

Forecast Document from the United Kingdom to the European Commission on meeting the 2020 Renewable Energy Target

Introduction

As part of EU-wide action to increase the use of renewable energy, the UK has committed to sourcing 15% of the energy it consumes from renewable sources by 2020.

Under the 2009 Directive on Renewable Energy (2009/28/EC), Member States must provide the European Commission with an estimate of the potential surplus or deficit of renewable energy generation over the coming decade, including:

- An indicative trajectory for renewable energy to meet the interim targets and the 15% 2020 target;
- An estimate of excess production of energy from renewable sources compared to the indicative trajectory which could be transferred to other Member States as well as its estimated potential for joint projects, until 2020; and
- An estimate of demand for energy from renewable sources to be satisfied by means other than domestic production until 2020.

The path to 2020

The UK has recently published the results of analysis and modelling¹ to demonstrate how it might be possible to meet the 15% renewables target by 2020. The results of this analysis, which underpinned the 'lead scenario' in the 2009 UK Renewable Energy Strategy, suggest that delivering 15% renewable energy by 2020 is feasible through domestic action.

It is important to stress that we do not set targets for technologies or sectors and that the 'lead scenario' is purely illustrative of how the overall UK 15% target could be met. Neither should it be taken as an upper limit to our ambition for renewables deployment. Given the uncertainty about how the market will respond and the challenging timescales for delivering our target, we may need to adjust and refine our interventions as we go forward.

There is, as with any forecast, a degree of uncertainty both in predicting levels of renewable energy deployment and in estimating overall energy consumption. Energy demand forecasts are constantly under review and will be affected by many factors that are difficult to predict including changes to Gross Domestic Production, weather conditions, peoples' behaviour and take-up of energy-efficiency measures. We will update our forecasts periodically as new information becomes available.

¹ Impact Assessment of UK Renewable Energy Strategy URN 09D/683

The UK trajectory and interim targets

The UK goal is to achieve our overall 15% target through domestic action. The indicative UK trajectory demonstrates that this is possible and does not assume a contribution from the 'flexibility mechanisms' towards meeting the target in 2020.

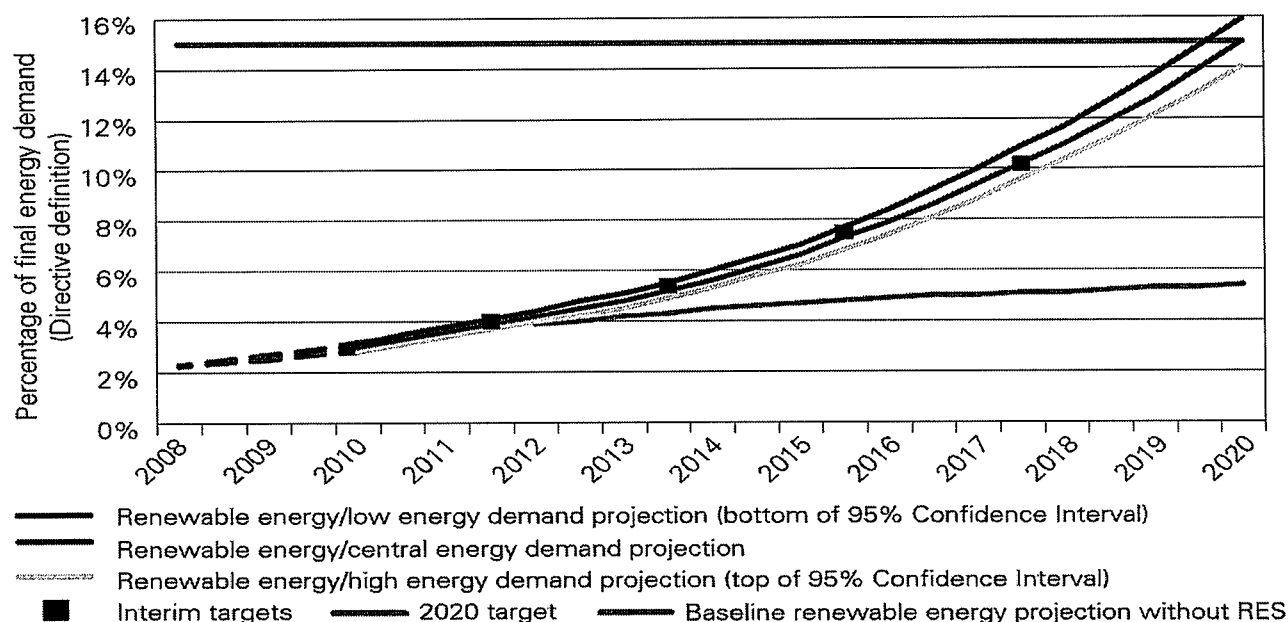
Under the Renewable Energy Directive, the UK has interim targets to achieve the following shares of renewables in the energy mix:

- 4.0% in 2011-12;
- 5.4% in 2013-14;
- 7.5% in 2015-16;
- 10.2% in 2017-18.

