

## Energy Transition in China and the European Union: Plan vs. Incentives?

*An event wrap-up with the speakers*

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Energy drives economic development. But it is a scarce and thus contested resource. In the struggle for secure energy supplies renewables appear to have become a strategic element, because every country or region, including those with few conventional energy sources, has access to at least some form and amount of renewable energy sources. Renewables thus could be a potential game changer in the struggle for energy resources. Yet some countries are better qualified to become competitive producers than others, because renewable energy sources are denser at certain locations, and the technological and economical capabilities for their exploitation differ.

November 8, 2014, a Policy Forum at the Institute for European Studies explored the role of renewables in the struggle for secure energy supply, and set out to compare the approach of two leading powers in their development: China and the European Union. Renewables are key political issues in the two regions, and both have developed and implemented policies to encourage the use of renewables, hoping that this form of energy will reduce import dependency on fossil fuels and the environmental dangers resulting from their use. The year 2020 is an important landmark in this regard: While policy makers in China recently opened the process towards the next five year plan (2016-2020), the European Union set itself the goal to increase renewables to 20 per cent of energy use by that point.

General knowledge about the topic stops here, and a structured comparison of the issue is largely missing. It is therefore unclear how similar or different the two policies are, and what both regions could learn from each other. In view of the differences between the socio-economic systems of China and the EU, it is, however, evident that the approach chosen for this 'energy transition' will differ. It is thus time to compare and discuss the similarities and differences between the approach China and the EU chose for the transformation of their energy sector towards the stronger use of renewables. We therefore set up this event to discuss and compare the approach and the mechanisms both regions chose for the promotion of renewable forms of energy in the energy mix.

In order to contribute to the discussion, the Policy Forum looked at the following topics:

- What support regimes for renewables have been adopted, and why?
- What is the role of public authorities on different levels of the political system?
- What role do leading companies play, and what is their relationship with the government?
- Are there preferences for certain forms of renewables, and why?
- Do the targets and outcomes differ, and why do they differ?
- What are the domestic and global impacts of both policies?

Three renowned experts presented their views on the topic:

- Dr. Dörthe Fouquet, Energy Lawyer and partner at Becker Büttner Held, and member of a number of umbrella organizations of the renewable energy industry.
- Dr. Steffi Weil, Assistant Professor and Head of China relations at Vesalius college.
- Duncan Freeman, Senior Research Fellow at the Brussels Institute for Contemporary China Studies.

## Renewables in Europe

As a point of reference for the discussion, Dr. Fouquet's provided an overview of the complex set of support regimes for renewables in the European Union: Individual member states have different renewable energy potentials and operate different support schemes at the national level. In this environment the European Union developed a framework to coordinate (not harmonise) national efforts with a common EU framework. The most important element in this regard is the Renewable Energy Directive 2009/28/EC. This Directive includes common rules for different levels of the political system (national, cooperation between member states, the European Union, and cooperation with third countries) and achieves a considerable level of coordination, yet it also gives member states a relatively broad leeway in their approach to renewables. Each member state can hence still decide what renewables to support (e.g. wind power in Portugal, biomass in Sweden, hydropower in Austria), and choose support mechanisms.

Directive 2009/28/EC provides a binding overall EU target of 20 per cent renewable energy in final consumption (previous Directive: non-binding), and translates this target into binding national targets. National Renewable Action Plans which list pathways and instruments to reach targets are to be submitted; the European Commission considers these plans as binding and needs to be informed about changes. Moreover there are reporting and monitoring obligations in place in order to control progress. However, the Directive allows member states to design effective national measures for target compliance, which in turn enables member states to control the effect and costs of their national support schemes. The European Commission on the other hand has little means for "enforcement". Recently the European Court of Justice confirmed this level of discretion (Ålands Vindkraft and Essent case).

The Directive also allows member states to determine if and to what extent their national support schemes apply to energy from renewable sources produced in other member states and cooperation mechanisms provided for in the Directive. These flexibility mechanisms include statistical transfer between member states (which do not include the physical transfer of energy), and joint renewable energy projects and support schemes between member states. In the latter case coordination with the European Commission is necessary. Joint projects with non-EU members (e.g. pilot projects in Morocco) are equally possible; in this case it needs to be assured that the energy produced reaches the territory of the European Union.

In the member states renewable energy law is made through the parliamentary legislative process, which implies a strong role at the national level. In some cases such as Belgium or Sweden there are, however, differences within different regions as

regards for example administrative procedures. Moreover, the involvement of ministries and agencies in the preparation of regulations, and the role of energy regulators varies between member states. When it comes to the energy sector, one can observe that 80 per cent of renewables deployment is in the hands of independent power producers (e.g. farms), using local resources to meet local energy demand. These local energy companies are small and widely distributed. Regardless of the fact that bigger projects such as offshore wind farms are in the hands of big utilities, renewables thus counter the historical trend to a centralised energy industry and (together and parallel with unbundling, i.e. the separation of the power grid and power supply) brought new competition into energy markets.

