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# **First Progress Report on the Promotion and Use of Energy from Renewable Sources for the United Kingdom**

**Article 22 of the Renewable Energy Directive  
2009/28/EC**

## Introduction

### Our commitment to renewables

The UK Government recognizes the vast and varied resources we have across the UK to provide energy from renewable sources, and has made clear its commitment to meeting our target of 15% target by 2020 from across the electricity, heat and transport sectors.

Renewables will play a key role in the decarbonisation of our energy supply, necessary by 2030. They will be crucial to help protect consumers from fossil fuel price fluctuations, help contribute to our long-term energy security, and drive investment in new jobs and businesses.

Our Carbon Plan suggests that around 40-70GW<sup>1</sup> of new low carbon electricity generating capacity will be needed by 2030. Our analysis shows that renewables could provide 35-50GW of that capacity. However delivering this will require us to work with the market to significantly reduce costs and remove barriers.

### Progress to date

Over the course of 2009 and 2010 we introduced a series of measures to provide and improve the effectiveness of financial incentives, remove the barriers to increased rates of deployment, develop supply chains and encourage innovation in these emerging technologies.

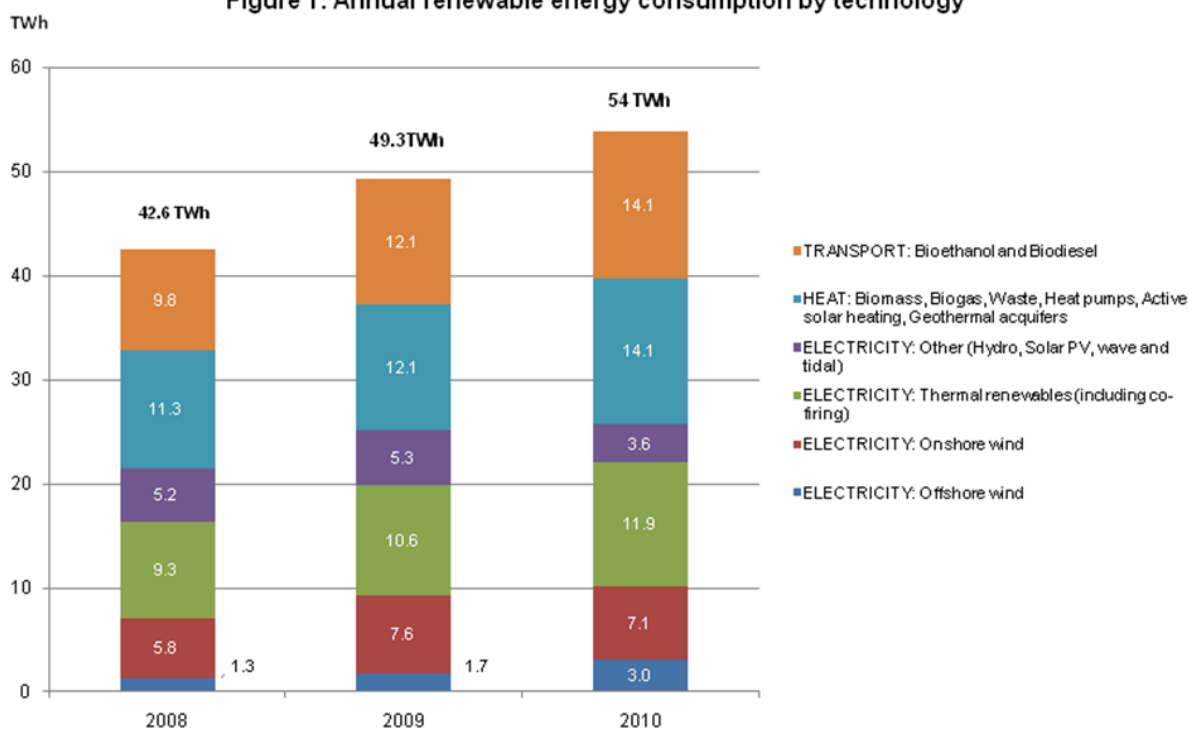
Our actions included introducing differential rates of support for individual electricity technologies through the banding of the Renewables Obligation; the launch of our Feed-in Tariff scheme for smaller scale electricity generation, and a further increase in the obligation (through the Renewable Transport Fuels Obligation) on fossil-fuel suppliers to supply a greater percentage of biofuels in road transport. We introduced 'Connect and Manage' to make it easier for renewables developments to connect to the electricity grid and launched the Offshore Transmission Owner (OFTO) regime to introduce a competitive approach to the granting of offshore transmission licenses.

By the end of 2010, as shown in Figure 1, renewable energy accounted for 54TWh (3.3%) of the UK's total energy consumption in 2010 - an increase of 27% over the 2 year period.

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<sup>1</sup> Depends upon future energy demand and the mix of generation that is built

**Figure 1: Annual renewable energy consumption by technology**



Renewable electricity increased by 19% from 21.6TWh to 25.7TWh and renewable heat by 25% from 11.3TWh to 14.1TWh. In 2009 and 2010 we increased our wind generation by 46% and in 2010 achieved the milestone of 5GW installed capacity from offshore and onshore wind. In that same period we also increased electricity generated from biomass by over 25%, and increased the share of biofuels in road transport from 1.1% in 2007/8 to 3.3% in 2009/10.

### Going forward to 2020

While we are on track to achieve our first interim target in 2011/12 we know the rate of deployment will need to be further increased to ensure we meet the interim targets towards the end of the decade.

Renewable electricity is already well established in the power sector. The existing pipeline of large-scale projects is strong, with around 25GW of potential new capacity in planning, consented or under construction.

The Renewable Heat Incentive (RHI), the first of its kind anywhere in the world, opened for applications from the non-domestic sector at the end of November 2011, to encourage installation of equipment like heat pumps and biomass boilers.

In renewable transport, the Government is committed to meeting the transport sub-target of 10% renewables by 2020. The vast majority of renewables usage in road transport has been in biofuels, driven by the Renewable Transport Fuels Obligation (RTFO). The RTFO will deliver 5% by volume of renewable transport fuel by 2014. We need, in particular, to consider the Commission's recommendations on Indirect Land Use Change (ILUC), before

consulting in 2012 on the possible approach post-2014. The Government believes that ultra low-emission vehicles have an important role to play in the decarbonisation of UK transport. It is taking action to create a more level playing field between the cost of new and existing technologies, until scale effects drive the cost of new technologies down to a more competitive level.

Our Renewable Energy Roadmap<sup>2</sup> – published in July 2011 – lays out a plan of action for Governments across the UK to further accelerate renewables deployment, drive innovation and reduce the cost of renewables to ensure value for money for the consumer. It identifies those technologies that have either the greatest potential to help meet the 2020 target in a cost effective and sustainable way, or offer the greatest potential for the decades that follow.

The Roadmap highlights a series of further measures we are now putting in place to put us on the path to achieving both our interim targets and the 2020 target, while working with industry to drive down the cost of renewables to ensure value for money for the consumer.

The measures include:

#### **Financial Support**

- Electricity Market Reform (EMR) to enable investment in a range of low-carbon technologies, through the introduction of a new low-carbon support mechanism from 2014.
- Introduction of new banding for the Renewables Obligation from 2013, with a managed transition to the new EMR mechanism.
- Launch of the Renewable Heat incentive for industrial and commercial deployment in November 2011.

#### **Unblocking barriers to deployment**

- Work with an industry led task force to drive down the cost of offshore wind to £100/MWh by 2020.
- A programme with industry to deploy solutions to address the possible interference of wind energy to radar and aviation systems.
- Reform of the planning system – with the introduction of the National Planning Policy Framework and a new process for decisions on national infrastructure projects.
- The introduction of a new system of marine planning and licensing designed to deliver sustainable development and provide regulatory simplicity and certainty for developers.
- Publication of our Bioenergy Strategy in early 2012 to provide a framework for the deployment of sustainable bioenergy and stimulate further research to help fill evidence gaps.
- Offshore wind and biomass electricity are likely to be priority sectors for support from the Green Investment Bank.

#### **Support for innovation and supply chain development**

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<sup>2</sup> UK Renewable Energy Roadmap – published by DECC July 2011

- Up to £50million support over the next 3 years for innovation in offshore wind and marine energy and to reduce technology costs
- Up to £60million support available to 2015 to develop offshore wind manufacturing facilities at assisted areas in England.
- The Scottish Government will provide £70million to strengthen port and manufacturing facilities for offshore turbines and related components.
- More than £400million support to 2014 for the Ultra Low Emission Vehicles (ULEVs), including the 'Plug-in Car Grant' scheme to provide customers with up to 25% (up to a value of £5000) of the purchase price of a vehicle.
- Around £80million over the next 3 years to support a programme of research and development in ultra-low carbon technologies.

### **The Progress Report**

This our first progress report, to be produced on a two-yearly basis, provides information required within the reporting requirements of the Directive, and makes use of the template provided by the Commission.

**1. Sectoral and overall shares and actual consumption of energy from renewable sources in the preceding 2 years (n-1; n-2 e.g. 2010 and 2009) (Article 22 (1) a of Directive 2009/28/EC)).**

**Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources<sup>3</sup>**

	2009	2010
RES-H&C <sup>4</sup> (%)	1.7	1.8
RES-E <sup>5</sup> (%)	6.6	7.4
RES-T <sup>6</sup> (%)	2.5	2.9
Overall RES share <sup>7</sup> (%)	3.0	3.3
<i>Of which from cooperation mechanism<sup>8</sup> (%)</i>	0	0
<i>Surplus for cooperation mechanism<sup>9</sup> (%)</i>	0	0

**Table 1a: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)<sup>10</sup>**

	2009	2010
(A) Gross final consumption of RES for heating and cooling	961	1115
(B) Gross final consumption of electricity from RES	2138	2406
(C) Gross final consumption of energy from RES in transport	1041	1203
(D) Gross total RES consumption <sup>11</sup>	4087	4668
(E) Transfer of RES <u>to</u> other Member States	0	0
(F) Transfer of RES <u>from</u> other Member States and 3rd countries	0	0
(G) RES consumption adjusted for target (D)-(E)+(F)	4087	4668

<sup>3</sup> Facilitates comparison with Table 3 and Table 4a of the NREAPs.

