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How to expand renewable energy after 2020

By Stephen Tindale



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- ★ The EU should set targets for renewable energy for 2030 and the end of each subsequent decade, in order to reach full reliance on renewables by 2060. This would support rather than undermine nuclear power and carbon capture and storage, by emphasising their role as necessary low-carbon 'bridge technologies'.
- ★ The European Commission should continue to promote the trading of renewable energy between member-states. This would strengthen the economies of struggling eurozone countries. And the EU should support renewable projects in North Africa.
- ★ The EU should adopt mandatory standards for all forms of bioenergy. Produce from land that was previously used to grow food should not count towards renewable energy targets.

The EU should prioritise a massive expansion of renewable energy across its member-states. As renewable energy is low-carbon, this would help the EU tackle climate change. If EU states use renewables more extensively they will also enhance their energy security and reduce their import bills for fossil fuels. Moreover, renewable energy can be a source of economic growth, especially in countries with bleak economic prospects. Spain, Portugal, Greece, Cyprus and Italy can further expand solar power, while Ireland can install many more wind turbines.

Targets in energy policy are vital, because investment takes a long time to become profitable. Targets offer investors in renewables certainty that government support will continue – so long as the targets are credible and governments stick to them. Such targets are necessary because renewables are not yet as cheap as fossil fuels, and the price of carbon created by the emissions trading system (ETS) is not yet high enough to make renewables sufficiently attractive to investors.

The EU plans to get 20 per cent of all energy (electricity, heat and transport fuel) from renewables by 2020. This target was set in 2008, alongside one for a 20 per cent reduction (from 1990 levels) in greenhouse gas emissions and one for 20 per cent greater energy efficiency. But

beyond 2020 the EU has no definite objectives – merely a modest annual reduction in the cap on carbon emissions in the ETS, the cap-and-trade system for greenhouse gases, and an aspirational 2050 target for an 80-95 per cent reduction in greenhouse gas emissions.

This policy brief outlines the case for post-2020 renewable energy targets. It then considers whether a single renewable energy subsidy across the EU is necessary or whether national schemes should be more closely co-ordinated. The brief then discusses what the Commission should do to promote renewable energy trading. Finally, it argues that not everything called renewable is desirable, and that the EU should adopt mandatory standards to improve the climate impact of bioenergy.

Renewable energy targets

Under the EU's existing 'renewable energy directive', the European Commission is not supposed to make proposals for a post-2020 strategy until 2018. But, to its credit, the Commission has realised that is much too late. Most

renewable energy sources remain more expensive than gas or coal without carbon capture and storage (CCS), and potential investors require clear signals about the post-2020 strategy as soon as possible.

The Commission has consulted stakeholders on the following options:

- ★ business as usual with no new policies;
- ★ decarbonisation through post-2020 greenhouse gas reduction targets but no renewables targets;
- ★ decarbonisation through post-2020 greenhouse gas reduction targets and renewables targets with most implementation measures remaining with member-states;
- ★ decarbonisation through post-2020 greenhouse gas reduction targets and renewables targets with harmonised measures.

A large majority of respondents supported the scenarios with specific targets for renewables. This included, unsurprisingly, renewable energy manufacturers and developers and environmental NGOs. Only 14 per cent of respondents considered specific renewables targets unnecessary – though this included some large utilities. Some governments, including the UK, are resisting further renewables targets (as opposed to greenhouse gas targets). The objective is to tackle global warming, not directly to promote renewables, this argument runs, and so policy should not be technology-specific.

This position is understandable. The EU has too many targets, with endless negotiations about what they should be and whether they should be mandatory or indicative (though mandatory targets are often missed and sanctions are seldom punitive). Politicians are attracted to targets – they provide an easy soundbite and often have to be met NIMTO (Not In My Term of Office). The fact that Europe's leaders chose three targets of 20 per cent, all to be met by 2020, strongly suggests that soundbites got the better of rigorous analysis.

Many politicians, businesses and commentators believe that governments should desist from 'picking winners'; they think that governments should set the policy framework and then leave it to the market to expand or contract particular sectors or technologies. This is a legitimate approach, based on the accurate belief that governments have a poor track record in backing new technologies.

