European Commission - Fact Sheet

Renewable energy progress report

Brussels, 16 June 2015

What is the Renewable energy progress report and what is its purpose?

The Renewable Energy Directive states that a progress report should be issued every two years. The purpose of this progress report is to **assess Member States' progress in the promotion and use of renewable energy** in line with the 2020 targets. In addition, it contains sections on the **sustainability scheme for biofuels and bioliquids consumed in the EU** and on the economic, social, and environmental impacts of this consumption.

What are the EU renewable energy targets?

The Renewable Energy Directive adopted in 2009sets **binding targets for renewable energy.** It focuses on achieving a **20% share of renewable energy** in the EU overall energy consumption by 2020. Every Member State has to reach **individual targets** for their overall share of renewable energy in energy consumption. In addition, in the transport sector, all Member States have to reach the same target of a **10% share of renewable energy**.

These targets can be reached by increasing the share of energy from renewable sources, including wind power (both onshore and offshore), solar power (thermal, photovoltaic and concentrated), hydro-electric power, tidal power, geothermal energy and biomass (including biofuels and bioliquids). The renewable energy targets aim to reduce pollution and greenhouse gas emissions, to decrease renewable energy production costs, and to diversify our energy supply by reducing dependence on oil and gas.

What is the current share of renewable energy in the EU?

The Renewable Energy Directive lays down legally binding national renewable energy targets, the interim trajectory for each Member State, and requires them to take adequate national measures to ensure that these targets are met, so that **the EU as a whole can reach at least a 20% share of renewable energy in its overall energy consumption by 2020**.

With a projected share of **15.3% of renewable energy in 2014** in the gross overall energy consumption, the EU and the vast majority of **Member States are making good progress**: 25 Member States are expected to meet their 2013/2014 interim targets.

These results are published in the European Commission’s 2015 report on progress made in achieving the EU’s legally binding target for a 20% share of renewable energy, the 10% target for renewable energy use in transport, and the binding national targets by 2020.

Where does Europe stand compared to other regions ?

According to the 2014 world energy outlook from the IEA, Europe is still ahead of most other regions (e.g. China and the USA) in terms of its share of renewable electricity, or installed renewable power per capita, although the world is gradually catching up and massively investing in new capacities. In 2013, renewables accounted for more than 56% of net additions to global power capacity and represented far higher shares of capacity added in several countries[1]. This is also good news for Europe, and can provide new market and technology opportunities for EU companies and research. The EU's work to build a resilient Energy Union with a forward looking climate policy, together with EU Member States efforts will contribute to ensuring the achievement of the at least 27% of renewables in 2030 target and thereby to the EU remaining the world's number one in renewable energy.

Which EU countries perform best?

With less than 6 years still to go to the end of 2020, 25 Member States are so far well on track to achieving their binding national RES targets, and five Member States have already achieved or are about to achieve their RES targets well ahead of time. See the overview table in Annex I.

Is Europe leading in any specific area of the renewables industry?

The EU is leading on wind turbine manufacturing: almost 40% of market shares were held by EU companies in 2013[2].

Are renewables and the renewable energy targets really good for Europe? The Renewable

Energy Directive and its legal provisions have contributed to the overall achievement of EU's energy and climate policy goals, security of energy supply, employment, public acceptance of renewables and regional development. The deployment of renewables in the EU has resulted in around 388 Mt of gross avoided CO2 emissions in 2013 and a reduction in the EU demand of fossil fuels of 116 Mtoe. More importantly for the EU's security of energy supply, the RES substitution of natural gas made up 30% of all avoided fossil fuel use in 2013; almost half of Member States reduced their gross inland consumption of natural gas by at least 7%[3]. Avoided imported fuel costs due to increasing use of renewable energy amount to at least EUR 30 billion a year.[4]

Does the EU have any targets beyond 2020?

Yes, in 2014 the 2030 Framework for Climate and Energy was adopted. It sets out predictable and certain energy and climate objectives for 2030. The renewable energy target is to reach at least 27% of renewable energy in overall energy consumption by 2030, with flexibility for Member States to set national objectives. This level of renewable energy would come with significant benefits in terms of greater reliance on indigenous energy sources and in terms of energy trade. The target will also continue to **drive growth** in the renewables sector, with the share of renewable energy in the electricity sector increasing from 25% today to at least 45% in 2030.

Why is the 2020 target so important?

Based on the progress achieved so far, the EU is well on track to its 2020 goals. 2020 renewable energy targets are part of 2020 energy and climate commitments the EU and its Member States have subscribed to. Those targets are also the indispensable stepping stones to the future 2030 climate and energy targets. If the EU wants to remain a global leader in the fight against climate change and ensure its global leadership in renewables, all Member States will have to continue their efforts in increasing the share of renewables energy in their energy mix, so as to put the EU on a sustainable path to meeting the 2030 and 2050 targets.