<sup>4</sup> Share of renewable energy in heating and cooling: gross final consumption of energy from renewable sources for heating and cooling (as defined in Articles 5(1)b) and 5(4) of Directive 2009/28/EC divided by gross final consumption of energy for heating and cooling. The same methodology as in Table 3 of NREAPs applies.

<sup>5</sup> Share of renewable energy in electricity: gross final consumption of electricity from renewable sources for electricity (as defined in Articles 5(1)a) and 5(3) of Directive 2009/28/EC divided by total gross final consumption of electricity. The same methodology as in Table 3 of NREAPs applies.

<sup>6</sup> Share of renewable energy in transport: final energy from renewable sources consumed in transport (cf. Article 5(1)c) and 5(5) of Directive 2009/28/EC divided by the consumption in transport of 1) petrol; 2) diesel; 3) biofuels used in road and rail transport and 4) electricity in land transport (as reflected in row 3 of Table 1). The same methodology as in Table 3 of NREAPs applies.

<sup>7</sup> Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of NREAPs applies.

<sup>8</sup> In percentage point of overall RES share.

<sup>9</sup> In percentage point of overall RES share.

<sup>10</sup> Facilitates comparison with Table 4a of the NREAPs

<sup>11</sup> 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.

**Table 1.b: Total actual contribution (installed capacity, gross electricity generation) 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<sup>12</sup>**

	2009		2010	
	MW	GWh	MW	GWh
Hydro <sup>13</sup> :	1645	4910	1648	4790
non pumped				
<1MW	72	223	70	229
1MW–10 MW	187	546	193	580
>10MW	1386	4142	1386	3981
pumped	0	0	0	0
mixed <sup>14</sup>	0	0	0	0
Geothermal	0	0	0	0
Solar:				
photovoltaic	27	20	77	33
concentrated solar power	0	0	0	0
Tide, wave, ocean	2.5	0.6	2.6	1.8
Wind (normalised):	4424	9333	5378	11239
onshore	3483	7497	4037	8392
offshore	941	1836	1341	2847
Biomass	1932	10596	2097	11914
solid biomass	1932	10596	2097	11914
biogas	0	0	0	0
bioliquids	0	0	0	0
<b>TOTAL</b>	<b>8030</b>	<b>24861</b>	<b>9202</b>	<b>27977</b>
of which in CHP				

Note to table: pumped storage has been included in the table but is not included in the Hydro or overall totals, as it is not a renewable resource.

Note: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustainability criteria in place – known as the “qualifying standard”, which was broadly similar to the directive’s sustainability criteria.

**Table 1c: Total actual contribution (final energy consumption<sup>15</sup>) 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 (ktoe)<sup>16</sup>**

	2009	2010
Geothermal (excluding low temperature geothermal heat in heat pump applications)	0.8	0.8
Solar	70	87
Biomass	863	967
solid biomass		
biogas		
bioliquids		
Renewable energy from heat pumps:	29	61
- of which aerothermal		
- of which geothermal		
- of which hydrothermal		
<b>TOTAL</b>	<b>962</b>	<b>1115</b>
Of which DH <sup>17</sup>		
Of which biomass in households <sup>18</sup>	322	335

<sup>12</sup> Facilitates comparison with Table 10a of the NREAPs.

<sup>13</sup> Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.

<sup>14</sup> In accordance with new Eurostat methodology.

<sup>15</sup> Direct use and district heat as defined in Article 5.4 of Directive 2009/28/EC.

<sup>16</sup> Facilitates comparison with Table 11 of the NREAPs.

<sup>17</sup> District heating and / or cooling from total renewable heating and cooling consumption (RES- DH).

Note: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustainability criteria in place – known as the “qualifying standard”, which was broadly similar to the directive’s sustainability criteria.

**Table 1d: Total actual contribution 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 (ktoe),<sup>19</sup>**

	2009	2010
Bioethanol/ bio-ETBE	163	321
<i>Of which Biofuels<sup>20</sup> Article 21.2</i>	0*	0*
<i>Of which imported<sup>21</sup></i>	124	248
Biodiesel	826	827
<i>Of which Biofuels<sup>22</sup> Article 21.2</i>	0*	0*
<i>Of which imported<sup>23</sup></i>	649	689
Hydrogen from renewables	0	0
Renewable electricity	52	56
<i>Of which road transport</i>	0.2	0.3
<i>Of which non-road transport</i>	52	56
Others (as biogas, vegetable oils, etc.) – please specify	0	0
<i>Of which Biofuels<sup>24</sup> Article 21.2</i>	0	0
<b>TOTAL</b>	1041	1203

\*Double counting measures were not implemented in the UK in 2009 or 2010

Note: The biofuel sustainability criteria (as set out in Article 17(2) to (6) of the Directive were not established at the time that biofuel reported in this table were supplied. As such, we have reported all amounts of biofuel supplied in 2009 and 2010. During these years, the UK did have voluntary sustainability criteria in place – known as the “qualifying standard”, which was broadly similar to the directive’s sustainability criteria.

## **2. Measures taken in the preceding 2 years and/or planned at national level to promote the growth of energy from renewable sources taking into account the indicative trajectory for achieving the national RES targets as outlined in your National Renewable Energy Action Plan. (Article 22(1)a) of Directive 2009/28/EC)**

**Table 2: Overview of all policies and measures**

<i>Name and reference of the measure</i>	<i>Type of measure*</i>	<i>Expected result**</i>	<i>Targeted group and or activity***</i>	<i>Existing or planned****</i>	<i>Start and end dates of the measure</i>
1. Renewables Obligation (RO)	Regulatory	Increase generation of renewable electricity from a range of technologies	Primarily large scale renewable electricity generation by licensed generators.	Existing	Started in 2002 the scheme will remain open to new projects until 31 <sup>st</sup> March 2017. Support is provided to renewable deployment projects for up to 20 years from time of accreditation (in Northern Ireland the period covered is up to 2033)
Introduction of new	Financial	Increase generation	Primarily large-	Planned	We intend to

<sup>18</sup> From the total renewable heating and cooling consumption.

<sup>19</sup> Facilitates comparison with Table 12 of the NREAPs.

<sup>20</sup> Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

<sup>21</sup> From the whole amount of bioethanol / bio-ETBE.

<sup>22</sup> Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

<sup>23</sup> From the whole amount of biodiesel.

<sup>24</sup> Biofuels that are included in Article 21(2) of Directive 2009/28/EC.



Contract for Difference (CfD) support mechanism		from a range of low-carbon electricity technologies	scale low carbon electricity generation, including renewables, by professional energy companies		implement the new mechanism by Spring 2013 with the first projects supported from 2014. Between the introduction of the CfD in 2014 and close of the RO in 2017 new generation will have a choice between the two mechanisms.
2. Feed in Tariffs (FiTs)	Financial	Incentivise generation of low-carbon electricity from a range of smaller scale technologies	Households, communities and small businesses investing in projects up to 5MW	Existing	Introduced on 1 <sup>st</sup> April 2010. New entrants will be eligible for 10-25 years, dependent upon the technology)
3. Renewable Heat Incentive (RHI)	Financial	Increase generation of renewable heat from a range of technologies across all scales	Initially communities and businesses generating renewable heat at all scales.	Existing	Opened for applications from the non-domestic sector at the end of November 2011. The Government intends that the scheme remains open to new applications until at least 2020. Once in the scheme, support lasts for 20 years
4. Renewable Heat Premium Payment	Financial	Financial support to encourage the domestic deployment of renewables	Householders	Existing	August 2011 – March 2012
5. Green Investment Bank	Financial	Mobilising private sector investment into green infrastructure	Developers and investors	Planned	Government has made £3bn of funding available for the GIB from 2012/13 to 2014/15.
6. Renewable Transport Fuel Obligation (RTFO)	Regulatory	Increase the proportion of renewable fuel in road fuel	Fuel suppliers	Existing	The RTFO was launched on 15 <sup>th</sup> April 2008., and is ongoing
7. Duty differential on biofuels	Financial	Increase the uptake of biofuels	Fuel suppliers and users	Finished – replaced by #8	Biodiesel from 2002 and Bioethanol from 2005. Finished in April 2010
8. Duty differential on fuel produced from Used Cooking Oil	Financial	Support the supply of UCO biodiesel	Fuel suppliers and users	Existing	April 2010 to March 2012
9. Climate Change Levy Exemption	Financial	Increase renewable electricity through exemption of generation from the Climate Change Levy	Corporates and electricity generators	Existing	Ongoing
10. National Policy Statements	Regulatory	The NPSs set out national policy against which major energy projects will be assessed and decided upon by the Infrastructure Planning Commission or the Secretary of State	Planners	Existing	The NPSs were designated in July 2011

<i>11. National Planning policy Framework to set out planning policy for local development</i>	Administrative	The NPPF will, once published, 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 of renewable energy projects 50MW or under.	Planned	Consultation on a draft Framework closed in October 2011. The Government is committed to the publication of the final version of the framework by 31 March 2012, but intend to do so well ahead of that time
<i>12. Business rate retention: renewable energy projects</i>	Financial	Would allow business rates revenues from new renewable energy projects to be kept by the local authorities	Local Planning Authorities	Planned	Proposals published, and primary legislation introduced, on 19 December 2011 with a view to introducing business rates retention from April 2013.
<i>13. Zero Carbon Buildings and Building Regulations</i>	Regulatory	New homes (from 2016) and new non-domestic buildings (from 2019) should not add extra carbon emissions to the atmosphere.	Developers, building owners and occupiers	Existing	Proposals for options for 2013 change to the Building Regulations planned for publication in early 2012.
<i>14. Offshore Wind technology development - facilities</i>	Infrastructure	Provision of testing and proving facilities for offshore wind	Developers, manufacturers of offshore wind components	Existing	Development of shared industry testing facilities at NaREC in Blyth. Planned investment in drive test rig.
<i>15. UK Marine Energy Testing Infrastructure</i>	Infrastructure	Provision of testing facilities for developers of wave and tidal energy technologies	Developers, manufacturers of wave and tidal devices	Existing	European Marine Energy Centre (EMEC) in Orkney – wave testing site opened in 2003 and tidal testing site in 2007. Wave Hub wave array testing facility deployed in 2010.
<i>16. Radar and aviation programme</i>	Infrastructure	Joint funding with industry to develop solutions to possible interference of wind turbines with military and civilian air traffic systems	Developers, manufacturers and operators of air traffic systems	Existing and planned	Deployment plan being developed with industry
<i>17. Offshore Transmission Operators Regime</i>	Regulatory	Competitive approach to granting of offshore transmission licences to encourage innovation and new market entrants	Developers and offshore transmission operators	Existing and planned	Four licences have been granted and further licences are being tendered for under Round 2 of the process
<i>18. Electricity Market Reform</i>	Regulatory	Package of measures to enable investment in low-carbon electricity generation – See separate entry in Item 1 for the Contract for Difference mechanism within this package.	Investors and developers in low-carbon electricity	Planned	Electricity Market Reform (EMR) White Paper sets out a Carbon Price Floor, long-term Feed in Tariffs with Contracts for Difference (see measure 1), the Emissions Performance Standard and a Capacity Mechanism

