operation of low and zero-carbon generating technologies.

**(e) Are there minimum levels for the use of renewable energy in building regulations and codes? In which geographical areas and what are these requirements? (Please summarise.) In particular, what measures have been built into these codes to ensure the share of renewable energy used in the building sector will increase? What are the future plans related to these requirements / measures?**

Building Regulations set functional requirements (outcomes) for energy efficiency, and carbon emissions - in providing space heating, hot water, ventilation, cooling and fixed lighting of new homes and buildings, which the individual aspects of a building's design and construction must achieve - but they do not prescribe particular technologies. This performance-based approach offers designers the flexibility to choose solutions that best meet their needs, and that are cost-effective, practical and allow for innovation. The proposed zero carbon standards for all new homes and non-domestic buildings in England (see the response to question 4.2.3 (a)) would therefore not require a specific form of energy generation but will, in practice, increase the use of on-site low and zero carbon energy generation in new buildings. These Building Regulations currently apply to England and Wales (Section 1 of the Building Act 1984 (c.55)).

In Scotland, as in England and Wales, building regulations limit energy demand and carbon dioxide emissions from new buildings and new building work. The installation of particular technologies or solutions is not mandated, allowing challenging energy standards to be met in the most practical and cost effective manner. However, guidance defining emissions targets for new buildings encourages the use of low carbon equipment through a renewables benchmark within emissions targets for new non-domestic buildings, the identification of air source heat pump in emissions targets for electrically heated dwellings and, from 2010, incorporation of a solar thermal component within target setting for all new dwelling. As energy standards continue to improve, in 2010 and beyond, the use of renewable energy solutions will become more common in all new buildings.

For existing non-domestic buildings in Scotland, the Sullivan Report, *A Low Carbon Buildings Standards Strategy for Scotland* made several recommendations for improving the energy performance and reducing emissions from existing non-domestic buildings. Section 63 of the Climate Change (Scotland) Act 2009 implements these recommendations for existing non-domestic buildings. This requires regulations to be made in respect of the energy performance of, and greenhouse gas emissions, from existing non-domestic buildings. Initially the intention is that the measures would be cost-effective with a reasonable payback period. However, building owners would be able to propose alternative measures which achieve similar levels of emission savings which could include renewable technologies. The next step will be to develop regulations for implementation which will require detailed work to be carried out, supported by research, engagement with stakeholders, public consultation and then subject to Parliamentary approval.

Although not a building code as such, actions (as detailed in the response to 4.2.3 a) under Section 72 of the Climate Change (Scotland) Act 2009 are intended to increase the use of renewable energy in buildings in Scotland. Section 73 of the Climate Change (Scotland) Act requires annual reporting on the operation of Section 72.

**(f) What is the projected increase of renewable energy use in buildings until 2020?(If possible differentiating between residential –"single-unit" and "multiple unit", commercial, public and industrial.)**

In addition to Table 6 below, please see the information in the response to question 4.2.3 (a) above.

**Table 6 - Estimated share of renewable energy in the building sector (%)**

<b>Estimated share of renewable energy in the building sector(%)</b>				
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Residential</b>	*	*	1	4
<b>Commercial / Public</b>	*	*	3	12
<b>Industrial</b>	*	*	2	9
<b>Total</b>			2	8

**Notes to Table 6**

Source: Estimates from independent consultants Nera (2009) and Element/Pöyry (2009)

**(g) Have obligations for minimum levels of renewable energy in new and newly refurbished buildings been considered in national policy? If so, what are these levels? If not, how will the appropriateness of this policy option be explored by 2015?**

The Government intends to introduce a Green Deal for housing, which will provide householders with upfront funding for energy saving and carbon reduction measures, to be paid back through savings on fuel bills. The measures covered by the Green Deal could include renewable energy installations.

The proposed zero carbon standard for new homes (from 2016) and non-domestic buildings (from 2019), follows the approach of requiring a minimum level of reduction in carbon emissions. This would promote the uptake of on-site renewable energy in new buildings, without mandating any particular form of low and zero carbon energy technology; renewable or otherwise.

As outlined above, in Scotland, within building regulations the installation of particular technologies or solutions is not mandated, to allow challenging energy standards to be met in the most practical and cost effective manner.

Section 60(3) of the Climate Change (Scotland) Act 2009 ('Duty of Scottish Ministers to promote energy efficiency') requires the preparation of a plan which includes details of how Ministers intend to update planning and building regulations to ensure that all new buildings avoid a specified and rising proportion of projected greenhouse gas emissions from their use through the installation and operation of low and zero-carbon generating technologies. Section 72 of the Climate Change (Scotland) Act 2009 (detailed in our response to 4.2.3 (a)) requires local development plans prepared by planning authorities in Scotland to include policies to ensure that all new buildings in their area avoid a specified and rising proportion of green house gas emissions from their use through the installation and operation of low and zero-carbon generating technologies.

**(h) Please describe plans for ensuring the exemplary role of public buildings at national, regional and local level by using renewable energy installations or becoming zero energy buildings from 2012 onwards? (Please take into account the requirements under the EPBD).**

The UK has already put in place a range of initiatives to reduce carbon emissions and encourage the adoption of renewables in the public sector, set out below. In 2008, public sector emissions were 25% lower than 1990 levels. This is down from 13.6 MtCO<sub>2</sub>e to 10.23 MtCO<sub>2</sub>e.

The Government has committed to reducing Central Government emissions by 10% in the next year. This includes Departments publishing their real time energy use online and the establishment of a steering group to ensure this target is met.

The Government is determined to reduce this level even further and deliver a total reduction of 16.9% in 2010-11, against a target of 12.5%. Beyond 2011, Government Departments have been set a target of a 30% reduction in their own estate and operations emissions by 2020 from 1990 levels. This target will be incorporated into Departmental carbon budgets<sup>68</sup> and exceeds that set for the economy as a whole (34%), but against 1990 levels, hence driving renewable energy deployment.

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<sup>68</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/lc\\_uk/carbon\\_budgets/carbon\\_budgets.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/lc_uk/carbon_budgets/carbon_budgets.aspx)

Major initiatives to increase the adoption of renewable energy in the public sector include:

#### *Sustainable Operations on Government Estate*

These targets, announced in 2006, required central Government Departments to achieve 10% of their electricity consumption from renewable sources by 2008. Further to this, the new Government has announced, in May 2010, its intention to reduce carbon emissions from government departments by 10% in 12 months. This could include both energy efficiency and renewable energy measures in government buildings.

#### *Partnership for Renewables programme (PfR)<sup>69</sup>*

This was set up in 2006 by Carbon Trust Enterprises with the aim of building 500 MW of renewable energy capacity on public sector land. PfR manages all aspects of development, from screening sites to conducting feasibility studies to Construction and operation. It has contracted with and screened the land banks of over 100 public sector bodies and now has over 200 sites (representing renewable electricity capacity of 1.5 GW) in the early stages of development.

#### *Homes funded through the Homes and Communities Agency*

Currently, homes in England built on land owned by the Homes and Communities Agency (HCA) or with funding through the National Affordable Housing Programme are built to specific standards, for example, level 3 of the Code for Sustainable Homes. The HCA has recently consulted partners on what standards should apply to housing it funds or supports from next year. No decisions on particular standards to apply have yet been taken.

#### *Carbon Challenge*

This initiative, run by the Homes and Communities Agency in England, aims to fast track the delivery of truly sustainable communities with quality homes that reach level 6 of the Code for Sustainable Homes. HCA will disseminate the lessons learned to accelerate the response of the homebuilding industry and its supply chain to climate change. Work on the first site at Hanham Hall, near Bristol started in late 2009 with the first home due to be completed in autumn 2010.

#### *Retrofit Consortium*

CLG is establishing a Retrofit Consortium of key public and private sector partners with large property portfolios to facilitate energy efficiency, low carbon and adaptation measures at scale. The Consortium will make use of the results of research and testing to consider the most effective low-carbon retrofit measures, and work with the supply chain on development and mainstreaming of these technologies more quickly and at better value. The Retrofit Consortium will play a key role in delivering a well-adapted, low-carbon Government estate.

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<sup>69</sup> <http://www.pfr.co.uk/>

### *Zero carbon new public sector buildings*

The November 2009 consultation on zero carbon new non-domestic buildings included proposals for a programme of exemplar buildings and demonstrator projects with the aim of helping the public sector to demonstrate and mainstream renewable technologies.

### *Invest to save loans Wales*

The Welsh Assembly Government has funded a scheme making interest free loans available via Salix to support the installation of a wide range of energy efficiency measures across the public sector estate – providing 100% support in making further progress towards reducing their energy bills and greenhouse gas emissions.

## **(i) How are energy efficient renewable energy technologies in buildings promoted?**

The Code for Sustainable Homes<sup>70</sup>, which is operational in England, Wales and Northern Ireland, incentivises the installation of renewable technologies. Credits are available in the energy section of the Code for developers who install low and zero carbon technologies eligible for grant under the Low Carbon Buildings Programme. CLG held a consultation from December to March 2010<sup>71</sup> on strengthening the links between the Code and the EU Renewable Energy Directive by ensuring that all eligible technologies listed on the Directive can be incentivised in the Code.

Part L of the Building Regulations 2000 (as amended) and the accompanying approved documents to Part L promote the use of renewable energy systems and equipment. The Domestic and Non-Domestic Buildings Services Compliance Guides (2010 edition) state that fixed building services such as boilers and heat pumps shall comply with relevant requirements of the Eco-design of the Energy Using Products Framework Directive and the renewables Directive.

The Microgeneration Certification Scheme provides standards for microgeneration products and installers. The scheme references and is based on international and European standards. In terms of installer standards there are also specific references to building regulation requirements in the UK. Certification and testing in relation to the scheme is based on third party verification (EN45011 for certification and EN17025 for product testing).

In order to be eligible for support through the Feed-in Tariffs (FITs) scheme, introduced on 1 April 2010, wind, solar PV and hydro generators of 50kW or less as well as microCHP generators have to use Microgeneration Certification Scheme (MCS) eligible products installed by MCS-accredited installers or equivalent.

Similarly, the consultation on the proposed Renewable Heat Incentive (RHI) scheme proposed that technologies at the small to medium scale will need to be installed by an MCS-certified installer or equivalent where this applies.

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<sup>70</sup> <http://www.communities.gov.uk/publications/planningandbuilding/codesustainabilitystandards>

<sup>71</sup> <http://www.communities.gov.uk/planningandbuilding/theenvironment/codesustainable1>



#### **4.2.4. Information provisions (Articles 14(1), 14(2) and 14(4) of Directive 2009/28/EC)**

##### **(a) Reference to existing national and or regional legislation (if any) concerning information requirements according to Article 14 of Directive 2009/28/EC:**

There is no existing national legislation concerning the specific information requirements set out in article 14(1), (2) or (4). However, Part L1(c) of Schedule 1 to the Building Regulations 2000 does require that information about fixed building services, including renewable technologies, be given to the building owner following installation to allow the services to be operated in such a manner as to use no more fuel or power than is reasonable in the circumstances.

##### **(b) Responsible body/(ies) for dissemination of information at national/regional /local levels:**

Information about support measures is made available to the public by DECC on their website<sup>72</sup>.

Information about the Microgeneration Certification Scheme (MCS) is made available to the public online<sup>73</sup> by the manager of the scheme. The online information includes a list of all those products and installers certified under the scheme. Manufacturers of equipment and systems for the use of heating, cooling and electricity from renewable energy sources have to supply information to the MCS in order for their equipment or system to be accredited under that scheme.

##### **(c) Summary of the existing and planned measures at regional / local levels where relevant):**

DECC has a strong communications strategy, working through the media and stakeholders to provide information to the public. In the specific case of renewable energy, there are a number of information providers for those wishing to know more about renewable energy provided both by the Government and third parties.

##### *Information for communities:*

The Carbon Trust is a not-for-profit company with the mission to accelerate the move to a low carbon economy. They provide specialist support to help business and the public sector cut carbon emissions, save energy and commercialise low carbon technologies.

Defra also provides advice on community action against climate change on their website<sup>74</sup>, as well as providing information about their Greener Living Fund<sup>75</sup>.

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<sup>72</sup> [www.decc.gov.uk](http://www.decc.gov.uk)

<sup>73</sup> [www.microgenerationcertification.org](http://www.microgenerationcertification.org)

<sup>74</sup> <http://www.defra.gov.uk/sustainable/government/advice/community/index.htm>

The Welsh Assembly Government provides information for community groups on its website<sup>76</sup> and supports Cynnal Cymru to provide interactive resources and support engagement on the sustainable development agenda including renewable energy<sup>77</sup>. The Assembly Government has also, through its European Structural Funds supported Ynni'r Fro project, established a network of development advisers across Wales who are working with community scale renewable energy generation projects to develop their projects. The Assembly Government also supports the Wales Energy Portal, which provides information on energy efficiency and renewable energy for a range of audiences<sup>78</sup>.

### *Information for households*

Impartial advice on energy saving and renewable energy is provided by the Energy Saving Trust; a partially public/partially private sector funded organisation<sup>79</sup>.

Wider advice on greener living is provided through the Directgov website, where members of the public can find information on all government services in one place<sup>80</sup>.

Defra also provide advice on climate change action in the UK for individuals on their website<sup>81</sup>.

Yougen is a limited company focusing on encouraging renewable energy for householders. They also provide independent advice on renewable energy in the home on their website<sup>82</sup>.

### *Information for businesses and organisations*

As well as providing information for communities, the Carbon Trust provides information for organisations on reducing carbon.<sup>83</sup>

The National Non Food Crops Centre (NNFCC) is an independent organisation providing independent advice to government and business and the public on renewable materials and technologies<sup>84</sup>.

The Zero Carbon Hub is an industry-led delivery body which focuses on resolving practical barriers to delivery of low and zero carbon homes between now and 2016 to accelerate mainstream adoption of low and zero carbon methods and technologies<sup>85</sup>.

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<sup>75</sup> <http://www.greenerlivingfund.org.uk/>

<sup>76</sup> <http://wales.gov.uk/walescarbonfootprint/home/community/?lang=en>

<sup>77</sup> <http://www.sustainwales.com/home/en/>

<sup>78</sup> <http://www.energysavingwales.org.uk/index.cfm?alias=about>

<sup>79</sup> [www.energysavingtrust.org.uk](http://www.energysavingtrust.org.uk)

<sup>80</sup> <http://www.direct.gov.uk/en/Environmentandgreenerliving/>

<sup>81</sup> <http://www.defra.gov.uk/environment/climate/action/individuals.htm>

<sup>82</sup> <http://www.yougen.co.uk>

<sup>83</sup> [www.carbontrust.co.uk](http://www.carbontrust.co.uk)

<sup>84</sup> <http://www.nnfcc.co.uk/metadot/index.pl?id=0>

<sup>85</sup> <http://www.zerocarbonhub.org/>

### *Information on Renewable Fuels for use in Transport*

Both the Renewable Fuels Agency<sup>86</sup> and Department for Transport<sup>87</sup> websites give information on the Renewable Transport Fuel Obligation.

The website of the Office for Low Emissions Vehicles (OLEV) on the DfT website gives information on the key activities of OLEV and support available for electric vehicles<sup>88</sup>.

The Info4local website is an information gateway for people working in local public services in the UK and collates information and speeches published by the UK Government on biofuels in transport<sup>89</sup>.

The UK's Government Business Link website is a portal of action-focused information for small and medium businesses, linking to all relevant ministries and departments. It provides information detailing how businesses can reduce the environmental impact of business transport<sup>90</sup>.

The UK Government's Vehicle Certification Agency publishes databases on Car and Van Fuel Consumption and CO<sub>2</sub> emissions<sup>91</sup>.

The Green Bus Fund webpage on the Department for Transport website gives information on the Green Bus Fund<sup>92</sup>.

### *Local Level*

At the local level there are several projects and information online to help with increasing the use of renewable energy including;

Severn Wye Energy Agency Ltd with partners have a quick check tool that can be used to see if biogas is a suitable technology for your circumstances<sup>93</sup>.

Biofuels East is a virtual 'Advanced Biofuels Hub' aimed at fostering collaboration between academia and industry in biofuels advancement in the East of England<sup>94</sup>.

The Somerset Biofuels Project is a partnership between Somerset County Council, Ford Motor Company, Wessex Water, Avon and Somerset Constabulary and Wessex Grain to raise awareness of the need to cut carbon emissions from transport<sup>95</sup>.

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<sup>86</sup> [www.renewablefuelsagency.gov.uk/](http://www.renewablefuelsagency.gov.uk/)

<sup>87</sup> <http://www.dft.gov.uk/pgr/roads/environment/renewable-fuels/>

<sup>88</sup> <http://www.dft.gov.uk/pgr/sustainable/olev/>

<sup>89</sup> <http://www.info4local.gov.uk/subjects/environment/energy-and-fuel/>

<sup>90</sup> <http://www.businesslink.gov.uk/bdotg/action/home>

<sup>91</sup> <http://www.vca.gov.uk/fcb/index.asp>

<sup>92</sup> <http://www.dft.gov.uk/pgr/regional/buses/greenbusfund/>

<sup>93</sup> <http://www.swea.co.uk/>

<sup>94</sup> <http://www.biofuelseast.org.uk/>

<sup>95</sup> <http://www.somerset.gov.uk/irj/public/council/initiatives/initiative?rid=/wpccontent/Sites/SCC/Web%20Pages/Council/Initiatives/Somerset%20Biofuel%20Project>

In Wales, the Sustainable Development Commission's report *Low Carbon Wales: Regional Priorities for Action*, produced for the Welsh Assembly Government, gives advice on how each Spatial Plan Area of Wales can make dramatic cuts to carbon emissions, tailored to the unique nature of that area. The advice is designed to help the Welsh Assembly Government deliver on its existing work on cutting emissions and making Wales a sustainable country. The Welsh Assembly Government has its own communication and engagement strategy on climate change, *Help Wales reduce its carbon footprint*<sup>96</sup>, which includes information on renewable energy. The Assembly Government has also supported the development of a Wales Carbon Calculator<sup>97</sup>.

In Northern Ireland responsibility for energy policy, with the exception of nuclear energy, lies with the Department of Enterprise, Trade and Investment (DETI). During 2010, DETI will be publicising its new Strategic Energy Framework (SEF 2010). This Framework will set out the strategic direction for Northern Ireland's energy policy for the next ten years. Amongst other things it will emphasise the importance of energy infrastructure as well as set a challenging 2020 target for electricity consumption.

DETI is currently developing a marketing strategy for a Northern Ireland specific approach for sustainable energy messaging across all relevant Northern Ireland Departments. In addition the Northern Ireland Housing Executive, who are the Home Energy Conservation Authority (HECA) for Northern Ireland in conjunction with the Energy Saving Trust's Northern Ireland Energy Efficiency Advice Centre run a specific household marketing campaign to encourage householders to minimise their energy use.

**(d) Please indicate how information is made available on supporting measures for using renewable energy sources in electricity, heating and cooling and in transport to all relevant actors (consumers, builders, installers, architects, suppliers of relevant equipment and vehicles). Who is responsible for the adequacy and the publishing of this information? Are there specific information resources for the different target groups, such as end consumers, builders, property managers, property agents, installers, architects, farmers, suppliers of equipment using renewable energy sources, public administration? Are there information campaigns or permanent information centres in the present, or planned in the future?**

The Energy Saving Trust<sup>98</sup> are an impartial, independent organisation, who are a source of free advice and information for people across the UK looking to save energy, conserve water and reduce waste. They work with consumers by providing them with practical advice and support through their website and local advice centres enabling them to save energy.

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<sup>96</sup> <http://wales.gov.uk/walescarbonfootprint/home/?lang=en>

<sup>97</sup> <http://www.calculator.walescarbonfootprint.gov.uk/>

<sup>53</sup> <http://www.energysavingtrust.org.uk/corporate>

Information and guidance for generators wishing to access support through the Renewables Obligation (RO) or the FIT are made available by Ofgem, who administer the schemes, on their website<sup>99</sup>. Information on the RO and FIT schemes, as well as on the planned RHI scheme is made available on the DECC website.

Information relating to support measures for renewable energy in transport is made available and published by; the Renewable Fuels Agency for Renewable Transport Fuel Obligation<sup>100</sup>, the Department for Transport for Green Bus Fund<sup>101</sup> and Her Majesty's Treasury for the Used Cooking Oil Duty Rebate. These organisations are also responsible for the adequacy of this information.

Please also see also the response to 4.2.4(c).

**(e) Who is responsible for publishing information on the net benefits, costs and energy efficiency of equipment and systems using renewable energy sources for heating, cooling and electricity?**

Gemserv<sup>102</sup> is the administrator for the Microgeneration Certification Scheme and provides information on approved products and installer companies. Wider information to support consumers on the performance and efficiency of microgeneration technologies is available through the Energy Saving Trust<sup>103</sup>.

