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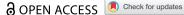
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Challenging energy transition and green jobs: climate policy obstruction across borders

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ABSTRACT

Critical policy mobility literature still does not usually account for transnational opposition dedicated to push back against policy transfer. To address this gap, we examine the case of policy instruments and discourses in support of energy transition and green jobs. In the 2000s, countries such as Spain, Germany, and Denmark adopted policies to fund renewable energy expansion. The success of feed-in-tariff and other policies served as an example for the promotion of public renewable energy investment in the US. Yet by the early 2010s, Spain and Germany discarded feed-in tariffs and erected regulatory barriers against renewables. An opposing discourse coalition amplified policy controversies in North America and Europe. The Institute of Energy Research (IER) orchestrated such efforts in opposition to president Obama's renewable energy program. An IER-led campaign focused on the denial of job market claims related to renewable energy ('green jobs'). Pursuing a multisite case study of opposition strategy mobility, we examine the organizational and discursive building blocks of this campaign. The campaign against renewable policy and green jobs undermined popular renewable energy transition arguments in times of financial crisis in the United States, and was also mobilized against renewable programs in Canada and Europe.

KEYWORDS

Energy transition; green jobs; policy transfer; think tanks; opposition; strategy mobility

Introduction

The promise and challenge of green jobs in the energy sector

The turn toward renewable energy gained momentum in many countries at the turn of the new millennium. Policies developed to support renewable energy from different sources (solar, wind, biogas, hydro) included government tax and regulatory incentives and guaranteed prices (feed-in tariff) in Denmark, Spain, and Germany. Strong support for both public and private investment in renewable energy generation to limit global warming - energy transition - was additionally bolstered by the prospect of new jobs in

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this emerging industry. The promise of new jobs in electricity generation and equipment production along the renewable energy supply chain was particularly relevant in regions subject to job loss due to the exit from polluting energy sources such as coal and lignite mining. With climate policy gaining momentum after passing the Kyoto Protocol in 1997, there was growing concern about the social dimension of climate mitigation. Countries with a considerable concentration of fossil extraction jobs and energy-intensive industries depending on cheap electricity supply faced challenges while the 'energy dependency' debate emerged (Sovacool et al. 2022).

The global financial crisis and the following deep recession aggravated the labor market problems and social concerns. The official unemployment rate in the US surged from below 6 to almost 10%. Despite the economic turmoil, climate change remained on the agenda due to the growing visibility of imminent related catastrophes. Storms like Ike or Katrina in the US in 2005 and 2008, respectively, Nargis in Myanmar, and the extreme heat waves in Europe in 2003 and 2010 underlined the growing urgency of mitigation and adaptation. With unprecedented funds available to fight the collapse of the global economy following the financial crisis, supporting jobs in the renewable energy sector was a rapidly rising storyline of the renewable energy discourse coalition. The optimistic explanation of solutions to both the climate crisis and unemployment had the appeal of a win-win situation: investment in energy transition was good for the climate and for the labor market, promising a double dividend. Building on the rapid expansion of renewable energy programs in Europe (and US states) and on the research on renewable energy conducted at the Center for American Progress (CAP)¹ since the late 1990s, presidential candidate Obama promised to invest 150 billion USD to create 5 million green jobs during his campaign.²

The promise of green jobs due to public (and private) investment in energy transition also promised to reverse a longstanding pattern of hostility between environmental and labor market concerns between green NGOs and trade unions. Ever since the establishment of the Environmental Protection Agency in 1970, business lobbying has targeted the cost associated with environmental regulations in the name of job security and competitiveness (Philipps-Fein 2009). A positive association between environmental regulation and job creation contradicted one of the most important arguments of the corporate sector and fossil interest groups. Unsurprisingly, actors of the fossil business spectrum perceived the new Obama strategy as a severe threat to their business interests. Beyond the US, ambitious renewable energy and green job programs in many countries, including Spain, Germany, and Canada, also became subject to growing controversy around the time of the financial crisis due to the formation of a countervailing discourse coalition. Building on research on the formation of transnational discourse coalitions (Plehwe 2011) and a critical assessment of policy mobility research (Plehwe 2023), we will pursue a multi-site case study of the mobilization against the renewable energy transition to explain the organizational and discursive building blocks of opposition strategy mobility.

Spain established a strong energy transition program in 1997 and extended a feed-in tariff to guarantee solar electricity production prices in 2007. Germany passed the Renewable Energy Law in 2000 with feed-in tariffs, which likewise introduced stable prices for renewable electricity producers in all segments to encourage investment in production and machinery along the supply chain (Morris and Jungjohann 2016). Before,

Denmark had promoted wind energy, particularly with steep taxes on fossil fuels and a feed-in tariff for wind energy. Denmark became the go-to country for wind energy and machinery. However, the rapid growth of renewable production in Spain and Germany following the feed-in tariff promised to establish this policy instrument as a template solution for international policy transfer. The German feed-in tariff has been a transferable model for renewable energy legislation in over 80 countries, including China (Future Policy n.d.). In 2008, many supra- and international institutions, including the European Commission and the International Energy Agency, praised the efficiency of the feed-in-tariff to promote renewable energy production. A large number of policy transfer studies examined the diffusion of feed-in tariffs (see Kim 2020; Cia; Alves et al. 2019; Baldwin, Carley, and Nicholson-Crotty 2019; Alizada 2018; Stadelmann and Castro 2014; Jenner, Ovaere, and Schindele 2013; Jenner et al. 2012; Matisoff 2008; Ürge-Vorsatz, Rezessy, and Antypas 2004), but many relevant issues have not been sufficiently addressed in the literature so far.

Theorizing critical policy mobility further: still limited attention to transnational policy conflict and opposition

Mainstream policy mobility research started by looking at policy diffusion and transfer, mainly in a unidirectional way of problem-solving. Simplifying the original model, it can be said that a successful template from country a is transferred to country b, which yields a policy export-import model. The institutional background of many scholars contributing to the early research program led to an additional focus on how the policy has been shaped by the domestic institutions of the importing country (Simmons, Dobbin, and Garrett 2008). The original model is technocratic and positivist, not interested in policy controversies and complications resulting from policy conflicts and lobbying, for example. However, the policy transfer literature has been growing beyond the original model. Policy transfer research morphed into critical policy mobility research dedicated to explaining the politics of policy transfer within and across borders (Peck and Theodore 2015). Policies rarely develop in isolation in one country. Frequently, they are subject to prior preparation and anticipation in international organizations and institutions (like the OECD or the EU) or have otherwise been subject to global governance arrangements (e.g. the UN IPCC and climate negotiation efforts). Scholars examined a wide range of public and private actors involved in policy mobility processes (Peck and Theodore 2015, as well as contributions to Porto; de Oliveira 2021). The new focus on circulation and policy mutation demanded attention to conflicting narratives, interests, and contestation. Scholars also abandoned the assumption that policy transfer is always benign (Porto de Oliveira and Pal 2018, 212).

