
Making Space For Community Energy: The Emergence of Citizen Wind Farms in Austria

Anna Schreuer

Abstract

Over the last years considerable innovation activity has been focussed on transforming energy systems into more sustainable forms. Such innovations for low carbon energy systems have included activities at the grassroots level, such as the establishment of citizen power plants—wind farms or photovoltaics plants jointly owned and operated by groups of citizens. This contribution focuses on the emergence of the first citizen wind farms in Austria in the 1990s. It draws on resource mobilization theory—a strand of social movement theory—to explain how these initiatives succeeded in establishing a space for this alternative socio-technical configuration in the energy system. This contribution highlights the importance of five different resource types: natural resources, material resources, knowledge resources, symbolic resources, and structural resources. Furthermore it describes the process by which initiatives, starting from a limited resource base, could successively expand the resources available to them.

Introduction

With rising concerns over ecological sustainability, as well as security of supply, energy systems are experiencing increasing pressure to change, and various efforts have been made to transform them into more sustainable forms. Innovations for low carbon energy systems have not only been developed by research and industry actors, but have, at the grassroots level, also included the establishment of citizen power plants—wind farms or photovoltaics plants jointly owned and operated by groups of citizens. This contribution focuses on the emergence of the first citizen wind farms in Austria in the 1990s. It draws on resource mobilization theory, a strand of social movement theory, to explain how these initiatives suc-

ceeded in establishing a space for this alternative socio-technical configuration in the energy system. Why did bottom-up citizens' initiatives develop the idea of setting up collectively owned wind turbines? And, how did they succeed in following through with such projects?

My starting point is an understanding of the energy system as a large scale socio-technical configuration which is self-stabilizing and thus resistant to change (Rohracher 2008). Socio-technical configurations are taken here to consist of an assemblage of interdependent technologies, regulations, decision-making structures, practices, and guiding principles (Rohracher 2008, 147). From this perspective citizen wind farms can be thought of as an alternative socio-technical configuration that was developed by bottom-up actors. Apart from the general challenge of developing such an alternative socio-technical configuration in the face of system inertia, Seyfang and Smith (2007, 595-596) have pointed to specific challenges faced by grassroots initiatives developing innovative systems of provision. This includes reliance on voluntary work, reliance on grant funding, and the lack of necessary skills required.

The next section introduces social movement theory, in particular resource mobilization theory. Then, I provide the background to the emergence of citizen wind farms in Austria. The case study itself is presented in the following section, which is then followed by a discussion in terms of the theoretical framework. The final section summarizes the results and presents some conclusions, both with respect to the case study and with respect to the theoretical approach taken.

Theoretical framework

Resource mobilization theory was first formulated in the 1970s and has since been widely adopted, critiqued, refined, and extended (Jenkins 1983; Jenkins 2001; McCarthy & Zald 1977; McCarthy & Zald 2001). In contrast to earlier theoretical approaches to social movements, resource mobilization theory argued that the deprivation of particular social groups (grievances) was not sufficient to explain the formation of social movements. Scholars pointed out that grievances were too ubiquitous to use them as the sole

or main explanatory factor for movement formation and argued that social movement dynamics could be better explained by looking towards the availability of resources, the organizational structure of social movements, and political opportunities for action (Jenkins 1983).

According to this approach, the availability of resources is central both for explaining individual participation in social movements, and for explaining how social movement organizations define their agendas, mobilize adherents, and push for their goals (McCarthy & Zald 2001). Resource mobilization theory assumes that these resources not only stem from contributions made by potential beneficiaries of the social movement, but come from society at large (Edwards & McCarthy 2004; McCarthy & Zald 2001). The term 'resource mobilization' is used to refer to the process of making these resources available to a social movement.

