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Green party vote shares and public support for climate policy

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ABSTRACT

Green party vote shares are often used to assess public support for climate policy. Yet in multiparty systems, votes may reflect strategic considerations as well as environmental preferences. This paper develops a decision-theoretic model showing how climate-minded voters may support a center-left party rather than a Green party when doing so increases the likelihood of defeating an anti-climate right. The model shows that Green party vote shares become a weaker indicator of climate demand when Green and center-left climate platforms converge, allowing voters to coordinate around a more viable alternative. I examine these implications using panel data from the Netherlands. Consistent with the theory, Green voters were more likely to switch to Labour and left parties than to the right, and Green support declined as Green and Labour climate positions converged. The findings suggest electoral competition can weaken the relationship between Green vote shares and support for climate policy.

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KEYWORDS Green parties; strategic voting; political economy

How much public support exists for ambitious climate policy? Because Green parties are the parties most closely associated with environmental protection, scholars and observers often look to Green party vote shares as a barometer of societal demand for climate action. When Green parties gain votes, the public is interpreted as endorsing environmental reform; when they lose, observers sometimes infer backlash against the costs of decarbonization.¹ This logic underlies a body of work that links Green party vote share to climate attitudes, policy ambition, and political feasibility (e.g. Schumacher 2014, Grant and Tilley 2019, Hoffmann *et al.* 2022, Clegg and Galindo-Gutierrez 2025).

Over the past two decades, party competition over climate policy has evolved in two important ways. Mainstream social democratic and liberal

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parties across Europe have increasingly incorporated ambitious climate agendas into their platforms (Schulze 2021). At the same time, far right parties have politicized opposition to climate policy, framing decarbonization as an elite imposition on households and workers (Huber *et al.* 2021, Dickson and Hobolt 2024). The result is a setting in which pro-climate voters face a strategic dilemma: they might vote sincerely for the party most closely aligned with their environmental ideals – like the Greens – or they might vote tactically for a larger, mainstream party with a greater chance of defeating anti-climate challengers. The mapping from climate preferences to Green party votes is therefore mediated by expectations about electoral competitiveness, coalition formation, and the broader distribution of power across parties.

Such developments have implications for how Green party vote share should be interpreted as a measure of public demand for climate policy. In multiparty democracies, electoral competition can weaken the link between climate preferences and Green party vote shares, even when voters' underlying support for climate policy remains unchanged. The reason is strategic voting (Cain 1978, Cox 1997, Myatt 2007, Fisher and Myatt 2017). When climate-minded voters face a strong anti-environmental right and a viable center-left alternative, they may rationally vote for parties other than the Greens in order to prevent the right from winning, thereby maximizing the probability of a pro-climate government. Under these conditions, declining Green party support need not signal weakening public commitment to climate policy; instead, it may reflect voters' attempts to prevent electoral outcomes that would undermine it. Understanding when Green party vote shares track climate preferences therefore requires identifying the strategic conditions voters face.

This paper develops a decision-theoretic model to demonstrate how these strategic incentives can operate. In the model, voters who strongly favor climate action weigh a vote for the Greens against a vote for a center-left party that is less aligned with them on climate but may be better positioned to defeat an anti-climate right. When Green and social democratic climate platforms converge, voters can substitute away from the Greens toward the center-left in order to coordinate against the right, which can mean that pro-environmental voters abandon a vote for the Greens (cf. Abou-Chadi 2016, Abou-Chadi and Kayser 2017). Green party support therefore reflects both climate demand and electoral coordination incentives.

I examine these implications using individual-level panel data from the Netherlands. The Dutch case combines three features that, according to the theory, generate potential for strategic voting among climate-minded voters: an established Green party (GroenLinks, GL), a mainstream social democratic alternative with increasingly stringent environmental commitments (the Labour Party, PvdA), and a powerful far right that has mobilized explicit

opposition to climate policy (the Freedom Party, PVV). Exploiting within-person variation across elections from 2008 to 2024, I show three patterns that together correspond to the implications of the theory. First, voters who previously supported the Greens overwhelmingly either remained loyal or switched their votes to the center-left Labour and other parties on the Dutch political left. Vote switching from the Greens to the far right PVV and other right parties was exceedingly rare. Second, to probe the strategic voting incentive, I show that voters were more likely to abandon the Greens and favor Labour as their environmental policy proposals converged. Third, shifts toward more conservative environmental stances by the Greens and Labour had asymmetric effects. The Greens suffered electorally when they moderated their positions, which benefited Labour, while the Greens enjoyed more electoral support when Labour became more environmentally conservative.

The central contribution of this paper is to identify the conditions under which Green party vote shares serve as a useful proxy for public support for climate policy, rather than explain the electoral fortunes of Green parties *per se*. When climate politics is embedded in multiparty competition, as is often the case when Green parties emerge as distinct electoral entities, Green party vote share captures only part of climate demand. This has implications for how we interpret potential backlash against climate policies, how we evaluate the political feasibility of climate reforms, and how we design institutions to translate climate preferences into policy outcomes.

