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Contents lists available at ScienceDirect

Global Environmental Change

journal homepage: www.elsevier.com/locate/gloenvcha

Understanding policy change: Multiple streams and emissions trading in Germany

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ARTICLE INFO

Article history:

Received 13 December 2007
Received in revised form
29 May 2008
Accepted 30 May 2008

Keywords:

Political science
Climate policy
Policy change
Multiple streams
Emissions trading

ABSTRACT

This paper employs John Kingdon's [1984. *Agendas, Alternatives and Public Policies*. Little Brown, Boston] "multiple streams" framework to analyse the sudden move from overgenerous grandfathering to tight caps and auctioning within the German emissions trading regime in the first half of 2007. By bringing together empirical evidence from interviews and official documents the following question is addressed: how completely does Kingdon's framework explain this political turn? The opening of a "policy window" can be demonstrated and Kingdon's theory concisely captures important aspects of this process. At the same time, however, the findings imply that a number of relevant factors are not sufficiently considered by the theory, most notably the influence of multi-level governance structures, learning processes, and networks. This demonstrates that the multiple streams approach on its own is not sufficient to fully understand the case study example. Hence, for a better understanding of policy change it is suggested that scholars need to evaluate the potential for amending and combining Kingdon's model with other explanatory approaches.

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1. Introduction

Environmental policy often conflicts with dominant business and producer interests, resulting in policy stability and inertia. At times, however, major disruptions to the policy equilibrium occur and regulations fundamentally change. The interesting question to ask is what factors cause these shifts. In other words: why do policies change? To answer this question, political scientists developed numerous analytical frameworks, which seek to integrate the interests, ideas, resources, and constraints of relevant actors. One theory that has generated considerable attention among researchers is Kingdon's (1984) "multiple streams" framework. This perspective emphasises the role of ideas and agenda-setting in the policy process. Change occurs when advantageous developments in three different streams (problem, policy, and politics) converge in a "policy window". In this view, change partly relies on exogenous factors and is fairly random. While studies have supported the framework's usefulness in explaining policy change in North America, only few applications to a European context exist.

2. Kingdon's multiple streams model

Kingdon (1984, p. 1) suggests in his analysis of *Agendas, Alternatives and Public Policies* that an "idea whose time has come,

captures a fundamental reality about irresistible movement that sweeps over our politics and our society pushing aside everything that might stand in its path". His objective is to move the analysis from the usual political science preoccupation with power and influence (possibly a critique of network analysis) on to the world of ideas (Parsons, 1995). In contrast to authors who see the policy process as mainly incremental (Lindblom, 1959), change in this model may be radical and eruptive.

Drawing upon the "garbage can model" of organisational choice (Cohen et al., 1972), Kingdon deals with how issues come to be issues. For understanding processes within organisations, one can view a "choice opportunity as a garbage can into which various kinds of problems and solutions are dumped by participants as they are generated" (Cohen et al., 1972, p. 2). In this model, four distinctive streams determine the decision-process: problems, solutions, participants, and choice opportunities. Using a revised version of the garbage can model, Kingdon (1984) analyses the policy process as a function of only three streams: problems, policies, and politics.

The problem stream embodies the issue of concern itself. There are three mechanisms that serve to bring problems to the attention of policy makers: first, indicators such as data and reports; second, focusing events such as disasters and symbols; and third, other feedback channels such as media and public deliberation.

The policy stream is conceptualised as a "primeval soup" in which ideas float around, confront one another and combine. The "soup" changes in a process of natural selection and

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recombination. Some ideas float to the top of the agenda and others fall to the bottom. The environment of this soup is composed of policy communities. Some are closed, whilst others are more open and fragmented. Swimming in this soup are policy entrepreneurs “who are willing to invest resources of various kinds in hopes of a future return in the form of policies they favour” (Kingdon, 1984, p. 151). They are crucial to the survival of an idea and open up policy communities to gain acceptability for a policy. The idea itself has to satisfy some criteria if it is to survive and get to the top. It must be technically feasible, fit the community's dominant values, and be able to anticipate potential constraints under which this might operate. The final output of this struggle is a list of alternatives to the governing agenda.

