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Defenders of the status quo: energy protests and policy (in)action in Sweden

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Are the positions that protesters take—in favor or against change—consequential for their ability to affect policy? While previous research suggests that protests can inform legislative priorities and facilitate policy introduction, this paper emphasizes policy inaction and stasis as goals of some protest actions. Analysis uses novel and detailed data on energy-related protest and policy actions in Sweden covering a forty-year period and considers protest frequency and size in relation to proposal introduction. The research design uniquely distinguishes between protests in favor or against a specific energy source and proposal activity in line with those demands and also controls for public opinion on each energy source. Findings suggest that pro-renewable energy protests do not yield pro-renewable policies but prevent undesired policies that support non-renewable energy sources. In contrast to pro-renewable protests, protests against renewable energy sources are somewhat more influential. They likewise prevent the introduction of their undesired proposals and also influence the introduction of proposals supporting non-renewable energy sources. Overall, the paper examines policy inaction as a desired protest outcome and argues protest—as a tactic—may be more effective when pushing against rather than for policy change.

Key words: protest; social movements; environmental movements; policy outcomes.

Introduction

Protest is part of between-election democracy with societal importance (Esaisson and Narud 2013) and one tactic among many that social movements can use to influence policy. For low-resourced and marginalized groups, protests are a way to demand change and be heard, empowering citizens in civic participation and signaling the urgency of a social problem (Gause 2022; Gillion 2013; Olzak 2021). Protests can challenge incumbent political candidates, affecting electoral outcomes (Gillion and Soule 2018) and attract the attention of elected lawmakers (Wouters, Staes, and Van Aelst 2022), shaping their policy priorities (Wouters and Walgrave 2017). Protest activists can also win the support of public opinion, which can, in turn, increase their role in politics (Enos, Kaufman, and Sands 2019; McAdam and Su 2002; Wasow 2020). Yet, research is inconclusive about

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which kinds of protests are social forces that shape policy (Amenta et al. 2018; Bosi, Giugni, and Uba 2016).

This paper enhances previous theories of protest-policy relationships by emphasizing policy inaction as an important potential consequence of protest mobilization. Previous studies are predominantly based on analyses of mobilization for political change and policy adoption or introduction (Burstein 2020; Amenta, Andrews, and Caren 2018). In such studies, policy inaction is understood as a defeat for change-oriented protest actions. Yet, some policy actions run counter to protesters' demands, and less attention has been paid to protesters who want to maintain the status quo or avoid changes that the protesters deem undesirable. For civil rights or anti-Vietnam War activists, for example, maintaining the status quo is undesirable. Yet, many contemporary activists face the threat of reversing their previous gains (e.g., abortion rights in the United States, the rights of LGBTQ+ parents in Italy, or nuclear energy policy in Sweden). Although several prior studies have examined protests against proposed legislation (cf. Engeman 2018; Vasi 2009; Vasi, Walker, Johnson, and Tan 2015), there is less systematic evidence of which kind of power the challengers and their adversaries have in keeping the status quo. One reason for this could be the fact that protest data on anti- and pro-stances of one specific issue is hard to collect. If we consider the importance of stability, the political role of protests might be much larger than prior studies suggest.

Our empirical analyses examine relationships between protests for and against different energy sources and government proposals introduced in the Swedish Parliament that support or oppose such energy sources (e.g., renewable or nuclear energy). The case allows investigation into the politics of the unfolding climate crisis and provides an opportunity to test how much political power the opposing social forces—the challengers and adversaries of renewable or nuclear energy—have for promoting policy change or keeping the status quo for a long time-period. Analyses are based on a unique dataset that spans forty years and combines two independently-collected and coded sets of variables measuring (1) policy action using publicly-available policy data and (2) the size and frequency of protest events using new data from the Swedish Protest Dataset (Jansson and Uba 2023). With these sources, we have data on the positions taken by protesters and in policy proposals that have been unavailable in previous research. We use multinomial analysis, a relatively unique approach for social movement studies, which enables assessments of protests and policy actions *in favor* or *against* the activists' goals. Such policy actions are measured against a baseline of policy inaction, which allows assessment of whether protests prevent change. This twofold distinction—for and against policy change—is important, as it disentangles the political power of protests better than in the previous studies.

We find that some protests are more likely to succeed than others. In Sweden, challengers of renewable energy sources (e.g., anti-wind farm protests) are more likely to achieve their goals than the activists promoting renewable energy sources. Still, protesting in favor of renewable energy decreases the likelihood of politicians promoting fossil fuel friendly policies. Hence, intentionally or unintentionally, these protests re effectively keep the status quo. Overall, our findings emphasize the need to carefully match protesters' positions on a given policy with the policy outcome and reconsider the importance of policy inaction in long-term analysis—all to reach more consistent and accurate assessments of the power of protest to affect policy.

Policy inaction as intended outcome

In the study of policy introduction and adoption, evidence of direct relationships between protests and policy outcomes are rare (Amenta et al. 2010; Bosi et al. 2016). As with social movement mobilization more broadly, protest impact is context-dependent (Meyer and Minkoff 2004; see also Amenta et al. 2010; Bosi, et al. 2016). For example, public opinion has served as a key theoretical counter-point to arguing the relevance of protest to policy change (Burstein 2021) with some scholars arguing that, in democratic systems, public opinion shapes policy over and above direct impacts of protests (Bernardi, Bischof, and Wouters 2021).[1]

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Political conditions can also set the possibilities for what reforms are achievable through social movement mobilization. The characteristics of political actors can open or close opportunities for change (Amenta et al. 1994; Kane 2003). Favorable political conditions for a given social movement's aims, such as the governing political party, are important (Engeman 2021; Meyer and Minkoff 2004; Uba 2009). Partisanship and congruency between a given policy issue and party ideology can inform whether lawmakers respond to protest (Hutter and Vliegenthardt 2018; Wouters et al. 2022; Wouters, Sevenans, and Vliegenthart 2021) or other forms of interest group advocacy (see Giugni and Grasso 2019). In parliamentary systems, competition with new, emerging parties can influence responsiveness to social movement demands (Hutter and Vliegenhardt 2018). Additionally, environmental movements may have direct allies in government or parliament through Green Party representation. Though comparative studies find no evidence of Green Party impact on renewable energy production (Cheon and Urpelainen 2013), members of green parties often introduce or advocate policies supporting renewable energy sources (Aklin and Urpelainen 2013; Jacobsson and Lauber 2006).