The empirical patterns documented here also speak to the strategic decisions of pro-environmental parties themselves. As Green and social democratic parties converge in their climate policy positions, maintaining separate electoral identities may fragment the pro-climate vote and create openings for far right victories. In 2023, the Dutch Greens and Labour contested the election on a joint list, and the two parties merged formally in 2026 – a recognition by the parties themselves that strategic substitution among their voters had become a binding constraint on the pro-climate bloc.²

Interpreting Green party vote shares

Green parties have long been the parties most closely associated with environmental protection and ambitious climate action (e.g. McAllister and Bin Oslan 2021, Petitpas and Sciarini 2022, Abou-Chadi and Kamphorst 2023). As a result, their electoral performance is frequently used to assess the strength of environmental constituencies, the political feasibility of climate policy, and the broader trajectory of climate politics (e.g. Schumacher 2014, Grant and Tilley 2019, Baccini and Leemann 2021, Garside and Zhai 2022, Hoffmann *et al.* 2022, Papp 2022, Damsbo-Svendsen 2024, Hilbig and Riaz 2024, Kronborg *et al.* 2024).

The relationship between Green party support and climate demand is not straightforward because elections, in addition to aggregating policy preferences, reflect strategic considerations, party competition, and coalition expectations. Changes in Green party vote shares may therefore arise through several distinct mechanisms, each implying a different relationship between electoral outcomes and underlying support for climate policy. The contribution of this paper is to formalize one of these mechanisms and to clarify the conditions under which it should operate.

Variation in Green party support may reflect changes in voter preferences for environmental policy. Environmental concern, issue salience, and perceptions of climate risk shape support for Green parties (Spoon *et al.* 2014, Grant and Tilley 2019, Hoffmann *et al.* 2022, Hilbig and Riaz 2024).³ To the extent that voters use their ballots to express commitment to climate action, Green vote shares may capture the most intense environmentalist sentiment in the electorate, even where they do not exhaustively measure climate demand.⁴ Conversely, periods of economic hardship, distributional conflict, or dissatisfaction with climate policy may reduce support for environmental reforms (Abou-Chadi and Kayser 2017, Colantone *et al.* 2024, Bosetti *et al.* 2025). Under this interpretation, changes in Green party vote shares track changes in the distribution of climate preferences in the electorate.

Party competition also shapes how voter preferences translate into Green party vote shares. Mainstream parties frequently adopt environmental positions and compete for environmentally minded voters (Abou-Chadi 2016, Schulze 2021). Recent work studying climate shocks and their electoral effects has been increasingly attentive to these dynamics: pro-Green effects of climate events can be dampened where mainstream parties have credible environmental commitments (Hilbig and Riaz 2024) or where voters reward incumbents for disaster response over environmental ambition (Cremaschi and Stanig 2025). Additionally, as Green parties have become part of the broader ‘New Left,’ their electoral support also reflects progressive positions on redistribution, immigration, and social values (Fagerholm 2016, Röth and Schwander 2020). Voters who prioritize climate may also discount sincere Green votes when Greens lack realistic prospects of governing – as they are ‘niche’ or ‘challenger’ parties – particularly when mainstream challengers offer more credible environmental commitments (Meguid 2005, De Vries and Hobolt 2020). Changes in Green party support may therefore reflect the strategic behavior of parties and the credibility asymmetries between niche and mainstream alternatives rather than changes in voter preferences for climate policy.

The recent rise of far right parties has changed the electoral landscape of climate policy. For much of the past two decades, climate action enjoyed broad consensus, with support encompassing some mainstream center-right and liberal parties. The far right has emerged as the principal vehicle

mobilizing against climate policy and framing decarbonization as a costly imposition on households and workers (Huber *et al.* 2021, Dickson and Hobolt 2024, Schwörer and Fernández-García 2024). A growing literature documents that exposure to climate policies or green industrial transitions has translated into increased support for rightwing and populist parties (Otteni and Weisskircher 2022, Colantone *et al.* 2024, Bosetti *et al.* 2025, Cremaschi and Stanig 2025, Voeten 2025), particularly in carbon-intensive regions and occupations (Heddesheimer *et al.* 2026). Aggregate gains for these parties have not, however, necessarily come at the direct expense of Green parties: individual-level panel studies find that direct vote switching from pro-environmental parties to the radical right is rare (Abou-Chadi *et al.* 2024, Abou-Chadi and Wagner 2024, Bischof and Thomas 2024).

This emerging ‘green backlash’ has implications for both the parties contesting climate policy and the voters who support it. For pro-climate parties, the rise of an electorally viable anti-climate opposition raises the political cost of fragmenting the pro-climate vote across multiple competing platforms. For pro-climate voters, the same dynamic raises the stakes of how that vote is cast: the threat of an anti-climate government becomes a salient consideration in choosing among parties whose climate commitments differ in ambition but whose electoral viability differs more. These dynamics are the conditions under which the strategic voting this paper formalizes should be most acute.

