



Renewables: do they matter for foreign policy?

by Iana Dreyer

Energy has played an important role in the geopolitics of the 20th century and continues to do so today. But the politics of renewable energy has remained largely confined to national boundaries and has had few international ramifications. Is this set to change? What is and could be the role of renewables in European energy diplomacy?

Renewable energy (henceforth ‘renewables’) has shot up the list of priorities of national energy policies over the last decade. Renewables can help reduce the world’s dependence on climate-damaging, CO₂-emitting fossil fuels - which currently meet around four-fifths of the world’s energy needs - and can also contribute to security of supply by helping to diversify energy sources. Yet despite these potential benefits, it is hard to identify a geopolitically significant ‘renewables’ dimension to global security or energy politics - at least to date.

The term ‘renewables’ covers a wide variety of energy sources and/or technologies generally considered to be ‘environmentally friendly’: wind, solar and geothermal energy, hydroelectricity, biomass (waste and wood/vegetal combustion), and biofuels. These very different energy sources are grouped together under this umbrella term for the reason that the natural resources they rely upon are potentially unlimited, contrary to - *a priori* - finite

fossil fuels. Some environmentalists and decision-makers also consider renewables a potential substitute for nuclear power, which, although largely carbon-free, is seen by some to pose too much of risk due to the potential of radiation-related accidents.

The background and record

Traditionally, energy issues covered by international diplomacy have dealt with access to natural resources or power production. Import-dependent countries may be forced to undertake initiatives in order to improve the security of their supplies. For countries endowed with resources, energy can also be a means to project power or enhance political independence.

In the post-war era, liberalising the coal market within Western Europe was not only a means of kickstarting the post-war German economy and ensuring supplies for French industry, it was also the first step towards European integration. The European Coal and Steel Community (1951) paved the way for the Treaty of Rome (1957) as well as EURATOM, an organisation dedicated to jointly developing peaceful nuclear power. In 1973, the oil embargo orchestrated by the Organization of Petroleum Exporting Countries (OPEC) sent shockwaves through the international



system. In response, Western economies set up the International Energy Agency (IEA), which, among other things, coordinates the use of strategic oil reserves of its members. OPEC itself was an initiative of former colonies and energy producers which questioned the political hegemony of Western powers, and sought to improve the terms of trade and strengthen their diplomatic hand with coordinated actions. In a similar vein today, Russia has put its vast oil and gas reserves at the heart of its power projection strategy.

The development of renewables may have in part been a defensive move designed to reduce import dependency (President Jimmy Carter, who launched the first major solar energy development programme, justified the initiative by saying: “No one can ever embargo the sun.”) but it has not fundamentally changed the dynamics of global energy politics. Nor has it led to dedicated diplomatic efforts in this field by the major powers.

Current dynamics: motives and implications

The main reason for the somewhat marginal role played by renewables in international affairs to date is their sheer lack of critical mass. According to the IEA, biofuels and biomass accounted for 10 per cent of global primary energy supply in 2010, against 10.5 per cent in 1973. Hydroelectricity is the second largest source of renewable energy, generating 2.3 per cent of the world’s primary energy. Wind and solar power remain statistically insignificant in the global energy mix, even if growth rates *per se* have been exceptionally high. In 1973 wind and solar was only 0.1 per cent of global energy production, and although by 2010 this share had increased ninefold to 0.9 per cent, it remains statistically marginal.

The main problem with renewables (except hydroelectricity) is cost, and they remain difficult to deploy on a large enough industrial scale so that they can compete with thermal and nuclear power plants. The dominant business model for renewables (except hydroelectricity or biofuels) remains small-scale and based on national or local subsidies. Solar energy in Europe tends to be produced by local consumers who sell their small surpluses to the national grid. And governments do not generally subsidise their neighbours, thus limiting *de facto* cross-border exchange. This in

turn contributes to the low ‘diplomatic’ profile of renewables as there is hardly any trade (with the exception of biofuels).

There are also indirect costs and environmental and political complications. For example, authorities often need to plan for new power grids to accommodate new sources of wind or solar energy. Existing grids need to be redesigned in order to integrate advanced information technology (‘smart grids’) which is required to manage the increasingly complex flows of electrons that results from injecting renewables into the system. Indeed, at the heart of the technical and economic challenge of wind and solar energy is intermittency: the wind doesn’t always blow, the sun doesn’t always shine. It is not possible to store electricity on a large scale, which means conventional back-up production methods also need to be planned for. This raises the cost of the entire energy system and does not help to reduce CO₂ emissions.