Recent studies examining protests and political responses across several policy issues suggest that the power of protest may vary depending on the issue advocated (Bernardi et al. 2021; Hutter and Vliegenthardt 2018; Wouters et al. 2022). For energy and other environmental policies, previous research raises questions about protest as an effective tactic for policy influence (Olzak and Soule 2009). In a recent study, Benjamin Sovacool et al. (2022) analyze protests related to 130 different energy infrastructures across the world and find no clear relationship between different protest tactics and eventual changes in projects. In their study of environmental movements, John Muñoz et al. (2018) find no evidence of protest impacts on policy change, but they find a negative relationship between pro-environmental protests and carbon emissions, indicating protest influence on individual choices and behaviors. While some social movements may succeed in passing moratoria on hydraulic fracturing (Vasi et al. 2015) or winning investments in renewable energy sources (Vasi 2009), they use other tactics than or in addition to protest, such as lobbying, litigation, and appeals to public opinion (see also Johnson, Agnone, and McCarthy 2010). Other studies of environmental movements find that protests can get attention from elected lawmakers but find no direct relationships between protests and environmental policy adoption (Olzak and Soule 2009).

To assess social movement "successes" and "failures," theorists have identified different types of impacts (cf. Gamson 1975). Substantive impacts—the type of impact that results in new advantages (Kitschelt 1986)—can be further distinguished as reactive or proactive (Kriesi, et al. 1995). Proactive impacts in the form of policy action or adoption have received considerable attention from scholars studying the policy consequences of social movements (cf. Amenta et al. 2010; Bosi et al. 2016). However, there is less systematic evidence of social movements' potential reactive impacts (Kolb 2007, 31). These impacts prevent "'new disadvantages' [in which] challengers avoid a worsening of the situation regarding their goals" (Kriesi et al. 1995: 210). When studies limit outcomes to policy action, they risk underestimating the power of protest in the policy arena. In this paper, we bring needed systematic empirical investigation to this critical type of social movement "success."

Our work additionally enhances social movement theory by examining movement "gains and losses" in a way that includes legislative inaction as either a gain or loss depending on the protesters' demands (on gains and losses, see Jasper et al. 2022; Turner 2023). Assessments of protest outcomes may be inaccurate when studies count protests without accounting for their stance—i.e., in favor or against change. With such research designs, a protest against a policy may be incorrectly counted as unsuccessful if the policy is not adopted. Given that much of energy-related protests are opposed to energy projects, such as windfarms or dams for hydropower production (Jansson and Uba 2015; Ogilvie and Rootes 2015), the success of such—often large and notable—anti-localization protests might discourage the proposals for general pro-renewable policies at the national level. Therefore, we expect our inclusion of policy inaction as a possible outcome to challenge previous assessments of protest-policy relationships, particularly on energy issues.

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Consequential protest characteristics

Despite the importance of context for protest-policy relationships, some protest characteristics have been associated with policy responses in previous studies. Protests can take different forms, and their efficacy with respect to policy change can depend on their frequency and size (Luders 2006) and level of government targeted (Andrews 2001; Kolb 2007; Wasow 2020). To assess the power of protest, most research uses protest frequency, but the number of participants in a protest may also have consequences (Biggs 2018). Larger protests are more likely than smaller protests to get press attention (Andrews and Caren 2010), gain government concessions (Chenoweth and Belgioioso 2019), and affect lawmakers' opinions (Wouters and Walgrave 2017). Compared to smaller protests, large protests likely send stronger signals to lawmakers about policy preferences and priorities and tend to be more disruptive, increasing the costs of non-response for elites and people holding elected office (McAdam and Su 2002; Olzak 2021).

In this paper, we assess the effects of protest frequency and size on policy responses but argue the need to distinguish between protesters' policy positions—in favor or against a policy—to accurately assess their policy outcomes, including policy inaction. Our hypothesis is that protests against change will be more effective than protests calling for new policies or challenging status quo practices. We expect such protest-policy relationships for at least two reasons. First, having clear (Fasiotto and Soule 2017) and unified (Wouters and Walgrave 2017) messages improves protesters' chances of getting attention from elected lawmakers and achieving desired policy outcomes. It may be easier for protest actors to make clear demands and unify behind a common cause when their goal is to stop legislation.[2] To demand change, social movement actors may agree about the problem (e.g., climate change) but disagree about the solution (e.g., raise fuel taxes, invest in wind turbines, or support nuclear power production). Thus, movements challenging the status quo face an added challenge of convincing others that their proposed solution is the ideal solution out of all possible solutions.

Second, the previous political science research points to a status quo bias among lawmakers (Baumgartner et al. 2009; Persson 2023) and suggests that negative lobbying or lobbying against a new policy is more effective than lobbying for a new policy (Butler and Miller 2022). In her study of proposals adopted in U.S. Congress and federal agencies, Amy McKay (2012:116) finds that 3.5 lobbyists are needed in favor of a policy change to counteract the effects of one lobbyist against the change. The logic behind such bias for the status quo and negative lobbying is "the asymmetric preference for avoiding blame over seeking praise" among lawmakers (McKay 2012:122), which compels risk avoidance in creating new policies that may later have unintended consequences or become a point of criticism. Tapping into this bias among lawmakers, protests against new policies or in favor of status quo approaches to, for example, energy production, may be more successful than protests calling for change in getting the types of policy responses they want.

By distinguishing between protesters' policy positions (i.e., in favor or against an issue) and including each type in analysis, our research examines concurrent protests with opposing positions. Prior studies show that protesters are more likely to get what they want if their opposition is weak (Biggs and Andrews 2015). For example, in their study of opposition to energy projects in the United States, Doug McAdam and Hilary Boudet (2012) find that the absence of opposition was enough to explain the approval of a project, and movement opposition joined by other political opposition effectively led to the energy project's rejection. To acknowledge diverse movement activity on an issue, social movement research typically refers to movement-countermovement dynamics (Andrews 2002; McCright and Dunlap 2003). The strength and activity of countermovements can mediate the policy influence of the focal social movement in a study (Kolb 2007). However, protests in favor or against an issue do not always react directly to each other, and more than one movement might protest for or against a given policy issue. Thus, rather than examine movement-countermovement dynamics, our study accounts for concurrent protest actions with alternative claims.

Studies on the policy consequences of protests largely overlook co-occurring protests in favor of or against an issue, and while one protest fails, the other protest may succeed. Too often previous

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studies match the annual numbers of protests and the numbers of enacted policies on issues without distinguishing protesters' positions on these issues and potential government responses, for example, policy adoption on a range of issues (Bernardi et al. 2021) or pro-climate activity (Böhler, Hanegraaff, and Schulze 2022). Without assessing whether protest demands and policy outcomes align, analyses provides an inaccurate account of protest-policy relationships. Thus, research on potential protest impacts on policy-making should not only focus on one specific social movement, but rather on these collective actions that either support or oppose the policy change or argue for or against the status quo.

