European Union energy policy calls for nothing less than a profound transformation of the EU’s energy system: by 2050 decarbonised electricity generation with 80-95% fewer greenhouse gas emissions, increased use of renewables, more energy efficiency, a functioning energy market and increased security of supply are to be achieved. Different EU policies (e.g., EU climate and energy package for 2020) are intended to create the political and regulatory framework for this transformation. The sectorial dynamics resulting from these EU policies already affect the systems of electricity generation, transportation and storage in Europe, and the more effective the implementation of new measures the more the structure of Europe’s power system will change in the years to come. Recent initiatives such as the 2030 climate/energy package and the Energy Union are supposed to keep this dynamic up.

Setting new EU targets, however, is not necessarily the same as meeting them. The impact of EU energy policy is likely to have considerable geo-economic implications for individual member states: with increasing market integration come new competitors; coal and gas power plants face new renewable challengers domestically and abroad; and diversification towards new suppliers will result in new trade routes, entry points and infrastructure. Where these implications are at odds with powerful national interests, any member state may point to Article 194, 2 of the Lisbon Treaty and argue that the EU’s energy policy agenda interferes with its given right to determine the conditions for exploiting its energy resources, the choice between different energy sources and the general structure of its energy supply.

The implementation of new policy initiatives therefore involves intense negotiations to conciliate contradicting interests, something that traditionally has been far from easy to achieve. In areas where this process runs into difficulties, the transfer of sovereignty to the European level is usually to be found amongst the suggested solutions. Pooling sovereignty on a new level, however, does not automatically result in a consensus, i.e., conciliate contradicting interests. Rather than focussing on the right level of decision making, European policy makers need to face the (inconvenient truth of) geo-economical frictions within the Union that make it difficult to come to an arrangement. The reminder of this text explains these latter, more structural and sector-related challenges for European energy policy in more detail, and develops some concrete steps towards a political and regulatory framework necessary to overcome them.

BACKGROUND

Despite some areas with well-integrated power systems (e.g., Scandinavia), European electricity supply still has a largely national (e.g., French), or sub-national (e.g., Bavarian) basis. This, however, does not imply that there is no integration: interconnections exist between most neighbouring countries and regions, and in some of these areas...
the power transmission infrastructure has significant exchange capacity (e.g., Germany and the Netherlands). In
sum, the power system in Europe can be described as a heterogenic patchwork of semi-integrated and
non-integrated regional, national and sub-national power systems. Power generation, transmission, distribution
and consumption in Europe can thus only partly be described as European.

On various dimensions, EU energy policy aims at breaking the still prevalent national rationale in the energy
sector, and at convincing actors that the exchange and trade of electricity within national boundaries is no longer
an adequate option. Following these EU policies the system of power generation, transmission and consumption
in Europe would take steps towards becoming a European one. The basic assumption behind these policies is that
the structure of today’s European power system is sub-optimal and further integration development of the
European grid infrastructure is expected to create economies of scale and utilise more of the technical capacity
seen from a European level. EU energy policy is therefore expected to result in a more efficient power system with
less overcapacity but greater security of supply and lower electricity prices. Moreover, it is widely believed that a
deeper integrated system is crucial for the integration of more renewables.

Historically, the involvement of the European Community on the field of energy developed only recently. Due to
long investment cycles and permitting processes, and interest structures in the power sectors, the European Union
could only partly achieve stronger integration. The Energy Union and the 2030 climate and energy package
therefore have to be understood as the latest steps of a continuous effort to accomplish deeper integration of
power systems in Europe. The successful implementation of these latest initiatives may, however, run into
difficulties, as they – just as earlier initiatives – imply a change in location of generation capacity beyond national
borders, thereby altering the topography of the existing power system:

**Market integration**, which is the gradual creation of a Europe-wide market for electricity by means of grid
integration and common market rules, implies that new competitors to domestic producers emerge, and that
electricity companies which are not efficient enough to withstand competition in a European market will get into
trouble, while other utilities (including foreign) will be able to strengthen their market position. Moreover, a
European power market implies that the interconnection capacity (shortage) along borders will cease to protect
domestic markets from foreign competition; a successful EU market integration policy thus increases the likeliness
of generation capacity to migrate beyond national borders.

**Promotion of renewables** implies three important changes to the European power system: first, some countries are
better qualified to become competitive producers of renewable energy than others. Countries may also offer
better incentives for expanding capacity. Second, most new renewable generation capacity will be of an
intermittent nature. Increasing the use of this form of power generation in one part of Europe therefore also
implies potential growing balancing costs elsewhere. Third, renewable electricity implies distributed generation,
and hence allows for a business model that brings together a larger number of smaller generation units dispersed
over larger territories. National authorities may therefore decide to keep power systems decentralised in order to
protect particular industries from the competitive pressures of European markets.

