

# EUROPE'S RENEWABLE ENERGY REVOLUTION

## Summary

- In March 2007, the British Government signed up to a new European renewable energy target. Gordon Brown said he was "absolutely committed" to it in the House of Commons in November. On Wednesday 23<sup>rd</sup> January the European Commission will announce a detailed breakdown of this target for each member state.
- The UK will learn that it will be required to generate about 15% of its total energy (electricity, heat and transport) from renewable sources by 2020. This will mean that up to 40% of our electricity will have to come from renewables – the current figure is less than 5%.
- The target is entirely achievable. The UK has the best renewable energy resources in the whole of Europe, and the Government's own figures show that we are capable of generating massive amounts of clean energy in a very short timeframe.
- Renewables can fill the energy gap. If we hit this target and produce 40% of our electricity from clean, renewable sources by 2020 there is no need for new nuclear reactors (which wouldn't be ready until 2021 at the earliest) or coal fired power stations.
- In 2006 (the last year with official figures) Germany's renewables supplied more electricity than all of the UK's nuclear power plants combined.
- Renewable energy will not necessarily lead to higher fuel bills. The soaring cost of oil and gas is the main reason domestic energy bills have risen – by expanding the UK's renewable energy sector we insulate ourselves from the increasing price of fossil fuels as well as the insecurity of foreign energy supplies.
- Gordon Brown must now set out a completely new industrial framework for delivering this goal. He cannot afford to listen to the naysaying of his officials any longer – Britain needs a massive and successful renewable energy sector to compete in the 21<sup>st</sup> century.

## What is happening on Wednesday?

The European commission will be proposing draft legislation in four areas

- Targets for each member state that will enable the EU to achieve its previously agreed goal of providing 20% of energy from renewable sources by 2020;
- A breakdown of the 2020 EU climate targets for each of the 27 EU countries;
- New rules on how the EU emissions trading scheme (EU ETS) will operate after 2012;
- Provisional standards for the operation of carbon capture and storage plants in Europe.

After the proposals are formally adopted, they will go through the normal EU decision making process - the European Parliament and the 27 member states will have to amend and agree on them. Agreement must be reached by the end of 2008 at the earliest and at the very latest by the end of 2009.

This briefing document will focus primarily on the EU renewable energy target - for more information on the other proposals please contact the Greenpeace press office.

## What part has the UK played in this process?

In March 2007, Tony Blair agreed that Britain - along with all other member states - would adopt a binding commitment which required 20% of Europe's energy to be generated from renewable sources by 2020. The UK would be required to play its part in meeting this commitment. (1)

Blair said at the time that Europe had embarked on "a bold and very ambitious programme on climate change". He went on to say that the EU now had "a clear leadership position on this crucial issue facing the world." (2)

On October 23<sup>rd</sup> 2007 the Guardian newspaper printed excerpts from a leaked document which revealed that Gordon Brown was to be advised that this target would be expensive but attainable. (3)

The newspaper claimed that John Hutton, the Secretary of State for Business, Enterprise and Regulatory Reform (BERR), had prepared a presentation to deliver to Brown which would urge that the PM "help persuade" German chancellor Angela Merkel and others to set lower renewable targets before binding commitments were framed. Importantly, however, the document states that in the opinion of BERR officials a 20% target is attainable.

In the leaked document BERR officials also expressed fears that embracing the target fully would "reduce the incentives to invest in other technologies like nuclear power". Instead it advises on diplomatic efforts in Brussels, including working with climate sceptic member states, to weaken the target in order to preserve a role for nuclear power in the UK.

The document also admitted that persuading the EU to allow Britain to miss the target would be "very hard to negotiate... and will be very controversial", before conceding that such a move would incur "a potentially significant cost in terms of reduced climate change leadership".

Brown responded by rejecting Hutton's paper and recommitting the UK to the target, telling the House of Commons "We are also absolutely committed to the European 20 per cent renewables target", going on to say: "I do not hide from the House the difficult decisions that will have to be made about how we reach our targets on renewables. People will have to face up ... to the need to use wind turbines both on land and on sea. (4)

#### **What does the target mean for the UK's energy system?**

The EU's overall target - to generate 20% of its energy from renewable sources by 2020 - is split on a country by country basis depending on factors like the country's existing renewable capacity and gross domestic product. The UK's share will be approximately 15%. With the best renewable energy resources in Europe, the UK is in a strong position to deliver this.

Energy doesn't only mean electricity - heating and transport are the other main components of energy usage. Because in the UK there are limited sources of renewable heat and transport fuels available, the lion's share of the target will have to be met by renewable electricity. According to most estimates this means that in order to meet the 15% target overall, around 40% of our electricity will need to be generated from renewables by 2020.

The executive director of Greenpeace, John Sauven, recently questioned the Prime Minister on this point in December 2007:

JOHN SAUVEN - I just wanted to push you a bit further on the EU 20% renewable energy target because I know you're waiting for the EU to report on that, probably in January. Do you accept that for the UK it will approximate at about 15% of total energy which would translate, since most of it would come from electricity, at about 40 to 45% of our electricity coming from renewable sources by 2020.

GORDON BROWN - Yes, I do accept that it would be a very demanding target for Britain and whether it's the figure that you mentioned or a figure around that figure we are going to have to change quite fundamentally. (5)

#### **Aren't these targets simply impossible to achieve?**

No - even the traditionally cautious civil service admits that it can be done.

Firstly, these targets can be made more achievable by adopting efficiency measures, which would reduce our overall demand for electricity, heat and transport. This, in turn, would reduce the amount of renewable energy we need to reach the 15% figure. The UK has signed up to an EU energy efficiency target and Government figures suggest that massive savings - in energy and money - could be made through this method.