**(f) How is guidance for planners and architects provided to help them to properly consider the optimal combination of renewable energy sources, high efficiency technologies and district heating and cooling when planning, designing, building and renovating industrial or residential areas? Who is responsible for that?**

Planning Policy Statement (PPS) 1 supplement<sup>104</sup> and PPS22<sup>105</sup> set out national policies for delivering renewable energy through the planning system. The companion guide to PPS22 provides guidance on implementing the policies within PPS22 and includes more detailed information about individual renewable energy technologies. CLG is responsible for these policies and guidance.

Other organisations, such as the Centre for Sustainable Energy<sup>106</sup> and Energy Saving Trust provide information and guidance to interested parties, including architects and planners. For example, the Centre for Sustainable Energy hosts the planning renewables website<sup>107</sup> supported by DECC and CLG, which includes information on case studies on particular renewable energy technologies.

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<sup>99</sup> <http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/Pages/RenewablObl.aspx>

<sup>100</sup> <http://www.renewablefuelsagency.gov.uk/>

<sup>101</sup> <http://www.dft.gov.uk/pgr/regional/buses/greenbusfund/>

<sup>102</sup> <http://www.microgenerationcertification.org/MCS+information+events/Gemserv>

<sup>103</sup> <http://www.energysavingtrust.org.uk/>

<sup>104</sup> <http://www.communities.gov.uk/documents/planningandbuilding/pdf/ppscclimatechange.pdf>

<sup>105</sup> <http://www.communities.gov.uk/planningandbuilding/planning/planningpolicyguidance/planningpolicystatement/s/planningpolicystatements/pps22/>

<sup>106</sup> <http://www.cse.org.uk/>

<sup>107</sup> <http://www.planningrenewables.org.uk/page/index.cfm>

The Code for Sustainable Homes sets voluntary standards for the sustainable design and construction of new homes with flexibility for developers to determine the most cost-effective mix of measures to achieve any particular level of the Code, subject to a limited number of mandatory requirements. Information on renewable technologies in the Code is available in the current Technical Guide published by CLG, which is available on the CLG website<sup>108</sup>. Guidance for developers (including planners and architects) on how to meet the energy component of the Code, including using renewable technologies, energy efficiency and district heating is available from the Energy Saving Trust website<sup>109</sup>.

Technical Advice Note 8, produced by the Welsh Assembly, sets out guidance specifically relating to renewable energy. Planning Policy Statement 18 on Renewable Energy sets out the policy of the Department of the Environment in Northern Ireland for development that generates energy from renewable sources. It is supported by a document providing Best Practice Guidance and supplementary planning guidance.

Scottish Planning Policy sets out the approach in Scotland. Planning Advice Note 45 *Renewable Energy Technologies* and its associated annexes set out advice on good practice for the land use implications of the installation of the technology in Scotland (described in the response to 4.2.1 (I)). The Scottish Government is responsible for these policies and guidance.

**(g) Please describe the existing and planned information, awareness raising and training programmes for citizens on the benefits and practicalities of developing and using energy from renewable sources. What is the role of regional and local actors in the designing and managing these programmes?**

Energy Saving Trust are an independent, UK based organisation focused on promoting action that leads to the reduction of carbon dioxide emissions. They are a source of free advice and information for people across the UK looking to save energy, conserve water and reduce waste. The Trust works with likeminded organisations and groups in the public and private sector. They are funded by the UK Government, Devolved Administrations and the private sector.

As described in the response to 4.2.4 (c), the Welsh Assembly provides information for community groups on its website<sup>110</sup> and supports Cynnal Cymru to provide interactive resources and support engagement on the sustainable development agenda including renewable energy<sup>111</sup>. The Assembly has also, through its European Structural Funds supported Ynni'r Fro project, established a network of development advisers across Wales who are working with community scale renewable energy generation projects to develop their projects. The Welsh Assembly also supports the Wales Energy Portal, which provides information on energy efficiency and renewable energy for a range of audiences<sup>112</sup>.

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<sup>108</sup> [www.communities.gov.uk/thecode](http://www.communities.gov.uk/thecode).

<sup>109</sup> [www.energysavingtrust.org.uk/business/housing-professionals/new-housing/The-Code-for-Sustainable-Homes](http://www.energysavingtrust.org.uk/business/housing-professionals/new-housing/The-Code-for-Sustainable-Homes)

<sup>110</sup> <http://wales.gov.uk/walescarbonfootprint/home/community/?lang=en>

<sup>111</sup> <http://www.sustainwales.com/home/en/>

<sup>112</sup> <http://www.energysavingwales.org.uk/index.cfm?alias=about>

#### **4.2.5. Certification of installers (Article 14(3) of Directive 2009/28/EC)**

##### **(a) Reference to existing national and/or regional legislation (if any) concerning certification or equivalent qualification schemes for installers according to Article 14(3) of the Directive 2009/28/EC:**

As part of the Microgeneration Certification Scheme (MCS) and CLG's Competent Person Schemes (as provided by section 12(5) and Schedule 2A to the Building Regulations 2000 as amended), the UK is putting in place competences and approved training for the installation of environmental technology systems. Both schemes are supporting delivery of the UK's obligation under the Directive 2009/28/EC – Article 14(3). This work will be part of the new Qualifications and Credit Framework, which will provide information and a simplified process for installers to identify training needs and access approved courses. The Qualifications and Credit Framework is regulated by the Office of Qualifications and Examination Regulation (Ofqual) under Part 7 of the Apprenticeship, Skills, Children and Learning Act 2009. Ofqual evaluates qualifications and the bodies that award them against nationally established criteria.

##### **(b) Responsible body/(ies) for setting up and authorising certification / qualification schemes by 2012 for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps:**

The Microgeneration Certification Scheme (MCS) is an independent scheme that certifies microgeneration products and installers in accordance with consistent standards. It is designed to evaluate microgeneration products and installers against robust criteria, providing greater protection for consumers. It includes a consumer code of practice. CLG's competent person schemes are authorised for the installation of all renewable technologies, with different schemes for different technologies.

The MCS covers all microgeneration products and services. It has support from DECC, industry and non-governmental groups as a prime method for making a substantial contribution to cutting the UK's dependency on fossil fuels and carbon dioxide emissions. CLG's competent person schemes cover only installation of microgeneration technologies.

The MCS is EN45011 accredited and the standards for installations and products are based on and reference international and European for microgeneration technologies where those exist. The scheme has been notified to the EU Commission through the Technical Standards Directive.

The UK renewables industry as a whole does not, as yet, have a coherent approach to training. The skills the UK's renewables sector need are covered by at least nine different Sector Skills Councils (SSCs), and training to date has mostly involved a variety of courses and accreditation schemes operated by manufacturers and trade associations. However, some progress towards a national structure has been made, for example, the development of National Occupational Standards for Microgeneration by Summit Skills.

We have National Occupational Standards for microgeneration technologies and competences in place. Summit Skills is now looking at mapping these competences across current training provision and building into the new Qualifications and Credit Framework. This work is linked to the MCS and development of the Minimum Technical Competences for the Building Regulations Competent Persons Schemes. A sub group of the MCS called the Building Services Competence Advisory group is taking forward this work. Energy & Utility Skills (EU Skills, the Sector Skills Council for the gas, power, waste management and water industries) has already begun to work with other SSCs to develop a skills strategy for renewable energy.

Ofqual<sup>113</sup> is responsible for the criteria against which Qualifications and Credit Framework qualifications are accredited and awarding organisations are recognised.

**(c) Are such certification schemes / qualifications already in place? If so, please describe.**

As described above (4.2.5 (b)), the UK is still developing its approach to skills training and development.

The wind industry, led by RenewableUK, with assistance from ORED, has developed an apprenticeship for turbine technicians. The first students will start their courses in September. In future years, this programme will be enlarged to take on more students in all key regions of the UK and developed to encompass other technical skills required by the industry.

In July 2010, Energy & Utility Skills, leading a consortium of SSCs, will publish the findings of the review of skills for renewable energy. This will identify areas where occupational standards, qualifications and training courses are inadequate and provide a basis on which pathways into renewable energy jobs can be developed for individuals and employers.

The National Skills Academy for Power was established in March 2010. This will take the lead in developing a skilled workforce for renewable generation and the networks needed to integrate the new technologies.

The Biomass Energy Centre is working with its sector to provide updated and detailed information and guidance on biomass installation, as well as a biomass training course.

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<sup>113</sup> <http://www.ofqual.gov.uk/>



In order to ensure the skills for microrenewables installation are provided, later this year we will publish a Low Carbon Skills Strategy. This will look more closely at the key low carbon 'sectors', as well how we can embed skills across all sectors to deliver the rapid transformation we need to a low carbon economy. It will draw out the skills needs and set out the priority actions to be taken.

**(d) Is information on these schemes publicly available? Are lists of certified or qualified installers published? If so, where? Are other schemes accepted as equivalent to the national/ regional scheme?**

Information on the Microgeneration Certification Scheme, including the list of installers and products certified under the MCS are publicly available on the scheme's website <sup>114</sup>.

Other equivalent schemes are accepted, for example, Solar keymark products<sup>115</sup> are treated as equivalent.

Information on competent person schemes is available on CLG's website with links to each individual scheme's website.

**(e) Summary of existing and planned measures at regional / local levels (where relevant).**

Northern Ireland participates in the Micro-Generation Certification Scheme, with Action Renewables being the sole certifying body for MCS in Northern Ireland. It is planned that future policy initiatives in Northern Ireland will be linked to MCS standards as far as is practicable.

**4.2.6. Electricity infrastructure development (Article 16(1) and Article 16(3) to (6) of Directive 2009/28/EC)**

**(a) Reference to existing national legislation concerning requirements related to the energy grids (Article 16):**

The following legislation concerns requirements related to the electricity grids:

Part 1 of the Electricity Act 1989 (as amended by the Utilities Act 2000 and Energy Act 2004)

Electricity Act 1989 (Uniform Prices in the North of Scotland) Order 2005

Energy Act 2004 (Assistance for Areas with High Distribution Costs) Order 2005

Electricity (Connection Charges) Regulations 2002

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<sup>114</sup> <http://microgenerationcertification.org/>

<sup>115</sup> <http://www.estif.org/solarkeymark/>

**(b) How is it ensured that transmission and distribution grids will be developed with a view to integrating the targeted amount of renewable electricity, while maintaining the secure operation of the electricity system? How is this requirement included in the transmission and distribution operators' periodical network planning?**

*Onshore grid*

Grid access has in the past proved a major barrier to new renewable and other low carbon generation in Great Britain due to a historic 'invest then connect' system. New plants had to join the access 'queue' on a 'first come, first served' basis, and wait for all wider network reinforcement to be completed before they could join the network and start generating. This led to an extensive queue of prospective new projects, with some plants offered connection dates as late as 2025.

In order to address this problem, in May 2009 Ofgem approved the introduction of an Interim 'Connect and Manage' regime, under which new generators are able to accelerate their access dates. These interim arrangements allow generators to connect to the network when their local connection is ready without waiting for wider system reinforcements to take place. Interim Connect and Manage has been very successful – 6.2 GW of existing renewable and other projects have had their connection dates advanced since its introduction; and a further 6.4 GW of new projects have been given earlier connection dates than they would have been under the previous system.

The UK Government has held a consultation on the adoption of the 'Connect and Manage' approach on an enduring basis. This new regime could be implemented by July 2010.

The Electricity Networks Strategy Group (ENSG), chaired by DECC and Ofgem, produced a report in March 2009 that set out the grid companies' view of the development of the onshore grid required to support the expected new renewable and low carbon generation coming forward by 2020. The report estimated that the additional cost of this investment in the onshore grid would be £4.7 billion.

In April 2010, Ofgem made the necessary licence changes to facilitate additional priority investments identified in the ENSG report within the transmission price control period (TPCR4). The licence changes confirmed the funding framework to fund costs up to the end of 2011/12. This comprises £78 million of pre-construction funding and £241 million of construction funding on projects planned to commence construction before 1 April 2011.

## *Offshore Transmission*

The UK Government expects the development of offshore renewable generation to make a major contribution to the achievement of its emission targets. Up to 33 GW of offshore renewable generation may be developed. The majority of this generation will be connected to the GB electricity grid through offshore transmission cables. It is anticipated that £15 billion of new transmission investment will be required.

Ofgem and DECC have developed a new regulatory regime for offshore transmission networks. A key feature of this regime is that each new tranche of transmission assets required by offshore generators will be awarded through a competitive tender process<sup>116</sup>. This process is being run by Ofgem, using competition to secure the most efficient and economic outcome for consumers.

## *RPI-X@20*

RPI-X@20 review is a two year project by Ofgem to review the workings of the current approach to regulating GB's energy networks and develop future policy recommendations.

The review is looking to the future on behalf of consumers by considering how best to regulate energy network companies to enable them to meet the challenges and opportunities of delivering a sustainable, low carbon energy sector whilst continuing to facilitate competition in energy supply. There is considerable uncertainty about how best to meet these challenges while maintaining value for money for existing and future consumers.

On 20 January 2010, Ofgem published the RPI-X@20 'Emerging Thinking' document which confirms that the existing 'RPI-X' regulatory framework has served consumers well over the last twenty years, but it was designed for a different era. Ofgem believe that if energy network companies in Great Britain are to rise to the sustainable development challenge, the way it regulates the networks needs to change. The document consults on Ofgem's emerging thinking on a new regulatory framework. It reflects considerable input from a range of stakeholders.

The Gas and Electricity Markets Authority is expected to make its final decisions in Autumn 2010. Any new framework would first be applied in the next transmission price control review in 2013.

Ofgem regulates the expenditure of transmission and distribution network operators through five-yearly price controls. The current price control for distribution (DPCR5) will run from April 2010 to March 2015. It has introduced some new elements anticipating the changes that RPI-X@20 is likely to bring, including a mechanism to encourage innovation (the Low Carbon Network Fund) and a change in the balance of incentives to meet objectives through capital spend as opposed to smarter management of networks.

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<sup>116</sup> Information about the offshore transmission tender process and the first round of transitional projects is available on the Ofgem website - <http://www.ofgem.gov.uk/Networks/offtrans/Pages/Offshoretransmission.aspx>

Ofgem have decided to implement the next transmission price control (TPCR5) from 1 April 2013, while allowing for a one year 'adapted roll-over' of the current price control (TPCR4) for the period from 1 April 2012 to 31 March 2013. This will enable TPCR5 to reflect fully the conclusions of the RPI-X@20 project and other relevant developments in the transmission sector.

In Scotland, work is being undertaken relating to the Electricity Networks Strategy Group Vision 2020, for reinforcing the onshore and offshore grid network, grid reinforcement, and sub-sea cables from Scotland to accommodate up to 11.4GW of renewable energy. The timescale is to deliver this by 2018.

The upgrading of the electricity grid to support energy transmission, including harvesting electricity generated by renewable energy technologies both on and offshore is a core part of the strategy set out in the second National Planning Framework for Scotland<sup>117</sup>. It identifies the existing infrastructure and the likely reinforcements required. It also identifies the long term aspiration for a Sub-Sea Grid which could transfer electricity generated in waters around Scotland to other parts of the UK and the Continent. In developing the strategy the Scottish Government worked with the major electricity suppliers in Scotland, the national grid and the Ofgem in addition to engaging the Scottish Parliament to identify and agree the energy infrastructure projects deemed to be of national importance for Scotland. This approach allows developers of power generation projects to understand what reinforcements are likely to come forward and more coordination with Ofgem and the National Grid to help ensure that those generating schemes can be connected to the Grid.

In Northern Ireland, the only Single Electricity Market (SEM) requirement is a general one on Systems Operator Northern Ireland (SONI) and Northern Ireland Electricity (NIE) to develop the All Island System optimally. Liaison is going on with Eirgrid on the North-South Electricity interconnector (NS) and general grid developments for renewables. Constraints on both systems and the NS constraint affect the SEM by causing higher constraint payments and inhibiting competition. SONI's, NIE's and Eirgrid's licenses may need to be tightened up in this respect and this may need legislation. It would also require close working between the Department of Enterprise Trade and Investment (DETI) in Northern Ireland and Department of Communications, Energy and Natural Resources (DCENR) in the Republic of Ireland to legislate and between the regulators to ensure the companies plan optimally on an all island basis.

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<sup>117</sup> <http://www.scotland.gov.uk/Publications/2009/07/02105627/0>

**(c) What will be the role of intelligent networks, information technology tools and storage facilities? How will their development be ensured?**

In addition to increased investment and better access to the grid we are also looking at the need for the grid to be smarter (including through intelligent networks, information technology tools and storage facilities). The grid will need to react to changes in generation and demand patterns as the energy system experiences a step change in intermittent generation at a large scale and an increased number of small scale distributed generation plants, more price responsive consumers enabled by roll out of smart meters, and changes in demand from the use of electric vehicles. Network operators will benefit from having more real time information on energy use and supply, and will be able to facilitate two-way flows of energy efficiently on the system through use of more automated response technologies.

DECC published a paper *Smarter Grids – The Opportunity*<sup>118</sup> on 2 December 2009. In the light of work on the 2050 energy road map, a ‘route map’ for delivery of this vision was published in February 2010.

Many of the technologies to enable such capability are already available, but have not yet been integrated together in large-scale demonstrations. However, the intention to roll out smart meters is already bringing forward a key element of smart grid capability. The current consultation on smart meter policy considers how roll out of smart meters should allow for smarter network operation, alongside better information for end-consumers.

Financial resources for regulated network companies in Great Britain are already available through funding from Ofgem’s Innovation Funding Incentive (IFI). The IFI encourages Distribution Network Operators (DNO) and Transmission Owners (TOs) to invest in appropriate research & development activities that focus on the technical aspects of network design, operation and maintenance. For the next five-year DNO price control, Ofgem have announced the Low Carbon Network Fund which will make available up to £500 million over the next five years, this is a significant increase in funding to help prepare the networks for the low-carbon economy. These new proposals will allow a significant increase in investment for trialling innovative ways of managing the distribution network with increasing amounts of renewable generation. The Energy Technologies Institute also has a network group for funding onshore and offshore network technologies. In addition, the Government is providing direct funding, through the Research Councils, of over £30 million for collaborative research in networks involving academia and industry; and complementary funding of up to £6 million for smart grids, which will be used to support early-stage development of trials of key technologies consistent with a vision for smart grid in the UK to be published later this year.

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<sup>118</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/network/smart\\_grid/smart\\_grid.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/network/smart_grid/smart_grid.aspx)

The Government is now working with industry and other stakeholders to further develop our thinking about the contribution a 'smart grid' could make to decarbonising and securing energy supply in the UK, while meeting our wider objectives. The costs and benefits of a smart grid will ultimately depend on the combinations of technologies that are brought together, some are well understood, others are at an early stage of development.

DECC and Ofgem, under the ENSG 'smart grid working group', took forward a study on smart grids in a UK context. The study considered the costs, benefits and issues to be addressed in developing a smart grid for the GB electricity system, including technology readiness, how such a system might develop, and the drivers and barriers at each stage<sup>119</sup>.

**(d) Is the reinforcement of the interconnection capacity with neighbouring countries planned? If so, which interconnectors, for which capacity and by when?**

Interconnection between the GB electricity network and other systems is currently limited to the following:

- 2 GW link to France; and
- 450 MW link between Northern Ireland and Scotland.

However, the following plans for additional interconnection are at various stages of development.

- National Grid, in a joint venture with the Dutch grid company TenneT, is building a 1200 MW interconnector between GB and the Netherlands, which is expected to be completed by late 2010
- Eirgrid (the Irish grid company) is also planning to complete an interconnector across the Irish Sea to GB by 2012 between the Republic of Ireland and Wales.

Further links to Belgium, France and Ireland are also planned, although when, and if, these will be completed is as yet uncertain.

Work is also being undertaken in Scotland to increase the capacity of onshore grid to connect and transport renewable energy from areas of highest resource in the North of Scotland and the islands. This includes consent for the Beaully to Denny upgrade by the Scottish Government in January 2010, which is expected to be complete by 2014, and plans to better connect the main Scottish Islands to the mainland grid.

The second National planning Framework for Scotland identifies the importance of developing a Sub-Sea Grid which could transfer electricity generated in Scotland and in waters around Scotland to other parts of the UK and mainland Europe.

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<sup>119</sup> <http://www.ensg.gov.uk/index.php?article=126>

The scale of the offshore wind potential around the UK strengthens the economic, policy and security of supply arguments for working to maximise this offshore renewable potential, and put in place regulatory frameworks to deliver it. It also supports interconnection between parts of the UK and Europe through development of an interconnected offshore grid. The UK is one of the signatories to declaration signed on 7 December 2009 by Ministers of the North Seas Countries, to work to develop a Memorandum of Understanding by the end of 2010 on delivery of an integrated offshore grid in the North Seas. This joint declaration is aimed at increasing cooperation between Members States in the development of offshore grid connections. The UK Government is now working to take this forward.

Northern Ireland is the only country in the United Kingdom with land borders to another Member State. A new North-South interconnector between Northern Ireland and the Republic of Ireland is planned to be constructed and commissioned by 2013/14.

**(e) How is the acceleration of grid infrastructure authorisation procedures addressed? What is the current state and average time for getting approval? How will it be improved?**

Please see the responses to questions 4.2.1.