This paper synthesizes demand- and supply-side mechanisms to highlight the strategic translation of climate preferences into votes. Holding voter preferences and party platforms fixed, the strategic environment voters face shapes how those preferences are expressed at the ballot box. A long tradition of work on strategic voting documents that voters sometimes abandon their most preferred party in favor of a more electorally viable alternative (Cain 1978, Cox 1997, Myatt 2007, Fisher and Myatt 2017). Although much of this literature originated in the study of plurality elections, strategic coordination has also been documented in multiparty proportional systems, particularly when voters anticipate coalition bargaining or seek to influence which parties lead governments (Bargsted and Kedar 2009, Hobolt and Karp 2010, Blais and Thomas 2010, Abramson *et al.* 2010). Under the conditions described above – an electorally viable anti-climate right, mainstream center-left parties with credible climate commitments, and policy convergence between the Greens and those mainstream alternatives – voters who strongly support climate action face a strategic dilemma: they can vote sincerely for the Green party, or they can support a mainstream center-left party that is less aligned with them on climate but more likely to participate in or lead a pro-climate government. Where demand-side accounts attribute changes in Green support to changes in climate preferences and supply-side accounts emphasize changing party strategies, the strategic voting

mechanism implies that climate preferences may remain stable while their electoral expression changes. Green party vote shares therefore become a noisier indicator of climate demand precisely when climate-minded voters have multiple electorally viable avenues for pursuing similar policy goals.

A theory of strategic voting in climate politics

I develop a simple decision-theoretic model of voting in a multiparty system to explain how a pro-climate electorate can exist even when Green parties perform poorly at the ballot box. The key idea is that votes need not be direct expressions of climate preferences: they are strategic choices in which voters must trade off policy proximity against the likelihood that their preferred policies will actually be implemented. As a result, public demand for climate action can be underrepresented in Green party vote shares.

The model shows how climate-minded voters may rationally support a social democratic party rather than a Green party when doing so increases the probability of defeating an anti-climate right. It also clarifies why, when pro-environmental voters do support far right parties, this behavior should be driven by other salient political dimensions – such as immigration, globalization, or cultural conflict – rather than by opposition to climate policy itself. The formal structure of the model follows Fisher and Myatt (2017), building on a tradition of models in which voters trade sincere expression against the probability of being decisive in close contests (Cain 1978, Myatt 2007). Although these models were originally developed in the context of plurality elections, a substantial empirical literature has documented similar patterns of strategic abandonment of small parties in multiparty proportional systems (Bargsted and Kedar 2009, Abramson *et al.* 2010, Blais and Thomas 2010, Hobolt and Karp 2010). Full derivations, assumptions, and proofs are provided in Appendix B and Appendix C.

There are $n + 1$ voters in the model. I focus on the decision of a single voter, indexed by 0, whose behavior will be used to study how climate preferences are translated into votes. Voters choose between three parties: a Green party G , a Left or Social Democratic party L , and a (far) Right party R , indexed by $j \in \{G, L, R\}$. Each party advances a platform on climate change policy $x_j \in \mathbb{R}$ and suppose that $x_G < x_L < x_R$. This encodes the idea that the Greens, furthest to the left, are the most pro-climate, followed by the Social Democrats and the far right. Voters have ideal points x_i and a quadratic utility function over policy, $v(x_j, x_i) = -(x_j - x_i)^2$. I focus on the substantively interesting case where voter 0 has an ideal point x_0 satisfying $v(x_G, x_0) > v(x_L, x_0) > v(x_R, x_0)$, meaning she would vote for the Greens if she voted sincerely on climate policy alone. These are precisely the voters whose behavior matters for measuring public demand for climate action:

they are predisposed to support ambitious climate policy, but their votes may nevertheless go elsewhere.

Voter 0 is instrumentally rational. She cares not only about which party she prefers but also about which party is likely to win. If party j wins the election, she receives the policy payoff $v(x_j, x_0)$. Thus, she prefers her vote to help elect a party that will implement climate policy close to her ideal point. To capture the fact that climate is rarely the only salient issue in elections, I also assume that voter 0 receives an expressive or valence payoff ε_j from voting for party j , reflecting her views on other dimensions such as redistribution, immigration, or social policy.⁵ Her total utility from voting for party j is therefore $u_0(\text{vote } j) = 1_{j \text{ wins}} v(x_j, x_0) + \varepsilon_j$. Thus, even though voter 0 has preferences that are pro-climate and ideologically aligned with the Greens – her ideal point x_0 is closest to x_G of the three parties' proposals – her observed vote reflects not only her climate policy preferences, but also her beliefs about which parties are electorally viable and her valuations of non-climate issues.

One way to view the strategic tension the model identifies is through the credibility problem posed by mainstream and challenger parties (De Vries and Hobolt 2020). Both Green parties and far right parties are challenger parties whose electoral strategies depend on mobilizing distinctive issues that crosscut the established left-right cleavage, like climate change or opposition to it. The Social Democrats, by contrast, are a mainstream party with known electoral viability and experience forming governments. The model can therefore be understood as a climate politics application of a broader tension identified in the literature on challenger or niche parties (Meguid 2005, Abou-Chadi 2016). Voters may find Green parties more attractive on climate policy because of their issue distinctiveness, yet still support mainstream social democratic parties when they believe those parties are better positioned to influence government formation or prevent a climate-skeptical right from taking office.

