

Stakeholder participation in the policy process: What are the effects on the implementation of policy instruments?

Kerstin Åstrand

Environmental and Energy Systems Studies
Lund Institute of Technology, Lund University
Gerdagatan 13, SE-223 62 LUND, Sweden
Kerstin.Astrand@miljo.lth.se

Joakim Nordqvist

Environmental and Energy Systems Studies
Lund Institute of Technology, Lund University
Joakim.Nordqvist@miljo.lth.se

Jamil Khan

Environmental and Energy Systems Studies
Lund Institute of Technology, Lund University
Jamil.Khan@miljo.lth.se

Keywords

Policy instruments, implementation, policy formation, stakeholder participation, decision making, policy process, energy efficiency, renewable energy

Abstract

The objective of this paper is to contribute to the understanding of how to study problems that appear in the implementation of policy instruments related to energy efficiency and renewable energy. The focus is on the participation of different stakeholder groups in the policy formation phase, and the significance this has on implementation. A central argument is that it is essential to analyse who participates and what participation looks like, in order to understand later challenges during implementation. In the paper, different aspects of the nature and degree of stakeholder participation in policy formation are discussed. The paper has a mainly theoretical perspective, though examples from ongoing empirical research on the formation and implementation of policy instruments in Sweden are referred to. It is shown that a lack of participation in policy formation can lead to problems both in the implementation of policy instruments and in the realisation of stated policy goals. It is essential to study who participates in policy formation and to analyse power relations between actors. The results show, however, that it is equally important to ask who does not participate and analyse the consequences on policy implementation of non-participation. The paper ends with a short discussion about important issues concerning further research on the topic.

Introduction

Various policy instruments are today being employed by governments world-wide in order to support energy efficiency measures and the increased adoption of renewable energy technologies. In implementation there can be unforeseen or neglected problems, which affect the effectiveness of policy intervention and jeopardize stakeholder support for energy efficiency and renewable energy production.

The objective of this paper is to contribute to the understanding of how to study problems that appear in the implementation of policy instruments. The focus is on the participation of different stakeholder groups in the policy formation phase, and the significance this has for implementation. A central argument is that it is essential to analyse who participates and what participation looks like, in order to understand later challenges during implementation. In the paper different aspects of the nature and degree of stakeholder participation in policy formation are discussed.

The paper has a mainly theoretical perspective and the aim is to discuss questions of general interest for implementation of energy policies. However, examples from ongoing empirical research on the formation and implementation of policy instruments in Sweden will be used, in order to illustrate the arguments.

Public policy as a process

Public policy is often referred to as means and ends; i.e. the course of action and goals (Hill and Hupe, 2002). Public policy can be defined as one or more ideas and the institutional arrangements that are undertaken to turn the ideas into action. From this perspective, policy instruments are tech-

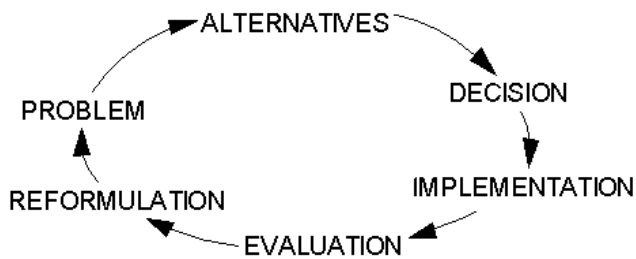


Figure 1. The model illustrates a simplified way of addressing policy process phases. Adopted from Premfors (1989).

niques for implementation of public policy objectives (Howlett, 1991). Within public policy studies it has become common to think about how a problem is politically dealt with, in terms of e.g. stages or cycle. A simplified model could look like the one in Figure 1.

This approach has been widely criticised for neglecting ‘non-rational’ aspects of policy making as well as the interaction and connection between phases in policy making (Parsons, 1995; Hill, 1997). Despite the criticism, the rational model, as presented in Figure 1, remains a useful model since it is a systematic way of studying a complex phenomenon (Parsons, 1995; Hill and Hupe, 2002). In this paper, the complexity and interaction between the stages of the policy process are recognized as well as the analytical benefits of the stage model. Consequently, a less mechanistic definition of policy instruments is applied: “Public policy instruments are the set of techniques by which governmental authorities wield their power in attempting to ensure support and effect or prevent social change” (Vedung, 1998).

The focus of this paper is on one particular aspect of the policy process: stakeholder participation in policy formation and the significance this has on the implementation of policy instruments. Below follows a short discussion on the concepts of policy formation, implementation and stakeholder participation which will serve as a background for the main discussion of the paper.

POLICY FORMATION

The policy process as a whole is understood as a process where decisions on the policy are continually made and the policy continues to be shaped over time. This approach makes it possible to distinguish between policy formation as an “early” sub-process of policy making, and implementation as a “late” sub-process of policy making (Hill and Hupe, 2002). Policy formation is the phase where problems are identified and put on the agenda, alternatives are discussed, a policy is formulated, a decision to take or not to take action is made and policy instruments are chosen and designed. Here, it is the last aspects of policy formation that is the primary focus: decisions concerning the selection and design of policy instruments.