19. <i>Microgeneration strategy</i>	Soft	Plan of action to remove the non-financial barriers to deployment of microgeneration.	Suppliers, installers and investors in microgeneration	Existing	The strategy was published in June 2011.
20. <i>MCS installers</i>	Regulatory	Scheme for installers of microgeneration to become accredited	Installers of microgen	Existing	MCS started in Feb 2006
21. <i>Plugged-In Places programme for plug-in vehicles</i>	Financial	Increase recharging infrastructure to support and enable increase in plug-in vehicles	Investors in recharging infrastructure	Existing	April 2010 to March 2013
22. <i>Financial support for ULEVs</i>	Financial	Increase the uptake of ultra low carbon vehicles[HDS1]	Consumers – both private and business buyers	Existing	January 2011 to March 2015, subject to review
23. <i>Collaborative Research and Development for ultra low carbon technologies</i>  <i>(through the Low Carbon Vehicle Innovation Platform)</i>	Financial (Grant support matched by private investment)	Support, develop and accelerate UK R&D and UK supply chain to deliver ultra low carbon vehicles. Vehicle	Manufacturers, SMEs, supply chain, investors and academia.	Existing	2007/08 to 2014/15
<i>Measures being taken by the Devolved Administrations</i>					
<b>Name and reference of the measure</b>	<b>Type of measure*</b>	<b>Expected result**</b>	<b>Targeted group and or activity***</b>	<b>Existing or planned****</b>	<b>Start and end dates of the measure</b>
24. <i>GP WIND</i>	Soft	Behavioural change, assisting quicker, more transparent and cheaper deployment of wind energy across Europe through faster decision making and increased application efficiency. Good practice guidance and a how to toolkit will be promoted for adoption by a range of stakeholders across Europe.	All stakeholders in wind energy development. The project will focus on facilitating deployment of practices which positively address environmental issues and the concerns of local communities.	Complements the Renewables Obligation, Feed-in Tariffs, EIB, Green Investment Bank, the Rural Development Programme, Second National Planning Framework for Scotland, Scottish Planning Policy, Technology Development – facilities, Information/ Ad campaigns, Scottish Low Carbon Economy Strategy Discussion Paper, Community and Renewable Energy Scheme, Scottish National Renewables Infrastructure Plan.	August 2010 – August 2012

25. Community and Renewable Energy Scheme (CARES).	Soft and Financial	Installed capacity and energy generated. In 2009/2010 CARES supported renewable energy projects with a total annual generating capacity of 13.4GWh.	CARES provides advice to communities wishing to take forward renewable energy schemes. It also provided grants during the period in question.	Complements the Renewables Obligation, the Rural Development Programme, Renewable Heat Incentive and the Scottish Low Carbon Economy Strategy Discussion Paper.	CARES was launched in 2009 with a budget of over £13 million. The scheme closed to new grant applications in August 2010 but continued to provide advice and process existing applications. A new CARES Loan Fund was launched in February 2011.
26. <i>second national Planning Framework for Scotland</i>	Regulatory	Behavioural change, installed capacity, energy generated.	Planning authorities, developers, Strategic and local planning policy, and planning applications, energy industry, applications under the Electricity Act 1989, Reporters for planning appeals and examinations.	Compliments Feed in Tariffs, Renewable heat incentive, Scottish Biomass Heat support scheme, Building Standards.  In place of National Planning Policy Framework and National Planning Policy Statements (which do not apply in Scotland)	Published 2009, Monitoring Report due winter 2011/12
27. <i>Scottish Planning Policy</i>	Soft	Behavioural change, installed capacity, energy generated.	Planning authorities, developers, strategic and local planning policy, and planning applications, applications under the Electricity Act 1989, Reporters for planning appeals and examinations, industry.	Compliments Feed in Tariffs, Renewable heat incentive, Scottish Biomass Heat support scheme, Building Standards.  In place of Planning Policy Statements (which do not apply in Scotland).	Published 2010
28. <i>Scottish Biomass Heat support scheme</i>	Financial	Behavioural change, installed capacity, energy generated	Small and Medium Sized Enterprises (SMEs) across Scotland. The scheme encouraged the take-up of biomass boilers and the development of district heating demonstrators.	Was prior to and complements the Renewable Heat Incentive. Also complements the second National Planning Policy Framework for Scotland and Scotland's Renewable Heat Action Plan.	£3.3 million was available from April 2009 – March 2011
29. <i>Scottish Renewables Infrastructure Plan (N-RIP)</i>	Soft	Behavioural change	Developers, port authorities/owners, potential inward investors. The purpose of the National Renewables Infrastructure Plan (N-RIP) is to support the development of a globally competitive offshore renewables industry based in Scotland. Stage 1 sets out the first phase sites/locations which are expected to support the	Complements: . Green Investment Bank, National Policy Statements, National Planning Policy Framework to set out planning policy for local development, Offshore Wind technology development – facilities, Wave and Tidal Energy Research and Development Scheme (WATERS), Scottish Low	February 2010 – ongoing

			development of the Scottish offshore wind industry. Stage 2 sets out the investment that port owners estimate they would need to make to fully develop the 11 first phase sites identified in Stage 1 N-RIP Report for use for Offshore Wind manufacturing	Carbon Economy Strategy Discussion paper, Saltire Prize	
<i>30. National Renewables Infrastructure Fund (N-RIF)</i>	Financial	Behavioural Change  To increase and accelerate investment in offshore renewables infrastructure	£70 million has been created to invest in some of the sites identified in the N-RIP report (above) to support the development and deployment of offshore renewables.	Existing	October 2011 - ongoing
<i>31. Saltire Prize</i>	Financial	Behavioural Change  To accelerate the development of marine renewable technologies and deployment	£10 million innovation prize to accelerate the development of marine renewable deployments in Scotland.	Existing	Prize to be awarded in July 2017.
<i>32. Scottish Online Renewables Planning Advice</i>	Soft	suggesting areas of focus for planning, sharing good practice, resulting in behavioural change	all stakeholders in planning process	existing and planned (further online advice)	ongoing
<i>33. Northern Ireland Biomass Processing Challenge Fund (DARD)</i>	Financial	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.	Completed  Planned	June 2010 to August 2010.  A 2 <sup>nd</sup> tranche is planned to start in January 2012 for a period of 2 years.
<i>34. Northern Ireland Planning policy Statement 18</i>	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

35. <i>Zero Carbon Homes</i>	Regulatory	All new -homes in Northern Ireland to be low or zero carbon from 2017– to stimulate greater uptake of on-site renewables (under review)	Development of new housing	Planned (under review)	To come into operation (subject to review) from 2017 - 2020
36. <i>Zero carbon Non-domestic buildings</i>	Regulatory	Ambition (under review) for all new non-domestic buildings in Northern Ireland from 2020 (2018 for public sector buildings) – to stimulate greater uptake of on-site renewables	Development of non-domestic buildings	Planned (under review)	To come into operation (subject to review) from 2018 - 2020
37. <i>Bioenergy Strategy</i>	Soft	DETI has secured NI Executive approval to publish the Bioenergy Action Plan for Northern Ireland 2010 – 2015. This Plan sets out the agreed actions for the sustainable development of the sector in Northern Ireland.	Bioenergy stakeholders in both the public and private sectors.  Four key objectives have been agreed: raise awareness and understanding of the benefits and opportunities of bioenergy; create and maintain a supportive and encouraging policy and regulatory framework; encourage and support targeted investment; and encourage focussed and NI relevant research.	Strategy is existing (published February 2011). Actions contained within the plan are now being implemented and monitored.	Launch of plan in February 2011, runs until 2015.
38. <i>Better Woodlands for Wales (Grant Scheme) from Forestry Commission Wales</i>	Financial	To promote the creation and sustainable management of woodland in Wales.	Existing woodland owners and other land owners such as farmers. Tree planting and management.	Existing but closed to new applications	BWW is in the process of being replaced by woodland creation and management grants within the Glastir land management scheme administered by WG from January 2013.
39. <i>Bioenergy Action Plan for Wales</i>	Soft	Behavioural Change - Plan sets out the agreed actions for the sustainable development of the sector within Wales.  Encourage Installed Capacity of 5TWhr electricity and 2.5TWhr heat from bioenergy by 2020	Energy stakeholders in both public and private sectors, Local Planners.	Existing  The Bioenergy Action Plan was published for consultation in February 2009, and amended actions were published in December 2009  A progress report was published in September 2010	2009 onwards
40. <i>Marine Renewable Energy Strategic Framework</i>	Soft	Practical Wave and Tidal Resource Assessment based on development constraints. Encourage deployment by de-	Welsh Government Policy Officials, industry and investors.	Existing.  Outcomes were published in March 2011.	2011 -2016 (at 5 year review)

		risking potential sites.			
<i>41. A Low Carbon Revolution: The Welsh Assembly Government Energy Policy Statement</i>	Soft	Behavioural Change – Outlines Welsh Government’s ambitions and actions for the development of renewable energy in Wales.  Encourage annual electricity output of up to 48TWhr from renewables in Wales by 2025	Energy stakeholders in both public and private sectors, Local Planners, General Public.	Existing  The Energy Statement was published in March 2010	2010 onwards
<i>42. Strategic Traffic Management Plan</i>	Regulatory	Behavioural Change – The Plan will manage delivery of wind turbine components to development sites in Wales	The Welsh Government are working with the Wind Energy Industry, Welsh and English Local Authorities, Police and UK Highways Agency, all of which will need to agree the STMP before implementation	Planned – The STMP is currently in draft form and being considered by the Welsh Government	2011 onwards
<i>43. Low Carbon Research Institute</i>	Financial	Led by Cardiff University, the LCRI has 4 strands of activity: 1) Low carbon energy generation, storage and distribution including Photo voltaics, marine energy, hydrogen, and bio energy. 2) Energy demand reduction including zero carbon built environment, and work on large scale power generation. 3) An energy graduate School 4) Partnerships with industry, research organisations and government.	Academic, Research and Design and Industry	Existing – The LCRI was set up in 2007 with a grant of £5.1m from the Welsh Government	2007-2013
<i>44. Planning Policy Wales – TAN 8 / TAN 22</i>	Soft/Regulatory	Installed Capacity of 1700MW by 2020	Planning Authorities, Industry	Existing – Policy was updated in 2010	2005 onwards
<i>45. Zero carbon homes Wales</i>	Regulatory	All new homes in Wales to be low carbon from 2013– will stimulate greater uptake of on-site renewables	Development of new housing	Existing (Under review)	To come into operation (subject to current review) from 2013. Proposals including further steps towards zero carbon due for consultation in April 2012

\* Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

\*\*Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

\*\*\*Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc? or what is the targeted activity / sector: biofuel production, energetic use of animal manure, etc)?