Data and analysis

Our analysis focuses on protest and proposal activity in Sweden. Sweden is an "influential case" (Seawright and Gerring 2008) in that it can be used to assess relationships that have been under-examined in previous studies of protest-policy relationships, namely analysis accounting for (a) policy inaction as a desired protest outcome and (b) proposal and protest positions on an issue. Sweden as a case offers unique data that is thus far unavailable for other countries and includes "variation on relevant dimensions" (Ibid., 294), namely protest and proposal activity in favor or against different energy sources. Compared to most other countries, Sweden has been consistently active in renewable energy issues over the last several decades. Sweden was the first country to introduce a CO^2 tax and is well-known for its environmental sustainability in policy and practice (Lundqvist 2004). Sweden is also home to social movements active on energy issues. Starting in 2018, the country made international headlines as Greta Thunberg, a 15-year-old Swedish activist, inspired more than a million students to participate in school strikes to evoke action from world leaders on climate change. The school strikes, while new, follow decades of environmental protest in Sweden, including opposition to various forms of energy production (Anshelm and Simon 2016; Jansson and Uba 2015; Nohrstedt 2009). In their summary of historical opposition against different forms of power production, Jonas Anshelm and Haikola Simon (2016:1545) note that "every large-scale energy enterprise in Sweden has been met with widespread protests and the formation of significant environmental opinion groups."

Using multinomial regression, we assess the effects of protest frequency and size on the introduction of energy-related proposals in Swedish Parliament, controlling for potential confounders. Consistent with previous research, we consider proposal introduction as an indicator of legislative agenda-setting. This introduction stage has been identified as a point in the policy process at which protest has greatest potential for impact (Johnson 2008; King, Cornwall, and Dahlin 2005; Olzak and Soule 2009; Soule and King 2006). The dataset is organized by issue-term with the term consisting of half-year intervals for every year from 1980 to 2020. Using term measures rather than annual measures more accurately represents the Swedish policy-making process in which proposals can be introduced within two legislative terms per year (i.e., spring and autumn).

Dependent variable

The dependent variable is an indicator of proposal introduction related to a given energy production issue, namely: energy/fuel taxes, hydropower, nuclear energy, wind power, and other renewable energy sources. While nuclear energy is not a renewable energy source, we group it as such, because it is a fossil free energy source. However, given that nuclear energy production and its related waste are often opposed by environmental activists who support renewable energy sources, we also run models excluding nuclear energy issues. Additionally, excluding nuclear energy issues in a robustness check is particularly important in the Swedish context due to the 1980 referendum to sunset nuclear plants.

As a unique feature of our research design, we distinguish between proposals that are in favor of and against renewable energy (and nuclear power) sources, coded +1 and − 1, respectively. On rare occasion, if more than one proposal is introduced on a given issue in a given term, the dependent variable was still coded as (+/−) 1, and we coded the proposal that made the largest

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Table 1. Government activity in favor or against energy sources by source in a term, 1980–2020.

Energy source	Activity per term		
	Against (−1)	No activity (0)	For (+1)
Energy/fuel taxes	4	60	18
Hydropower	9	62	11
Nuclear energy	14	59	9
Wind power	1	57	24
Other renewable (solar, biofuel)	0	53	29
Total	28	291	91

Note: The maximum possible activity during a term is 5, and we have, in total, 82 terms and 410 possible proposal introductions.

change. We are mainly interested in changes to the status quo; therefore, the dependent variable assesses whether there was proposal activity rather than the number of proposals on each issue in a term. The majority of issue-terms are coded 0, meaning that for most terms, there were no energy-related proposals (see Table 1).

Our proposal-activity data comes from the open public database of the Swedish Parliament, where we have searched for proposals with the following keywords: hydropower, wind power, nuclear power, renewable, bioenergy, biofuel, fuel tax, energy tax and solar power. We then coded whether the government introduced any proposals on each energy-related policy issue as either in favor (+1) or against (−1) (see Appendix, figure A1 for trends in energy proposals over time).

A majority of the energy proposals focus on taxation of or financial support for specific energy sources[3] or regulate the size and location of new power production sites.[4] For example, the government decreased financial support or subsidies for wind- and hydropower plants with the "Introduction of flat-rate calculation in the electricity market" (1998/1999:137), but a few years later re-established support with "Working together for a safe, efficient and environmentally friendly energy supply" (2001/02:143). Other examples of proposals include the lowering of diesel taxes from 1.35 SEK ($0.24 USD) per liter to 1.3 SEK ($0.23 USD) per liter (1992/93:192) as well as increasing diesel taxes, for example, by 0.4 SEK ($0.05 USD) per liter (2009/10:4). There were occasions when legislation was introduced but did not make any noteworthy changes for or against the energy types we examined (e.g., Prop. 2008/09:9), in which case these were considered "no policy" terms. With the possible exception of banning the construction of new nuclear power plants, the policies included in analyses are comparable overall, addressing mainly taxes and subsidies.

Explanatory variables

Table 2 describes the variables used in analysis. Our main explanatory variables are protest frequency and size for each issue during each term. Our data source is the Sweden Protest Dataset (SPD), an original data infrastructure on protest events as reported in news agencies and six of the main newspapers, which collectively cover all of Sweden (Jansson and Uba 2023). Protest data was human-coded, which provided opportunities to examine detailed descriptions of events. The usual selection and description biases for using print media to identify and measure protest events apply (Earl, Martin, McCarthy, and Soule 2004).[5] However, major and larger protests are likely captured by the selected news sources. To check the quality of the SPD, we compared it with the Poldem-Protest-30 dataset (Kriesi et al. 2020), which includes protest data for Sweden and 29 other European countries from 2000 to 2015 and is the best data available in the field to date. We find that the major events in Sweden are measured in both datasets. We also find that the number of events covered by the SPD is larger due to the large number of local events, but the average number of participants measured in the SPD is smaller due to the large number of events

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Table 2. Descriptive statistics.

	Min	Max	Mean	Std.dev
Protest frequency in favor of RE/nuclear (per half-year term)	0	36	1.58	3.90
Protest frequency against of RE/nuclear (per half-year term)	0	66	1.63	4.96
Protest size in favor of RE/nuclear (imputed, per half-year term)	0	92399.6	1491.4	8795.7
Protest size against of RE/nuclear (imputed, per half-year term)	0	663205.0	8177.5	53666.8
Public opposition to energy source/increasing fuel tax (annual)	1.32	4.13	2.61	0.87
Center-Right government in contrast to Social Democratic government (per half-year term)	0	1	0.39	0.49
Share of Green Party seats in parliament (annual)	0	25	13.85	9.41
Unemployment rate (annual)	2.20	11.00	6.59	2.49

Note. $N = 400$

with few participants. While Poldem-Protest-30 comprehensively covers larger protest events, the SPD has more detailed information and includes more events outside of the main cities.

