

## Promotion of renewable energy at EU level

### The legal framework, its implementation and perspectives

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The present note is amongst others based upon information provided in the following documents of the European Commission:

[http://ec.europa.eu/energy/renewables/reports/doc/com\\_2011\\_0031\\_en.pdf](http://ec.europa.eu/energy/renewables/reports/doc/com_2011_0031_en.pdf) (Renewable Energy: Progressing towards the 2020 target)

[http://ec.europa.eu/energy/renewables/reports/doc/sec\\_2011\\_0131.pdf](http://ec.europa.eu/energy/renewables/reports/doc/sec_2011_0131.pdf) (Review of European and national financing of renewable energy in accordance with Article 23(7) of the RES Directive)

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:160:0008:0016:EN:PDF> (Communication from the Commission on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels)

[http://ec.europa.eu/energy/renewables/biofuels/doc/land-use-change/com\\_2010\\_811\\_report\\_en.pdf](http://ec.europa.eu/energy/renewables/biofuels/doc/land-use-change/com_2010_811_report_en.pdf) (Report from the Commission on indirect land-use change related to biofuels and bioliquids)

[http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SPLIT\\_COM:2010:0677\(01\):FIN:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SPLIT_COM:2010:0677(01):FIN:EN:PDF) (Commission Communication on Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network)

The National Renewable Energy Action Plans which are essential in the process of implementing the RES Directive are published at

[http://ec.europa.eu/energy/renewables/transparency\\_platform/action\\_plan\\_en.htm](http://ec.europa.eu/energy/renewables/transparency_platform/action_plan_en.htm)

#### 1. BACKGROUND

In 2007 the European Council committed to fight Climate Change and improve energy security by reducing greenhouse gas emissions by 20% compared to 1990, increasing the share of renewable energies in overall EU energy consumption by 20% and increase energy efficiency in the EU so as to achieve the objective of saving 20 % of the EU's energy consumption compared to projections for 2020.

Subsequently, the renewables energy (not just electricity) target, as the only one of the 2020 targets, was made legally binding: The "Renewables Directive" 2009/28/EC (RES Directive) distributes the respective burden among Member States by prescribing legally binding targets to be fulfilled at national level. Member States have a large room of manoeuvre on how to reach the target.

The main pillars of the Directive are:

- Setting of mandatory national targets which amount to an overall 20% share of renewables in gross final consumption ("burden sharing") – plus, as part of the general target, a 10% renewables-in-transport target;
- Obligation for Member States to present National Renewable Energy Action Plans (NREAP) showing the path towards reaching the targets;
- Streamlining and facilitation of administrative procedures, regulations, standard setting and codes;
- Freedom to apply national support schemes;
- Cooperation mechanisms among Member States and with third countries;

- Establishing sustainability criteria for biofuels' and bioliquids' eligibility for public support and for counting towards the targets.

## **2. CURRENT STATE OF IMPLEMENTATION**

### **2.1. Progress in general**

Until 2008, the development of renewable energy was driven by a loose legislative framework, which set non-binding targets. The "Renewable Electricity" Directive 2001/77/EC and the "Biofuels" Directive 2003/30/EC set national indicative targets such that the EU would reach a share of renewable energy in electricity generation of 21% by 2010 and a share of renewable energy replacing petrol and diesel in transport of 5,75% also by 2010. Neither of these targets are likely to be met, even though both sectors have experienced continued growth.

As regards, however, the implementation of the RES Directive, forecasts of Member States indicate that the production of renewable energies will exceed the 20% target in 2020.

### **2.2. National Renewable Action Plans**

The NREAP play a central role in the system of the RES Directive. They should amongst others display for each Member State the adequate measures to be taken to achieve the national overall targets, including cooperation between local, regional and national authorities, planned statistical transfers or joint projects, national policies to develop existing biomass resources and mobilise new biomass resources for different uses (Article 4.1 RES Directive). Member States had to notify their NREAP to the Commission by 30 June 2010 (Article 4.2 RES Directive). The Commission shall evaluate the NREAP, notably the adequacy of the measures envisaged by the Member States and may issue recommendations (Article 4.5 RES Directive).

All Member States have notified their NREAP. Overall, the plans are ambitious but realistic. They suggest that the EU might actually exceed the 20% target if all the planned actions are implemented. In fact, the growth of renewable energy to 2020 is estimated to lead to 20.6% by 2020. The Commission has undertaken a first analysis of all NREAP. It is in the process of writing to Member States regarding their plans and seeking further information or clarifications as necessary.

Commission analysis shows that administrative barriers are still a major problem. It seems that planning and permitting regimes cause delays and uncertainty. It is apparent that more must be done to reform these regimes, including working with the public to improve understanding of the impacts of infrastructure.

However, overall, the review of Member States' plans shows that the new approach set out in the RES Directive is starting to pay off. A comprehensive and binding regulatory framework is proving catalytic in driving forward renewable energy development to achieve the ambitious targets that the EU has set itself.

