How do right-wing populist parties influence climate and renewable energy policies? Evidence from OECD countries[*]

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Abstract

There is increasing evidence that right wing populist parties (RWPPs) and their supporters are hostile to climate and low-carbon energy policies. In this paper we provide a quantitative analysis of the effects of RWPP representation in the legislature and executive on climate and renewable energy policy for a number of OECD countries over the period 2007-2018. After controlling for other political, economic and environmental factors, we find evidence for a significant and large negative effect of RWPPs in power on climate policy. Importantly, we also show that these negative effects vary with the proportionality of the electoral system and EU membership. Both of these factors significantly moderate the negative influence of RWPPs. In countries with majoritarian electoral systems, the effects of RWPPs on climate policy work through both indirect legislative and direct executive routes. By contrast with climate policy, there is no overall significant relationship with renewable policy.

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1. Introduction

Announcing the repeal of his predecessor's Clean Power Plan at a rally in September 2017, President Trump declared 'Did you see what I did to that? Boom, gone!'[1] This move exemplified what many climate policy advocates feared; a populist politician and declared climate sceptic reversing policies brought in under a previous administration.

But how widespread is such action? Does the rise of authoritarian nationalist populists (sometimes labelled 'right-wing' populists) and their entry into government always have a negative effect on climate and low-carbon energy policies? If there are differences in how far populists getting into power affects such policies, what factors can explain the variation? These questions matter not just because of the direct effects on domestic outcomes, but also because of their influence on the policies and emissions of other countries via the erosion of international cooperation (Sælen et al., 2020).

Interest in the links between populism and climate change has emerged in the last few years (see Forchtner (2019) for a recent review). Within this literature there are a number of recent studies looking specifically at how right wing populist parties might actually affect climate and sustainable energy policies and outcomes once elected to legislatures and governments (Böhmelt, 2021; Ćetković and Hagemann, 2020; Huber et al., 2021; Jahn, 2021). These studies show some influence of right-wing populist parties, but with variation across countries and policy areas.

This paper adds to the literature by taking a quantitative approach to measuring policy effects and widening the focus beyond European countries, on which much of the literature so far has focused. We assess the impact of right-wing populist parties (RWPPs) on climate and renewable energy policy in thirty-one OECD countries over the period from 2007 to 2018, combining data on the quality of policies with established datasets on right wing populism and on parliaments and governments. This scope means we cover a group of post-industrial countries with a shared social and political context for the emergence of authoritarian populism whilst at the same time going beyond the European focus of existing studies, allowing us to assess the role of electoral systems and EU membership. We capture both the direct effects of RWPPs as part of governing cabinets and leadership, and indirect effects through their representation in legislatures on other parties in government. Our key findings, which are robust to a set of other political, economic and environmental controls, are: firstly, that RWPPs do have a significant negative impact on

[1] https://www.scientificamerican.com/article/trump-administration-is-repealing-obamas-clean-power-plan/

climate policy, but not on renewable energy policy; secondly that the impact of RWPPs on climate policy is mitigated by proportional representation (PR) and by membership of the EU, and thirdly that climate policy effects of RWPPs in majoritarian countries work via both executive and legislative channels.

Our results are broadly in line with, and provide independent verification of, findings in the wider literature. The muted effects of right wing populism on climate policy in countries with PR and coalition government is consonant with (Ćetković and Hagemann 2020), and the stronger effects on climate policy than on renewables policy is similar to (Huber et al. 2021). Quantitative studies of the effects of populism have so far looked at outcomes rather than policies, and our research helps clarify intermediating mechanisms. Our results suggest that climate policy change can explain at least part of links found between right wing populism and GHG emissions (Jahn 2021) and between populist leadership and per capita carbon dioxide emissions (Böhmelt 2021).

The paper has some limits. Unlike some recent studies (e.g. Huber et al. 2021), we do not include consideration of left-wing populist parties. We also do not attempt to differentiate between different types of RWPPs (Zulianello 2020), mainly because of the nature of the dataset on party characteristics that we draw on.

In section 2 we review the existing literature on right wing populism and climate and renewable energy policy. Section 3 describes our data and methodological approach. In section 4 we present the findings of the analysis. Section 5 concludes with a discussion of the wider implications of the analysis.

2. Conceptualising the influence of right-wing populist parties on climate and renewable energy policies

There is a long-standing literature examining the determinants of climate policy, including local air pollution, high-carbon interests, knowledge of climate change and levels of education and left-right position of governments (Dolšak 2009; Steves and Teytelboym 2013; Karapin 2016; Fankhauser et al. 2015). There is also an established literature on the determinants of renewable energy policy suggesting positive roles for energy security concerns, EU membership and renewable resources, but a negative role for the strength of high-carbon interests. (Marques et al. 2010; Jenner et al. 2012; Cheon and Urpelainen 2013). Schaffer and Bernauer (2014) find that proportional representation electoral rules and federalism are positively associated with more ambitious renewable energy policy.

By comparison, the study of the relationships between populism on the one hand and attitudes to climate and renewable energy policy on the other is relatively recent (Forchtner 2019). There is, of course, a large literature on populism, which is often taken to involve a basic cleavage in society between the 'people' and a corrupt 'elite', and a belief that politics should be an expression of the will of the people (Mudde 2004, 2007). However, populism is also usually understood as a 'thin' ideology that always comes combined with values from other political ideologies, including on questions of distributive conflicts, social values and identity (e.g. Canovan 2001). These elements do not necessarily combine in ways that are consistent with those other ideologies; for example, what is labelled 'right-wing populism' or 'radical right populism' typically includes positions on state intervention in the economy that would be seen as left-wing on conventional measures, but often combined with nativism and social authoritarianism.

Fraune and Knodt (2018) and Lockwood (2018) draw attention to a general tendency for RWPPs and individuals supporting them to express greater climate scepticism and in some cases hostility to policies supporting renewable energy, while also favouring the use of fossil fuels. Lockwood (2018) explores two potential reasons for these positions: that supporters of RWPPs tend to be those 'left behind' by globalisation and technical change, and resentful at paying for climate policy through forms of environmental taxation; and that right wing populists have an ideological hostility to climate policy as an essentially cosmopolitan agenda. Much subsequent research has focused on connection between support for RWPPs and climate skepticism at the level of the individual citizen (e.g. Huber 2021; Jylhä et al. 2020; Huber et al. 2020; Lachapelle and Kiss 2019; Kulin et al. 2021) and on populist party policy platforms on, and wider rhetoric towards, climate change (Hess and Renner 2019; Forchtner et al. 2018; Żuk and Szulecki 2020; Huber et al 2021).

However, there has been less focus on the effects of populism on climate and energy policies and outcomes. Ćetković and Hagemann (2020) examine six West European countries over the period from 2008 to 2018, using a case study approach. Amongst these countries they find only limited effects of the rise of RWPPs, for a number of reasons. One is that such parties entered governments in only relatively few cases. A second is that even where RWPPs were in cabinets, in only one case (Norway) did they directly control the energy and climate ministry, reflecting the fact that climate change is often not the main concern of RWPPs (Lockwood 2018). Third, when RWPPs had electoral success as measured by seats in legislatures, this tended to push larger parties to form coalition governments with other parties which had progressive energy and climate platforms, leading to an *improvement* in policies. Finally, they find that the potential effect

of RWPPs were conditional on the absence of a strong international climate regime and were overwhelmed by the influence of major events such as the Paris Agreement.

Huber et al. (2021) also adopt a case study approach to assess the role of populists in power in six European countries, and specifically the actions of RWPPs in government in Austria and Poland. They find clearer opposition to climate commitments than to renewable energy policy, in line with Lockwood's (2018) suggestion that RWPPs in some countries may be more ambivalent about the latter. One reason for RWPPs embracing renewables may be because a nationalist ideology heightens concerns about energy security, and in countries without domestic fossil fuel reserves renewable energy provides a route to security. Some RWPPs also support some forms of renewable energy while rejecting others, such as France's *Rassemblement national* which endorses solar PV but is opposed to wind, which may be related to populist right ideas about the national landscape (Forchtner and Kølvraa 2015).