Initially this approach looked mainly towards material resources, but now resources are understood more broadly as 'any social, political, economic asset or capacity that can contribute to collective action' (Jenkins 2001, 14368). This also includes intangible resources such as technical and organizational knowledge, as well as symbolic resources (Cress & Snow 1996; Edwards & McCarthy 2004; McCarthy & Zald 2001). Symbolic resources can be understood as cultural symbols and their meanings, including assumptions and rationales for particular actions that are drawn from the larger cultural environment of a social movement (McCarthy & Zald 2001). Furthermore Bomberg and McEwen (2012) have recently adapted resource mobilization theory in order to study mobilization in relation to community energy initiatives in Scotland, and have convincingly argued that policy support for such projects should be considered as another important resource category (structural resources, see Bomberg & McEwen 2012). Building on the resource classifications of these authors (Bomberg & McEwen 2012; Cress & Snow 1996; Edwards & McCarthy 2004; McCarthy & Zald 2001), I thus suggest to use the following resource typology for analyzing the emergence of community energy projects as presented in Table 1.

Table 1. Resource Typology

Resource Type	Specification
Natural resources	Land, raw materials, and climatic conditions
Material resources	Money and equipment
Knowledge resources	Information (explicit knowledge resources)
	Expertise, know-how, experience, and skills (tacit knowledge resources / human resources)
Symbolic resources	Cultural symbols and their meanings, based on shared ideas, beliefs and understandings
Structural resources	Formalized resource allocation mechanisms, in particular policy support

Adapted from Cress & Snow 1996, McCarthy & Zald 2001, Edwards & McCarthy 2004, and Bomberg & McEwen 2012.

Case study background

Energy policy as a field of contention

In Austria, in a similar way to many other European countries, the anti-nuclear movement served to bring energy issues into the public agenda, and to sensitize the public to matters of energy policy, in particular to issues of energy-saving measures, alternative energy sources, and the social sustainability (*Sozialverträglichkeit*) of large power plants (Kok & Schaller 1986, 69–70). The Austrian antinuclear movement formed in the mid-1970s, in response to government plans to develop a nuclear power plant in the village of Zwentendorf. As Lauber (1996, 202) notes, the anti-nuclear movement ‘became the rallying ground for the nascent environmental movement.’

In view of protests against nuclear power that erupted while the first nuclear power plant was being constructed, the government scheduled a referendum on nuclear power in 1978. In this referendum, albeit by a very narrow margin, a majority voted against the use of nuclear power.

Consequently, in December 1978 the Nuclear Energy Prohibition Act was passed which prohibits the use of nuclear fission for electricity generation in Austria. The Chernobyl disaster in 1986 later discursively reinforced this legal situation, putting an end to continued public discussions over repealing the ban on nuclear power, and creating a strong public consensus against nuclear power (Preglau 1994).

The ban on nuclear power, however, did not put an end to contention and social movement mobilization over the development of the Austrian energy system. In the 1980s plans for a hydroelectric power plant in Hainburg became the second focal point of environmental protest. The power plant was heavily opposed because it would destroy rare wetland areas. Furthermore, a report leaked that showed that, contrary to what the government argued, demand for electricity was not rising as strongly as had been suggested, and rather than being justified on the basis of a 'security of supply' agenda, there were in fact plans about how to market a surplus of electricity that was expected (Lauber, 1996, 202). After large demonstrations and a site occupation by hundreds of activists, resulting in clashes with the police, plans for the power plant were eventually abandoned.

Apart from a turn away from nuclear power and the abandonment of plans for the hydroelectric power plant in Hainburg, these two conflicts also had the effect that new actors started to be involved in the energy sector. As Kok and Schaller (1986) have pointed out, the conflict over nuclear power for the first time led to public participation in matters of energy policy. After the confrontations between the environmental movement and the state over the hydroelectric power plant planned in Hainburg, participatory elements were introduced to decision-making processes. Preglau (1994, 65) concludes that the anti-nuclear movement and the partly overlapping environmental movement contributed to a democratization of administration, and a change in the prevailing policy style. In a similar vein, Wimmer (1980, 64, my translation), assessing the influence of the Austrian anti-nuclear movement, concludes that 'they have significantly lowered the threshold for protest and thereby created a favorable climate for the emergence of grassroots initiatives.'