However, outcomes should only be left to the market when the market works, and the carbon market does not. The ETS could deliver a strong market signal for the need for low carbon investment, but only with a price per tonne of carbon dioxide that is four or five times the current price.¹ The EU could strengthen the carbon market by setting a floor price, reducing the number of permits at a faster rate or replacing emissions trading with a carbon tax. But it would be extremely difficult to get any of these policies agreed by European institutions. Some governments have said that they would veto any EU tax,

1: Stephen Tindale, 'Saving emissions trading from irrelevance', CER Policy Brief, June 2012.

as taxes should be set by national governments. Some of these governments have also said that setting a floor price for emissions trading would be turning the ETS into a tax, so that it would require unanimity in the Council of Ministers – and that they would then veto it.

“Energy policy cannot afford to make the best the enemy of the good.”

As market mechanisms are not delivering decarbonisation, they should be strengthened by regulation. Regulation could set a cap on the amount of greenhouse gases that are permitted per unit of electricity generated and thus block the construction of new coal power stations without CCS. This approach, known as an emissions performance standard, has been used in California and is being proposed by the UK government. An EU-wide emissions performance standard would – if set at a low enough level – rule out cheap, highly-polluting forms of energy. So it would bolster market signals to invest in low-carbon forms. New energy infrastructure could then in theory be left to the market, with the private sector deciding whether to invest in renewables, CCS or new nuclear power plants.

Energy policy cannot afford to make the best the enemy of the good. Nuclear power and CCS are not ideal, and certainly not cheap. But they are low-carbon. Rejecting nuclear power and going slow on CCS, as Germany is doing, might well speed up renewable expansion. But it will result in more coal and gas being burnt in the interim, so the climate will pay a heavy price. The EU currently gets around 12 per cent of its total energy from renewables. Even assuming that it will meet its 20 per cent by 2020, it will then have to worry about the remaining 80 per cent of energy production. Denmark, the member-state with the most ambitious and progressive energy policy, has set itself a target of obtaining 100 per cent of its energy from renewables by 2050. This is definitely a NIMTO target, but the Danes have a good track record on delivery so there are grounds for optimism. Yet 2050 is 38 years away. And other member-states will take much longer.

Gas emits less carbon than coal. The fastest and least expensive way to reduce greenhouse gas emissions is to replace coal-fired power stations with gas-fired power stations. Yet gas generation emits around four times as much carbon per unit of electricity as nuclear does, and sixteen times as much as wind power. Gas generation without CCS would not deliver the greenhouse gas reductions of 80-95 per cent by 2050 which the EU has said that it aims to achieve. CCS could in theory be retrofitted to established gas-fired plants. But it has not yet been demonstrated that CCS works and is commercially viable at large scale, and no one knows how much it will cost. A lack of substantial investment

in renewable energy between 2020 and 2030 would mean that the EU has to invest more extensively in renewable energy after 2030, with many gas stations closing before the end of their design life. This scenario would not be a sensible use of economic resources, and should be avoided.

Nuclear power and CCS are low-carbon, but not without problems. Nuclear power produces radioactive waste, there is a (low) risk of accidents, and there are potential links with weapons proliferation. Gas with CCS would leave Europe vulnerable to energy security threats. Europe has plenty of coal, so coal with CCS would improve EU energy security in a way consistent with climate protection. But coal mining is not risk-free.

Nevertheless, nuclear and CCS are a necessary part of the mix for the next five decades at least. The EU and its member-states should provide financial support for CCS, and the Commission should look favourably on state aid applications for nuclear support. The EU should also take steps to increase public acceptance of nuclear and CCS as “low-carbon bridge technologies” – to use the phrase beloved by Angela Merkel before her post-Fukushima U-turn. An effective way to do this would be to give an indication of how long the bridge is likely to be.

The EU is not yet committed, either formally or informally, to moving to a totally renewable-based economy. It should make such a commitment. Campaigners against nuclear power and fossil fuels often imply that it would be possible for Europe to become totally reliant on renewables almost overnight. That is not possible – renewable capacity takes time to construct. As noted above, if the EU meets the target to get 20 per cent of energy from renewables in 2020 – as it must – 80 per cent of the journey will remain.

Governments need to engage in this public debate, because public opposition has prevented, and will continue to prevent, the construction of many nuclear and CCS projects. So, paradoxically, a specific renewable energy target could help build public support for, or at least acceptance of, nuclear and CCS as necessary bridge technologies.

New infrastructure can only be built if national or regional planning authorities approve, and in a democracy this means that the proposed developments need public support. Many people have always opposed nuclear power, and their number has increased since the 2011 Fukushima incident. Carbon capture and storage also has many opponents in some countries – notably Germany. Much of this opposition comes from people who live near the proposed carbon

storage sites, but some also comes from campaigners who argue that CCS would divert money away from investment in renewables. The EU and its member-states should make it explicit that these bridge technologies are necessary during the transition to a fully renewable economy.