The model does not claim that strategic voting is the only force shaping Green party support; ideology, identity, and economic cleavages are captured by the valence term ε_j . The model isolates a specific mechanism through which electoral competition can cause climate preferences to be imperfectly revealed at the ballot box, rather than offering a general theory of Green party success (see De Vries and Hobolt 2020).

Optimal vote decision

Because voter 0's ideal point is closest to x_G , a vote for the Right is always dominated on policy grounds by a vote for the Greens. Formally, voter 0 prefers the Right to the Greens only when $\varepsilon_R - \varepsilon_G > v(x_G, x_0) - v(x_R, x_0)$,

which is when the valence advantage of the Right on non-climate dimensions exceeds the policy loss of supporting an anti-climate party. An analogous condition holds when considering the value of a vote for the Social Democrats against the Right. The model therefore expects that, among voters with pro-environmental preferences, support for far right parties should be rare and driven by non-climate issues. Any ‘green backlash’ should come from other segments of the electorate who hold less pro-climate preferences (Bosetti *et al.* 2025). This implication is important for interpreting electoral trends: declining Green party support does not imply that pro-climate voters are becoming anti-climate.

Given that Green voters are unlikely to prefer the Right, the central decision facing voter 0 is whether to vote for her most preferred party, the Greens, or for the Social Democrats. The tension arises from the fact that the Social Democrats are less aligned with her on climate but may have a greater chance of defeating the Right. To choose optimally, voter 0 weighs the policy and valence benefits of each party against the probability that her vote will influence the electoral outcome.⁶ If she believes the Greens are competitive, she votes sincerely. But if she believes that only the Social Democrats have a realistic chance of preventing a victory by the Right, she may rationally vote for them because doing so increases the probability that some pro-climate government takes office, even though their climate platform is weaker. These beliefs can be written as p_{jk} which is the probability that parties j and k are tied such that voter 0’s choice is decisive. As discussed in Appendix B in greater detail, the formal condition under which she votes strategically for the Social Democrats over the Greens is

$$\frac{v(x_G, x_0) - v(x_L, x_0)}{v(x_G, x_0) - v(x_R, x_0)} \leq \frac{p_{LR} - p_{GR}}{2p_{GL} + p_{LR}}.$$

relative preference
for Greens

beliefs of value of
strategic vote

The left-hand side captures the policy loss from voting for the Social Democrats over the Greens, while the right-hand side captures the strategic value of doing so in terms of voter 0’s beliefs about the two leading parties: when she perceives the Social Democrats as substantially more likely than the Greens to defeat the Right, the right-hand side is large, and substitution becomes optimal even when her sincere preference is for the Greens. Crucially, this does not require any change in her climate preferences. Her ideal point x_0 remains fixed; what changes is how those preferences are expressed in a strategic electoral environment.

The incentive to vote strategically depends on how different the Greens and Social Democrats are on climate policy. As is standard in models of strategic voting (Cox and Shugart 1996, Alvarez and Nagler 2000, Myatt

2007, Fisher and Myatt 2017), when the parties' platforms are similar – when the policy utility difference $v(x_G, x_0) - v(x_L, x_0)$ is small – strategic voting becomes more attractive. By contrast, when the Social Democrats are much less ambitious on climate, sincere voting for the Greens is more likely, because the policy cost of supporting the Social Democrats is high. This implies a central result of the model: as Green and Social Democratic climate platforms converge, Green party vote shares become a weaker signal of climate demand. Pro-climate voters can shift away from the Greens without abandoning their support for climate action, because the Social Democrats have proposed a climate policy that is similar enough to the Greens and are perceived as the party likely to win the election.

The model also expects asymmetries when parties change their climate platforms, or changes in x_j . When the Greens become more moderate – that is, when x_G moves rightward toward x_L —they become less distinct from the Social Democrats. This increases the scope for strategic voting, making it easier for even strongly pro-climate voters to justify voting for the Social Democrats. Green moderation therefore reduces Green vote share. By contrast, when the Social Democrats become more conservative on climate – moving x_L further right toward x_R —the policy gap between them and the Greens widens. This strengthens the incentive for sincere voting and makes the Greens more attractive to climate-minded voters.

Theoretical expectations

The model yields the following observable empirical implications:

- (1) Pro-environmental voters, if not voting for Green parties, should on average be more likely to vote for social democratic parties over right parties.
- (2) As Green and social democratic environmental platforms become more similar, voting for the Greens should fall on average and voting for the social democrats should rise on average.
- (3) Making the Greens more conservative on average decreases the chances of voting for the Greens while making social democratic parties more attractive; making social democratic parties more conservative on average decreases the chances of voting for the Social Democrats while making Green parties more attractive.

Implication 1 follows from the dominance condition: a pro-climate voter prefers the Social Democrats to the Right unless the Right's non-climate valence advantage exceeds the policy cost of abandoning the Greens. Implication 2 follows from the strategic voting condition: substitution from the Greens to the Social Democrats occurs when their policy difference

is small relative to perceptions about the two leading parties. Implication 3 follows from the comparative statics on x_G and x_L (see Appendix C): shifts in either platform alter the policy distances voter 0 weighs against perceived viability. These implications describe how electoral competition shapes the relationship between climate preferences and observed vote choices. The empirical analysis examines these implications using individual-level panel data from the Netherlands.