While most research efforts remain dedicated to successful (if modified) transfers, studies have also started to pay attention to resistance to and perceived failure of policy mobility. A chapter dedicated to global governance and non-state actors involved in policy transfer processes (Stone, Pal, and Porto de Oliveira 2021) addressed global drivers like global consulting corporations and even global partisan think tank networks like the neoliberal and conservative Atlas network. However, as in most studies, the opposition perspective included in that paper is restricted to local (national) resistance or selective arguing in international policy networks. Organized efforts to preempt or roll back policy transfers have gone unnoticed.

The lack of attention to a broader range of policy mobility argumentation and contestation is somewhat surprising given the literature on (global) social movements, which has addressed organized opposition against neoliberal policies and policy transfers regarding public finance, for example (Della Porta 2017). Historically, many social movements developed transnational strategies and copied practices theorized as repertoires of action (Tilly 1981). However, what in analogy to 'policy mobility' we call opposition 'strategy mobility' (Plehwe 2023) has by no means been restricted to progressive NGOs. Scholars have missed many efforts to challenge, prevent, or roll back policies within and across borders in diverse fields in the context of policy mobility conversations so far. An exemplary case includes the push for climate policy following the Rio de Janeiro Earth Summit in 1992 (Oreskes and Conway 2011). Renewable support, such as feed-in tariffs or renewable portfolio standards (mandatory quotas), is an excellent case in point. No studies published on the hugely successful cases of renewable policy transfer address the enormously contested character of renewable policy both at national and cross-national scales. Of the nine studies cited before, only Ürge-Vorsatz, Rezessy, and Antypas (2004) tackle design deficiencies, opposition to imposition, and implementation and enforcement obstacles in different settings, each of them national.

Regarding the policy mobility issue in renewable energy politics, we thus need to ask: How did adversely affected interest groups and their allies react to the perceived threat of a rapidly growing share of renewable energy in the energy mix of a growing number of countries? And how did they address the potential of the feed-in tariff to speed up renewable energy transition in conjunction with green job claims in particular? What kind of strategies did social actors opposed to energy transition develop to prevent or to push back against renewable energy promotion, and to what effect?

In this paper, we will examine the case of arguments against ambitious and transformative renewable energy policies and the related growth of 'green jobs' in Spain, Germany, Denmark, the United States, Canada, and Italy. This contribution is located in the interdisciplinary line of studies on climate obstructionism, which deals with the study of 'efforts to slow or block policies on climate change that are commensurate with the current scientific consensus of what is necessary to avoid dangerous anthropogenic interference with the climate system' (Brulle, Roberts, and Spencer 2024, 6). We show how a transnational discourse coalition developed to undermine the storyline of the rising renewable energy and green job coalition in the US and in several other countries leading the renewable energy transition. At the core of the effort of the opposition strategy is the social construction of counter-narratives developed to undermine the dual dividend storyline of the renewable energy discourse coalition. According to the opposition argument built on partisan research contracted in different countries, investment in renewable energy destroys jobs, reduces consumer welfare, and undermines competitiveness. Regarding source material, we can draw on a small number of academic publications (Buchmann 2022), NGO reports (Greenpeace 2010, n.d.; DeMelle 2010; DeSmog n.d.-f), and case studies of individual country cases. While the work of NGO researchers tackles the Institute of Energy Research (IER) and its advocacy arm, the American Energy Alliance, Buchmann (2022) examines the broader green growth and green new deal discourse, which provides essential background for the green jobs

discourse. Buchmann's work on renewable energy concentrates on the climate policy efforts of European embassies in the United States (climate diplomacy) to counteract dubious studies in their countries that were written at the request of the IER in the US. While this focus provides rich information on the international political dimension of dubious think tank studies, the book does not cover the anti-renewable strategy circulation across the neoliberal think tank networks in North America and Europe. Based on these organizational capacities, the anti-renewable and anti-green job narrative has been distributed and mobilized across the Atlantic Ocean and possibly elsewhere. Our transnational discourse coalition and opposition strategy mobility study relies on a comprehensive examination of the global Atlas think tank network, including some key players in climate contrarianism and policy obstruction like the Heartland Institute in the United States (Oreskes and Conway 2011). Existing literature on climate contrarianism and policy opposition has pointed to think tanks and think tank networks with support and funding from fossil industries, corporate philanthropies, and other business groups (R. E. McKie 2023). While the Atlas think tank network does not include all groups involved in our case of renewable and climate policy opposition, as we shall see, it lends itself to a study of both organized and emergent efforts due to the relationships members develop and maintain among each other in many countries (Djelic and Mousavi 2020; Frost 2002).

We will present our methods in section 2, then introduce the key actors of the policy process we study in and around the IER in the US (section 3). In addition to publishing one study itself, the IER has solicited four other studies dedicated to attacking renewable policies in four countries (the US, Spain, Germany, and Denmark), which we will tackle in section 4. Of particular importance for our argument of opposition strategy mobility is the replication of one (the Spanish) study in Italy, which has been funded by an Italian fossil interest group. We will present the repercussions of the renewable transition and green job critical campaign discourse in the Atlas network (in the US and Canada, in Spain, Germany, Denmark, and Italy in section 5, compare the Figure 1 illustration of our multi-case study). We

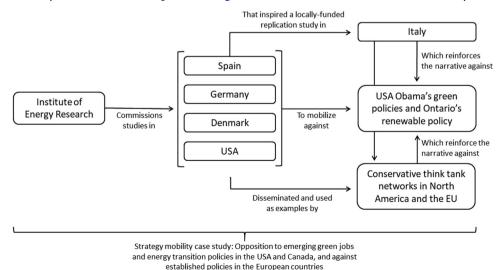


Figure 1. Anti renewable energy and green jobs campaign: the case study design matching the transnational opposition efforts.

will discuss our findings in section 6 and finish with a general conclusion and desiderata of future research on opposition strategy mobility.

