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## **IMPENDING PARADIGM SHIFT**

### **INTERNATIONAL CLIMATE NEGOTIATIONS AND THEIR IMPACT ON EU ENERGY POLICY**

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For many years, energy policy in Germany and in Europe has focused on the triangle of objectives comprising sustainability, security of supply and competitiveness. Opinions differ among the relevant actors from business and politics as to the weighting to be given to the three objectives when they come into conflict in a given case, such as when the rapid expansion of renewables jeopardises the stability of the power grids or increases energy supply costs. In spite of this, the triangle of energy policy objectives fulfils its function as a consensual formula, which provides the basis for a constructive dialogue between all stakeholders.

#### **SUSTAINABILITY AS THE KEY COMPONENT IN THE TRIANGLE OF ENERGY POLICY OBJECTIVES**

This does not mean, however, that there is a common interpretation of the triangle of objectives. Industrial companies give a greater weighting to the aspect of competitiveness; the Eastern European EU member states emphasise the subject of security of supply above all. But the dominant joint determining aspect of the German and European energy policies is that of sustainability, generally measured by the level of greenhouse gas emissions from the energy sector.<sup>1</sup> Since the EU adopted a comprehensive energy strategy for the first time under the German Council Presidency in 2007 as well as binding targets for emission reductions and the expansion of renewables by 2020, its energy policy has been based on the "vital importance

1 | Cf. Severin Fischer, *Die auf dem Weg zur gemeinsamen Energiepolitik. Strategien, Instrumente und Politikgestaltung in der Europäischen Union*, Baden-Baden, Nomos, 2011, 21 et seq.

of achieving the strategic objective of limiting the global average temperature increase to not more than 2°C above pre-industrial levels...".<sup>2</sup>

What sounded like a negligible side note at the time to many actors in the area of energy policy and in the energy industry – the EU cannot ensure the adherence to the two-degree target on its own after all – increasingly took on a more concrete form in subsequent years. In 2009, the European Council announced that it intended to reduce greenhouse gas emissions by 80 to 95 per cent by 2050 (compared to base year 1990). The 27 Heads of State and Government thereby adopted a recommendation of the 4<sup>th</sup> Assessment Report by the Intergovernmental Panel on Climate Change (IPCC), in which such an emission reduction corridor is considered an essential contribution of the group of industrialised countries, without which it will not be possible to limit the increase in temperature to around 2 degrees. Numerous EU member states have since included this reduction target for 2050 in their national energy strategies, Germany being one of them.

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In the three documents on climate, transport and energy that constitute the *Roadmap 2050*, which the EU Commission presented in 2011, an overall reduction in greenhouse gas emissions of at least 80 per cent is taken as the starting point for some highly complex economic modelling. Not only did the Commission derive the necessity of implementing a rapid and far-reaching transformation of the European economies (decarbonisation) from this reduction target in its analyses. It actually dispensed with a detailed investigation of the political and economic impacts of less ambitious reduction targets.<sup>3</sup>

- 2 | Council of the European Union, "Brussels European Council. 8/9 March 2007. Presidency Conclusions", Doc. 7224/1/07 REV 1, 10, <http://register.consilium.europa.eu/pdf/en/07/st07/st07224-re01.en07.pdf> (accessed 31 Aug 2012).
- 3 | Cf. European Commission, "Roadmap for moving to a competitive low carbon economy in 2050", KOM (2011) 112; "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system", KOM (2011), 144; "Energy Roadmap 2050", KOM(2011), 885.

Even though the EU Commission, the member states with the most ambitious climate policies and various environmental NGOs may give the impression that the EU has a scientifically verified climate target for 2050, which the economic development paths of the next few decades absolutely had to adhere to, the emissions reduction corridor of 80 to 95 per cent is not fixed in any legally binding way. It merely represents a political target, against which the steps being taken today are measured. No democracy can make a binding commitment to precisely quantified targets 40 years in advance, particularly when these impact core areas of economic activities.<sup>4</sup>

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Accordingly, legally binding targets only exist in EU energy policy for the medium term. The currently valid targets for 2020 envisage greenhouse gas emissions being reduced by 20 per cent by 2020, with the option of this being increased to 30 per cent if other developed and newly industrialised countries also make ambitious commitments. The proportion of renewables is to be expanded to 20 per cent. In addition, there is an energy savings target – albeit not a legally binding one – also set at 20 per cent.

