

Memo on the Renewable Energy and Climate Change Package

1. INTRODUCTION

In recent decades, our lifestyle and growing wealth has had a profound effect on the energy sector, changing the energy outlook considerably in the process. Increasing demand for energy, soaring oil prices, uncertain energy supplies and fears of global warming have opened our eyes to the fact that energy can no longer be taken for granted. EU leaders have thus made a commitment to increase the use of renewable energy; energy that can replace fossil fuels, diversify our energy supply and reduce our carbon emissions. Boosting investment in renewable energy, energy efficiency and new technologies contributes to sustainable development and security of supply, and helps create new jobs, economic growth, greater competitiveness and rural development. A comprehensive legislative framework is necessary for the promotion and the use of renewable energy. Only this can provide the business community with the long-term stability it needs to make rational investment decisions in the renewable energy sector and put the European Union on track towards a cleaner, more secure and more competitive energy future.

2. BACKGROUND

In January 2007 the European Commission put forward an integrated energy/climate change proposal that addressed the issues of energy supply, climate change and industrial development. Two months later, European Heads of State endorsed the plan and agreed to an Energy Policy for Europe.

The plan called for a:

- 20% increase in energy efficiency
- 20% reduction in greenhouse gas (GHG) emissions
- 20% share of renewables in overall EU energy consumption by 2020
- 10% biofuel component in vehicle fuel by 2020

These targets are very ambitious: today 8.5% of energy is renewable. To achieve a 20% share by 2020 will require major efforts across all sectors of the economy and by all Member States.

A European approach is needed to ensure that the effort for reaching the 20% target is shared equitably between Member States. Furthermore, there must be investor certainty regarding the objectives and the pathway to be followed.

3. COMMISSION PROPOSAL

To achieve the renewable energy policy goals, the European Commission has proposed a Directive. This aims to establish national renewable energy targets that result in an overall binding target of a 20% share of renewable energy sources in energy consumption in 2020 and a binding 10% minimum target for biofuels in transport to be achieved by each Member State.

Three sectors are implicated by renewable energy: electricity, heating and cooling and transport. It is up to the Member States to decide on the mix of contributions from these sectors to reach their national targets, choosing the means that best suits their national circumstances. They will also be given the option of achieving their targets by supporting the development of renewable energy in other Member States and third countries.

The minimum 10% share of biofuels in transport is applicable in all Member States. Biofuels tackle the oil dependence of the transport sector, which is one of the most serious issues affecting security of energy supply that the EU faces.

Finally, the Directive also aims to remove unnecessary barriers to the growth of renewable energy - for example by simplifying the administrative procedures for new renewable energy developments – and encourages the development of better types of renewable energy (by setting sustainability standards for biofuels etc).

4. TARGET CALCULATION

If the overall 20% target for renewables is to be reached in an effective manner, the individual targets for each Member State have to be determined as fairly as possible. The Commission has therefore put forward a simple five-step approach:

- The share of renewable energy in 2005 (the base year for all calculations in the package) is modulated to reflect national starting points and efforts already made for Member States that achieved an increase of above 2% between 2001 and 2005
- 5.5% is added to the modulated 2005 share of renewable energy for every Member State
- This remaining effort (0.16 toe for each person in the EU) is weighted by a GDP/capita index to reflect different levels of wealth across Member States, then multiplied by each Member State's population
- These two elements are added together to derive the full renewable energy share of total final energy consumption in 2020
- Lastly, an overall cap on the target share for renewable energy in 2020 is applied for individual Member States.

This method of setting the targets provides for a fair distribution of effort across Member States. At the same time, the creation of a tradable guarantee of origin regime allows Member States to reach their targets in the most cost-effective manner possible: instead of developing local renewable energy sources, Member States will be able to buy guarantees of origin (certificates proving the renewable origin of energy) from other Member States where the development of renewable energy is cheaper to produce.