**(f) How is coordination between grid infrastructure approval and other administrative planning procedures ensured?**

The Planning Act 2008 has introduced in England a new, simpler, planning system for applications to build nationally significant infrastructure facilities, including electricity networks. This is an integrated consent regime which provides for projects to be considered in a policy framework set out in National Policy Statements (NPS) and decisions on projects made in accordance with the relevant NPS. Smaller electricity networks infrastructure projects which fall below the thresholds set out in the Act will continue to be dealt with under the existing Electricity Act 1989.

The Planning Act 2008 enables the decision making authority to issue a development consent order that can make provision relating to, or to matters ancillary to, the development of energy infrastructure. This may include, for example, the granting of wayleaves, the authorisation of tree lopping and the compulsory purchase of land.

National Policy Statements (NPSs) will set out the Government's policy for nationally significant infrastructure and provide the primary basis for decisions. The reforms brought about by the Planning Act aim to create a holistic planning regime so that the cumulative effect of different elements of the same project can be considered together. The Government therefore envisages that wherever possible, applications for new generating stations and related infrastructure should be contained in a single application or in separate applications submitted in tandem which have been prepared in an integrated way. However, we recognise that this may not always be possible. In some cases applicants may therefore decide to put in an application that seeks consent only for one element but contains some information on the second. Where this is the case, the applicant should explain the reasons for the separate application. In addition, under Regulation 6 (Applications: Prescribed Forms and Procedure) Regulations 2009. SI: 2009 no. 2264 promoters of new energy generation must include a statement with any application for an on-shore generating station which sets out who will be responsible for designing and building the connection to the electricity grid, and in the case of offshore generating stations, details of the proposed route and method of installation for any cable.

NPSs may also be a material consideration in decision making on, for example smaller renewable energy, applications under the Town and Country Planning Act 1990 system. Where relevant, decision takers on such applications in England are expected to apply the policy and guidance in a relevant NPS as far as practicable. New national planning policy on climate change recently issued for consultation and applicable to the Town and Country Planning Act 1990 system, reinforces the current policy expectation that planning applications for renewable energy and associated infrastructure (which is defined as including electricity and heat infrastructure) should be treated sympathetically.

Planning applications determined under the Town and Country Planning Act 1990 system are subject to a framework of regulatory expectations. These include requirements designed to ensure adequate consultation between those taking decisions on planning applications, and operators of potentially relevant permitting and consent regimes.

In Wales, the strategic approach to large onshore wind allocations contained in the Welsh Assembly's Technical Advice Note 8<sup>120</sup> is intended to make grid connectivity easier by providing a critical mass of development and an element of certainty in business planning by the grid providers.

In Scotland the approach taken in the National Planning Framework for Scotland has helped to improve the level of coordination between the various administrative procedures as referred to in the response to 4.2.6 (b).

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<sup>120</sup> <http://wales.gov.uk/topics/planning/policy/tans/tan8/?lang=en>



In Northern Ireland DETI is working with the grid owner and system operator in development of grid strengthening proposals to absorb higher levels of renewable generation. Key to delivery of the new infrastructure will be the resolution of planning considerations, and timely consents to new infrastructure. In addition, DETI has commissioned a Strategic Environmental Assessment of additional on-shore renewable generation and electricity grid proposals. This complements other ongoing SEA work in relation to marine and other off-shore renewables.

**(g) Are priority connection rights or reserved connection capacities provided for new installations producing electricity from renewable energy sources?**

The UK provides guaranteed access for electricity produced from all types of generators, including renewables, meaning that every connected generator has a guarantee of being able to use the electricity network. The only reason that generators may not be able to generate is to ensure the reliability and safety of the grid system. On such occasions, the UK's market arrangements determine which generator reduces its output. These generators are compensated and the costs of managing these constraints are spread across all generators.

**(h) Are any renewable installations ready to come online but not connected due to capacity limitations of the grid? If so, what steps are taken to resolve this and by when is it expected to be solved?**

No, there are no installations constructed waiting to be connected. However, there is around a 71 GW 'queue' of proposed new generation capacity seeking connection to the GB transmission network, including 19GW of capacity from renewable sources<sup>121</sup>. The UK Government recently held a consultation on the reform of grid access arrangements<sup>122</sup> on an enduring basis. This new approach could be implemented by July 2010. Ahead of enduring reform, Ofgem approved the introduction of interim arrangements in May 2009 which enable new generators to accelerate their connection dates. These interim arrangements have already had some success, with 6.2 GW of existing renewable and other projects having had their connection dates advanced since its introduction; and a further 6.4 GW of new projects having been given earlier connection dates than they would have been under the previous system.

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<sup>121</sup> National Grid (2010): 'Transmission Networks Quarterly Connections Update',

[http://www.nationalgrid.com/uk/Electricity/GettingConnected/gb\\_agreements/](http://www.nationalgrid.com/uk/Electricity/GettingConnected/gb_agreements/)

<sup>122</sup> [http://www.decc.gov.uk/en/content/cms/consultations/improving\\_grid/improving\\_grid.aspx](http://www.decc.gov.uk/en/content/cms/consultations/improving_grid/improving_grid.aspx)

**(i) Are the rules on cost sharing and bearing of network technical adaptations set up and published by transmission and distribution system operators? If so, where? How is it ensured that these rules are based on objective, transparent and non-discriminatory criteria? Are there special rules for producers located in peripheral regions and regions with low population density?**

The Transmission System Operator (TSO) in Great Britain is required, under Standard Licence Condition C6 of its licence, to prepare a statement of its connection methodology charging<sup>123</sup> and to send a copy to any person who asks for it. The rules for sharing costs in relation to the Distribution Network between initial and subsequent connectees (including generators) are set out in the Electricity (Connection Charges) Regulations 2002<sup>124</sup> (as amended), which are provided for by section 19 of the Electricity Act 1989.

Both the TSO and Distribution Network Operators (DNOs) in Great Britain are required, under their specific licence conditions, not to discriminate against users or classes of users. There are no special rules for producers requiring technical adaptations in peripheral regions and regions of low population density.

In Northern Ireland all rules relating to system and distribution system operators are published and transparent on System Operator for Northern Ireland (SONI)<sup>125</sup> and Northern Ireland Electricity (NIE)<sup>126</sup> websites. Distribution and Transmission Charging statements are approved by the regulator for licensed companies annually within Northern Ireland prior to publication.

**(j) Please describe how the costs of connection and technical adaptation are attributed to producers and/or transmission and/or distribution system operators? How are transmission and distribution system operators able to recover these investment costs? Is any modification of these cost bearing rules planned in the future? What changes do you envisage and what results are expected?**

When connecting to a distribution network in Great Britain, where a connectee pays the full cost for assets that are subsequently used to connect a subsequent connectee within five years, the connectee will receive a payment from that subsequent connectee.

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<sup>123</sup> National Grid's 'The Statement of connection charging methodology' - <http://www.nationalgrid.com/NR/rdonlyres/85AE1201-9873-4150-B124-A83E2216D026/40055/GBCCMI6R0Draftv01CM.pdf>

<sup>124</sup> Regulations - <http://www.england-legislation.hmso.gov.uk/si/si2002/20020093.htm>

<sup>125</sup> <http://www.soni.ltd.uk/>

<sup>126</sup> <http://www.nie.co.uk/>

In terms of the transmission network, connection charges relate to the costs of assets installed solely for, and only capable of use by, an individual generator. This is referred to as 'shallow connection cost charging'. Where a connection will be used by subsequent connectees the costs of the connection will be included in the TSO's overall costs and reallocated through cost reflective charging methodology to all transmission system users. Under Standard Licence Condition C6 of its licence the TSO is required to publish a statement of connection methodology charging<sup>127</sup>.

Allowable investments costs are recovered through the price controls set out by Ofgem for TSOs and DNOs. Price controls are in place for five years. The current Transmission price control is in place until 31 March 2012. Ofgem's Distribution Price Control (DPCR5) came into place on 1 April 2010 until 31 March 2015.

Within Northern Ireland the shallow model<sup>128</sup> is used for both transmission and distribution. Clustering of renewable generation is being proposed within Northern Ireland with the customer carrying the risk associated with stranded assets to prevent exclusion of proposed future renewable generation. Further consultation is planned for later in the year in relation to renewable connection charges.

**(k) Are there rules for sharing the costs between initially and subsequently connected producers? If not, how are the benefits for subsequently connected producers taken into account?**

In relation to the Distribution Network, the rules for sharing costs between initial and subsequent connectees (including generators) are set out in the Electricity (Connection Charges) Regulations<sup>129</sup> (as amended) 2002, which are provided for by section 19 of the Electricity Act 1989 in Great Britain. Where a connectee pays full cost for assets that are subsequently used to connect a 'subsequent connectee' within five years, the original connectee will receive a payment from the second comer. In respect of the transmission network, connection charges relate to the costs of assets installed solely for, and only capable of use by, an individual generator. Where a connection will be used by subsequent connectees the costs of the connection will be included in the TSOs overall costs and reallocated through cost reflective charging methodology to all transmission system users. Under Standard Licence Condition C6 of its licence the TSO is required to publish a statement of connection methodology charging<sup>130</sup>.

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<sup>127</sup> National Grid's 'The Statement of connection charging methodology' - <http://www.nationalgrid.com/NR/rdonlyres/85AE1201-9873-4150-B124-A83E2216D026/40055/GBCCMI6R0Draftv01CM.pdf>

<sup>128</sup> Shallow connection charging for generation mean that the connectee only pays for the immediate connection assets which are built for their sole use. If such assets are shared by a future additional connectee then the original would get a rebate. The generator pays for its use of the high voltage grid and any deep reinforcements required to it via their use of system tariff. This, however still requires supporting legislation.

<sup>129</sup> Regulations - <http://www.england-legislation.hms.gov.uk/si/si2002/20020093.htm>

<sup>130</sup> National Grid's 'The Statement of connection charging methodology' - <http://www.nationalgrid.com/NR/rdonlyres/85AE1201-9873-4150-B124-A83E2216D026/40055/GBCCMI6R0Draftv01CM.pdf>

Northern Ireland Electricity has consulted on new arrangements for connection allowing for the clustering of windfarm connections which will ensure that the first connectee does not have to pay for the full new line and await possible future rebates. Connection to the transmission network is under a shallow arrangement consistent with the Republic of Ireland and these arrangements are applicable to all generators. At distribution the generator's cost may also account for works at the voltage above the connection voltage

**(I) How will it be ensured that transmission and distribution system operators provide new producers wishing to be connected with the necessary information on costs, a precise timetable for processing their requests and an indicative timetable for their grid connection?**

In relation to Distribution Networks, Ofgem is currently in the process of implementing the Distribution Price Control 5 (DPCR5) final proposals package<sup>131</sup> which includes new standards of service for connections customers. The connection standards for Distribution Networks will initially be implemented via a voluntary Memorandum of Understanding with DNOs. A summarised version of the standards can also be found in our consultation letter which was published in December 2009<sup>132</sup>.

In DPCR5, Ofgem maintained the incentive on Distribution Networks to incentivise efficient connection of its network, and also instituted mandatory information provision to provide different types of generator with connection information suited to their needs.

Up until now, the requirements for quotation timescales have been set out in Standard Licence Condition 12. This has provided a 90 day time limit for getting quotes out to customers. However, the new connection standards go beyond this by requiring a minimum level of performance across the whole connections process.

The Transmission System Operator, National Grid<sup>133</sup>, is required through Standard Licence Condition C8<sup>134</sup> of its System Operator Licence, to offer terms to those requesting a connection to their network. The TSO must provide terms of connection including costs to the potential generator within three months of receipt of an application. In addition, under Standard Licence Condition C6 of its licence the TSO is required to publish a statement of connection methodology charging<sup>135</sup>.

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<sup>131</sup><http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=348&refer=NETWORKS/ELECDIST/PRICECNT RLS/DPCR5>

<sup>132</sup> Distribution Standards Consultation Letter

<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=397&refer=Networks/ElecDist/PriceCntrls/DPCR5>

<sup>133</sup> <http://www.nationalgrid.com/>

<sup>134</sup> TSO licence standard licence condition C8 [http://epr.ofgem.gov.uk/document\\_fetch.php?documentid=14337](http://epr.ofgem.gov.uk/document_fetch.php?documentid=14337)

<sup>135</sup> National Grid's 'The Statement of connection charging methodology' -

[http://www.nationalgrid.com/NR/rdonlyres/85AE1201-9873-4150-B124-](http://www.nationalgrid.com/NR/rdonlyres/85AE1201-9873-4150-B124-A83E2216D026/40055/GBCCMI6R0Draftv01CM.pdf)

[A83E2216D026/40055/GBCCMI6R0Draftv01CM.pdf](http://www.nationalgrid.com/NR/rdonlyres/85AE1201-9873-4150-B124-A83E2216D026/40055/GBCCMI6R0Draftv01CM.pdf)

Currently all new generators are required to meet distribution code/ grid code as appropriate. In addition, connection agreements are also entered into once a connection offer is provided. Information on costs, and timetable for delivery are provided. The timetable for processing their request will be included within the charging statement in the future and is currently identified within the licence.

National Grid, in its role as the National Electricity Transmission System Operator, has a duty under its Transmission Licence to connect new generators to the transmission system when an application is made for connection. The Licence requires National Grid to provide new generators with details of the connection charges to be paid and the date by which the necessary works will be completed to enable connection. It also specifies the timetable within which an application will be processed and a connection offer made.

#### **4.2.7. Electricity network operation (Article 16(2) and Article 16(7) and (8) of Directive 2009/28/EC)**

**(a) How is the transmission and distribution of electricity from renewable energy sources guaranteed by transmission and distribution system operators? Is priority or guaranteed access ensured?**

Please see the response to question 4.2.6 (g) above.

**(b) How is it ensured that transmission system operators, when dispatching electricity generating installations give priority to those using renewable energy sources?**

Please see the response to question 4.2.6 (g) above.

**(c) How are grid- and market-related operational measures taken in order to minimise the curtailment of electricity from renewable energy sources? What kinds of measures are planned and when is implementation expected?**

Ofgem is working with the transmission companies in Great Britain to develop proposals which create a more flexible regulatory regime that will encourage transmission companies to anticipate the investment needed. The initial consultation on these new proposals was issued in December 2008 and Ofgem expects to finalise a new enhanced investment incentives regime for implementation by Summer 2010, to provide the appropriate funding mechanism to encourage successful anticipatory investment.

The Government also needs to consider now how to plan for network investment beyond 2020 and are considering what further role it might take in shaping the route map to meeting our energy and carbon policy objectives. A key element of the future energy system is the network infrastructure required to support and facilitate the shape of demand and supply on that system. The Government is therefore considering how it should work with the regulator and in consultation with the industry to develop a long-term vision for the network, including the investments that would help contribute to the Government's policy objectives.

In addition, please see the response to Question 4.2.6(b) above.

**(d) Is the energy regulatory authority informed about these measures? Does it have the competence to monitor and enforce implementation of these measures?**

Ofgem and the Northern Ireland Authority for Utility Regulation are closely involved in the development of measures to help facilitate the existing Government targets and the drive towards a low carbon economy.

In terms of specific responsibilities, Ofgem is leading on the TAR project mentioned in the response to question 4.2.6 (b) above, which aims to develop funding arrangements for investments by the electricity transmission owners (TOs) which anticipate future demand from generators, taking into consideration higher demand from renewable renewables.

In addition, Ofgem's 'RPI-X@20 project' is looking to the future on behalf of consumers by considering how best to regulate energy network companies to enable them to meet the challenges and opportunities of delivering a sustainable, low carbon energy sector while continuing to facilitate competition in energy supply. It will take its final decisions in summer 2010 and will then consult widely. Any new framework would first be applied in the next transmission price control reviews in 2013. These measures are driven by Ofgem, they are not taken independently by the network operators.

The Northern Ireland Authority for Utility Regulation has also started work on a cross-utility review of best practice to ensure increased incentivisation in relation to Government targets. In addition to this the Northern Ireland Authority for Utility Regulation is also working closely with colleagues in the Commission for Energy Regulation in the Republic of Ireland to address Demand Side Response and Priority Dispatch of renewable generation on an all island basis.

**(e) Are plants generating electricity from renewable energy sources integrated in the electricity market? Could you please describe how? What are their obligations regarding participation in the electricity market?**

Renewable generators are expected to participate in the market and comply with generation licences and industry codes in the same way as other generators. Smaller generators may be exempt from the requirement to hold a licence – the exemptions criteria is set out in the SI ‘The Electricity (Class Exemptions from the requirement for a licence) Order 2001’<sup>136</sup> for Great Britain.

Renewable Generators may be eligible for support through one of the Government schemes, Renewable Obligations or, in Great Britain, the Feed-in tariff for small scale renewable generators. These schemes, discussed in detail under 4.3, are intended to increase participation in the electricity market through financial support to offset the additional costs – in comparison to non-renewable generation - of renewable installations.

In the Single Electricity Market (SEM), in which Northern Ireland participates on the island of Ireland, renewable plants are subject to the same rules regarding market participation as non-renewables, which are as follows:

- If the maximum export capacity of the plant (in the case of a wind farm, the total capacity at the site connection) equals or exceeds 10MW, registration in the SEM is mandatory.
- If the plant is below 10MW, the owner has the option of registering for participation in the SEM but is not required to.

Of the total wind on the island, around 70% of it is registered in the SEM. We have generally observed that farms with less than 10MW capacity have historically preferred not to join the SEM; though there are several exceptions to this trend.

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<sup>136</sup> SI The Electricity (Class Exemptions from the requirement for a licence) Order 2001

**(f) What are the rules for charging transmission and distribution tariffs to generators of electricity from renewable energy sources?**

Renewable generators are subject to the same charging mechanisms as non-renewable generators by the Transmission and Distribution Networks.

In relation to transmission network charges, the underlying rationale behind Transmission Network Use of System charges is that efficient economic signals are provided to users when services are priced to reflect the incremental costs of supplying them. Therefore, charges should reflect the impact that users of the transmission system at different locations would have on the Transmission Owner's costs, if they were to increase or decrease their use of the respective systems. These costs are primarily defined as the investment costs in the transmission system, maintenance of the transmission system and maintaining a system capable of providing a secure bulk supply of energy. Smaller generators connected to the 132kV in Scotland may in some circumstances set out by the network operators be entitled to a 25% discount. All of this is set out in National Grid's *Use of System Charging Methodology Statement*<sup>137</sup>.

In relation to distribution charging, the charging mechanism varies depending on whether the generation station is located on the Extra High Voltage network (33kV in Scotland, and 33kV and 132kV in England) or on the lower voltages of the distribution network. For generators located on the lower voltages, a new charging methodology came into effect from 1 April 2010 where all generators will receive a credit for units exported to the network. The unit rate is negative to reflect the benefits that distributed generation provide to the network by siting close to demand customers. The charging methodology differentiates between intermittent (e.g. some renewable) generation and non-intermittent generation. In the case of intermittent generators the negative unit charge is a single rate for each kWh exported while in the case of non-intermittent the negative unit rate varies depending on the time of day (e.g. units exported at time of peak network load receive a higher credit than units exported during times of low load). Generators will also pay a small (positive) fixed charge and a (positive) reactive power unit charge. Total distribution use of system bill for generators located on the lower voltages will typically be negative as the fixed charge and reactive charges are relatively small.

Charges for customers connected to the extra high voltage parts of distribution networks are calculated using each Distribution Network Operator's own charging methodology, which in most cases are average cost models.

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<sup>137</sup> National Grid's use of system charging methodology statement –can be found online at <http://www.nationalgrid.com/NR/rdonlyres/590ACE8D-01BE-4ED9-A028-3736D28A7CCE/40056/UoSCMI6R0v01CM.pdf>



From 1 April 2011, Distribution Network Operators will need to choose one of two common methodologies (EDCMs), which are being developed by the industry, to calculate charges for their Extra High Voltage customers. The purpose of the EDCM project is to replace existing Extra High Voltage methodologies with longer term methodologies that provide more cost reflective and locational cost signals to customers, so as to facilitate more efficient decisions in relation to choosing a location to connect to DNOs' networks and enduring use of the network.

In Northern Ireland the current rules for 'Transmission use of System' allow a fixed charge per MW of capacity for all generation greater than 10MW irrespective of technical characteristics. This is currently being reviewed with possible changes taking place in October 2011.

#### **4.2.8. Biogas integration into the natural gas network (Article 16(7) and Article 16(9) and (10) of Directive 2009/28/EC)**

##### **(a) How is it ensured that the charging of transmission and distribution tariffs does not discriminate against gas from renewable energy sources?**

The transmission and distribution tariffs are not dependent on the source of the gas coming into the networks. Gas Transporters are under a duty to avoid any undue discrimination in the terms on which they undertake the conveyance of gas by means of their pipe-line system (s.9(2) Gas Act 1986).

There is keen interest from businesses who would like to inject biomethane (upgraded and cleaned biogas or syngas) into the gas grid. The consultation on the Renewable Heat Incentive proposed to support this process through that scheme.