Voting behavior in the Netherlands

To examine the model's implications, I study voting in the Netherlands, which provides a useful setting for studying how electoral competition shapes the relationship between climate preferences and party support. It combines three features that, according to the theory, generate strong incentives for strategic voting among climate-minded voters. First, the Green party (GroenLinks) in the Netherlands has long been an electoral fixture, making it possible to observe voters who sincerely favor ambitious climate policy. Second, a large and electorally competitive social democratic party, the Labour Party (PvdA), has increasingly adopted strong environmental commitments, creating an ideologically adjacent alternative for climate-aligned voters. Third, a powerful far right, the Freedom Party (PVV), has mobilized explicit opposition to climate policy, raising the stakes of electoral coordination for voters who wish to prevent climate retrenchment.⁷ These conditions mirror the structure of the model: two pro-climate parties that differ in electoral viability face a common anti-climate challenger. In such an environment, Green party vote shares should be sensitive to strategic incentives, making the Netherlands a useful case for studying when and how climate demand becomes decoupled from Green electoral performance.

A reasonable question is whether strategic voting incentives should matter in a highly permissive proportional representation system like the Netherlands, where even small parties routinely secure parliamentary representation. In the classic Duvergerian account, strategic voting emerges because voters seek to avoid wasting their vote on parties unlikely to win seats (Duverger 1954, Cox 1997). These incentives might be tempered in proportional systems with low electoral thresholds, where voters can support smaller parties at relatively little risk of exclusion from parliament (Riker 1982, Cox and Shugart 1996, Slinko and White 2010).

One interpretation of strategic voting in proportional systems concerns coalition formation and leadership rather than parliamentary entry (Bargsted and Kedar 2009). Voters choosing between GroenLinks and Labour are not only deciding whether their preferred party will win representation, but also which party might be given the chance to form a governing coalition and prevent a climate-skeptical right from leading

a government. This distinction is particularly relevant in the Dutch case: although GroenLinks has consistently maintained parliamentary representation, it has rarely been viewed as a plausible coalition leader. By contrast, Labour has led governments and has historically occupied a much stronger position within coalition bargaining. Climate-minded voters may therefore view support for Labour as a more effective means of securing a pro-climate governing coalition, even when they are more closely aligned with GroenLinks on policy.

The Netherlands consequently provides a useful setting for evaluating the theory. If strategic substitution toward larger center-left parties emerges even in a permissive proportional system with low barriers to representation, this suggests that coalition-formation incentives can shape how climate preferences are translated into votes independently of classic vote-wasting considerations.

Data

To probe the model's implications, I employ the Longitudinal Internet studies for the Social Sciences (LISS) panel dataset, a true probability sample of households in the Netherlands (Scherpenzeel 2011) covering 2008–2024.⁸ The LISS panel asks respondents about turnout, vote choice in the most recent election, as well as sympathies for various Dutch political parties and their leaders (it is always the same individual within the household who answers the survey). This dataset covers potential voting behavior in six different elections (2006, 2010, 2012, 2017, 2021, 2023). This allows direct observation of how voters who previously supported the Greens reallocate their votes over time, as we can follow the same voter across multiple elections. Unlike aggregate election results, which confound changes in voter composition with changes in voter behavior, panel data make it possible to identify whether pro-environmental voters are abandoning climate politics or simply changing the party through which they pursue it.

Given responses in time t , the outcome I focus on is voting behavior in the next election $t + 1$. Unfortunately, these surveys do not ask respondents about their preferences on environmental protection or climate policy. To capture environmental preferences x_0 in reduced form, I leverage the panel structure of the data. In time t , I measure whether respondents have voted for the Greens. In appendix specifications, I also use respondents' sympathies for the Green party. The latter is asked to respondents as 'What do you think of GroenLinks?' where a score of 0 is 'very unsympathetic' and 10 is 'very sympathetic.' These independent variables are fairly positively correlated ($\rho = 0.37$), which reassures that even though voting is a strategic choice, it is correlated with measures more akin to primitives.

To study the model’s implications about strategic voting and platform convergence – that voters are less likely to support Green parties when they propose policies that are quite similar to those proposed by social democratic parties, *precisely because* voting for social democratic parties is more valuable strategically, even holding fixed one’s preferences for climate reforms – I utilize data from the Chapel Hill Expert Survey (Jolly *et al.* 2022, Rovny *et al.* 2025), which estimates party positioning on various ideological and policy issues, including the environment. In particular, the survey includes an assessment of parties’ stances on environmentalism, measured on a 0–10 scale. A score of 0 means a party ‘strongly supports environmental protection even at the cost of economic growth,’ while a 10 means a party ‘strongly supports economic growth even at the cost of environmental protection.’ It also includes a weight in which experts assess how salient environmental protection is to a particular party, where a score of 0 is ‘not important at all’ and 10 is ‘extremely important,’ which is used in appendix specifications. Given the timing of the surveys, I observe party scores for the 2010, 2012, and 2017 elections and examine their effects on downstream voting in the 2012, 2017, and 2021 elections. This guards against any simultaneity bias or *ex post* assessments in party ideology that confound with election results.