Policy formation can also be understood as a combination of formulation and decision making; seen as interplay between intellectual cognition and social interaction between different actors in the sub-processes of policy formation (Hill and Hupe, 2002). Such a definition can, to some extent,

explain the sometimes ambiguous character of policy that has been implemented (ibid.). Or as Bemelmans-Videc (1998) points out; policy objectives are often deliberately symbolic and easy to agree upon, whereas choice of instruments is where the ideological and political controversies emerge. Some theorists see the policy process in terms of a bargaining process where different actors compete and cooperate in order to influence policy to their liking (Hill, 1997). Conflicts and controversies in the formation phase may explain some of the problems that can occur during the implementation phase. This in turn may jeopardize the effectiveness of policy interventions and their impact on energy system transformation.

Much research in the field has dealt with the basic question of what factors influence governments to choose certain policy instruments and reject others (Howlett, 1991). Though this is a central question for advancing the understanding of policy formation, the focus of this paper is, however, the participation of different stakeholders in the formation phase.

IMPLEMENTATION

In implementation research the rational model of the public policy process is represented by the top-down approach. The original point of departure for the top-down approach is the observation that policy outcome often tends to deviate from policy objectives due to problems in the implementation phase (Pressman and Wildavsky, 1973). Research focus thus lies on how to establish an efficient organisation, and line of command, for implementation in order to smoothly carry through policy goals that have been decided in the policy making process. The top-down approach has been criticised of being simplistic and often descriptively inaccurate. Policy decisions can, for example, be modified considerably during implementation, and implementation can even precede policy formulation and in some cases generate new policy (Sabatier, 1999; Barrett, 2004). In the alternative bottom-up approach the main unit of analysis is actual implementation at the local level, and there is a focus on the capacities of other actors than formal decision makers – such as ‘street-level bureaucrats’ (Lipsky, 1980), target groups and private organisations – to modify or create policy in the implementation phase. Clearly stated policy objectives are not seen as essential for policy implementation and it is seen as an empirical question whether formal policy decisions actually have any significant role for implementation (Parsons, 1995; Hill, 1997). Hill (1997) argues that a mix of the two methodological approaches is often desirable, but that the nature of the policy issue in question – e.g. whether the goals are clearly stated or vague – determines which of the approaches is more appropriate.

STAKEHOLDER PARTICIPATION

The rational model of the policy process has been criticised for neglecting actors other than the formal decision-makers and underestimating the strategies used by, for example target groups, to affect policy and maybe divert them into their own purpose (Sabatier, 1986). Within political science there are different approaches to actor participation in the policy process. Here, two different approaches are briefly discussed.

Sabatier has suggested ‘policy subsystems’ as one way of thinking about the policy process and actor involvement. A policy subsystem is composed of those actors involved with a policy problem – such as interest groups, academics, elected politicians, journalists etc. – and not only formal decisions-makers (Parsons, 1995). These actors form different “advocacy coalitions”, that can be distinguished from each other by their beliefs and resources (Sabatier and Jenkins-Smith, 1993). Sabatier’s model emphasises that elite opinion rather than public opinion forms the policy process; e.g. which problems that are addressed and how.

Another way of studying the same phenomena is the network approach, and the closely related policy community approach (Parsons, 1995). A policy network is described by informal aspects of policy making – its actors, its boundaries and actor linkages. Policy decisions are shaped by informal contacts, relationship and dependencies as opposed to formal policy-making between organisations and institutions (Parsons, 1995). Kenis and Schneider (1991) state that: “Policy networks typically deal with policy problems which involve complex political, economic and technical task and resource inter-dependencies, and therefore presupposes a significant amount of expertise and other specialised and dispersed policy resources”. Hence, this approach does not necessarily see policy formation as a broad participatory process.

The findings and claims of the above mentioned approaches highlight the importance of power relations between different actors in the policy formation process. The approaches also raise important questions about the democratic qualities of present day policy making processes, which however is outside the focus of this paper.

The importance of stakeholder participation

The main argument of this paper is that the nature and degree of stakeholder participation in policy formation has a significant bearing on the implementation and outcome of policy instruments. The importance of participation can be manifested in many different ways and the intention of this

paper is not to present a comprehensive model of the phenomena. Instead the objective is to initiate a research interest in this important issue, by discussing how stakeholder participation in policy formation has influenced implementation in two empirical cases. The cases come from Sweden and concern policy instruments for the support of heat pumps and wind power, see Box 1 for an overview of the main policy instruments in question.

HEAT PUMPS: EXCLUSION OF RELEVANT STAKEHOLDERS

The *Heat pump investment-support programme* is an example of a case where relevant stakeholders, i.e. technical and policy experts (at e.g. the Council for Building Research) and serious market representatives, were excluded from the policy formation process. As a result, important knowledge held by these stakeholders was not considered in the design of the policy instrument used. This contributed to policy outcomes that were contrary to the goals of the programme.