Emerging policy support

While Germany introduced the first national level feed-in law as early as 1991, Austria was much later to come up with a comparable system of support for green electricity at the national level. The 'Green Electricity Act' that established uniform feed-in tariffs at the national level did not come into effect until 2003. However, some policy support for wind turbine operators started to be available over the course of the 1990s. This was also due to wind power pioneers joining forces and setting up the '*Interessengemeinschaft Windkraft*' (IGW, interest group for wind power) in 1993 that then lobbied for policy support for wind power [interviews 21:33, 10:6, 17:4]. A first support mechanism was introduced in 1994. It applied to wind farms set up in the years 1994–1996, and consisted of a purchase obligation for utilities for electricity from wind turbines. Furthermore, for the first three years that a wind turbine was in operation, a feed-in tariff at twice the market price would be paid (1.3 Austrian Schilling instead of 65 Groschen). In addition to that, a 30 percent investment subsidy for wind turbines was made available from the ministry of the environment. This allowed the first wind turbines to go into operation, including the first citizen wind farm in Michelbach (Hantsch & Nährer 2006; *Interessengemeinschaft Windkraft Österreich* 2013; interview [15:17]).

After these support programmes ended, no national support mechanisms for wind power were available until 1999. Some federal states, however, continued to provide subsidy schemes—either limited forms of feed-in tariffs or investment subsidies (*Interessengemeinschaft Windkraft Österreich* 2013; interviews [10:49, 14:3]). In 1999 the Electricity Industry and Organization Act (*Elektrizitätswirtschafts- und Organisationsgesetz*, ElWOG) gave a new legal basis to the way the energy sector is organized in Austria. It was mainly devised to comply with the European directive concerning the liberalization of the energy sector, but also included a new subsidy scheme for renewable energy. According to this act the federal states were now required to define feed-in tariffs for electricity from 'new' renewables (i.e. excluding hydropower) (Hantsch & Nährer 2006, 21). However, the feed-in systems that were introduced in the federal states, based on this regulation, differed quite widely, both in terms of the height of the feed-in tariff, and in terms of distinctions

made between different types of plants to determine the height of the feed-in tariff (e.g. distinguishing between different renewable energy technologies, between plant size, and between 100 percent feed-in or only surplus feed-in to grid, etc.) (Cervený & Veigl 2001, 6). Some small changes were made to this support system when the ElWOG was amended in 2000, but in principle this type of support remained in place until 2003, when a feed-in tariff system was introduced at the national level.

To summarize, from the mid 1990s on, support for wind power operators, in particular citizen wind farms, was starting to become available. Until 2003 individual support programs were, however, rather short lived, and there was great regional disparity in the support that was available. Nevertheless, wind power pioneers started to get active from the late 1980s on, and citizen wind farms went into operation from the mid-1990s. The following section examines the activities of these wind power pioneers.

The emergence of citizen wind farms in Austria

In Austria the early years of wind power development owe much to citizens' groups and individuals from outside of the established energy sector, setting up wind farms via citizen participation models [interviews 10:61, 21:8, 21:59]. Apart from hobbyist constructors experimenting with small do-it-yourself turbines in the 1980s, the first years of wind power development were dominated by initiatives setting up wind farms based on broad, collective citizen ownership, or loan models involving a large number of citizens (Hantsch & Nährer 2006).

One of the main problems with getting wind power development off the ground in Austria was that in the 1980s and early 1990s, Austria, as a landlocked country, was generally considered to have too low wind speeds to make the operation of wind power viable. Based on data and estimates provided by the Central Institution for Meteorology and Geodynamics (*Zentralanstalt für Meteorologie and Geodynamik*, ZAMG), as well as by the aviation authorities, experts argued that wind power development would not be viable in Austria (interview [10:6]; Hantsch & Nährer 2006).