Finally, Jahn (2021) (looking at the EU28) and Böhmelt (2021) (looking at a wider sample of 66 countries) adopt a quantitative approach to assess the effects of populism not on policies but on greenhouse gas emissions as *outcomes*, finding that these are significantly higher where RWPPs are in government.

In this article we explore the influence of RWPPs on climate and renewable energy policies using a quantitative approach rather than the case-study one used so far. Like much of the literature, we are mainly concerned with the effects of populist *parties* on climate and renewable energy policies, as opposed to leaders as in (Böhmelt 2021). This is principally because populist parties may have an effect on policies even if they do not lead governments, either through representation in parliament, representing an electoral threat to other parties, or as partners in coalition governments.

For climate policy, our sample includes 31 OECD countries for the period 2007-2018, while that for renewable energy policy includes 25 OECD countries for 2010-18. Because our data allow us to expand the frame beyond Western Europe and compare countries with different electoral systems, our main focus is on assessing whether the influence of RWPPs on policy shows systematic variation across these dimensions. At the same time, unlike Böhmelt (2021), we focus on a set of OECD countries that share a common context for the rise of right-wing populism, i.e. industrial decline and the emergence of new political cleavages (Kriesi et al., 2006; Oesch et al 2015; Iversen and Soskice 2019).

Drawing on the literature above, we propose the following basic hypotheses:

H1: *The stronger the influence of RWPPs through party share in legislature, cabinet membership or leadership, the weaker is climate policy.*

H2: *The effect of RWPPs through party share in legislature, cabinet membership or leadership on renewable energy policy is weaker than that on climate policy.*

The existence of climate and renewable energy targets at the supranational level for EU member states implies that we might see the influence of RWPPs muted in EU countries, compared with non-EU countries. While RWPPs in theory have some influence on these targets through co-decision mechanisms involving the European Parliament and the Council of Ministers, in practice these institutions are still dominated by representatives from mainstream, non-populist parties, and this is reflected in the broad pro-climate action orientation of the EU. This observation leads to our next hypothesis:

H3: *The influence of RWPPs on climate and renewables policy is weaker in EU Member States than in non-EU countries.*

We also expect differences across countries with PR and majoritarian electoral systems. In countries with PR systems, the representation of right wing populist voters is likely to happen directly through the formation of RWPPs; such parties have a greater chance of entering legislatures, and so the incentive to form and vote for such parties is greater. This in turn suggests that where RWPPs enter government, they will do so as (typically junior) coalition partners. However, as suggested by Lockwood (2018) and Ćetković and Hagemann (2020), we expect that climate policy and renewable energy portfolios will not be a priority for RWPPs entering cabinets, and so again the policy influence relationship will be more muted.

By contrast, in countries with plurality and majoritarian electoral systems, which tend to lead to a few (often two) large parties and majority governments, we expect right wing populists to enter government via an internal capture of the existing centre right party, in what Snow and Moffitt (2012) call 'mainstream populism'. While such cases may be rare, when they do occur we expect them to have a greater effect on all policy areas, including climate and renewables policy, since populists effectively capture the whole of government. The recent Trump Presidency and Republican administration provides an easily recognisable example.[2] This yields a further hypothesis:

[2] Parties in majoritarian systems are internal coalitions (Bawn and Rosenbluth 2003) and median voter theory might suggest that even where a mainstream party is captured by a populist faction, other elements in the party would resist any radical shifts in policy. We think that this effect will in practice be relatively weak, for three reasons. The

H4: *The influence of RWPPs on climate and renewables policy is weaker in countries with PR electoral systems than those with majoritarian systems.*

Finally, we consider how different channels of influence might operate. A general expectation might be that RWPPs have more influence when they have representation in the executive rather than just in the legislature. However, Ćetković and Hagemann (2020)'s findings suggest that both routes of influence are possibly weaker in countries with PR electoral systems which have a tendency to coalition governments.[3] As above, we expect that in majoritarian countries, it is rarer for populists to gain representation at the executive level, but when they do so they have control over the whole of government and so can be expected to have more of an effect on policy. So, our final hypothesis is:

H5: *The influence of RWPPs on climate and renewables policy is stronger through the executive route than through the legislative (seat share) route, particularly in countries with majoritarian systems.*

3. Data and methodology

This study adopts a quantitative approach to assessing the influence of right wing populist parties on climate and renewables policies, using multiple regression analysis on two panel data sets.

To assess the strength of climate policy, we draw on the Climate Change Performance Index (CCPI)[4] published annually by Germanwatch, the New Climate Institute and the Climate Action Network, also used by Ćetković and Hagemann (2020). For this study we have data from 2007 to 2018 on 31 OECD countries. The CCPI is constructed from scores across four categories: greenhouse gas emissions, energy use, renewable energy and climate policy. Here we focus on the climate policy score (CPS).

first is the strength and nature of populist ideology, which in taking a 'religious' view of politics (Margalit 2010), is fundamentally opposed to the compromises of business-as-usual politics. The second is the fact that non-populist groups within mainstream right wing parties are already likely to be sceptical of strong interventions on climate policy (e.g. Fankhauser et al., 2015). The third is the fact that in some majoritarian countries, climate change is not a valence issue.

[3] In PR systems minority governments relying on support from parties outside of coalitions are not uncommon. However, a limitation of the ParlGov dataset is that it does not distinguish between majority and minority governments.

[4] https://www.climate-change-performance-index.org/

The CPS is based on an annual rating of domestic and international climate policy commitments and performance by 'climate and energy policy experts from non-governmental organisations, universities and think tanks within the countries that are evaluated'.[5] This data source has the limitation that it is based on a set of subjective assessments of policy, albeit from a number of experts. Comparability over time is also affected by the fact that the expert pool providing the data has been extended and altered over time. However, for the countries on our sample there are also multiple experts which should improve the accuracy of the overall assessments. Moreover, if personal biases in expert assessments are not time-varying at the country level, they will be captured by our use of fixed effects for in our estimation.[6]

We do not draw on the CCPI for renewable energy because its indicator is largely a measure of growth in renewable energy capacity rather than of policy. Instead we use a renewable energy policy score (RES) from the World Bank Regulatory Indicators for Sustainable Energy (RISE) database, which provides data from 2010 onwards.[7] The RISE database includes 25 countries out of the 31 in our sample covered by the CCPI, those excluded being the smaller states of Estonia, Iceland, Latvia, Lithuania, Luxembourg and Slovenia. The RES is based on expert assessments of seven dimensions of renewable energy policy and regulation.[8] So, the remarks made above about data based on expert evaluations for the CPS indicator also apply here. For comparability of results, we have re-scaled both CPS and RES to lie between 0 and 10, with a higher score indicating a more pro-climate or pro-renewable energy policy respectively.

Data on party representation amongst leaders, cabinets and legislatures (the lower houses of representatives or Parliaments in bicameral systems) is taken from the Parliaments and Governments Database.[9] To identify which political parties can be counted as right-wing and populist (i.e. RWPPs), we rely on two sources. For Europe, we use the PopuList project,[10]

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[5] https://www.climate-change-performance-index.org/sites/default/files/documents/ccpi_2020_background_and_methodology.pdf

[6] As further explained below, we use an estimator where the relationship in levels between explanatory and dependent variables, which includes country fixed effects, is first-differenced, thus eliminating fixed effects.

[7] The IRENA database of the IEA also has information about renewables projects for member countries, and this database has been used by Anderson et al (2017) to investigate the effect of public opinion on the number of projects per year. We prefer to use the RES index as it is an expert assessment of the quality of renewables policy rather than a count variable, and this comparable to the CPS index. However, the authors of that study have kindly provided their count variable to us, and regressions exactly of the form of Table 3 show that when controls are included, political variables of any kind have no effect on the renewables count. These results are available on request.