The political stream operates quite separately from the other two and crucially determines the status of the agenda item. It is composed of a number of elements:

- National mood, public opinion.
- Organized political forces: parties, legislative politics, pressure groups.
- Government: change in personnel and jurisdiction.
- Consensus-building: bargaining, band wagons, and tipping.

When those three streams join they temporarily create advantageous choice opportunities which Kingdon terms “policy windows” or “windows of opportunity” (both terms are used interchangeably); a situation where a “problem is recognised, a solution is developed and available in the policy community, a political change makes the right time for policy change, and potential constraints are not severe” (Kingdon, 1984, p. 174). Kingdon uses the metaphor of a launch window in a space flight mission. If the window is lost, then the launch has to wait until alignments become appropriate again. The successful launch of a policy change is the result of the opening of such a “window of opportunity” in the interplay of multiple streams. In this view, agendas are not just a reflection of power but also depend on chance.

Although Kingdon's approach emerged as an influential perspective on the public policy process in the US, little attention has been paid to extending its logic across countries (Baumgartner et al., 2006). So far, empirical studies using Kingdon's model have been conducted for Canada (Howlett, 1998), Great Britain and France (Zahariadis, 1995), and Great Britain and Germany (Zahariadis and Allen, 1995). Nill (2002) combined the multiple streams approach with the electoral cycle view put forward by the economic theory of democracy to analyse environmental innovation policies in Germany. The following discussion applies the multiple streams approach to the relatively new domain of climate policy in Europe. It shall be investigated how well Kingdon's approach explains the drivers of policy change in the case study example.

3. Emissions trading in Germany

For students of policy change, the European climate policy regime offers a compelling case study field. The subject is comparatively dynamic, although stakes are high and distributional impacts considerable. Usually, powerful producer groups tend to oppose the introduction of climate regulations because they fear additional costs and losses in international competitiveness. In spite of this opposition, the world's largest ever market for greenhouse gases, the EU Emissions Trading Scheme (EU ETS), was established in 2005. The EU ETS today is Europe's most important instrument to encourage the transition to a low-carbon economy (Peeters and Deketelaere, 2006; Michaelowa and Butzengeiger,

2005). The case study presented below deals with the German implementation of the EU ETS. Germany was chosen for two reasons: first, the success of the entire EU ETS crucially depends on Germany as it is the largest participant in the scheme. Second, its recent move from grandfathering to auctioning represents an illustrative and insightful example of radical policy change.

3.1. EU ETS implementation

Emissions trading entered the German debate in the 1970s (Sandhövel, 1994) after the US was the first country to introduce a tradable permits scheme (Ellerman et al., 2000). Though German scholars and politicians closely watched the development in the US, industry resistance assured that the idea remained restricted to academic agendas only (Wurzel et al., 2003). In particular, the chemical industry argued that there is no need for the adoption of emissions trading as a new environmental policy instrument since voluntary agreements had worked well on the national level (Wurzel et al., 2003). Three decades later, in December 2000, the Government was able to make a first step on the issue by setting up a working group on tradable permits. Unlike in the UK, Germany never succeeded to install a national emissions trading scheme. Rather, the introduction of this policy instrument was dependent on developments on the European level which culminated in the establishment of the EU ETS in January 2005.

Within the EU ETS, each Member State specifies a cap on overall CO₂ emissions, along with a method of how to allocate emission allowances to its individual industrial facilities. Each large point source gets a maximum amount of emission allowances for a particular period. To comply, facilities can either reduce their emissions or purchase allowances from facilities with an excess of allowances. The envisaged allocation must be documented in the National Allocation Plan (NAP), which is subject to approval by the Commission. Even though under certain circumstances the Commission has the power to challenge the NAP, the principal driver of allocation decisions still remains within national politics.