“The EU should set a target for its energy to be 100 per cent renewable by 2060.”

Renewable energy is the ‘best’ of the available energy sources (though as discussed below, not all renewables are as good as each other). Renewable energy will reduce air pollution and slow down climate change. And, as the name indicates, renewables will not run out – unlike fossil fuels and uranium. Renewable expansion will also improve Europe’s energy security by reducing the need to import oil, gas and coal. The EU should therefore move towards total reliance on renewable energy as quickly as possible.

The EU should set a renewable energy target for 2030, and one for the end of each decade thereafter. These targets should be presented, explicitly, as indications of how long the transition to a 100 per cent renewable economy will take. The earliest plausible date when Europe can be totally reliant on renewable energy is 2060. As mentioned above, Denmark has set itself a target to achieve this already by 2050, but it starts from a share of renewables that is twice as high as the EU average. Denmark also has more energy efficient infrastructure than other member-states.

The EU should set a target for its energy to be 100 per cent renewable by 2060, and work backwards from that to set the following targets:

- ★ 80 per cent by 2050
- ★ 60 per cent by 2040
- ★ 40 per cent by 2030.

Achieving 40 per cent by 2030 would be challenging, as it would require the doubling of installed renewable capacity in a decade. But it would not be impossible, and an ambitious target would ensure that momentum was maintained for rapid renewable expansion after 2020. The European Renewable Energy Council, an umbrella trade association, has called for a 2030 target of 45 per cent.² But the need for stronger sustainability standards for bioenergy, discussed on page 5 below, make a 40 per cent target more realistic.

²: European Renewable Energy Council, ‘Moving to 2030: A binding 45 per cent renewable energy target’, May 2011.

Is an EU-wide renewable energy support scheme necessary?

Member-states operate different renewable subsidy schemes. The existence of many different schemes increases administration costs, for both public authorities and energy companies. In its consultation document on the post-2020 renewable strategy the Commission includes a harmonised EU-wide renewable energy subsidy scheme as one possible option. This would have the advantage of minimising administrative costs. It might also provide greater certainty for investors.

National governments frequently change renewable policy – when a different political party takes power, when there is a drive to cut public expenditure, or when costs change (the price of solar panels has fallen considerably in recent years). Regulatory adjustments are justifiable under certain circumstances, but frequent change undermines investor confidence. Most of the investment in new renewable energy capacity will have to come from the private sector. Regulatory uncertainty increases the cost of capital and makes the private sector less willing to invest. EU policies are usually longer lasting than national policies, because they are so difficult and slow to negotiate and because the Commission is not driven by an electoral cycle.

So in theory a harmonised EU renewable support scheme could deliver greater regulatory stability. In

practice, however, such a scheme stands little chance of success. National governments would argue, correctly, that each country has a different potential for renewable energy. A single level of subsidy for solar power Europe-wide, for example, would not represent rational policy-making. Different countries also have widely differing social constraints on the amount of money they can raise from energy customers in order to support renewables.

“Renewable energy trading should be promoted by the European institutions.”

A proposal to harmonise renewable support schemes would therefore lead to prolonged political negotiations and hence introduce greater regulatory uncertainty. The Commission should therefore drop this option. It should focus instead on greater co-ordination of member-state schemes. The structure of the schemes – the type of subsidy mechanisms used rather than the rates – should be more similar.³ The Commission will publish guidelines on the structure of renewable support schemes in 2013.

Trading renewable energy

It does not matter in climate terms where renewable energy is produced, as long as infrastructure exists to transport it to consumers. (The Commission has made sensible proposals on energy infrastructure, which should be adopted.)⁴ The 2008 renewable energy directive includes arrangements to encourage the trading of renewable energy between member-states, and between member-states and countries outside the EU. Renewable energy produced in country A can, in return for payment by country B, be counted towards the renewable target of country B rather than country A. But these arrangements have not been widely used. According to the Commission, only Luxembourg and Italy indicated an intention to use the co-operation mechanisms to meet their 2020 renewable target, and, even then, Italy said that it might not need to use the mechanisms to meet its 2020 target.⁵