John Hutton, the Secretary of State for Business, recently announced plans that would allow companies "to develop up to 25 gigawatts (GW) of offshore wind by 2020, in addition to the 8GW already planned".

He continued: "if we could manage to achieve this, by 2020 enough electricity could be generated off our shores to power the equivalent of all of the UK's homes. This could be a major contribution towards meeting the EU's target of 20% of energy from renewable sources by 2020." (6)

In addition to the figure of 33GW which Hutton mentions, there is currently 8 GW of onshore wind power capacity stuck in the planning system. If achieved, this total - 41GW - would mean that the UK was generating around 30% of its electricity from wind power alone.

Government figures suggest that by 2020 marine power could also meet 12-13% of our electricity (7). There can be further contributions from other sources such as biomass, biogas and solar. Taken together, it's clear that we can hit this target and go much further.

### Won't this mean much higher fuel bills for the British public?

Not necessarily. There are a number of reasons why:

- The rocketing price of oil and gas, not the cost of renewables, is the reason fuel bills are on the increase in the early 21<sup>st</sup> century. By developing a sizeable and robust renewable energy industry we are insulating ourselves against further spikes in the cost of fossil fuels, which will become more frequent with increasing demand from the Asian economies. In contrast, as mass production gets underway the cost of renewable technology will come down as it has in Germany.
- Efficiency measures, which also make the target easier to achieve, will also bring bills down. A recent government report (8) estimates that the UK could save £12bn per year through simple and affordable efficiency measures. This equates to a saving of around £600 per UK household.
- Experience shows otherwise. Germany has developed a thriving renewables industry at a tiny cost to the consumer. For around £1 per month on the average bill, Germany now generates 14% of its electricity from renewable sources. Last year German renewables generated more electricity than the entire UK nuclear fleet. Germany also employs a quarter of a million people in the renewable energy industry - bringing huge benefits to its domestic economy.
- As time goes on, the "polluter pays" principle will lead to fossil fuels becoming a much more expensive form of energy generation. The cost of carbon, while relatively low today, will rise within the next few years to make dirty fuels less and less economic, while renewables become much more profitable.

### Aren't renewables notoriously unreliable? What happens when the wind doesn't blow - won't we need lots of fossil fuel stations to maintain a "baseload" capacity?

The operator of the current network, National Grid Transco, said in its "Seven Year Statement", May 2005 that "...based on recent analysis of the incidence and variation of wind speed, the expected intermittency of wind does not appear to pose major problems for stability..."

Back up for the electrical grid already exists, because even major power stations have to come off line very rapidly in response to incidents - like safety scares at nuclear power stations such as those experienced in 2007. There is a considerable variability in the demands on the power system which grid operators are well used to managing.

The wind is blowing somewhere in Britain almost constantly. Research using meteorological records by the Oxford University Environmental Change unit showed that over a 5 year period there was no wind in Britain for only 1 hour in every 5 years. Even then other renewables like solar, wave, tidal, biomass and biogas would still be generating power, with back up from the efficient use of fossil fuels.

## **What's wrong with the idea of countries trading their renewable capacity with the UK to help us meet our target?**

With the best renewable resources anywhere in Europe, many of the finest engineers in the world and a highly skilled manufacturing sector it would frankly be an embarrassment if we had to rely on our neighbours to hit this target.

If we want to maintain any kind of international reputation for tackling climate change we simply cannot rely on paying other countries to meet our responsibilities to the planet instead of doing it ourselves.

If we trade instead of developing our own renewables we will also miss out on the massive employment and economic benefits of renewable industry development. Germany has a multi-billion Euro industry, quarter of a million jobs and global dominance of wind power technology exports because it invested in renewables at home first. Britain will be last in the queue begging other countries for technology and skilled engineers if we rely on trading to meet our political commitments.

## **Aren't companies just going to relocate to the Far East and elsewhere to avoid Europe's tough emission limits, renewables targets and the EU ETS?**

The European Commission is already discussing the prospect of imposing trade tariffs on goods from countries with high carbon emissions and energy intensive industries, such as the US. Commission president Jose Manuel Barroso threatened trade measures during a speech in London on Monday 21<sup>st</sup> January.

Increasingly there is no place to hide for polluting industries - even China has a more ambitious renewables target than the UK. Companies all over the world are waking up to the new paradigm that the problem of climate change has created. Dirty, carbon intensive industries will find that they have no place in the low carbon economy of the future - by contrast, those that adapt to meet the new requirements placed on them will be the success stories of the 21<sup>st</sup> century.

### NOTES

(1) <http://www.defra.gov.uk/news/latest/2007/climate-0309.htm>

(2) <http://news.bbc.co.uk/1/hi/world/europe/6433503.stm>

(3) <http://www.guardian.co.uk/environment/2007/oct/23/renewableenergy.energy>

(4) <http://www.theyworkforyou.com/debates/?id=2007-10-24a.280.3>

(5) Q&A session, WWF event at the Foreign Press Association, November 2007

(6) <http://www.gnn.gov.uk/environment/fullDetail.asp?ReleaseID=337237&NewsAreaID=2>

(7) Based on estimates in: [Carbon Trust \(2006\) Future marine Energy: cost competitiveness and growth of wave and tidal stream energy](#) and [2003 Energy White Paper - Our energy future - creating a low carbon economy](#)

(8) Cabinet Office, Performance and Innovation Unit, 2002, "*The Energy Review*"

For more contact Greenpeace on 0207 8658255