The pivotal role of 'Energiewerkstatt'

Notwithstanding these claims from the traditional energy sector, and spurred by the emerging societal interest in alternative energy sources, a number of individuals across Austria wanted to push forward wind power development. From the late 1980s on, the association '*Energiewerkstatt*' (energy workshop) played a pivotal role in the development of wind power. The association was set up by two people in 1986 in reaction to the Chernobyl disaster with the aim of exploring and supporting the development of renewable energy and energy-saving measures in the country (Energiewerkstatt 2013).

While they first considered engaging with turbine construction, they soon realized that turbines could also be purchased from Denmark and Germany. Instead, they identified the question of whether suitable sites with sufficient wind speeds were available as the critical bottleneck for wind power development in Austria. Thus they decided to engage with wind measurements, providing more detailed information than that which had been available until then. Over the next years the association succeeded in establishing that there were indeed very good wind speeds in some places in Austria, especially in the federal states of Lower Austria and Burgenland. Hantsch and Nährer (2006, 10) describe the person most strongly engaged with wind measurements from the *Energiewerkstatt* as 'the man who found the wind in Austria.'

The relevance of these early wind measurements went beyond establishing that suitable sites for wind turbines were indeed available in Austria. By operating a wind measurement program they alerted other individuals and groups in Austria that wind power development could be an option for them [interview 17:59]. This role of bringing interested people closer to the idea of wind power development was enhanced further by organizing trips to citizen wind farms in Germany, as one interviewee explained (See also Hantsch & Nährer 2006, 10):

Then we traveled with the Energiewerkstatt, K. (...) organized this excursion (...) and so then we drove up there. During a second excursion, that was also in Germany, we traveled to another wind farm. Well, for the first excursion I was alone and for the second one we took along several people, so it gradually developed like that [17:6].¹

By engaging in such activities, *Energiewerkstatt* developed into an early focal point of networking activities between different initiatives in the field. Most of the pioneers trying to set up citizen wind farms in the early and mid-1990s came across the *Energiewerkstatt* in some way or another, and thus informal contacts in the emerging 'wind scene' formed. In 1993, together with other Austrian wind power pioneers, people from *Energiewerkstatt* set up the lobbying organization IG Windkraft (interest group for wind power), which then took over the role of a focal point of the Austrian wind power scene. Apart from the interest organization IG Windkraft, others engaged in lobbying activities, partly drawing on social movement repertoires of action, such as mobilizing people for street rallies, or for writing letters to policy actors [interview 10:58].

From community of interest to community of locality

The first citizen wind farm in Austria was eventually set up in the village of Michelbach in 1995 and consisted of a single 225 kW turbine. A group of seven people set up a company and offered financial participation via a loan model to interested citizens. An important rationale behind this participation model was that it secured the necessary funds at a time when banks were not yet willing to provide loans for wind power projects, seeing their economic viability had not yet been proven. As one interviewee said,

[In the mid 1990s] it was (...) not possible to fund wind power, which then was a completely new thing, via banks. Either you had the necessary capital, that we, my wife and me along with our companions, did not have, and therefore it was generally fascinating to try this with people that wanted to invest in this technology [16:2].

By the time the citizen wind farm in Michelbach went into operation, several more similar projects were already in process, and in the next few years citizen power plants followed, e.g. in Eberschwang (1996), Wolkersdorf (1996), Laussa (1996), Simonsfeld (1998), and Schenkenfelden (1998).

In one aspect the first citizen wind farm in Michelbach, however, differs somewhat from most of the citizen wind farms that were set up soon after.

While a few people from Michelbach became shareholders of the wind turbine, the initiators also advertised it via associations that had developed out of the environmental movement, and it was via the member base of these environmental associations that the largest share of the required capital was raised (Hantsch & Nährer 2006, 11-14; interview [16:1]). The first citizen wind farm thus relied heavily on the community of interest of renewable energy enthusiasts from across Austria, and it appears that interpretations of wind power as an alternative to nuclear power and other environmentally harmful large-scale power plants played a central role for mobilizing participants. By contrast, the following early citizen wind farms in Austria were devised as local projects, with both the core group of project initiators and the largest share of further participants living in the village where the wind farm was set up. Thus, these projects were organized around a community of locality. They became meaningful not only as symbols of alternatives to the existing energy regime, but also as local projects people could relate to and take pride in as a local innovative, local landmark, or as an embodiment of personal ties in the local community. As one interviewee described it,

One maybe also participated because M. was well regarded, as somebody who could be trusted and as somebody who, so to speak, fulfilled his dream (...) so these were more emotional reasons. (...) [In this village] one really can say in one out of three houses there's somebody who participates in the wind farm [10:8].