Nonetheless, the overall cost of renewables has decreased over time. Onshore wind energy today is close to being price competitive with thermal power plants. Solar energy remains expensive but its prices have tumbled recently, not least after Chinese companies (helped by government subsidies) found a way to mass-produce solar panels on an unprecedented scale, thus flooding export markets.

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When developed countries decided it was worth paying the high price of renewables and investing in their development, it was generally considered that this move would pay off in the long run and boost ‘green growth’. In 2009,

the EU set itself the binding target of using 20 per cent of renewable energy in its final consumption and 10 per cent biofuels in transport by 2020. In the US, some states like Texas and California have pushed renewables on a grand scale, and there has been growing support from Washington for further technological development in this field.

Some emerging markets have seized the opportunities of renewables as well: they tend to see them as part of a wider portfolio of energy sources - including fossil and nuclear - to meet their rapidly rising energy needs, avoid the trappings of increasing import dependency and, if possible, diversify away from coal, the most polluting of all fossil fuels. They are also not afraid of embarking on large-scale infrastructure projects such as building dams. China,

for example, aims to generate at least 15 per cent of total energy output by 2020 with renewables, mostly through hydropower (including the Three Gorges Dam) and wind. Closer to Europe, Turkey is responding to tackle its energy challenges by employing all technologies available, including wind farms. Morocco and Egypt are trying to meet rising demands with a portfolio of electricity sources that include wind and solar power. Ukraine is keen to develop both shale gas and renewables as part of an attempt to become less reliant on Russian gas and coal-based electricity generation. Traditional petroleum exporters in the Persian Gulf are also attempting to diversify their own energy mix and prepare for a future where their oil reserves will have dried up. Saudi Arabia even has ambitions to export solar power to Europe in the future.

Renewables, however, are liable to boom-and-bust cycles. The generous US solar support programmes introduced by Carter were cut during the economic slump under Reagan. The Danes developed a wind farm industry in the 1970s that then went through a crisis in the 1980s. Could today's renewables boom again end in bust? For the governments of Asian and oil-rich Middle Eastern countries with deep pockets, the cost of renewables is currently a secondary concern. But that is no longer the case in the US, and even less so in crisis-stricken Europe. Levies have been raised on consumers to finance renewables projects and the costs of grid connection have risen significantly. As a result, citizens and businesses have started grumbling. There has also been the realisation that solar support schemes benefit Chinese producers. For this reason, and also because of the debt crisis, these schemes have been reduced all across Europe. China, for its part, has been quick at building wind farms but is now struggling to connect them to grids.

Between 2000 and 2010, the production of renewable energy has risen by more than 72.5 per cent in the EU, and it is already close to 20 per cent of the energy *produced* (not consumed) on the continent. During the same period, it rose by 33 per cent in the US. But in the coming years, renewable energy development is likely to slow down and stabilise as subsidies dry up, the industry consolidates, and national power grid systems adjust to the new sources.

A negative international legacy of the recent renewables 'boom' has been greater trade frictions. Renewables schemes have frequently involved 'industrial policies' hardly compatible with the rules of the World Trade Organisation (WTO), notably through the use of subsidies. These tensions manifest themselves, for example, in high-profile anti-dumping cases recently launched against Chinese

solar producers in Washington and Brussels, to which Beijing has responded with threats of tit-for-tat commercial retaliation.

Governments also face environmental and social drawbacks of renewables and their occasional international side-effects. Large dams are now increasingly contested. The seven dams on the Euphrates built by Turkey and Syria in recent decades have contributed to (even if they are not the sole cause of) water scarcity in Iraq for example. Opposition to electric grid projects and wind farms is widespread in Europe and North America, and biofuels and biomass also emit greenhouse gases themselves. And the growth of cash crops such as sugar and maize - used for the biofuel ethanol - has been criticised for diverting land away from food production, hence contributing to the food price hikes of the last decade.

Renewables in Europe's energy diplomacy

The EU finds it hard to develop a common domestic energy policy, let alone a coherent and effective external dimension to the issue. Article 194 of the Lisbon Treaty still leaves the choice of energy mix and supply strategies to national governments. Moreover, energy markets are still fragmented and largely national, making it difficult to develop common interests and 'speak with one voice'.

Decision-makers across the EU increasingly realise that this is a major problem. The first EU Energy Summit in February 2011 called for completing the Single Market in gas and electricity by 2014 and for more EU-led efforts to secure gas supplies from the Caspian region and the Caucasus. Renewables *per se* are not explicitly part of this new approach. The EU has an ambitious common *climate change* policy but its related diplomacy has so far focused on international negotiations on a post-Kyoto arrangement. And even if renewables projects may be financed by the Kyoto Protocol's Clean Development Mechanism (CDM), the currently low carbon prices limit the possibilities it offers.