Methods

This critical multi-site case study research (Audet and d'Amboise 2001) involves qualitative, interpretative, and descriptive statistical methods including narrative analysis, surveys, and process tracing. In contrast to previous multi-site qualitative analysis (Jenkins et al. 2018), our research is not looking at multiple sites for inter-case comparative and broader validation purposes (although this could be an extension of the present approach). We examine multiple sites as elements of the case under examination, namely the formation of a transnational opposition strategy to renewable energy policy mobility. Each of the different sites chosen has been relevant in the development of the discourse coalition opposed to energy transition. The anti-renewable coalition had been advanced at the onset of the global financial crisis in 2008 in particular to undermine the argument of a double dividend: renewable energy was seen as a promising tool to address both ecological and labor market challenges. In our case study this involved countries that had been selected to solicit research for the purpose of destroying internationally dominant narratives about renewable energy policy in the country (Spain, Germany Denmark). Beyond this original strategy, our case involves the replication of the strategy by other actors of the same network in yet another set of countries and the EU (Italy, Canada, and the EU), hence opposition strategy mobility. Much of the original information offered in this paper draws on a survey study of the members of the Atlas network of think tanks around the world between 2000 and 2022 and on the content published by Atlas Network partner think tanks related to climate policy.³ Information on the member organizations dates back to 2021, when membership data of the Atlas network was still available online, and additional information was gathered from the Internet Archive (archive.org).

Concretely, we base this research on the formation of an oppositional transnational discourse coalition on initial information of the campaign of the IER against green jobs and the participation of two Atlas member organizations in the mobilization of studies commissioned by the IER: Instituto Juan de Mariana, in Spain, and CEPOS, in Denmark. Of particular relevance for opposition strategy mobility is the replication of the Spanish study by the Bruno Leoni Institute in Italy, which also belongs to the Atlas network. Germany's academic research organization, RWI (Essen), not a member of the Atlas network, and US Atlas member think tanks have completed the picture of material solicited from IER (see annex I for the complete information on the studies). The case (site) selection thus resulted from the need to systematically include all (known) organizations and studies involved in the formation of the renewable opposition strategy originally orchestrated by the Institute of Energy Research.

Additionally we examine the climate policy-related content of 562 Atlas Network partners – think tanks that have been part of the network between 2000 and 2022^4 – to assess if and to what extent the Atlas network has been relevant to the circulation of these studies and additional efforts. Additional research on the policy process in the field of energy transition in North America and the EU enabled the tracking and tracing of the studies and the replication of the counter-story line in the effort to undermine support for renewable energy and green job programs.



Origins of opposition strategy mobility: counter-agenda setting

Despite the 2008 global financial crisis, green economy discourses and renewable energy transition policies had gained considerable ground in the EU and the US. The strategies pursued were more or less business-friendly and had backing from leading business interest groups like the World Council on Sustainable Development or the International Chamber of Commerce (Bergquist and David 2023). Nevertheless, relevant fossil business groups vigorously opposed green policy agendas, particularly climate mitigationdriven energy transition. Politically, the corporate sector fragmented along neoliberal lines of environmental economics, on the one hand, and along reactionary fossil interest politics opposed to virtually all climate mitigation efforts, on the other hand. The latter strategy led to the formation of the Global Climate Coalition in 1989, a corporate network organizing climate science denial and obstruction activities (Brown 2000). The group dissolved in 2001. A range of climate contrarian activities primarily rolled out by think tanks funded by fossil interest groups among others succeeded the Global Climate Coalition (R. E. McKie 2023; Oreskes and Conway 2011).

A key player in protecting fossil energy business interests from early on was Koch Industries, a diversified conglomerate with major oil and gas business interests based in Wichita, Kansas. According to investigative journalist Geoff Dembicki, Koch Industries and other companies such as Shell and Exxon have played a key role in spreading doubt and misleading claims about climate change and alternatives to fossil fuels. Many climate obstructionist activities in the U.S., Canada, and beyond originated from business activities that linked Canadian crude oil production and US refining in Kansas' Koch facilities (Dembicki 2022, compare; Mayer 2016 on the wider Koch network).

Among the numerous activities of the Koch network are generalist organizations like Americans for Prosperity and the State Policy Network in the United States. The Koch network also features specialized think tanks like the Institute of Energy Research, which is dedicated to energy and environmental policy-related research and consulting. The IER was created with the transformation of the Institute for Humane Studies of Texas into this center in 1989. In 2008, the organization expanded, adding the 'American Energy Alliance' as a not-for-profit lobby organization right when the financial crisis raged, urging public emergency investment in the economy. Together with a wide range of international partners, many of which are Atlas network member think tanks like the Institute of Economic Affairs in London, the IER has taken part in the market radical Sustainable Development Network since 2002, which shared a web server with the International Policy Network, the European Atlas network (DeSmog, n.d.-a). The founding of the Sustainable Development Network in 2001 suggests it was one of the successor efforts of the Global Climate Coalition.⁵ However, the first notable campaign of the IER itself targeted precisely the renewable energy policy agenda and programs of presidential candidate and later president of the US, Barack Obama, apart from supporting parallel efforts in other countries to block or roll back renewable energy transition.

To upgrade the opposition to the green deal discourse in general, IER commissioned studies in Spain, Denmark, Germany and the U.S. (see Table 1). The studies were ordered in an effort to oppose the green jobs rhetoric emanating from the key think tank of the Democratic leadership, the Center for American Progress. In addition to the general viability of the renewable energy transition due to allegedly high cost of the renewable

energy transition, all the studies specifically challenged labor market claims. The Spanish study was fully focused on the alleged destruction of jobs due to renewable energy investment. The second part of the Danish study (28-37) and a section of the German study (pp. 15-17) were written on the allegedly limited if not negative impact on the labor market of renewable investment. The American studies (solicited from Atlas think tank affiliated researchers⁶ and produced by the IER itself, see table 1) served to consolidate the narrative against the double dividend and green jobs arguments.

In the next section, we will analyze the content and context of these studies more closely and take a first look at their circulation in the think tank sphere in different countries.

Mobilizing original research and scientific lobbying in different countries: Spain, Germany, Denmark, USA (plus Canada), and Italy

Spain

Spain experienced a real estate crisis and a renewable energy bubble during the Euro crisis around 2008, influenced by energy policies from both socialist and conservative governments. In 2008, Spain installed the largest amount of photovoltaic power, driven by state incentives, even as the economic crisis was looming (Gürtler, Postpischil, and Quitzow 2019). The blow of the crisis caused the socialist government to backtrack on its energy transition policies, and the subsequent conservative government ended up shelving these incentives.