[8] For details on the elements see: https://rise.worldbank.org/scoring-system and for details of the contributing experts see: https://rise.worldbank.org/contributor

[9] http://www.parlgov.org/

[10] https://popu-list.org/

established by leading experts on populism and the radical right. As PopuList does not cover non-European countries, for these we have adopted our own coding scheme based on published studies of the nature of parties and governments in these countries, as detailed in the Appendix.[11]

There is a timing issue involved in combining the political data with the policy scores and other data. New cabinets and legislatures are formed by elections that fall somewhere within a particular year, and reflecting this, the Parliaments and Governments Database is organised by cabinet, not year. The rest of our data including the CPS and RES are annual. Specifically, the CPS for a particular year is generated by assessments of experts collected in the latter part of that year (September to November), while the RES indicator is produced in December of each year. Our approach to matching data is to allocate the start and end years of governments and legislatures in the following way: if an election falls in the first half of a calendar year (e.g. May 2014), then we count the government and legislature as starting from that year (e.g. 2014), but if it falls in the second half of the calendar year (e.g. September 2014) then we count these as starting from the next calendar year (e.g. 2015). This is because the CPS and RES scores will tend to reflect the effects of political circumstances over the first part of the year, in part because it often takes a little time for new governments to change policies.

For the direct route of potential influence, we construct two variables, *rwp_pm* and *rwp_cabinet,* using the Parliaments and Governments Database. The first is 1 if the leader (i.e. Prime Minister or President) of government comes from a RWPP and is 0 otherwise. The second is defined as the number of RWPPs that hold cabinet posts, divided by the total number of parties that hold cabinet posts.[12] In the analysis, we use the average of these two variables, which we call *rwp_exec,* as a measure of RWPP control of the executive. This variable takes on values between 0 and 1. The indirect route of potential influence is measured by *rwp_leg*, the share of seats in the legislature taken by RWPPs. In the initial analysis, we use the simple average of *rwp_pm, rwp_cabinet* and *rwp_leg* which we call *rwp,* as an overall measure of the political influence of RWPPs.[13]

In addition we adopt a number of controls, which we classify as political, economic, and environmental. It is first important to control for the conventional left-right position of the

[11] The other possible source here is the Global Populism database (populism.byu.edu). However, this database has the disadvantage from our point of view that it only codes the populist content of speeches by leaders and therefore does not allow us to classify any party other than the party of the leader as populist or not.

[12] The more obvious measure, the fraction of total cabinet posts held by RWPPs, is not available from the Parliaments and Governments Database.

[13] We also experimented with the first principal component of these three variables; the results are similar.

government (Fankhauser et al. 2015; Lutz 2019). For consistency, we again use data from the Parliaments and Government Database, which scores parties on a 0 to 10 scale, from left to right. We define parties with a score of 4 or less as left-wing, and parties with between 4 and 6 as centre, which ensures that roughly equal numbers of parties are in each of the three categories. Then we create variables *left_pm*, *left_cabinet, left_leg, centre_pm*, *centre_cabinet, centre_leg* in exactly the same way as for RWPPs; for example, *left_pm* is 1 if the head of government is from a left-wing party. We again define *left, centre* to be the averages of the three variables; these capture the potential influence of left-wing and centre parties respectively. All political effects, by definition, will thus be measured relative to the baseline of non-populist right wing parties.

Secondly, we include a dummy for EU membership and a measure of how the majoritarian the electoral rules of the country are. The measure of majoritarianism is constructed from the World Bank's widely used Database of Political Institutions.[14] Specifically, following (Muttakin et al., 2021), we define our measure *maj* = 1- *Proportional representation* +*Plurality*+*Housesys*, where: *Proportional representation* is an indicator variable that takes on the value 1 if some candidates are elected based on a percentage of votes received by their party and is 0 otherwise; *Plurality* is an indicator variable that takes on the value 1 if legislators are elected through a majoritarian rule, and 0 otherwise, and *Housesys* takes a value 1 if most seats in the legislature are filled via plurality rule, and 0 if most are filled via proportional rule. Overall, *maj* can take on integer values between 0 and 3.

For economic controls we include GDP per capita (*gdp pc*) and the unemployment rate (*u).* These variables are completely standard: the role of the unemployment rate is to pick up any effects of the economic cycle.

Finally, we include a number of environmental controls, selected on the basis of the existing literature on determinants of climate and renewable energy policy cited in section 2. We have a relatively short time dimension to the panel, due to the fact that our CPS and RES variables are not available before 2007, so we focus on controls that do not require us to drop observations.

For the analysis of climate policy, we use: an index of local air pollution per capita (the sum of NOx and SOx emissions per capita, denoted *lap pc*) which captures possible demand for environmental improvements[15]; carbon dioxide emissions per unit of GDP, denoted *CO2 gdp*, as

[14] https://datacatalog.worldbank.org/dataset/wps2283-database-political-institutions

[15] Local air pollution is a proxy for environmental concern. We adopt a proxy rather than a direct measure because for the country sample in the study the main source for such a measure, i.e. the World Values Survey, has relatively few data points (i.e. at most four waves across our period)

an indicator of the strength of high-carbon interests, along with fuel exports as a percentage of total merchandise exports, denoted *fuel exports*; and finally the proportion of 25-34 year olds with tertiary education, denoted *tertiary ed*, since awareness of and support for climate policy have been shown to be associated with higher levels of education.

For the analysis of renewable energy policy, we include: *u, gdp pc, tertiary ed* and a measure of the share of fossil fuels in electricity generation, *fossil elec*, as an indicator of the strength of high carbon interests in the electricity sector. Sources for all these data are given in the Appendix.

4. Results

4.1 A First Look at the Data

Summary statistics for all variables and details on their units of measurement are reported in Table 1. Out of 372 observations for the CPS sample, each representing a country and a year, RWPPs were in cabinets in 65 of these. In 27 cases, national political leaders were from RWPPs.

Table 1 around here

Figures 1 and 2 show the evolution of mean CPS and RES scores for all countries in our data-set over the period. The CPS mean shows no particular trend, but that of the RES shows clear upward movement throughout the period. A standard test for stationarity shows that for both CPS and RES, we can reject the null hypothesis of a unit root in favour of stationarity.[16] However, there is evidence of considerable persistence in both variables, a point to which we return below.

Figures 1 and 2 around here

Figures 3(a), (b) below show the basic relationship between *CPS* and *rwp*, and *RES* and *rwp* respectively. Figure 3(a) suggests a possible negative relationship between *CPS* and *rwp*. We show below that this relationship becomes much clearer when we control for country fixed effects, and other political, economic and environmental factors. From 3(b), the picture for RES is less clear.

Figure 3 around here

[16] The appropriate test for the type of sample used here is the Levin–Lin–Chu test. Adjusted t-statistics and p-values (in brackets) were for CPS, -14.33 (0.000) and for RES, -2.602 (0.005).

As a next step, we look graphically at how the strength of the relationship between CPS and RES on the one hand, and *rwp* on the other, is mediated by how majoritarian the electoral system is, and whether the country is an EU member or not.

To do this, using a simple regression, we first calculate the average marginal effect of *rwp* on CPS for different values of *maj* and *eu*. In the regression, we lag *rwp* by one year because as explained above there are lags in the formation of policy. We also use this lag specification in the more detailed regressions below. The plots in Figures 4 and 5 show average marginal effects, plus their confidence intervals. Figure 4(a) shows a clear relationship between *maj* and the marginal effect of lagged *rwp* on CPS; for values of *maj* greater than 1, the impact of *maj* is significantly negative. This is suggestive evidence for H4 above that RWPPs have more impact on climate change policy in majoritarian electoral systems. A somewhat weaker positive effect of EU membership on the relationship between lagged *rwp* and CPS is shown in Figure 4(b).

Figure 4 around here

Figure 5 repeats this exercise for RES. Panel (a) of the figure shows that there is a relationship between the effect of lagged *rwp* on RES and the degree of majoritarianism of the electoral system. The effect is non-monotonic, but it does suggest that in pure majoritarian systems (i.e. *maj*=3), *rwp* has a negative impact on RES. Figure 5(b) shows that there is possibly a weak negative relationship between the effect of lagged *rwp* on RES and EU membership.