Renewable energy trading should be promoted by the European institutions. The Commission intends to do this, though it has no direct competence in this field. It can only promote non-binding strategies. Member-state governments should also promote renewable trading. This could help Cyprus, Greece, Italy, Malta and Spain

economically (with solar energy) and Ireland (with wind). A good example of the potential is the Helios solar project in Greece. The Greek government has identified solar power as a potential driver of economic growth. Helios would cover 77 square miles with solar panels, with the possibility of producing ten gigawatts of electricity – roughly the size of ten large conventional power stations. The sun does not shine every day, even in Greece, but that country gets on average 300 days of sunshine each year. And the sun is stronger than in northern Europe, making the solar panels more efficient. So Helios could make a significant contribution to European renewable energy production. But it would not be cheap to construct. Helios would cost €25 billion, including grid upgrades, and the Greek government would not be able to afford this even in happier economic circumstances.

Germany, meanwhile, has subsidised solar power for industrial policy reasons – to create a solar cell manufacturing industry. It has succeeded in kick-starting the global solar industry, and is now a significant manufacturer of solar panels (though it is increasingly being undercut by China). Once made, solar panels are easy to transport (unlike wind turbines, for example). So it

3: David Buchan, 'How to create a single European electricity market – and subsidise renewables', CER Policy Brief, April 2012.

4: Stephen Tindale, 'Connecting Europe's energy systems', CER Policy

Brief, September 2012.

5: European Commission, 'Renewable energy: A major player in the European energy market', Communication, June 2012.

would be logical for both energy and economic reasons for the panels to be installed in Greece rather than Germany. Once the electricity grid through the Balkans has been upgraded, Germany (and other member-states) could then use the power generated in Greece. (In modern grids, only around 5 per cent of the electricity would be lost in transmission.) This would be much more cost-effective than installing solar panels in Germany or other North European countries.

During the negotiations for the 2008 renewable energy directive, some environmental groups campaigned against the concept of renewable energy trading. They argued that almost all the renewable energy counting towards a renewable target should be produced in the country to which the target applies. This approach, they believed, would speed up the transformation of all countries' energy systems. However, given the need to make rapid and deep cuts in greenhouse gas emissions, the EU should promote the building of more renewables plants wherever they are situated. So the Commission is right to push for more renewable energy trading.

The EU should also support the development of renewable energy in neighbouring countries. The private sector Desertec foundation plans to harness renewable power in the Middle East and North Africa and import it into Europe. This would require new cables beneath the Mediterranean, but sub-sea cables are an established technology. Solar power from only a small part of the Sahara could in theory provide enough electricity for the whole of Europe and North Africa. David MacKay, a physics professor at the University of Cambridge and chief scientist at the UK Department of Energy and Climate Change, calculates that if a 600 km² area of the Sahara was covered with solar power plants, this would provide enough electricity to meet current European demand, and European levels of demand in North Africa.⁶

Desertec is proposing to develop wind as well as solar power. Its first project, started in 2011 in Morocco, focuses on capacity building in education and research and pilot projects on wind. This is funded by the EU and the German government. The German government is also funding a Desertec project which trains students in Egypt and Tunisia for involvement in the renewable energy sector.

Some renewables are better than others

The major contributors to Europe's renewable energy in 2030 will be solar (from Southern Europe and North Africa), wind (from all over Europe, including offshore), existing hydroelectric capacity, and bioenergy (energy from plants).

Bioenergy includes solid fuel in the form of wood or plants, known as biomass, renewable gas from food waste,

6: David MacKay, 'Sustainable energy – without the hot air', UIT Cambridge, 2009.

Desertec is an ambitious, inspiring idea. If implemented, it could strengthen the EU's neighbourhood policy and provide significant social and economic benefits to the people of the Middle East and North Africa. It could also make a major reduction in Europe's greenhouse gas emissions. Desertec has the support of 20 major energy companies, including RWE, Eon, ENEL and RED electra de Espana as well as Deutsche Bank and Munich Re. But even before the Arab Spring there were major political and financial obstacles to its realisation.

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Such schemes will need strong political and diplomatic backing from the EU as a whole. Michael Köhler, *chef de cabinet* for Günter Oettinger, the energy commissioner, spoke about Desertec at a German Marshall Fund event in August 2012. He said that the Commission has been considering the establishment of an 'energy charter' between the EU and countries in the Middle East and North Africa countries, based on the energy charter treaty between the EU and the former eastern bloc after the Cold War. Köhler accepted that such a treaty might not be feasible at present, given the Arab Spring and European debt crisis. So the Commission is considering instead a 'Mediterranean energy community agreement', aiming to ensure a stable regulatory and investment framework. And if that does not work, the EU is considering bi-lateral agreements with individual Maghreb countries.