\*\*\*\* Does this measure replace or complement measures contained in Table 5 of the NREAP?

**2.a Please describe the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy. (Article 22(1)e) of Directive 2009/28/EC).**

The UK Government has made clear its commitment to reduce the burden of regulation during this Government. Through the launch of the Red Tape Challenge, which opens up all regulations across Government to public scrutiny, we will work with industry and stakeholders to address the barriers to increased deployment of renewables.

Governments across the UK are already taking action, in particular, to speed up the planning and consenting processes and enabling better co-ordination between regulators and local government.

## **England**

The Government has embarked on a programme of reform to make the planning system in England simpler, swifter and more positive. These reforms include:

### National Planning Policy Framework

The Government published for consultation in July 2011 the draft National Planning Policy Framework. This brings together national planning policy, including for renewable energy developments of 50 MW or less. The draft Framework sets out how the planning system should support the delivery of renewable energy, and encourages local authorities to have a positive strategy to promote renewable and low-carbon energy. The Government is committed to the publication of the final version of the Framework by 31 March 2012, but intends to do so well ahead of that time.

### Planning simplification

In the *Plan for Growth*<sup>25</sup> published alongside the Budget, the Government announced a range of measures to speed up the processes in England that applicants have to go through to obtain planning permission. These measures include a 'Planning Guarantee' that no planning application should take longer than one year to reach a decision, including any appeal, and reducing the information required to accompany planning applications.

### Retention of business rates

Alongside the reforms to the planning system, the Government has committed to allowing communities that host renewable energy projects to keep the additional business rates they generate. On 19 December, the Government published its proposals to deliver that commitment, and introduced the necessary legislation into Parliament on the same day. The intention is for the local retention of business rates to be introduced from April 2013.

### Permitted Development rights for microgeneration

The Government is committed to promoting the uptake of small scale renewable technologies. In December 2011 the Government introduced permitted development rights to grant

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<sup>25</sup> [http://cdn.hm-treasury.gov.uk/2011budget\\_growth.pdf](http://cdn.hm-treasury.gov.uk/2011budget_growth.pdf)



automatic planning approval for domestic micro wind turbines and air source heat pumps that meet certain criteria. These measures build on the permitted development rights that were granted for installations of other microgeneration technologies on domestic properties in 2008. The new permitted development rights will make it easier for households to install these technologies. The Government is also committed to considering the way forward for permitted development rights for installations of microgeneration technologies on non domestic premises.

### Major infrastructure ( in England and Wales)

Through the Localism Act, we are reforming the major infrastructure planning regime to ensure accountable and timely decisions are taken. Under the Localism Act the Government has announced plans to close the Infrastructure Planning Commission and transfer its functions to a new Unit within a more efficient and effective Planning Inspectorate. The new Unit will consider applications for major energy infrastructure over 50MW if onshore; over 100MW if offshore and make recommendations to the Secretary of State for Energy and Climate Change, who will determine applications within 12 months of the preliminary meeting which follows their acceptance for examination.

In July the six National Policy Statements (NPSs) for Energy were approved by the House of Commons and designated by the Secretary of State for Energy and Climate Change. Designation of the Energy NPSs will ensure that we have a clear, robust and legitimate framework for decisions on major energy infrastructure projects.

### Marine Spatial Planning

The Marine and Coastal Access Act 2009 established a framework for taking forward a more inclusive and forward looking approach to managing marine activities. Marine Plans are being developed by each Devolved Administration. These new marine plans, along with the new streamlined licensing process, will provide greater clarity and certainty for developers due to an agreed, assured, accessible evidence base for decision making. This in turn should avoid some delays in gaining consent. In England, the Marine Management Organisation are drawing up 10 marine plans which will be implemented in a phased approach with two plans being developed at a time.

### **Scotland**

In Scotland , much has been done to modernise the planning system since 'Delivering Planning Reform' in October 2008. This document contained a set of over 30 actions that were agreed by planning stakeholders. Many of the actions focussed on increasing co-operation between stakeholders and being more proportionate in processes and decision making. The new planning system came into force in 2009, with primary legislation followed by consolidated Scottish Planning Policy, a suite of streamlined circular guidance and planning advice. Secondary legislation included microgeneration and online renewables planning advice has also updated and replaced PAN45 Renewable Energy Technologies and Annex 2. The Scottish Government wants to sharpen the planning system's focus on performance and delivery and progress is being made with Heads of Planning Scotland (HOPS) in developing a new performance framework assessing both qualitative and quantitative aspects of planning. In the immediate future, reform work is likely to focus on improving skills, sharing good practice and building relationships between sectors.

## Northern Ireland

In Northern Ireland, PPS18 'Renewable Energy' seeks to facilitate all renewable energy generating facilities in order to achieve Northern Ireland's renewable energy targets and to realise the benefits of renewable energy. An inter-Departmental memorandum of understanding is currently being finalised that will formalise the prioritisation of planning applications for energy infrastructure and (primarily renewable) energy installations above 10 megawatts generating capacity.

## Wales

### Planning simplification

The Welsh Government has commissioned an independent review of the planning application process and as a consequence has set in train a number of improvements to the process of making a planning application.

- The review concluded that a radical overhaul of the planning application process is not required but improvement is needed in certain aspects. There was cross-party support for the conclusions of the review and the Welsh Government's acceptance of them.
- The study made 16 recommendations for improvement and these are being taken forward through a programme of improvement.
- An update position as at June 2011 with regard to the programme of improvement is published on the Planning related pages of the Welsh Government web-site - <http://wales.gov.uk/topics/planning/planningresearch/planningappprocess/papers/ipupdate2/?lang=en>. This includes the delivery of policy changes, technical advice and resources.
- A number of consultations have already been issued to inform the proposed improvements - for example consultation papers have been issued about:
  - considering the introduction of local development orders for specific types of development for specific sites;
  - rationalising the information needed for planning applications to improve speed and consistency;
  - proposed changes to householder permitted development rights;
  - the first stage in considering the role of statutory and other consultees in the system; and,
  - reviewing the system of directions that require planning applications to be referred to the Welsh Ministers.
- One of the recommendations from the planning application process review proposed the preparation of a Policy Statement on the importance of economic development. On 7 June 2011 a research report 'Planning for Sustainable Economic Renewal' was published, which evaluates the effectiveness of existing planning policy for economic development and scopes future planning policy and guidance requirements against 'Economic Renewal: A New Direction'.

- A Cabinet Written Statement to the recommendation of the research report was also issued on 7 June. It accepts the recommendations in full and also confirms that consultation on a revised economic development chapter for Planning Policy Wales (Chapter 7) and a framework economic development Technical Advice Note will take place later this year.

#### Permitted Development rights for microgeneration

The Welsh Government is committed to promoting the uptake of small scale renewable technologies. In September 2011 the Minister for Environment and Sustainable Development agreed, following an earlier public consultation, that a new statutory instrument should be drafted which will introduce new permitted development rights for domestic wind turbines and air source heat pumps that meet certain criteria. These measures will build upon the current permitted development rights for householders to install solar panels and other renewable energy technology, which were introduced in Wales in 2009. Before these new regulations can be brought into use it will be necessary to refer them to the European Union under the Technical Standards Directive. Consequently it is anticipated that these new permitted development rights will be introduced on the 1st April 2012. The Welsh Government is also committed to considering what changes to permitted development rights could be introduced in relation to the installation of renewable energy technologies on non-domestic and agricultural premises, and it is anticipated that a further statutory instrument will be drafted later in 2012.

#### Procedural assistance

The Welsh Government provides direct financial support to local planning authorities in order to help deliver decisions on major wind farm developments over 50MW for which they receive no fee income. In addition funds are available to local planning authorities in order to assist procurement of specialist technical expertise in order to process renewable energy projects

#### Strategic Traffic Management Plan

The Welsh Government are actively working with the wind energy industry, the Police and County Councils in Wales and England and the Highways Agency to ensure wind turbine components can be brought to sites in Wales safely, in the timescales appropriate for wind energy developments, whilst reducing the impact on communities, businesses, other road users, and the environment.

A Strategic Traffic Management Plan, covering the route from Ellesmere Port docks of Strategic Search Area B, C, and D is being considered by Renewables UK, the Welsh Government and other stakeholders.

**2.b Please describe the measures in ensuring the transmission and distribution of electricity produced from renewable energy sources and in improving the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements. (Article 22(1)f of Directive 2009/28/EC).**

The market in Great Britain 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 GB'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.