The background of the programme, which was implemented in 1984, was that a new political majority started a general phasing out of existing market-support programmes specifically addressing residential energy use. The purpose was to change focus to other policy instruments that instead targeted the public-housing and commercial building sectors and which stimulated the construction industry. The 1984 heat-pump programme’s primary official objective was to contribute to the segment’s long-term development (in terms of production, business and labour) by stimulating short-term heat-pump capacity utilisation (Engebeck and Zingmark, 1987). No quantitative objectives were set; the effort was seen as a symbolic way to terminate, as a policy instrument, subsidies of small private investments. This type of instrument had been used since 1974 in order to encourage savings in residential energy use and to reduce national oil dependency. From 1978 and onwards it had also contributed to the establishment of a Swedish market for residential heat pumps. Under the programme, an investment subsidy of 10-15% was granted to all, who during the twelve months of 1984 ordered eligible heat-pump installations¹, and who came in with a proper application. The size of the

Box 1. Overview of programmes and policy instruments implemented for stimulation of heat pump and wind power development in Sweden 1975-2005

Heat-pump related programmes

Various energy research programmes (RD&D), 1975-
 Energy Savings Programme (investment subsidies), 1978-1983
 Heat Pump Investment-Support Programme (investment subsidies), 1984
 Energy Prototype and Demonstration Programme (municipal energy guidance training and dissemination of information), from 1979 to mid 1980s
 Energy Efficiency Programme (technology procurements), 1990-91, 1992-93, 1993-95
 Energy Transition Programme (investment subsidies), 1998-99, 2001-03

Wind-policy related programmes

Wind Energy Research Programme (RD&D), 1975-
 Energy Technology Fund (RD&D), 1988-
 Technology procurement, 1995-96
 Investment subsidies, 1991-96, 1998-2002
 Environmental bonus (production grant), 1994-2009
 Temporary support for small-scale electricity producers (production grant), 2000
 Green certificate trading scheme (production grant), 2003-

1. Exhaust ventilation-air heat pumps, e.g., were not eligible for support, since this technology was considered to be competitive already, as well as part of a different market niche.

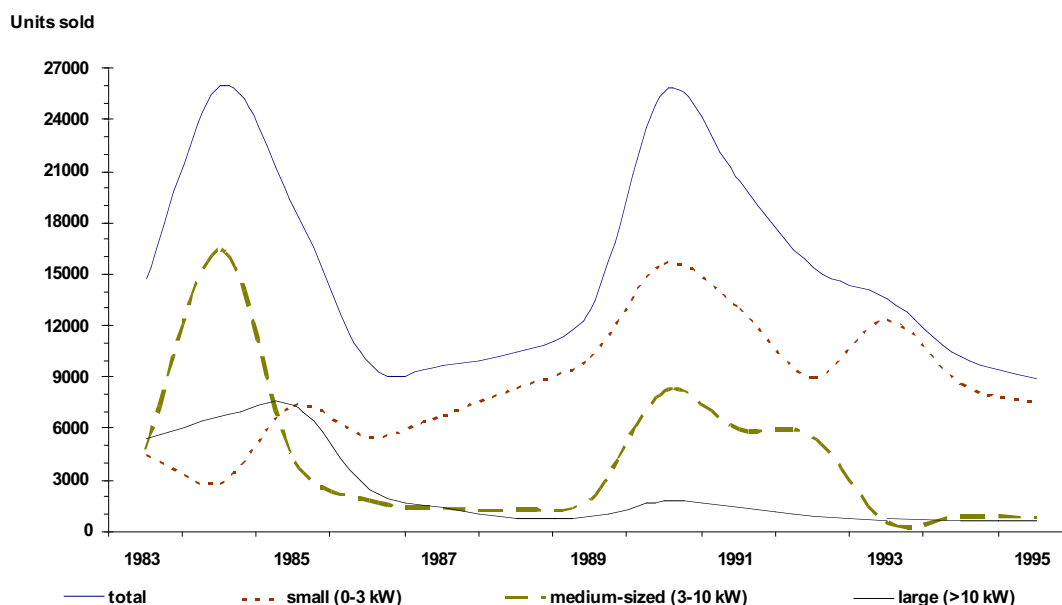


Figure 2. Heat pump sales in Sweden, 1983–1995. Source: Data provided by SVEP (the Swedish Heat Pump Association) 2005.

support was similar to subsidy levels in the preceding *Energy savings programme*. The main differences between the 1984 programme and the earlier programme was that (i) the new scheme was only directed at heat pump installations (no other residential energy saving measures were eligible for support) and (ii) it was clearly announced that this programme represented the “last chance” of receiving support from public funds for private house-owners who wanted to invest in the energy performance of their homes. The programme resulted in a sharp peak in the sales of heat pumps in 1984, as shown by Figure 2.

