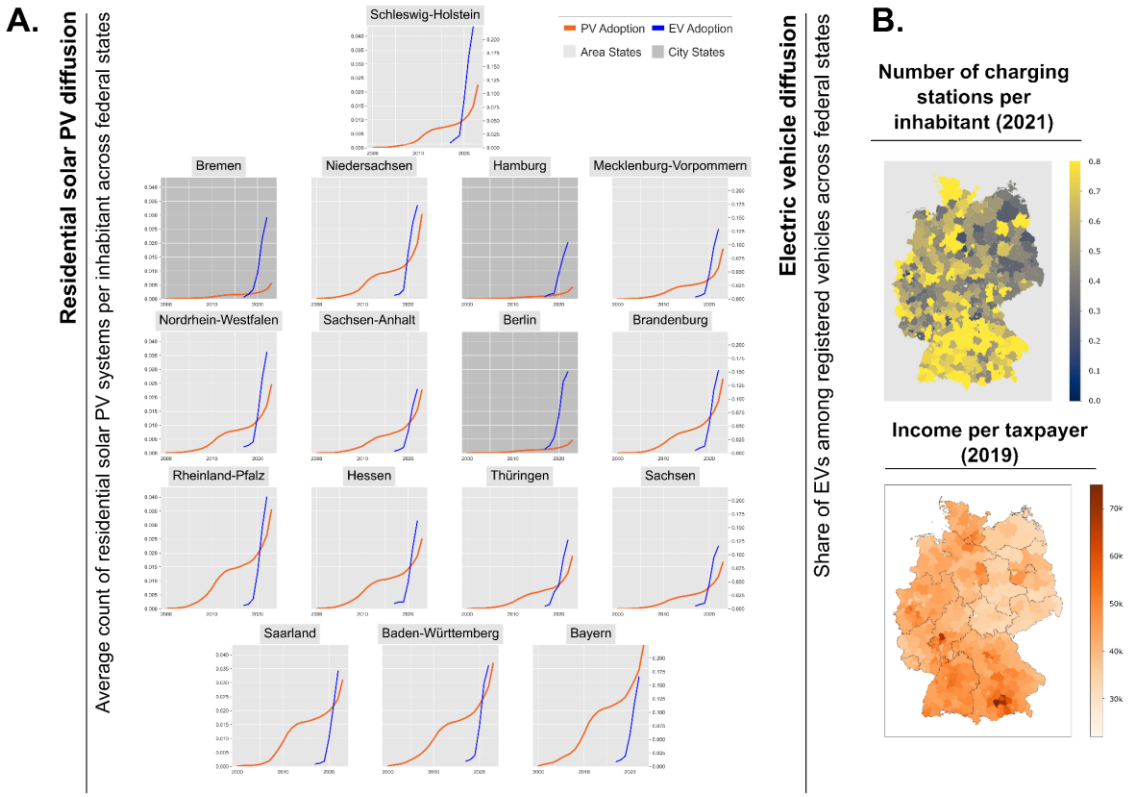
SUPPLEMENTARY INFORMATION for:

Far-right ideology slows adoption of green technologies, but the partisan gap is dynamic

Supplementary Note 1: Diffusion of green technologies across federal states in Germany