Developments in phase I of the EU ETS (2005–2007) demonstrate that this peripheral distribution of competencies has become the Achilles heel of the entire scheme (Grubb et al., 2005). In 2005, emitters included in the scheme obtained ca. 80 million tons or 4% more permits than they actually needed (Ellerman and Buchner, 2006). The largest over-allocation happened in Germany, where industry received 21 million certificates more than required. Since the trading system requires scarcity not affluence in order to give carbon a price, this over-allocation resulted in serious destabilising effects on the market for European Emission Allowances.

Lessons learned from phase I largely influenced the allocation process for phase II (2008–2012). In November 2006, the EU Commission rejected Germany's NAP II on the grounds that it was over-generous again (EUC, 2006). The Commission asked the Ministry for the Environment (BMU), which is responsible for the allocation process, to scale back the amount of emission permits. German industry officials, however, urged the Government to resist. In a letter to Chancellor Merkel, the officials from large power firms alleged that if the Government agreed to the Commission's demands, the additional costs would force industry to re-think planned investment in German energy capacity (VDEW, 2006). Also, potential losses in international competitiveness could seriously harm the economy. The Ministry for the Economy (BMW) therefore maintained in December 2006 that the Government would ignore the Commission's demands (ENDS, 2006). Three months later, in March 2007, Germany stopped resisting and accepted the new cap. As a result, German facilities

included in the scheme receive permits to emit 453 million tons CO₂ yearly from 2008–2012. That is 29 million tons less than originally requested.

3.2. Shift from grandfathering to auctioning

In light of this fierce resistance to lower the cap it came as a surprise to many when Germany voluntarily introduced auctioning in the national allocation process in June 2007. The new *Zuteilungsgesetz* (allocation law) envisages that, from 2008, 8.8% of all permits should be sold instead of given out for free, further reducing the number of freely available emissions allowances by 40 million tons (Bundestag, 2007). This voluntary reduction is in addition and is about 11 million tons larger than the vigorously opposed previous budget on the cap. As a result, power generators now have to purchase certificates for 40 million tons or 17% of their allocation, which will cost the sector about €900 million (given the current market price of European Emission Allowances of €22). Compared to other participants in the scheme, Germany now assigns the highest share for auctioning in both absolute and relative terms. Before the German Government changed its policy, Britain had with 7% the highest auctioning share of all Member States.

4. Discussion

Why did Germany change its emissions trading policy so radically? To answer this question the following discussion combines Kingdon's framework with the information derived from interviews and documents. The findings are organised around the three streams: problem, policy, and politics. The discussion focuses on developments between December 2006, when Germany openly resisted adjustments to the cap of NAP II, and June 2007 when the country introduced auctioning as an allocation method. Events prior to December 2006 were considered where respondents emphasised their importance for the decision-making process.

4.1. Problem stream

In Kingdon's model, for a policy to change, people must first be convinced that there exists a problem and that something needs to be done about it. It can be argued that the public debate on climate change entered a hot phase in early 2007. Several indicators, focusing events, and other attention drawing factors were identified in the problem stream, which supported this heightened issue attention.

The belief that climate change represents a problem is a function of relevant personal experiences and messages from informants such as scientists and politicians (Krosnick et al., 2006). Interviewees stressed that two scientific publications in particular influenced the public's perception of climate change as a political problem during this time period: the Stern Review (October 2006) and the IPCC's fourth assessment report (April 2007).

Stern's report on the economics of climate change shaped the public debate worldwide to a considerable extent. Especially in economically prosperous and capitalistic societies such as Germany, Stern's key message found many open ears: fighting global warming, although costly, pays in the long run (Stern, 2007). Among politicians and business representatives, economic rents are a powerful argument. Auctioning emission permits instead of giving them out for free may impose short-term costs on business. But the economic incentives they create, goes the

argument, may in the long term lead to private and public benefits in the form of technological innovation and global warming mitigation. Hence, the Stern Review helped supporters of tighter emissions trading policies to "back up their rhetoric against objections from business" (interview). It should be noted, however, that neither Stern nor auctioning represents a big topic in the broader public debate. Both issues are confined to smaller circles of experts and interested people because they require a certain amount of preliminary knowledge and economic understanding. Nevertheless, Stern helped to inform elites of the economic necessity of tighter climate policies.