Gürtler, Postpischil, and Quitzow (2019) analyzed the cases of Spain and the Czech Republic to see why two pioneers of energy conversion in Europe had dismantled their programs. In the case of Spain, the causes they point out are a flawed design of the policies that allowed speculation and the creation of an economic bubble, the political economy of the sector (an oligopoly), and the lobby of the companies involved, as well as macro-economic (the financial crisis) and institutional (the political context) aspects.

Table 1. Studies against the energy transition promoted by the IER.

Country	Study				
Spain	Calzada Álvarez, Gabriel, Raquel Merion Jara, and Juan Ramón Rallo Julian. 2009. Study of the Effects on Employment of Public Aid to Renewable Energy Sources. Madrid, Spain: Universidad Rey Juan Carlos and Instituto Juan de Mariana. https://juandemariana.org/pdf/090327-employment-public-aid-renewable.pdf.				
Denmark	Sharman, Hugh, and Henrik Meyer. 2009. Wind Energy: The case of Denmark. Copenhagen: Center for Politiske Studier (CEPOS). https://www.windaction.org/posts/22149.				
Germany	Frondel, Manuel, Nolan Ritter, Christoph M. Schmidt, and Colin Vance. 2009. Economic Impacts from the Promotion of Renewable Energy Technologies – The German Experience. Ruhr Economic Papers (156), 173–9. Essen, Germany: Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI). http://hdl. handle.net/10419/29912.				
USA	Morris, Andrew, William T. Bogart, Andrew Dorchak, and Roger E. Meiners. 2009. 'The Mythologies of Green Jobs'. <i>U Illinois Law & Economics Research Paper</i> No. LE09–001, <i>Case Legal Studies Research Paper</i> No. 09–15. http://dx.doi.org/10.2139/ssrn.1358423.				
USA	Michaels, Robert, and Robert P. Murphy. 2009. Green jobs: fact or fiction? Houston, Texas: Institute for Energy Research (IER). https://www.instituteforenergyresearch.org/wp-content/uploads/2009/01/IER% 20Study%20-%20Green%20Jobs.pdf.				

Source: Own compilation.

Regarding lobbying, these authors point out that the electric companies saw renewable energy sources as unwanted competition and a threat to their business.

Meanwhile, in the USA, presidential candidate Obama included the clean energy and green jobs model in his 2008 presidential election campaign, prominently referring to European models: 'Will America watch as the clean energy jobs and industries of the future flourish in countries like Spain, Japan, or Germany? Or will we create them here, in the greatest country on Earth, with the most talented, productive workers in the world?' Obama said in August 2008 at a campaign speech in Michigan (New York Times 2008). During his campaign, Obama promised to create 5 million green jobs based on public investment of 150 billion USD over 10 years. When he became president, the work on programs to stimulate investment in renewable energy began, and so did the countercampaign of the IER.

Due to the firm reliance of the Obama campaign on the Spanish example, the IER first solicited a study from professors at the Rey Juan Carlos University (URJC) and members of the Instituto Juan de Mariana (IJM), a leading think tank regarding climate obstructionism in Europe (Almiron et al. 2020). In response to criticism from Greenpeace (2010) regarding Koch Industries funding, the report's lead author, Gabriel Calzada, denied receiving funding from the fossil industry. Such claims notwithstanding, he acknowledged that his study received funding from the IJM, the URIC, and the IER (Asende 2010). The study directly rejects Obama's claims: 'Most important, it demonstrates that the Spanish/EUstyle' green jobs' agenda now being promoted in the US in fact destroys jobs, detailing this in terms of jobs destroyed per job created and the net destruction per installed MW' (Álvarez, Gabriel, and Ramón Rallo Julian 2009, 1). According to the study, 2.2 jobs were destroyed for every job created in the Spanish renewable energy program, which led the authors to expect job losses of 6.6 to 11 million in the US if Obama followed the European example (Álvarez, Gabriel, and Ramón Rallo Julian 2009, 1-2).

US labor economists Lantz and Tegen (2009) quickly debunked the study, raising methodological concerns. 'In fact, the methodology does not reflect an employment impact analysis. Accordingly, the primary conclusion made by the authors - policy support of renewable energy results in net jobs losses - is not supported by their work' (Lantz and Tegen 2009, 1). The IJM members' study estimated expenses per renewable energy job in relation to average private sector expenses for a job and worker productivity. They assume that investment in renewable energy equates to a reduction of private sector investment and that every unit of investment in the private sector creates equal numbers of jobs. Apart from fallacies of abstraction and assumption, Calzado Álvarez, Gabriel, and Ramón Rallo Julian (2009) also make inappropriate comparisons, according to Lantz and Tegen (2009). Calculations of average capital and productivity include all jobs (direct, indirect, and induced employment), but they account for direct and indirect jobs only when it comes to the renewable sector. The authors used 2003 data that does not reflect the employment in the 2009 renewable industry. Lantz and Tegen (2009) also noted a lack of data transparency and statistical support. Finally, they warn that it is not legitimate to assume that public investment crowds out private investment, nor will the results in Spain reflect the impact in other countries. The review of Lantz and Tegen (2009) was severe in the academic universe since their arguments suggested that a rigorous peerreviewed journal would not have published the paper. However, the study was printed in Procesos de Mercado in 2010, the journal of the lead author's university department at URJC, which features contributions in line with the neoliberal school of Austrian economics.

The strategic campaign launched by fossil fuel interest constituencies backed IER paid off according to IER's own assessment, however: 'Because the president emphasized Spain, we thought it was important to take a closer look at the Spanish experience. We commissioned a study on Spain and the results were astounding' (IER 2010). While this might sound like a self-congratulatory remark of a think tank in need to please donors, the judgment is backed by evidence from other quarters. Buchmann (2022) reports on the dedicated efforts of academics and even the Spanish embassy to counter the energy transition contrarian narrative of the study in the United States. It was to no avail; the 'Spanish fiasco narrative' had the upper hand. In August 2009, the American Energy Alliance, another Koch front group (Buchmann 2022), toured the US on a bus campaigning with leaflets on the Spanish economy against American emissions reduction legislation. The campaign reached its height in September 2009, when the author of the flawed study testified in Congress on why President Obama should not 'follow Europe's lead' in emissions reduction. Afterward, Obama dropped Spain as an example and instead started referring to Denmark and Germany (Buchmann 2022, 240). Then, the IER campaign quickly continued the counter-narrative.