To improve the timeliness of grid connection for renewables developments and other low carbon generation in Great Britain the Government introduced a new enduring 'Connect and Manage' grid access regime in August 2010. This built on successful interim arrangements introduced by the regulator, Ofgem, and has provided greater certainty for new generators about the rules for grid access over the long term. Under 'Connect and Manage', a new generation project can connect to the network once its local connection works are completed rather than waiting, as before, for wider network reinforcements to take place. The connection of new generation ahead of wider network reinforcements is expected to cause additional 'constraint costs' (i.e. compensation paid to generators where they have altered their output in order to help resolve congestion of the transmission network), and the Government took the decision that such costs should continue to be socialised across all network users. This was considered the most appropriate approach to encourage new generation, particularly in constrained areas of the network such as Scotland where we want to see good renewable energy resource harnessed.

To date, 73 large generation projects – representing a total capacity of 2GW – have advanced their connection dates under 'Connect and Manage' by an average of six years. Of these, 66 are renewable projects with a total capacity of over 20 GW. In addition, 76 small-scale renewable generation projects have also benefitted. This demonstrates the positive value of 'Connect and Manage' in supporting investment in new renewable and other low carbon generation.

The Government has asked Ofgem to monitor the 'Connect and Manage' regime's impacts on an ongoing basis. Ofgem has submitted two monitoring reports – on 1 April 2011 and 30 September 2011 – and these can be found at the following link, together with responses from the Minister of State for Energy:

[http://www.decc.gov.uk/en/content/cms/meeting\\_energy/network/deliv\\_access/deliv\\_access.a.spx](http://www.decc.gov.uk/en/content/cms/meeting_energy/network/deliv_access/deliv_access.a.spx)

Transmission Network Use of System charges currently reflect the costs imposed on electricity generators and suppliers located at different points on the transmission network. It is National Grid's responsibility as the GB system operator to devise a transmission charge methodology in accordance with their licence. Ofgem then decides whether to approve these proposals. These costs are currently the subject of a wide ranging review being undertaken by Ofgem, the independent regulator, under its Project TransmiT. The Government considers that the industry-Ofgem governance procedures remain the most appropriate focus for decisions on grid regulation, within the context of the framework set by legislation. Ofgem's review is considering the apportionment of the costs of the grid adaptations between generators, including existing and new renewable generators, as well as the electricity supply companies. Ofgem are intending to issue a consultation on a preferred transmission charging option in December 2011, with a view to making final recommendations for any changes in spring 2012.

## **Northern Ireland**

The Northern Ireland Executive (NIE) issued a consultation paper on 16 March 2010 seeking views by 28 April 2010 on a number of connection charging methodology options which were designed to recover the cost of connecting groups of generators to the NIE distribution system<sup>26</sup>.

On 15 November 2010 the Northern Ireland Authority for Utility Regulation (the Utility Regulator) published its consultation on Electricity Connection Policy to the Northern Ireland Distribution System. As part of this consultation the Utility Regulator asked for views on the treatment of charges for connecting groups of generators. NIE were provided copies of all the responses to the Utility Regulator’s consultation on the treatment of charges for connecting groups of generators and were asked review its recommendations in light of this additional information.

NIE provided its recommendations on 18 February 2011. Having considered the proposals from NIE together with the responses from both NIE’s consultation on 16 March 2010 and the Utility Regulator’s consultation on 15 November 2010, the Utility Regulator approved the development of a new connection charging methodology<sup>27</sup>.

**3. Please describe the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan. (Article 22(1)b) of Directive 2009/28/EC).**

The UK has a number of support schemes to encourage the deployment of renewables across each of the electricity, heat and transport sectors:

**Renewables Obligation (RO)**

The RO is the main support mechanism for renewable electricity projects in the UK. Smaller scale generation is mainly supported through the Feed-In Tariff scheme (see below). It places an obligation on UK electricity suppliers to source an increasing proportion of electricity they supply from renewable sources. The RO operates as three separate, but complimentary, mechanisms working together – one for England and Wales and one each for Scotland and Northern Ireland. Details of its operation in 2010, the last complete year for which data is available, are shown in Tables 3.1 below:

**Table 3.1: Renewables Obligation**

Renewables Obligation 2010		Per unit support	Total (M€)*
[(sub) category of specific technology or fuel ]			
Instrument (provide data as relevant)	Obligation/quota (%)	England, Wales & Scotland – 0.097ROCs/MWh Northern Ireland – 0.035ROCs/Mwh	
	Penalty/Buy out option/ Buy out price (€unit)	£37.19 per ROC	
	Average certificate price	£52.36 (nominal value)	
	Tax exemption/refund		

<sup>26</sup> Report published xxxxxx – see <http://www.nie.co.uk/suppliers/pdfs/Consultation%20Report%20-%20Final%20-%202015%20October%202010.pdf>

<sup>27</sup> [http://www.uregni.gov.uk/uploads/publications/Decision\\_Paper\\_on\\_Charges\\_for\\_Connecting\\_Groups\\_of\\_Generators.pdf](http://www.uregni.gov.uk/uploads/publications/Decision_Paper_on_Charges_for_Connecting_Groups_of_Generators.pdf)

	Investment subsidies (capital grants or loans) (€unit)		
	Production incentives		
	Feed-in tariff		
	Feed-in premiums		
	Tendering		
Total annual estimated support in the electricity sector			£1.117bn (using nominal ROC value)

### Renewable Transport Fuels Obligation (RTFO)

Since its launch in April 2008 the RTFO requires that suppliers of fossil fuel for road transport to source a proportion of their supply from biofuels. Details of its operation in 2010, the last complete year for which data is available, are shown below in Table 3.2:

RES support schemes		Per unit support	Total (M£)*
Biofuels calendar year 2010			
RTFO	Obligation/quota (by volume)	4%	
	Buy out price (£/Litre)	£0.30	
	Average certificate price		
	Tax exemption/refund (£/Litre)	£0.20	
	Investment subsidies (capital grants or loans) (€unit)	-	
	Production incentives	-	
	Feed-in tariff	-	
	Feed-in premiums	-	
	Tendering	-	
Total annual estimated support in the transport sector			421

\* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology

### Feed-in Tariff (FITs)

The objective of FITs is to incentivise the deployment of small scale low carbon electricity generation by individuals, householder, organisations, businesses and communities. It supports solar photovoltaic, hydro, anaerobic digestion and wind projects up to 5MW and microCHP installations up to 2kW. Following nearly three times as much solar PV as originally projected registering for the FIT, and a fall of at least 30% in PV costs, the Government reduced tariffs for new 50kW to 5MW and all stand-alone PV installations from 1<sup>st</sup> August 2011, and launched a consultation on 31<sup>st</sup> October 2011, following which new solar PV tariffs for smaller-scale installations are proposed to be implemented from 1<sup>st</sup> April 2012. A second consultation will be published around the end of 2011 to include proposals for new tariffs for non-PV technologies. The current structure of the scheme is shown in Annex A.

### Renewable Heat Incentive (RHI)

The RHI scheme, the first of its kind in the world, opened to applications at the end of November 2011. The structure for the scheme is shown in Annex B.

### 3.1. Please provide the information on how supported electricity is allocated to final customers for purposes of Article 3 (6) of Directive 2003/54/EC. (Article 22(1)b) of Directive 2009/28/EC).

In accordance with article 15(7) of the Renewable Energy Directive, guarantees of origin are used by electricity suppliers for the purpose of proving the share or quantity of energy from

renewable sources in their energy mix for the purposes of article 3(9)(a) of Directive 2009/72/EC (formerly article 3(6) of Directive 2003/54/EC).

The relevant legislation is the Electricity (Fuel Mix Disclosure) Regulations 2005, schedule 2ZB to the Electricity Act 1989 and electricity supplier standard licence condition 21.

**4. Please provide information on how, where applicable, the support schemes have been structured to take into account RES applications that give additional benefits, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material?) (Article 22 (1)c of Directive 2009/28/EC)).**

Article 21(2) of the Renewable Energy Directive did not have an equivalent in UK law during 2009 and 2010. The RTFO operating at that time rewarded all biofuels equally. Whilst reward was the same for all biofuels, those biofuels from feedstocks considered ‘by-products’ were automatically considered to meet the voluntary sustainability standard operating under the RTFO<sup>28</sup>. Targets were set for the proportion of biofuel meeting this standard, and performance of individual fuel suppliers was reported on against this target on a quarterly basis. This provided a non financial incentive for the supply of ‘by-products’.

From April 2010 biodiesel made from used cooking oil in particular has benefited from a 20 pence-per-litre reduction in duty. This measure will end in April 2012.

Changes to legislation to implement Renewable Energy Directive will introduce double counting for biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material. This means that qualifying fuels will attract two RTF certificates rather than one per litre of biofuel supplied to the UK market.

**5. Please provide information on the functioning of the system of guarantees of origin for electricity and heating and cooling from RES, and the measures taken to ensure reliability and protection against fraud of the system. (Article 22(1)d of Directive 2009/28/EC)).**

Ofgem administers the Renewable Energy Guarantee of Origin (REGO) scheme in Great Britain. It also administers the REGO scheme in Northern Ireland on behalf of the Northern Ireland Authority for Utility Regulation.

The relevant legislation for the REGO scheme is:

- for Great Britain, the Electricity (Guarantees of Origin of Electricity Produced from Renewable Energy Sources) Regulations 2003, as amended in 2010.
- for Northern Ireland, the Electricity (Guarantees of Origin of Electricity Produced from Renewable Energy Sources) Regulations (Northern Ireland) 2003 as amended in 2008, 2010 and 2011.

For Ofgem to issue a REGO, it must be satisfied that the electricity in question has been generated by a renewable source. Ofgem does not currently issue REGOs for heating or cooling. In advance of issuing a REGO, Ofgem requests that the operator of a generating station provides the majority of the information as set out in Schedule 1 of the Regulations before making a request for REGOs. This must include such further information or evidence as reasonably required for the purpose of determining the accuracy of the information provided or to satisfy Ofgem of the renewable energy source used to generate electricity. This information is requested via an accreditation application form. Typically generating stations

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<sup>28</sup> See RTFO Carbon and sustainability guidance for details: <http://assets.dft.gov.uk/publications/carbon-and-sustainability-technical-guidance/technical-guidance-part1.pdf>

using biomass or waste must also complete a “Fuel Measurement and Sampling Questionnaire” as part of the accreditation process. Prior to submitting the application form to Ofgem an “Information Declaration” must be signed online by the account super user. The super user will be prompted to make this declaration once an application has been completed.