The key findings of the IPCC report, in contrast, were recognised by broader circles of society (interview). The publication in April 2007 was a big event in itself and the resulting media coverage in Germany was substantial. As Grundmann (2007) argues the German press tends to pay relatively high attention to IPCC reports when compared to other countries such as the US. This is even more true for the fourth assessment report, which resulted in an unusually extensive coverage by German media. In addition, the publication of the fourth assessment report mattered as a focusing event in a more subtle way—by establishing a scientific link between climate change and recent "natural" events such as Hurricane Katrina. Natural disasters very powerfully focus public attention on the vulnerability of human society and the importance of preventative environmental policies (Birkland, 1997). In linking natural disasters of the recent past with global warming, the fourth IPCC report contributed to the public's perception of climate change as a truly pressing problem.

Al Gore's movie "An inconvenient truth" also contributed to increased global warming awareness (interview). The movie was released in German cinemas in October 2006, but in contrast to Stern and IPCC, the content is framed in non-technical, very accessible terms. Many viewers were moved by the cartoon scene in which a polar bear drowned in the Arctic because all the ice had melted. Charismatic mega fauna is widely known as being a high-impact, emotional messenger of environmental issues. This links to a recent phenomenon in the German public debate on climate change: Knut the polar bear.

Born shortly before Christmas 2006 in the Berlin Zoo, Knut quickly came to embody an international symbol of climate change vulnerability. The German environment minister Sigmar Gabriel claimed that there is "no other animal that better symbolises global warming" (cited in Guardian, 2007). In a very emotional way Knut combined the two issues of global warming and animal rights. Such issue linkage can provide significant opportunities for policy entrepreneurs (Howlett, 1998). According to Kingdon (1984, p. 173) the key element in conflict expansion is the way an issue is framed. Following this logic, environmentalists used Knut to expand the reach of global warming to the controversy on animal rights.

It is difficult, however, to assess Knut's specific influence on German climate policy. As noted above, emissions trading is an expert instrument whose connection to global warming mitigation is not widely understood. It is likely, however, that Knut contributed to facilitating tougher climate regulations by elevating the problem on the public's agenda. Even if it sounds cynical in the light of humanitarian climate catastrophes such as Darfur and New Orleans: for the animal-loving German public, cute Knut became the key courier of "a stern review".

The influence of Stern, IPCC, Gore, Knut, and others culminated in a peak of general global warming awareness in the first half of 2007. When asked in March to name the nation's most pressing problem, 16% of all Germans expressed their concern about climate change (Politbarometer, 2007, see Fig. 1). This is second after the all-time top issue in German politics, namely unemployment. After a temporary downturn in April and May, climate

change became the second most-important political issue again in June. Both peaks correspond with developments in the political stream discussed below: the German EU Presidency secured an important climate policy deal in March and in June the 2007 G8 summit in Germany put climate change on the top of its agenda.

Although this temporary climax in public attention is remarkable, it stays in line with longer-term trends in German *Umweltbewusstsein* (environmental awareness). A national survey conducted on behalf of the Environment Ministry in 2006 revealed that a grand majority of 67% want the country to take a leading role in international climate policy (BMU, 2006, see Fig. 2). This is a substantial increase compared to the past (2002: 47%, 2004: 56%). In summary, this suggests that seldom before did climate change appear that high on the public agenda in Germany. One could argue that global warming awareness was pushed beyond a tipping point, creating favourable conditions for climate policy entrepreneurs.