Figure 5 around here

4.2. Regression Results for CPS

As already noted, the unit root tests indicate considerable persistence in both CPS and RES, so any regression that omits a lagged dependent variable will be mis-specified. Instead, a generalised method of moments (GMM) estimator should be used. However, it is also known that in data with a small cross-section as we have here, GMM estimators can be severely biased and imprecise (Bruno 2005). We therefore use an estimator to deal with this problem that has been developed by Bruno that can be implemented in Stata (**xtlsdvc**). At the first stage, this estimator implements the Arellano-Bond estimator, which first-differences the regression to eliminate

country fixed effects, and then instruments the lagged change in the dependent variable with further lags. At a second stage, **xtlsdvc** corrects the bias in the Arellano-Bond estimator.[17]

The main regression results for the CPS indicator are shown in Table 2 below. As already noted, all political variables are lagged by one year to allow for the policy-making process. Specification 1 (reported in Column 1) is the basic regression with just the three political variables. Column 1 shows, as we might expect, that both centre and left parties have a positive effect on the CPS score relative to the right-wing baseline. To interpret the coefficients, note first that the mean CPS score is about 5, so the effect of centre (left-of-centre) parties is to increase the CPS score by about 22% (16%) relative to its mean. The coefficient on *rwp* is negative and significant, consistent with hypothesis H1 that RWPPs have a negative effect on climate policy. It indicates that a RWPP implies about a 24% reduction in the CPS index relative to its mean, which is comparable in magnitude, though opposite in sign to the effect of centre and left parties.

Table 2 around here

Specification 2 allows for the effect of right-wing populism on CPS to vary by electoral system. To do this, we create an interaction term *rwp_maj* which is equal to *rwp* multiplied by *maj* when *maj* is greater than 1 and zero otherwise. The reason for this specification of the interaction term is that as can be seen in Figure 4(a), the marginal effect of *maj* on the relationship with *rwp_exec* is only significant only when *maj* is greater than 1. The interaction term *rwp_maj* is significantly negative, consistent with H4. The effect is also large; in strongly majoritarian systems when both the head of government and all the cabinet posts are held by RWPPs, the CPS score falls by 58% of its mean value of about 5.

On the other hand, for countries that score 0 or 1 on *maj*, the effect of *rwp* is insignificant. This latter finding is consistent with our hypothesis that in countries with PR, where RWPPs enter government they will do so as typically junior coalition partners with limited numbers of cabinet seats. In such circumstances we can expect them to prioritise portfolios other than climate and renewable energy policy, given the greater salience to date of issues such as immigration for such parties. Supporting evidence for this interpretation comes from data on cabinet portfolios for European countries going back to 1993 from the Party Systems and Governance Observatory.[18]

[17] For this estimator, the options chosen are that standard errors are bootstrapped using 50 repetitions, and the bias is set to be of order 1/NT=1/(31*12)=0.0027, where N, T are the dimensions of the cross-section and time-series respectively.

[18] https://whogoverns.eu/cabinets/

This shows that of the 43 cabinets containing RWPPs for which data is available, RWPP representatives held the environment portfolio in only nine cases, five of which were from Poland where the RWPP *Prawo i Sprawiedliwość* (PiS) has been the largest single party.

Specification 3 allows for the effect of right-wing populism on CPS to vary by EU membership, reflecting the potential constraints of EU policy. The interaction of *rwp* and EU membership is significantly positive, consistent with H3. Inspection of the coefficients on *rwp* and *rwp_eu* suggest that the two effects more or less offset each other, and in fact, in both regressions 3 and 7, we cannot reject the hypothesis that the sum of the two coefficients is zero at a 5% significance level. The implication is that while RWPPs outside the EU have a strong negative effect on climate policy, RWPPs within the EU have no significant effect. Finally, in both regressions 2 and 3, centre and left-wing governments have a clear positive impact on CPS, as might be expected.

We then introduce controls, which are generally insignificant in in specifications 5, 6 and 7; this is probably because they do not add much to the explanatory power of country fixed effects. To check this, specification 4 runs a static version of specification 5 with all economic and environmental controls added, but with country fixed effects and the lagged dependent variable omitted. Several controls then become significant, and the signs are mostly in line with the existing literature. For example, unemployment reduces the quality of climate policy, as other policy priorities become more important during recessions, local air pollution – measuring a citizen demand for environmental improvement - has a positive impact, and finally, CO2 per unit of GDP, measuring producer resistance to decarbonisation, has a negative effect. However, per capita GDP and tertiary education have no significant effect, and fuel exports are significant but the sign is positive rather than the expected negative effect. Finally, the main results from columns 1-3 concerning the effects of political variables are robust to the introduction of controls in columns 5-7; in fact, the coefficients hardly change in size or significance level.

4.3. Regression Results for RES

The main regression results for the RES indicator are shown in Table 3 below. The regression specifications 1-9 are the same as for CPS. A first observation is that RES is highly persistent, with a coefficient on the lagged dependent variable of over 0.9. Looking across specifications 1-3, we see first that all political variables, including *rwp*, are insignificant, except *left,* which has a

positive sign. As the mean value of RES is about 6.6, the coefficient of about 0.47 on *left* implies that left-wing parties increase the RES score by about 7% on average, which is about half the effect of *left* on the mean value of the CPS score. Overall, these results are thus consistent with *H2* above- in particular, we find *no* effect of right wing populism on renewables policy.

Table 3 around here

As in Table 2, specification 4 is a static regression without fixed effects or lagged dependent variable; surprisingly, our control variables, which are standard, are not significant here; so, variables such as GDP per capita do not appear to explain cross-country variation in RES. This finding may reflect the fact that renewable energy policy has converged across countries more in recent years, compared with data used in earlier studies. In specifications 5-7, which repeat specifications 1-3 with the addition of controls, only *left* remains highly significant.

4.4 Executive vs. Legislative Channels of Influence

So far we have considered the aggregate influence of RWPPs on policy; we now examine if the executive or legislative channels are more important, addressing H5. Although one might assume the executive channel may be more important, it is not immediately obvious which one dominates. For example, the executive channel may be weak if RWPPs are given cabinet portfolios unrelated to the environment, and the legislative channel may be important if the seat share reflects high levels of populist support that push mainstream parties towards adopting populist policies.

Tables 4 and 5 show the results for the CPS and RES indices respectively. In each table, we look at the effects of the two different variables *rwp_exec* and *rwp_leg* separately, both in levels and via the interactions with *maj* and *eu*. We do not enter both variables in a 'two-horse race' as they are highly correlated; the correlation coefficient between *rwp_exec* and *rwp_leg* is 0.78. The resulting co-linearity leads to political variables being insignificant in such regressions. Also, in each regression, we include *left* and *centre*, but omit the controls since the signs and significance of the political variables of interest do not change if we add the controls.

Table 4 around here

For CPS, the overall effects of RWPPs on policy appear to be stronger through the legislative than the executive route i.e,. the coefficient on *rwp_exec* in specification 1 is only significant at 10%, whereas the coefficient on *rwp_leg* in column 4 is significant at 5% and three times as large. If we look at the interactions between these two channels and *maj*, we see that the effect of RWPPs in both legislatures and executives is stronger in majoritarian countries, but the relative effect via the executive is certainly no bigger. So overall we do not find any evidence in favour of H5 for climate policy. Finally, for renewables, we would expect from Table 3 that RWPPs do not affect RES either though the executive or the legislative channel, and the results in Table 5 confirm this.

Table 5 around here

5. Discussion and conclusions

In this paper we have investigated whether there is a systematic tendency for right wing populist parties (RWPPs) to have a negative impact on climate and renewable energy policies across OECD countries. Specifically we have assessed what happens to these variables when representatives of RWPPs are elected to legislatures, enter government or become leaders.

Our analysis shows that there is a robustly significant negative relationship between the strength of RWPP representation in both in the legislature and executive, and climate policy. However, we also find that this relationship is mitigated by EU membership, and that the negative effect of RWPPs on climate policy is far more pronounced in countries with strongly majoritarian electoral systems, relative to that in countries with more proportionately representative systems.

These findings are consistent with our hypothesis that in countries with PR, where RWPPs enter government they will do so as typically junior coalition partners with limited numbers of cabinet seats and a tendency not to prioritise portfolios relevant to climate policy. By contrast, in countries with majoritarian electoral systems, when RWPPs get into government, our finding is that they have a much greater influence on climate policy. However, these situations are relatively unusual; in our sample there are only a few countries with strongly majoritarian systems, and the episodes in which right-wing populists were in power in these countries are far and few between.