Protest frequency is the number of protest events in an issue-term. For inclusion in the SPD, protests are defined as collective actions with collective outcomes. Collective actions are acts by three or more individuals that make collective claims or express grievances aimed at provoking collective outcomes. Claims can be made by a group (e.g., social movement, interest group, civil society organization) on the behalf of a social category (e.g., poor people, pupils, and neighborhoods).[6] The SPD includes data on various protest events—ranging from common strategies, such as petitions and writing letters to authorities and newspapers (i.e., letters to the editor) to classical contentious actions, such as rallies, demonstrations, strikes, acts of civil disobedience, and violent attacks.[7] The event refers to a protest tactic which was reported as taking place in the same geographical location (e.g., city, region, or whole country) mobilized by the same group on the same day.

We also examine protest size measured as the log number of protest participants. When the number of participants was unreported in news sources, we imputed the size by calculating the average number of participants for each tactic.[8] Previous research has noted the difficulties of accounting for protest size in analysis related to measurement and endogeneity problems (Butcher and Pinckney 2022). Newspapers provide estimates or—at times—vague references to size, and estimates vary depending on the news source and person providing the estimate (e.g., protester, police, or journalist). Despite the imperfections in measuring the number of participants in a protest, we include the variable in analysis, due to its potential signaling value and importance to provoking lawmakers' responses (DeNardo 1985).

For the forty-year period covered in the SPD, there were 2912 protest events related to environmental issues (out of a total of 19,999 protests covered in the dataset), but only 933 were related to energy. Figure 1 shows the number of protest events (*protest frequency*) and the number of participants (*protest size*) over time.[9] Of the 933 energy-related events, 42% were confrontational (e.g., boycotts, blockage, strikes, civil disobedience, and demonstrations), while the remaining events were petitions, letters to the editor, and legal actions (see figure A2 in the appendix).

Over one-third of protests were in the Stockholm area,[10] and there were slightly more protests in favor of renewable energy (N = 227) than against (N = 181) (see figure A3 in the appendix). We coded protests calling attention to climate change or high carbon emissions (e.g., climate strikes) as protests in favor of each of the renewable energy sources (i.e., hydropower, wind, "other renewables," and in favor of increased fuel taxes). Protests coded as anti-renewable were protests against bio-, hydro-, and wind-energy production, including the location of production sites or construction of power plants. Additionally, all mobilizations against fuel tax increases were also against renewable energy, because the goal of fuel tax policies was to support renewable energy by making the use of diesel or fossil fuel more expensive. Protests against windmills and hydropower

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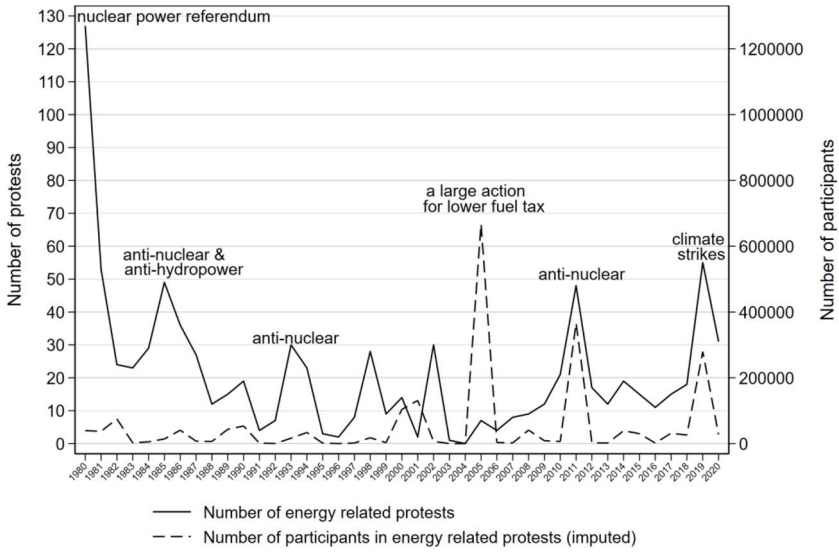

Figure 1. Annual frequency and size of energy-related protest events, 1980–2020.

plants were mainly mobilized by community groups that sometimes cooperated with the Swedish Nature Protection Society (*Naturskyddsföreningen*) and, more recently, with Fridays for Future and indigenous Samí. Support for wind- and bio- energy came from local groups as well as labor unions, and some networks of small businesses and farmers, but there were also farmers against fuel taxes. Protest actors against nuclear energy were mainly larger environmental organizations, and protest actors in favor of nuclear energy were unions, entrepreneur interest groups, and select environmental groups.

The organizations involved in the different actions have changed over the forty-year time span studied, and in the Swedish context, letter-writing in newspapers is commonly used across a variety of political actors. Generally, however, compared to anti-renewable energy protests, pro-renewable energy protests were more contentious, with 44% of tactics involving demonstrations and 11% involving civil disobedience (see Table A1 in the appendix). For opposition to renewable energy sources (including fuel taxes), 24% of tactics were demonstrations and 2% were civil disobedience. For nuclear energy, the difference in tactics were wider. Anti-nuclear protests used demonstrations or civil disobedience with more frequency than pro-nuclear protests (31% to 15%, respectively). In the conclusion, we discuss the implications for our findings.

Control variables

Analysis includes control variables that may moderate relationships between protests and proposal introduction. A unique feature of our study is our ability to include public opinion polling data on each of our five energy issues. In other previous studies, sufficient time-consistent public opinion polling data is unavailable, impeding analysis of protest effects compared to potential effects of public opinion (Burstein 2021). We use data from the Swedish SOM Institute Cumulative Dataset 1986–2017 (Holmberg and Weibull 2006), which collects public opinion data, measured annually in repeated cross-sections through self-administered mail surveys.

From the dataset, we include measures of public attitudes on each of five energy sources: hydropower, nuclear energy, wind power, solar, and biofuel, and responses were recorded on a five-point scale from (1) in favor to (5) against each energy source.[11] Aside from nuclear energy, public opinion on each energy source is consistent over time (see figure A4 in the Appendix).[12]

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Models also control for government partisanship and Green Party share of parliament seats. We include a dichotomous indicator of the coalition government in power, namely the Center-Right coalition, which consists of the Center, Moderate, Christian Democratic, and sometimes the Liberal Parties. The Left-Social Democratic coalition serves as the baseline.[13] Particular to the Swedish political context, environmental activists can have formal representation in parliament through the Green Party (see Debus and Tosun 2021), and we include a separate measure for the share of parliament seats held by Green Party members.