After 1984, effects of the programme included technical problems and malfunctions due to cases of installations of poorly designed systems, contributing in turn to failing public confidence in the technology. Dwindling sales forced large numbers of manufacturers and retailers to withdraw from the market, leaving customers whose installations required service or maintenance without support from their suppliers (Florin, 1987). In 1986, the Swedish Competition Authority performed a study of the heat pump market (SPK, 1986) and concluded that the sector suffered from over-establishment causing problems with deteriorating profitability. This description was given, notwithstanding the account also of the decreasing number of actors: out of some 100–120 suppliers/retailers in the early 1980s (including many small entrepreneurial engineering enterprises), it was estimated that less than 50 remained in 1986. Membership numbers of SVEP, the Swedish Heat Pump Association, fell from over 50 companies in 1984 to 35 in 1986, and employment in the sector changed drastically from over 3 000 people in 1983 and more than 5 000 in 1984 to less than 2 000

only two years later (SPK, 1986; Florin, 1987). The turnover in the retrofit segment (3–10 kW) also changed drastically over the three years from 1983 to 1985: from 80 MSEK to 285 MSEK and back to 100 MSEK – with a continued estimated decrease, according to SVEP, by 70% between 1985 and 1986 (Florin, 1987). This sharply accentuated roller-coaster development can largely be attributed to the 1984 heat-pump programme, which was designed in a way that both encouraged new customer groups and shifted incentives for the timing of future installations (effectively concentrating them to a short interval in time) – to the detriment of many market actors as well as the development and reputation of heat-pump technology for years to come.

A second sales peak that occurred in 1990 (cf. Figure 2) came about without direct policy stimulus. Neither can it be seen as a positive long-term effect of the 1984 heat-pump programme. For one thing, sales figures soon collapsed again. Moreover and more importantly, the boom of the early 1990s involved neither the technologies nor the development of domestic industry, which were both regarded as beneficiaries of the 1984 programme. Whereas the bulk of installations in 1984 consisted of medium-sized heat-pump equipment fitted in Sweden with hydronic distribution systems, the major share of 1990 installations (exhaust ventilation-air units excluded) was taken up by wholly imported air-to-air systems (so-called “convenience heat pumps”) in the size ranges small to medium. See Figure 3. It wasn’t until the latter part of the 1990s that the initially targeted market for heat pumps with hydronic distribution systems actually started to recover.²

2. In 2004, more than 66 000 heat pumps were sold in Sweden. Out of these, almost 60% (more than 39 000 units) were closed-circuit-fluid-to-water pumps, and almost 9% (or some 6 000 units) were air-to-water systems. In a post-crisis perspective (after 10–20 years), one can distinguish certain positive institutional learning effects of the boom-bust developments of the 1980s, such as the consolidation of market actors, the formation of a sectoral Board of Complaints, etc. (cf. Florin, 1987; Nilsson et al., 2005). However, from the perspective of the 1984 heat-pump programme’s objectives to stimulate production, business and labour, as stated at its inception, the programme, with its ensuing crisis, cannot on its own be called successful.

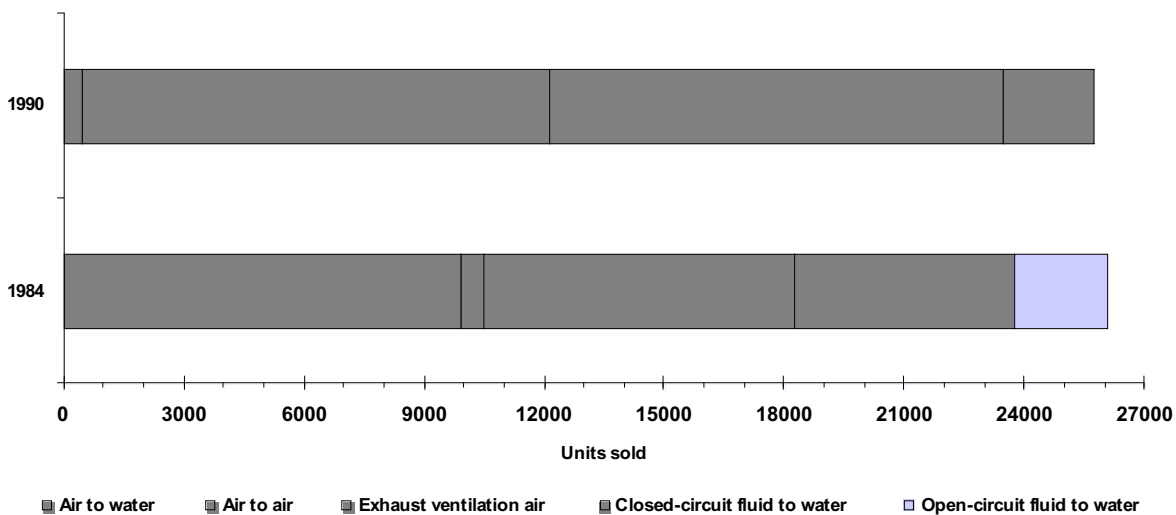


Figure 3. Heat pump sales in Sweden 1984 and 1990; by technology. Source: Data provided by SVEP (the Swedish Heat Pump Association) 2005.