5. BIOFUELS

The 10% target for renewable energy in transport has been set at the same level for each Member State in order to ensure consistency in transport fuel specifications and availability. Member States which do not have the relevant resources to produce biofuels will easily be able to obtain renewable transport fuels from elsewhere. While it would technically be possible for the European Union to meet its biofuel needs solely from domestic production, it is both likely and desirable that these needs will in fact be met through a combination of domestic EU production and imports from third countries.

Concerns have been raised about whether biofuel production is sustainable. Whilst biofuels are a crucial part of renewable energy policy and a key solution to growing emissions in the transport sector, they must not be promoted unless they are produced sustainably. Although the majority of biofuels currently consumed in the EU are produced in a sustainable manner, the concerns are legitimate and need to be addressed. The Directive therefore sets out stringent environmental sustainability criteria to ensure that biofuels that are to count towards the European targets are sustainable and that they are not in conflict with our overall environmental goals. This means that they must achieve at least a minimum level of greenhouse gas savings and respect a number of requirements related to biodiversity. Among other things this will prevent the use of land with high biodiversity value, such as natural forests and protected areas, being used for the production of raw materials for biofuels.

Biofuels cost more than other forms of renewable energy and without a separate minimum target for biofuels, they will not be developed. This matters because greenhouse gas trends are worst in transport, and biofuels are one of the few measures – alongside vehicle fuel efficiency – realistically capable of making a significant impact on greenhouse gas emissions from transport. In addition, the oil dependence of the transport sector is the most serious security of supply problem of all. And finally, we must remember to send the right signals for the future: the old cars of 2020 are being built today. Vehicle manufacturers need to know what fuel to design for.

6. WHAT ARE THE ADVANTAGES OF RENEWABLE ENERGY?

The numerous benefits of renewable energy - in terms of the impact on climate change, security of energy supply and the long-term economic benefits - are widely accepted. The Commission's analysis shows that achieving our renewable energy targets will mean the following:

- Savings of 600 to 900 million tonnes of CO₂ emissions per year – holding back the rate of climate change and sending a signal to other countries to do the same
- Reductions in fossil fuel consumption of 200 to 300 million tonnes per year, most of it imported – making energy supplies more certain for European citizens
- A boost for high-tech industries, new economic opportunities and jobs

All this will cost approximately €13-18 billion per year. However, this investment will drive down the price of the renewable energy technologies that will form a growing part of our energy supply in the future.

Renewable energy makes economic sense

With oil prices at today's levels, renewables are increasingly seen as an economically sound alternative. With increased deployment of renewable energy sources, we can expect to see the cost of renewable energy continue to fall over time, in a pattern similar to information technology. Indeed, costs have already fallen significantly in recent years.

Last year, global investment in sustainable energy increased by 43%. Market revenues for solar, wind, biofuels and fuel cells are forecast to increase to approximately €150 billion by 2016, while record levels of investment in wind, solar and biofuels reflect technological maturity, a growth in policy incentives and increased investor confidence.

Continued and expanded deployment will continue this process. Conversely, the cost of fossil fuels, notably oil, has been steadily increasing since 1998. The dynamics at play are clear: falling renewable energy prices, rising fossil fuel energy prices.

But the use of renewable energy sources also contributes to increasing local and regional employment opportunities. **Renewable energy in the EU has a turnover of €30 billion, providing approximately 350 000 jobs.** Employment opportunities are vast, ranging from high-tech manufacturing of photovoltaic components to maintenance jobs at wind power plants or in the agricultural sector producing biomass.

The EU's proactive policies on renewable energy provide an industrial opportunity. By beginning the transition to a low carbon economy earlier than would otherwise be the case, the need for more radical and sudden adjustment is reduced. Money will be saved on imported fossil fuels, and greater diversity of energy sources ensures that the European Union is better protected against external shocks.