Is this framework suited for reaching the EU's goals to increase the use of renewables in the energy sector? Most important in this regard is the confidence of investors to regain their investments. This confidence seems, however, to have received a serious blow in recent years in several EU member countries such as Spain. Six EU members therefore are not on track with their National Renewable Action Plans. With regard to the indicative targets (2011/12) for the different forms of renewable energy it is however noticeable, that many countries overachieved with regard to electricity and heating/cooling, whereas most countries underachieved with regard to renewables in the transport sector. In total the European Union therefore exceeded its 2012 goal of 12.87 overall share of renewables by 1.2 per cent points (14.07 per cent).

## Renewables in China

With regard to Chinese policy on renewables Dr. Steffi Weil presented some first insights on the politico-economic complex of the People's Republic of China. Obviously there are differences with the European Union. But whereas conventional wisdom suggests that China's policy-making process is a monolithic top-down process, quite the contrary can be observed in China's political system. China's policy procedure is open to a number of actors, and policy formulation and implementation differs depending on type of legislation. Experimental, decentralized policy making for example describes a process in which the Party centre asks local officials to experiment with new ways of problem solving. Subsequently, if the policy proves positive, it is implemented nationwide. Examples of this can be found in China's gradual market opening, the promotion of private business, state-sector restructuring and stock market regulation.

But the Chinese Communist Party (CCP) relies not only on an experimental policy-making procedure. Instead governmental institutions function as policy venues. As such the CCP, as policyholder, assigns much of its policy making power to government at lower levels. To use economic terms, the relationship between the Party and governments can be described as a principal-agent relationship with the Party as the principal and the government functioning as the agent. As a result the Party and the government engage in political bargaining not only between the political centre and the next lower levels, but also between the party and the government on multiple political layers.

The 'Opening Up the West' policy is one example of how actors at central, provincial and local levels bargained for their goals. Other examples are China's gradual market opening, the promotion of private business, and state-sector restructuring and stock market regulation. The policy outcome embraced multiple interests of departmental and

regional institutions. Provincial interests were conveyed by personal representatives in the central leadership and through institutionalized channels such as national working conferences, the National People's Congress as well as the Chinese Political Consultative Conference. China's political power is thus fragmented, resulting in a decision making process in which the policy initiative rests upon the political centre, yet for some legislation or regulation the implementation is completed at the lower levels. To be more precise, China is organized into provinces, autonomous regions and municipalities.

The administrative levels are further diversified. Rather than being subordinate directly to the centre, each administrative levels receive orders from the next level above meaning that provinces and autonomous regions can give orders to the next lower level, the autonomous prefectures, followed by counties, autonomous counties and cities. As a consequence, national laws or directives are broadly drafted at the central level and the regional and local levels have some degree of freedom to implement them and thus levels below the party centre hold a certain degree of policy-making power. Policy-makers hence pursue their own goals mainly motivated by economic incentives.

All of these motives lead to competition and conflict among different levels of government, which in turn provides entry points for political bargaining. As a result outside actors are able to engage in the policy-making process and shape results on their behalf. However political fragmentation also enables the local officials at such non-institutionalized entry points to shape public policy together with actors such as interest groups, foreign enterprises and capitalists engaging in the process in their attempt to influence policy. It is, however, crucial to note that political bargaining in China is not observable in the open. Prime targets for Chinese actors to exert influence over are governmental officials in the executive branch rather than the legislative branch.

A great number of Chinese associations prefer face-to-face contact with local governments while the majority of those have never interacted with the National People's Congress or Chinese People's Political Consultative Conference. Rather than openly confronting the government, business and government mutually empower each other (Shue, 1994). Thus instead of opposing the government there is a dialectical relationship between the government and the entrepreneurs. Chinese entrepreneurs are closely intertwined within party structures. Contrary to Chinese actors, Western capital aims to influence Chinese policies with Western lobbying tools such as letter writing, policy papers, white and position papers, personal meetings, events and grassroots mobilization. Besides non-institutionalized entry points, China's policy procedure also includes institutionalized access in form of non-binding public hearings or calls for comments.

Based on this institutional framework, the People's Republic of China developed a programme to foster the use of renewables in the energy sector. As Mr Duncan Freeman explained during his presentation, the Chinese government has supported the renewable sector since the 1980s. In the early days, much of this support went to R&D and experimental demonstration projects, but from the late 1990s there has been a shift to industrialization and deployment of renewables. The 2006 Renewable Energy Law is central for the latest developments, as it set out the broad principles for development of

the sector in China and at least in theory gave them legal force. It requires that utilities purchase all electricity generated from renewable sources, pay the full price for energy from renewable sources, and offer a discount to consumers. Moreover, the Medium- and Long-Term Renewable Energy Development Plan of 2007 set out targets for renewable energy, and also outlined how they were to be achieved. It required, for instance, that bigger power generating companies must have 3 per cent of their generating capacity from non-hydro renewables by 2010, and 8 per cent by 2020.