Models also control for state economic health, using data from Statistics Sweden (SCB) on the unemployment rate, which is the proportion of working age population who is not employed or in education/training.[14] A high unemployment rate would decrease tax revenues and limit state funds. State fiscal capacity can limit the extent to which the state can afford to meet protest demands to, for example, invest in new forms of renewable energy (see Engeman 2018). A high unemployment rate may also offer a political limitation to, for example, raise taxes on fossil fuels in a context of economic hardship for constituents.

Finally, models account for potential time-dependency in the policy process. If a proposal was introduced in relation to a given issue in a given term, a proposal on that same issue is not likely to be introduced within the subsequent year. We therefore control for proposal introduction for each issue in the prior year (*policy introduction t-2*). In a supplementary analysis, we also ran models with one-term (half-year) lags, and results were similar to what we report in the main models (See Appendix, Tables A2 and A3).

Analytical strategy

Analysis distinguishes between pro- and anti-renewable energy proposals to assess whether protesters get what they want and possibly the opposite. The dependent variable is categorical with three values: (1) proposal in favor of renewable energy, (2) proposal against renewable energy, and (3) no proposal introduction. By using multinomial regression, we are able to treat inactivity (i.e., no proposal introduction) as the baseline, measuring policy action against this baseline of inaction. Thus, a negative relationship with policy introduction would indicate a prevention of that type of policy. Protests and proposals are sorted by issue, a research design that has been used in other studies of protest outcomes (see Hutter and Vliegenthardt 2018; Wouters et al. 2021). Protest frequency and size variables are lagged by two terms (*t-2*), because proposals in parliament require some advance deliberation, thus taking time, especially if proposals are preceded by public investigation. In reporting our main results, we first examine relationships between protest and proposal activity, including all five energy-related issues over forty years. With two-term lags for protest measures, our analysis covers 400 issue-term observations. Because nuclear energy-related issues may complicate our main results, we then examine protest-proposal relationships excluding nuclear energy issues (see Table A4 in the appendix for analysis of only nuclear-related protests and proposals).

Results

We examine relationships between protest and proposal activity in the Swedish parliament related to energy/fuel taxes and energy sources. Table 3 shows results from multinomial regression of protest on proposal introduction in favor (+1) or against (−1) fuel taxes or energy sources. The first two models assess protest frequency, and Models 3 and 4 assess protest size as explanatory variables. Overall, results suggest that protests have their intended effects – anti-nuclear or anti-renewable energy protests, especially—even when controlling for potential confounders, including public opinion and government in power.

Models 1 and 2 examine relationships between protest frequency and proposal introduction. Results show that pro-nuclear or pro-renewable energy protests decrease the likelihood that anti-nuclear or anti-renewable energy proposals will be introduced, effectively stalling undesired proposals. These protest-proposal relationships are robust to including public opinion data

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Table 3. Energy-related protest frequency and size, and proposal introduction in Sweden, 1980–2020.

−1 Anti-nuclear; anti-RE (t) +1 Pro-nuclear; pro-RE (t)	Model 1 (protest frequency)			Model 2 (protest frequency)			Model 3 (imputed protest size, log)			Model 4 (imputed protest size, log)		
	-1	0	1	-1	0	1	-1	0	1	-1	0	1
Protest in favor of	−.066**		.026	−.065*		.022	−0.055		0.023	−0.039		0.012
RE/nuclear (t- 1 year)	(.027)		(.050)	(.039)		(.055)	(0.038)		(0.062)	(.051)		(.070)
Protest against of	.101***		−.133***	.101***		−.124**	0.123***		−0.082***	0.108***		−0.075***
RE/nuclear (t-1 year)	(.013)		(.047)	(.015)		(.058)	(0.031)		(0.027)	(.013)		(.029)
Public opposition to energy				.008		−.100				0.171		−0.129
type/increasing fuel tax				(.262)		(.231)				(.282)		(.232)
Center-Right (S baseline)	−.629		−.329	−.628		−.340	−0.496		−0.345*	−0.484		−0.350**
	(.563)		(.220)	(.526)		(.211)	(0.414)		(0.181)	(0.383)		(0.170)
Greens seats in parliament	−.085***		−.037***	−.085***		−.037***	−0.093***		−0.036***	−0.090***		−0.036***
	(.012)		(.013)	(.014)		(.012)	(0.012)		(0.011)	(.015)		(.011)
Unemployment rate	.194*		.049	.193*		.052	0.161		0.055	0.158		0.056
	(.100)		(.036)	(.100)		(.036)	(0.105)		(0.042)	(.105)		(.041)
Policy introduction (t-1 year)	−.865		.034	−.863		.026	−0.905		0.039	−0.873		0.031
	(.775)		(.409)	(.773)		(.406)	(0.761)		(0.417)	(0.766)		(0.410)
Constant	−2.599***		−.775***	−2.619**		−.526	−2.403***		−0.799***	−2.867***		−0.463
	(.850)		(.248)	(1.091)		(.566)	(0.794)		(0.299)	(1.052)		(0.636)
Pseudo R^2	0.077			0.078			0.068			0.065		
AIC	568.9188			568.4691			577.2199			575.8904		
Observations	400			400			400			400		

Note: Multinomial regression models with robust standard errors in parentheses, *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$

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(Model 2) but not to a one-term policy lag (shown in Appendix, Table A2). However, we find no relationship between pro-nuclear or pro-renewable energy protests and the introduction of proposals supporting nuclear or renewable energy sources. In contrast, protests against nuclear or renewable energy sources are comparatively more effective at getting desired proposals introduced and stalling the introduction of undesired proposals. When there are more anti-nuclear or anti-renewable energy protests, more proposals are introduced that reduce reliance on nuclear or renewable energy, and fewer proposals are introduced that increase reliance on nuclear or renewable energy sources. Thus, by looking at the effects of protest frequency, one could say that pro-nuclear/renewable energy protests can inhibit the introduction of undesired proposals, but anti-nuclear/renewable energy protests can both inhibit undesired proposals and facilitate the introduction of desired proposals.[15]

Next, we examine relationships between protest size and proposal introduction. Results in Models 3 and 4 show that the size of the protest matters when protests are opposed to nuclear/renewable energy sources. The findings show that the larger the protest the lower the likelihood that proposals investing in renewable/nuclear energy will be introduced and the higher the likelihood that proposals limiting investment in renewable/nuclear energy will be introduced. However, as our test later shows, this latter (facilitative) finding is not robust to the exclusion of nuclear energy issues. Thus, in looking at protest size, we only find evidence that larger anti-nuclear/renewable energy protests can inhibit undesired proposal introduction. This relationship is robust to the inclusion of the public opinion variable, which—as with all other models—does not have a significant relationship with proposal introduction.