And another:

But apart from [a few skeptics] it is something we are very, very proud of, so one can say in [our village] the wind turbines are not only producers of renewable energy but also have become established as the village's landmark [14:25].

Know-how development—importing the basics and piecing together the details

A first source of know-how development for initiatives developing citizen wind farms in the 1990s in Austria derived from visits to similar projects that had already been realized in other countries. As has already been

noted above, *Energiewerkstatt* organized excursions to citizen wind farms in Germany. Some project developers organized their own site visits to citizen wind farms in Germany, Denmark, the Czech Republic, and Sweden, or simply became familiar with the concept of a citizen wind farm while spending time in these countries for other reasons [interviews 14:21, 16:5, 17:5, 17:26, 21:5, 21:18]. As one interviewee described,

[Wind turbines are] a technology from Denmark, a German-Danish technology, that is very common there also in the form of citizen participation models. (...) My wife and I visited the region and got to know a lot of people and institutions. We then oriented ourselves along different models and said, okay, we will try it with this loan model, we will set up a limited liability company as operator [16:5].

Thus, early citizen wind farm initiatives in Austria drew on experiences in other countries and 'imported' the model to Austria. However, even though they could build on this basic familiarity with the concept of a citizen wind farm, they still had to put a lot of effort into developing more detailed technical, organizational, and legal know-how as they went along. One interviewee explained,

At that time nobody knew how to go about something like that, also the authorities didn't know how that should be handled. (...) So we just did it together, we invited all the people and met in a hall and said, 'What do you think? How should we go about doing this?' [15:15].

Some initiatives could draw on participants with professional expertise in law, business, or engineering for the process of setting up an appropriate business model and legal structure, choosing turbine models, or setting up contracts about feed-in to the grid [interviews 14:3, 14:9, 14:16, 14:29, 14:30, 14:44, 15:16]. Furthermore it helped that the groups had informal contacts to each other, so later initiatives could learn from earlier ones.

Discussion

In Austria *symbolic resources* for renewable energy, and in particular wind power, built up as the anti-nuclear movement emerged, and as their agenda acquired increasing legitimacy. In this context renewable energy technologies, and in particular wind power, became meaningful as the alternative to nuclear power and other large-scale, centralized energy technologies such as hydropower. Although Austria passed the Nuclear Energy Prohibition Act in 1978, nuclear power continued to be a controversial issue, and was seen as an actual or potential threat by many people. This was due on the one hand to attempts that were made to repeal the ban on nuclear power, and on the other hand, to an awareness of nuclear power plants in neighboring countries. The shock of the Chernobyl disaster in 1986 served as a catalyst, transforming this symbolic order into hands-on action to set up wind turbines. In particular, the organization *Energiewerkstatt* was set up in reaction to the Chernobyl disaster, and in the following years pushed forward wind power development in Austria.

Symbolic resources continued to be important as a means for mobilizing people to participate in citizen wind farm projects. The first citizen wind farm in Michelbach attracted mainly people with ties to the environmental movement. The shared understanding these people had of renewable energy—in particular wind power—as the alternative to nuclear power made such a project meaningful to them. For other early citizen wind farm initiatives the interpretations of the projects that enabled mobilization were somewhat different, revolving more strongly around issues of local identity. In both types of cases, however, particular understandings of citizen wind farms that made them meaningful and desirable were crucial, especially since this was a time when the financial return of the investment people made was still quite uncertain.