Empirical implications

Beginning with the model’s first implication – that Green voters, if not sincerely supporting the Greens, should be more likely to support social democratic parties over the right – I descriptively track voters’ preferred party over time. I therefore contrast the voting behavior of Green voters and non-Green voters across successive elections. The left panel of Figure 1 demonstrates that, among voters who cast a ballot for the Greens in election

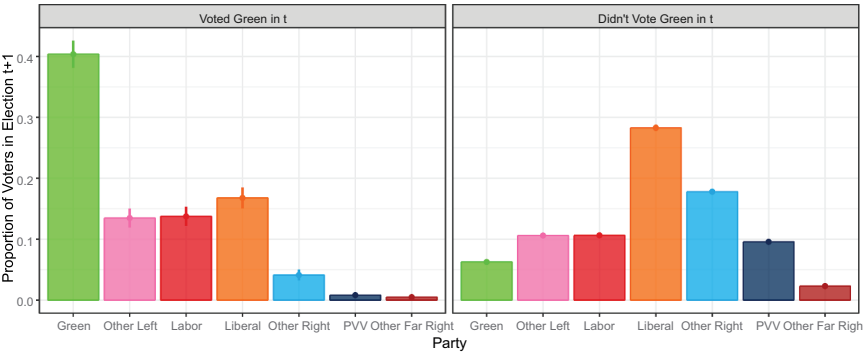


Figure 1. Party votes by Green and non-Green voters.

t , they were overwhelmingly more likely to support the Greens again in $t + 1$, with about 40% doing so.⁹

Should such a voter switch her electoral loyalties, however, the parties she moved toward are themselves informative. Left-leaning parties – such as the Socialist Party, the Party for the Animals, and the Social Democratic Labour Party – constitute the largest share of parties into which a former Green voter would switch, at roughly 28%. By itself, Labour absorbed approximately 14% of former Green voters.¹⁰ This result is particularly consistent with the model's expectations: Green voters who switched were nearly as likely to move to the larger and more electorally viable Labour party as to any other destination, even though its climate platform has been historically less ambitious than the Greens'. In addition to left-leaning parties, approximately 17% of Green voters moved to liberal parties like the VVD and D66 – the latter of which has been particularly outspoken on climate issues, and comprises over 14% of votes cast in the next election by Green voters.

Direct switching to the far right was vanishingly rare. Less than 1% of former Green voters moved to the PVV, and less than 1% moved to other, smaller far right parties. Figure A.5 additionally shows that Green voters, besides expressing greatest sympathies toward the Green party, are most likely to express sympathy toward the Labour party and some liberal parties, with the least sympathy expressed for far right parties.

For non-Green voters, shown in the right panel of Figure 1, voting patterns are quite different. This group is much more likely to support liberal parties, a mainstay of the Dutch political establishment, at roughly 28%, followed by other right-wing Christian-democratic parties at 18%, and the PVV at nearly 10%. The Greens, by contrast, only won about 6.5% of this group.

These descriptive patterns persist within individual voters over time. Exploiting within-respondent variation in vote choice over time, Table A.1 estimates how an individual's prior Green vote and reported sympathy toward the Greens each relate to her support for the Greens, Labour, and the PVV in the following election. The results confirm three patterns of particular interest: Green votes significantly predict switching toward Labour in subsequent elections, a prior Green vote does not predict subsequent PVV support, and voters with higher reported sympathy toward the Greens are significantly less likely to support the PVV in the next election. While Green voters may decline to support the PVV for reasons unrelated to climate policy, the absence of any pathway in the data rules out the strongest version of a green backlash interpretation in which climate-minded voters defect directly to anti-climate parties.

The substantive question raised by the theory is what drives the substitution from the Greens toward Labour in particular for environmentalist voters. The model expects that as the policy distance between Green and

social democratic environmental platforms narrows, pro-climate voters become more willing to back the social democrats – a behavior driven by considerations of electoral viability rather than by any change in underlying climate preferences. These implications are consistent with a long tradition in formal models of strategic voting, in which voters facing two ideologically similar parties coordinate around whichever is more electorally viable (Cain 1978, Myatt 2007, Fisher and Myatt 2017). The remainder of this section examines these implications directly.

To do so, I rely on the Chapel Hill Expert Survey data on party positioning (Jolly *et al.* 2022, Rovny *et al.* 2025). For GL and Labour, I define similarity in their ideologies at election t as.

$$\text{GL/Labour Similarity}_t = -|\text{Environment}_{\text{GL}} - \text{Environment}_{\text{Labour}}|$$

I thus run the following model estimating the effect of the similarity between the Greens and the Labour party in election t on downstream voting in $t + 1$ for parties $p \in \{\text{GL}, \text{Labour}\}$ with respondent-clustered standard errors,

$$\text{Vote}_{ipt+1} = \text{GL/Labour Similarity}_t + \alpha_i + \varepsilon_{ipt}.$$

The results in Table 1 show that when the Greens and Labour converge in their environmental policy proposals – when $v(x_G, x_0) - v(x_L, x_0)$ gets small in the theory – the probability of voting for the Greens in the following election falls (Model 1), and the probability of voting for Labour rises (Model 2). Pro-environmental voters substitute away from the Greens as Labour approaches the Greens’ platform, not because their climate preferences have changed, but because supporting the larger center-left party becomes more attractive on strategic grounds. Holding fixed the electorate’s preferences, we may nevertheless observe drops in Green electoral support because voters anticipate that social democratic parties are more likely to win the election.