With the roadmaps for 2050, the Commission has opened the debate on the energy policy targets for 2030. While the predominant expectation in Germany is that the current three objectives of emission reduction, expansion of renewables and energy savings will be updated with a higher target figure in each case, there are opinions being voiced in numerous other member states pointing in the direction of a change in the energy policy target architecture. Many Eastern European states, most notably Poland, are also openly questioning the focus on the sustainability principle for the future development of European energy policy.

4 | The British Climate Change Act, which is considered a model for the climate protection laws under discussion in federal states such as North Rhine Westphalia, only appears to represent a binding commitment by the UK up to 2050. In fact, it contains numerous revision clauses.

During the next few years, discussions will concentrate on the weighting given to the principles of sustainability, security of supply and competitiveness within the energy policy triangle of objectives. Beginning with the currently still prevailing prioritisation, the main question will be to what extent and under which conditions it will make sense to base European energy policy mainly on making a fair contribution to mitigating global climate change. The answer will be crucially influenced by developments in the international debate on climate policy, namely by the course that the UN climate negotiations will take on the one hand, and by discussions on the viability of the two-degree target on the other.

#### **THE FORESEEABLE CRISIS OF INTERNATIONAL CLIMATE POLICY**

20 years after the adoption of the UN Framework Convention on Climate Change (UNFCCC), the sum total of its achievements is rather disappointing. The outlook for the conclusion and ratification of a global climate treaty, which is not only ambitious but also has effective sanctioning mechanisms, is still vague despite the timetable adopted at the 2011 UN climate summit in Durban, which envisages agreement on a treaty by 2015 and the treaty coming into force by 2020; this has been even more the case since the extremely unsatisfactory outcome of the Rio+20 conference. More importantly: global greenhouse gas emissions have increased by a good third since 1992 – and there is no reversal of this trend in sight. This means that the goal of restricting global warming to 2 degrees is increasingly in jeopardy.

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After what is likely to be the decisive climate summit at the end of 2015, international climate policy may run into a crisis of an unprecedented scale. The two central lines of development – the continuing stagnation at the UN negotiations and the steady increase in worldwide emissions – will probably lead straight to a crisis of the currently still dominating top-down paradigm,<sup>5</sup> which has been champi-

5 | Cf. William Hare et al., "The Architecture of the Global Climate Regime: A Top-Down Perspective", *Climate Policy*, Vol. 10, No. 6, 2010, 600-614.

oned by Europeans and climate scientists. It is likely that there will be a dramatic decline in confidence over the coming years as regards the problem-solving capability of a policy approach that involves initially defining a limit for the maximum tolerable extent of global climate change, deriving from this the remaining emissions budget up to 2050 and then distributing this remaining amount between 194 states in the course of UN negotiations.

Since its institutionalisation began, international climate policy has represented a great promise of the collective problem-solving capability of the world community, which

**In 2005 a debate over the need for a global climate treaty for the period after 2012 commenced. The first serious attempt to seal such a treaty failed spectacularly at the 2009 world summit in Copenhagen.**

is yet to be delivered. The problem and an approach to its solution ("prevention of dangerous climate change") were defined when the Framework Convention on Climate Change was adopted in 1992; initial targets for the industrialised countries, which were not yet very ambitious, were agreed with the Kyoto Protocol in 1997. As soon as the Protocol came into force in 2005, a debate commenced over the need for a comprehensive and ambitious global climate treaty for the period after 2012, when the first Kyoto commitment period would expire. The first serious attempt to seal such a treaty failed spectacularly at the 2009 world summit in Copenhagen.