What needs to be done in order to reach the targets?

Although the majority of Member States and the EU as a whole are well on track towards 2020, some Member States will need to reassess their national renewable energy policies to ensure more steady growth and progress to the 2020 RES targets. The use of cooperation mechanisms foreseen in the Directive may be helpful in reaching these targets in a more cost-efficient manner.

BACKGROUND

Press release: Renewable energy progress report

What are the EU renewables sources?

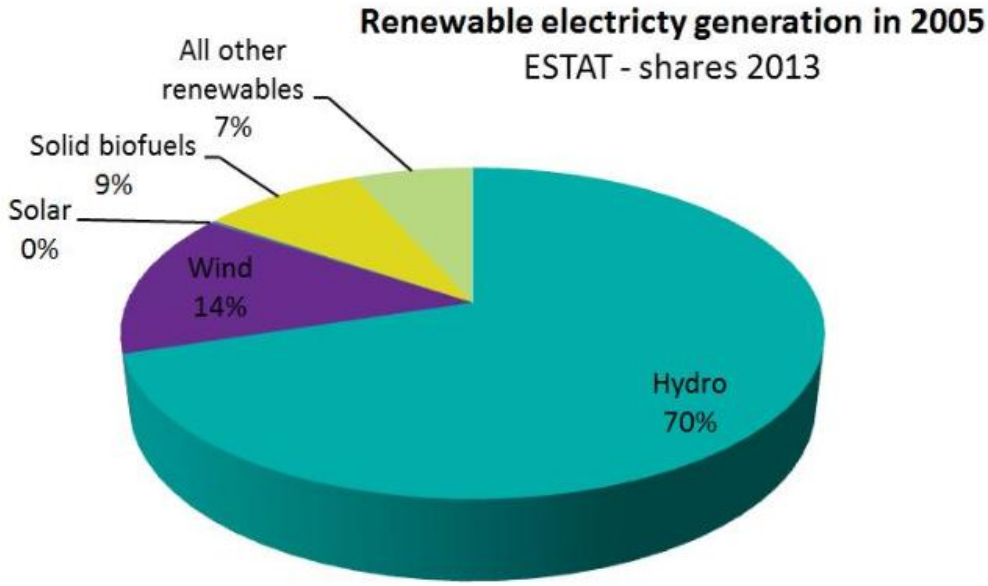
Renewable energy is energy from a source that is not depleted when used, such as wind power, solar power, or sustainable biomass.

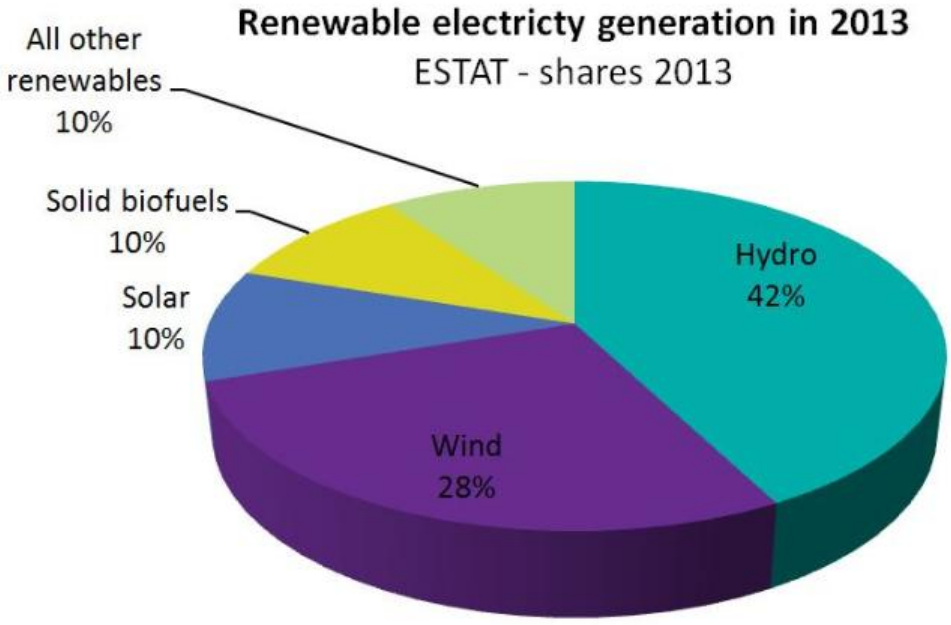
In 2014, the main renewable energy sources and shares in total renewable energy demand in the EU are projected to be[5] :