However, financial support is not the only issue for companies intending to inject biomethane into the gas grid. In Great Britain, gas is delivered via a network of pipes owned and operated by National Grid and the Gas Distribution Network Owners. These companies and the flow of gas itself are strictly regulated – to allow the operation of the competitive gas market, and to ensure health and safety. The gas regulatory regime can appear complex to those who do not operate within it. That is why the Government, in partnership with Ofgem, the gas grid companies (National Grid and the Gas Distribution Network Owners), and trade associations (from the gas and renewables sectors), published guidance in December 2009 *Biomethane into the Gas Network: A Guide for Producers*<sup>138</sup> to the GB gas regulatory regime aimed at potential biomethane producers.

The Government will consult this year on providing biomethane producers with an exemption from the requirement to hold a Gas Transporter's Licence.

In parallel, the Health and Safety Executive, in partnership with DECC, will be ready to consider whether certain statutory requirements for the quality of gas in the grid might be adjusted, in order to help biomethane injection without compromising safety.

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<sup>138</sup>[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/markets/gas\\_markets/nonconvention/nonconvention.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/markets/gas_markets/nonconvention/nonconvention.aspx)

In Northern Ireland, there are already rules in place to show that there is no discrimination against natural gas from renewable sources. In terms of connection charges for renewable gas seeking to use the natural gas network – the position is as with the rest of the UK, that NIAUR has connection policy statements which are published and transparent, and that connection charges for renewable gas seeking to inject into the natural gas network would be cost reflective under these statements. The NI position for technical rules for renewable sources of gas connecting to the natural gas network is that the connection policy statement will be used whatever the source of gas and will set out the technical rules.

**(b) Has any assessment been carried out on the need to extend the gas network infrastructure to facilitate the integration of gas from renewable sources? What is the result? If not, will there be such an assessment?**

The gas network serves more than 21 million industrial, commercial and domestic consumers in Great Britain<sup>139</sup>. National Grid Gas (NGG) owns and operates the high-pressure gas pipeline system in Great Britain. Eight gas distribution networks (GDNs) own and operate the lower voltage network – they take gas from the high pressure transmission system and distribute it through low pressure networks of pipes to industrial complexes, offices and homes.

In operating the system, gas transporters are under an obligation to develop and maintain an efficient and economical system and, so long as it is economical to do so, comply with a request for connection<sup>140</sup>. They are also required to comply with conditions under their licence<sup>141</sup> for connecting gas. This includes gas from renewable sources.

Under the obligations of standard licence condition 25 (SLC25), transporters are required to provide a 10 year forecast of the likely use and development of any individual pipe-line operated by them<sup>142</sup>. This information will assist ‘any person’ contemplating connection to a pipeline in identifying and evaluating the opportunities for doing this. This in practice would mean that transporters will make available, in the public domain, information relating to network capacity extensions and factors considered in determining connection charges.

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<sup>139</sup> For further information on the features of the national transmission system, see: <http://www.nationalgrid.com/corporate/Our+Businesses/UKT/> For a map of the national transmission system, see <http://www.nationalgrid.com/NR/rdonlyres/84E130DB-A5D5-41A7-8755-0B2D3CF23731/39345/TransmissionTransportationChargesOct2009updateAppD.pdf>

<sup>140</sup> Gas Act 1986 section 9(1)

<sup>141</sup> Standard Licence Condition 4B and 25 (SLC4B, SLC25)

<sup>142</sup> Standard Licence Condition 25 (1)

In addition to this, the Gas Act also sets out the differing categories of gas connections under which the transporter must determine its connection. These will depend on the distance of the connection from the relevant main and relate to either;

- i. those premises that are within 23 metres of a relevant main or able to be supplied or laid by the owner/occupier<sup>143</sup>; or
- ii. those that are greater than 23 metres from a relevant main and are therefore reliant on section 9 of the Gas Act and the economic test to determine the parameters of their charging methodologies.

Gas from renewable sources most likely, would come under case ii above<sup>144</sup>, where standard connection charges do not apply. This means renewable plants would be charged the full capital costs for works undertaken downstream of the connection charge and a proportion of any reinforcement costs depending on the level of spare capacity on the network. This helps ensure cost reflective and fair bearing of costs among consumers and those wishing to connect to the system.

### **(c) Are technical rules on network connection and connection tariffs for biogas published? Where are these rules published?**

The rules and tariffs for biogas are the same as for the use of natural gas. The technical safety criteria and rules set out in the Gas Safety Management Regulations 1996 and the Gas Safety (Installation and Use) Regulations 1998 are publicly available and have been notified to the Commission.

### **4.2.9. District heating and cooling infrastructure development (Article 16(11) of Directive 2009/28/EC)**

**(a) Please provide an assessment of the need for new district heating and cooling infrastructure using renewable energy sources and contributing to the 2020 target. Based on this assessment, are there plans to promote such infrastructures in the future? What are the expected contributions of large biomass, solar and geothermal facilities in the district heating and cooling systems?**

An assessment of the contribution of new district heating and cooling infrastructure to meeting carbon emissions reduction targets and renewable energy targets for 2020 was set out on pages 25-26 of the 2010 DECC publication *Warm Homes, Greener Homes*<sup>145</sup> and in section VIII of the supporting papers for that publication. It also set out an enabling framework for district heating and the likely phased approach to roll out of district heating in the UK, which is dependent upon the response of the market to initiatives like the proposed Renewable Heat Incentive.

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<sup>143</sup> Gas Act 1986 section 10(1)(a) and 10(1)(b)

<sup>144</sup> We have made the assumption that gas from renewable sources are unlikely to be less than 23 metres from a connection to a main and therefore would be treated under case ii above.

<sup>145</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/consumers/saving\\_energy/hem/hem.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/consumers/saving_energy/hem/hem.aspx)

#### **4.2.10. Biofuels and other bioliquids – sustainability criteria and verification of compliance (Articles 17 to 21 of Directive 2009/28/EC)**

**(a) How will the sustainability criteria for biofuels and bioliquids be implemented at national level? (Is there legislation planned for implementation? What will be the institutional setup?)**

The Renewable Transport Fuel Obligation Order 2007 (RTFO) came into force on 15 April 2008. It obligates refiners, importers and any others who supply fossil based road transport fuels at the point at which HMRC excise duties become payable, to produce evidence that a specified percentage of their fuels for road transport in the UK comes from renewable sources.

The RTFO Biofuel Sustainability Meta-Standard was developed with stakeholders by the Department for Transport (DfT) and the Renewable Fuels Agency (RFA). It provides the benchmark for sustainability reporting in the UK and is intended to encourage the production of sustainable biofuels. Existing sustainability schemes are benchmarked against the Meta-Standard and those that meet an adequate number of the criteria are deemed to meet the 'Qualifying Standard'. Currently under the RTFO, fuel suppliers must provide sustainability information on the biofuel they supply, but they can submit that this information is 'unknown'.

We are reviewing the RTFO to assess how it can be amended to ensure compliance with the directive<sup>146</sup>.

The sustainability criteria for bioliquids are expected to be implemented through amendments to the Renewables Obligations<sup>147</sup> and would be included in any design of the Renewable Heat Incentive.

**(b) How will it be ensured that biofuels and bioliquids that are counted towards the national renewable target, towards national renewable energy obligations and/or are eligible for financial support comply with the sustainability criteria set down in Article 17(2) to (5) of Directive 2009/28/EC? (Will there be a national institution / body responsible for monitoring / verifying compliance with the criteria?)**

The RFA is responsible for monitoring and reporting on the sustainability information currently provided for biofuels that are used in road transport under the RTFO. It is expected that the RFA will continue to have this function.

It is expected that Ofgem will be responsible for ensuring the bioliquids used to generate electricity receiving support under the Renewables Obligation meet the sustainability criteria. In Northern Ireland, the Renewables Obligation is administered by Ofgem on behalf of the Northern Ireland Authority for Utility Regulation.

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<sup>146</sup> Any amendments to the RTFO are subject to formal consultation and UK Parliamentary scrutiny

<sup>147</sup> Any amendments to the RO are subject to formal consultation and UK Parliamentary scrutiny

**(c) If a national authority / body will monitor the fulfilment of the criteria, does such a national authority / body already exist? If so, please specify. If not, when is it envisaged to be established?**

The Renewable Fuels Agency (RFA) was created in October 2007 and is responsible for the monitoring of compliance with the RTFO in the UK. It is a Non-Departmental Public Body which is sponsored by the Department for Transport. The RFA provides monthly, quarterly and verified annual reports on the sustainability of fuels currently being supplied to the UK which are available online<sup>148</sup>.

Ofgem is responsible for monitoring compliance with the Renewables Obligation in Great Britain. In Northern Ireland, the Renewables Obligation is administered by Ofgem on behalf of the Northern Ireland Authority for Utility Regulation.

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<sup>148</sup> <http://www.renewablefuelsagency.gov.uk/>

**(d) Please provide information on the existence of national law on land zoning and national land register for verifying compliance with Article 17(3) to (5) of Directive 2009/28/EC. How economic operators can access to this information? and (e) As far as protected areas are concerned, please provide information under which national, European or international regime they are classified**

The table below shows the various pieces of legislation relating to land zoning and protected areas, including the regions to which they apply.

**Legislation relating to land use zoning and protected areas in the UK**

<b>Scotland</b>	<b>England</b>	<b>Wales</b>	<b>Northern Ireland</b>	<b>Legal reference</b>	<b>Competent national/relevant authority/authorities</b> <b>statutory</b>
Site of Special Scientific Interest (SSSI)	Site of Special Scientific Interest (SSSI)	Site of Special Scientific Interest (SSSI)	Area of Special Scientific Interest (ASSI)	<b>Eng &amp; Wal:</b> Section 28 of the Wildlife and Countryside Act 1981(as amended by the Countryside and Rights of Way Act 2000) and Section 23 of the National Parks and Access to the Countryside Act 1949. <b>Sco:</b> Section 3 of the Nature Conservation (Scotland) Act 2004; Section 23 of the National Parks & Access to the Countryside Act 1949. <b>NI:</b> Nature Conservation and Amenity Lands Order (Northern Ireland) 1985.	<b>Eng:</b> Natural England <b>Wal:</b> Countryside Council for Wales <b>Sco:</b> Scottish Natural Heritage <b>NI:</b> Department of Environment Northern Ireland
National Nature Reserve (NNR)	National Nature Reserve (NNR)	National Nature Reserve (NNR)	National Nature Reserve (NNR)	<b>GB:</b> Section 19 of the National Parks and Access to the Countryside Act 1949 or Section 35 of the Wildlife and Countryside Act 1981. <b>NI:</b> Part V of The Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (No. 170 (N.I. 1))	<b>Eng:</b> Natural England, <b>Wal:</b> Countryside Council for Wales <b>Sco:</b> Scottish Natural Heritage, <b>NI:</b> Department of Environment Northern Ireland

Local Nature Reserve (LNR)	Local Nature Reserve (LNR)	Local Nature Reserve (LNR)	Local Nature Reserve (LNR)	<b>GB:</b> Section 21 of the National Parks and Access to the Countryside Act 1949. <b>NI:</b> Article 22 of the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985.	<b>GB:</b> Local authorities <b>NI:</b> District authorities
Area of Special Protection for Birds	Area of Special Protection for Birds	Area of Special Protection for Birds	None	<b>GB:</b> Section 3 of the Wildlife and Countryside Act 1981.	<b>Eng:</b> Defra and Natural England <b>Wal:</b> Welsh Assembly Govt and Countryside Council for Wales <b>Sco:</b> Scottish Govt and Scottish Natural Heritage
Forest Nature Reserve	Forest Nature Reserve	Forest Nature Reserve	Forest Nature Reserve	<b>GB:</b> Section 19 of the National Parks & Access to the Countryside Act 1949 (where declared by relevant SNCO prior to 1981 Act)	<b>GB:</b> Forestry Commission <b>NI:</b> Forest Service
Forest Park	Forest Park	Forest Park			<b>GB:</b> Forestry Commission
Regional Park	None	None	None	<b>Sco:</b> Wildlife and Countryside (Scotland) Act 1981	<b>Sco:</b> Scottish Natural Heritage
Natura 2000 sites (SAC & SPA)	Natura 2000 sites (SAC & SPA)	Natura 2000 sites (SAC & SPA)	Natura 2000 sites (SAC & SPA)	<b>UK:</b> EU Habitats and Birds Directive	Natural England, Scottish Natural Heritage, Countryside Council for Wales and Department of Environment Northern Ireland
Caledonian forest reserves	None	None	None		<b>Sco:</b> Scottish Natural Heritage
Sites containing habitats and species of principal importance for the	Sites containing habitats and species of principal importance of	Sites containing habitats and species of principal importance of conserving	Sites containing habitats and species of principal importance of conserving	<b>Eng and Wal:</b> S41 and S42 Natural Environment and Rural Communities Act 2006 <b>Sco:</b> S1 Nature Conservation (Scotland) Act 2004 <b>NI:</b> Legislation pending	Natural England, Scottish Natural Heritage, Countryside Council for Wales, Department of Environment Northern Ireland and local authorities

purpose of conserving biodiversity	conserving biodiversity	biodiversity	biodiversity		
Local Sites	Local Sites	Local Sites	Local Sites	None	Local authorities
Country park	Country park	Country park	Country park	Section 7 of the Countryside Act 1968	Local authorities/National Trust for Scotland
World Heritage Site	World Heritage Site	World Heritage Site	World Heritage Site	World Heritage Convention 1972	UK Government/ UNESCO designation and listing - protection through other mechanisms  UK sites: <a href="http://whc.unesco.org/en/statesparties/gb">http://whc.unesco.org/en/statesparties/gb</a>
Ramsar Sites	Ramsar Sites	Ramsar Sites	Ramsar Sites	Ramsar Convention	UK Government/ Ramsar Convention
Biosphere Reserves	Biosphere Reserves	Biosphere Reserves	None	UNESCO Man and Biosphere Reserve Programme	UK Government/ UNESCO Man and Biosphere programme  UK sites: <a href="http://www.defra.gov.uk/rural/protected/unesco.htm">http://www.defra.gov.uk/rural/protected/unesco.htm</a> and <a href="http://www.unesco.org/mab/doc/brs/BRList2009.pdf">http://www.unesco.org/mab/doc/brs/BRList2009.pdf</a>



European Diploma Award	European Diploma Award	None	None	Regulations of the European Diploma of Protected Areas are now contained in Resolution CM/ResDip(2008)1, adopted on 20 February 2008. (The European Diploma was created in 1965 by Resolution (65) 6 of the Committee of Ministers of the Council of Europe. The Regulations for its award and appraisal were adopted in 1973 (Resolution 73/4) and amended later).	Council of Europe accolade and listing - protection through other mechanisms <a href="http://www.coe.int/t/dg4/cultureheritage/nature/Diploma/default_en.asp">http://www.coe.int/t/dg4/cultureheritage/nature/Diploma/default_en.asp</a> UK sites: (Peak District National Park, Minsmere Nature Reserve, Beinn Eighe National Nature Reserve, Purbeck Heritage Coast, Fair Isle National Scenic Area) <a href="http://www.coe.int/t/dg4/cultureheritage/nature/Diploma/UnitedKingdom_en.asp">http://www.coe.int/t/dg4/cultureheritage/nature/Diploma/UnitedKingdom_en.asp</a>
National Park ( <i>listed as category 5 sites by IUCN.</i> )	National Park ( <i>listed as category 5 sites by IUCN.</i> )	National Park ( <i>listed as category 5 sites by IUCN.</i> )	None at present	National Parks and Access to the Countryside Act 1949 <b>Scot:</b> National Parks (Scotland) Act 2000 <b>England and Wales:</b> Environment Act 1995; The National Park Authorities (Amendment) (England) Order 2009	National Park Authorities
National Scenic Areas ( <i>listed as category 5 sites by IUCN</i> )	Area of Outstanding Natural Beauty (AONB) ( <i>listed as category 5 sites by IUCN</i> )	Area of Outstanding Natural Beauty (AONB) ( <i>listed as category 5 sites by IUCN</i> )	Area of Outstanding Natural Beauty (AONB) ( <i>listed as category 5 sites by IUCN</i> )	<b>England and Wales:</b> National Parks and Access to the Countryside Act 1949, amended in the Environment Act 1995. The Countryside and Rights of Way Act 2000 clarifies the procedure and purpose of designating AONBs <b>Scotland:</b> Designated by Scottish Ministers, development control measures through SDD Circular No.20/1980; national planning policy for NSAs set out in Scottish Planning Policy. <b>NI:</b> Originally designated under the Amenity Lands Act (Northern Ireland) 1965, now designated under the Nature Conservation and Amenity Lands Order (Northern Ireland) 1985.	<b>Eng and Wales:</b> Natural England/Countryside Council for Wales/National Association for AONBs (an independent organisation working on behalf of AONBs) <b>Scot:</b> Scottish Natural Heritage <b>NI:</b> Department of Environment Northern Ireland

National Nature Reserves <i>(listed as category 4 sites by IUCN) (almost complete overlap with SSSI/ Natura sites)</i>	National Nature Reserves	National Nature Reserves	National Nature Reserves	<b>GB:</b> Section 19 of the National Parks and Access to the Countryside Act 1949 or Section 35 of the Wildlife and Countryside Act 1981. <b>NI:</b> Part V of The Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (No. 170 (N.I. 1))	<b>Eng:</b> Natural England <b>Wal:</b> Countryside Council for Wales <b>Sco:</b> Scottish Natural Heritage <b>NI:</b> Department of Environment Northern Ireland
Regional Park	Regional Park	Regional Park	Regional Park	<b>Sco:</b> Section 48A of the Countryside (Scotland) Act 1967.	
Biogenetic Reserve	Biogenetic Reserve	Biogenetic Reserve	Biogenetic Reserve	Often underpinned by SSSIs	UK Government/Bern Convention/Council of Europe
Geopark	Geopark	Geopark	Geopark	A UNESCO designation	<a href="http://www.unesco.org.uk/geoparks#UK">http://www.unesco.org.uk/geoparks#UK</a>
Some SSSI, Natura 2000 sites and NGO reserves are also listed by IUCN (and may be added to).					

**(f) What is the procedure for changing the status of land? Who monitors and reports at national level on land status changes? How often are the land zoning register updated (monthly, annually, bi-annually, etc.)?**

Monitoring on the extent of land use change in England is carried out through annual data survey under the auspices of the UK Statistics Authority<sup>149</sup>. Equally, local authorities are required to provide monitoring reports on an annual basis on the extent to which they are meeting their long-term strategy.

Work is being undertaken in Scotland to develop a Generalised Land Use Database. A Land Use Strategy is also being prepared by Scottish Ministers as required by the Climate Change (Scotland) Act 2009. A vacant and derelict land survey is undertaken and reported on an annual basis under the auspices of the UK Statistics Authority.

**(g) How is compliance with good agro-environmental practices and other cross-compliance requirements (required by Article 17(6) of Directive 2009/28/EC) ensured and verified at national level?**

All claimants of the Single Farm Payment, Agri-environment payments and certain Rural Development Programme payments are subject to cross compliance requirements including Good Agricultural and Environmental Condition requirements set at member state level. Claimants are inspected by the Rural Payments Agency and other specialist bodies (e.g. the Environment Agency) in line with the requirements for cross compliance controls set out in Council Regulation (EC) No 73/2009 and Commission Regulation (EC) No 1122/2009.

**(h) Do you intend to help develop voluntary "certification" scheme(s) for biofuel and bioliquid sustainability as described in the second subparagraph of Article 18(4) of Directive 2009/28/EC? If so, how?**

The UK is committed to advancing sustainability in this area and, via the RFA, it will continue to work with both national and international feedstock schemes to support their development, and to pass on the RFA's experience of developing and administering the world's first operational biofuel sustainability reporting scheme.

The RHI may include support for bioliquids at the domestic scale. In order to determine that bioliquids being used meet the required sustainability criteria, it is likely that a voluntary scheme would need to be set up to certify that those criteria are being met. However, currently we do not have clarity about the inclusion of bioliquids within the RHI and therefore, cannot provide more detail about the likely operation of a voluntary scheme for that purpose.

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<sup>149</sup> <http://www.statisticsauthority.gov.uk/>

Additionally, we are investigating the potential for data gathered for other purposes to be used to demonstrate which cropland in the UK was not any of the prohibited land use types in January 2008 and hence can be regarded as 'passing' the mandatory sustainability criteria without any further evidence. Should such a scheme be feasible, we will consider submitting it to the Commission for consideration under 18(4) second subparagraph.

### **4.3. Support schemes to promote the use of energy from renewable resources in electricity applied by the Member State or a group of Member States**

#### **THE RENEWABLES OBLIGATION (RO)**

The Renewables Obligation, the Renewables Obligation (Scotland) and the Northern Ireland Renewables Obligation are designed to incentivise renewable generation as part of the wider electricity market. These schemes were introduced by the Department of Trade and Industry (now the Department of Energy and Climate Change), the Scottish Government and the Department of Enterprise, Trade and Investment respectively and are administered by the Gas and Electricity Markets Authority (the Authority). The day to day functions are performed by Ofgem (in Northern Ireland the RO is administered by Ofgem on behalf of the Northern Ireland Authority for Utility Regulation). The schemes are provided for in secondary legislation. The RO is enforced in England and Wales through the Renewables Obligation Order; in Scotland through the Renewables Obligation (Scotland) Order; and in Northern Ireland through the Renewables Obligation Order (Northern Ireland).