Other control variables have varied effects on proposal introduction. Notably, across all models in Table 3, the Green Party's share of parliament seats has a significant, negative association with the introduction of proposals both in favor and against renewable energy sources, and this is true also when excluding nuclear energy-related issues from analysis (see Table 4 below). Thus, Green Party's share of parliament seats favors inaction on renewable energy issues, which is consistent with other previous research findings (see Cheon and Urpelainen 2013). We discuss this finding in the conclusion.

Because protest actions and proposal activity around nuclear energy production may be unique relative to other energy issues, we next exclude nuclear energy issues from our examination of protest-proposal relationships as a robustness check for our main findings. Table 4 reports results from these analyses. Models 1 and 2 show results for protest frequency that are comparable to our main findings reported in Table 3. Again, protests against renewable energy sources (e.g., hydropower) have significant, positive relationships with proposal introduction in the direction that favors the protesters, even when controlling for public opinion (Model 2). Thus, anti-renewable energy protests are associated with the introduction of fewer proposals that support renewable energy use and production and also the introduction of more proposals that would limit renewable energy use and production. Thus, looking at protest frequency, anti-renewable energy protests are able to inhibit the introduction of undesired proposals and facilitate the introduction of desired proposals.

Figure 2 summarizes Model 2 in terms of predicted probabilities of the government proposing a specific energy policy at an increasing number of anti-renewable energy protests, holding all other variables in the model at their means. Protests against renewable energy are likely to achieve their goals (figure on the left), although 15 protests per half-year term are required to increase the probability of proposal introduction by 10%.

Models 3 and 4 in Table 4 examine relationships between protest size and proposal activity. When nuclear energy issues are excluded, we find that the larger the protest the less likely a proposal will be introduced that is counter to protesters' demands. This is true for both pro- and anti-renewable energy protests.[16] Thus, in contrast to our findings in Table 3, larger pro-renewable energy protests can effectively prevent the introduction of anti-renewable energy proposals. This contrast in results reported in Table 3 (including nuclear energy) and Table 4 (excluding nuclear energy) can be explained by the exclusion of nuclear energy issues from analysis. In

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Table 4. Energy-related protest frequency and size, and proposal introduction in Sweden, 1980–2020 (only renewable energy, no nuclear).

−1 Anti-RE proposal (t) +1 Pro-RE proposal (t)	Model 1 (protest frequency)			Model 2 (protest frequency)			Model 3 (imputed protest size, log)			Model 4 (imputed protest size, log)		
	−1	0	1	−1	0	1	−1	0	1	-1	0	1
Protest in favor of renewables (t- 1 year)	−.161**		.024	−.209		.025	−0.087***		0.004	−0.121***		0.006
	(.073)		(.053)	(.157)		(.057)	(0.011)		(0.069)	(.024)		(.083)
Protest against of renewables (t-1 year)	.089**		−.182***	.095***		−.180***	0.074**		−0.070***	0.084**		−0.070***
	(.041)		(.049)	(.036)		(.053)	(0.036)		(0.027)	(.035)		(.027)
Public opposition to energy type/increasing fuel tax				−.278		.036				−0.323		0.026
				(.448)		(.247)				(.422)		(.278)
Center-Right (S baseline)	−.041		−.402	−.032		−.400	−0.040		−0.417**	−0.016		−0.417**
	(.346)		(.262)	(.374)		(.263)	(0.331)		(0.204)	(.377)		(.207)
Greens seats in parliament	−.096***		−.047***	−.093***		−.047***	−0.101***		−0.046***	−0.099***		−0.046***
	(.013)		(.007)	(.014)		(.008)	(0.012)		(0.008)	(.013)		(.008)
Unemployment rate	.237		.072	.240		−.071	0.241		0.076	0.245		0.076
	(.168)		(.045)	(.171)		(.046)	(0.167)		(0.051)	(.170)		(.052)
Policy introduction (t-1 year)	−1.186		−.218	−1.126		−.221	−1.172		−0.230	−1.111		−0.234
	(1.402)		(.457)	(1.484)		(.446)	(1.397)		(0.470)	(1.464)		(.458)
Constant	−3.111**		−.625***	−2.478		−.715	−3.130**		−0.625***	−2.387		−0.692
	(1.280)		(.188)	(2.040)		(.706)	(1.217)		(0.238)	(1.913)		(.855)
Pseudo R^2	0.058			0.060			0.055			0.056		
AIC	440.221			439.5627			441.8277			441.0448		
Observations	320			320			320			320		

Note: Multinomial regression models with robust standard errors in parentheses, *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$

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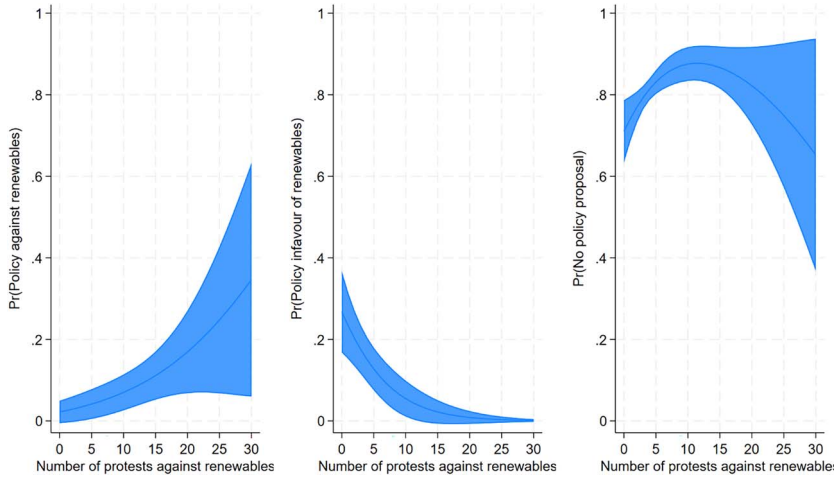

Figure 2. Predicted probabilities for respective outcomes during a half-year period: Anti-renewable policy (left), pro-renewable policy (center), or no policy proposals (right) for model 4, Table 3. Note for figure 2: Number of protests per half-year is lagged by 1 year in the model. Estimation is made by keeping all other variables in the model at their mean value.

supplementary analysis of nuclear energy issues (only), we do not find a relationship between the size of pro-nuclear mobilization and anti-nuclear energy proposals (see also Table A4 in the appendix).