Renewable energy makes environmental sense

The renewable energy target is closely linked with our greenhouse gas emissions target. Without significantly increasing the share of renewable energy in the EU's energy mix it will be practically impossible to meet the EU's objectives for reduction of greenhouse gas emissions.

But the term "clean energy" doesn't just apply to reducing greenhouse gas emissions – it also covers traditional pollutants, such as nitrogen oxides, sulphur dioxides and particulates. These are as detrimental to our health as they are to the environment.

Fossil fuel energy causes environmental impacts all along the chain: from extraction and production to transportation and end-use. With renewable energy these negative effects are minimised, if not removed altogether.

Of course renewable energy is not always a flawless solution and certain environmental and aesthetic concerns cannot be denied, but new technological solutions will contribute to lessening this impact over time. Looking at the bigger picture, however, there is no doubt that the adverse effects of climate change have far greater significance.

Renewable energy means secure energy supply

Our dependence on a limited number of energy sources (oil and gas) is of increasing concern. Oil is no longer a cheap commodity that we can afford to take for granted. Oil prices fluctuated around \$25-30 during the first years of this decade but today hover at around \$100 per barrel.

From a security of supply perspective, EU renewable energy is mostly generated in the EU. This means that it is less subject to supply disruptions and mitigates fuel price increases. It makes sense, therefore, to produce more of our own energy, and from a growing variety of renewable energy sources. A diverse supply of energy is a more secure supply of energy.

EU Citizens favour renewable energy

Changes in consumer attitudes towards green energy are also becoming increasingly apparent. Surveys show that customers value the environmental benefits of renewable

more than conventional polluting energy sources and prefer electricity companies that supply at least part of their power from renewable energy technologies¹.

According to a Eurobarometer opinion survey undertaken in January 2007, 55% of European citizens perceive great future promise in the use of renewable energies. 60% think that energy research should be a priority for the European Union.

Moreover, citizens appear to support changing the energy structure, enhancing research and development and guaranteeing the stability of the energy field.

Many of them think that guaranteeing low energy prices and continuous supply of energy should be a priority for national government and 40% are prepared to pay more for energy from renewable sources.

These sources clearly underline the importance of renewable energies to Europe's citizens. More and more consider that increasing our use of renewable energy is fundamental in order to live in a clean, sustainable and safer environment.

7. RENEWABLE ENERGY IN THE EU TODAY

The European Union is already a world leader in renewable energy and the sector has huge and growing economic importance worldwide. It is the EU's ambition to stay at the forefront of this fast-developing area. So far, however, development has been uneven across the EU, and renewable energies still represent only a small share of the EU's total energy mix relative to the dominance of gas, oil and coal.

Different renewable energies are at different stages of technological and commercial development. In certain locations and under certain conditions, sources such as wind, hydro, biomass and solar thermal are already economically viable. But others, such as photovoltaic, will depend on increased demand to improve economies of scale and lower costs.

Currently, two EU directives in the field of renewable energy are in force: one for electricity and one for biofuels. The third sector, heating and cooling, has been excluded at European level so far. The 2020 target setting offers an opportunity to propose one comprehensive directive covering all three sectors of renewable energies. This makes it possible to put in place both individual measures in the different sectors and to address cross cutting issues (e.g. support schemes and administrative barriers). A single directive and single national action plans will encourage Member States to think of energy policy in a more integrated way, concentrating on the best allocation of resources.

The European Commission's new Directive sets out the renewable energy targets and aims to provide a stable and integrated framework for all renewable energy, which is critical to ensure investors have the confidence needed to make renewables play their envisaged role. At the same time, the framework is sufficiently flexible to take into account the specific situations in Member States and to ensure that they have leeway to meet their targets in a cost-effective manner, including through an improved regime for transfers of guarantees of origin. In addition, the Directive contains specific measures to remove barriers to renewable energy's development such as excessive administrative controls and to encourage greater use of better-performing types of renewable energy.

¹ *Union of concerned scientists*, www.ucsusa.org