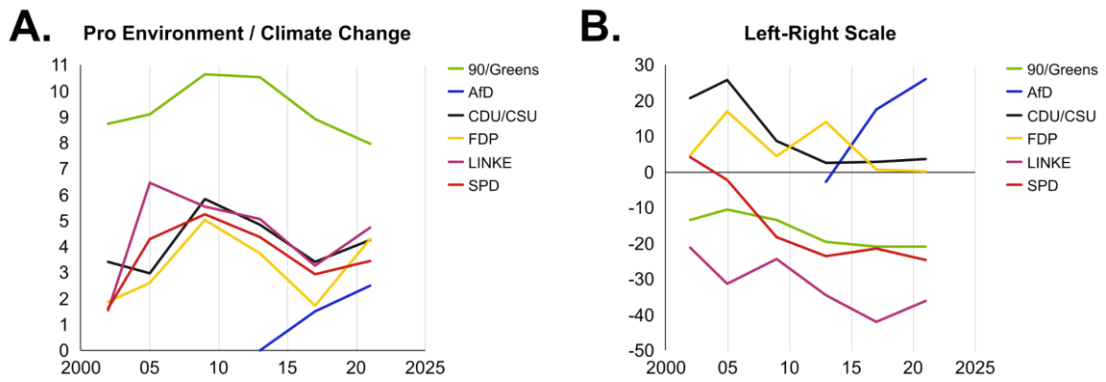


Supplementary Figure 1: A. Residential solar PV and EV diffusion in Germany by federal state (2000 - 2023). Solar diffusion is measured as the installed power in kW per inhabitant in a municipality. It includes all active solar panels which are labelled "residential" in the official registry of German solar PV systems ("Marktstammdatenregister")[1]. Inhabitants per federal state are drawn from the office for regional statistics. EV adoption is measured as the share of Battery Electric Vehicles among registered cars as reported by the German Federal Motor Transport Authority ("Kraftfahrt Bundesamt")[2]. **B.** Heterogeneity across German counties (n = 401) in 2021. 1. Number of charging stations per inhabitant 2. Income per taxpayer across counties in Euro as given by the office for regional statistics[3]

The widespread adoption of residential solar PV panels in Germany began in the 2000s and an initial surge peaked around 2010 (Supplementary Fig. 1A). What followed were years of moderate growth until the late 2010s, when adoption rates surged again. There is substantial spatial heterogeneity in residential solar PV adoption, with southern and large, non-city states exhibiting the highest number of solar PV systems per inhabitant. This variation is also evident in the spatial distribution of EV adoption - the share of newly registered cars which are electric is 84% higher in southern states compared to eastern states. Although initial EV adoption began in 2014, substantial growth only occurred after 2019. The number of charging stations per inhabitant aligns with the spatial distribution of registered EVs, with fewer stations in northern and

especially eastern federal states (Supplementary Fig. 1B). This pattern also correlates with income levels, as eastern states have historically lower average household incomes.

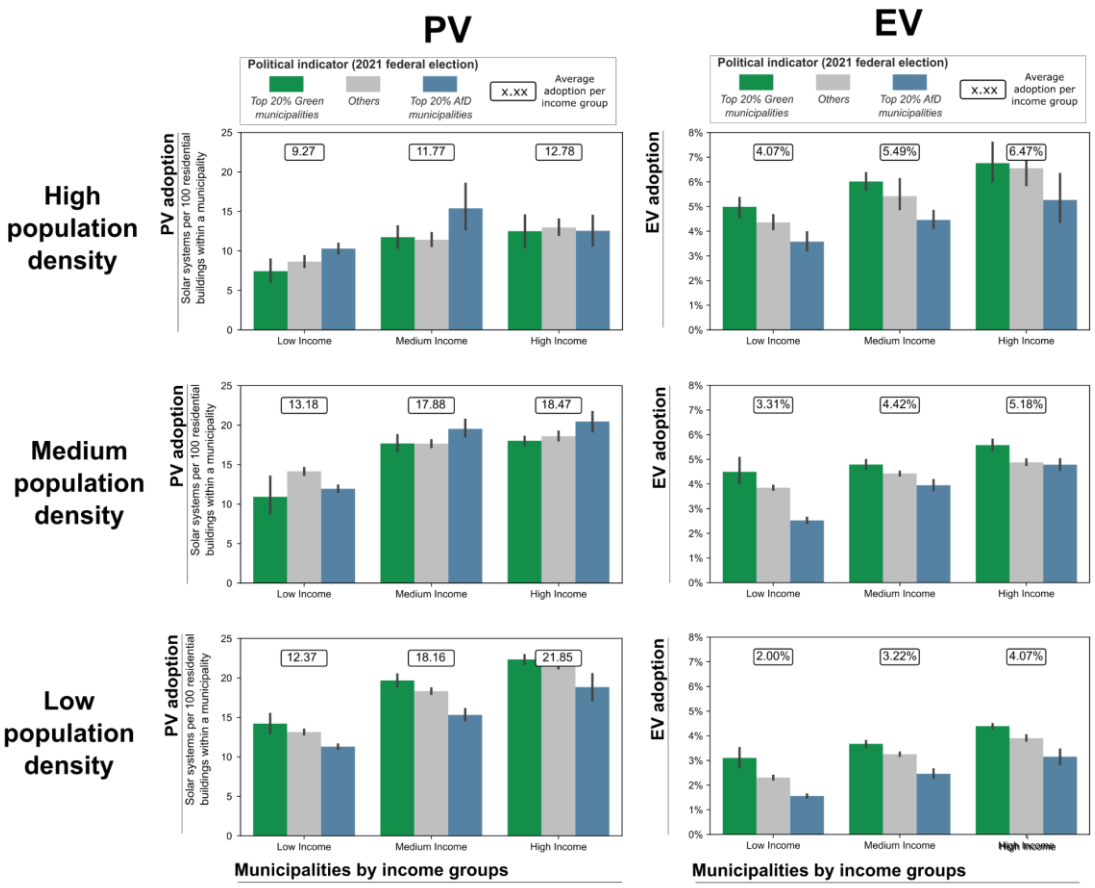
Supplementary Note 2: Classification of major German parties according to the MANIFESTO project