### 3. KEY ISSUES

#### 3.1. Financing of Renewables

The Commission's Communication on infrastructure priorities has signalled that European investment of more than one trillion euros is needed between today and 2020 to achieve the EU energy policy goals. Of this, approximately half is needed for replacing or investing in new electricity generation capacity. Priority should be given to renewable electricity investments – achieving levels higher than the 62% of all new power installations in 2009. Further analysis undertaken for the Commission suggests that whilst annual capital investment in renewable energy today averages €35bn, this would need to rapidly double to €70bn to ensure we achieve our goals.

In times of tight budgets both of the private and the public sector, this means renewables need to be developed as efficiently as possible. The growth in investment must be driven by the private sector but it will necessarily be supported by some public support for renewable energy. At national level, consumers pay for green energy and infrastructure development through their electricity bills via national support schemes the most common of which are:

- **Regulated prices:** feed in tariffs, giving energy producers a fixed financial payment per unit of electricity or heat produced from renewable energy sources. Often fixed for 10-20 years, differentiated by technology and phased out.
- **Regulated premiums:** feed in premiums, giving energy producers a fixed financial payment per unit of electricity or heat produced from renewable energy sources for the green value; the producer receiving the market price for the physical energy.
- **Quota/certificates:** impose a minimum share or quota of renewables in the electricity, transport fuel or heating fuel mix, which can be met either through physical production (common for biofuels) or through purchasing "green certificates", virtual, rather than physical energy. The producer of the green energy is paid for the green certificates by the supplier or other facing the obligation.
- **Fiscal incentives:** tax exemptions or tax credits for investments in renewable energy projects.
- **Tenders:** A government call for tender for a renewable energy project, often specifying the capacity/production/technology/site. The winner is generally granted a long term power purchasing agreement at a competitive price.

Whilst there has been some convergence and improvement in the efficiency of some Member States' instruments in the electricity sector, there has not been any coordination. The continued existence of multiple different national support regimes shows little sign of change. This means investors and other market operators must deal with a wide range of changes, small and large, occasional or regular, in 27 Member States. This exacerbates the differences and distortions between Member States' electricity markets and ignores the benefits of operating in a single European electricity market. Given the growing importance of the share of renewable energy in the European electricity mix, this is a concern and shows the need for further reform of electricity market support schemes.

### **3.2. Biofuels**

The RES Directive contains – apart from the general Renewables target – a specific renewables-in-transport target. According to Article 3.4 RES Directive each Member State shall ensure that the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State.

According to the NREAP the contribution towards this target from biofuels is expected to be significant. There is, however, some concern about the environmental and social impacts of biofuels.

Negative impacts of biofuels might result from the production of biofuel feedstock on land directly converted from another status. This is addressed in the sustainability criteria of Article 17 RES Directive. On 19 June 2010 the Commission published a Communication on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels. In addition, Article 17.2 RES Directive states that the greenhouse gas emission savings from the use of biofuels and bioliquids shall be at least 35 % compared to the use of fossil fuels (at least 50% from 1 January 2017; at least 60% from 1 January 2018).

The positive environmental effects of using biofuels instead of fossil fuels might also be diminished by Indirect Land Use Change (ILUC) effects. In fact, biofuel feedstocks might be cultivated on existing agricultural land and it may then displace other crop production some of which ultimately may lead to conversion of land into agricultural land. The Commission is expected to come forward with a proposal on how to address the impact of ILUC in July 2011.

### **3.3. Cooperation Mechanisms**

Most Member States have continued to focus on national resources to achieve their 2020 targets on their own. They have not sought to reduce costs by developing cheaper resources in other parts of the single market. Commission analysis estimates that up to 10 billion Euro annually could be saved if Member States treated renewable energy as a commodity in a single European market rather than in national markets.

The Directive created the “cooperation mechanisms” to allow Member States to reach their targets cost effectively. At this stage, almost half of the Member States are planning to exceed their own targets and be able to provide surpluses for other Member States. For two Member States (Italy and Luxembourg), a small part of the renewable energy needed to reach their target is planned to come from “imports” in the form of statistical transfers from Member States with surpluses or third countries.

The RES Directive establishes "cooperation mechanisms" by which Member States can join together to develop renewable energy sources. These include:

- "statistical transfers" (Article 6 RES Directive) whereby one Member State with a surplus of renewable energy can "sell" it statistically to another Member State, whose renewable energy sources may be more expensive. One Member State gains a revenue, at least covering the cost of developing the energy, the other gains a contribution towards their target at low cost.

- "joint projects" (Article 7 RES Directive) whereby a new renewable energy project in one Member State can be co-financed by another Member State and the production shared statistically between the two. Again, there is a mutual benefit and cost saving from such cooperation. Joint projects can also occur between a Member State and a third country, if the electricity produced is imported into the EU.
- "joint support schemes" (Article 11 RES Directive) whereby two or more Member States agree to harmonise all or part of their support schemes for developing renewable energy, to clearly integrate the energy into the single market, and share out the production according to a rule such as where the financial support is coming from.