In this way symbolic resources also enabled Austrian wind power pioneers to raise the capital required for setting up wind farms (*material resources*). These pioneers lacked the financial means for setting up a wind farm on their own, and banks were reluctant to provide loans. However, as wind farms took on a positive symbolic value for several people, it was possible to mobilize sufficient capital by pooling the resources of larger groups of individuals.

Policy support programmes in the form of investment subsidies and feed-in tariffs (*structural resources*) started to become available from the mid-1990s, but were initially short-lived, volatile, and varied from one region to another. These support programs were important for early citizen wind farm initiatives, but more as opportunities they seized upon as soon as they became available, rather than as a factor that triggered their development. Apart from exploiting these windows of opportunity, wind power pioneers also worked towards achieving better framework conditions for wind power, such as a national feed-in law.

The wind measurements that *Energiewerkstatt* engaged with could counter the claim that wind speeds in Austria were too low for wind power deployment. In this way *Energiewerkstatt* succeeded in ‘mobilizing the wind’ (*natural resources*) for wind power development in Austria. It was not until such detailed wind measurements had been conducted that wind came to be available as a resource for operating turbines in Austria. Furthermore it helped to mobilize additional pioneers, as their wind measurement program alerted others to the possibility of setting up wind farms.

Awareness of citizen wind farms in other European countries constituted another important asset for developing similar projects in Austria (*knowledge resources*). Familiarity with such projects provided them with some basic know-how to start with. Nevertheless, the largest part of the required know-how had to be pieced together as they proceeded with the development of the projects. In fact, one could consider the lack of *ex-ante* know-how as one of the defining characteristics of the emergence phase of citizen wind farms.

Conclusion

This contribution has attempted to explain how bottom-up initiatives succeeded in opening up a space for citizen wind farms as an alternative socio-technical configuration in the energy system in the 1990s in Austria. For this purpose I have drawn on resource mobilization theory. From the perspective of resource mobilization theory, what is to be explained is

how social movements mobilize and manage to place their claims. Initiatives developing citizen power plants may not constitute social movements in themselves, but as bottom-up initiatives pursuing an agenda of socio-technical change similar questions apply: Why did actors engage in this task? And, how was it possible for them to do so?

The case considered here has indeed dependent on a variety of different resources, including natural resources (suitable sites with sufficient wind speeds), material resources (capital for project development), knowledge resources (technical, organizational, and legal know-how), symbolic resources (wind farms as a symbol of the alternatives to nuclear power or as a local landmark), and structural resources (subsidies and feed-in tariffs). However, apart from merely noting that all these resource types were relevant for the emergence of citizen wind farms in Austria, it is also possible to distinguish between resource endowments—resources that initiatives had available to them when they embarked on their projects—and further resources that initiatives succeeded in mobilizing as they proceeded with their activities. Austrian wind power pioneers could initially build on an understanding of wind power as an alternative to nuclear power and large hydropower, and also drew on a basic familiarity with citizen wind farms in other countries. However, suitable sites for turbines had yet to be mobilized by countering claims over too low wind speeds. Furthermore they had to raise significant amounts of money and develop the required technical, organizational, and legal expertise as they went along. In terms of policy support, they both seized on windows of opportunity that presented themselves, and also joined forces to lobby for further support.

Where citizen wind farm initiatives actively engaged in the mobilization of further resources, another distinction can be made that may further our understanding of the ways in which spaces for alternative socio-technical configurations are created. In some cases the mobilization of further resources was focused on the project level, such as the negotiation of funding and support on a case-by case basis, securing a suitable site for a particular project, the development of know-how that is not shared with actors beyond the project, or the linking up of a project with a local identity. In other cases citizen wind farm initiatives contributed

towards shaping the overall opportunity structure for the development of citizen wind farms, thereby making resources available to a larger group of actors. Examples of this meso/macro-level form of resource mobilization include the involvement of citizen wind farm initiatives in lobbying for policy support, the wind measurements conducted by *Energie-werkstatt* establishing the availability of suitable sites in Austria, and the exchange of know-how between different initiatives.