In contrast to the finding of a robust relationship between RWPP representation and climate policy, there is no strong and significant overall relationship with renewable energy policy. Consistent with other studies, this would seem to suggest that RWPPs are more ambivalent

about renewable energy than they are about climate policy, or that they have limited influence over renewables policy especially in countries with more PR based electoral systems.

There are various implications of our analysis. First, when right-wing populists come into power they can be expected to be disruptive of climate policy. This finding applies not only at the domestic level but also at the international level, since our measure of climate policy comprises international effort as well as national policy (an obvious example is Donald Trump withdrawing the US from the Paris Agreement in 2017).

Second, it is in countries with majoritarian politics outside Europe that climate policy can be the most vulnerable to the influence of right wing 'mainstream' populists coming to power. However, unlike the case in PR systems where permanently populist parties tend to form, mainstream populism has itself been a more unstable phenomenon, so the challenge to climate policy from such cases may be episodic.

The third implication relates mainly to European countries with PR and coalition government. Many of these countries have seen a long-term rise in RWPP representation, but in most such parties are still in a minority position. If the fortunes of RWPPs continue to rise, it is possible that the mitigating effect of PR electoral systems on the relationship with climate policy will weaken or disappear. Larger, stronger RWPPs in governments can affect more policy areas; this is clear from countries such as Poland. At the same time, it is by far from clear that RWPPs in Europe have reached their high-water mark.

A fourth implication arises from the often-made observation that populism is a reactive ideology (Canovan, 1999) which focuses on perceived crises (Taggart 2000). Thus far, the main focus of European RWPPs has been on immigration (and in the UK on Brexit), but as mainstream and left-wing parties focus increasingly on climate change, this focus may shift, leading RWPPs to put greater effort into trying to control environmental portfolios and shaping climate policy where they get into coalition government.

Finally, a fifth implication follows from the absence of a strong and significant effect of right wing populism on renewable energy policy. This offers the prospect that despite hostility to a broad climate agenda, right wing populists in power may still support some technologies that reduce emissions, helping in turn to lower the costs of mitigation.

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including *Quarterly Journal of Economics, Review of Economic Studies, American Economic Journal: Policy, Review of Economics and Statistics,* and *Economic Journal*. He has also worked for IMF, the European Commission, and the UK government. He holds a PhD from the University of Warwick.

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Figures and Tables

Figure 1
Climate Policy Score
Mean and inter-quartile range 2007 - 2018

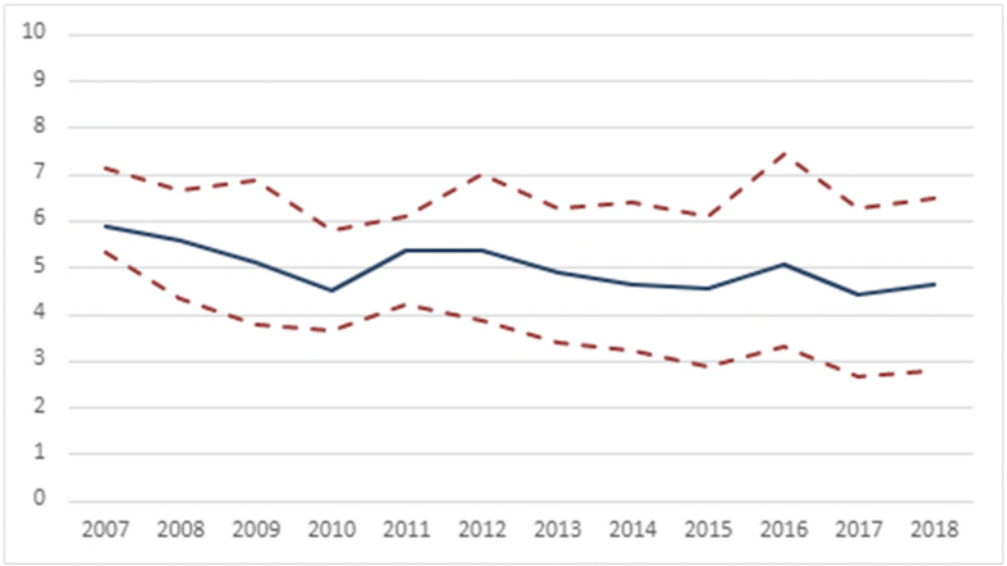


Figure 2
Renewable Energy Score
Mean and inter-quartile range 2010 – 2019

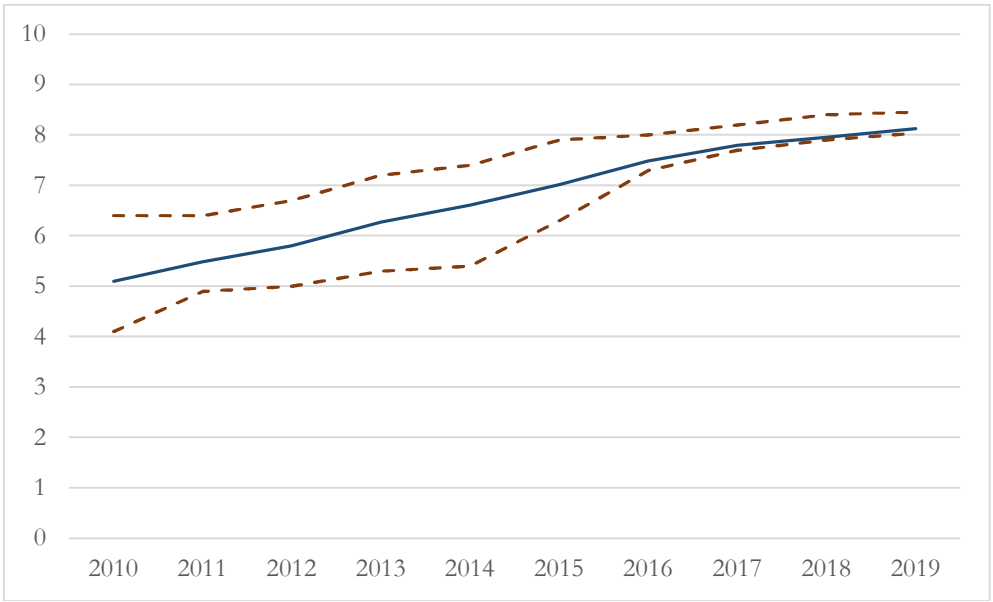


Figure 3
Correlations between rwp and CPS, RES

Figure 3(a)

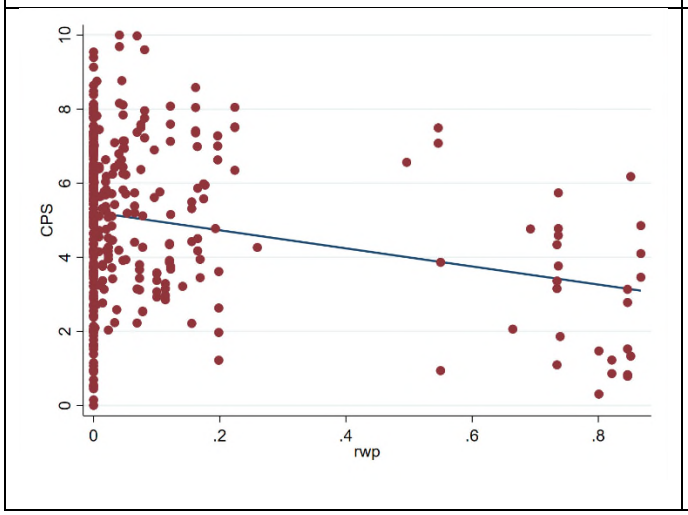


Figure 3(b)