In the appendix, I report several extensions. Tables A.3 and A.4 examine heterogeneity in this effect by individual-level commitment to the Greens,

Table 1. Effects of GL/Labour similarity on voting behavior standard errors clustered by respondent.

	Vote GL in $t + 1$ (1)	Vote Labour in $t + 1$ (2)
GL/Labour Similarity	−0.018*** (0.006)	0.056*** (0.006)
Observations	18,128	18,128
R ²	0.572	0.596
Within R ²	0.001	0.006
Number of Respondents	7,395	7,395
Respondent fixed effects	Yes	Yes

and shows that the substitution result is concentrated among voters who supported the Greens in previous elections – the population the theory most directly concerns. Table A.5 addresses the concern that environmental convergence may proxy for convergence on other policy dimensions. Controlling for similarity between GL and Labour on economic and cultural policy, the effect of environmental similarity remains negative on Green support and positive on Labour support.

Finally, beyond relative similarities between the Greens and Labour, I consider the absolute effects of changing party ideology on downstream voting behavior. Recall that in the theory, increasing x_G and x_L implies more conservative climate policy proposals. For parties $p \in \{\text{GL, Labour}\}$, I study the effects of p 's anti-environmentalist ideology score in election year t on downstream voting in $t+1$ with respondent-clustered standard errors:

$$\text{Vote}_{ipt+1} = \text{AntiEnvironmentalism}_{pt} + \alpha_i + \varepsilon_{ipt}.$$

From Table 2, a more environmentally conservative Green party diminishes its electoral support (Model 1) while simultaneously bolstering support for Labour (Model 3). When the Greens become more conservative, they diminish their value with pro-environmental voters and can heighten the temptation to vote strategically for social democratic parties. By contrast, a more conservative Labour party moves closer to the right and decreases its electoral support (Model 4). In this case there is also a positive relationship with support for the Greens downstream, but, while congruent with theoretical expectations, this effect is statistically indistinguishable from zero (Model 2). See Tables A.6 and A.7 for heterogeneous effects by individual voting behavior, which again demonstrate the effect is concentrated in voters who previously supported the Greens.

The empirical results in this section should be interpreted descriptively rather than causally. Because party positioning, and thus similarity, varies primarily across election periods, these estimates cannot fully disentangle the

Table 2. Effects of Shifting Green and Labour Ideal Points on Voting Behavior Standard errors clustered by respondent.

	Vote GL in t+1		Vote Labour in t+1	
	(1)	(2)	(3)	(4)
Anti-Environmentalism (GL)	-0.079*** (0.013)		0.265*** (0.017)	
Anti-Environmentalism (Labour)		0.011 (0.009)		-0.026*** (0.009)
Observations	18,128	18,128	18,128	18,128
R ²	0.573	0.572	0.604	0.594
Within R ²	0.004	0.0002	0.025	0.0006
Number of Respondents	7,395	7,395	7,395	7,395
Respondent fixed effects	Yes	Yes	Yes	Yes

effects of shifting environmental ideologies from other election-specific dynamics. The results nonetheless remain consistent with the paper's theoretical expectations: substitution away from the Greens appears strongest when the Greens and Labour are most closely aligned on environmental policy, and there is asymmetry in the effects of shifting party ideology. A related limitation concerns perceptions of far right parties, and whether voters are simply shifting to Labour when that party is ideologically closer to their previous party. The theory holds that Green voters weigh the electoral threat of the far right when choosing between the Greens and Labour. To distinguish from a canonical Downsian account, Table A.2 reports a more direct test using LISS respondents' feeling thermometer ratings of the PVV: Green voters with lower PVV sympathy are more likely to switch to Labour in the next election, consistent with the mechanism.

Discussion and conclusion

This paper has argued that Green party vote share, often used as a barometer of public support for environmental policy, may instead obscure deeper dynamics of strategic behavior, particularly in electoral systems where multiple parties compete for ideologically similar voters. The central insight is that pro-environmental voters may cast their ballots for social democratic parties when doing so maximizes the chances of defeating right-wing challengers, holding fixed their preferences for climate reforms. This behavior becomes particularly likely when Green and social democratic parties offer convergent climate platforms, as convergence amplifies strategic substitution toward more electorally viable alternatives. Thus, a decline in Green party support does not necessarily imply a weakening of climate concern. Rather, it may reflect tactical adaptation because of perceived threats from the right.

