

## **Renewables account for 62% of the new electricity generation capacity installed in the EU in 2009**

*The "Renewable Energy Snapshots" report, published today by the European Commission's Joint Research Centre (JRC), shows that renewable energy sources accounted for 62% (17GW) of the new electricity generation capacity installed in the EU27 in 2009. The share rose from 57% in 2008. For the second year running, wind energy accounted for the largest share of the new capacity: 10.2 GW out of the 27.5 GW built, representing 38% of the total. In absolute terms, renewables produced 19.9% of Europe's electricity consumption last year.*

### **Cautious optimism**

In 2009, and in absolute terms, about 19.9% (608 TWh) of Europe's total electricity consumption (3042 TWh) came from renewable energy sources. Hydro power contributed with the largest share (11.6%), followed by wind (4.2%), biomass (3.5%), and solar (0.4%).

With regards to the new capacity constructed that same year (27.5 GW), among the renewable sources, 37.1% was wind power, 21% photovoltaics (PV), 2.1% biomass, 1.4% hydro and 0.4% concentrated solar power, whereas the rest were gas fired power stations (24%), coal fired power stations (8.7%), oil (2.1%), waste incineration (1.6%) and nuclear (1.6%) (see figure1).

As not all installed technologies operate continuously 24 hours a day, figure 2 shows the expected yearly energy output (TWh) from the new capacity. The new gas-fired electricity plants will deliver yearly 28 TWh, followed by wind and PV with 20 TWh and 5.6 TWh, respectively.

If current growth rates are maintained, in 2020 up to 1400 TWh of electricity could be generated from renewable sources, the report concludes. This would account for approximately 35-40% of overall electricity consumption in the EU, depending on the success of community policies on electricity efficiency, and would contribute significantly to the fulfilment of the 20% target for energy generation from renewables.

However, it also advises that some issues need to be resolved if the targets are to be met. Particular areas of focus include ensuring fair access to grids, substantial public R&D support, and the adaptation of current electricity systems to accommodate renewable electricity. The study highlights that cost reduction and accelerated implementation will depend on the production volume and not on time.

## Summary of 2010 snapshot findings

**Wind energy:** with more than 74 GW of total installed capacity in 2009, it has already exceeded the 2010 white paper target of 40 GW by more than 80%. The European Wind Association's new target aims for 230 GW of installed capacity (40 GW offshore) by 2020, capable of providing about 20% of Europe's electricity demand.

**Biomass:** if current growth continues, electricity output from biomass could double from 2008 to 2010 (from 108 TWh to 200 TWh). However, other energy uses such as heat and transport fuels compete for this particular source, which could potentially hinder the development of bioelectricity. Being storable for use on demand increases its importance as a source of electricity.

**Concentrated Solar Power (CSP):** installed capacity is still relatively small in Europe: 0.430 GW in May 2010, about 0.5% of the total, but is steadily increasing. An estimated 30 GW could be installed by 2020 if the European Solar Industry Initiative ESII is realised. Most CSP projects currently under construction are located in Spain.

**Solar Photovoltaic:** since 2003, the total installed capacity has doubled each year. In 2009 it reached 16 GW, which represents 2% of the overall capacity. The growth will continue, as for 2010, installations of up to 10 GW are expected. Solar photovoltaic has also exceeded the capacity predictions formulated by in the EU white paper on renewable sources of energy.

**Other sources of power:** technologies such as geothermal, tidal and wave power are still at the R&D stage, so they have not yet been included in the Renewable Energy Snapshots. Yet, they are likely to be introduced to the market within the next decade. As far as hydro generation is concerned, no major increase is expected, as most of the resources are already in use. However, pumped hydro will play an increasingly important role as in a storage capacity for the other renewable energy resources.

Figure 1: Newly Installed or Decommissioned Electricity Capacity [GW] in the EU in 2009

