

Speed

The UK Met Office says that if we are to have a 50% chance of keeping the global temperature increase below 2°C in this century, global emissions must peak in this decade and then reduce by 5% a year. This would bring us in 30 years to average global per capita emissions of roughly 1 tonne of CO₂ per year.

To arrive at this per capita target in 30 years, however, poorer countries only need to reduce their emissions at a relatively slow rate, and the least developed countries not at all. Europe, on the other hand, would need to reduce its emissions by 7% year. To advocate this as a target, of course, would be politically very difficult, and probably unproductive. But we need to have in mind that this is the physical reality, based on the best science that we have today. We therefore need to be looking for ways to shift from fossil fuels to renewable energy faster than even the EU's goals require.

Price

If renewable energy were cheaper than coal, the market would ensure that this shift takes place, and it would be completed long before 2030. The main political obstacle to a rapid transition to renewables is the fact that wind and solar power are still more expensive than coal, and the potential for conventional hydroelectric power (which is relatively cheap) is limited. This will inevitably change at some point in the future. The price of all fossil fuels will rise as supplies dwindle, whereas the price of renewables will only go down with technology improvements. But left to the market, the point where renewables outcompete coal may not come soon enough. This raises the question: how could the EU Budget help to reduce the price of renewable energy?

The EU Budget

There are a number of ways in which the EU Budget could accelerate the steady fall in the price of wind and solar power that we are already seeing. Here are some examples

Research

Given the dangerous climate impacts we are facing, there are a handful of key technologies into which we should be pouring public research funds, in the EU and elsewhere. These include:

Cheap floating wind turbines, which could deliver unlimited offshore wind energy.

Cheaper solar panels.

Innovations to further reduce the cost of solar thermal power stations.

Cheaper batteries for electric cars.

There are already some EU funds going into all these things. There should be much more. If real breakthroughs can be achieved, it could also be of great benefit to European companies. This is an urgent issue for parliamentary action with regard to the next Financial Perspectives.

Long-distance smart grids

The same wind turbine produces more electricity, and therefore cheaper electricity, in Scotland than in Provence. The same solar panel produces more electricity in Andalusia than in England, and solar thermal power stations wouldn't work in England at all. If the EU can ensure that adequate high voltage direct current (HVDC) connections are created, then it becomes physically possible for everyone to receive a substantial part of their solar energy from the Mediterranean, and a substantial part of their wind energy from windy areas such as the North Sea. Indeed, a number of studies have shown that without such grid connections to the areas where energy is most abundant, it would probably be impossible to meet Europe's needs from renewable sources. If the EU is to play a strong leadership role in creating these connections, just as it has in building gas pipelines, we may need a new and substantial budget line to do so.

Loan guarantees

If the European Investment Bank had much larger resources to provide loan guarantees for investments in grid connections and new renewable generating capacity, we could significantly reduce interest rates on capital. Today, interest payments represent a significant part of the cost of renewable energy.

Capital subsidies

We spend many billions of euros subsidising the farming sector. Perhaps more of those subsidies should be supporting farmers to put solar panels on the roofs of farm buildings, or small hydro installations in streams on their farms.

We spend many billions of euros subsidising economic development in Europe's poorer countries and regions. Perhaps more of those subsidies should go towards new grid connections to enable those countries to export and import clean energy, as well as towards new wind farms and solar power stations.

Development assistance

Europe will have little success in preventing dangerous climate change if developing countries do not go through the same transition. Europe should devote much larger resources to supporting the same priorities – regional grid connections, loan guarantees, capital subsidies, etc – in developing countries.

Cross-border renewable energy incentives

New grid connections will not lead to massive investment in solar power stations or offshore wind farms unless the investors know that the energy they produce will fetch a good price in other countries.