Resource mobilization may thus be thought of as an iterative process by which available resources open up a certain room for maneuver. Action undertaken in this room for maneuver can then contribute towards further expanding this resource base until—if these efforts are successful—sufficient resources are available for following through with the envisioned projects.

Note

- ¹ Interviews were conducted in German. All quotes from interviews were translated by the author.

References

- Bomberg, Elizabeth and Nicola McEwen (2012), 'Mobilizing community energy', *Energy Policy* 51: 435–444.
- Cervený, Michael and Andreas Veigl (2001), *Einspeisungen Elektrischer Energie aus Erneuerbaren Energieträgern in der öffentliche Netz (Einspeisetarife und Zuschläge zu den Systemnutzungstarifen)*, Energieverwertungsagentur E.V.A. Vienna.
- Cress, Daniel M. and David A. Snow (1996), 'Mobilization at the margins: resources, benefactors, and the viability of homeless social movement organizations', *American Sociological Review* 61 (6): 1089–1109.
- Edwards, Bob and John D. McCarthy (2004), 'Resources and social movement mobilization', in David A. Snow, Sarah A. Soule, and Hanspeter Kriesi (Eds.), *The Blackwell Companion to Social Movements*, Oxford: Blackwell Publishing Ltd., 116–152.
- Energiewerkstatt (2013), *Entstehungsgeschichte*, <http://www.energiewerkstatt.org/html/gestern.html>, [24 January 2013].

198 Anna Schreuer

- Hantsch, Stefan and Ursula Nährer (2006), *Development of Wind Power in Austria with special emphasis on Regional Initiatives and Models of Financing*, St. Pölten, IG Windkraft.
- Interessengemeinschaft Windkraft Österreich (2013), *Geschichte der Windkraft in Österreich*, http://www.igwindkraft.at/index.php?mdoc_id=1000499, [30 January 2013].
- Jenkins, J. Craig (1983), 'Resource mobilization theory and the study of social movements', *Annual Review of Sociology* 9 (1): 527–553.
- Jenkins, J. Craig (2001), 'Social movements: resource mobilization theory', in Neil Smelser, J. and Paul B. Baltes (Eds.), *International Encyclopedia of the Social & Behavioral Sciences*, Oxford: Pergamon, 14368–14371.
- Kok, Franz and Christian Schaller (1986), 'Restrukturierung der Energiepolitik durch neue soziale Bewegungen? Die Beispiele Zwentendorf und Hainburg', *Österreichische Zeitschrift für Politikwissenschaft* 86 (1): 61–72.
- Lauber, Volkmar (1996), *Contemporary Austrian politics*, New York: Westview Press.
- McCarthy, John D. and Mayer N. Zald (1977), 'Resource mobilization and social movements: A partial theory', *The American Journal of Sociology* 82 (6): 1212–1241.
- McCarthy, John D. and Mayer N. Zald (2001), 'The enduring vitality of the resource mobilization theory of social movements', in: Jonathan H. Turner (Ed.), *Handbook of Sociological Theory*, New York: Kluwer Academic/Plenum Publishers, 533–565.
- Preglau, Max (1994), 'The state and the anti-nuclear power movement in Austria', in Helena Flam (Ed.), *States and Anti-Nuclear Movements*, Edinburgh: Edinburgh University Press: 37–69.
- Rohracher, Harald (2008), 'Energy systems in transition: contributions from social sciences', *International Journal of Environmental Technology and Management* 9 (2/3): 144–161.
- Seyfang, Gill and Adrian Smith (2007), 'Grassroots innovations for sustainable development: towards a new research and policy agenda', *Environmental Politics* 16 (4): 584–603.
- Wimmer, Hannes (1980), 'Institutionelle und soziale Bedingungen der Entstehung von Basisinitiativen am Beispiel der Anti-KKW-Gruppen', *Österreichische Zeitschrift für Politikwissenschaft* 1980 (1): 57–66.