Discussion and conclusions

Energy-related protests (Anshelm and Simon 2016; Jansson and Uba 2015; Nohrstedt 2009, Uba 2010) and government action (Boasson et al. 2020; Lundqvist 2004) have a long history in Sweden. Using a unique dataset on different energy-related protests and parliamentary proposals in Sweden across four decades (1980–2020), our paper makes at least three contributions. First, we argue that policy inaction is a potential "gain" for some protest activists. We know from previous qualitative studies that the prevention of government action can be a goal of protest (cf. Engeman 2018; Vasi 2009; Vasi et al. 2015). Yet, previous quantitative studies have neglected policy inaction as a possible intended protest outcome. Our analysis uniquely distinguishes between protests and policies in favor and against different energy sources. Using multinomial regression, we are then able to assess whether protests are associated with the introduction of proposals that align with protesters' demands—a traditional investigation in previous research—but also whether protests are associated with the introduction (or non-introduction) of proposals counter to protesters' demands, thus advancing previous methodological and empirical approaches.

Second, we argue that the positions that protesters take—in favor or against policy change or status quo practices—are consequential for their policy influence. By including protests in favor and against given energy sources within the same models, we can uniquely assess whether and what kinds of protests get what they want. We find evidence that protests matter to policy—but only in preventing proposals or defending status quo practices, meaning, in this case, continued reliance on fossil fuel sources. Previous research finds a negative lobbying bias (Butler and Miller 2022; McKay 2012) and status quo bias among lawmakers (Baumgartner et al. 2009; Persson 2023), and it is possible that the power of protests that oppose change is amplified due to this bias. It is also possible that protests opposing change are more powerful than protests calling for change, though this is a question deserving of further scrutiny. Unity lends persuasive power to protests (Wouters and Walgrave 2017), and sending clear and unified messages may be easier

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when opposing an issue or problem than unifying behind a solution. Protests in favor of renewable energy were also more contentious, in general, than protest against renewable energy. However, the groups that led protests often combined disruptive and non-disruptive tactics. Further examination into potential backlash or unintended outcomes for disruptive protest actions and how these might be different for groups opposed to or in favor of status quo changes is a promising area of future research.

Finally, we show that protests have significant relationships to policy action and inaction even when controlling for public opinion. The lack of an independent, direct relationship between public opinion and energy-related proposals is notable. However, public opinion on different energy sources, with the exception of nuclear energy, is relatively stable over time. Such findings may raise alarm among scholars who emphasize the congruence between public opinion and policy as a defining marker of democratic systems (Brooks and Manza 2007). Yet, protests can also serve an "issue signaling" function, raising the salience of issues among elected lawmakers who have limited time (Lohmann 1993) and especially for issues on which the public lacks clear opinions (Burstein 2020). It is possible that public opinion on an energy source does not matter much to proposal introduction, but what matters instead is the extent to which publics or voters signal urgency in acting on energy issues over other potential social or economic issues. One way to signal urgency is through protest.

Our research also presents some counterintuitive findings with regard to the role of green parties in energy policy-making. While Green Party members advocate renewable energy sources (Aklin and Urpelainen 2013; Debus and Tosun 2021; Jacobsson and Lauber 2006), our results show that the Green Party's share of parliament seats is associated with inaction on energy-related proposals, including both pro- and anti-renewable energy proposals. There are a few possible explanations for this finding. First, the Green Party was not in parliament in the early 1980s, when many policies were adopted,[17] and advocacy for renewable energy also came from Sweden's Center Party (Debus and Tosun 2021). Second, looking at the Green Party's programs, the party has become less focused on environmental issues over time (Ibid.). Thus, the significant, negative relationship we find between Green Party share of parliament and energy-related proposals may be related to changes in priorities within the party. Third, our analysis focuses on energy polices, and Green Party members may have prioritized and/or had more success with other environmental policies unrelated to energy production. Finally, the Green Party is relatively weak compared to other parties in Sweden and was a minority party even within the governing Social Democratic coalition (Bolin and Aylott 2019).[18] Thus, like the protest actors we studied, the Green Party may have been strong enough to help block proposals that would increase reliance on fossil fuels, for example, but not strong enough to push against the status quo in favor of transitioning to renewable energy sources.

By focusing on Sweden, our research further extends our understandings of protest-policy relationships in other democratic systems. Social movement theories based on U.S. data may not apply to other democracies, given the particularities of the policy-making process. For example, the "theory of legislative logic" is based on U.S. data and posits that social movement influence wanes at later policy-making stages where decisions are more consequential and other factors, such as public opinion, take precedence (Soule and King 2006). In Sweden, however, proposals are most often introduced by the government (executive), and these proposals rarely fail.[19] Because most proposals in Swedish parliament become law, policy introduction in Sweden may be more meaningful than in the U.S., where any one legislator can introduce a bill. Our findings showing how protests matter to the introduction of (some) proposals are therefore surprising.

Compared to other countries, in a corporatist system like Sweden,[20] there are potentially more points at which organized interest groups, including environmental organizations, can use institutional channels of influence (see Peterson, Thörn, and Wahlström 2018). In Sweden, proposal introduction is often preceded by long public analysis (*statlig utredning*). As part of this analysis, civil society organizations (including social movement organizations) are invited to comment. Greater access to institutions has been used to explain the lesser prevalence

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of protest in Sweden compared to other countries (Kitschelt 1986), yet we find at least 2,000 environmental protest events in the country over the last forty years. With better access to government institutions, there may be fewer disruptive protests in Sweden compared to other countries, and Swedish protests may either have greater impact due to greater visibility or less impact due to a lack of acceptance of contentious actions. Social movement scholars should continue to examine protest impacts on policies across democratic systems, and cross-national comparative research on the policy consequences of social movements is a research area for further development.

As with any study, there are potential limitations to our arguments, especially if we broaden our historical outlook or consider additional types of outcomes. Our research focuses on "victory over the immediate target" (Useem and Goldstone 2022) rather than long-term, lasting change. It is possible that in the long-term, the political influence of protest actions accumulates over time to impact policy change that challenges the status quo. However, without immediate—possibly incremental—victories, there may not be any long-term success either. Additionally, if the policies we study are later reversed, then we can never be certain that the movement has long-term effect. Additionally, there are protest outcomes beyond policy that could temper an assessment of a protest's success or failure regardless of the policy outcome (Elliott-Negri et al. 2021). For example, a protest may not win immediate investments in renewable energy sources, but they may influence individual practices that collectively lower carbon emissions (Muñoz et al. 2018).

There may be a role for protest location in influencing policies, though our study does not test this potential relationship. Recent research on environmental protest outcomes finds that members of parliament (MPs) in Germany (Schürmann 2024) and the United Kingdom (Barrie, Fleming, and Rowan 2024) were more vocal about climate change when their districts experienced climate strikes and demonstrations compared to MPs who did not. While such studies focus on political speech, their findings suggest that protest location may be consequential to protest efficacy toward policy outcomes. However, in Sweden, over one-third of the energy-related protests were in the Stockholm area. Additionally, Swedish elections follow the list proportional representation rules, and voters tend to cast ballots for political parties rather than individual candidates (Karlsson 2018). Consequently, MPs tend to represent a general (national) rather than local (district-based) constituency, and there is a strong party discipline (Persson and Sundell 2022). However, future research should pay more attention to how protest location might influence policy in/action.