Using such mechanisms will generate a European rather than a national perspective to the development of renewable energy, ensuring that Europe reaches its renewable energy target cost effectively. In addition, the scope for trade, joint projects and common support schemes constitute clear steps towards integrating renewable energy into the European energy market. Moreover, the actual application of such cooperation schemes is indispensable to implement large projects of generating electricity from renewable energy sources, such as installing solar panels at large scale in Northern Africa ("Desertec").

## **4. OUTLOOK**

### **4.1. The infrastructure challenge – an initiative on permitting**

Based on Member States' plans, renewable energy should constitute 37% of Europe's electricity mix by 2020. The projected expansion of electricity from renewable sources carries a number of implications, in particular the need to accelerate the modernisation of the electricity grid. The grid needs to be prepared for the integration of significant volumes of electricity produced from renewable sources, facilitating grid balancing, flexibility and distributed generation. Electricity systems have to become more interconnected and flexible, and new infrastructure development and reinforcement will be necessary, including the deployment of smart grid technologies. A practical example for the challenges regarding the grid infrastructure is to connect the offshore potentials, mainly wind, foreseen in the Northern Seas of Europe, to the consumer centres in Europe.

There are a number of obstacles to build or upgrade European energy infrastructure suited to cope with the climate challenge. The delays for obtaining the necessary authorisations for such projects appears to be a particular important one. As a consequence, in March 2007 the European Council invited the Commission "to table proposals aiming at streamlining approval procedures".

Responding to this request, the Commission intends to propose to introduce permitting measures applying to projects of "European interest" to streamline, better coordinate and improve the current permitting processes while respecting safety and security standards and ensuring full compliance with the EU environmental legislation. The streamlined and improved procedures should provide for transparency for all stakeholders involved and facilitate participation of the public in the decision-making process by ensuring open and transparent debates at local, regional and national level to enhance public trust and acceptance of the installations.

Improved decision-making could be addressed through the following:

- (1) The establishment of a contact authority ("one-stop shop") per project of European interest, serving as a single interface between project developers and the competent authorities involved at national, regional, and/or local level, without prejudice to their competence. This authority would be in charge of coordinating the entire permitting process for a given project and of disseminating the necessary information about administrative procedures and the decision-making process to stakeholders. Within this framework, Member States would have full competence to allocate decision-making power to the various parts of the administration and levels of government. For cross-border projects, the possibility of coordinated or joint procedures should be explored in order to improve project design and expedite their final authorisation.
- (2) The introduction of a time limit for a final positive or negative decision to be taken by the competent authority will be explored. Given the fact that delays often occur due to poor administrative practice, it should be ensured that each of the necessary steps in the process is completed within a specific time limit, while fully respecting Member States' applicable legal regimes and EU law. The proposed schedule should provide for an early and effective involvement of the public in the decision-making process, and citizens' rights to appeal the authorities' decision should be clarified and strengthened, while being integrated in the overall timeframe. It will further be explored whether, in case a decision has still not been taken after the expiry of the fixed time limit, special powers to adopt a final positive or negative decision within a set timeframe could be given to an authority designated by the concerned Member States.
- (3) The development of guidelines to increase the transparency and predictability of the process for all parties involved (ministries, local and regional authorities, project developers and affected populations). They would aim at improving communication with citizens to ensure that the environmental, security of supply, social and economic costs and benefits of a project are correctly understood, and to engage all stakeholders in a transparent and open debate at an early stage of the process. Minimum requirements regarding the compensation of affected populations could be included. More specifically, for offshore cross-border energy installations maritime spatial planning should be applied to ensure a straight-forward, coherent but also a more informed planning process.
- (4) In order to enhance the conditions for timely construction of necessary infrastructure, the possibility of providing rewards and incentives, including of a financial nature, to regions or Member States that facilitate timely authorisation of projects of European interest should be explored. Other mechanisms for benefit sharing inspired by best practice in the renewable energy field could also be considered.

#### **4.2. Looking beyond 2020**

In order to keep climate change below 2°C, the European Council reconfirmed in February 2011 the EU objective of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990, in the context of necessary reductions according to the Intergovernmental Panel on Climate Change by developed countries as a group. However, this long term target has not yet lead to intermediate targets for the share

of renewables in final energy consumption in the EU beyond 2020. This lack of regulatory guidance might be one of the reasons for underinvestment in the renewables area.

There are many possible scenarios to achieve decarbonisation by 2050. In particular after the accident in the Nuclear Power Plant of *Fukushima* a scenario to be assessed more closely is one where up to 80% if not 100% of the electricity consumed in Europe is generated from renewable energy sources. The Commission will present detailed analysis of this and other scenarios before the end of 2011.