**Supply diversification** implies two distinct impacts on energy systems in Europe: First, diversification will lead to
altered entry points to the European energy system, for example new LNG terminal capacity (e.g., in Central and
Eastern Europe). Some member states might perceive a risk of losing power generation to regions closer to new
entry points, and are likely to oppose further steps in such a direction. Second, stimulating the construction of
inter-member state transmission infrastructure is a main part of the EU’s supply diversification strategy, as outlined
in the Energy Union communication. Yet increased interconnection capacity would not only increase the ability
to secure and stabilise power supplies, but (as in the case of market integration) also contribute to shifts in power
generation capacity.

**STATE OF PLAY: a European catch-22**

Each of the above-mentioned policies has distinct implications for the power sector of individual member states
and thus the geo-economic balance in Europe. To protect their (national) economic assets, each member state will
assess the impact of these elements of European energy policy on its national power sector; organised interests
within the national energy sector on the other hand will analyse the impact of the three policies on their
businesses and start to influence the bargaining position developed by their national governments. Implicitly
or explicitly, both sides of the still-existing tight state-company relationships will define a position to be taken in
EU-level negotiations towards other European governments and the diverse set of actors on the European level.
The resulting frictions at the EU-level would be negligible if the balance between winners and losers was approximately equal across member states, and if the regulatory framework established a level playing field and net gains for all market players; yet, not every country or energy company is likely to benefit equally from the changes involved with new EU policies on the field of energy.

If implemented and effective, EU energy policy may increase dependency on the goodwill and the capability of (power and grid companies in) neighbouring states to uphold electricity supply in another. Europe is hence confronted with a ‘catch-22’: on the one hand are the advantages of European energy policy, but on the other the potentially painful adaptations of power generation, distribution and consumption imply risks for the national power industry. Existing or future instruments of EU energy policy will have to overcome reluctance to integrate power systems; where these instruments will be needed, and what form they will have to take, largely depends on variations in member states’ benefits and costs involved with adapting the national energy sector to the ends of EU energy policy.

Taking stock of the various characteristics of national energy systems in Europe is imperative before new EU policies can be negotiated effectively. Moreover, strongly differing political positions on energy-related matters (e.g., renewables, shale gas and nuclear power) between member states need to be identified and systematically analysed. Both the analysis of national energy systems and policies will allow the identification of latent conflicts of interests between member states and options to settle them by means of existing or new instruments of European Union energy policy. Such an analysis of the state of play will ideally help in finding an EU-level energy policy framework capable of overcoming the geo-economic antagonisms that otherwise might constitute a major impediment for the negotiation and/or implementation of new measures and more integration, responding to the questions above. Currently, therefore, three questions need to be addressed:

1. Which countries, regions and companies are likely to benefit or lose from the energy transition that follows the EU agenda in the field of energy policy, and in what ways?
2. How will these geo-economic consequences affect patterns of consensus, cooperation and conflict between member states at the European level of energy policy?
3. Does the European Union have the necessary instruments at its disposal to overcome conflicts of interest, and if not, what instruments could be developed to achieve this?

**PROSPECTS**

If policy makers at the European level are to successfully negotiate and implement the Energy Union and the 2030 climate and energy package, they need to find a way to balance the geo-economic frictions between member states caused by EU energy policy. A regulatory framework is needed that is capable of easing geo-economic concerns through transparent governance structures such as co-ownership of grid assets or co-decision making of grid operations, whether between two or more countries or at the EU level. Moreover, at the business level clear contractual agreements between parties regarding energy and cash flows are another means to avoid potential conflict and handle eventualities. Hence, addressing the root causes of conflicting interests is necessary in order to provide institutional means to handle outcomes of EU energy policy that otherwise could be labelled unfair.

The latest developments in the field of EU energy policy do, however, still resemble an eclectic process: the goals are clear, but as of today there is no clearly formulated and fundamental analysis of those geo-economic factors and interests which partly foster, and partly contradict, the implementation of new measures to reach these goals. Issues like the unfinished unbundling process (i.e., of long-established and poorly transparent structures of command and control) or the insecurities surrounding price formation in the renewables sector persist; as a result, the EU’s efforts to stimulate the construction of new (renewable) generation capacity and new interconnectors between member states simultaneously fall short of the possible. Hence, before discussing new EU policies, the will to address those factors that contradict the goals of EU energy policy is imperative. Only then can a fitting framework of measures, instruments and regulations be found that conciliates interests that do not consent.

Thus, in order to reach the goals of EU 2030 and the Energy Union, the will to openly identify and address economic antagonisms caused by EU energy policy is needed. Addressing the three above-mentioned questions is
crucial in this regard; however, they have not yet been discussed in full depth by European policy makers and EU-level analysts. In order to come to a binding political agreement, these questions should hence serve as the basis of a systematic and transparent exploration of potential benefits and losses for individual member states resulting from today’s EU energy policy. Only on the basis of such a discussion can the necessary instruments to conciliate various multi-dimensional and more-or-less contradictory private and national interests be identified. Therefore, a high-level group should be initiated that brings together representatives of governments and the energy sector to openly discuss these issues.

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