The schemes will also need more funding. The European Bank for Reconstruction and Development should finance more renewable energy generation in North Africa. This should go hand-in-hand with an energy charter or an agreement to establish a community.⁷

European conservationists object to solar panels spoiling the heritage of old buildings or to fields being covered in solar panels. There is even more widespread opposition in some countries (notably the UK) to wind turbines, usually on the grounds that they 'spoil the view'. But there is unlikely to be any such opposition in the Sahara.

manure or sewage, known as biogas, and liquid biofuels. Bioenergy has two advantages over other renewable energy sources. First, it can be used whenever energy is needed. It is not intermittent – that is to say dependent on weather conditions or the time of day. Second, it can be used to provide heat as well as electricity. Over 40 per cent of the energy consumed in Europe each year is used

7: Miriam Maes, 'Desertec can be much more than a euro-tunnel for Europe's energy', German Marshall Fund, August 2012.

to provide industrial, commercial and domestic heat. As a result, a significant expansion of low-carbon heating will require an expansion of bioenergy use.

Bioenergy can also be used to provide transport fuel. As well as the target to get 20 per cent of total energy from renewables by 2020, the EU has a target to get 10 per cent of transport fuel from renewables by 2020. Meeting that target would require a major expansion of biofuel use.

However, bioenergy is extremely controversial, both in climate and social justice terms. There has always been vociferous opposition to biofuels from campaign groups. For example, Oxfam argues that 60 per cent of global land deals over the last decade have been for biofuel production, and that the EU biofuel policy could increase maize prices by 22 per cent and wheat prices by 10 per cent by 2020.⁸

More recently, the criticism has extended to biomass. Bioenergy may be worse for the climate than fossil fuels, due to the pesticides and fertilisers used in growing energy crops. If wood pellets are made from wood from well managed forests – the approach used in the Nordic countries and Austria, for example – the overall impact on the climate will be low. But wood pellets from, for example, South America may have been produced by deforestation, which is extremely damaging to the climate. The oil used in transporting the wood pellets should also be counted in the negative column.

An expansion of bioenergy production will unavoidably cause changes in land use. Land can act either as a sink or a source of greenhouse gases. Grassland, for example, captures and stores considerable amounts of carbon dioxide. If the grassland is ploughed up in order to grow energy crops (or indeed any other crops) most of this carbon dioxide is released.⁹ This is known in policy discussions as direct land use change. In addition, policy has to address indirect land use change. If land that had been used to grow food is converted to growing energy crops, the food has to be grown elsewhere – or food prices will rise.

Indirect land use change is the hardest of these to measure, but is almost certainly the most significant of the potential negative climate impacts of bioenergy. The global population is growing and getting richer, which means much increased demand for meat. That in turn requires more land than arable crops, as cows, sheep and pigs eat more crops than humans do. If Europe and the United States continue to devote extensive areas of arable land to the growth of energy crops, there will need to be more arable land elsewhere. Some marginal land can be brought into use, partly by growing different crops. But much of the extra land will have to be made available by

deforestation, with disastrous impacts on the climate and on the wildlife and humans living in the forest.

The EU has adopted mandatory standards for biofuels. These include the climate impact – biofuels must result in at least 35 per cent lower greenhouse gas emissions than oil to be allowed to count towards the targets. The criteria include some direct land use change: wood pellets from tropical forests cannot be counted towards the targets. Nor can energy crops grown on drained peatland or wetlands, or on land protected for wildlife reasons. But the criteria do not include all direct land use change. For example, produce from land changed from pasture to arable land can be counted towards the targets. Nor do they include indirect land use change. So the main downside to bioenergy is excluded from the sustainability calculation.

“Bioenergy is extremely controversial, both in climate and social justice terms.”

In October 2012 the Commission published a proposal for addressing indirect land use change from biofuel production. This proposal suggests numbers to calculate the greenhouse gases resulting from indirect land use change from different energy crops. Oil crops are estimated to have the largest greenhouse gas emissions, followed by sugars and cereals. Some biofuel feedstocks, such as sewage, are assigned a zero emission factor by the Commission proposal.¹⁰

This proposal is a step forward. But only a small step because, even if the Commission proposal is implemented, these higher standards would only be used for the reporting by member-states to the Commission of activity under the relevant directives. Having reported, member-states would still be able to include biofuels which are more damaging than oil as a contribution to their renewable road fuel target. The Commission does accept that there may need to be stronger rules to avoid such damaging energy sources being passed off as ‘low carbon’, but says that this should only be done after 2020.