The decision process for the design of the policy instrument presented here was dominated and motivated by bloc politics. It was also a closed process, in the meaning that the voices and concerns of non-political or non-ministerial stakeholders (such as branch representatives or experts on technical and market-related issues) were given less priority and influence than matters of political sense and principle. In the community of heat pump experts and stakeholders, the risks of failure attached to the deployment of market-building (or transition-management) efforts such as the one proposed and implemented through the 1984 heat pump programme were not unknown at the time. Relevant experiences existed abroad and parallels had been drawn, e.g. through observations of heat-pump market developments in the U.S. and Germany. Warnings about an impending (and, from an international perspective, reiterated) market-collapse experience occurring also in Sweden were voiced (see the quotes below), but the decision makers did not turn to these voices for advice in the policy formation phase.

“The past five years of strong efforts to support research and development have [...] given good results and these efforts have now to continue undiminished in cooperation with the industry. [...] If co-ordinated support for systems-focused follow-up and heat-pump development is not given in the second half of the 1980s, however, this may lead to the same type of consequences as were experienced in the first American introduction attempt. Long before [the oil shock in] 1973, small heat pumps were broadly introduced on the American market. Problems with operation, management and durability became so extensive, however, that the whole technology fell into disrepute and disappeared. It didn’t recover until the end of the 70s. A similar, though less pronounced development is now occurring in West Germany.” (BFR, 1982, p. 40 [translated from Swedish].) This quote shows that foreign boom-bust developments on nascent heat-pump markets were known and considered to be a risk also under Swedish conditions lest properly designed policies were applied. It

was published in the same year as the entry into office of the new government that later initiated the energy policy reforms, of which the 1984 heat-pump programme was part.

“There is currently a risk that the number of [heat-pump] units increases faster than the collective heat-pump expertise within the country. During a period there may therefore occur a significant number of ‘less successful’ installations. As a consequence, the entire technology might suffer from disrepute, from which it would take several years to recover.” (Olofsdotter-Jönsson, 1984, p. 158 [translated from Swedish].) Here almost prophetic concerns, written at the time of the 1984 heat-pump programme’s design and inception, are clearly voiced.

“In order not to risk that the past few years of increasing interest in the heat-pump alternative will develop into the same kind of backlash as occurred on the U.S. market during the 1950s, the Council for Building Research thinks it important that [...] efforts for the promotion of a healthy market development be increased.” (Lindberg, 1984, p. 50 [translated from Swedish].)

Although the 1984 heat-pump programme might not in itself have caused the problems that the industry later had to face in the mid- to late 1980s, it undoubtedly aggravated them by effectively over-heating the market before rapidly freezing it. Like unhardened glass it cracked, not surprisingly, from the treatment. In a rational analysis framework, it must be concluded that the programme effectively counteracted its own stated objectives. The discrepancy between policy objectives and outcome cannot in this case be explained by problems in the implementation phase, however, as the programme as such was executed without major difficulties. An explanation is found instead in a participatory analysis of the policy-formation process. It seems evident that initiated stakeholders of value to the process (as judged

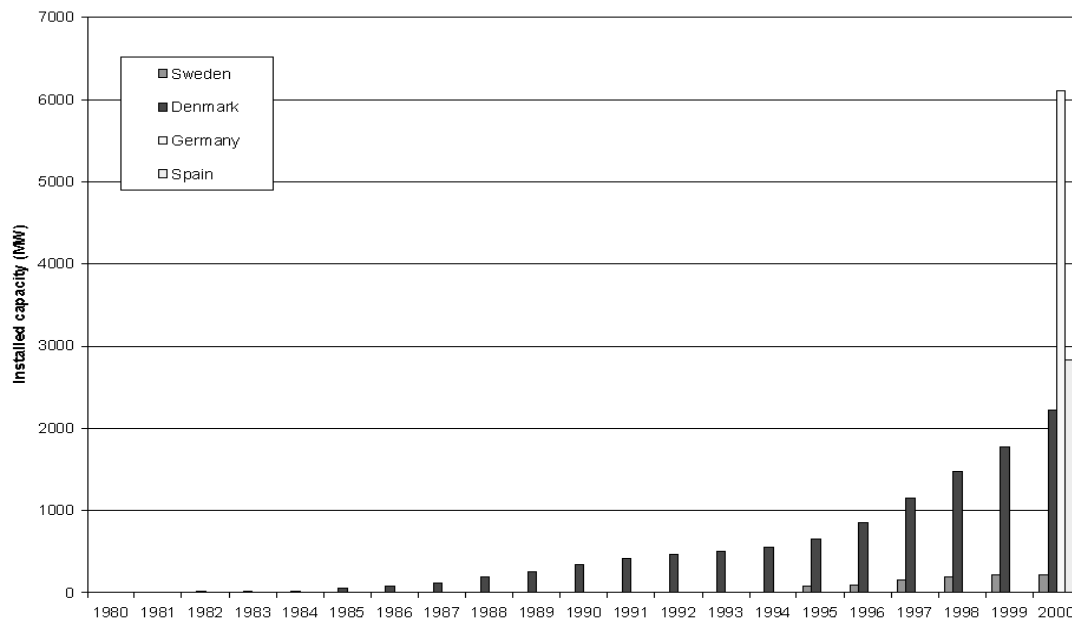


Figure 4. The total installed capacity in Sweden, Denmark, Germany and Spain between 1980 and 2000. The total installed capacity in Sweden increased from 8 MW in 1990 to 345 MW in 2002, much thanks to the investment and production subsidies. This can be compared to the 14 612 MW installed in Germany by 2003, to the 6 420 MW installed in Spain, and to the 3 076 MW in Denmark. Almost all turbines installed in Sweden, were commercially produced, medium sized, three-bladed turbines from Danish manufacturers.