A REGO can only be requested for the proportion of electricity generated by an individual generating station located in GB or NI using eligible renewable energy sources. A generating station must be accredited by Ofgem before it will consider a request for a REGO. This provides Ofgem with the majority of the information to be presented in a request for REGOs (Regulation 4(4) – Schedule 1).

All requests for REGOs made before 5 December 2010 are calculated on the basis of one REGO per kWh of renewable source electricity. From 5 December 2010 onwards, following the 2010 Regulation amendments, all requests for REGOs made are calculated on the basis of one REGO per MWh of renewable source electricity. The unit of issue is dependent on the 2010 Regulation amendment date, NOT the month of generation. All claims for REGOs will be rounded up or down to the nearest whole unit i.e. kWh or MWh, with any exact half being rounded upwards. If less than half a MWh is generated for a period, no REGOs will be issued.

All REGOs issued have a unique guarantee sequence number. Ofgem issue REGOs sequentially in ascending numerical order in respect of all the renewable electricity produced by a particular generating station during the period to which the REGO request relates. Following a request for REGOs, Ofgem check the data submitted and determine whether they are able to issue REGOs. REGOs will be issued automatically into an operators account on the Register. Once issued, they will remain within the Register to avoid double counting.

If Ofgem discover, possibly as a result of an audit, that a generating station was never eligible for REGOs they shall revoke all of the REGOs issued to that station. If a generating station is found to be ineligible due to a change in nature of the station following accreditation, Ofgem shall revoke all REGOs issued from the date that the station became ineligible. REGOs can be revoked because the information presented to request REGOs was inaccurate. In these instances we will correct the number of REGOs issued for the generation period by revoking the REGOs issued, in descending numerical order, to correct the over issue. For REGOs issued before 5 December 2010, corrections will be calculated based on the original REGO unit of one REGO per kWh. For REGOs issued from 5 December 2010 corrections will be calculated on the basis of the original REGO unit of one REGO per MWh.

Ofgem has a fraud prevention strategy in place for the administration of the REGO scheme and the other Renewables & CHP incentive schemes it administers. In addition to this, Ofgem carries out periodic audits on accredited generating stations. Within the Renewables & CHP Register itself, there are a number of automated control checks which are carried out, supplemented by manual controls throughout the accreditation process and submission of output data. Where Guarantees of Origin are requested to be recognised from other EU member states, verification is sought from the issuing body before recognition is granted, to confirm that there are no reasons why we should refuse recognition. In relation to the recognition of Guarantees of Origin for heating and cooling from other Member States, where requested and if valid, these will be recognised and then published.



**6. Please describe the developments in the preceding 2 years in the availability and use of biomass resources for energy purposes. (Article 22(1)g of Directive 2009/28/EC).**

The UK is taking a range of actions to increase domestic biomass supplies. These actions are in three main areas: bringing forward more of our wood and forestry residues to market, better management of our waste resources and developing other biomass resources, such as purpose-grown perennial energy crops on low-grade land unsuitable for food crops.

In 2009 the UK increased the support provided to the use of energy crops for biomass power generation, such as SRC willow and miscanthus grass, and to anaerobic digestion (AD) plants under the Renewables Obligation (RO). We also offered RO support for biomass electricity generated using waste feedstocks in good quality CHP plants. In addition crop establishment grants were available under the Energy Crops Scheme, part of the Rural Development Programme England (RDPE), and bioenergy infrastructure grants of up to £200,000 per producer group. The infrastructure grants were available to farmers, foresters and businesses in England to help develop the supply chain for woodfuel, energy crops and straw. This support was available for capital equipment including the purchase of specialist equipment for harvesting, processing, storage and for training.

The single largest feedstock for renewable energy in UK transport in 2009 and 2010 was soy with 1,120 and 907 ktoe supplied, respectively. This was all imported from outside the EU. Sugar cane, primarily from Brazil also contributed a significant proportion of the energy. Oilseed rape is the largest EU feedstock with over 200 ktoe supplied in each year. The largest UK feedstock was sugar beet with 92 and 129 ktoe supplied in 2009 and 2010, respectively. There was a significant increase in the amount of used cooking oil (UCO) reported from all sources in 2010 reflecting the removal of the duty differential for all biofuels except those derived from UCO in April that year. The RTFO as in operation in 2009 and 2010 rewarded all biofuels equally, and whilst it incorporated a carbon and sustainability reporting system, there was no differentiation in reward between the different types of biofuels.

Table 4 below shows our estimates of the sources of biomass supply in 2009 and 2010.

**Table 4: Biomass supply for energy use**

	Amount of domestic raw material (tonnes)		Primary energy in domestic raw material (ktoe)		Amount of imported raw material from EU (tonnes)		Primary energy in amount of imported raw material from EU (ktoe)		Amount of imported raw material from non EU (tonnes)		Primary energy in amount of imported raw material from non EU (ktoe)	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
<b>Biomass supply for heating and electricity:</b>												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	1,321,958	1,356,195	485.5	500.7	-	-	-	-	-	-	-	-
Indirect supply of wood biomass (residues)	1,829,133	2,219,196	601.9	723.5	835,776	596,278	309.1	244.0	-	496,105	-	203.0

and co-products from wood industry etc.)**												
Energy crops (grasses, etc.) and short rotation trees (Miscanthus)	-	-	-	-	32,382	-	6.3	-	-	-	-	-
Agricultural by-products / processed residues and fishery by-products **	1,608,129	1,320,754	476.7	438.7	172,263	158,660	99.2	69.2	-	-	-	-
Biomass from waste (municipal, industrial etc.) **	2,874,681	3,161,717	4,029.0	4,138.7	-	-	-	-	-	-	-	-
Others (please specify)												
<b>Biomass supply for transport:</b>												
<i>Common arable crops for biofuels:</i>												
Barley						40,124		22				
Cassava	-	-	-	-	-	-	-	-	-	474	-	<0.5
Corn	-	-	-	-	2,656	136,731	2	82	-	74,922	-	41
Oilseed rape	66,712	71,305	38	40	435,073	369,878	247	210	64,917	37,246	37	21
Palm	-	-	-	-	-	-	-	-	472,010	214,629	179	81
Rye						934		1				
Soy	-	-	-	-	-	26,652	-	13	2,346,628	1,902,031	1,120	907
Sugar beet	573,858	807,435	92	129	9,747	249,164	2	40	-	-	-	-
Sugar cane	-	-	-	-	-	-	-	-	2,902,608	2,800,402	511	493
Sunflower	-	-	-	-	107	-	<0.5	-	857	-	<0.5	-
Triticale	-	-	-	-	-	4,286	-	2	-	-	-	-
Wheat	-	203,715	-	113	31,882	151,790	18	84	-	-	-	-
Others												
Corn oil	-	-	-	-	-	-	-	-	-	91	-	<0.5
Molasses	-	-	-	-	-	-	-	-	243	86,472	<0.5	55
Municipal solid waste	4,363	6,863	1	2	-	-	-	-	-	-	-	-
Sulphite	-	-	-	-	394,095	105,005	252	67	-	-	-	-
Tallow	30,694	37,375	27	33	42,002	38,416	37	34	104,954	25,415	93	23
Used cooking oil	35,269	74,822	31	66	4,300	180,355	4	160	57	24,031	<0.5	21

\* Amount of raw material if possible in **m3 for biomass from forestry** and in **tonnes for biomass from agriculture and fishery and biomass from waste**

\*\* The definition of this biomass category should be understood in line with table 7 of part 4.6.1 of Commission Decision C (2009) 5174 final establishing a template for National Renewable Energy Action Plans under Directive 2009/28/EC

† Mass is given at traded moisture content

‡ note that data relating to the period 15 April 2010 to 31 Dec 2010 is currently unverified and is therefore subject to change

**Table 4a. Current domestic agricultural land use for production of crops dedicated to energy production (ha)**

Land use	Surface (ha)	
	Year 2009	Year 2010
1. Land used for common arable crops (wheat, sugar beet etc.) and oilseeds (rapeseed, sunflower etc.) (Please specify main types)		
Oilseed rape	21536	23020
Sugar beet	8024	11332
Wheat	0	38566
2. Land used for short rotation trees (willows, poplars). (Please specify main types)	n/a*	n/a*
3. Land used for other energy crops such as grasses (reed canary grass, switch grass, Miscanthus), sorghum. (Please specify main types)	n/a*	n/a*

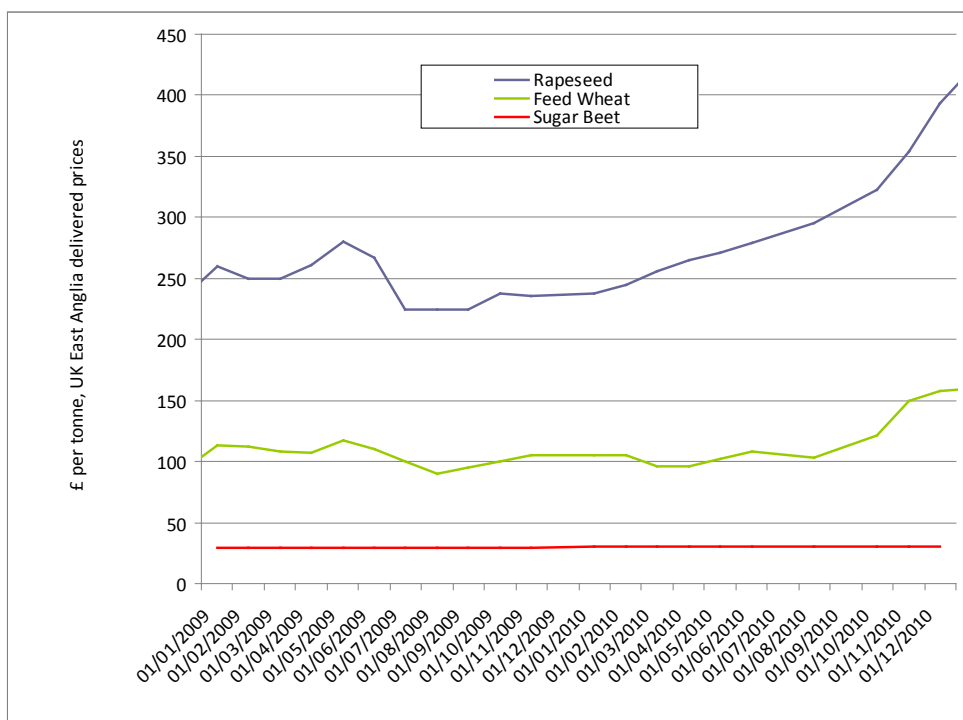
Note that these figures represent estimated domestic agriculture for biofuels supplied in the UK and do not include any agriculture relating to fuels which were exported.