4.2. Policy stream

When a problem is identified, the search for a solution begins. Out of the many ideas floating in the “policy primeval soup” (Kingdon, 1984, pp. 19, 121–131) the ones that are technically and financially feasible swim to the top. As Europe’s most important instrument to efficiently induce greenhouse gas abatement,

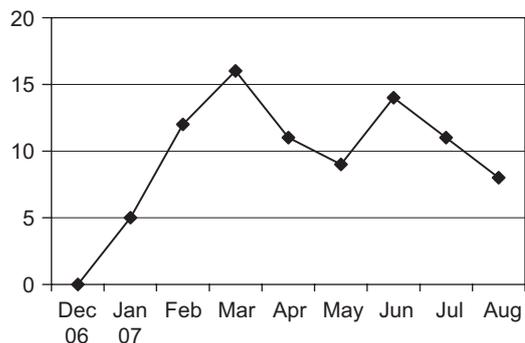


Fig. 1. Percentage of voters who consider climate change as most important problem (source: Politbarometer, 2007, several issues).

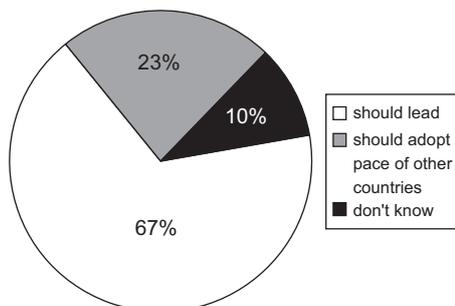


Fig. 2. Voters' preference for Germany's role in international climate policy (source: BMU, 2006).

tougher emissions trading policies quickly floated to the top of the agenda. It is difficult to say, however, when exactly the idea of auctioning first entered the “soup”. Kingdon (1984, p. 77) cites one of his (US) respondents saying “This is not like a river. There is no point of origin”. What interviewees could identify, however, was what the main instrument-related reasons in favour of auctioning were: political economy considerations and public concern about windfall profits.

Grandfathering leads to increased lobbying activities because emission allowances, which have a monetary value, are given out for free. Who does not want to have as much as possible from something which is gratis but precious? German industry very successfully lobbied for an overgenerous allocation of emission allowances in phase I (Ellerman and Buchner, 2006). This was partly possible due to resource dependencies between government and industry. Since the latter holds necessary information such as technology specifications and emissions data, the government is dependent on its cooperation. Producers, however, have an economic incentive to inflate their emission numbers as well as their compliance costs because that may augment allocation quantity (Bailey et al., 2002). When producers have to pay for permits, however, they will use the information they hold and only buy as many certificates as they need. Thus, auctioning could make the allocation process more transparent and efficient (Hepburn et al., 2006).

A possibility to introduce auctioning in the allocation process opened when the Commission rejected Germany's NAP II on the grounds that it was overgenerous again. Following the logic “new cap, new plan” the Government sought to “guard its face by abandoning the old draft of the allocation law and opening a new debate” (interview). Proponents of auctioning seized this opportunity. Kingdon (1984, p. 179) calls these people “policy-entrepreneurs”, people “who are trying to advocate change are like surfers waiting for the big wave”. The spur-of-the-moment renegotiation of the *Zuteilungsgesetz* was their “big wave”.

However, as one interviewee pointed out, politicians find little vote payoff in those rather technical issues. The expert question of auctioning vs. grandfathering promises “a lot of debate and little public reward” (interview) and was therefore not sufficient on its own to overcome industry resistance. This suggests that in order to increase the political acceptability of a new allocation method, more popular arguments than transparency considerations were needed. The significant income emissions trading created for the power sector represented such an issue of considerable public attention.

The large windfall profits generated by grandfathering turn out to be a major political argument in favour of auctioning (interview). It is estimated that between 2005 and 2007 the windfall profits of German power producers accrue to €5 billion yearly (FAZ, 2007). Although all emission permits are allocated for free in phase I, utilities managed to raise the price for electricity. Industry spokesmen put forward the “cost” of emission allowances as one reason for soaring prices. Including emission allowances in price calculation makes economic sense because they do represent an opportunity cost (Tietenberg, 2006). The sector's ability, however, to entirely pass on those “costs” to consumers hints to oligopolistic structures. Indeed, the German market authority as well as the EU Commission maintains cartel investigations against German power companies.