from a perspective where the formal objectives were a priority) were deliberately excluded. The expertise called for co-ordinated efforts and cautioned against over-stimulating the market, but still the decision-makers designed the policy instrument in stark contrast to such inputs. Another approach, open to the existence of 'non-rationalities', allows for the acknowledgment of a possible division between the symbolic (and uncontroversial) formal programme objectives on the one hand and, on the other, the ideological and more contested purpose: namely to redirect public spending away from established beneficiaries onto new recipient groups. In a context where such informal objectives had priority over formulated and formal ones, the programme as it was implemented makes better sense than it would have if heat-pump stakeholders had been given influence over the policy-formation process. Thus, in light of the facts surrounding the inception and implementation of the 1984 heat-pump programme, it stands out as an example of a case where decision makers deliberately excluded nominally relevant stakeholders from the formation phase of policy making. The effects of the programme, including the problems it both met and caused, ought of course to be understood and evaluated accordingly.

WIND POWER: KEY STAKEHOLDERS ARE OVERLOOKED

If participation is too narrow there is a risk that key stakeholders are overlooked in policy formation, if they are not perceived by policy makers as important. An example of this is Swedish wind power policy. In an analysis of the various policy instruments used to support wind power between the years 1975 and 2000, Åstrand and Neij (2004) identify several policy instruments related factors that have contributed to the relatively modest development of wind power in Swe-

den, see Figure 4. Some of these factors are not specifically associated with stakeholder participation, e.g. that the policy measures have not been decisive enough, that they have not provided long term stability to market development, that policy instruments have not been co-ordinated well and that they have not sufficiently addressed non-economic questions, such as difficulties in the planning and siting of turbines (Åstrand and Neij, 2004).

An important part of the critique of the policy instruments is, however, directly related to stakeholder participation in the policy process. Policy formation of wind power research, development and demonstration (RD&D) programmes in Sweden has occurred in close co-operation between government authorities, research institutions and the large power utilities. With reference to the discussion above, it can be argued that these actors have formed a policy network which has managed to shape decision making in a certain direction (Parsons, 1995; Kenis and Schneider, 1991). One effect of the dominance of government authorities, research institutions and the large power utilities is that the RD&D programmes have been almost exclusively focused on developing large, two-bladed turbine technology (1 MW or more). This can be compared to the approaches in Denmark and Germany, where research on large scale technology was complemented with measures to support incremental development of smaller sized turbines (<100 kW). The early RD&D programmes were also focused on development of a certain type of market – a market development driven by the large utilities. The government wanted to place the responsibility for wind power development in the hands of the power utilities, notably Vattenfall and Sydkraft who account for 70% of electricity production in Sweden (STEV, 1985). Other relevant stakeholders, such as potential customers

outside the established utilities, were not taken into consideration in the policy programmes during the 1970s and 1980s. However, the large power companies were long reluctant to support wind power development, which instead was initially driven by smaller actors such as co-operatives and individual owners (CGM Rationell Planering et al., 1993; Åstrand and Neij, 2003). These types of stakeholders were not included in public policy instruments until the 1990s when they could apply for an investment subsidy. Again, a comparison with Denmark and Germany is revealing. In both Denmark small, private actors could apply for an investment subsidy already in 1979 and in 1989 in Germany (Neij et al., 2003). Moreover, in Denmark and Germany investment subsidies were combined with grants for power production rather early. So called feed-in laws were introduced in 1983 in Denmark and in 1990 in Germany, which guaranteed the wind power producers 85% respectively 90% of the consumer price on electricity (Neij et al., 2003). A production grant (an environmental bonus) was introduced in Sweden in 1994, which corresponded to the electricity tax for households (which was approximately 0.019 Euro per kWh in 2000) (Åstrand and Neij, 2004). In comparison to Sweden, policy instruments in both Denmark and Germany focused to a larger extent on supporting wind power per se, instead of supporting specific actors chosen by the government.

Although the wind power installation has been marginal in Sweden, the policy interventions can not be considered a failure in relation to the energy policy goals. The policy objectives for wind power have been characterised by imprecise formulations during the first two decades, establishing that wind power shall be introduced into the Swedish energy system and increase wind energy production, without articulating when and how much. In 1997 a short-term goal for the subsidy investment programme was established. The aim to increase wind power generation to 0.5 TWh per year was met in December 2002 (STEM, 2002). In 2003 a green certificate trading scheme was introduced to replace previous support schemes. The aim of is to increase the production of electricity from renewable sources by 10 TWh from 2002 to 2010.

Discussion

In the previous section, two empirical examples were discussed where stakeholder participation in policy formation had a significant influence on policy implementation. The two cases have in common that important stakeholders did not participate in the policy formation process, which had negative consequences for the implementation of the policy instruments and the possibilities to reach policy objectives.