The RO was introduced on 1 April 2002. It runs until 2037 (2033 in Northern Ireland). Since its introduction the RO has tripled the level of eligible renewable electricity generation (from 1.8% of total UK supply to 5.4% in 2008).

The RO works by obliging licensed electricity suppliers to source a specified and annually increasing proportion of their annual sales to customers from renewable sources, or pay a penalty. Suppliers demonstrate their compliance with the RO by presenting Renewables Obligation Certificates (ROCs). Generators are issued with ROCs for every megawatt hour (MWh) of eligible renewable electricity they produce. As of 1 April 2009, different technologies receive different numbers of ROCs/MWh. Generators can sell their ROCs to suppliers or traders to receive a premium on top of the wholesale price of their electricity. ROCs can be sold with or without the electricity they represent.

The new Government have announced their intention to look at introducing a Feed-in-Tariff alongside the RO in certain circumstances.

## **Regulation**

### **(a) What is the legal basis for this obligation/target?**

The Renewables Obligation Order 2009 was made under the Electricity Act 1989. It applies to England and Wales.

The Renewables Obligations (Scotland) Order 2009 was made under the Electricity Act 1989.

The Renewables Obligation Order (Northern Ireland) 2009 was made under Articles 52-55F of the Energy (Northern Ireland) Order 2003.

### **(b) Are there any technology-specific targets?**

There are no technology specific targets.

### **(c) What are the concrete obligations/targets per year (per technology)?**

The level of the obligation for the 2009/10 obligation period is 9.7ROCs/100MWh. Currently this increases incrementally to 15.4ROCs/100MWh by 2015/16. However, in 2009 we introduced a headroom mechanism to operate alongside fixed targets in setting the level of the obligation. Headroom works by providing a set margin (currently 8%) between predicted generation (supply of ROCs) and the level of the obligation (demand for ROCs), which helps to stabilise the ROC price. The level of the obligation for the 2010/11 obligation period is 11.1ROCs/100MWh. This was announced on 1 October 2009 and based on headroom, as our calculations showed that predicted generation would exceed the fixed target. Headroom will continue to operate alongside fixed targets to 2015, and as of the 2011/12 obligation period it will increase to 10%. Therefore in determining the Obligation level from 2011 onwards we will use the higher of the fixed target or predicted generation plus 10% headroom.

### **(d) Who has to fulfil the obligation?**

Licensed suppliers of electricity in the UK are required to supply a set number of ROCs per Obligation Period proportionate to the electricity they have supplied in the UK.

### **(e) What is the consequence of non-fulfilment?**

Where suppliers are unable to fulfil their obligation by presenting ROCs they must pay a penalty, known as the buy-out price.

For the 2009/10 obligation period the buy-out price is £37.19/MWh, and this is adjusted each year in line with the Retail Prices Index (RPI). Ofgem publish the buy-out price ahead of the relevant obligation period on their website.

**(f) Is there any mechanism to supervise fulfilment?**

Fulfilment of the Renewables Obligation by licensed electricity suppliers is supervised and enforced by Ofgem. Late payment of the buyout price attracts a penalty in the form of a daily interest rate.

**(g) Is there any mechanism to modify obligations / targets?**

See the response to (c) above for a description of the headroom mechanism. The RO is set through secondary legislation, this can be amended so long as those amendments are within the vires granted by the primary legislation.

**Questions under Financial support**

**(a) What is the name and a short description of the scheme?**

The Renewables Obligation, the Renewables Obligation (Scotland) and the Northern Ireland Renewables Obligation are designed to incentivise renewable generation as part of the wider electricity market. Generators are issued with ROCs for every megawatt hour (MWh) of eligible renewable electricity they produce. As of 1 April 2009, different technologies receive different numbers of ROCs/MWh. Generators can sell their ROCs to suppliers or traders to receive a premium on top of the wholesale price of their electricity. ROCs can be sold with or without the electricity they represent.

Licensed electricity suppliers in the UK are required to provide a set number of ROCs as proportion of the electricity they supply in the UK or pay a buyout price.

**(b) Is it a voluntary or obligatory scheme?**

Obligatory for licensed suppliers supplying electricity in the UK.

**(c) Who manages the scheme? (*Implementing body, monitoring authority*)**

These schemes were introduced by the Department of Trade and Industry (now the Department of Energy and Climate Change), the Scottish Government and the Department of Enterprise, Trade and Investment respectively and are administered by the Gas and Electricity Markets Authority (the Authority) whose day to day functions are performed by Ofgem. The schemes are provided for in secondary legislation.

**(d) What are the measures taken to ensure availability of necessary budget/funding to achieve the national target?**

The cost of the RO is passed through to electricity users' bills.

**(e) How is long-term security and reliability addressed by the scheme?**

The RO aims to provide certainty so as to incentivise investment in new renewables projects. In order to do this the RO provides support for a set period of time (20 years) at a determined level of support (grandfathering). The RO also sets out a process for review of levels of support to ensure that technologies are not overcompensated as learning effects drive down costs or external events cause changes increase costs, for example, the economic downturn's effect on costs of offshore wind.

**(f) Is the scheme periodically revised? What kind of feed-back or adjustment mechanism exists? How has the scheme been optimised so far?**

The RO has been amended several times since its introduction following representations from industry, changes in the electricity market or Government targets. Any amendment to the Order requires a statutory consultation where views from industry and others are sought and, where appropriate, acted upon. Among the changes recently introduced are banding the RO to more effectively target support on technologies which are further from commercial deployment to incentivise investment and realise their potential. We are currently looking at measures to increase the efficiency and effectiveness of the RO as well as considering introduction of a feed-in tariff for larger generation in line with the Government's announcement in the Coalition Agreement published in May 2010.

**(g) Does support differ according to technology?**

Yes – different technologies get different levels of support. Please see the table in response to (d) under tradable certificates.

**(h) What are the expected impacts in terms of energy production?**

The RO aims to incentivise new eligible renewables generation in order to help meet our lead scenario of around 30% electricity to be coming from renewables sources by 2020.

**(i) Is support conditional on meeting energy efficiency criteria?**

In order to qualify for additional support under the RO (above the level of support awarded to non-CHP stations) CHP generating stations fuelled by biomass, energy crops or energy from waste must be accredited under the CHP Quality Assurance scheme.

**(j) Is it an existing measure? Could you please indicate national legislation regulating it?**

The Renewables Obligation Order 2009 was made under the Electricity Act 1989. It applies to England and Wales.

The Renewables Obligations (Scotland) Order 2009 was made under the Electricity Act 1989.

The Renewables Obligation Order (Northern Ireland) 2009 was made under Articles 52-55F of the Energy (Northern Ireland) Order 2003.

**(k) Is this a planned scheme? When would it be operational?**

The scheme is already operational.

**(l) What start and end dates (duration) are set for the whole scheme?**

The RO was introduced on 1 April 2002. It runs until 2037 (2033 in Northern Ireland) subject to a twenty year maximum support for individual projects.

**(m) Are there maximum or minimum sizes of system which are eligible?**

There is no maximum size for eligible systems. For England and Wales and Scotland, microgenerators (up to 50kW) generating electricity from solar PV, wind and hydro will not be able to access the RO as they will be covered by the Feed-in Tariff scheme (detailed below). In Northern Ireland, microgenerators remain eligible for the Northern Ireland Renewables Obligation.

**(n) Is it possible for the same project to be supported by more than one support measure? Which measures can be cumulated?**

New grants can be made where they take into account the income receivable from the RO. Where a grant is made the grant making authority will be responsible for ensuring that the total amount of support is within the requisite state aids thresholds.

**(o) Are there regional/local schemes? If so, please detail using the same criteria.**

The Renewables Obligation is made up of three regional schemes: England & Wales; Scotland; and Northern Ireland. These work as a unified support scheme broadly mirroring provisions in all three Orders.



## **Specific questions for tradable certificates**

**(a) Is there an obliged share of electricity produced from renewable sources in the total supply?**

Licensed suppliers of electricity in the UK are required to supply a set number of ROCs per Obligation Period proportionate to the electricity they have supplied in the UK.

**(b) Who has the obligation?**

The Obligation falls on licensed electricity suppliers supplying electricity in the UK for each MWh of electricity they supply.

**(c) Are there technology-specific bands?**

Yes, see answer to (d) below

**(d) Which technologies are covered by the scheme?**

The following technologies receive the following levels of support:

<b>Generation type</b>	<b>ROCs/MWh</b>
Hydro-electric	1 <sup>150</sup>
Onshore Wind	1 <sup>151</sup>
Offshore Wind	1.5 <sup>152</sup>
Wave	2
Tidal Stream	2
Tidal Impoundment – Tidal Barrage	2
Tidal Impoundment - Tidal Lagoon	2
Solar Photovoltaic	2 <sup>153</sup>
Geothermal	2
Geopressure	1
Landfill Gas	0.25
Sewage Gas	0.5
Energy from Waste with CHP	1
Pre-banded gasification	1
Pre-banded pyrolysis	1
Standard gasification	1
Standard pyrolysis	1
Advanced gasification	2
Advanced pyrolysis	2
Anaerobic Digestion	2
Co-firing of Biomass	0.5
Co-firing of Energy Crops	1
Co-firing of Biomass with CHP	1
Co-firing of Energy Crop with CHP	1.5
Dedicated Biomass	1.5
Dedicated Energy Crops	2
Dedicated Biomass with CHP	2
Dedicated Energy Crops with CHP	2

**(e) Is international trade in certificates allowed? What are the conditions?**

No, international trade in RO certificates is not allowed. However, third parties in other countries are able to trade in the certificates, which are only redeemable by a licensed electricity supplier who has incurred an obligation by supplying electricity in the UK.

<sup>150</sup> Small-scale hydro below 1MW receives increased support in Northern Ireland varying from 4 ROCs to 2 ROCs according to scale. In Scotland, enhanced tidal stream receives 3 ROCs and enhanced wave receives 5 ROCs.

<sup>151</sup> Small-scale onshore wind 250kW or below in Northern Ireland receives 4 ROCs per MWh

<sup>152</sup> 2 ROCs subject to meeting specific criteria from 1 April 2010

<sup>153</sup> Small-scale PV 50kW or below in Northern Ireland receives 4 ROCs per MWh

**(f) Is there a floor bottom price?**

The buyout price is set for each Obligation Period with reference to the Retail Price Index (RPI). For 2010/11 the buyout price will be £36.99.

**(g) Is there a penalty for non-fulfilment?**

Suppliers who are unable to provide a Renewables Obligation Certificate (ROC) are obliged to pay the buyout price. Interest is charged for late payment.

**(h) What is the average price for certificates? Is it made public? Where?**

Ofgem announce the buyout price through a press notice in the February proceeding the Obligation Period and publish it on their website<sup>154</sup>.

The auction price of ROCs can be found through third party trading sites such as E-ROC online ROC auction service online<sup>155</sup>.

**(i) What is the trading scheme for certificates?**

Generators can enter into commercial agreements with suppliers for the purchase of ROCs, or can sell to third parties who will then sell on to suppliers. The suppliers require the ROCs to meet their Obligation and avoid paying the buyout price.

**(j) How long can a plant participate in the scheme?**

Generators accredited before 26 June 2008 can participate in the RO until 2027. Generators accredited after 26 June 2008 will receive 20 years support subject to an end date of 2037.

**THE FEED IN TARIFF (FITs)**

**Financial Support**

**(a) What is the name and a short description of the scheme?**

The Feed-in Tariff (FITs) - The FITs scheme is intended to encourage deployment of additional small scale low carbon electricity generation, particularly by individuals, householders, organisations, businesses and communities who have not traditionally engaged in the electricity market. For these investors, delivering a mechanism which is easier to understand and more predictable than the Renewables Obligation, as well as delivering additional support required to incentivise smaller scale and more expensive technologies were the main drivers behind the development of this policy.

<sup>154</sup> <http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/Pages/RenewablObl.aspx>.

<sup>155</sup> <http://www.e-roc.co.uk/index.htm>

It is expected that by 2020 the scheme will support over 750,000 small scale low carbon electricity installations and will have saved 7 million tonnes of carbon dioxide.

**(b) Is it a voluntary or obligatory scheme?**

It is voluntary for generators and small suppliers (<50,000 domestic customers). The scheme is obligatory for large electricity suppliers who will make the payments directly to generators. This is then recovered equitably across all electricity suppliers.

**(c) Who manages the scheme?**

Ofgem administer the scheme.

**(d) What are the measures taken to ensure availability of necessary budget/funding to achieve the national target?**

Modifications to electricity supply licence conditions require electricity suppliers to pay for the generation and export of small scale low carbon electricity incentivised by the scheme.

**(e) How is long-term security and reliability addressed by the scheme?**

The FIT aims to provide certainty so as to incentivise investment in new renewables projects up to 5MW for eligible technologies. In order to do this the FIT provides support for a set period of time (10, 20 or 25 years depending on technology) at a determined level of support. The FIT scheme started in 2010 and currently will close to new entrants in 2021.

**(f) Is the scheme periodically revised? What kind of feed-back or adjustment mechanism exists? How has the scheme been optimised so far?**

We will undertake periodic reviews of FITs to coincide with the Renewables Obligation. Therefore, any changes to the scheme resulting from the first major review of FITs would be implemented in 2013.

**(g) Does support differ according to technology?**

Yes – different technologies get different levels of support as per the table below.

**Generation tariffs for FITs: 1 April 2010 – 31 March 2013**

Technology	Scale	Tariff level for new installations in period (p/kWh) [NB tariffs will be inflated annually]			Tariff lifetime (years)
		Year 1: 1/4/10 – 31/3/11	Year 2: 1/4/11 – 31/3/12	Year 3: 1/4/12 – 31/3/13	
Anaerobic digestion	≤500kW	11.5	11.5	11.5	20
Anaerobic digestion	>500kW	9.0	9.0	9.0	20
Hydro	≤15 kW	19.9	19.9	19.9	20
Hydro	>15-100 kW	17.8	17.8	17.8	20
Hydro	>100 kW-2 MW	11.0	11.0	11.0	20
Hydro	>2 MW – 5 MW	4.5	4.5	4.5	20
MicroCHP pilot*	≤2 kW*	10*	10*	10*	10
PV	≤4 kW (new build**)	36.1	36.1	33.0	25
PV	≤4 kW (retrofit**)	41.3	41.3	37.8	25
PV	>4-10 kW	36.1	36.1	33.0	25
PV	>10-100 kW	31.4	31.4	28.7	25
PV	>100kW-5MW	29.3	29.3	26.8	25
PV	Stand alone system**	29.3	29.3	26.8	25
Wind	≤1.5kW	34.5	34.5	32.6	20
Wind	>1.5-15kW	26.7	26.7	25.5	20
Wind	>15-100kW	24.1	24.1	23.0	20
Wind	>100-500kW	18.8	18.8	18.8	20
Wind	>500kW-1.5MW	9.4	9.4	9.4	20
Wind	>1.5MW-5MW	4.5	4.5	4.5	20
Existing microgenerators transferred from the RO		9.0	9.0	9.0	to 2027

\* Note the microCHP pilot will support up to 30,000 installations with a review to start when the 12,000<sup>th</sup> installation has occurred

**(h) What are the expected impacts in terms of energy production?**

The FITs scheme aims to incentivise new small scale eligible renewables electricity generation in order to help meet the central scenario of 30% electricity from renewables sources by 2020. The overall contribution direct through FITs estimated to be 1.6% of electricity consumption (6TWh) in 2020.

**(i) Is support conditional on meeting energy efficiency criteria?**

Installations up to 50kW must be accredited through the MCS scheme or equivalent where available. We would encourage people to take energy efficiency measures whether they are installing generation equipment or not. However, we do not want to create an extra barrier to generation by requiring them to take energy efficiency measures before they can claim FITs.

**(j) Is it an existing measure? Could you please indicate national legislation regulating it?**

The Feed-in Tariffs (Specified Maximum Capacity and Functions) Order 2010 was made under the Energy Act 2008.

**(k) Is this a planned scheme? When would it be operational?**

The scheme is already operational.

**(l) What start and end dates (duration) are set for the whole scheme?**

The scheme will run until 31/03/2021; depending on technology the length of support thereafter would be 10, 20 or 25 years.

**(m) Are there maximum or minimum sizes of system which are eligible?**

Any eligible generation installation of less than 5MW Declared Net Capacity will qualify for inclusion in the scheme (2kW for microCHP plant).

**(n) Is it possible for the same project to be supported by more than one support measure? Which measures can be cumulated?**

As a Government implemented financial incentive scheme, the GB Feed-in Tariff scheme is subject to consideration by the European Commission in relation to State Aid. This consideration has now completed.

As a result we are reviewing the interaction of the Commission decision and the FITs legislation and will provide further guidance on the DECC website to assist organisations and individuals understand the relationship between FITs and grants as soon as possible.

**(o) Are there regional / local schemes? If so, please detail using the same criteria.**

The FITs scheme covers Great Britain only. Northern Ireland is considering introducing its own primary legislation to introduce a small-scale feed-in tariff, subject to further analysis of the cost of such a scheme. Northern Ireland has, however, increased support available to small-scale generators under the Northern Ireland Renewables Obligation which broadly mirrors support available under the GB Feed-in Tariff.

### **Specific Questions for Feed– In Tariffs (FITs)**

**(a) What are the conditions to get the fixed tariff?**

Any installation must be of one of the supported technologies, be below 5MW declared net capacity and accredited through either the MCS scheme (up to 50kW) or the RO.

**(b) Is there a cap on the total volume of electricity produced per year or of installed capacity that is entitled to the tariff?**

There are different levels of tariffs depending on the size of the FIT installation. The tariff level allocated at the time of registration will only be paid if the generator remains within that level of output expected. However, the maximum declared net capacity supported through the feed-in tariff is 5MW (2kW for microCHP plant).

**(c) Is it a technology specific scheme? What are the tariff levels for each?**

Yes. Please see the table above under Financial support (g) for the tariff levels for each technology.

**(d) Are there other criteria differentiating tariffs?**

Tariffs are technology and capacity dependent as per the table above.

**(e) For how long is the fixed tariff guaranteed?**

Either 10, 20 or 25 years, depending on the technology, as shown in the table above.

**(f) Is there any tariff adjustment foreseen in the scheme?**

Automatic reduction of tariffs for new installations is built into the scheme through 'degression', where tariffs decrease for new installations from 2012 onwards. Tariffs for all installations will increase with inflation.

We will undertake periodic reviews of FITs with their timing to coincide with the Renewables Obligation reviews.

#### **4.4. Support schemes to promote the use of energy from renewable resources in heating and cooling applied by the Member State or a group of Member States**

##### **THE RENEWABLE HEAT INCENTIVE**

#### **Financial Support**

##### **(a) What is the name and a short description of the scheme?**

The Renewables Heat Incentive (RHI). A consultation was carried out in the Spring on proposals for the RHI. The description of the RHI as set out in this action plan is as proposed in the consultation document, and is subject to decisions by the new Government. The consultation document proposed that the RHI would provide long term guaranteed payments to those who install and use new renewable heat technologies.

##### **(b) Is it a voluntary or obligatory scheme?**

The consultation proposed that the RHI would be a voluntary scheme to incentivise deployment of renewable heat technologies.

##### **(c) Who manages the scheme?**

The expectation is that Ofgem would administer the scheme, although it may sub-contract certain functions.

##### **(d) What are the measures taken to ensure availability of necessary budget/funding to achieve the national target?**

Government is currently considering options for how best to fund the RHI. New or existing levies could be used.

##### **(e) How is long-term security and reliability addressed by the scheme?**

This is still subject to final Government decisions. The proposals consulted on were that the RHI would support eligible projects for a set period of time (10 - 23 years) at a determined level of support. The consultation proposed that the scheme would remain open to new entrants until at least 2020.



**(f) Is the scheme periodically revised? What kind of feed-back or adjustment mechanism exists? How has the scheme been optimised so far?**

The proposal would be to start a review of the scheme in 2013 and implement changes coming from that review in 2014. It is intended that the RHI would be regularly reviewed thereafter. DECC would also retain the option to carry out early reviews of the scheme in certain circumstances.

**(g) Does support differ according to technology?**

The tariffs would be likely to differ by technology and size. However, the tariffs would be intended to provide consistent rates of return per technology in most cases. The support levels would be based on the capital and operating costs of the technologies relative to their fossil fuel alternative.

**(h) What are the expected impacts in terms of energy production?**

The proposed RHI would aim to incentivise new eligible renewables heat generation in order to help us meet the UK lead scenario of 12% heat from renewables sources by 2020.

**(i) Is support conditional on meeting energy efficiency criteria?**

DECC is considering what eligibility criteria would be put in place for the RHI around energy efficiency in the domestic sector. The incentives paid to households would be calculated on the basis of certain energy efficiency measures having been taken. Those wishing to receive the incentive would have to meet eligibility criteria which would be set out in regulations and guidance.