Denmark

Denmark was the global leader in wind energy in the early 2000s. Shortly after introducing a feed-in tariff in the US under President Carter in 1978, Denmark established the first feed-in tariff for wind energy in Europe in 1981. Contrary to the US, the country levied high taxes on fossil fuels, outlawed nuclear energy, and provided dedicated support for renewable energy conversion. The regulatory environment thus provided a strong incentive to invest in renewable energy in general and in wind energy in particular. Denmark's policy mix encouraged competition of small and medium-sized companies in the wind sector and undermined the former utility monopoly. While devoted to ending the reliance on fossil fuels, the program was quite business-friendly. By the early 2000s, Denmark was the country with the highest share of wind energy in the energy mix (Auken 2002).

Domestic opposition against energy conversion and strategic industrial planning included Danish neoliberal circles. The Danish think tank CEPOS, a member of the Atlas network, accounts for 113 articles between 2000 and 2022 featuring climate policy critical and even climate denial contributions.⁸ The IER solicited report published in September 2009 by CEPOS was primarily designed to attack the utility of the Danish renewable policy, although the second part of the study (29-35) was devoted to undermining the green jobs narrative based on the Danish employment data. With regard to the general utility of wind power, the first part suggested a much lower share of wind in the energy mix and the bill for exported excess electricity to be paid by Danish consumers. Interestingly, leading author Hugh Sharman who runs an engineering office

wrote a previous paper offering a much brighter view of the Danish energy policy deemed to hold essential lessons for the UK (Sharman 2005). The second author, economist Henrik Meyer, worked at the Copenhagen Consensus Center, founded in 2006 in Copenhagen by notorious Danish climate policy contrarian Bjorn Lomborg. It was later moved to Tewksbury, Massachusetts, in the United States, Like the Spanish study, his account of the labor market impact compared job creation in the wind energy industry to general manufacturing suggested very limited positive effects at best, which were also considered resulting from subsidies. Meyer's argument was refuted by a group of 15 leading Danish energy economists demonstrating much stronger growth in the energy technology sector compared to industry as a whole. The subsidy argument of CEPOS fell apart once the price reducing effects of wind power production was taken into account (Lund 2010, 27-29).

A blog review of the CEPOS study noted 'an interest in directing American energy policies,' especially in a section that 'appears to have been written with intent to draw conclusions from the Danish Wind experience about Obama administration energy policies' (Barton 2009). The negative assessment of high subsidies, taxation of fossil alternatives, and the allegedly 'underperforming' energy technology sector (compared to other industries in terms of value added per employee) contradicted the narrative employed by President Obama in ways similar to IER's commissioned report in Spain. Much like the U.S. labor economists debunking of the Spanish study, Lund (2010) pointed out many mistakes of the Danish study, and worked with partners in the US to counter the evident science lobby strategy orchestrated by the IER. Methodological flaws of the CEPOS study included wrong assumptions about domestic and exported electricity, a deliberate diminution of the share of wind energy, and neglecting the contribution of climate mitigation.

Germany

Germany's renewable energy policy established a feed-in tariff in support of decentralized renewable energy investment in 2000, which supported an unprecedented boom in the renewable energy sector and a rapid increase in the share of electricity produced from renewable energy sources, notably solar and wind. In terms of the feed-in tariff policy instrument, Germany became the model country. Together with the Spanish government, Germany's red-green coalition government set up the Feed-In-Tariff Coalition (IFIC) to work on the international expansion of a stable environment for renewable investment, which included efforts to coordinate the defense of feed-in tariff regulation in the development of the European renewable energy guideline in 2009 (Haas 2019, 205).

The study solicited in Germany did not focus on the complexity of German and European energy regulation. It was written to attack state support for the renewable energy sector and to reinforce the Spanish study regarding the labor market arguments, although the focus was more general on the alleged inefficiencies of the German renewable policy following the Renewable Energy Law of 2000. The study was commissioned to the RWI – Leibniz-Institut für Wirtschaftsforschung in Essen. 9 Contrary to the partisan think tanks in Spain and Denmark, the RWI is a highly recognized academic institution funded by the federal and state governments of North-Rhine-Westphalia. However, the authors of the German study opposed Germany's renewable policy and the feed-in tariff, which made it easy to integrate them into the anti-green-job discourse coalition. RWI researchers Manuel Frondel, Nolan Ritter, Christoph M. Schmidt (president of RWI since 2002 and member of the German Council of Economic Advisors 2009-2020), and Colin Vance reviewed the German Renewable Energy Law in an apparent effort to counter the reference to the feed-in tariff as a successful policy instrument and the green job arguments:

We argue that German renewable energy policy, and in particular the adopted feed-in tariff scheme, has failed to harness the market incentives needed to ensure a viable and costeffective introduction of renewable energies into the country's energy portfolio. To the contrary, the government's support mechanisms have in many respects subverted these incentives, resulting in massive expenditures that show little long-term promise for stimulating the economy, protecting the environment, or increasing energy security.

(Frondel et al. 2009, 3)

Lead author Manuel Frondel is a well-known critic of the German renewable policy (Plehwe 2022). While he has also attacked subsidies for coal, he is adamantly opposed to energy transition policy except for the (so far ineffective) European Emission Trading System. Frondel has contributed to campaigns against renewable energy policy of the German industry-funded think tank 'Initiative für eine neue Soziale Marktwirtschaft.' Apart from being highly vocal in the German energy policy debate (suggesting green politicians like Robert Habeck are leading Germany into an ecodictatorship, Schäfer 2023), Frondel published together with the Canadian climate contrarian pundit Ross McKitrick (Fraser Institute, member of the Atlas network) in a book funded by Germany's Liberal Party's Naumann Foundation ('Realitätscheck für den Klimaschutz' edited by Steffen Hentrich and Holger Krahmer in 2011). The book's editors, Hentrich and Krahmer, much like McKitrick, had ties to climate contrarian think tanks like Europäisches Institut für Klima und Energie (EIKE) and the Heartland Institute in Germany and the US, respectively. Among his polemics, Frondel entertains the attack against the green jobs argument: Two-thirds of the German investment in renewable energy benefitted the Chinese sector, according to him.10

The attacks against the German renewable energy law and the feed-in tariff contributed to the growing hostility to the feed-in tariff regardless of the academic (lack of) merit of the criticism and eventually led to the reform of the German law in 2014, which replaced the feed-in tariff with an auctioning regime. There are quite a few reasons for this shift that have nothing to do with the feed-in tariff as such but much with the selective presentation of facts by and the hostile interpretation of experts, who were reinforced by the international circuits of the Atlas think tank network and its fossil constituencies (Plehwe and Günaydin 2022). The IER itself triumphantly shared the success of these efforts in a factsheet regarding the German report, as quoted in Buchmann (2022, 241):

Strike Three: First Spain, Then Denmark, and Now Germany ... New study takes a closer look at Washington lawmakers' third favorite example of a failed 'green' energy experiment they'd like to see replicated here in the US. After exposing the full record of facts on Spain and Denmark's green energy experiments - experiments lauded by US policymakers as



examples we should follow - a new study reveals the untold story of Germany's experience with costly, green energy endeavors.