Two simultaneous processes might shape this phenomenon. First, social democratic parties have increasingly embraced climate issues, integrating environmental remediation into their broader redistributive agendas (Fagerholm 2016, Schulze 2021). Second, Green parties themselves have moderated over time to gain broader appeal. Figure A.6 demonstrates that Green parties appear to have slightly tempered their environmental platforms since 2007, and extant scholarship has documented that these parties have also increased their discussion of more traditional economic issues (Dolezal 2010, Röth and Schwander 2020). These developments have narrowed the ideological gap between the two party families. As this paper theoretically posits and empirically demonstrates, such convergence fosters conditions for strategic voting wherever a viable social democratic alternative competes alongside the Greens against a salient anti-climate right. In systems where Green and social democratic parties remain distinct electoral entities, this creates a risk of vote splitting and electoral underperformance,

potentially paving the way for far right parties to form governments. Office-motivated, environmentally-oriented parties might therefore consider electoral fusions with social democratic parties – as in the Netherlands – in order to dispel concerns of tactical voting and to avoid cutting through an ideologically cohesive bloc of pro-climate voters.

These findings raise important questions for future research. For one, scholars should consider the institutional arrangements that are most likely to facilitate coordination between Green and social democratic forces. Some electoral systems facilitate joint lists or alliances more easily than others (see Cox 1997). A systematic comparison across systems could reveal how institutional design mediates the strategic environment of pro-climate voters and parties.

Relatedly, the empirical analyses in this paper focus on a single country – primarily due to data availability. This limitation points to the need for broader comparative work and greater development of cross-national panel datasets. Scant political science work employs long-run panel data to study questions of vote switching that are at the center of questions about electoral viability of Green and left-leaning parties (exceptions are Abou-Chadi and Wagner 2024, Bischof and Thomas 2024). Data on vote switching, environmental attitudes, and party preferences over time could help test the generalizability of the theoretical claims. In particular, this could help discern whether similar vote switching patterns are observed in other European contexts where Green and social democratic parties have converged in their climate policy proposals.

Finally, this paper has identified one mechanism, strategic voting, that clarifies the relationship between climate preferences and Green party vote shares. Under the conditions the model identifies, Green party vote share captures only part of the pro-climate electorate; the sum of Green and center-left vote shares may overstate it. An expanded theoretical treatment could help refine estimates of the size of pro-environmental voter coalitions.

Notes

1. For popular narratives underscoring this point, see, for example, Raf Casert, Lorne Cook, and Samuel Petrequin, ‘The far right’s election gains rattle EU’s traditional powers, leading Macron to call snap polls’. *AP News*, June 10 2024, <https://apnews.com/article/eu-election-results-european-parliament-acd0ceef91d198cf5e9ee695f394b28c>; Lara Williams, ‘Le Pen, Meloni and the Populist Climate Pushback.’ *Bloomberg*, June 12 2024, <https://www.bloomberg.com/opinion/articles/2024-06-13/europe-s-ascendant-right-is-a-new-hurdle-to-climate-action>.
2. Frans Timmermans, leader of the GL-PvdA joint list in 2023, advocated for the merger explicitly in terms of defeating the PVV: ‘the fragmentation works to our disadvantage. If you really want to make a fist against the

right, the left must unite as much as possible.’ From Nynke de Zoeten, ‘Frans Timmermans: new party as soon as possible.’ NOS, February 4 2025. <https://nos.nl/nieuwsuur/artikel/2554499-frans-timmermans-zo-snel-moge-lijk-nieuwe-partij>

3. For experiential effects of climate change on perceptions of climate risk and support for climate policy more broadly, see Egan and Mullin (2017).
4. A complementary strand of literature uses attitudinal measurements to study environmental preferences. Survey-based work tracks fluctuations in environmental concern directly (Scruggs and Benegal 2012, Kirby 2023); the literature using Green vote share examines a related but distinct quantity – the share of the electorate willing to act on environmental preferences in a costly political setting.
5. This term is not necessary, but captures the substantive fact that voters may select parties based on other issues besides climate policy.
6. Formally, voter 0 does not observe the electoral intentions of the other n voters; vote shares are random variables from her perspective. Her decision depends on the probability that her vote is pivotal in determining which party wins.
7. See De Vries (2018), Harteveld *et al.* (2022), and Voeten (2025) for further context about the rise of the PVV and the far right in the Netherlands.
8. Due to data privacy concerns, I cannot geo-locate voters, which means it is not possible to assess hypotheses about voters’ expectations of the intentions of others (which could be done by building measures of electoral closeness or competitiveness based on their residence, for example).
9. The model focuses on a three party setting between a Green party, a Social Democratic party, and a Right party; however, the Netherlands has a broad array of parties. For completeness, I therefore segment them into several other groups. Other Left parties includes the Socialist Party (SP) and the Party for the Animals (PvdD). Liberal parties include the People’s Party for Freedom and Democracy (VVD) and Democrats 66 (D66). Right parties include the Christian Democratic Appeal (CDA), the Christian Union (CU), the Farmer-Citizen Movement (BBB), and the New Social Contract (NSC). Other far right parties include the Forum for Democracy (FvD) and JA21. See Figure A.4 for comparisons between just the Greens, the PvdA, and the PVV.
10. To guard against overinterpretation of the strategic voting mechanism, I code a vote cast for the joint GL-PvdA list in 2023 as a vote for the Greens rather than a vote Labour. Results are qualitatively similar excluding the 2023 election altogether.

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Data availability statement

All data is available from the author upon request.

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