As a result of the sector's huge profits and simultaneously raising electricity prices, power utilities fell in public disgrace. The industry's bad image made it highly unpopular for politicians to safeguard their interests. Instead, it became “politically opportune to beat down on energy corporations” (interview). Hence, one major reason the idea of auctioning became politically accepted was not because it strengthens economic incentives for CO₂

abatement but because it recovers windfall profits from the despised energy cartel.

4.3. Political stream

In early 2007 conditions in the problem and policy stream were favourable for a change on allocation method and quantity. This alone, however, is not sufficient to initiate policy change. According to Kingdon (1984) a policy stream can be triggered to converge with a problem stream by a change in the political stream. For instance, institutionalised procedural events may initiate such a development. In contrast to Baumgartner and Jones (1993) who describe agenda-setting as a purely random process, Kingdon (1984) allows for the existence of “institutional windows” such as elections or periodical rotations in governing bodies. Interviewees identified two important institutionalised windows in the political stream: Germany’s EU Presidency in the first half of 2007 and the Heiligendamm G8 summit in June.

A first institutional window opened when Germany took over the rotating Presidency of the Council of the European Union from Finland in January 2007. When German Chancellor Merkel led Europe to adopt the ambitious “3*20 deal” of March, not every Member State was convinced of the targets’ necessity: by 2020, union-wide CO₂ emissions shall fall by 20% (compared to 1990 levels), energy efficiency shall rise by 20%, and the share of renewable energy sources shall go up to 20% (CEU, 2007). Since it held the Presidency, Germany was in charge of bringing the divergent interests to agree on this ambitious plan. Obviously, a “lax position on national climate policy would have damaged the Presidency’s credibility” (interview). This finding is in accordance with Wurzel (1996) who contends that the EU Presidency exerts a substantial influence on Member States’ environmental policy and behaviour. Yet, in early 2007, the German Ministry for the Economy in particular was still at unease with NAP II negotiations and the Commission’s demands to budget on the cap. As one ministry official put it: “Had we not had the Presidency we would have gone to court against the Commission” (interview). To maintain her credibility, however, the Chancellor “held the BMWi on a short leash” (interview) and accepted the lower cap. In addition, it needs to be pointed out that Ms. Merkel is the first German Chancellor ever who also served as an Environment Minister and, as a trained physicist, probably has a good understanding of climate change and related threats. All factors combined helped to open the door for more progressive climate policies where the introduction of auctioning can be seen as yet another mean to demonstrate leadership. In this process, the Parliament played a crucial part.

When the *Bundestag*, the German parliament, started to debate the Government’s draft of the *Zuteilungsgesetz* in June, a significant target for auctioning had not yet been included. The Parliament, however, supported the idea of auctioning. Aside from considering this a mere reaction to encouraging conditions in the problem and policy stream, political considerations play a role in here. First, there is a “tendency that the Parliament pushes environmental legislation more strongly than the Government” does (interview). More often than not, government serves as a patron of privileged producer interests where the major corporatist actors share the common goal of unchallenged economic expansion (Hukkinen, 1995). The Parliament, in contrast, is less exposed to industry lobbying and tends to support environmental regulations. The first half of 2007 was an opportune moment to stand up against the government, also because it was half way between the prior (2005) and the next general elections (2009). This is usually the time when “parliaments wish to place their own political fragrance”, as one interviewee put it. Second, policy-

making in Europe is characterised by multi-level governance structures, which tend to impede the sovereignty of national parliaments (Knill and Lenschow, 2000). At times, national parliaments consider themselves neglected in the EU policy process and a “mere secretary who just has to sign the law on the dotted line” (interview). Hence, the Parliament saw the inclusion of auctioning as an “opportunity to give the draft an individual touch” (interview) in the interplay of Commission, Government, and Parliament.