Overall, our results suggest that protest has its limitations as a tactic for achieving policies that challenge status quo practices. Our research does not account for institutional tactics, such as interest group lobbying (cf. Burstein 2021) or insider activism via state-bureaucracy (Banaszak 2005), though our protest definition is broad enough to include letters in newspapers that are not exclusively social movement tactics. It is still possible that pro-renewable energy protests are effectively countered by anti-renewable energy mobilization that may be backed by better-resourced industry actors. Similarly, some recent studies have shown that energy policies might be adopted not only because of coercion (e.g., protest impact), but also learning among state bureaucrats (Zhou et al. 2019). For the political actors who want to see increased investment in renewable energy sources, our research suggests that using protest to block proposals supporting non-renewable energy sources might work. However, to pass proposals that would facilitate more reliance on renewable energy, other tactics may be more fruitful. For example, electing lawmakers who are supportive of renewable energy sources may be a promising tactic for indirect policy influence. Our models addressing protest size show that center-right parties are less likely to pass policies supporting renewable energy than social democratic or left parties.

While we focus on national-level government action, future research could focus on local decisions that also are an important potential point of protest influence on energy production. To date, the only studies to show a direct relationship between social movement mobilization and energy policies relate to nuclear power (Giugni 2004; Kitschelt 1986). However, research on local outcomes suggests that protests and other movement mobilization may also have

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impacts (Blanchet 2015), for example, on the local solar energy production (Aklin and Urpelainen 2013; Aylett 2013). Future research should consider relationships between protests and local or subnational government action, because meaningful actions to address the climate crisis are also happening at local level (Blanchet 2015).

Endnotes

1. Other studies find that public opinion informs (Agnone 2007; Soule and Olzak 2004) or has little bearing on policy outcomes (Chen 2007; Gilens and Page 2014).
2. More research is needed, however, on relationships between proactive/reactive demands, their relative clarity, and social movement unity.
3. Examples include "a sustainable energy supply" (1996/97:84) or "tax reduction for micro-production of renewable electricity" (2013/14:151).
4. Examples include "Environmental Code" (1997/98:45) and "Testing of wind power" (2008/09:146).
5. Protests are more likely to get reported by news outlets when they are organized by professional or formal organizations with more mainstream messaging (Andrews and Caren 2010). It is therefore possible that our source of protest data (i.e., newspaper reporting) biases our protest measures toward actions that present little challenge to the status quo or actions organized by better-resourced groups.
6. The SPD thus excludes purely individual grievances, hate crimes, and public displays of anger (e.g., football riots), which do not have clear, collective claims.
7. Previous studies of contentious politics have similarly included less disruptive forms of protests. For example, Doug McAdam and Hilary Schaffer Boudet (2012) consider op-ed letters, submitted comments, and lawsuits as potential community responses to energy siting proposals.
8. We also tested an alternative measure of (log) protest size. For this measure, we coded missing values as having three participants, the minimum protest size to fit the parameters of our study.
9. There was a relatively large number of small protests in 1980, coinciding with a referendum to phase-out nuclear energy production by 2010. The 2005 peak in the number of protest participants reflects an online petition in favor of lowering fuel taxes, which received over 663,000 signatures. In 2001, there is another peak in protest size in reference to another online petition in favor of lowering fuel taxes, which received 131,000 signatures. In 2011, there were several large events, but the largest was against high energy taxes, and in 2019, there were several large climate "strikes" or demonstrations and a petition against high fuel taxes, which received 140,000 signatures.
10. Of the in-person protest events (i.e., excluding letters), 36% were in regions around Stockholm and Uppsala.
11. We have annual-time measures for fuel taxes for years 1988–89, 2002, 2011–2017; hydropower for 1999–2017; nuclear energy for 1986–1996 and 1999–2017; wind power for 1999–2017 and other renewables (i.e., solar and biofuel) for 1999–2017. For the prior years in which data is missing we input the earliest available value. Except for nuclear energy, available annual-time data shows consistency in public opinion over time, and we therefore expect values to be similar for earlier periods. For nuclear energy, we have more consistent public opinion data compared to other energy sources.
12. Public opinion on nuclear energy fluctuates. Peak opposition (75% opposed to nuclear power sources) came directly after the Chernobyl disaster in 1986, but since then, there has been a steady decrease in opposition to nuclear power (Holmberg 2005).
13. At some points in Sweden's recent history, the Center Party (*Centerpartiet*) advocated pro-environment measures, opposing nuclear power production in particular. While the Center Party has not played very important role in the Center-Right coalition compared to other

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parties, it has often had responsibility for energy issues, sometimes holding positions in the Ministry of Energy (2006–2011) and Minister of Environment (1991–1994, 2006–2014).

14. Another measure of state fiscal health is public debt as a percent of GDP. However, debt strongly correlates with the unemployment rate, which we consider more noticeable for voters, and by extension, politicians.
15. We have calculated the difference between coefficients showing the effect of pro- and anti-protests on both types of policy proposals and these differences are statistically significant.
16. Using an alternative measure of (log) protest size in which missing values are coded as having three participants, anti-renewable protest size does not have significant relationships to anti-renewable proposal introduction (see Table A5). With lower values for protest size, effects of protest size and proposal introduction are likely underestimated in the models reported in the appendix.
17. The Green party gained its first seats in parliament in 1988, holding 5.7% of seats until they dropped out in 1991 and returned to stay in 1994, holding 5%–7% of seats between 1994 and 2018.
18. The Green Party was part of a minority Social Democratic government from 1998 to 2002. From 2014 to 2018, the Green Party was allied with the Social Democratic Party in a minority coalition supported also by the Left Party and had members appointed to Minister positions, including the Minister of Environment (Bolin and Aylott 2018).
19. On rare occasions are introduced by individual MPs (legislative). When proposals originate in parliament, they are often reactions or alternatives to government proposals (Sveriges Riksdag 2019). Only 25 percent of proposals in parliament receive a vote, because the rest are approved by acclimation (Lindvall, Bäck, Dahlström, Naurin, and Teorell 2020). Additionally, to pass, a bill only needs more "yea" than "nej" votes among the parliament members who cast a vote (or who do not abstain). Thus, a bill does not need majority support in parliament to pass.
20. Researchers have recently questioned Sweden's characterization as a corporatist system since the government's neoliberal turn in the 1990s (see Thörn and Svenberg 2017).

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Supplementary material

Supplementary material is available at *Social Forces* online.

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Conflicts of interest

None declared.

Data availability

The file for the empirical analysis in this article are shared as supplementary files.

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