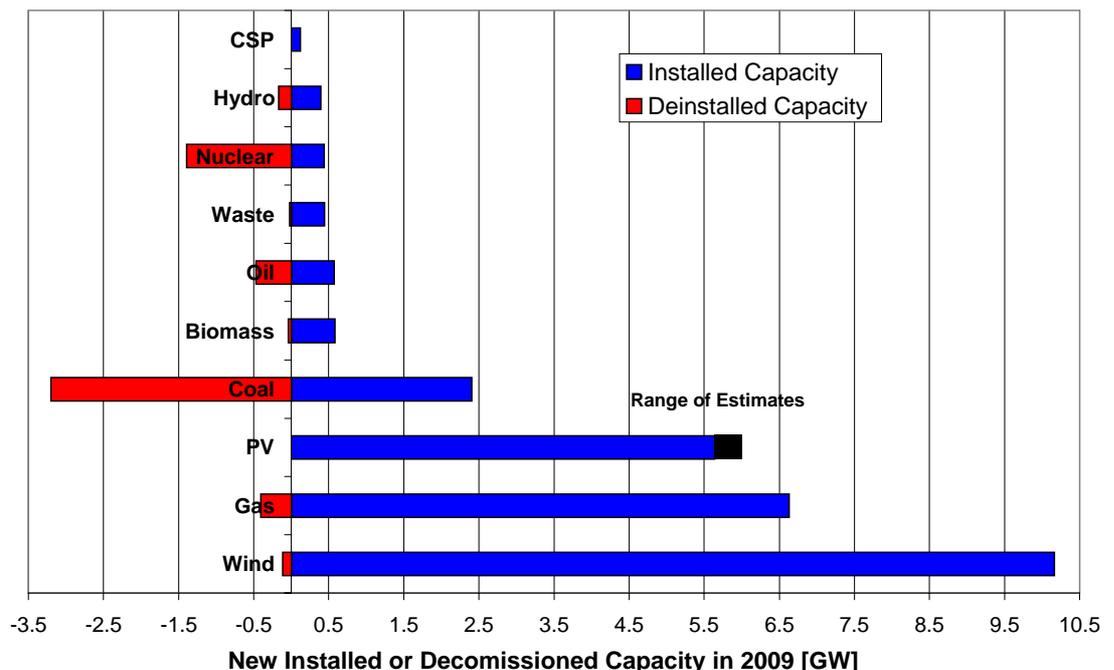
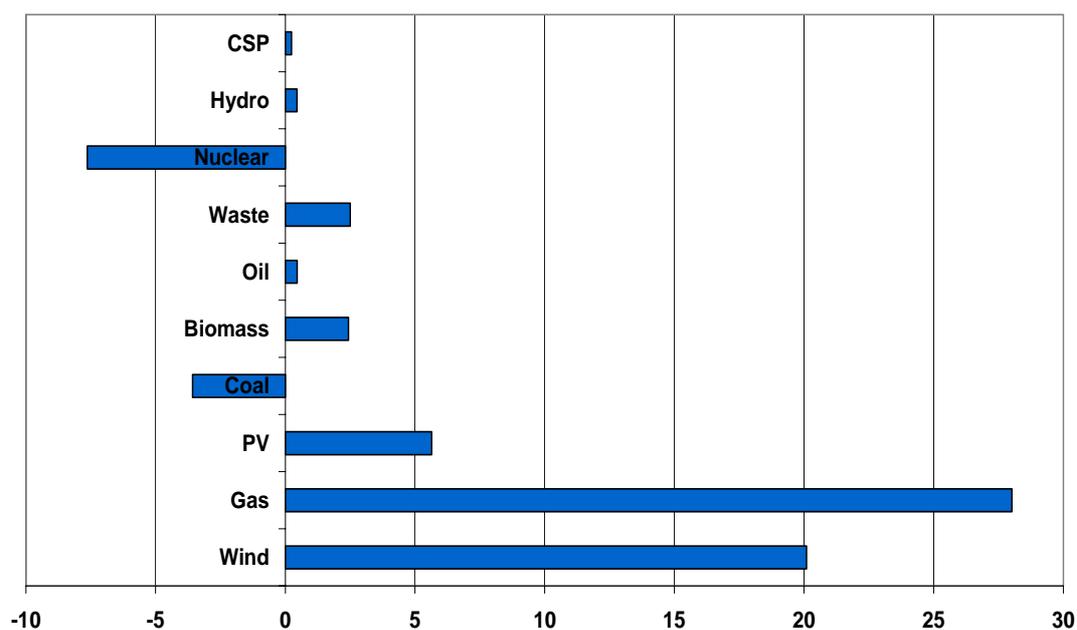


Figure 2: Expected Electricity [TWh] from new installed or decommissioned Capacity in the EU in 2009



## Background

The JRC has produced the annual Renewable Energy Snapshots since 2007 to give an up-to-date picture of the EU's progress towards the binding target of 20% for energy generation from renewable sources by 2020.

These Renewable Energy Snapshots are based on two types of data: official figures from EU countries or EUROSTAT and those provided by industry associations, research industries, etc.

This second type is known as "grey" data. It consists of more recent, unconsolidated data, which are needed for such an early analysis. They are cross-checked, consulted and validated by the JRC.

However, due to the methodology of collection, values might deviate and there is therefore a margin of uncertainty which should be taken into account.

## Download

The 2010 *Renewable Energy Snapshots*: <http://re.jrc.ec.europa.eu/refsys/>