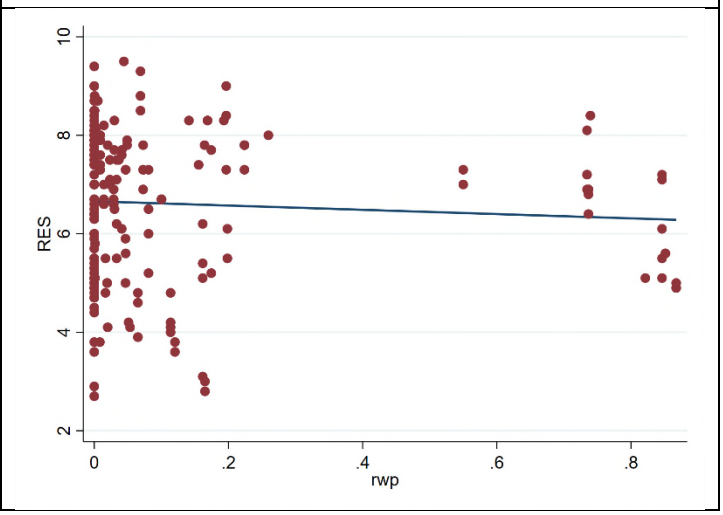


Figure 4
Effects of rwp on CPS, interacted with maj and EU membership

Figure 4(a)

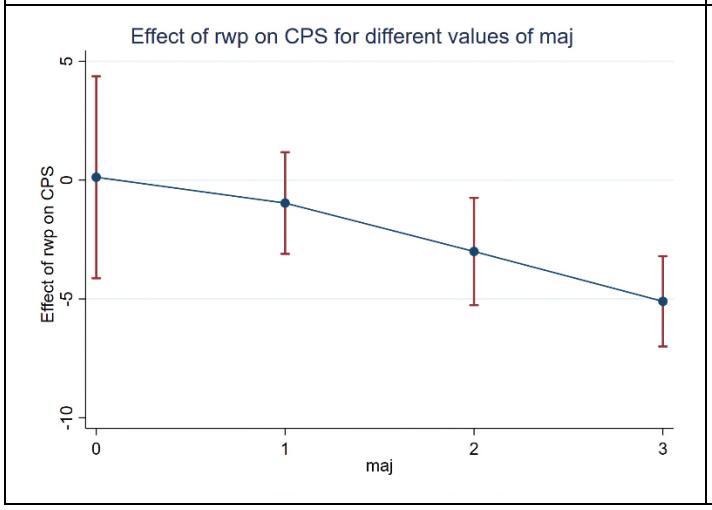
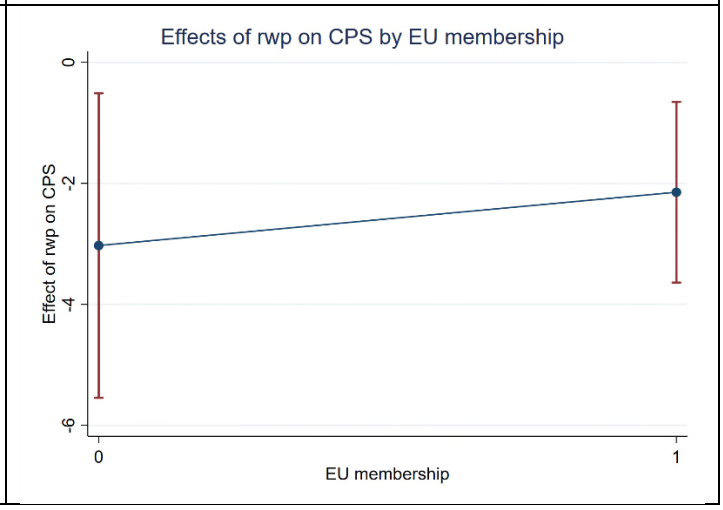


Figure 4(b)



Note: red bars indicate 95% confidence intervals.

Figure 5
Effects of rwp on RES, interacted with maj and EU membership

Figure 5(a)

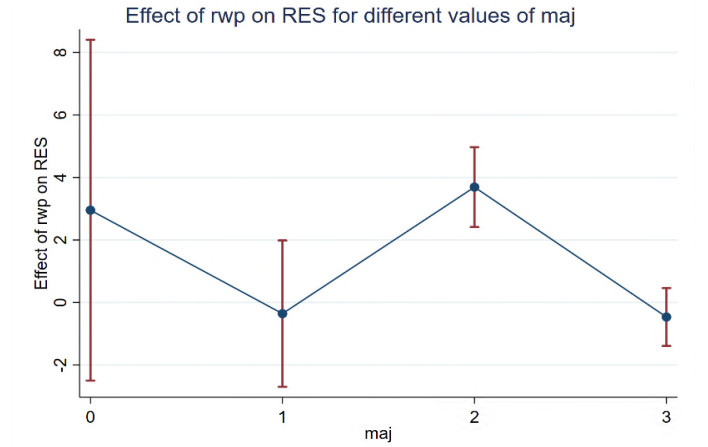
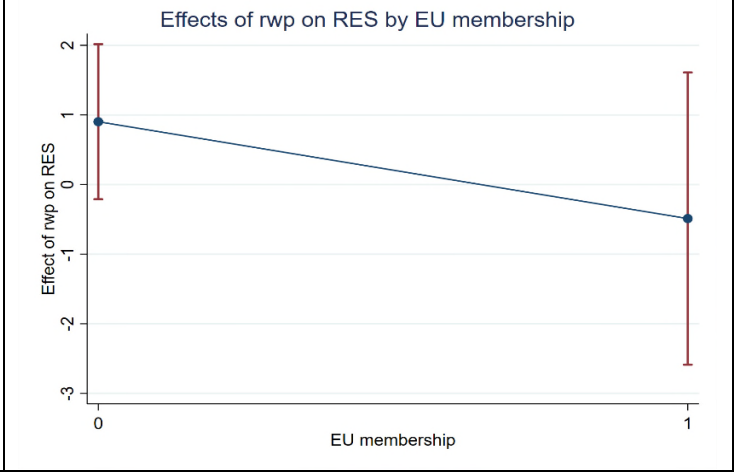


Figure 5(b)



Note: red bars indicate 95% confidence intervals.

Table 1 - Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
CPS (rescaled)	371	4.993	2.084	0	10
RES (rescaled)	225	6.611	1.489	2.7	9.5
rwp	371	.092	0.205	0	.867
rwp exec	371	.083	0.236	0	1
rwp_leg	371	.112	.17	0	.719
centre	371	.17	.237	0	.882
left	371	.271	.274	0	.896
maj	371	.938	1.047	0	3
eumembership	371	.744	.437	0	1
u rate	371	7.967	4.419	2.2	27.5
gdp pc	371	42.76	15.67	19.644	107.766
lap pc	370	46.293	57.607	7.667	344.79
CO2 gdp	371	.312	.123	.097	.731
fuel exports	370	9.804	12.702	.078	69.999
fossil elec	371	50.987	28.883	.011	99.081
tertiary ed	371	40.271	9.292	15.472	61.754

Notes to table: *gdp_pc* is in $1000 USD, *lap_pc* is in tonnes per capita, *CO2_gdp* is in tonnes per unit of GDP, *fuel exports* are fuel exports as a percentage of the value of merchandise exports, *fossil elec* is the percentage of gross electricity consumption from fossil fuels, and *tertiary ed* is the share of 25-34 year olds with tertiary education.

Table 2 - Results for CPS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
rwp	-1.211	0.186	-2.558	-2.206	-1.278	0.151	-2.578
	[0.045]**	[0.780]	[0.005]***	[0.006]***	[0.061]*	[0.833]	[0.008]***
centre	1.111	0.913	0.912	1.390	1.187	0.987	0.998
	[0.004]***	[0.022]**	[0.021]**	[0.025]**	[0.004]***	[0.022]**	[0.019]**
left	0.779	0.924	0.865	0.389	0.731	0.891	0.834
	[0.035]**	[0.010]**	[0.017]**	[0.577]	[0.057]*	[0.016]**	[0.026]**
rwp_maj		-2.857				-2.888	
		[0.007]***				[0.008]***	
rwp_eu			2.647				2.617
			[0.014]**				[0.018]**
u				-0.117	-0.037	-0.033	-0.029
				[0.024]**	[0.320]	[0.375]	[0.427]
gdp pc				-0.005	-0.029	-0.025	-0.023
				[0.741]	[0.559]	[0.619]	[0.641]
lap pc				0.005	0.014	0.014	0.013
				[0.005]***	[0.103]	[0.101]	[0.108]
CO2 gdp				-7.244	-0.591	-0.079	0.098
				[0.002]***	[0.887]	[0.985]	[0.981]
Fuel exports				0.030	-0.011	-0.003	-0.010
				[0.003]***	[0.779]	[0.940]	[0.793]
tertiary ed				-0.040	0.016	0.015	0.016
				[0.250]	[0.619]	[0.639]	[0.616]
lagged CPS	0.562	0.555	0.557		0.544	0.534	0.537
	[0.000]***	[0.000]***	[0.000]***		[0.000]***	[0.000]***	[0.000]***
Observations	340	340	340	338	338	338	338

Notes to table: the dependent variable is CPS; p-values are in brackets, *, **, *** indicates p<0, 1, p<0.05, p<0.01 respectively. The dynamic estimator **xtlsdvc** does not report the R-squared. For column 4, the R-squared is 0.319.