Things are different in the EU's neighbourhood. Energy security and climate change are explicitly in the remit of the European Neighbourhood Policy (ENP), and renewables are clearly part of the picture. In the Balkans, Eastern Europe and the Caucasus, members of the Energy Community are expected to adopt their own national renewable energy plan that respects EU legislation - even if they are not required to adopt EU-style binding targets. The financial instrument dedicated to the ENP, the Neighbourhood Investment Facility (NIF), was complemented in 2009 by member state contributions with funds earmarked

for renewables. Projects are generally implemented via the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD), which has had its mandate extended to North Africa following the so-called 'Arab Spring'. EU-funded wind, solar and grid projects financed by the NIF are still ongoing in Egypt and Ukraine. The EIB and the EBRD are also involved in the World-Bank-led Ouarzazate solar power project in Morocco. Member state development banks (KfW or AfD, for instance) are also involved - and at times more visible than the EU - in the neighbourhood and in projects dedicated to climate-friendly energy.

One of the 2008 Union for the Mediterranean's (UfM) flagship projects is the Mediterranean Solar Plan (MSP), which seeks to create a common framework for the national solar power policies of its 43 members. In 2013, these are expected to adopt a *Masterplan* which includes common guidelines on national regulatory frameworks, funding mechanisms, transmission grid policies, industrial and employment policies, and some wording on technical assistance.

The EU's domestic legislation is meant to encourage member states to finance renewables in the neighbourhood. Article 9 of the 2009 Renewable Energy Sources (RES) Directive allows member states to finance cross-border renewable energy projects, including with non-EU neighbours. Electricity imported from these projects can be counted to meet national renewable energy targets. As of yet, however, no Article 9 project has materialised. It is considered that there is great potential for solar energy development in North Africa. If the rather simple technology of 'concentrated solar power' (CSP) used there - involving mirrors that concentrate heat to produce steam for turbines - could be deployed on an industrial scale, it could make solar electricity a cost-attractive and reliable source of energy. However, it needs i.a. commitments from Europe to buy electricity to kickstart investment; commitments that are difficult to obtain. This is all the more so given that the euro zone crisis has forced pivotal Mediterranean member states to scale down their support schemes and postpone (or abandon) those already planned in a cross-border fashion with Tunisia and Morocco.

Initially, private and semi-private actors embraced the MSP with enthusiasm. Desertec, a consortium of industrialists and financiers, was established in 2009 to promote the building of concentrated solar power facilities on a truly industrial scale (20 gigawatts) in North Africa for export to the EU by 2020. A network to encourage cooperation amongst energy companies and regulators (Medgrid and

Medreg) was set up to help build what is considered the essential pillar of the project: a super-grid connecting the southern and northern shores of the Mediterranean. But despite good intentions, these initiatives have floundered in the face of current financial and economic realities.

Where to next - and how

Renewable energy does not provide a basis for grand diplomatic action as other energy sources have in the past. This does not, however, mean that international approaches to foster their development are to be excluded. Quite the contrary.

International renewables policies lend themselves best to regional approaches as they involve a host of nitty-gritty issues: enabling changes in domestic legislation, connecting grids, guaranteeing that there is a market for exports (possibly through purchase agreements to kickstart investment), and securing funding for projects. They can also help to deal with negative spillover effects on neighbouring countries, such as downstream water shortages related to dams or shocks generated by natural incidents or man-made accidents.

A more global approach towards renewables could be taken by making more active use of established international organisations, such as the OECD and the IEA, which already possess expertise on various aspects of renewables policy. Another suitable candidate is the WTO, especially in attempts to avoid the mounting risk of trade frictions and set up a global policy framework that could include streamlined technical standards, and agreed rules for public investment and national subsidies schemes. This would encourage the emergence of a competitive, global industry of renewable energy equipment and services.

For the EU, now more than ever, the recently stated goals of the European Commission - to streamline national renewable support mechanisms and foster cross-border trade - should remain top priority. Encouraging imports of potentially cheaper renewable electricity from the neighbourhood should also join those goals. It would help expand renewables, reduce costs, and tie neighbours - who are increasingly looking to the Persian Gulf and Asia for investment and deeper economic and potentially political ties - more closely to Europe. Greater coherence between the different goals the EU is pursuing in its domestic energy policy and its related external dimension - be it classic, climate, trade, or aid diplomacy - would also help.

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