- Biomass (47% of renewables[6]): Biomass is derived from different types of organic matter such as energy plants and forestry, agricultural or urban waste. Biomass can be used for heating, cooling, producing electricity and transport biofuels.
- Hydropower (17%): Hydro power is produced from the movement of a mass of water such as a river, canal or stream. Hydro schemes convert the potential energy of the water, flowing with a certain fall, into usable energy.
- Wind (11%):Wind turbines extract energy from the wind by transferring the momentum of passing air to rotor blades. The power that can be generated by the turbines depends on the density of the air, the wind speed and the size of the turbine.
- Biofuels (9%): Biofuels and bioliquids originate from renewable resources using biomass. They are currently mostly processed from agricultural crops or plants. Second generation biofuels are being developed from cellulose biomass feedstock.
- Solar (7%[7]): The sun is the world's primary source of energy and a clean energy source for heat or electricity. Solar energy could be used for heating and cooling (solar thermal) or electricity (photovoltaics or concentrated solar power)
- Heat pumps (5%): Heat pumps work by extracting heat from an external source (e.g. outside air or underground / geothermal heat) and transferring it to a fluid (water or air) which is used to supply heat inside.

- Biogas (4%[8]): Biogas can be produced from organic waste through anaerobic fermentation and obtained from landfill gas. It can be used to produced heat, electricity or in vehicles adapted to run on natural gas.
- Geothermal (1%[9]): Geothermal energy has been used for centuries for bathing and heating water. It is extracted from the earth's natural heat in dry, steam or liquid form and can be used for electricity and heating.
- Marine (below 1%): Oceans cover three quarters of the planet and consequently ocean energy represents one of the most plentiful renewable energy sources. This energy comes from flows such as waves, tides and ocean currents, as well as differences in salinity and temperature.

It should be noticed that these numbers are constantly evolving, in particular in the electricity sector.





What is their weight in the European energy system?

Renewable energy can be used for all our energy needs: heating and cooling our houses, producing electricity and running transport. The different types of renewable energy may be used in different ways and not all are suitable for every application. For instance, hydro and wind are exclusively used for generating electricity, while other resources like biomass, geothermal and solar energy can be used to produce both electricity and heat, sometimes even simultaneously.

Heating and cooling: the share of renewable energy in the heating and cooling sector was estimated to be 16.6% in 2014. The heating and cooling sector accounted for 46% of overall energy consumption in 2014 making it the biggest user of energy in the EU, creating a huge opportunity for renewables.

Electricity: 26% of the EU's power is already generated by renewables. About 10% of total EU electricity is sourced from variable renewable electricity (such as wind and solar).

Transport: The 2020 target is to achieve a 10% share of renewable energy, the bulk of which is still expected to come from biofuels. However, progress in the past five years has been slow – with a projection of only 5.7% renewable energy in transport in 2014

Why are renewables relevant to consumers?

Small scale renewable energy production has a major role to play in empowering energy consumers. The EU's Energy Union places consumers at the core of EU energy policy, encouraging them to take full ownership of the energy transition, to benefit from new technologies to reduce their bills and participate actively in the market, while ensuring protection for the vulnerable consumers.

Thanks to technological development and innovation driven by the EU and national policies, over the last few years we have seen the deployment of effective renewable energy technologies, for both large and small scale use, alongside dramatic cost reductions[10]. As a result, businesses and households can be fully active in the energy system, moving from passive consumers to active producers of renewable electricity and more recently, by self-consuming some or all of the electricity they produce whilst still selling to the grid and buying from the grid (prosumers).

Moreover, there were more than 2,400 renewable energy cooperatives (REScoops) in Europe at the beginning of 2015. Hundreds of thousands of Europeans are jointly investing in renewable energy and energy efficiency. There are also Europeans who are committed to realising this goal in their daily lives, investing in insulation, solar water heaters, or photovoltaic panels[11] at home.

For more information

Press release: Renewable energy progress report

Renewable energy progress report 2015

[1] REN 21, RENEWABLES 2014 GLOBAL STATUS REPORT

[2] REN 21, RENEWABLES 2014 GLOBAL STATUS REPORT

[3] *Renewable Energy in Europe – approximated recent growth and knock-on effects,* European Environment Agency (2015)

[4] *European Energy Security Strategy,* COM(2014)

[5] All figures are shares of renewable sources compared with total renewables in final energy consumption with a correction factor for transport, based on Green-X TÜ-Wien 2014 projections for the European Commission. The total is slightly above 100% due to rounded figures

[6] 42% for heating and cooling and 5% for electricity

[7] 4.4% for photovoltaics and 1.2% for thermal solar

[8] 2.4% for electricity and 1.4% for heating and cooling

[9] 0.4% for heating and cooling and 0.3% for electricity

[10] For example, the costs of solar PV modules dropped by 80% between 2008 and 2012.

[11] Rescoop, The energy transition to energy democracy, 2015

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