USA

Both Barack Obama's presidential campaign and the policy of the administration emphasized the need to significantly increase public investment in renewable energy to meet climate mitigation goals and to create jobs. Based on the American Recovery and Reinvestment Act of 2009 (ARRA), the federal government allocated tax credits worth approximately 90 billion USD to the different segments of the renewable energy sector between 2009 and 2012 supporting the creation of up to 900.000 jobs, about one eighth of the total investment and labor market effects of the ARRA of 2009 (CEA 2016). Although green job creation thus fell short of the Obama administration's longer term goal of 5 million green jobs, this moderate result was due to the deep cut in funding for clean energy programs by the Republican Party majority in Congress following the electoral losses of the Democratic Party in the midterm elections during Obama's first term. The opposition strategy developed by the IER proved to be effective at this point in time.

The IER commissioned in 2009 the report 'The Mythologies of Green Jobs' by Andrew Morris, William T. Bogart, Andrew Dorchak, and Roger E. Meiners. It was published by the University of Illinois Law & Economics Center, though Morris is also active at the Property and Environment Research Center (PERC) in Montana, a prominent US Atlas network member think tank promoting free market environmentalism. The report contested seven statements considered myths by the authors with seven claims (presented as 'facts') aimed at undermining green energy policies, arguing these were harmful to the economy and the labor market or not viable. This report consolidated and condensed the arguments against green energy, complementing the European reports. This report is unique because it achieved circulation among conservative think tanks. Table 2 contains a non-exhaustive list of replications or appearances of this report in other think tanks.

In August 2009, the Property and Environment Research Center (PERC) shared an abridged version entitled '7 Myths About Green Jobs'. In this version, the same authors offered 'in a nutshell' the myths and facts, together with a more narrative explanation of the myths. Based in Montana, PERC has been a key strategic player in Atlas think tank campaigns (e.g. green market revolution 11) opposed to climate mitigation and regulatory environmentalism. The authors also published a blog article summarizing their contribution, entitled 'Green Jobs: Boom or Bust?' on the PERC website.

In 2010, the Heritage Foundation brought up the issue in a blog post mentioning the various reports against green jobs. This case exemplifies how a think tank not involved with creating these reports can use the information to bolster its argument. Based in Washington, D. C., Heritage is a conservative think tank known for its climate obstructionism, especially its opposition to the Kyoto Protocol (DeSmog n.d.-b).

An illustrative case of the international dissemination of this report among conservative think tanks is that of the International Policy Network (IPN). Antony Fisher created the IPN to distribute content through European Atlas Network-affiliated think tanks and beyond. It operated under this name from 2001 to 2011. IPN material included publications against energy transition toward renewables (DeSmog n.d-b). The authors of the

Table 2. Circulation of 'the mythologies of green jobs' through different think tanks.

Oiti	C	Data	T	12l.
Organization	Country	Date	Type	Link
University of Illinois Law and Economics Research Paper Series	USA	03/12/ 2009	Original publication	https://papers.ssrn.com/sol3/papers. cfm?abstract_id=1358423.
Property and Environment Research Center (PERC)	USA	2009 (PERC Policy Series 44)	Abridged version of the report (same authors)	https://perc.org/wp-content/uploads/ old/ps44.pdf.
Property and Environment Research Center (PERC)	USA	06/08/ 2009	Blog article by the authors	https://www.perc.org/2009/06/08/ green-jobs-boom-or-bust/.
Heritage Foundation	USA	02/04/ 2010	Blog post mentioning this and the other reports on green jobs	https://www.heritage.org/environment/ report/green-jobs-environmental-red- tape-cancels-out-job-creation.
International Policy Network (IPN)*	UK	30/08/ 2010	Shortened and international version of the report by the same authors	https://web.archive.org/web/ 20110904041528/http://www.policy network.net/environment/publica tion/seven-myths-about-green-jobs.
Liberales Institut (LI)	Switzerland	2010	IPN version	http://www.libinst.ch/publikationen/Ll- Green-Jobs.pdf.
Adam Smith Institute	UK	08/30/ 2010	Blog post sharing the IPN version	https://www.adamsmith.org/blog/ energy-environment/seven-myths- about-green-jobs.
Frontier Centre for Public Policy	Canada	09/09/ 2010	Blog post by the authors sharing the IPN version	https://fcpp.org/2010/09/09/seven- myths-about-green-jobs/.
CATO	USA	01/2011	Book published by CATO (same authors)	https://www.cato.org/books/false- promise-green-energy.

Source: Own research.

original US report relied on the IPN to publish an abridged version entitled 'Seven Myths About Green Jobs.' The 'alternative facts' narrated in this report suggested that many green jobs were neither green nor productive. The authors claimed that estimates of green job generation were wrong due to poor models. The report stated that government planning leads to stagnation and green industrial policy, resulting in a loss of tradeinduced wealth. More generally, the free market is claimed to be superior to shifting company supply than government mandates. The authors also state that green technologies are insufficient to meet demand. The counter-narrative about green investment destroying rather than creating employment targeted a global public sphere, which at the time featured stimulus money reports: More than 400 billion USD worldwide (listed country by country in this IPN report).

The publication of a version of the study in the IPN circulated through the Atlas think tank network beyond the US. One example shown in Table 2 is the Adam Smith Institute in the UK, a well-known neoliberal organization that has included questions about the importance of climate change among its contents (DeSmog n.d.-c). Another case in Switzerland is that of the Liberales Institut, recognized for generating obstructionist content on climate action (Almiron et al. 2020). Another example in Canada is the Frontier Centre for Public Policy (FCPP), also known for its climate action contrarian positions (DeSmog n.d.-d). The footnote of the blog post sharing this IPN report on the FCPP website reads: 'published by the Civil Society Coalition on Climate Change. Peter Holle, President of the Frontier Centre for Public Policy, is a member of the CSCCC.' The CSCCC is a network of organizations that share views against climate action and that, for a few years (from 2007 until some years later), was active in disseminating climate obstructionist discourses (DeSmog n.d.-e).