\*Note we do not currently have this data available

**7. Please provide information on any changes in commodity prices and land use within your Member State in the preceding 2 years associated with increased use of biomass and other forms of energy from renewable sources? Please provide where available references to relevant documentation on these impacts in your country. (Article 22(1) h of Directive 2009/28/EC).**

### Commodity prices

Commodity prices in the UK for the three major crop based biofuel feedstocks in 2009 and 2010 are shown in the following chart.



The UK Government published the report *Agricultural price spikes 2007/2008: Causes and policy implications*<sup>29</sup> at the end of 2010 prepared in response to concern over the rise of food prices in that period. Within this report, Annex 5<sup>30</sup> considers the global impact of biofuels on agricultural commodities, concluding that although the demand for biofuels had risen dramatically over recent years, in the UK it will have had a very limited impact on food prices. Biofuels still represent a very small proportion of total agricultural commodity usage within the UK, and furthermore, the prices of agricultural commodities are largely set at a global level.

The rise in biofuels demand in the UK has primarily been driven by government policy and as such can be treated as anticipated demand. This means that the price impact of biofuels demand is limited as supply can respond to the increase in demand. Similarly, biofuel by-products can be used as animal feed, further dampening any price impact.

The report notes that there is broad agreement that, looking to the future, biofuel production will exert upward pressure on the price of agricultural crops used to make them. It states that ‘these commodities will be higher than they otherwise would have been’, but also that ‘this does not mean however that agricultural prices will necessarily rise from current levels as a result of biofuel demand.

## Land use

There has been a small increase in the land used for oilseed rape and sugar beet as biofuel feedstocks in the UK between 2009 and 2010. Figures can be seen in Table 4a. Processing of wheat into ethanol came on stream in 2010 resulting in a large increase in the land used for wheat as a biofuel feedstock. This represented 2% of the total UK wheat crop in 2010.

## 8. Please describe the development and share of biofuels made from wastes, residues, non-food cellulosic material, and lingo cellulosic material. (Article 22(1) i) of Directive 2009/28/EC).

Article 21(2) of the Renewable Energy Directive did not have an equivalent in UK law during 2009 and 2010. However, there were measures in place to distinguish a similar class of materials - ‘by-products’. By-products are defined as feedstocks that represent less than 10% of the farm or factory gate value. Consumption of biofuels made from ‘by-product’ materials is given below.

**Table 5: Consumption of biofuels from by-products (Ktoe)**

Biofuels from ‘by-products’	2009	2010
Consumption – biofuels from ‘by-products’	165	298
% share of total RES-T from ‘by-products’	17%	26%

Amendments to the RTFO introduce double counting for feedstocks made from wastes, residues, non-food cellulosic material, and lingo cellulosic material.

<sup>29</sup> <http://archive.defra.gov.uk/foodfarm/food/pdf/ag-price100105.pdf>

<sup>30</sup> <http://archive.defra.gov.uk/foodfarm/food/pdf/ag-price-annex%205.pdf>

**9. Please provide information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within your country in the preceding 2 years.** Please provide information on how these impacts were assessed, with references to relevant documentation on these impacts within your country. (*Article 22 (1) j) of Directive 2009/28/EC*).

In line with Commission Decision 2011/13/EU, impacts on biodiversity, water resource, water quality and soil quality have been assessed with reference to the conformance of fuels supplied to voluntary schemes.

Biofuels from UK source by voluntary schemes Ktoe	2009	2010*
ACCS (Red Tractor Farm Assurance)	44	66
Other schemes	0	3
By-product (no crop impact)	43	83
No scheme or unknown	1	27
Percentage of biofuels complying with a voluntary scheme accepted by the UK or from 'by-products'	99%	85%

\* note that data relating to the period 15 April 2010 to 31 Dec 2010 is currently unverified and is therefore subject to change

ACCS (now Red Tractor Farm Assurance) requires compliance with the UK Government code of practice: Protecting our Water, Soil and Air: A Code of Good Agricultural Practice for farmers, growers and land managers<sup>31</sup>. It also requires compliance with the UK's Environmental Impact Assessment Regulations<sup>32</sup>.

There is no additional data relating to the impacts of the production of bioliquids on biodiversity, water resources, water quality and soil quality, however, it is estimated that electricity generated from crop derived bioliquids was extremely low in 2009 and 2010, and impacts were likely to be negligible.

**10. Please estimate the net greenhouse gas emission savings due to the use of energy from renewable sources (*Article 22 (1) k) of Directive 2009/28/EC*).**

In Table 6 we provide an estimate of GHG savings from renewable electricity deployment. This has been calculated by multiplying the amount of renewable electricity generation by DECC's marginal emissions factor (0.3735 kgCO<sub>2</sub>/kWh), given here: [http://www.decc.gov.uk/en/content/cms/about/ec\\_social\\_res/iag\\_guidance/iag\\_guidance.aspx](http://www.decc.gov.uk/en/content/cms/about/ec_social_res/iag_guidance/iag_guidance.aspx).

The net GHG savings for transport have been calculated using the carbon intensity data reported by suppliers for the fuel supplied. This includes a mix of default data specified in the guidance published by the Renewable Fuels Agency and actual data calculated by the fuel suppliers. This is in line with other reporting of GHG savings under the RTFO at the time.

**Table 6: Estimated GHG emission savings from the use of renewable energy (t CO<sub>2</sub>eq)**

Environmental aspects	2009	2010
<i>Total estimated net GHG emission saving from using renewable energy</i> <sup>33</sup>		
- Estimated net GHG saving from the use of renewable electricity	9,300,535	10,449,675
- Estimated net GHG saving from the use of renewable energy in heating and cooling	n/a	n/a
- Estimated net GHG saving from the use of renewable energy in transport	1,823,690	1,917,385

<sup>31</sup> <http://www.defra.gov.uk/publications/files/pb13558-cogap-090202.pdf>

<sup>32</sup> [http://www.legislation.gov.uk/ukxi/2006/2522/pdfs/uksi\\_20062522\\_en.pdf](http://www.legislation.gov.uk/ukxi/2006/2522/pdfs/uksi_20062522_en.pdf)

<sup>33</sup> The contribution of gas, electricity and hydrogen from renewable energy sources should be reported depending on the final use (electricity, heating and cooling or transport) and only be counted once towards the total estimated net GHG savings.

Note we do not, at this stage, have information available for heating and cooling

**11. Please report on (for the preceding 2 years) and estimate (for the following years up to 2020) the excess/deficit production of energy from renewable sources compared to the indicative trajectory which could be transferred to/imported from other Member States and/or third countries, as well as estimated potential for joint projects until 2020. (Article 22 (1) l, m) of Directive 2009/28/EC).**

We indicated our likely approach to making use of the Flexibility Mechanisms within the Directive to trade renewables when we submitted the UK’s Forecast Document to the Commission in December 2009. Our approach is to:

- a. Aim to meet our 15% target domestically;
- b. Be open to potentially using the flexibility mechanisms as a contingency measure – particularly where this provides benefit to the UK ;
- c. Give consideration to what further legislative or other measures are needed to enable such trading.

In our Renewable Energy Roadmap<sup>34</sup>, we recognised that trading renewables with our European partners and others could provide an important mechanism to safeguard UK consumers in the event that the costs of domestic deployment do not come down, and alternative, cheaper opportunities arise in other countries.

As shown in Table 7 we consider, at this stage, we can deploy sufficient renewables domestically to meet the first (2011/12) and subsequent targets – with the key technologies for cost-effective delivery set out in the Renewable Energy Roadmap . However, there is considerable uncertainty in the contribution of biofuels to renewable targets post-2014, given the delay in the Commission establishing its policy on Indirect Land Use Change (ILUC).

**Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in [Member State] (TWh)<sup>35, 36</sup>**

	2011/12	2013/14	2015/16	2017/18	2020
Actual/estimated excess or deficit production (Please distinguish per type of renewable energy and per origin/destination of import/export)	0	11	15	13	11

Note: these figures can be converted to ktoes by dividing by 11.63 and multiplying by 1000

**11.1. Please provide details of statistical transfers, joint projects and joint support scheme decision rules.**

No procedures have yet been established.

<sup>34</sup> DECC – Renewable Energy Roadmap - published in July 2011

<sup>35</sup> Please use actual figures to report on the excess production in the two years preceding submission of the report, and estimates for the following years up 2020. In each report Member State may correct the data of the previous reports.

<sup>36</sup> When filling in the table, for deficit production please mark the shortage of production using negative numbers (e.g. -x ktoe).

**12. Please provide information on how the share for biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates. (Article 22 (1) n of Directive 2009/28/EC).**

There has been an ongoing programme of waste analysis in the UK for many years to understand the level of biodegradable waste; such analyses may be carried out to an accuracy of + 1 per cent. Such studies are guided by the use of ACORN (which stands for A Classification Of Residential Neighbourhoods) socio-economic profiles which are used to select sample areas for the analysis of household collected waste and is based on the premise that households of similar socio-economic characteristics are likely to have similar behavioural, purchasing and lifestyle characteristics; this will be reflected in the quantity and composition of waste that those households produce. MSW comprises domestic waste plus other feedstocks, such as, general industrial waste, building demolition waste and tree clippings from civil amenities. The UK domestic waste has had a biodegradable content of 67.5 per cent + 1 per cent and this accounts for about 62.5 per cent of the energy generated from its combustion. Following the result of recent work, it has been calculated that 63.5 per cent of MSW is now formed of biodegradable material (average of Wales and Scotland using English EA guidance method), one percentage point above previous years. We have continued to use this figure for this years' survey but will review its applicability on an annual basis. However, for calculation of waste content eligible for the Renewable Obligation financial incentives for renewable energy generation from individual plants, as there is currently no efficient system of checking all waste fuel content accurately on a plant by plant basis, generators using municipal solid wastes are deemed a bio content of municipal solid waste of 50 % (a conservative estimate in comparison to the overall domestic UK waste estimated to be biodegradable.)