Supplementary Figure 2: A. Assessment of major German party manifestos regarding their pro-environmental and climate change orientation, based on data from the MANIFESTO Project[4]. Higher values indicate a stronger pro-environmental stance and it is designed to reflect the parties' stance on general policies aimed at environmental protection, combating climate change, and promoting other 'green' initiatives. **B.** Positioning of major German party manifestos on a left-right political spectrum. Higher values indicate a stronger alignment with right-wing ideology.

Germany's political system comprises a range of small, mid-sized, and large parties spanning the entire political spectrum. Some of the parties cater to specific niche constituencies, resulting in a more segmented and defined voter base than typically observed in bipartisan systems like the United States. Germany's two influential center parties are the left-leaning *Social Democratic Party* (SPD) and the more conservative *Christian Democratic Union* (CDU). Another prominent force and member of the 2021 - 2025 government, the left-leaning *Green Party*, strongly advocates for pro-environmental policies that facilitate the adoption of climate-friendly technologies, including EVs and solar PV systems. According to the Manifesto Project[4], which analytically evaluates party platforms, the Green Party consistently ranks as the most environmentally-oriented among all major German parties (Supplementary Fig. 2). In stark contrast, the far-right party *Alternative for Germany* (AfD) occupies the opposite end of the political and environmental spectrum. Having gained political traction in recent years, the AfD secured 10.3% of the vote in the 2021 federal election[5] and 20.8% in 2025[6]. Other relevant political parties in Germany include the neo-liberal *Free Democratic Party* (FDP), the socialist party *The Left* (die Linke), and its recent spin-off the *Sarah Wagenknecht Alliance* (BSW), which combines traditional left-wing ideology with populist ideas across the political spectrum.

Supplementary Note 3: Relationship between 2021 federal election results and adoption of green technologies