**(j) Is it an existing measure? Could you please indicate national legislation regulating it?**

No, the RHI is not an existing measure. Powers to legislate for the Renewables Heat Incentive were introduced by the Energy Act 2008. The detail of the scheme would be set out in regulations.

**(k) Is this a planned scheme? When would it be operational?**

The consultation proposed a start date of 1 April 2011.

**(l) What start and end dates (duration) are set for the whole scheme?**

The consultation proposed providing the RHI to new installations up until at least 2020. The maximum proposed lifetime of the tariffs was 23 years.

**(m) Are there maximum or minimum sizes of system which are eligible?**

The consultation proposed applying the scheme to all size of systems. However, there are some technologies which we are considering not supporting at all scales.

**(n) Is it possible for the same project to be supported by more than one support measure? Which measures can be cumulated?**

Decisions have yet to be taken about the interaction of multiple support measures.

**(o) Are there regional / local schemes? If so, please detail using the same criteria.**

The proposed RHI scheme would cover Great Britain.

The Department of Enterprise, Trade and Investment (DETI) in Northern Ireland is currently carrying out a separate assessment into how the renewable heat market in Northern Ireland could be most appropriately encouraged and developed in both the short term and longer term

**Specific questions for support schemes to promote the use of energy from renewable resources in heating and cooling (under 4.4)**

**(a) How are the support schemes for electricity from renewable energy sources adapted to encourage the use of CHP from renewable energy sources?**

DECC held a consultation from February to April 2010<sup>156</sup> on introducing the Renewable Heat Incentive which included support for the heat proportion of CHP. We are currently considering responses.

In April 2009, the banding of the Renewables Obligation introduced an uplift for certain types of plant with Good Quality renewable CHP. In most cases, this entitled such CHP plants to an additional 0.5 ROCs per MWh support compared with electricity only plants using the same technology in recognition of the high efficiency of the schemes and to reward the recovery of useful heat.

**(b) What support schemes are in place to encourage the use of district heating and cooling using renewable energy sources?**

The RHI consultation asked for feedback about potential specific support for district heating and will consider this alongside the wider decisions about the scheme. Heat used for cooling may be supported in certain circumstances.

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<sup>156</sup> <http://www.decc.gov.uk/en/content/cms/consultations/rhi/rhi.aspx>

On 2 March DECC introduced a new Enabling Framework for District Heating and Cooling in the UK with a view to creating market certainty and confidence and encourage deployment of low carbon and renewable district heating and cooling in those communities where it is economical and fits with our wider energy and climate change objectives. The framework addresses the key barriers to district heating in the UK, including in particular, consumer protection, the role of local authorities and the risks associated with long term investment. Key proposals include a potential uplift for district heating under the Renewable heat Incentive, a new National Heat Map, and consideration of a commitment to connect the public estate to networks where they exist or are proposed. This work aligns with £25 million of financial support announced through Budget 2009 for community heating infrastructure across the UK.

The Scottish Government are currently undertaking a heat mapping study in conjunction with Highland Council. The lessons learnt and output from this study will be used as an exemplar to other local authorities.

**(c) What support schemes are in place to encourage the use of small-scale heating and cooling from renewable energy sources?**

We are in the process of taking decisions on the RHI proposals which support renewable heating at all scales. While the proposals would not specifically support cooling, the RHI would not discriminate against technologies which can deliver both heating and cooling. In cases where the renewable heat generated is used to deliver cooling, the RHI would provide support for that heat.

In advance of the proposed Renewable Heat Incentive, the following schemes have previously provided grants to support the use of small scale renewable heating:

*The Low Carbon Buildings Programme*

The Low Carbon Buildings Programme ran from 2006 and closed to new applications in May 2010.

Although the programme did not cover cooling, reversible Air Source Heat Pumps that deliver both heat and cooling, where heat is the primary function, have been supported. This scheme ran from 2006 and provided funds to householders, schools, charities, communities and other not-for-profit organisations for the acquisition and installation of a range of Microgeneration technologies, including renewable heat.

The Low Carbon Buildings Programme (LCBP) supported renewable small scale heating and electrical including solar photovoltaics, Solar thermal, wind turbines, small scale hydro, air source heat pumps, biomass. The proportions are :Thermal (33%) electrical Microgeneration (66%) and dual (1%) by value.

### *The Bio-energy Capital Grants Scheme (BECGS)*

The BECGS began in 2002 and there have been six rounds of the scheme to date. The sixth round closed to applications in April 2010.

The BECGS supported the installation of biomass-fuelled heat and combined heat and power projects in the industrial, commercial and community sectors in England and is open to the industrial, commercial and community sectors. This includes, but is not restricted to, public and private limited companies, sole traders, farmers, local authorities, hospitals, universities, schools, housing associations, charities etc. The technologies supported are those for biomass heat boilers and combined heat and power (CHP) equipment, including anaerobic digesters for heat-only or CHP.

A variable rate of grant is available up to 40% of the difference in cost of installing the biomass boiler or CHP plant compared to installing the fossil fuel alternative. The maximum single award under the sixth round was £500,000 per installation, applications covering several installations can apply for up to £500,000 for each installation. There is no minimum award threshold.

### *The Bio-energy infrastructure Scheme (BEIS)*

The BEIS began in 2004 and there have been three rounds of the scheme to date. Round 3 closed to applications in February 2010.

The scheme provides grants to assist the development of the supply chain required to harvest, process, store and supply biomass to heat, combined heat and power, and electricity end-users. Projects must be based in England and must supply the biomass to end-users in Great Britain. Producer groups and businesses who are small or medium-sized enterprises (SMEs) can apply. A maximum grant of £200,000 per producer group or business applies.

### **(d) What support schemes are in place to encourage the use of heating and cooling from renewable energy sources in industrial applications?**

The consultation on the RHI proposed that the RHI would support renewable heating at all scales. Cooling is not included as part of the proposed RHI.

The BECGS and BEIS also applied to supporting renewable heating at an industrial scale.

#### **4.5. Support schemes to promote the use of energy from renewable resources in transport applied by the Member State or a group of Member States**

##### THE RENEWABLE TRANSPORT FUEL OBLIGATION

### **Regulation**

#### **(a) What is the legal basis for this obligation/target?**

Under the Energy Act 2004, the Renewable Transport Fuel Obligations Order 2007 introduced a scheme in April 2008 to increase the percentage of renewable fuel used in road transport in the UK. The order obligates refiners, importers and any others who supply fossil based road transport fuels at the point at which Her Majesty's Revenue & Customs (HMRC) excise duties become payable, to produce evidence that a specified percentage of their fuels for road transport in the UK comes from renewable sources. Suppliers of biofuel will earn certificates to be used as evidence of meeting the obligation. The Renewable Transport Fuel Obligation (RTFO) covers suppliers who supply at least 450,000 litres per year. The Renewable Fuels Agency (RFA) is responsible for monitoring compliance with the RTFO.

We are reviewing the RTFO to assess how it can be amended to ensure compliance with the directive.<sup>157</sup>

#### **(b) Are there any technology-specific targets? and (c) What are the concrete obligations/targets per year (per technology)?**

The RTFO places a requirement that the following percentages of road transport fuel are obtained from renewable fuels<sup>158</sup>

2008/09 – 2.5% - actual supply 2.7%

2009/10 – 3.25%

2010/11 – 3.5%

2011/12 – 4.0%

2012/13 – 4.5%

2013/14 and onwards – 5%

Within the RTFO currently there is no differentiation of the support given according to fuel type or technologies.<sup>159</sup>

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<sup>157</sup> Any amendments to the RTFO are subject to formal consultation and UK Parliamentary scrutiny.

<sup>158</sup> These figures are the resulting percentage of biofuel supplied as a proportion of total volume of road transport fuel, not the obligation which is derived from the residual fossil fuel supply

<sup>159</sup> Any amendments to the RTFO are subject to formal consultation and UK Parliamentary scrutiny

#### **d) Who has to fulfil the obligation?**

The obligation is on refiners, importers and any others who supply fossil based road transport fuels at the point at which HMRC excise duties become payable. In practice this means that only those suppliers who supply a batch of transport fuel at the point at which the fuel crosses the fuel duty point will be obligated. The RTFO obligates suppliers who supply more than 450,000 litres per year.

#### **(e) What is the consequence of non-fulfilment?**

Fuel suppliers who cannot fulfil their obligation through the use of certificates are required to pay a buyout price which transfers into a buyout fund. Those who do not pay the buy-out price are liable to a civil penalty.

#### **(f) Is there any mechanism to supervise fulfilment?**

Suppliers regularly report their biofuel volumes to the Renewable Fuels Agency (RFA) and it is expected that the RFA will continue to administer a scheme required for the implementation of the Renewable Energy Directive.

#### **(g) Is there any mechanism to modify obligations / targets?**

The targets in the RTFO as it currently stands are set in legislation<sup>160</sup>. Modification of these targets requires an amendment to this legislation.

### **Financial support**

#### **THE RENEWABLE TRANSPORT FUEL OBLIGATION (RTFO)**

#### **(a) What is the name and a short description of the scheme?**

Under the Energy Act 2004, the Renewable Transport Fuel Obligations Order 2007 introduced a scheme in April 2008 to increase the percentage of renewable fuel used in road transport in the UK. The order obligates refiners, importers and any others who supply fossil based road transport fuels at the point at which Her Majesty's Revenue & Customs (HMRC) excise duties become payable, to produce evidence that a specified percentage of their fuels for road transport in the UK comes from renewable sources. Suppliers of biofuel will earn certificates to be used as evidence of meeting the obligation. The Renewable Transport Fuel Obligation (RTFO) covers suppliers who supply more than 450,000 litres per year. The Renewable Fuels Agency (RFA) is responsible for monitoring compliance with the RTFO.

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<sup>160</sup> The Renewable Transport Fuel Obligations Order 2007

**(b) Is it a voluntary or obligatory scheme?**

The RTFO scheme is obligatory for refiners, importers and any others who supply fossil based road transport fuels at the point at which HMRC excise duties become payable. In practice this means that only those suppliers who supply a batch of transport fuel at the point at which the fuel crosses the fuel duty point will be obligated. The RTFO obligates suppliers who supply more than 450,000 litres per year<sup>161</sup>.

Suppliers of biofuel who are not obligated under the scheme can benefit from earning certificates and trading these with other suppliers.

**(c) Who manages the scheme?**

The Renewable Fuels Agency (RFA) monitors compliance with the RTFO. This is a Non-Departmental Public Body which is sponsored by the Department for Transport. It produces monthly, quarterly and verified annual reports on the sustainability of fuels currently being supplied to the UK which are available online<sup>162</sup>.

**(d) What are the measures taken to ensure availability of necessary budget/funding to achieve the national target?**

The RFA is sponsored by Department for Transport who provide funding through annual grant in aid.

**(e) How is long-term security and reliability addressed by the scheme?**

The RTFO is intended to provide certainty so as to incentivise investment in new renewable transport projects. In order to do this the targets within the RTFO are set in UK legislation.

**(f) Is the scheme periodically revised? What kind of feed-back or adjustment mechanism exists? How has the scheme been optimised so far?**

There is no formal review mechanism within the legislation that implemented the scheme. However, the policy issues are kept under review and amendments to the scheme made as necessary.

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<sup>161</sup> Any amendments to the RTFO are subject to formal consultation and UK Parliamentary scrutiny

<sup>162</sup> <http://www.renewablefuelsagency.gov.uk/>.

Amendments to the scheme made to date to include:

- A slowdown in the speed at which the obligation increases in order to reflect the concerns around indirect Land Use Change expressed in the *Gallagher Review*<sup>163</sup>.
- To allow additional renewable transport fuels to count.
- To correct a discrepancy in which fossil fuels were covered by the obligation.

In addition, monthly RFA reports provide an indication of progress towards the annual target. The scheme has been optimised through regular and wide ranging stakeholder engagement with both DfT and RFA.

**(g) Does support differ according to technology?**

No, the RTFO does not differ according to technology. In a separate UK Government initiative, biofuel produced from Used Cooking Oil (UCO) is also eligible for a duty rebate. This is a tax rebate of 20ppl and is in place for a period of two years.

**(h) What are the expected impacts in terms of energy production?**

The RTFO was introduced to increase the percentage of renewable fuel used in road transport in the UK and as such will help us meet the UK lead scenario by 2020.

**(i) Is support conditional on meeting energy efficiency criteria?**

No, energy efficiency criteria are not included in the RTFO.

**(j) Is it an existing measure? Could you please indicate national legislation regulating it?**

The RTFO is an existing measure. The legislation regulating it is contained within the Renewable Transport Fuel Obligations Order 2007 SI number 2007 no 3072 (as amended).

**(k) Is this a planned scheme? When would it be operational?**

The RTFO is an existing scheme which came into force on 15 April 2008.

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<sup>163</sup> [http://www.renewablefuelsagency.gov.uk/\\_db/\\_documents/Report\\_of\\_the\\_Gallagher\\_review.pdf](http://www.renewablefuelsagency.gov.uk/_db/_documents/Report_of_the_Gallagher_review.pdf)



**(l) What start and end dates (duration) are set for the whole scheme?**

The RTFO scheme began on 15 April 2008. We envisage that the scheme will continue to be in place until and beyond 2020.

**(m) Are there maximum or minimum sizes of system which are eligible?**

Suppliers of less than 450,000 litres of fossil fuel for road transport use per year are currently excluded as are all suppliers of fuel for non-road transport purposes.

**(n) Is it possible for the same project to be supported by more than one support measure? Which measures can be cumulated?**

It is currently possible for all biofuel producers to earn RTFO certificate as well as benefitting from the Duty Incentive (20ppl). From April 2010 only biofuel produced from Used Cooking Oil can benefit from both support mechanisms at the same time.

**(o) Are there regional / local schemes? If so, please detail using the same criteria.**

The RTFO scheme covers the whole of the UK.

**THE GREEN BUS FUND**

**(a) What is the name and a short description of the scheme?**

The initial £30 million Green Bus Fund is assisting bus operators and Local Authorities to buy around 350 new low carbon buses. Organisations competed against each other by submitting qualifying bids by November 2009. Provided all competition criteria were met, the grant was allocated to those who sought the lowest amount of grant per bus.

**(b) Is it a voluntary or obligatory scheme?**

The Green Bus Fund is a voluntary scheme.

**(c) Who manages the scheme? (Implementing body, monitoring authority)**

DfT's Buses and Taxis Division manage the scheme.

**(d) What are the measures taken to ensure availability of necessary budget/funding to achieve the national target?**

DfT is making £30 million available to bus operators and local authorities to buy around 350 new low carbon buses which will contribute to the national target.

**(e) How is long-term security and reliability addressed by the scheme?**

Her Majesty's Treasury has approved this scheme and it is funded by DfT. European State aid approval was given for the first round.

**(f) Is the scheme periodically revised? What kind of feed-back or adjustment mechanism exists? How has the scheme been optimised so far?**

The grant is given based on a number of conditions. One of these is that recipients have to provide DfT with data relating to the operation of the buses on a six-monthly basis for at least the first three years of operation.

**(g) Does support differ according to technology?**

The Green Bus Fund supports the purchase of both hybrid-electric and all-electric buses.

**(h) What are the expected impacts in terms of energy production?**

The Green Bus Fund is supporting the purchase of hybrid electric and all electric buses, both of which use less fossil fuel than conventional diesel buses. Indications are that emission savings of around 30% would be typical.

**(i) Is support conditional on meeting energy efficiency criteria?**

All buses supported by the Fund have to meet DfT's definition of a Low Carbon Emission Bus (LCEB). A LCEB is a bus that is able to achieve the LCEB target for greenhouse gas emissions. This is equivalent to a 30% reduction in its greenhouse gas emissions compared to the average Euro 3 diesel bus of the same total passenger capacity.

**(j) Is it an existing measure? Could you please indicate national legislation regulating it?**

Yes, it is existing. The grants are provided under section 5 of the Science and Technology Act 1965.

**(k) Is this a planned scheme? When would it be operational?**

The Green Bus Fund is already in place.

**(l) What start and end dates (duration) are set for the whole scheme?**

The closing date for the first round of bids was 18 November 2009. The winning bidders were announced on 3 December 2009. All grants must be paid by 31 March 2011 and all buses supported by the scheme must be in operation by 31 March 2012.

**(m) Are there maximum or minimum sizes of system which are eligible?**

There are no maximum or minimum sizes of system that are eligible for a grant within the scheme.

**(n) Is it possible for the same project to be supported by more than one support measure? Which measures can be cumulated?**

No, it is not possible for a project receiving a grant under the Green Bus Fund to be supported by another measure.

**(o) Are there regional / local schemes? If so, please detail using the same criteria.**

No, the Green Bus Fund only covers England.

**Specific questions for financial support for investment: (Green Bus Fund)**

**(a) What is granted by the scheme? (subsidies, capital grants, low interest loans, tax exemption or reduction, tax refunds)**

The Green Bus Fund provides capital grants to fund the difference in cost between a low carbon emission bus and its considerably less expensive diesel equivalent.

**(b) Who can benefit from this scheme? Is it specified for certain technology(/ies)?**

Both bus operators and local authorities will benefit. The type of bus is not prescribed in the bidding document, but it has to conform to the definition of a low carbon emission bus - buses capable of achieving at least 30% fewer Greenhouse Gas Emissions than standard diesel equivalent buses.

**(c) Are applications continuously received and granted or are there periodical calls? If periodical, could you please describe the frequency and conditions?**

A competition to bid for the first round of Green Bus Fund grant was held in Autumn 2009. A competition for a second round may be considered in Summer 2010. There are currently no plans for a third round.

**USED COOKING OIL DUTY DIFFERENTIAL**

**(a) What is the name and a short description of the scheme?**

This scheme for biodiesel produced from used cooking oil is a duty incentive of 20ppl on biodiesel produced from used cooking oil (UCO). The existing biofuels duty differential (20ppl for all biofuels) will be removed from 1 April 2010, but the scheme will continue for UCO biodiesel only, for a limited period of two years from 1 April 2010 to 31 March 2012. This is intended to provide additional temporary support for suppliers of this sustainable fuel until the 2009 Renewable Energy Directive (RED) sustainability criteria can be fully implemented.

**(b) Is it a voluntary or obligatory scheme?**

There is no obligation for a producer of biodiesel from waste cooking oil to apply specifically for the scheme. Any biofuel producer who produces more than 2,500 litres of biodiesel must register with Her Majesty's Revenue & Customs (HMRC) and is required to account for duty. Small producers of under 2,500 litres are classified as exempt producers and do not have to account for duty.

**(c) Who manages the scheme? (Implementing body, monitoring authority)**

HMRC will manage the scheme.

**(d) What are the measures taken to ensure availability of necessary budget/funding to achieve the national target?**

The funding for this scheme is provided by Her Majesty's Treasury (HMT). It was announced in the UK's Pre-Budget Report on 9 December 2009.

**(e) How is long-term security and reliability addressed by the scheme?**

The scheme is only in place for two years until 31 March 2012 as it is intended to provide additional temporary support for suppliers of this sustainable fuel until the Renewable Energy Directive (RED) sustainability criteria can be fully implemented. The security and reliability of the scheme are addressed by the commitment from HMT in the UK's Pre-Budget Report, 9 December 2009.

**(f) Is the scheme periodically revised? What kind of feed-back or adjustment mechanism exists? How has the scheme been optimised so far?**

The scheme is in place for two years until 31 March 2012. As this is a short term scheme, there are no plans for it to be periodically revised. The scheme has been optimised through stakeholder involvement.

**(g) Does support differ according to technology?**

No, the scheme does not differ between technologies. It only covers biodiesel produced from used cooking oil.

**(h) What are the expected impacts in terms of energy production?**

The intention of the duty differential is to provide additional temporary support for suppliers of biodiesel produced from UCO until the Renewable Energy Directive (RED) sustainability criteria can be fully implemented. Biodiesel from UCO is acknowledged to be one of the most sustainable biofuels available.

**(i) Is support conditional on meeting energy efficiency criteria?**

No, the support provided by this scheme is only available to suppliers of biodiesel produced from UCO.

**(j) Is it an existing measure? Could you please indicate national legislation regulating it?**

In the past, in the UK, all biofuels were supported by the Renewable Transport Fuel Obligation (RTFO) and the 20ppl duty differential. However, Budget 2008 announced that from April 2010 the duty differential would cease, as it had limited scope to reward biofuels on the grounds of their sustainability. Support will continue through the RTFO, which can distinguish between biofuels through its carbon and sustainability reporting criteria. The 2009 Pre-Budget Report confirmed that the duty differential would cease from 1 April 2010. It also announced that the duty differential would continue for UCO for two years, as it is acknowledged to be one of the most sustainable biofuels available

**(k) Is this a planned scheme? When would it be operational?**

The scheme is in place from 1 April 2010 to 31 March 2012.

**(l) What start and end dates (duration) are set for the whole scheme?**

The scheme will be in place from 1 April 2010 until the 31 March 2012.

**(m) Are there maximum or minimum sizes of system which are eligible?**

The scheme does not have a maximum size of system that is eligible. It applies to producers of biodiesel from used cooking oil who are approved under the Excise Duties (Deferred Payment) Regulations 1992, or who are liable to pay biofuels duty in accordance with the Biofuels & Other Fuel Substitutes Regulations 2004.