A final milestone in this report's journey was its publication in book format by CATO (Washington, D. C.), another leading Atlas network member. Entitled 'The False Promise of Green Energy' and in the same vein as the report on myths, this book tries to dismantle the pro-green jobs arguments to supposedly demonstrate that these are false promises and that such policies are irresponsible.

In short, this exploratory analysis of the report's circulation on the 'mythologies' of green jobs shows that it was a very productive work. It has been transformed into different formats and versions, from the denser initial version to other more informative or even blog posts or the final book aimed at a wider audience. This transformation and circulation reflect the capacity of the Atlas network to facilitate the processing of ideas and content and to spread them through its network. In this case, an obstructionist report on green jobs and energy transformation policies was initially promoted by the IER in the USA, and then disseminated widely.

Lastly, for the North American case, we can document the mobilization of the study material in terms of circulation across think tanks. Figure 2 shows the total Center for American Progress (CAP, with Democrat ideological leaning) and IER papers related to energy transition and labor markets from 2000 to 2022. The third dotted line reports the number of "green job study related articles we have identified in the North American Atlas member think tanks. Of the total of 371 articles published by 58 think tanks in North America, nine were published in Canada by three think tanks, of which the Frontier Centre for Public Policy carried out the green job myth campaign to fight the feed-in-tariff program of 2009 in Ontario. Frontier efforts reinforced the Koch-related lobby organization American Energy Alliance, which had registered in Ontario to take on the renewable energy law of the province (DeSmog n.d.-f). The seven-myth study was published in September 2009 by Frontier, and an American Enterprise Institute (another Atlas member) study, 'Green Jobs: The European Experience,' was published by Frontier in April 2011. ¹² In any case, what Figure 2 shows is that the launch of the reports against

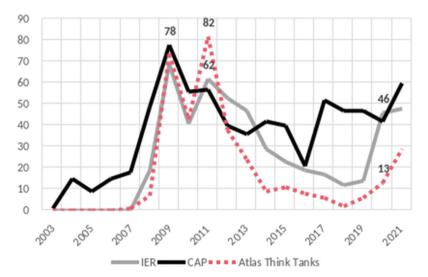


Figure 2. Energy transition and labor related publications of IER, CAP, and the Atlas Network partners. Source: Survey of Atlas think tanks and CAP.

green jobs and energy transition emerged as a reaction to ongoing discussions on green energy transition. However, they not only played a role in influencing the debate on policies underway in the US and Europe but more importantly, they marked the beginning of a narrative sustained in subsequent years by organizations opposed to climate action. The final step in examining opposition strategy mobility takes us back to Europe, Italy, and Brussels.

Italy

Following Germany, Spain and Denmark, Italy was another leading country in terms of renewable energy transition. Due to various national energy programs originally employing feed-in tariffs, the country was number four in the EU in terms of wind capacity in 2012 (IRENA 2013). To accelerate photovoltaic energy production, a feed-in tariff was introduced in this market segment in 2005 (Conto Energia), which paved the way for a rapid expansion of solar energy production capacity (Lavecchia and Stagnaro 2014, 958–9). In May 2010, the Istituto Bruno Leoni (IBL) replicated the Spanish 'fiasco' study in the Italian context. Entitled 'Are Green Jobs Real Jobs? The Case of Italy' and also in English, it takes the IJM study as a reference, as the think tank itself points out in a post in Spanish to disseminate this Italian report (Llamas 2010). The study, elaborated by economists Luciano Lavecchia and Carlo Stagnaro, received funding from Gas Intensive Soc. Consortile a r.l. - Milano, which is an industry association of more than 100 natural gas consuming companies in Italy. Along the same lines as the Spanish study, but applied to Italy, this report talks about the destruction of jobs that the energy transition would supposedly entail and the economic cost and inefficiency it allegedly implies,

The European Policy Information Center (Epicenter) based in Brussels¹³ distributed the Italian report, attesting to the growing relevance of the European Commission with regard to state support for renewable energy transition and energy regulation in general (Haas 2019). In this way and beyond the Brussels bubble, the content was also accessible to the 10 members of this network and their domestic audiences. ¹⁴ A later, more nuanced version focused on solar energy, with no mention of the initial funding of the fossil gas related business association, was published in an academic journal (Lavecchia and Stagnaro 2014). The author's approach in this article is much less polarizing than in the original report. For the academic audience they acknowledge the complexity of assessing the impact of green subsidies on employment, although they remain critical of them. These variations reflect how the content varies according to context and format and how the original report had a more contrarian stance against green employment policies.

At this point, it is worth reflecting on the strategic capacity of this campaign, initially promoted by the IER, which is strengthening alliances, like-minded organizations, and networks through which to disseminate content, storylines, and shared narratives. IBL's replication of the Spanish study and its dissemination through Epicenter, in addition to the distribution of the US 'myths' study across the IPN, provides evidence of a campaign mobilized way beyond the USA - even if the circulation initially aimed at having an impact in the home country of the IER and its fossil-based constituencies. Thus, although Obama's speeches and programs on the energy transition may have been the initial target



of this international campaign, its effects and discursive exploitation have been more significant through the network of think tanks in the ranks of which the strategy unfolded.

Ultimately, the replication of the Spanish study by the Instituto Bruno Leoni, its distribution in the EU through Epicenter, the distribution of the American study in Canada, and across the International Policy Network in Europe altogether provide ample evidence of an opposition strategy mobilized across different countries and way beyond the United States

Discussion and conclusions: attending to resistance in policy mobility studies

In the 2000s, countries like Germany, Spain, and Denmark led energy transition policies and renewable energy-related industrial and labor market projects. In particular, they employed the feed-in tariff to secure private investment in renewable energy and developed leading positions in wind and solar energy. The Center for American Progress (CAP), with ties to the Democratic Party leadership, emerged as a leading voice for energy transition and green job programs in the US from 2008 onward. Public investment in renewable energy significantly increased in the US and Europe after the economic recession. The presentation of renewables as a solution to both the climate and the financial crisis ('double dividend') presented a serious and growing threat to fossil interest groups. This paper examined how an anti-renewable and anti-green jobs coalition prominently promoted by the IER emerged in North America and Europe. In doing so, this article builds on policy mobility research to offer a critical perspective that attends to elements that have traditionally been left out, as suggested by emerging approaches to this area of study (Peck and Theodore 2015, Porto; de Oliveira 2021, Porto; de Oliveira and Pal 2018). This paper focuses on the controversies that arise from the discursive efforts of interest groups seeking to influence public discussion on environmental and energy policies, a background element that mainstream studies on policy mobility would not initially address.