International climate diplomacy has become somewhat more pragmatic since Copenhagen. Through clever management of expectations, politicians have succeeded in making the climate summits in Cancún and Durban appear to deliver clear progress. What has been lauded as a particularly positive outcome of Cancún is the fact that after several years of endeavour the EU finally succeeded in convincing all relevant negotiating partners to commit to the two-degree target. This target was agreed for the first time in Cancún by a Conference of Parties to the UNFCCC. There is thus now a broad consensus on the need to restrict the extent of climate change to a level that is just short of becoming dangerous. Yet we are still nowhere near an agreement on packages of measures that would allow the increase in average global temperature to be restricted to two degrees Celsius.

At first glance, the agreement on the two-degree threshold appears to be further stabilising the top-down paradigm by enshrining a consensus on a concrete international climate policy target for the first time, from which all the required subsequent steps can be logically derived. Paradoxically, the two-degree consensus from Cancún will actually have the opposite effect and further escalate the crisis of the top-down paradigm. This is because a climate policy that promotes adherence to the two-degree limit places itself under enormous pressure to act, and elicits great expectations. Given the relative inertia of the climate system and the duration of which many greenhouse gases remain in the atmosphere, it will be possible to determine whether it is actually feasible to stay within the upper limit decades before the two-degree threshold would actually be reached. In view of the continuing global increase in emissions, one can expect scientific and economic climate researchers to have to answer this question in the negative from the middle of the current decade.<sup>6</sup> Cross-model analyses emphasise that it will be necessary for global emissions to peak within just a few years. And the volume of global annual greenhouse gas emissions must not exceed 44 gigatonnes of CO<sub>2</sub> equivalents by 2020, i.e. a volume that is 10 to 15 per cent smaller than that produced currently.<sup>7</sup>

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Following the agreements reached at the Conference of Parties held in Durban, it is likely that the international policy process will be characterised by hopes for a major breakthrough at least until the end of 2015, similar to the years preceding the Copenhagen climate summit. But it is less likely that this breakthrough will actually materialise. It is highly ambitious to expect the adoption of a treaty in the next few years that would commit all developed and

6 | This applies as long as climate scientists acting as policy consultants retain currently valid criteria for the capability of staying within the two-degree limit unchanged. Cf. Oliver Geden, "Die Modifikation des 2-Grad-Ziels", *SWP-Studie*, Stiftung Wissenschaft und Politik (SWP), Berlin, 2012, [http://swp-berlin.org/fileadmin/contents/products/studien/2012\\_S12\\_gdn.pdf](http://swp-berlin.org/fileadmin/contents/products/studien/2012_S12_gdn.pdf) (accessed 23 Jun 2012).

7 | Cf. United Nations Environment Programme (UNEP), *Bridging the Emissions Gap. A UNEP Synthesis Report*, UNEP, Nairobi, 2011; Caroline de Vit and Niklas Höhne, *Why the Durban outcome is not sufficient for staying below 2°C*, Ecofys, Köln, 2012.

newly industrialised countries to challenging and binding minimum targets. One must assume that the USA will at least attempt to resist joining such a contractual solution during the next few years, which will by itself throw the participation of China, India and Russia into great doubt.<sup>8</sup> But even in the event that a comprehensive, ambitious global climate treaty, which would be binding in international law, can be successfully concluded, one can assume that it will take a great deal more time than anticipated for it to be enforced. Even the ratification of the Kyoto Protocol, which was far more modest in its goals and scope, took seven years! The USA will probably be central to the proceedings once again, as its final approval would require a two-thirds majority in the Senate amongst other things.

The common former strategy of trying to smooth over the lack of success at global climate negotiations by announcing even greater efforts to be made in the future cannot be maintained for much longer after having chosen an absolute and therefore inflexible target value of 2.0 degrees Celsius. Furthermore, the continuing all-pervasive emphasis in communications on the two-degree benchmark as the definitive threshold to dangerous climate change is likely to prevent the global climate target from being watered down by raising the limit to 2.5 or even 3 degrees.<sup>9</sup> But without a consensus on a quantifiable target the top-down climate policy paradigm loses its constitutive element.

**If the trust in the problem-solving capability of international climate policy is eroded, states will concentrate almost exclusively on increasing their own capability to adapt to climate change.**

If it is not possible to bring the UN negotiations to a successful conclusion sometime soon and reverse the direction of global emissions development quickly, the global climate regime will inevitably come to a dead end.