Small producers (those who produce less than 2,500 litres per annum) are classed as exempt producers and do not pay duty on the fuel their supply.

**(n) Is it possible for the same project to be supported by more than one support measure? Which measures can be cumulated?**

It is currently possible for suppliers who produce biodiesel from UCO to earn RTFO certificates as well as benefitting from the Duty Incentive.

**(o) Are there regional / local schemes? If so, please detail using the same criteria.**

No, this scheme covers the whole of the UK.

**Specific questions for financial support for investment: (Used Cooking Oil Duty Differential)**

**(a) What is granted by the scheme? (subsidies, capital grants, low interest loans, tax exemption or reduction, tax refunds)**

The scheme grants tax relief of 20ppl for suppliers who produce biodiesel from UCO.

**(b) Who can benefit from this scheme? Is it specified for certain technology(/ies)?**

The scheme benefits suppliers who produce biodiesel from UCO.

**(c) Are applications continuously received and granted or are there periodical calls? If periodical, could you please describe the frequency and conditions?**

Fuel producers are required to pay duty either quarterly or, if a large producer, monthly. Returns must be submitted by the fifteenth day of the month following the end of each return period. If a producer is eligible to claim the relief for waste cooking oil then it is offset it against the duty payable.

**Specific questions for tradable certificates – RTFO (under 4.3)**

**(a) Is there an obliged share of fuel produced from renewable sources in the total supply?**

The RTFO places a requirement that the following percentages of road transport fuel are obtained from renewable fuels<sup>164</sup>

2008/09 – 2.5% - actual supply 2.7%

2009/10 – 3.25%

2010/11 – 3.5%

2011/12 – 4.0%

2012/13 – 4.5%

2013/14 and onwards – 5%

**(b) Who has the obligation?**

The obligation falls on refiners, importers and any others who supply fossil based road transport fuels at the point at which HMRC excise duties become payable. In practice this means that only those suppliers who supply a batch of transport fuel at the point at which the fuel crosses the fuel duty point will be obligated. The RTFO obligates suppliers who supply more than 450,000 litres per year.

Certificates gained under the RTFO can be claimed when renewable fuels are supplied and fuel duty is paid on them. Certificates can be traded between anybody who holds an RTFO account, which is anybody who supplies road transport fuel or wishes to act as a trader for the certificates. At the end of the obligation period, these certificates may be redeemed to the RTFO Administrator to demonstrate compliance.

If obligated suppliers don't have enough certificates at the end of an obligation period they have to 'buy-out' the balance of their obligation by paying a buy-out price.

**(c) Are there technology-specific bands?**

No, there are no technology-specific bands for the RTFO.

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<sup>164</sup> These figures are the resulting percentage of biofuel supplied as a proportion of total volume of road transport fuel, not the obligation which is derived from the residual fossil fuel supply

**(d) Which technologies are covered by the scheme?**

The supply of renewable road transport fuel is covered by the RTFO.

**(e) Is international trade in certificates allowed? What are the conditions?**

No, the RTFO is a UK scheme and as such international trading is not allowed. However, certificates can be owned by entities based outside of the UK.

**(f) Is there a floor bottom price?**

No, the minimum price of the RTFO certificates is dictated by market forces, but there is a theoretical maximum price which is set by the buyout mechanism.

**(g) Is there a penalty for non-fulfilment?**

Fuel suppliers who cannot fulfil their obligation have to pay a buyout price which goes into a buyout fund. If a supplier does not pay their buyout price in time, the amount increases subject to interest.

**(h) What is the average price for certificates? Is it made public? Where?**

This information is not formally captured under the RTFO - there is limited information available on the price of certificates. The RFA and the Low Carbon Vehicle Partnership, however, have undertaken work on the impacts of the first year of the RTFO on UK businesses<sup>165</sup>.

**(i) What is the trading scheme for certificates?**

Certificates gained under the RTFO can be claimed when renewable fuels are supplied and fuel duty is paid on them. Certificates can be traded between anybody who supplies road transport fuel or wishes to act as a trader for the certificates. At the end of the obligation period, these certificates may be redeemed to the RTFO Administrator (RFA) to demonstrate compliance.

If obligated suppliers don't have enough certificates at the end of an obligation period they have to 'buyout' the balance of their obligation by paying a buyout price.

**(j) How long can a plant participate in the scheme?**

Once registered there is no time limit on how long a supplier can participate as long as they comply with the scheme.

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<sup>165</sup> [http://www.renewablefuelsagency.gov.uk/\\_db/\\_documents/Impacts\\_of\\_the\\_RTFO\\_on\\_UK\\_business\\_-\\_AEA\\_for\\_RFA.pdf](http://www.renewablefuelsagency.gov.uk/_db/_documents/Impacts_of_the_RTFO_on_UK_business_-_AEA_for_RFA.pdf)



**Please address the following additional points for Transport schemes:**

**(a) What are the concrete obligations / targets per year (per fuel or technology)?**

RTFO

The RTFO places a requirement that the following percentages of road transport fuel are obtained from renewable fuels<sup>166</sup>

2008/09 – 2.5% - actual supply 2.7%	
2009/10 – 3.25%	
2010/11 – 3.5%	“
2011/12 – 4.0%	“
2012/13 – 4.5%	“
2013/14 and onwards – 5%	“

Green Bus Fund:

Recipients have to provide DfT with data relating to the operation of the buses on a six-monthly basis for at least the first three years of operation.

Used Cooking Oil Duty Differential

The scheme does not involve any concrete obligations or targets per year.

**(b) Is there differentiation of the support according to fuel types or technologies? Is there any specific support to biofuels which meet the criteria of Article 21(2) of the Directive?**

RTFO

The RTFO does not currently differentiate according to technology

In a separate initiative, biofuel produced from Used Cooking Oil (UCO) is also eligible for a duty rebate. This is a tax rebate of 20ppl and is in place for a period of two years

Green Bus Fund:

There is no differentiation of the support according to fuel types or technologies within the Green Bus Fund.

Used Cooking Oil Duty Differential

The scheme does not differ between technologies, it only covers biodiesel produced from used cooking oil.

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<sup>166</sup> These figures are the resulting percentage of biofuel supplied as a proportion of total volume of road transport fuel, not the obligation which is derived from the residual fossil fuel supply

We are waiting for guidance from the Commission as to what the definition of “waste” under Article 21 (2) of the renewables directive covers, but as it is currently understood, biodiesel from Used Cooking Oil will meet these criteria, as it converts a used product that would otherwise have gone to landfill, and there are no pressures on land use, or competition with food.

## **4.6. Specific measures for the promotion of the use of energy from biomass**

### **4.6.1. Biomass supply: both domestic and trade**

Delivering the European renewable energy target is expected to increase the demand for biomass feedstocks in the heat and power sectors. Our analysis suggests that there could be sufficient biomass resource potential in the UK to meet this demand for heat and power in 2020, if the supply potential is fully developed. This assessment assumes that we could rapidly increase the production of energy crops in the UK, increase wood fuel supply from sustainable forestry, make better use of agricultural residues and fully exploit waste biomass currently going to landfill.

The analysis considered that biomass, specifically woody biomass, will increasingly become a globally traded commodity. Imported biomass products are likely to continue to play a role in the UK's use of bioenergy. We estimate that the global availability of biomass, taking into account sustainability constraints, is potentially some 55,00TWh per year by 2020. These calculations are based on the assumption that the wood products, paper and panel industries would be supplied first. The Forestry Commission's *Woodfuel Strategy for England*<sup>167</sup> aims to bring an additional 2 million tonnes of woodfuel to market annually by 2020 – equivalent to 4 TWh (around 2% of the renewable energy needed to meet our 2020 target) – by improving woodland management.

Our analysis of perennial energy crops such as short rotation coppice willow, and Miscanthus (a tall, woody, fast-growing grass) indicates that there is a theoretical potential for around 700,000 hectares to be planted by 2020. Around three million tonnes of straw could be available by 2030.

Waste biomass is an under-used resource which could provide a significant contribution to our renewable energy targets and reduce the total amount of waste that is land filled in the UK. Figures from 2009 estimate that 6 million tonnes of waste wood and 9 million tonnes of waste food are land filled each year. Strenuous efforts are being made to minimise this waste but it is clear that a supply of waste food and wood will exist for the foreseeable future. Currently 6 TWh of heat and power is generated from biomass municipal solid waste collected by Local Authorities, and about 18 TWh from landfill gas. If all the food and wood waste sent to landfill were used for energy it would generate 42 TWh, or approximately 18% of our renewable energy target.

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<sup>167</sup> [http://www.forestry.gov.uk/pdf/fce-woodfuel-strategy.pdf/\\$FILE/fce-woodfuel-strategy.pdf](http://www.forestry.gov.uk/pdf/fce-woodfuel-strategy.pdf/$FILE/fce-woodfuel-strategy.pdf)

In Northern Ireland, the Department of Energy Trade and Investment (DETI) is working to promote the use of renewable energy and energy efficiency, in the farming and rural community through its Renewable Energy Action Plan of 2007. Key actions within the plan include support for sustainable energy production; supply chain development; forestry products and by-products; use of agri-waste for energy; deployment of renewable energy technologies within the wider economy; and energy efficiency. Aid of up to £1000 per hectare is available through the Northern Ireland Rural Development Programme (NIRDP) to support the establishment of Short Rotation Coppice Willow as a crop for producing energy. DETI is sponsoring a renewable energy research programme at the Agri-Food and Biosciences Institute (AFBI). An element of this programme aims to assess the potential of Miscanthus as an energy crop.

**Table 7: Biomass supply in 2006**

	All in Tonnes (biogas not included)	Domestic	Tonnes of Biomass			Net amount	(ktoe) (gross CV basis)
			Imported	Imported	Ported		Primary Energy
			EU	non-EU	EU/non EU		
<b>A) Biomass from Forestry</b>							
	1. Direct supply of wood biomass from forests and other wooded land for energy generation	900,000	-	-	-	900,000	299
	2. Indirect supply of wood biomass for energy generation	955,534	81,211	-	-	1,036,744	283
<b>B) Biomass from Agriculture and Fisheries</b>							
	1. agricultural crops and fishery products directly provided for energy generation	3,057	-	-	-	3,057	1
	2. Agricultural by-products / processed residues and fishery by-products for energy generation	1,054,208	736,086	-	-	1,790,295	708
<b>C) Biomass from Waste</b>							
	1. Biodegradable fraction of municipal solid waste including biowaste (biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants) and landfill gas **	1,954,467				1,954,467	1,977
	2. Biodegradable fraction of industrial waste (including paper, cardboard, pallets)	33,440				33,440	15
	3. Sewage sludge **	23,360				23,360	204
<b>TOTALS</b>		<b>4,924,066</b>	<b>817,297</b>	-	-	<b>5,741,363</b>	<b>3,487</b>

\*\* quantities of landfill gas and non-mixed sewage sludge excluded from the resource quantity, but included in the energy produced figures (Primary Energy)  
Data on biomass use are obtained by various statistical surveys carried out by AEA Technology on behalf of DECC; some surveys are annual, whilst others are carried out on a rotational basis every three years. The volumes of product are converted to amounts of energy using either country specific or EU wide calorific values. An analysis of waste data, also carried out by AEA, indicates that the biodegradable content of Municipal Solid Waste is 62.5%. The method used for calculation of the biodegradable fraction of waste is set out in full in paragraphs 7.58 and 7.59 of the Digest of UK Energy Statistics, available online<sup>168</sup>.

<sup>168</sup> <http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx>

**Table 7a: Estimated biomass domestic supply in 2015 and 2020**

		2015		2020	
		Expected amount of domestic resource (ktoe) (see note 1)	Primary energy production (Ktoe) (see note 2)	Expected amount of domestic resource (ktoe) (see note 1)	Primary energy production (ktoe) (see note 2)
(A) Biomass from forestry	(1) direct supply of wood biomass from forests and other wooded land for energy generation	519		606	
	(2) indirect supply of wood biomass for energy generation	540		928	
(B) Biomass from agriculture and fisheries	(1) agricultural crops and fishery products directly provided for energy generation	1188		5456	
	(2) Agricultural by-products/processed residues and fishery by-products for energy generation	464		468	
(C) Biomass from waste	1) Biodegradable fraction of municipal solid waste including biowaste (biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants) and landfill gas	2353		2691	
	((2) Biodegradable fraction of industrial waste (including paper, cardboard, pallets)	3018		4614	
	(3) Sewage sludge	1366		2261	
<b>Total</b>		<b>9448</b>	<b>2145</b>	<b>17023</b>	<b>6085</b>

**Notes to table 7a**

1: These represent estimated potential UK biomass resource by these date based on a study commissioned in 2009 – see link below [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)

2: These are not available for individual biomass feedstocks. The total amount of renewable energy estimated to be produced in the heat and electricity sectors is given in the total column.

## Additional Questions following Table 7a

**What is the estimated role of imported biomass up to 2020? Please specify the quantities expected (ktoe) and indicated possible import countries.**

Our research<sup>169</sup> looked at the potential supply of imports to 2020 and beyond. The analysis showed that the amount of global woody biomass resource could potentially be very large. This is based on the assumption that they are grown predominantly on abandoned agricultural land, with demands for land for food and for first generation biofuels feedstocks being supplied first. Achieving this potential would rely on a swift increase in energy crop planting. We have not estimated what proportion of bioenergy output will be from domestic sources and what proportion will be from imports.

**Table 8: Current agricultural land use for production of crops dedicated to energy in 2006**

<b>Agricultural land use for production of dedicated energy crops</b>	<b>Surface (hectares)</b>
1) Land used for short rotation trees (willows, poplars)	4196
2) Land used for other energy crops such as grasses (reed canary grass, switch grass, Miscanthus), sorghum	5316

### Notes to table 8

1. Source: Defra Statistics 2009
2. Miscanthus is the only crop covered by these statistics as it is the only energy crop grown in the UK to noticeable quantities

## 4.6.2. Measures to increase biomass availability, taking into account other biomass users (agriculture and forest-based sectors)

### Mobilisation of new biomass sources:

#### (a) Please specify how much land is degraded.

Significant soil salinisation is not currently an issue within the UK and would therefore have no land that met the definition of severely degraded land on that basis. Severe soil erosion is also not currently an issue within the UK and would therefore have no land that met the definition of severely degraded land on that basis.

<sup>169</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)

The UK has, on the whole, quite high levels of soil organic matter in comparison to other Member States. While minor degradation of soil occurs across the UK this is being tackled by soil protection measures and this land would, therefore, not be classified as degraded land.

**(b) Please specify how much unused arable land there is.**

As at June 2009, there were 255 thousand hectares of arable land not in production (4.1% of the total UK croppable area). Arable land not in production includes arable land left fallow (standard crop rotation practice), wild bird cover, game cover and arable land not in production but maintained in Good Agricultural and Environmental Conditions (GAEC12).

**(c) Are any measures planned to encourage unused arable land, degraded land, etc. to be used for energy purposes?**

We currently provide support worth £47 million for purpose-grown perennial energy crops in England through the 2007-2013 Rural Development Programme for England's Energy Crops Scheme. Grants support the establishment of short rotation coppice (willow, poplar, ash, alder, hazel, silver birch, sycamore, sweet chestnut, lime) and Miscanthus. These energy crops can be grown successfully on a wide range of land, including less fertile arable land, previously forested land or reclaimed land (such as landfill). All applications are subject to an environmental appraisal to help safeguard against energy crops being grown on land with high biodiversity, landscape or archaeological value. Currently, uptake of grants is low, due in part to high establishment costs and the lack of an immediate return on the investment. Since the scheme's launch in November 2007, the total amount of grant awarded, including an estimate of 2010 planting grant claims, is expected to be in the region of £1.3 million. From 1 January 2010, therefore, we have increased the grant rate for new plantings under the Energy Crops Scheme from 40% to 50% of actual establishment costs.

In Northern Ireland, subject to the necessary approvals being in place, there is an intention to launch a Biomass Processing Challenge Fund, The objective of this fund is to encourage investment in a range of biomass fuelled renewable energy technologies at farm level. These technologies will include Anaerobic Digestion, Biomass boilers and Combined Heat and Power equipment.

**(d) Is energy use of certain already available primary material (such as animal manure) planned?**

The UK actively promotes the anaerobic digestion of manures and slurries and the new Government intends to go even further. This includes: support under financial incentive mechanisms for renewable energy and capital grant schemes; advice workshops for farmers; and online advice services<sup>170</sup>.

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<sup>170</sup> <http://www.defra.gov.uk/environment/waste/ad/government.htm>

**(e) Is there any specific policy promoting the production and use of biogas? What type of uses are promoted (*local, district heating, biogas grid, natural gas grid integration*)?**

There is currently much unused biomass waste and the UK is taking steps to produce bioenergy from this resource, particularly through combustion and from the anaerobic digestion of food waste, agricultural waste and sewage to produce biogas.

The landfill tax provides a powerful driver to divert waste from landfill to other uses, and this has been strengthened with the further increases in the escalator announced in 2009. We intend to take further steps to ensure that Local Authorities have the right information to understand the benefits and enable them to make decisions to divert waste from landfill. We aim to capture more of the methane which our existing landfills produce. The Environment Agency is considering ways in which control over landfill gas emissions could be tightened further including, if necessary, tighter regulation.

The UK is undertaking considerable work to increase the deployment and use of anaerobic digestion to create biogas, including the publication of the recent report *Anaerobic Digestion – Shared Goals*<sup>171</sup>. In March 2010 Defra published the Anaerobic Digestion Implementation Plan for England. This sets out the practical actions we are taking to increase the use of anaerobic digestion. The new Government's Coalition Agreement has also made a specific commitment to increase the level of anaerobic digestion in the UK.

Grant funding of £10 million has been made available for the Anaerobic Digestion Demonstration Programme. These five projects will be built by the end of March 2011, and will demonstrate 'state of the art' use of anaerobic digestion. An additional £10 million has been made available for both anaerobic digestion and in-vessel composting. A web-based portal<sup>172</sup> has been set up to act as a first point of contact for advice on anaerobic digestion.

The Environment Agency and the Waste and Resources Action Programme have been working with industry to develop a standard for digestate and a Quality Protocol to set out conditions for its production and use. These clarify when this material has been fully recovered and waste management controls are no longer required. They also provide users with confidence that the digestate they purchase conforms to an approved standard.

DfT is also exploring how utilisation of biogas in transport may be increased, how deployment barriers can be overcome and how the uptake of this technology can be stimulated. As such DfT is conducting a feasibility study on the use of biogas in local transport.

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<sup>171</sup> <http://www.defra.gov.uk/environment/waste/ad/documents/implementation-plan.pdf>

<sup>172</sup> <http://www.biogas-info.co.uk/>



**(f) What measures are planned to improve forest management techniques in order to maximise the extraction of biomass from the forest in a sustainable way? How will forest management be improved in order to increase future growth? What measures are planned to maximise the extraction of existing biomass that can already be put into practice?**

All forest management in the UK is subject to a legal requirement to obtain a licence for tree felling, with replanting conditions where appropriate. The UK Forestry Standard (UKFS)<sup>173</sup> is the UK's statement of the requirements for sustainable forest management.

The UKFS is currently being revised. The Guidelines cover all aspects of sustainable forestry, including measures to enhance resilience against the impacts of climate change. Measures include planting of a wider range of species and a mixture of provenances; planting species to enhance diversity; setting a limit for the maximum percentage of a single species in a forest plan; and an increasing focus on planning and monitoring.

There is a requirement that public sector timber procurement, including woodfuel, comply with the Central Point of Expertise on Timber standard (CPET) (category A - approved certification schemes, or category B - other means). The Forestry Commission provide a grant to support the costs of woodland planning. For woodlands smaller than 100ha this can provide a streamlined way of achieving CPET Category B approval.

The National Forest Inventory will improve our knowledge of how much resource is available, where it is, and provide reliable resource assessment.

The technical development team at Forest Research are investigating small-scale harvesting machines that could be utilised in smaller woods in Southern England to increase productivity rates when demand requires.

Guidance is in place for onsite suitability for above-ground residue (brush) harvesting for biomass production. Stump harvesting is not encouraged in England except for reasons of plant health.

The Forestry Commission are exploring the potential to provide assistance for roading and preparation grants in advance of thinning activity in forests that are currently undermanaged. This is subject to securing resources.

Forestry Commission England is piloting a forestry apprenticeship scheme to improve skills and ensure the workforce is available to meet the growing demand for biomass. The aspiration is to roll out the apprenticeship scheme across the country.

Defra's strategy for England's Trees, Woods and Forests<sup>174</sup> sets out forestry policy in England. A key aim is to increase the proportion of trees, woods and forests under appropriate and sustainable management for multiple benefits.