Table 3 - Results for RES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
rwp	0.404	0.379	0.456	-0.107	0.423	0.399	0.409
	[0.104]	[0.324]	[0.201]	[0.893]	[0.146]	[0.385]	[0.239]
centre	0.290	0.295	0.339	-1.283	0.357	0.360	0.353
	[0.190]	[0.222]	[0.220]	[0.097]*	[0.173]	[0.186]	[0.195]
left	0.468	0.468	0.458	0.813	0.434	0.433	0.434
	[0.000]***	[0.000]***	[0.002]***	[0.287]	[0.004]***	[0.005]***	[0.004]***
rwp_maj		0.040				0.038	
		[0.936]				[0.944]	
rwp_eu			-0.217				0.042
			[0.701]				[0.940]
u				0.026	0.053	0.052	0.053
				[0.358]	[0.061]*	[0.067]*	[0.068]*
gdp pc				0.015	0.024	0.024	0.024
				[0.562]	[0.205]	[0.209]	[0.210]
fossil elec				-0.001	0.010	0.011	0.011
				[0.860]	[0.204]	[0.205]	[0.202]
tertiary ed				0.002	0.031	0.031	0.031
				[0.947]	[0.117]	[0.117]	[0.115]
lagged RES	0.930	0.931	0.953		0.916	0.916	0.916
	[0.000]***	[0.000]***	[0.000]***		[0.000]***	[0.000]***	[0.000]***
Observations	243	243	200	225	200	200	200

Notes to table: the dependent variable is RES; p-values are in brackets, *, **, *** indicates p<0, 1, p<0.05, p<0.01 respectively. The dynamic estimator **xtlsdvc** does not report the R-squared. For column 4, the R-squared is 0.105.

Table 4

Influence of RWPPs on CPS via Executive and Legislative Channels

	(1)	(2)	(3)	(4)	(5)	(6)
centre	1.137	0.909	0.915	1.091	0.946	0.962
	[0.003]***	[0.022]**	[0.019]**	[0.007]***	[0.018]**	[0.017]**
left	0.787	0.940	0.857	0.863	0.879	0.915
	[0.035]**	[0.009]***	[0.019]**	[0.015]**	[0.012]**	[0.009]***
rwp_exec	-0.878	0.178	-2.099			
	[0.060]*	[0.708]	[0.007]***			
rwp_exec_maj		-2.448				
		[0.005]***				
rwp_exec_eu			2.182			
			[0.013]**			
rwp_leg				-2.416	-0.114	-3.947
				[0.024]**	[0.942]	[0.003]***
rwp_leg_maj					-3.871	
					[0.049]**	
rwp_leg_eu						3.910
						[0.038]**
lagged CPS	0.564	0.554	0.557	0.547	0.555	0.555
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Observations	340	340	340	340	340	340

Notes to table: the dependent variable is CPS; p-values are in brackets, *, **, *** indicates p<0, 1, p<0.05, p<0.01 respectively. The dynamic estimator **xtlsdvc** does not report the R-squared.

Table 5

Influence of RWPPs on RES via Executive and Legislative Channels

	(1)	(2)	(3)	(4)	(5)	(6)
centre	0.284	0.294	0.334	0.27	0.287	0.334
	[0.194]	[0.224]	[0.227]	[0.233]	[0.240]	[0.214]
left	0.471	0.471	0.461	0.446	0.451	0.437
	[0.000]***	[0.000]***	[0.002]***	[0.000]***	[0.000]***	[0.002]***
rwp_exec	0.325	0.293	0.369			
	[0.099]*	[0.307]	[0.223]			
rwp_exec_maj		0.058				
		[0.885]				
rwp_exec_eu			-0.169			
			[0.699]			
rwp_leg				0.586	0.390	0.749
				[0.172]	[0.615]	[0.154]
rwp_leg_maj					0.275	
					[0.761]	
rwp_leg_eu						-0.641
						[0.573]
lagged RES	0.930	0.931	0.953	0.930	0.932	0.955
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Observations	243	243	200	243	243	200

. Notes to table: the dependent variable is CPS; p-values are in brackets, *, **, *** indicates p<0, 1, p<0.05, p<0.01 respectively. The dynamic estimator **xtlsdvc** does not report the R-squared.

Appendix

Data Sources

Sources for data not given in the text are as follows: *gdp_pc, u_rate* from https://data.oecd.org/; *lap pc, CO2 gdp* from https://stats.oecd.org/Index.aspx?DataSetCode=AIR_EMISSIONS; *fuel exports* from https://data.worldbank.org/indicator; *fossil share elec* from https://www.oecd-ilibrary.org/energy/data/iea-electricity-information-statistics; *tertiary ed share* from https://data.oecd.org/eduatt.

Non-European Coding Scheme

Most of the countries outside Europe in this study have majoritarian or plurality electoral systems that tend to work against the formation of separate significant right wing populist parties. Instead, these countries tend to see period of 'mainstream populism' (Snow and Moffitt 2012) in which populist factions and leaders within traditionally centre-right parties gain control. The paradigmatic case of this is in the US, with the rise of the Tea Party movement within the Republican Party over the 2010s and the emergence of Trump as a leader in 2017. For the purposes of the analysis here, we have adopted a coding scheme as below, which is based on the following accounts of the nature of political parties in the relevant countries and periods:

- USA (Oliver and Rahn, 2016)
- Australia (Snow and Moffitt, 2012)
- New Zealand (Vowles and Curtin 2020), (Donovan, 2020)
- Canada (Snow and Moffitt, 2012)
- Japan (Lind, 2018)(Warren, 2019)

Table A.1

Coding for RWP governments, non-European countries

	Adminstration	Leader	Parties	RWPP in cabinet	RWPP leader?
US	2007-2009	George W Bush	Rep	0	0
	2009-2012	Barack Obama	Dem	0	0
	2013-2016	Barack Obama	Dem	0	0
	2017-2019	Donald Trump	Rep	1	1
Australia	2007	John Howard	Lib (coalition)	1	1
	2008-2010	Kevin Rudd	Lab	0	0
	2010-2013	Julia Gilliard/Kevin Rudd	Lab	0	0
	2014-2015	Tony Abbott	Lib (Coalition)	1	1
	2016-2018	Malcolm Turnbull	Lib (Coalition)	0	0
New Zealand	2007-2008	Helen Clark	Lab	0	0
	2009-2017	John Key/Bill English	National	0	0
	2018-2019	Jacinda Ahern	Lab/Green/NZ First coalition	0	0
Canada	2007-2015	Stephen Harper	Con	1	1
	2015-2019	Justin Trudeau	Lib	0	0
Japan	2007-2008	Shinzo Abe/Yasuo Fukuda/Taro Aso	LDP	0	0
	2009-2012	Yukio Hatoyama/Naoto Kan/Yoshihika Noda	DJP-SDP-PNP coalition	0	0
	2013-2014	Shinzo Abe	LDP-NKP Coalition	0	0
	2015-2017	Shinzo Abe	LDP-NKP Coalition	0	0
	2018-2019	Shinzo Abe	LDP-NKP Coalition	0	0

References

Akkerman, T., 2012. Comparing Radical Right Parties in Government: Immigration and Integration Policies in Nine Countries (1996–2010). West European Politics 35, 511–529. https://doi.org/10.1080/01402382.2012.665738

Anderson, B, T. Böhmelt, and H. Ward. "Public opinion and environmental policy output: a cross-national analysis of energy policies in Europe." Environmental Research Letters 12, no. 11 (2017): 114011.