There is a danger of trust in the problem-solving capability of international climate policy being eroded and of the same happening to the willingness to engage in multilateral cooperation. Fatalism would then probably spread. In that

8 | Cf. Sven Harmeling et al., *Ein unzureichender Durchbruch. Bewertung des Klimagipfels von Durban*, Germanwatch, Bonn, 2011; Barbara Lewis et al., "U.S. criticized for backing away from U.N. climate goal", Reuters, 7 Aug 2012, <http://reuters.com/article/2012/08/07/us-climate-eu-idUSBRE8760LM20120807> (accessed 31 Aug 2012).

9 | On the genesis of the global climate target cf. Samuel Randalls, "History of the 2°C climate target", *WIREs Climate Change*, 1, 2010, 598-605.

scenario plans for ambitious emission reduction paths will be pushed further down the national political agendas. Instead, states will concentrate almost exclusively on increasing their own capability to adapt to climate change. Some developed and newly industrialised countries, most notably the USA and China, will also seek their fortune in risky measures to manipulate the climate by technical means, which might bring about new political conflicts.<sup>10</sup>

### THE REPERCUSSIONS FOR EUROPE

What this would mean for the EU is that it would have publicly failed in the foreign policy arena and done so in one of the few areas of international politics where it has been able to play a leading role for the past two decades.<sup>11</sup> It would also put into question the long-term economic policy approach of many Western and Northern European states, which links the climate-policy-based necessity of considerable emission reductions to a strategy of economic modernisation and thus to achieving a global leadership position in the area of green technologies. If the expectation were to fade that all developed and newly industrialised countries will embark on an ambitious decarbonisation path in the medium term and thereby open up new market opportunities worldwide, pursuing a pioneering role for Europe, which would be expensive in the short and medium term, would only make limited economic sense.

**If the expectation were to fade that all established and newly industrialised countries will embark on an ambitious decarbonisation path in the medium term, pursuing a pioneering role for Europe would only make limited economic sense.**

In that situation, it would not only be the ambitious intention of the EU to reduce greenhouse gas emissions by 80 to 95 per cent by 2050 that many member states as well as industry associations would question critically. Even more importantly: the European Council would be particularly

10 | Cf. Wilfried Rickels et al., *Large-Scale Intentional Interventions into the Climate System? Assessing the Climate Engineering Debate*, Berlin, 2011; Susanne Dröge, "Geoengineering Looming: Climate Control the American or Chinese Way", in: Volker Perthes and Barbara Lippert (eds.), *Expect the Unexpected. Ten Situations to Keep an Eye On*, SWP, Berlin, 2011, 15-18, [http://swp-berlin.org/en/publications/swp-research-papers/swp-research-paper-detail/article/ungeplant\\_ist\\_der\\_normalfall.html](http://swp-berlin.org/en/publications/swp-research-papers/swp-research-paper-detail/article/ungeplant_ist_der_normalfall.html) (accessed 23 Jun 2011).

11 | Cf. Alexandra Lindenthal, *Leadership im Klimaschutz. Die Rolle der Europäischen Union in der internationalen Umweltpolitik*, Campus, Frankfurt am Main, 2009.



circumspect in its determination of binding climate and energy targets for 2030, which will be far more relevant to the investment activities of European companies. The process of transformation into a European low carbon economy, which was initiated under Germany's EU Council presidency in 2007, would be interrupted and possibly even aborted. In the context of mostly Europeanised climate protection legislation and an increasingly integrated European internal market, even pioneering states such as Germany would find it difficult to resist this trend.<sup>12</sup> In the worst case scenario, a change in the general mood throughout Europe would even jeopardise the implementation of the German energy transition.