The G8 summit of June 2007 represents a second occasion when German climate policy became exposed to international scrutiny (interview). As host of the Heiligendamm summit, Germany put climate change on top of the agenda. The national mood was such that Merkel’s domestic popularity could gain from reaching a relevant agreement on global climate policy. Yet, some participants, in particular the US, did not share the host’s opinion that a global emission trading regime with fixed caps must be established in order to combat climate change. Thus, similarly to Germany’s role in prior EU climate negotiations, the Government was encouraged to demonstrate international leadership by supporting tougher climate policies at home.

Overall, the influence of these international political events on domestic politics should not be underestimated. A Government report of July 2007 directly links the EU Presidency, the G8 summit, and national efforts to further tighten the emissions trading regime (Kanzleramt, 2007). By focusing on climate change these international high-profile events encouraged a “powerful comeback of environmental policy in German politics” (interview). One major profiteer of this development was the Ministry for the Environment itself.

There exists a classic rivalry between economic and environmental interests and the ministries that safeguard them. The administrative fragmentation within government reinforces a special-interest approach to public policy in which each ministry tends to act as a sponsor of the key stakeholders within its policy domain (Marsh and Rhodes, 1992). Usually the Ministry for the Economy (BMW_i) dominates in this struggle. Interviewees, however, identified two processes in the political stream, which allowed the Environment Ministry (BMU) to temporarily surpass the BMW_i in domestic politics.

First, a “vertical” issue shift onto the EU level raised the BMU’s political profile. As one interviewee emphasised, this process can be well captured by the notion of “venue shopping” (Baumgartner and Jones, 1993). Radical policy change often occurs when actors succeed in shifting debates to new venues, which are prone to different arguments than the venue that originally dealt with the issue. Baumgartner and Jones (1993) focus on venues within the US, but a similar argument can be made about the choice between national and European institutions (Princen, 2007). This suggests that the BMU may have sought to shift the debate on auctioning from the national to the more favourable European (or even global, see G8 above) level. And indeed, in an informal EU meeting Environment Minister Gabriel argued that if “you really take this instrument seriously you have to auction 100% [of allowances] at some point in time” (ENDS, 2007).

Second, a “horizontal” issue shift occurred when the BMU used the Presidency to “expand the reach of climate policy into the BMW_i-sphere of industrial policy via the notion of ecological industrial policy” (interview). In February 2007 the European Parliament published a strategy paper advocating the establishment of a “green hydrogen economy and a third industrial revolution in Europe” including a “decentralised bottom-up hydrogen infrastructure” (EUP, 2007, p. 2). Similarly, under the German Presidency the Council of European Environment Ministers discussed in its June 2007 meeting the “Elements of a European Ecological Industrial Policy” concluding that “nothing

less than a third industrial revolution" is needed (BMU, 2007a, p. 18).¹ By reframing climate policy in terms of innovation and industrial policy and by highlighting the growth potential embedded in this "third industrial revolution" the BMU successfully "took the wind out of the BMWi's sail" (interview) and gave tougher climate regulations higher political acceptability, even within business circles.

4.4. Explanatory shortcomings

The previous discussion suggests that the multiple streams approach, by and large, provides a good framework for analysing Germany's sudden policy change in regard to auctioning. At the same time, however, interviewees highlighted important factors that could not be predicted by Kingdon's theory. The degree to which this is applicable varies considerably from stream to stream. Whereas findings in the problem stream largely confirm the theory, several factors in the policy and, to an even larger extent, in the political stream, were only partly captured.

First, the impact of multi-level games on national politics, in particular within the European Union, is underrepresented in Kingdon's model. This is not surprising, as it was developed in a US context where relevant multi-level governance structures beyond the nation state are absent. Nevertheless, Richardson (1996) contends that Kingdon's primeval soup well matches EU agenda-setting with its many actors, levels, and ideas. This, however, refers to the emergence of ideas in the EU's policy stream. The national political stream and the influence of EU institutions on it are overlooked by this notion. For instance, the finding that the German Parliament's attempt to demonstrate sovereignty vis-à-vis EU Parliament and Commission was a driver for policy change cannot be predicted by Kingdon's theory.