DECC are looking to improve fuel monitoring and sampling systems to more accurately calculate the amount of renewable energy from all waste streams eligible for financial incentives such as the RO and for reporting progress against the UK's renewable energy target. This is involving working with industry and Ofgem to develop and agree additional methodologies and techniques based primarily, but not exclusively, on Carbon 14 dating. Existing systems for measuring the biocontent of energy derived for waste – based on regular manual sampling of variable mixed waste feedstocks – can be unreliable and are not always cost effective, and may be holding back projects coming forward.

We have outlined below our intentions against each of the questions addressed in Article 22 (3 a –c) of the Directive:

- a) Establish a single administrative body responsible for processing authorization, certification and licencing applications for renewable energy installations and providing assistance to applicants

The Planning Act 2008 created a single administrative body (the Infrastructure Planning Commission) responsible for issuing all consents relevant to land-use planning (“development consents”, including planning permission) for energy generating plant over 50MW if onshore; over 100MW if offshore. The consideration of any additional permits, such as environmental permits, continues to be determined under a separate consent regime. There are no plans to establish a single administrative body responsible for processing authorisation, certification and licensing applications for renewable energy projects.

The Marine Management Organisation is the UK planning body responsible for licensing of renewable energy projects up to 100 MW in English inshore and offshore waters and for Welsh and Northern Ireland offshore waters. Welsh and Northern Ireland inshore waters and Scottish inshore and offshore waters are subject to controls by the Northern Ireland Assembly, Welsh Government or Scottish Government, respectively.

- b) Provide for automatic approval of planning and permit applications for renewable energy installations where the authorising board has not responded within the set time limits

Applications for development consent under the major infrastructure planning regime are subject to statutory timescales and have to be determined within 12 months of the date of the preliminary meeting that follows acceptance of the application for examination. The Government is also looking to introduce a “Planning Guarantee” that no planning application should take longer than one year to reach a decision, including any appeal. In 2008 the Government removed the need for planning permission for a range of microgeneration technologies (including solar photovoltaic, solar thermal, ground and water source heat pumps) on domestic properties by introducing permitted development rights, and in 2011 announced the introduction of permitted development rights for domestic micro-wind turbines and air source heat pumps. There are no plans to provide for automatic approval of planning applications where the authorising body has not responded within the set timescales.

- c) Indicate geographical locations suitable for exploitation of energy from renewable sources in land-use planning and for the establishment of district heating and cooling.

Renewable energy development in the UK is market led. The energy National Policy Statements set out the policy framework against which applications for renewable energy infrastructure over 50MW would be considered. The NPSs identify criteria for use in determining applications but do not identify specific locations for renewable energy projects.

For renewable energy infrastructure 50MW or under, the Government consulted on the draft National Planning Policy Framework, which included policy expectations on local planning authorities, including for them to have a positive strategy to promote renewable energy and consider identifying suitable areas for generation where this would help deliver renewable energy development. The energy National Policy Statements are also part of the overall framework of planning policy which may be relevant for local planning authorities to take into account when determining applications for planning permission.



FIT Payment Rate Table with Retail Price Index adjustments & Fast Track Review amendments – Tariff rates are effective from 1 August 2011. Due to DECC's Comprehensive Review currently under way future tariff rates going forward may not be as listed in the table.

Description	FIT Year in which the Eligibility Date of an Eligible Installation falls											
	FIT Year 1 2010/11	FIT Year 2 2011/12	FIT Year 3 2012/13	FIT Year 4 2013/14	FIT Year 5 2014/15	FIT Year 6 2015/16	FIT Year 7 2016/17	FIT Year 8 2017/18	FIT Year 9 2018/19	FIT Year 10 2019/20	FIT Year 11 2020/21	
Anaerobic digestion with total installed capacity of 250kW or less	12.1	If Eligibility Date is before 30 September 2011	12.1	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
		If Eligibility Date is on or after 30 September 2011	14.0									
Anaerobic digestion with total installed capacity greater than 250kW but not exceeding 500kW	12.1	If Eligibility Date is before 30 September 2011	12.1	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
		If Eligibility Date is on or after 30 September 2011	13.0									
Anaerobic digestion with total installed capacity greater than 500kW	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Hydro generating station with total installed capacity of 15kW or less	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
Hydro generating station with total installed capacity greater than 15kW but not exceeding 100kW	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Hydro generating station with total installed capacity greater than 100kW but not exceeding 2MW	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Hydro generating station with total installed capacity greater than 2MW	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Combined Heat and Power with total installed electrical capacity of 2kW or less (Tariff available only for 30,000 units)	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
Solar photovoltaic with total installed capacity of 4kW or less, where attached to	37.8	37.8	34.6	31.6	29.0	26.4	24.0	21.8	19.9	18.1	16.4	

Description	FIT Year in which the Eligibility Date of an Eligible Installation falls											
	FIT Year 1 2010/11	FIT Year 2 2011/12	FIT Year 3 2012/13	FIT Year 4 2013/14	FIT Year 5 2014/15	FIT Year 6 2015/16	FIT Year 7 2016/17	FIT Year 8 2017/18	FIT Year 9 2018/19	FIT Year 10 2019/20	FIT Year 11 2020/21	
or wired to provide electricity to a new building before first occupation												
Solar photovoltaic with total installed capacity of 4kW or less, where attached to or wired to provide electricity to a building which is already occupied	43.3	43.3	39.6	36.3	33.2	30.2	27.5	25.0	22.7	20.7	18.8	
Solar photovoltaic (other than stand-alone) with total installed capacity greater than 4kW but not exceeding 10kW	37.8	37.8	34.6	31.6	29.0	26.4	24.0	21.8	19.9	18.1	16.4	
Solar photovoltaic (other than stand-alone) with total installed capacity greater than 10kW but not exceeding 50kW	32.9	32.9	30.1	27.5	25.2	22.9	20.9	19.0	17.3	15.7	14.3	
Solar photovoltaic (other than stand-alone) with total installed capacity greater than 50kW but not exceeding 100kW	32.9	If Eligibility Date is before 1st August 2011	32.9	17.4	15.9	14.6	13.2	12.1	11.0	10.0	9.1	8.5
		If Eligibility Date is on or after 1st August 2011	19									
Solar photovoltaic (other than stand-alone) with total installed capacity greater than 100kW but not exceeding 150kW	30.7	If Eligibility Date is before 1st August 2011	30.7	17.4	15.9	14.6	13.2	12.1	11.0	10.0	9.1	8.5
		If Eligibility Date is on or after 1st August 2011	19									
Solar photovoltaic (other than stand-alone) with total installed capacity greater than 150kW but not exceeding 250kW	30.7	If Eligibility Date is before 1st August 2011	30.7	13.7	12.6	11.5	10.5	9.5	8.7	8.5	8.5	8.5
		If Eligibility Date is on or after 1st August 2011	15									
Solar photovoltaic (other than stand-alone) with total installed capacity greater than 250kW	30.7	If Eligibility Date is before 1st August 2011	30.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
		If Eligibility Date is on or after 1st August 2011	8.5									
Stand-alone (autonomous) solar photovoltaic (not attached to a building and not wired to provide electricity to an occupied building)	30.7	If Eligibility Date is before 1st August 2011	30.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
		If Eligibility Date is on or after 1st August 2011	8.5									
Wind with total installed capacity of 1.5kW or less	36.2	36.2	34.2	32.3	30.5	28.9	27.3	25.8	24.4	23.0	21.8	

Description	FIT Year in which the Eligibility Date of an Eligible Installation falls										
	FIT Year 1 2010/11	FIT Year 2 2011/12	FIT Year 3 2012/13	FIT Year 4 2013/14	FIT Year 5 2014/15	FIT Year 6 2015/16	FIT Year 7 2016/17	FIT Year 8 2017/18	FIT Year 9 2018/19	FIT Year 10 2019/20	FIT Year 11 2020/21
Wind with total installed capacity greater than 1.5kW but not exceeding 15 kW	28	28	26.7	25.5	24.4	23.3	22.2	21.2	20.3	19.4	18.5
Wind with total installed capacity greater than 15kW but not exceeding 100kW	25.3	25.3	24.2	23.1	22.0	21.0	20.1	19.2	18.3	17.5	16.7
Wind with total installed capacity greater than 100kW but not exceeding 500kW	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7
Wind with total installed capacity greater than 500kW but not exceeding 1.5MW	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
Wind with total installed capacity greater than 1.5MW	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Eligible Installations with a declared net capacity of 50kW or less Commissioned on or before 14 <sup>th</sup> July 2009 and accredited under the ROO on or before 31 <sup>st</sup> March 2010.	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
EXPORT TARIFF	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

### Heat technologies to be supported under Phase 1 of the RHI

Tariff name	Eligible technology	Eligible sizes	Tariff Rate (pence/kWh)	Tariff duration (years)
Small biomass (1)	Solid biomass, municipal solid waste (inc. CHP)	<200 kWth	Tier 1: 7.9 Tier 2: 2.0	20
Medium biomass (1)	Solid biomass, municipal solid waste (inc. CHP)	200-1,000 kWth	Tier 1: 4.9 Tier 2: 2.0	20
Large biomass	Solid biomass, municipal solid waste (inc. CHP)	>1,000 kWth	1.0	20
Small ground source	Ground source heat pumps; water source heat pumps; deep geothermal	<100 kWth	4.5	20
Large ground source	Ground source heat pumps; water source heat pumps; deep geothermal	>100 kWth	3.2	20
Solar thermal	Solar thermal	< 200 kWth	8.5	20
Biomethane	Biomethane injection and biogas combustion, except from landfill gas	Biomethane all scales, biogas combustion < 200 kWth	6.8	20

Source: Renewable Heat Incentive Scheme Regulations 2011

#### Notes

1. The tier 1 tariff for small and medium scale biomass installations applies up to an annual tier break of installed capacity x 1,314 peak load hours, i.e. kWth x 1,314.
2. Payments are made quarterly.