#### **THE ENERGY ROADMAP AND THE TENTATIVE SEARCH FOR EU TARGETS FOR 2030**

Against the background of a highly unsatisfactory global constellation, which the EU cannot influence substantially due to its limited negotiating power and its modest share in worldwide emissions, the process of determining new energy policy targets for 2030 is slowly gaining momentum. The debate on this issue is currently

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still being conducted on the basis of the three roadmaps for climate, transport and energy, which the Commission presented between March and December 2011 and which outline the options for the implementation of an emission reduction target of at least 80 per cent by 2050. Although these roadmaps allow the Commission to put its stamp on the structure of debates on the long-term development of individual sectors at an early stage, not least by preselecting the scenarios to be analysed, determining the content of a roadmap does not allow any conclusions to be drawn regarding the determination of binding medium-term energy and climate policy targets.

Due to their outstanding economic importance, the decisions in this matter must be taken by the Heads of State and Government of the member states and these decisions

12 | Cf. Severin Fischer and Oliver Geden, "Europeanising the German Energy Tradition", *SWP Comments*, Berlin, Nov 2011, [http://swp-berlin.org/en/publications/swp-comments-en/swp-aktuelle-details/article/europeanising\\_the\\_german\\_energy\\_transition](http://swp-berlin.org/en/publications/swp-comments-en/swp-aktuelle-details/article/europeanising_the_german_energy_transition) (accessed 31 Aug 2012).

must be unanimous. This will be preceded by consultations in the subject-specific Council configurations. During this phase, the European Parliament will only act in an advisory role, if at all.<sup>13</sup> To date, the ministers of the member states have not succeeded in coming to any joint conclusions in connection with any of the three roadmaps. In the case of the climate roadmap, a consensual assessment has already failed twice due to resistance on the part of the Polish government. For the transport roadmap, the parties have not even seriously attempted yet to find a consensus at ministerial level. In June 2012, Poland derailed an attempt to unanimously approve Council conclusions concerning the energy roadmap. Amongst other things, the Warsaw government had demanded that all measures relating to energy policy should be made subject to the realisation of an ambitious international climate treaty and that the support for renewables should be extended to include all low-carbon energy technologies, i.e. also fossil fuel power plants with carbon capture and storage (CCS) as well as nuclear power.<sup>14</sup>

**Poland derailed an attempt to unanimously approve Council conclusions concerning the energy roadmap. Warsaw had demanded that the support for renewables should be extended to include all low-carbon energy technologies.**

It is unlikely for the consultations on the energy roadmap, which is to be updated regularly like the other two roadmaps, to lead to a unanimous outcome anytime soon. This is not only due to the open resistance on the part of Poland, which does not agree with some of the fundamental assumptions of the long-term roadmaps, but also due to the huge importance of the energy sector for the decarbonisation of the European economies. The envisaged sector-specific reduction target is relatively high at 85 per cent. In the politically sensitive area of power generation, the plans even call for an emission reduction of at least

13 | The European Parliament can only bring its influence to bear when the fundamental decisions made by the Heads of State and Government are subsequently implemented in specific legislative processes, such as making amendments to the directive on emissions trading. The parliament does not have any influence on the definition of the targets, but it does with respect to the way the tools to achieve the targets are structured.

14 | Cf. Dave Keating, "Poland blocks energy roadmap. Member states unable to back roadmap because of Polish opposition", *European Voice*, <http://www.europeanvoice.com/article/2012/june/poland-blocks-climate-roadmap/74617.aspx> (accessed 21 Jun 2012).

95 per cent. In addition, some of the technology options that the Commission places at the centre of its decarbonisation scenarios are highly controversial, both politically and socially. This applies particularly to the future role of nuclear energy, renewable energies and CCS technology.

But whether the member states will come to an agreement on the route all the way to 2050 or not, sooner or later new partial energy policy targets will have to be set for the phase after 2020. The earlier this happens the easier it will be for energy suppliers and for the industry to adapt, the smoother the transformation towards a low-carbon economy will be, whatever the pace at which this transformation will ultimately be advanced. But member states have been slow in responding to repeated requests by the Commission to put forward a new target architecture.<sup>15</sup>

The countries of East and Southeast Europe, which resist an ambitious EU climate policy, are hoping that the sustainability agenda will fade over time so that the principles of security of supply and competitiveness will once more gain importance in the constellation of objectives. The longer the EU takes to consult and make decisions about the targets for post-2020, the less ambitious these targets will probably be – that is what these countries are counting on. For one, there would then be less time to implement ambitious targets and secondly there would be a higher likelihood of international climate policy having already become embroiled in turbulent controversy.