Bawn, K., Rosenbluth, F.M., 2003. Coalition Parties Versus Coalitions of Parties: How Electoral Agency Shapes the Political Logic of Costs and Benefits (SSRN Scholarly Paper No. ID 1154118). Social Science Research Network, Rochester, NY. https://doi.org/10.2139/ssrn.1154118

Böhmelt, T., 2021. Populism and Environmental Performance. Global Environmental Politics 1–27. https://doi.org/10.1162/glep_a_00606

Bruno, G. S., 2005. Estimation and inference in dynamic unbalanced panel-data models with a small number of individuals. The Stata Journal. 5, no. 4, 473-500.

Canovan, M., 1999. Trust the People! Populism and the Two Faces of Democracy. Political Studies 47, 2–16. https://doi.org/10.1111/1467-9248.00184

Carter, N., Ladrech, R., Little, C., Tsagkroni, V., 2018. Political parties and climate policy: A new approach to measuring parties' climate policy preferences. Party Politics 24, 731–742. https://doi.org/10.1177/1354068817697630

Ćetković, S., Hagemann, C., 2020. Changing climate for populists? Examining the influence of radical-right political parties on low-carbon energy transitions in Western Europe. Energy Research & Social Science 66, 101571. https://doi.org/10.1016/j.erss.2020.101571

Cheon, A., Urpelainen, J., 2013. How do Competing Interest Groups Influence Environmental Policy? The Case of Renewable Electricity in Industrialized Democracies, 1989–2007. Political Studies 61, 874–897. https://doi.org/10.1111/1467-9248.12006

Dolšak, N., 2009. Climate Change Policy Implementation: A Cross-Sectional Analysis. Review of Policy Research 26, 551–570. https://doi.org/10.1111/j.1541-1338.2009.00405.x

Fankhauser, S., Gennaioli, C., Collins, M., 2015. The political economy of passing climate change legislation: Evidence from a survey. Global Environmental Change 35, 52–61. https://doi.org/10.1016/j.gloenvcha.2015.08.008

Forchtner, B., 2019. Climate change and the far right. WIREs Climate Change 10, e604. https://doi.org/10.1002/wcc.604

Forchtner, B., Kroneder, A., Wetzel, D., 2018. Being Skeptical? Exploring Far-Right Climate-Change Communication in Germany. Environmental Communication 12, 589–604. https://doi.org/10.1080/17524032.2018.1470546

Fraune, C., Knodt, M., 2018. Sustainable energy transformations in an age of populism, post-truth politics, and local resistance. Energy Research & Social Science, Sustainable energy transformations in an age of populism, post-truth politics, and local resistance 43, 1–7. https://doi.org/10.1016/j.erss.2018.05.029

Hess, D.J., Renner, M., 2019. Conservative political parties and energy transitions in Europe: Opposition to climate mitigation policies. Renewable and Sustainable Energy Reviews 104, 419–428. https://doi.org/10.1016/j.rser.2019.01.019

Huber, R.A., 2020. The role of populist attitudes in explaining climate change skepticism and support for environmental protection. Environmental Politics 0, 1–24. https://doi.org/10.1080/09644016.2019.1708186

Huber, R.A., Fesenfeld, L., Bernauer, T., 2020. Political populism, responsiveness, and public support for climate mitigation. Climate Policy 20, 373–386. https://doi.org/10.1080/14693062.2020.1736490

Huber, R.A., Maltby, T., Szulecki, K., Ćetković, S., 2021. Is populism a challenge to European energy and climate policy? Empirical evidence across varieties of populism. Journal of European Public Policy 0, 1–20. https://doi.org/10.1080/13501763.2021.1918214

Jahn, D., 2021. Quick and dirty: how populist parties in government affect greenhouse gas emissions in EU member states. Journal of European Public Policy 0, 1–18. https://doi.org/10.1080/13501763.2021.1918215

Jenner, S., Chan, G., Frankenberger, R., Gabel, M., 2012. What Drives States to Support Renewable Energy? EJ 33. https://doi.org/10.5547/01956574.33.2.1

Jylhä, K.M., Strimling, P., Rydgren, J., 2020. Climate Change Denial among Radical Right-Wing Supporters. Sustainability 12, 10226. https://doi.org/10.3390/su122310226

Kriesi, H., Grande, E., Lachat, R., Dolezal, M., Bornschier, S., Frey, T., 2006. Globalization and the transformation of the national political space: Six European countries compared. European Journal of Political Research 45, 921–956. https://doi.org/10.1111/j.1475-6765.2006.00644.x

Kulin, J., Sevä, I.J., Dunlap, R.E., 2021. Nationalist ideology, rightwing populism, and public views about climate change in Europe. Environmental Politics 0, 1–24. https://doi.org/10.1080/09644016.2021.1898879

Lachapelle, E., Kiss, S., 2019. Opposition to carbon pricing and right-wing populism: Ontario's 2018 general election. Environmental Politics 28, 970–976. https://doi.org/10.1080/09644016.2019.1608659

Lockwood, M., 2018. Right-wing populism and the climate change agenda: exploring the linkages. Environmental Politics 27, 712–732. https://doi.org/10.1080/09644016.2018.1458411

Lutz, P., 2019. Variation in policy success: radical right populism and migration policy. West European Politics 42, 517–544. https://doi.org/10.1080/01402382.2018.1504509

Margalit, A., 2010. On Compromise and Rotten Compromises. Princeton, Princeton University Press.

Marques, A.C., Fuinhas, J.A., Pires Manso, J.R., 2010. Motivations driving renewable energy in European countries: A panel data approach. Energy Policy, Energy Efficiency Policies and Strategies with regular papers. 38, 6877–6885. https://doi.org/10.1016/j.enpol.2010.07.003

Mudde, C., 2004. The Populist Zeitgeist. Government and Opposition 39, 541–563. https://doi.org/10.1111/j.1477-7053.2004.00135.x

Muttakin, M.B., Mihret, D.G., Rana, T., 2021. Electoral system, corporate political donation, and carbon emission intensity: Cross-country evidence. Business Strategy and the Environment 30, 1767–1779. https://doi.org/10.1002/bse.2714

Neto, O.A., Cox, G.W., 1997. Electoral Institutions, Cleavage Structures, and the Number of Parties. American Journal of Political Science 41, 149–174. https://doi.org/10.2307/2111712

Röth, L., Afonso, A., Spies, D.C., 2018. The impact of Populist Radical Right Parties on socio-economic policies. European Political Science Review 10, 325–350. https://doi.org/10.1017/S1755773917000133

Sælen, H., Hovi, J., Sprinz, D., Underdal, A., 2020. How US withdrawal might influence cooperation under the Paris climate agreement. Environmental Science & Policy 108, 121–132. https://doi.org/10.1016/j.envsci.2020.03.011

Schaffer, L.M., Bernauer, T., 2014. Explaining government choices for promoting renewable energy. Energy Policy 68, 15–27. https://doi.org/10.1016/j.enpol.2013.12.064

Snow, D., Moffitt, B., 2012a. Straddling the divide: mainstream populism and conservatism in Howard's Australia and Harper's Canada. Commonwealth & Comparative Politics 50, 271–292. https://doi.org/10.1080/14662043.2012.692922

Snow, D., Moffitt, B., 2012b. Straddling the divide: mainstream populism and conservatism in Howard's Australia and Harper's Canada. Commonwealth & Comparative Politics 50, 271–292. https://doi.org/10.1080/14662043.2012.692922

Steves, F., Teytelboym, A., 2013. Political Economy of Climate Change Policy (SSRN Scholarly Paper No. ID 2456538). Social Science Research Network, Rochester, NY. https://doi.org/10.2139/ssrn.2456538

Żuk, P., Szulecki, K., 2020. Unpacking the right-populist threat to climate action: Poland's pro-governmental media on energy transition and climate change. Energy Research & Social Science 66, 101485. https://doi.org/10.1016/j.erss.2020.101485

Zulianello, M., 2020. Varieties of Populist Parties and Party Systems in Europe: From State-of-the-Art to the Application of a Novel Classification Scheme to 66 Parties in 33 ountries. Government and Opposition 55, 327–347. https://doi.org/10.1017/gov.2019.21