The assessment of the UK indicative trajectory against the interim targets is shown in Chart 1. Because the targets are shown as a percentage of final energy demand, and this is uncertain, our analysis looked at a range of projections – low, medium and high – for forecast energy demand.

If our energy efficiency savings are greater than expected we could keep demand on the low side of our projections. Under low or central demand assumptions we will meet the 2020 target using the lead scenario set out in the UK's Renewable Energy Strategy. Our analysis suggests that the level of renewable energy expected to be deployed over the coming decade will be sufficient to meet the interim targets under assumptions of low overall energy demand. However, if demand is higher, i.e. around the central or high projection, then we are less confident about achieving the first three interim targets.

Chart 1- Lead scenario trajectory and interim targets



Source: DECC internal analysis

Notes:

1. The range of projections for demand represent the higher and lower estimates from the Department of Energy and Climate Change energy model.

Estimate of surplus or deficit of renewable energy

Table 1 (below) presents our predictions of the amount of renewable energy that could be deployed in the UK, along with our central assumptions for overall energy demand (expressed as kilo tonnes of oil equivalent). This analysis indicates that the final interim target (2017/18) and the overall 2020 target would be met under the central demand assumption. There may be a marginal shortfall against the first three interim targets. However, given the range of variables that need to be forecast, including costs, take-up, supply and demand side barriers, as well as future fossil fuel and other prices, this shortfall in the interim years is likely to be well within forecasting error.

The UK Government will closely monitor deployment and take appropriate action to ensure that we meet our renewable energy goals.

The UK is open to using joint projects to make up any potential shortfall in the final target. From the outset we are open to joint projects for renewable electricity where the energy is physically imported into, and consumed in, the UK subject to the following principles:

- Only a limited proportion of the UK target should be traded
- Any trading would be based on voluntary bilateral arrangements between the UK and another country
- Using the flexibility mechanisms would need to offer genuine cost savings to the UK.
- That openness to flexibilities does not undermine the UK financial support mechanisms.
- The flexibility options in the Directive should not result in the responsibility for renewable energy policy being moved from national Governments to EU institutions.
- Member States should retain control and any investments outside the UK should support sustainable renewable energy.

The analysis set out in Table 1 shows a small surplus of renewable energy in 2017/18 under our central assumption of overall energy demand. This falls well within the margin of forecasting error and does not, therefore, represent an opportunity for trading. However, we will keep this under review. Any new information about generation potential will inform decisions on joint projects where we could theoretically share generated capacity with other Member States. For instance, given the significant potential for further offshore wind generation in the North Sea, joint projects could contribute to maximising both business benefits and efficient resource use. Substantial further work is needed to inform our next steps on this, so we are not setting out specific proposals on the level of excess production at this point.

Table 1 - Estimated demand and excess supply of Renewable Energy in the United Kingdom

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gross final energy consumption (ktoe) ¹	146541	146163	146162	146050	145892	145643	145129	144776	144586	144334	144070
Gross final energy consumption RES definition (ktoe)	142704	142081	141811	141377	140846	140172	139237	138491	137938	137336	136741
Expected amount of energy from renewable sources in gross final consumption (ktoe)	4304	5200	6032	6856	7992	9307	11043	13037	15252	17679	20510
Overall RES Share (%) ²	3.0%	3.7%	4.3%	4.8%	5.7%	6.6%	7.9%	9.4%	11.1%	12.9%	15.0%
Interim RES Target (%)		4.0%		5.4%		7.5%		10.2%			15.0%
Interim Target ktoe (average over 2 years)		5735		7634		10429		14105			20511
Expected amount of energy from renewable sources in gross final consumption (ktoe) (average over 2 years)		5616		7424		10175		14144			20510
Estimated excess in production of renewable energy (ktoe)								40			
Estimated deficit in production of renewable energy (ktoe)		119		210		254					1

1. Comprises final energy consumption plus network losses and own use of heat and electricity at electricity and heat plants

2. Share of renewable energy in final energy consumption

3. Estimates are based on assumptions of energy demand and renewables deployment which underpin the Renewable Energy Strategy