Information and knowledge are an important aspect to consider. In the two cases, lack of participation led to policy decisions that were not optimal since important information from target groups and other relevant actors was not considered. In the heat pump case it meant that the policy instrument targeted a too wide group of actors, some of which were not qualified for the job. In the wind power case the opposite happened. In this case important actor groups were neglected during the design and combination of policy instruments. Private enterprises, partnerships, co-operatives

and share-holding companies could have contributed more to the wind power development, especially of a niche market for turbines developed in Sweden, if they had been targeted purposefully by policy instruments. Another side of the aspect of knowledge and information is the awareness that stakeholders have of the policy instrument concerning its goals as well as its design, which might influence the way they react to it in the implementation phase. Such knowledge can be expected to increase if they are actively involved during policy formation. One recent example is the green certificate system in Sweden which was launched in May 2003. The system was preceded by an extensive government study as well as a public debate, where the main stakeholders were actively involved giving their comments about the system.

Another important issue concerns *legitimacy and acceptance*. This was not salient in the two cases discussed in this paper, but is still a potentially crucial question. Legitimacy and acceptance are important aspects to consider both in the choice of policy instruments, but also in their design. Policy instruments with certain scope, targets, means etc. might influence distinct actors differently. Depending on the views, feelings and objectives of actors, policy instruments are perceived in different ways. If actors do not accept the instrument, they may turn to other behaviours than those intended by the government (Bemelmans-Vidéc, 1998). The possibilities that stakeholders will accept policy instruments in the implementation phase can be expected to be higher if they have been involved in their selection and design during policy formation. These issues are particularly important for policy instruments that involve non-mandatory actions by target groups. In Denmark, there is positive experience of the design of schemes for voluntary agreements on energy efficiency measures, where stakeholder dialogue has contributed to an increased involvement of companies and made the system flexible to continuous changes (Energistyrelsen, 1999). On the other hand some policy instruments, such as taxes and regulations, can be controversial which makes it difficult to reach a decision on them if too many actors are involved. This can mean that policy makers deliberately keep participation low during policy formation.

As discussed above, the findings in the cases show the importance of who participates. It also highlights the question of *power relations* – both among stakeholders and between stakeholders and decision makers. In the wind power case, dominant stakeholders had a strong connection to policy makers and could therefore exert substantial power over policy formation, while other stakeholders were marginalised. In the heat pump case, stakeholders in general had a weak position vis-à-vis policy makers, who could select and design policy instruments fairly independently.

One question that has not been specifically addressed in this paper is why stakeholder participation looks the way it does. Why were relevant stakeholders excluded in the heat pump case? Why were key stakeholders overlooked in the wind power case? Though these questions are not addressed in this paper, it is acknowledged that they are important to understand in order to give recommendations on how to change the policy formation process so that it includes meaningful stakeholder participation. The first step, which

is taken here, however, is to ask what the effects of participation are on policy implementation and outcome.

Conclusions

The general aim of this paper is to contribute to the analysis of the implementation and outcome of policy instruments in the fields of energy efficiency and renewable energy. The intention has been to provide a starting point for a research interest into the relation between stakeholder participation in policy formation and the successive implementation of policy instruments. Thus, the paper ends with a few general conclusions, which could serve to guide further research on the topic. First, it is important that the research is based in, and builds on, previous theoretical findings in the fields of policy formation, implementation and stakeholder participation. It is an interesting challenge that the research focus of this paper spans these three related fields, particularly since this focus has not been much studied in earlier literature. Second, it is essential to study who participates in the decision process and to analyse the power relations between actors. The case studies presented here show, however, that it is also important to ask who does not participate and to analyse the consequences on policy implementation of non-participation. Third, further research on the topic should be directed at advancing the knowledge of different types of effects of stakeholder participation on implementation. It is also desirable to distinguish between different types of policy instruments and to discuss in what ways policy instruments for energy efficiency and renewable energy differ from policy instruments in other areas.