**Germany, the UK and Denmark are relying on the idea that the willingness to participate in an ambitious policy will not start growing again until the economic and financial crisis has been overcome.**

More ambitious member states, such as Germany, the UK and Denmark, on the other hand, are relying on the idea that the willingness to participate in an ambitious policy will not start growing again until the economic and finan-

15 | However, this is not only due to differences in opinion about the subject matter but also to the deep-rooted scepticism of many member states with respect to a forced harmonisation of energy policy. The more ambitious the European targets will be the greater the need for central control. This threatens to undermine the sovereignty of member states in choosing their own energy mix, which is enshrined in European primary law. Cf. Severin Fischer and Oliver Geden, "The EU's Energy Roadmap 2050: Targets without Governance", *SWP Comments*, Berlin, Mar 2012, [http://swp-berlin.org/en/publications/swp-comments-en/swp-aktuelle-details/article/eu\\_energie\\_fahrplan\\_2050](http://swp-berlin.org/en/publications/swp-comments-en/swp-aktuelle-details/article/eu_energie_fahrplan_2050) (accessed 31 Aug 2012).

cial crisis has been overcome. They also fear that a new pan-European compromise would probably fall far short of the milestones that were determined in the scenarios of the energy roadmap for 2030. Sealing such an agreement before the likely decisive global climate summit in 2015 would therefore threaten to jeopardise the EU's image as an international pioneer, signalling that even the EU was already planning to scale back its ambitions in the area of climate protection while international climate negotiations are in a critical phase.

### IMPENDING PARADIGM SHIFT

During the next few years, European energy policy will be characterised by struggles for discursive hegemony, which will focus on the future importance of the sustainability principle. There are a number of indications of an impending paradigm shift in European climate and energy policy. In view of the unsatisfactory developments at the global level, it will be impossible for the top-down principle, which has been dominant until now, to be implemented. European climate policy is therefore likely to become a great deal more pragmatic and increasingly follow a bottom-up approach,<sup>16</sup> focusing on retaining an economically justifiable pioneering role and relying on flexible coalitions of willing parties around the world.

**In view of the unsatisfactory developments at the global level, it will be impossible for the top-down principle, which has been dominant until now, to be implemented.**

In terms of climate policy, this would mean a departure from the "all or nothing" logic (rescue or catastrophe). This would be replaced by the message "the less (emissions/climate change) the better". Real progress in the area of decarbonisation of the major economies will be considered more important than promising-sounding long-term targets, which might enjoy the support of many governments at an international level, but are then not actually underpinned by appropriate measures nationally – not least because the targets are often unrealistically high.<sup>17</sup>

16 | Cf. Steve Rayner, "How to eat an elephant: a bottom-up approach to climate policy", *Climate Policy*, Vol. 10, No. 6, 2010, 615-621.

17 | Cf. David G. Victor, *Global Warming Gridlock. Creating More Efficient Strategies for Protecting the Planet*, Cambridge University Press, Cambridge, 2011.

In terms of energy policy, the challenge for the EU would be to prove that the transformation towards a low-carbon economy is technologically feasible and economically successful, with positive impacts not just on the climate but also on energy prices and the security of supply. Germany has a particular responsibility in this context. With its decisions in favour of the energy transition, the federal government has approved an overall energy policy concept that is so far unique among major industrialised countries: to pursue a technology path that will ensure efficient and regenerative utilisation of energy resources, which is made more difficult by the withdrawal from nuclear power generation.<sup>18</sup> The "German Model" will come under close scrutiny not just from Europe but also from other regions of the world over the next few years. But it will only be able to successfully exercise its powers of persuasion globally if it manages to reconcile sustainability, competitiveness and security of supply.

18 | Cf. Christian Hübner, "Beschleunigte Energiewende in Deutschland. Einordnung und Analyse", *Analysen und Argumente*, No. 104, Konrad-Adenauer-Stiftung, 4 Jun 2012, <http://kas.de/wf/de/33.31227> (accessed 23 Jun 2012).