Second, some interviewees stressed the notion of learning for explaining the policy shift towards auctioning. Both (Sabatier, 1988; Hall, 1993) argue that policy change is dependent on a process of social learning by government, business, and wider society. In understanding policy change, analysts also need to focus on elite opinion and the factors that encourage shifts in belief systems over long periods of time. Kingdon's theory, however, lacks a distinctive consideration of learning processes. It does not pay sufficient attention to the way previous policies affect current debates and, ultimately, instrument choice. As a result, it has been criticised as being "ahistorical" (Weir, 1992).

Third, with its emphasis on ideas and their role in agenda-setting, Kingdon's model probably underestimates the importance of interests and networks. Especially in connection with policy-oriented learning, networks of experts contribute to agenda-setting and policy change (Bennett and Howlett, 1992). "Epistemic communities" (Haas, 1992), for example, exert substantial influence on policy choice, especially during the establishment of climate regimes where the issue's complex nature requires specific expertise and knowledge (Boehmer-Christiansen, 2002). Zahariadis and Allen (1995) seek to ameliorate this deficiency in Kingdon's theory by focusing on the structure of networks in the policy stream and their effect on the trajectory of ideas.

¹ It is interesting to note that although both publications draw on the ideas and language of Jeremy Rifkin's (2002) "The Hydrogen Economy" neither cite this source. Terms such as "third industrial revolution" and "decentralised bottom-up hydrogen infrastructure", however, clearly hint to his handwriting. Moreover, news sources report that Rifkin himself delivered a key note presentation at the EU Environment Ministers' meeting (BMU, 2007b) and gave advice to the European Parliament's Committee on Industry, Research and Energy (Euractive, 2005).

5. Conclusion

Summing up, it can be argued that Kingdon's theory of multiple streams accurately captures several processes which contributed to the radical change in Germany's position on emissions trading.

First, the analysis of the problem stream revealed that the climate issue was unusually high on the national and international public agenda during the first half of 2007. Several focusing events and scientific publications fall in this time. The temporal culmination of these attention-drawing factors led to a peak in public perception of climate change as a pressing problem.

Second, a window opened in the policy stream when modifications of allocation quantity and method were renegotiated by the Government. Evidence was found that policy entrepreneurs seized this opportunity to bring the idea of auctioning into the debate. In particular, the avoidance of windfall profits could be used as an argument in support of auctioning.

Third, the high-profile events of the German EU Presidency and the G8 summit in Heiligendamm opened an institutional window in the political stream. The national mood was such that the introduction of tougher climate regulations became politically advantageous.

At the same time, however, interviewees emphasised causal relationships the framework is less able to capture, most notably the role of multi-level governance structures, learning processes, and the influence of networks. The lack of several potentially insightful perspectives in the framework recommends the employment of more than one analytical model. This finding is in line with Cairney (2007) who argues that studies which rely on several frameworks give a more complete explanation of policy change and its drivers. Needless to say that the enhanced explanatory power of a "multi-lenses" (Cairney, 2007) approach may, on the downside, increase the complexity of the analysis. Nevertheless, Kingdon's model represents a powerful framework and its fruitful combination and extension with other potentially insightful analytical approaches promises to be an interesting area for further research and debate.

Appendix. Interviewees

Name	Organisation	Date
1 Christoph Bals	Germanwatch	20.08.07
2 Hans-Josef Fell	Member of Parliament (Green Party)	16.08.07
3 Eric Heymann	Deutsche Bank Research	31.07.07
4 Klaus Jacob	Environmental Policy Research Centre, FU Berlin	24.07.07
5 Felix Matthes	Öko-Institut	23.08.07
6 Martin Ruhberg	VDEW (Association of German Energy Producers)	25.07.07
7 Reinhard Schultz	Member of Parliament (Social Democratic Party)	23.08.07
8 Matthias Seiche	BUND (Friends of the Earth Germany)	08.08.07
9 Erich Wallenwein	Federal Ministry for the Economy	06.08.07
10 Dirk Weinreich	Federal Ministry for the Environment	21.08.07

All interviews were conducted by phone.

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