References

- Åstrand, K. and Neij, L., *Styrmedel för vindkraft i Sverige* [Policy instruments for the development of wind power in Sweden], Report 46, Environmental and Energy Systems Studies, Lund University, Sweden, 2003.
- Åstrand, K. and Neij, L., "An assessment of governmental wind power programmes in Sweden – using a systems approach", *Energy Policy*, article in press, 2004.
- Barrett, S. M., "Implementation studies: time for a revival?", *Public Administration*, 2004, Vol. 82, No. 2, pp. 248-262.
- Bemelmans-Videc, M.-L., "Introduction: policy instrument choice and evaluation" in M.-L. Bemelmans-Videc, R. C. Rist and E. Vedung (eds.) *Carrots, Sticks and Sermons: Policy Instruments and Their Evaluation*, pp. 1-20, Transaction Publishers, New Jersey, USA, 1998.
- BFR [Statens råd för byggnadsforskning], *Byggsektorn 1990. Behov av forskning och utveckling under 80-talet* [The construction sector in 1990. The need for research and development during the 80s], G13:1982, Swedish Council for Building Research, Stockholm, Sweden, 1982.
- CGM Rationell Planering, Andergia and Nordiska Ledningsgruppen, *Utvärdering av stödet till biobränsleadda kraftvärme samt vindkraft* [Evaluation of the support to bio fuelled heat power and wind power], Report R 1993:29, NUTEK, Stockholm, Sweden, 1993.
- Energistyrelsen, *The Danish Agreements on Energy Efficiency*, Danish Energy Authority, Copenhagen, Denmark, 1999.
- Engebeck, L. and Zingmark, A., *Utvärdering av investeringsprogrammet värmepumpar* [Evaluation of the heat-pump investment-support programme], SB:8, Swedish Institute for Building Research, Gävle, Sweden, 1987.
- Florin, L., *Värmepumpar. Aktuella förändringar och framtidsutsikter* [Heat pumps. Changes and projections, currently and in the recent past], 1987:R3, Swedish Energy Administration/ Liber Allmänna Förlaget, Stockholm, Sweden, 1987.
- Hill, M. and Hupe, P., *Implementing Public Policy*, SAGE Publications, London, UK, 2002.
- Hill, M., *The Policy Process in the Modern State*, Prentice Hall, Harlow, UK, 1997.
- Howlett, M., "Policy instruments, policy styles and policy implementation", *Policy Studies Journal*, 1991, Vol. 19, No. 2, pp. 1-21.
- Kenis, P. and Schneider, V., "Policy networks and policy analysis: scrutinizing a new analytical toolbox" in B. Marin and R. Mayntz (eds.) *Policy Networks: Empirical Evidence and Theoretical Considerations*, Westview Press, Boulder, Colorado, USA, 1991.
- Lindeberg, P., *Forskning kring värmepumpar. Teknikutveckling och systemupbyggnad med Byggnadsrådets stöd – en översikt* [Research about heat pumps. An overview of technology-development and systems-management efforts with support from the Council for Building Research], T16:1984, Swedish Council for Building Research, Stockholm, Sweden, 1984.
- Lipsky, M., *Street-Level Bureaucracy*, Russel Sage, New York, USA, 1980.
- Neij L., Dannemand Andersen, P., Durstewitz, M., Helby P., Hopper-Kilpper M. and Morthorst P. E., *Experience curves: a tool for energy policy programmes assessment*, Report 40, Environmental and Energy Systems Studies, Lund University, Sweden, 2003.
- Nilsson, L., Åhman, M. and Nordqvist, J., "Cygnen or ugly duckling – what makes the difference? A tale of heat-pump market developments in Sweden", Paper 5,112, *What Works & Who Delivers? eceee 2005 Summer Study Proceedings*, European Council for an Energy-Efficient Economy, Stockholm, Sweden, 2005.
- Olofsson-Jönsson, B. (ed.), *Energi 85. Energianvändning i bebyggelse* ["Energi 85." Energy use in buildings], G26:1984, Swedish Council for Building Research, Stockholm, Sweden, 1984.
- Parsons, W., *Public Policy: An Introduction to the Theory and Practice of Policy Analysis*, Edward Elgar Publishing, Cheltenham, UK, 1995.
- Premfors, R., *Policyanalys* [Policy Analysis], Studentlitteratur, Lund, Sweden, 1989.
- Pressman, J. L., and Wildavsky, A., *Implementation*, University of California Press, Berkeley, USA, 1973 (2nd edn. 1979, 3rd edn. 1984).
- Sabatier, P. A. and Jenkins-Smith, H., *Policy Change and Learning: An Advocacy Coalition Approach*, Westview Press, Boulder, Colorado, USA, 1993.
- Sabatier, P. A., "The need for better theories" in P. A. Sabatier (ed.) *Theories of the Policy Process*, pp. 3-17, Westview Press, Oxford, UK, 1999.
- Sabatier, P. A., "Top-down and bottom-up approaches to implementation research: a critical analysis and suggested

synthesis”, *Journal of Public Policy*, 1986, Vol. 6, No. 1, pp. 21-48.

SPK [Statens pris- och kartellnämnd], *Värmepumpar, en konkurrensbeskrivning* [Heat pumps, an account of the market competition], utredning 1986:8, Swedish Competition Authority, Stockholm, Sweden, 1986.

STEM [Statens energimyndighet], *Vindkraftsmål uppfyllt* [The objective for wind power has been met], press communiqué 2002-12-03, www.stem.se, retrieved in December 2002.

STEV [Statens energiverk], *Vindkraft - resultat och slutsatser från svenska vindenergiprogrammet* [Wind power – results and conclusions from the Swedish wind power programme], Report 1985:1, Swedish Energy Administration/ Liber Allmänna förlaget, Stockholm, Sweden, 1985.

Vedung, E., “Policy instruments: typologies and theories” in M.-L. Bemelmans-Videc, R. C. Rist and E. Vedung (eds.) *Carrots, Sticks and Sermons: Policy Instruments and Their Evaluation*, pp. 21-58, Transaction Publishers, New Jersey, USA, 1998.