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<sup>173</sup> [http://www.forestry.gov.uk/pdf/fcfc001.pdf/\\$FILE/fcfc001.pdf](http://www.forestry.gov.uk/pdf/fcfc001.pdf/$FILE/fcfc001.pdf)

<sup>174</sup> <http://www.defra.gov.uk/rural/documents/forestry/20070620-forestry.pdf>

Axis 2 Rural Development Programme for England (RDPE)<sup>175</sup> payments are a route to enhancing the resilience of woodlands and thereby increasing future growth in a changing climate. In England, this is through the English Woodland Grant Scheme and currently contributes to enhanced resilience through:

1. The Woodland Creation Grant – coupled to effective implementation of UKFS and its Climate Change Guidelines.
2. The Woodland Improvement Grant can be targeted to increase the resilience to a range of threats, including climate change and also funds infrastructure such as roads to increase harvesting opportunities.
3. The Woodland Planning Grant requires woodland owners to plan for the future, providing an opportunity for the effects of and responses to climate change to be incorporated into the forest plan, as outlined in the Climate Change Guidelines that underpin the UK Forestry Standard.
4. The Woodland Management Grant can fund deer management and improved structural diversity for biodiversity objectives that will promote natural regeneration and the capacity for evolutionary adaptation.

DECC has funded the Forestry Commission (FC) to establish a series of short rotation forestry trials for biomass production. The trials include native and non-native species grown over rotations of seven to 15 years. The objectives are to establish growth rates of similar crops across England, evaluate their impacts on hydrology, landscape and biodiversity and demonstrate the economic viability of such systems. These trials will be complemented in appropriate locations by trials on the public forest estate.

A Climate Change Action Plan is also being prepared for FC woodlands, which will include field scale trials of minor species in UK forestry to date. The plan will also consider the potential for biomass production of natural regeneration of native species (primarily birch) grown over a short (15 year) rotation.

The FC encourage woodland management through ongoing support for woodland practice including felling licences, the network of woodland officers, biomass energy centre and distributing guidance such as *So You Own A Woodland*.<sup>176</sup>

Other wider measures are important for increasing biomass extraction by providing equipment and infrastructure. These include the bioenergy infrastructure grant, Bioenergy capital grant and in the future, the introduction of the proposed Renewable Heat Incentive (RHI) would facilitate increasing the market pull.

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<sup>175</sup> <http://www.defra.gov.uk/rural/rdpe/>

<sup>176</sup> [http://www.forestry.gov.uk/website/pdf.nsf/8edb12106b6f634f80256a1500435199/223c477831b01ddb802571d200285fd5/\\$FILE/so-you-own-a-woodland.pdf](http://www.forestry.gov.uk/website/pdf.nsf/8edb12106b6f634f80256a1500435199/223c477831b01ddb802571d200285fd5/$FILE/so-you-own-a-woodland.pdf)

## Impact on other sectors:

**(a) How will the impact of energy use of biomass on other sectors based on agriculture and forestry be monitored? What are these impacts? (If possible, please provide information also on quantitative effects.) Is the monitoring of these impacts planned in the future?**

Statistics on the area of non-food crops are compiled periodically<sup>177</sup>. These will be considered alongside crop and land use statistics compiled annually using the *June Survey of Agriculture and Horticulture*<sup>178</sup> to monitor and assess trends in agricultural land use.

In addition, the supply balance sheets for wheat and the other main agricultural crops which are compiled annually will break down the usage of supply into various categories (e.g. human consumption, animal feed, biofuel/bioenergy) to allow a further assessment of the impact of bioenergy usage within these commodity sectors.

We also monitor how farmers respond to a wider range of market price signals and reform of the Common Agricultural (in particular the decoupling of support payments) through our *Observatory Programme*<sup>179</sup> to assess the environmental impacts of resultant changes in farming activity. This will encompass monitoring the impact of changes in biomass production in the context of the fuller range of drivers impacting on the agricultural sector.

Statistics on UK roundwood and sawmill product deliveries to each of the wood processing sectors, to woodfuel and to export are compiled annually. We are developing statistics on other sources of woodfuel (including arboricultural arisings and recycled wood fibre). Annual statistics are also produced on new planting and restocking of woodland (including short rotation coppice)<sup>180</sup>.

We recognise that there may be competition for wood feedstocks between energy users, particularly electricity generators, and the wood products, paper and panel industries. Our focus on increasing bio-energy supplies from purpose-grown energy crops and non-wood waste material, which are not feedstocks for the other industries, will reduce this conflict. In April 2009, a sustainability reporting requirement to the Renewables Obligation for all electricity generators over 50kW using biomass was introduced. This will enable us to monitor the type and provenance of biomass used for electricity generation and hence to consider whether action may be necessary to prevent conflict with other industries.

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<sup>177</sup> <https://statistics.defra.gov.uk/esg/statnot/nonfoodcrops.pdf>

<sup>178</sup> [https://statistics.defra.gov.uk/esg/statnot/june\\_UK.pdf](https://statistics.defra.gov.uk/esg/statnot/june_UK.pdf)

<sup>179</sup> <https://statistics.defra.gov.uk/esg/ace/index.htm>

<sup>180</sup> Forestry Statistics 2009 -

<http://www.forestry.gov.uk/website/forstats2009.nsf/LUContentsTop?openview&RestrictToCategory=1>

**(b) What kind of development is expected in other sectors based on agriculture and forest that could have an impact on the energy use? (E.g. could improved efficiency/ productivity increase or decrease the amount of by-products available for energy use?)**

Research is in hand to increase yields of existing energy crops and to increase their resistance to disease, so reducing the need for pesticides. Research is also looking at potential new energy crops that could be grown in the UK in the future as the climate changes and the mean temperature increases.

#### **4.7. Planned use of statistical transfers between Member States and planned participation in joint projects with other Member States and third countries**

##### **4.7.1. Procedural aspects**

**(a) Describe the national procedures (step by step) established or to be established, for arranging a statistical transfer or joint project (including responsible bodies and contact points).**

No procedures have yet been established or proposed.

**(b) Describe the means by which private entities can propose and take part in joint projects either with Member States or third countries.**

See the response to 4.7.1(a).

**(c) Give the criteria for determining when statistical transfers or joint projects shall be used.**

See the response to 4.7.3.

**(d) What is going to be the mechanism to involve other interested Member States in a joint project?**

See the response to 4.7.1(a).

**(e) Are you willing to participate in joint projects in other Member States? How much installed capacity / electricity or heat produced per year are you planning to support? How do you plan to provide support schemes for such projects?**

Please see the response to 4.7.3.

#### **4.7.2. Estimated excess production of renewable energy compared to the indicative trajectory which could be transferred to other Member States**

Please see Table 9 below.

#### **4.7.3. Estimated potential for joint projects**

- (a) In which sectors can you offer renewable energy use development in your territory for the purpose of joint projects?**
- (b) Has the technology to be developed been specified? How much installed capacity / electricity or heat produced per year?**
- (c) How will sites for joint projects be identified? (For example, can local and regional authorities or promoters recommend sites? Or can any project participate regardless its location?)**
- (d) Are you aware of the potential for joint projects in other Member States or in third countries? (In which sector? How much capacity? What is the planned support? For which technologies?)**
- (e) Do you have any preference to support certain technologies? If so, which?**

The goal of the UK Renewable Energy Strategy was to achieve our overall 15% target through domestic action. The indicative UK trajectory demonstrates that this is possible and does not assume a contribution from the 'flexibility mechanisms' towards meeting the target in 2020.

Table 9 (below) presents our predictions of the amount of renewable energy that could be deployed in the UK, along with our central assumptions for overall energy demand (expressed as kilo tonnes of oil equivalent) as set out in our Forecast Document submitted at the beginning of 2010. This analysis indicates that the final interim target (2017/18) and the overall 2020 target would be met under the central demand assumption. There may be a marginal shortfall against the first three interim targets. However, given the range of variables that need to be forecast, including costs, take-up, supply and demand side barriers, as well as future fossil fuel and other prices, this shortfall in the interim years is likely to be well within forecasting error.

The analysis set out in Table 9 shows a small surplus of renewable energy in 2017/18 under our central assumption of overall energy demand. This falls well within the margin of forecasting error and does not, therefore, represent an opportunity for trading. We will, however, keep this under review. Any new information about generation potential will inform decisions on joint projects where we could theoretically share generated capacity with other Member States. For instance, given the significant potential for further offshore wind generation in the North Sea, joint projects could contribute to maximising both business benefits and efficient resource use. Substantial further work is needed to inform our next steps on this, so we are not setting out specific proposals on the level of excess production at this point.

#### 4.7.4. Estimated demand for renewable energy to be satisfied by means other than domestic production

**Table 9: Estimated excess and/or deficit production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States in the UK (ktoe)**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Interim RES Target (%)</b>		4.00%		5.40%		7.50%		10.20%			15.00%
<b>Interim Target ktoe (average over 2 years)</b>		5700		7600		10400		14100			20500
<b>Expected amount of energy from renewable sources in gross final consumption (ktoe) (average over 2 years)</b>		5600		7400		10200		14100			20500
<b>Estimated excess in forecast document</b>								0			
<b>Estimated excess in NREAP (ktoe)</b>								0			
<b>Estimated deficit in forecast document</b>		100		200		300					0
<b>Estimated deficit in NREAP (ktoe)</b>		100		200		300					0

## 5. Assessments

### **5.1. Total contribution expected of each renewable energy technology to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity, heating and cooling and transport**

The figures shown in Tables 10a and 10b below are an estimate of one potential technology mix that could be used to meet the target. Again, they should not be taken as an upper limit to our ambition for renewables deployment. We are keen to go further and have commissioned the Committee on Climate Change to provide independent advice on increasing the level of ambition for renewables in the UK. Alongside this we are also taking strong, co-ordinated action to accelerate delivery by identifying and tackling the barriers to deployment that will enable the market to respond.

**Table 10 (a): Estimation of total contribution (installed capacity, gross electricity generation) expected from each renewable energy technology in the UK to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity 2010-2014**

		2005		2010		2011		2012		2013		2014	
		MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Hydro (see note 2)													
	ROC eligible: mainly <20MW			640	1970	690	2100	730	2230	770	2350	810	2480
	Not ROC eligible: mainly >20MW			1070	3130	1070	3130	1070	3130	1070	3130	1070	3130
Geothermal													
Solar													
	<i>PV</i>	11	8	50	40	140	120	280	240	490	410	730	610
	<i>concentrated solar power</i>			0	0	0	0	0	0	0	0	0	0
Tide, Ocean	Wave			0	0	0	0	0	0	0	0	0	0
Wind													
	<i>Onshore</i>	1351	2501	4040	9520	5270	12480	5970	14200	6720	15990	7540	17970
	<i>Offshore</i>	214	403	1390	4630	1980	6650	2650	8970	3470	11800	4450	15200
Biomass													
	<i>solid</i>	501	4347	580	5500	590	5970	730	6640	880	7050	1030	7500
	<i>biogas</i>	957.4	4762	1340	6830	1320	6720	1300	6620	1280	6510	1260	6410
	<i>bioliquids</i> (see note 3)												
	<b>Total</b>			<b>9110</b>	<b>31630</b>	<b>11040</b>	<b>37160</b>	<b>12720</b>	<b>42010</b>	<b>14660</b>	<b>47220</b>	<b>16880</b>	<b>53280</b>
of which	CHP (see note 4)			0	0	0	0	30	210	60	420	90	630



**Table 10(b): Estimation of total contribution (installed capacity, gross electricity generation) expected from each renewable energy technology in the UK to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity 2015-2020**

		2015		2016		2017		2018		2019		2020	
		MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Hydro (see note 2)													
	ROC eligible: mainly <20MW	850	2600	890	2730	930	2860	970	2980	1010	3110	1060	3230
	Not ROC eligible: mainly >20MW	1070	3130	1070	3130	1070	3130	1070	3130	1070	3130	1070	3130
Geothermal													
Solar													
	<i>PV</i>	1070	890	1400	1170	1720	1440	2040	1710	2360	1970	2680	2240
	<i>concentrated solar power</i>	0	0	0	0	0	0	0	0	0	0	0	0
Tide, Wave Ocean		0	0	200	690	400	1380	700	2070	1000	2980	1300	3950
Wind													
	<i>Onshore</i>	8710	20610	9980	23460	11350	26500	12770	29690	13840	31920	14890	34150
	<i>Offshore</i>	5500	18820	6810	23270	8310	28300	9800	33350	11300	38400	12990	44120
Biomass													
	<i>solid</i>	1290	7990	1580	10070	1910	12420	2260	14870	2660	17540	3140	20590
	<i>biogas</i>	1240	6300	1210	6150	1180	6010	1150	5860	1130	5710	1100	5570
	<i>bioliquids (see note 3)</i>	0	0	0	0	0	0	0	0	0	0	0	0
	<b>total</b>	<b>19720</b>	<b>60330</b>	<b>23160</b>	<b>70660</b>	<b>26900</b>	<b>82000</b>	<b>30730</b>	<b>93620</b>	<b>34340</b>	<b>104740</b>	<b>38210</b>	<b>116970</b>
of which CHP (see note 4)		120	840	150	1050	180	1260	210	1470	240	1680	270	1890

**Notes to Tables 10a and 10b**

1. Source: 2005 data DECC statistics, forecasts from modelling by independent analysts Redpoint/Trilemma and Element Energy for the Renewable Energy Strategy
2. Estimates by sizes defined not available in forecast material. For 2005 the size breakdown for hydro is:
3. No estimates are currently available for bioliquids
4. For large scale biomass only (not including wastes). Does not take account of the introduction of the Renewable Heat Incentive

	MW	GWh
<1MW	56	44
1MW-10MW	102	399
>10MW	1343	4478

**Table 11: Estimation of total contribution (final energy consumption) expected from each renewable energy technology in the UK to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in heating and cooling 2010-2020 (ktoe)**

	2005 (5)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Geothermal (excluding low temperature geothermal heat in heat pump applications)</b>	0.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Solar</b>	29	34	34	34	34	34	34	34	34	34	34	34
<b>Biomass:</b>												
Solid	493	305	365	444	551	697	904	1161	1548	2052	2765	3612
Biogas	67	18	22	27	33	42	54	86	115	152	232	302
bioliquids (see note 2 )												
<b>Renewable energy from heat pumps:</b>												
— of which aerothermal	n/a	66	79	96	118	150	194	342	456	604	996	1301
— of which geothermal	n/a	120	143	174	216	273	354	433	578	766	730	953
— of which hydrothermal	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Total</b>	590	518	621	756	937	1186	1537	2039	2719	3604	4746	6199
<b>Of which DH ( see note 3 )</b>	n/a	42	51	62	77	97	126	102 <sup>129</sup>	136	181	176	181 <sup>230</sup>
<b>Of which biomass in households (see note 4)</b>	n/a	33	40	48	60	76	98	129 222 163	296	392	543	181 709 413

**Notes to Table 11**

1. Source: UK Renewable Energy Strategy 2009: Impact Assessment for the heat sector” and the supporting consultants’ report “NERA/AEA 2009: the UK supply curve for renewable heat”. [http://decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)
2. No estimates currently available for bioliquids.
3. District heating and/or cooling from total renewable heating and cooling consumption (RES-DH).
4. From the total renewable heating and cooling consumption.
5. The 2005 data includes renewable heat from biomass and biogas CHP which is not captured in the post 2010 data

**Table 12: Estimation of total contribution expected from each renewable energy technology in the UK to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in the transport sector 2010-2020 (ktoe)<sup>35</sup>**

	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Bioethanol/ bio-ETBE</b>	18	135	179	217	244	471	692	909	1,121	1,331	1,538	1,743
<i>Of which Biofuels(2) Article 21.2</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Of which imported(3)</i>	-	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
<b>Biodiesel</b>	57	861	1,135	1,376	1,544	1,682	1,818	1,952	2,084	2,213	2,339	2,462
<i>Of which Biofuels(4) Article 21.2</i>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Of which imported(5)</i>	-	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%
<b>Hydrogen from renewables</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>Renewable electricity</b>	113	136	146	156	167	179	192	205	219	234	250	267
<i>Of which road transport</i>	0	0	0	1	1	2	4	7	11	16	22	29
<i>Of which non-road transport</i>	113	136	146	156	166	177	187	198	208	218	228	238
<b>Others (as biogas, vegetable oils, etc.) – please specify</b>	0	0	0	0	0	0	0	0	0	0	0	0
<i>Of which Biofuels(6) Article 21.2</i>	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	188	1,132	1,461	1,750	1,955	2,332	2,702	3,066	3,424	3,777	4,127	4,472

**Notes to table 12**

1. For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1) last subparagraph.
2. Biofuels that are included in Article 21(2) of Directive 2009/28/EC.
3. From the whole amount of bioethanol / bio-ETBE
4. Biofuels that are included in Article 21(2) of Directive 2009/28/EC.
5. From the whole amount of biodiesel
6. Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

## **5.2. Total contribution expected from energy efficiency and energy saving measures to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity, heating and cooling and transport.**

Please see Table 1.

## **5.3. Assessment of the impacts (Optional)**

Alongside the publication of the Renewable Energy Strategy in 2009, we undertook analysis on the likely impact. This is published on the DECC website<sup>181</sup>.

## **5.4. Preparation of the National Renewable Energy Action Plan and the follow-up of its implementation**

### **(a) How were regional and/or local authorities and/or cities involved in the preparation of this Action Plan? Were other stakeholders involved?**

This National Renewable Energy Action Plan is based on the UK Renewable Energy Strategy which was developed following an extensive consultation exercise with the Devolved Administrations, regional and local Government, other public groups, the private sector and members of the public.

### **(b) Are there plans to develop regional/local renewable energy strategies? If so, could you please explain? In case relevant competences are delegated to regional/local levels, what mechanism will ensure national target compliance?**

For the most part energy is a reserved matter for the Government in Great Britain, however many of the mechanisms to help deploy greater levels of renewables are matters which are decided upon on a national basis. The UK Government is working closely with the Devolved Administrations in Wales, Scotland and Northern Ireland who have a key part to play in meeting our overall target. The Devolved Administrations have each put forward their own plans to increase the deployment of renewable energy.

At present there are not any UK plans for any regional or local renewable energy in transport strategies.

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<sup>181</sup> [http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/res/res.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/res/res.aspx)

**(c) Please explain the public consultation carried out for the preparation of this Action Plan.**

This action plan is based on the UK Renewable Energy Strategy which was developed following an extensive consultation exercise with the Devolved Administrations, regional and local Government, other public groups, the private sector and members of the public.

**(d) Please indicate your national contact point / the national authority or body responsible for the follow-up of the Renewable Energy Action Plan?**

The national contact point responsible for follow up of the Renewable Energy Action Plan will be the Office for Renewable Energy Deployment in the Department of Energy and Climate Change.

**(e) Do you have a monitoring system, including indicators for individual measures and instruments, to follow-up the implementation of the Renewable Energy Action Plan? If so, could you please give more details on it?**

We will be monitoring progress in line with our interim trajectory as we move toward 2020. The UK already produces a comprehensive set of metrics on renewable energy and deployment issues and we will continue to refine and expand on these data sets where appropriate in order to ensure that we will achieve the 2020 targets.

In Chapter 8 of the Renewable Energy Strategy (RES) we set out our action plan for implementing the policies detailed there. One of the key factors in meeting the commitments in the RES was to set up the Office for Renewable Energy Deployment. This was formed in DECC in the Summer of 2009. ORED have recently undertaken a programme of work, together with external consultants, on a coordinated delivery plan which will outline how we can successfully implement the remaining commitments the UK made in the Renewable Energy Strategy and set out here in the National Renewable Energy Action Plan. This is due to be published later this year.

## **Annex of Terms:**

- BIS** – Department of Business, Innovation and Skills
- BRE** – Better Regulation Executive
- CCL** – Climate Change Levy exemptions for Renewables
- CHP** – Combined Heat and Power
- CLG** – Communities and Local Government
- DECC** – Department of Energy and Climate Change
- Defra** – Department of Environment, Food and Rural Affairs
- DETI** – Department of Energy, Trade and Investment (Northern Ireland)
- DFP** – Department of Finance and Personnel (Northern Ireland)
- DfT** – Department for Transport
- ENSG** – Electricity Networks Strategy Group
- FC** – Forestry Commission
- FITs** – Feed-in Tariffs
- GIB** – Green Investment Bank
- HMRC** – Her Majesty’s Revenue and Custom
- JNCC** – Joint Nature Conservation Council
- LCBP** – Low Carbon Buildings Programme
- LDC** – Lawful Development Certificate
- LPA** – Local Planning Authority
- MCS** – Microgeneration Certification Scheme
- MMO** – Marine Management Organisation
- NI** – Northern Ireland
- NIAUR** – Northern Ireland Authority for Utility Regulation
- NPS** – National Policy Statement

**Ofgem** – Office of the Gas and Electricity Markets

**ORED** – Office for Renewable Energy Deployment

**PAS** – Planning Advisory Service

**PPS** – Planning Policy Statement

**RED** – Renewable Energy Directive (2009)

**RES** – Renewable Energy Strategy

**RHI** – Renewable Heat Incentive

**RO** – Renewables Obligation

**RTFO** – Renewable Transport Fuel Obligation

**SSC** – Sector Skills Councils

**TAN** – Technical Advice Note

**TSO** – Transmission System Operator

**UCO** – Used Cooking Oil