To understand the effectiveness of the counter-campaign against renewable conversion and green jobs, it is necessary to emphasize the transnational dimensions of the effort (opposition strategy mobility). Transnational dimensions of the campaign involve sourcing studies from different countries to inform the US debate and exporting US studies to inform campaigns in Canada and Europe. Secondly, the circulation of reports in think tank blogs of the Atlas network. Thirdly, the original (Spanish) study was replicated in Italy based on local funding. Fourthly, the dedicated circulation of study material in transnational think tank networks like the IPN, which peddled the American material in Europe, or the Epicenter network, which peddled the Italian study in the EU. Common to the efforts of intellectuals and organizations in think tanks, corporations and lobby groups are the central narratives employed to undermine the erstwhile successful story line of renewable energy promotion to prevent global warming and create jobs.

This paper contributes to the line of studies on climate obstructionism by providing information on a transnational campaign to impact ongoing discussions on energy policy and the environment. This study, therefore, builds on previous research on the spread of climate obstructionism in Europe and the US (Brulle, Roberts, and Spencer 2024; Ekberg et al. 2022). Further research on this counter storyline needs to address media and other communication channels to understand how misinformation and disinformation strategies work in the campaigns against renewable energy and green job promotion in each country. The success of the transnational campaign indeed depended on local constellations and local power relations. There has been no policy change in Denmark, Germany replaced the feed-in tariff with auctioning, still supporting energy conversion, while Spain started to tax solar energy production. In the U.S., the ambitious clean energy jobs program ended after the midterm elections during Obama's first term, and President Trump further reduced tax incentives for renewable energy investment. Only Trump's successor, President Joe Biden, managed to reinvigorate the renewable energy transition based on the American Rescue Plan Act of 2021 and the Inflation Reduction Act of 2022 - countering a delay of 10 years. Nevertheless, as evidenced across the countries, the opposition strategy mobility also succeeded in establishing a common counter-narrative against state directed renewable energy transition pathways. At the very least, the oppositional transnational discourse coalition created a sense of ambiguity about renewable energy, undermining the double dividend's positive connotation. While the rise of renewables in each country's energy mix continued, the opposition succeeded in slowing down and redirecting renewable energy conversion with fewer and fewer countries relying on the feed-in-tariffs or other instruments that reduce market exposure. Future research is needed to clarify if and how the anti-green job strategy contributed to the replacement of de-risking and technology development instruments with market-based instruments in the European countries covered.

The early campaign of 2009 provided a reservoir of studies and arguments revived and mobilized again in the 2010s in additional countries (like the UK) where green deal energy conversion programs became popular. More research is needed to track and trace the dissemination of the anti-green jobs narrative beyond the confines of the Atlas think tank network since Hall et al. (2024) list 'green jobs' as number 6 of 10 topics in a much larger repository of climate obstruction articles.

Considering findings of this multi-site case study, it is impossible to isolate national controversies around policy transfer from the global circulation of strategies in and beyond the Atlas Network in the case of energy transition. Additionally, policy conflicts in other climate policy areas are likely subject to transnational campaigns and linked processes of emergent resistance. Recent examples include conflicts around extending Indigenous rights, climate movement protests, and campaigns against offshore wind parks (Walker 2023; Westervelt and Dembicki 2023; Slevin, Kattrup, and Roberts 2023, respectively). There is a growing need to study opposition to policy mobility alongside policy circulation to explain the success, failure, and modification of policy transfer processes in the age of globalized policy conflicts. The IER campaign of 2009 through Atlas-affiliated think tanks succeeded in significantly complicating and delaying the renewable energy transition. Theoretically, the feed-in tariff and green job case studied in this paper exemplifies the need to complement policy circulation studies with a clear focus on opposition strategy circulation to enrich policy mobility research. A stronger emphasis on transnational discourse coalitions and opposition to policy transfer processes requires a theoretical approach suitable to the present state of globalized policy conflict studies.



Notes

- 1. Set up in 2003 to supply the Democratic Party with think tank capacity similar to conservative organizations like the Heritage Foundation.
- 2. Fact checking efforts have pointed to the difficulties in measuring the number of green jobs. See: https://www.politifact.com/truth-o-meter/promises/obameter/promise/439/create-5-million-green-jobs/.
- 3. One resulting data set on main employers of board members of the Atlas network partner organizations has already been published (R. McKie 2023). The full survey study will be published later in a book under contract.
- 4. See overview in DeSmog at desmog.com/atlas-economic-research-foundation/' title="Ctrl +Click to follow link"element-type="link" ref-type="DOI" aid="ys87v6×a04i2531" icoreta-g="uri" ia_version='0">https://www.desmog.com/atlas-economic-research-foundation/, accessed June 12, 2023.
- 5. In addition to the overlap with Atlas member organizations, Linda Whetstone, Atlas founder Antony Fisher's daughter, writes about the IER that it was '... founded in 1989 in conjunction with the Atlas Economic Research Foundation ... ' (Frost 2002, 221).
- 6. see below for more information on the study by Morris et al. (2009).
- 7. See National Energy Act and the Public Utility Regulatory Policies Act ;(PURPA).
- 8. We gratefully acknowledge the work of Kristoffer Ekberg who collected the climate content published by CEPOS.
- 9. Contrary to Buchmann's (2022, 241) claim, the RWI is not affiliated with the energy corporation RWE.
- 10. See: https://www.nzz.ch/wirtschaft/deutsche-energiewende-das-gruene-jobwunder-bleibt-aus-ld.1294394.
- 11. See: https://www.atlasnetwork.org/articles/a-green-market-revolution., last access November 9, 2023.
- 12. See: https://fcpp.org/2011/04/26/media-release-green-jobs-the-european-experience/.
- 13. See: https://www.epicenternetwork.eu/research/publications/are-green-jobs-real-jobs-the-case-of-italy/.
- 14. Center for Political Studies (Denmark), Civil Development Forum (Poland), the Institut Economique Molinari (France), the Institute of Economic Affairs (UK), Institute of Economic and Social Studies (Slovakia), Instituto Bruno Leoni (Italy), KEFiM (Greece), the Lithuanian Free Market Institute, Prometheus (Germany), and Timbro (Sweden).

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