The Commission also proposes that only 5 per cent of total transport fuel (half the total amount of renewable fuel required to meet the 2020 target) should be biofuels made from food-based feedstocks, such as cereals or sugars. The proposed 5 per cent cap is based on the amount used in 2011. So it would not lead to a reduction in their use, but an increase in existing levels.

The Commission’s proposal applies only to biofuels, not to solid biomass. The Commission should also demand that the same method for calculating indirect land use change be used for biomass.

of petrol and diesel fuels and on the use of energy from renewable sources’, October 2012.

8: Oxfam, ‘The hunger grains’, Oxford, September 17th 2012.

9: Environment Agency, ‘Biomass: Carbon saint or carbon sinner?’, 2009.

10: European Commission, ‘Proposal for a directive relating to the quality

Moreover, the Commission should propose that the standards for ensuring that biomass use helps climate protection be made mandatory. In the past it has argued that these should be voluntary, because existing legislation and voluntary schemes at European and national levels are enough. The Commission also argues that the administrative cost of proving sustainability would be too high for many small-scale biomass producers.

A number of member-states, including Germany, the Netherlands and the UK, are in favour of mandatory EU standards for biomass. So are many renewable energy and conventional electricity trade associations, because the existence of several national schemes makes their operations more difficult and costly. Eurelectric, the association representing the electricity industry at pan-European level, is arguing strongly for mandatory EU-wide harmonised sustainability criteria for biomass. "We otherwise fear that the development of separate national sustainability schemes will create inefficiencies, increase costs and result in a lack of transparency."¹¹

Sweden, Finland and the Baltic countries oppose mandatory EU standards for biomass. Sweden and Finland point out that they already have national standards. But while these are strong on wildlife and landscape protection, they do not include the carbon footprint. Tough EU standards would reduce the climate impact of bioenergy across the continent.

The EU should implement five measures to ensure that bioenergy contributes to climate protection:

1. Make EU standards for biomass mandatory.

Mandatory EU-wide standards would promote a single energy market in bioenergy and reduce costs. Those member-states with national schemes should accept a European scheme.

2. Extend the direct land use criterion to include change from pasture to arable.

Produce from land that has been converted in this way should therefore not count towards renewable energy targets.

3. Include a strong criterion on indirect land use change.

This could be done by stating that no produce from land that has been used to grow food at any time in, say, the last 20 years can be counted towards the renewable energy targets.

"The EU should at least require all new bioenergy plants to be combined heat and power."

4. Require all new bioenergy plants to be combined heat and power.

The Commission proposed, in its draft 'energy efficiency directive' that most new power stations should be combined heat and power. But this proposal was, unfortunately and unwisely, rejected by the Council of Ministers. The EU should at least require all new bioenergy plants to be combined heat and power.

5. Drop the 10 per cent renewable transport fuel target.

A target for renewable transport fuel is unnecessarily prescriptive. There is no specific binding target for the amount of electricity or heat that a member-state gets from renewables. Nor are such targets needed. It makes no difference to the climate whether the renewable energy is used for electricity, heat or transport. A target for renewables within the overall energy mix is sufficient.

Conclusion

The EU should move rapidly to expand its use of renewable energy, for climate, economic and energy security reasons. A renewable energy target for 2030, plus further targets for 2040, 2050 and 2060, would set out a clear timetable for European ambitions in this area, and increase investor confidence. By setting renewable targets, the EU would also state clearly how quickly it aims to move to an economy entirely reliant on renewable energy. This would underline the need for other low-carbon bridge technologies, so increasing public acceptance of nuclear power and CCS.

Member-states should more closely co-ordinate renewable energy support and subsidy schemes, to reduce costs and promote the single energy market. A harmonised renewable support scheme is neither necessary nor achievable, so should not be pursued. The Commission should continue to promote renewable energy trading.

The EU should also ensure that all forms of renewable energy are better for the climate than are fossil fuels. This should be achieved by introducing compulsory rules on

¹¹: Eurelectric, 'Biomass 2020: Opportunities, challenges and solutions', October 2011.

how to measure the impact on the climate of all forms of bioenergy. Any bioenergy which causes greater damage to the climate than fossil fuels do should not count as a contribution to the meeting of renewable energy targets. Indeed, the EU should do all it can to prevent the use of such bioenergy.

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