As a result China's renewable sector has expanded enormously in recent years: China is now both a major producer of solar panels and also wind turbines. But not only the production of equipment, also the installation of power generation facilities has expanded quickly during the past decade, and actually exceeded installation targets. Yet while China's market for wind power has been the largest in the world for a number of years (in 2013 China accounted for 45.6 per cent of new installations, followed by Germany 9.2 per cent), solar PV market in China (30 per cent of net installations in 2013, Japan 18 per cent, US 13 per cent, Germany 9 per cent) has been insignificant until recently.

Thus, although central government policy in theory supported all renewables, in reality this was not the case. The differences between wind power and photovoltaic in China can largely be explained by government policy at the central and local level: The Chinese government made a decision to give preference to wind over solar PV power on the grounds that it was more technologically mature and had greater potential for large-scale application. This resulted in strong central government support to the wind power sector for both supply (manufacturing and deployment) and demand. The Wind Power Generating Equipment Industrialization Special Fund, for example, provided for a subsidy of RMB 600 per kilowatt for the first 50 units of new turbines with a capacity of 1.5 MW or more (only available for Chinese-owned or controlled companies). Moreover a fund to provide financial support for off-shore wind, and a Feed-in Tariff (FiT) system were created for wind power. The latter divided China into several sub-regions, with pricing depending on wind resources in the respective areas. At the same time, the central government provided large subsidies for wind power installation and generation. These measures were so effective, that public authorities like the NDRC had to control entry to the sector in order to limit overcapacity in both manufacturing and also installations.

The solar PV sector on the other hand received no or only very limited support from the central government for manufacturing and deployment, and insignificant support on the demand side until 2011. National programmes such as the Golden Sun Programme for demonstration projects had only small impact in creating demand in China. However, in absence of central government policies to support solar PV, many local governments stepped in to provide support to create local solar PV manufacturing industries. The result of this was creation of a huge manufacturing industry, but very small domestic demand. Thus – differently from what is generally expected – China developed a solar PV industry that dominates global markets without much central steering. Since 2011 there is, however, a Feed-in Tariff system in place for solar PV which set at RMB 1.15 per kilowatt of electricity, and in 2012 the support for solar farm demonstration projects has been increased. Moreover, measures to expand the domestic market through

subsidies and huge increases in targets for domestic installation of solar PV have been introduced. More recently the share of support for solar PV in the Renewable Energy Fund which provides subsidies to installation and generation in the sector rose to 8 per cent in 2012 and 16 per cent in 2013.

## Conclusions

The European regime to support the use of renewable energies is characterised by a high degree of flexibility for the individual member states. Even though there are examples for bilateral cooperation, measures to support renewables are hence largely formulated and implemented on the national level (that is mostly through national legislation). The European level of the political system provides a coordinative framework and common (European) targets (as well as individual goals for each member states); yet Member states control the effect and costs of their individual national support schemes, and the European level has little leverage for “enforcement”.

That said, it has to be noted that in contrast to policy-making in the EU, China’s policy-making system remains a top-down process, with permanent exchange between political institutions and the party centre. Moreover, unlike in Europe, where conflict within society is the primary assumption in shaping public policy, in China, at least in theory, conflict is not seen as being an inherent part of society let alone policy. As such, policy debates are often held behind closed doors and society is informed only after a consensus is reached. Due to the fact that conflict is perceived as negative, issues are rarely contested in the open. For some policy issues, open discussion is taboo. While economic issues may be debated more publicly, sensitive national security issues never are. This weakens awareness of possible other viewpoints on the issue at hand.

But beyond the centralized policy making process China has – and that may come as a surprise for non-experts – a number of ways to formulate and implement policies: In the experimental procedure, policies must have proven positive results before being implemented nation-wide. At times, the CCP assigns much of its policy-work to the government, leaving ministries and governmental officials with significant policy-making power. In addition, China’s political power is fragmented allowing multiple actors to shape public policy. Hence, even though China’s policy-making process remains distinctly centralist in theory, there are possibilities to engage with actors at different political levels. Moreover, even national measures allow for local variation, as in the case of Feed-in Tariffs for wind power, which have a regional dimension reflecting the varying conditions of this big country.

The policies China adopted at the different levels of the political system resulted in very different outcomes, one of which was the creation of market for wind power in China, but not for solar PV. Unintended consequences such as overcapacity in both manufacturing and generating have also frequently resulted from policy supports for renewables in China. Comparable to the European approach to the support of renewables, and despite the traditionally strong top-down logic of the Chinese system, a complex set of central and local government policies is behind these results. The interaction of different levels of government and management is hence not only key to understanding the domestic development of the renewable sector in Europe, but also in

China. Given the international impacts of Chinese and European policies on the field of renewables, and the limited knowledge about Chinese “multi-level governance”, a better understanding of the regional-national (China) and the national-European (EU) complex is thus imperative. Linked to this question is the cooperation with third parties, for example in cross-border grid integration projects, which – according to the discussion during the Policy Forum - seem to have huge potential in Europe and Asia alike.