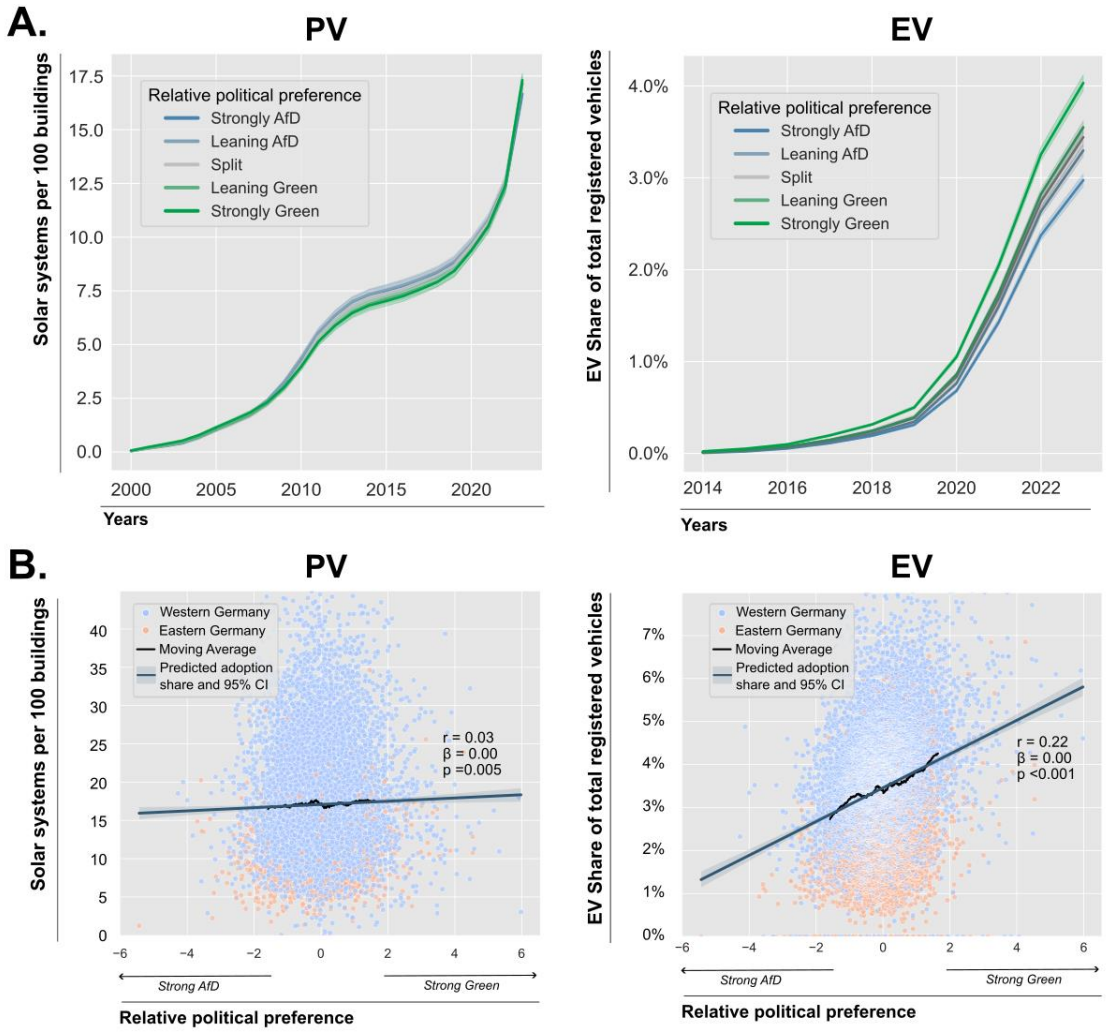
Supplementary Figure 3: Relationship between the adoption of green technologies and municipality characteristics, including income level, population density, and political orientation. PV adoption is measured as the number of solar systems per 100 residential buildings. EV adoption is measured by the share of registered EVs (BEVs and PHEVs) among registered vehicles within a municipality. Population density is derived from the urbanization measure provided by the office for regional statistics[3]. Income groups are categorized based on the average taxable income of each municipality. Political orientation is determined using vote shares from the 2021 federal elections, with green technology adoption data from 2023 (population-weighted, n=*10,733* municipalities).

The adoption of residential solar PV systems and EVs in Germany varies by population density, income, and political ideology (Supplementary Fig. 3). For solar PV, adoption rates increase as population density decreases, likely due to the higher prevalence of single-family homes and higher homeownership rates in suburban and rural areas. Political differences are particularly pronounced in low-density areas with high adoption rates - pro-environmental municipalities have approximately 22 solar PV systems per 100 buildings, compared to 18 in far-right-leaning municipalities.

For EV adoption, partisan differences persist across all population density levels.

In contrast to PV, EV adoption rates are generally higher in more densely populated and higher-income areas, where charging infrastructure is more developed.

Supplementary Note 4: Diffusion of green technologies by political preferences



Supplementary Figure 4: A. Residential solar and EV adoption in German municipalities by relative party preferences since 2000. Solar adoption is measured as installed systems per residential building in a municipality (*n= 10,733*). Includes all active solar panels which are labelled "residential" in the official registry of German solar PV systems[1]. EV adoption is measured as the share of EV (BEV and PHEV) vehicles within a municipality. Municipalities are clustered into five categories based on the standardized difference between pro-environmental Green Party and AfD vote shares in the 2021 federal election. Party preferences are then standardized by federal state and population density to account for the East-West division. **B.** Scatterplot of relationship of green technology adoption (2023) and federal election vote shares (2021) for German municipalities (n = 10,733), standardized by state and population density. Blue line depicts a linearized relationship between relative political preference and technology adoption level. Black line is the moving average across groups of 500 municipalities.

To account for structural and regional disparities that could bias the analysis, we conducted a robustness check by standardizing political affiliation by state and

population density. This adjustment is necessary due to significant historical differences between eastern and western Germany in both political preferences and green technology adoption. Eastern Germany, formerly under Soviet influence, has shown lower solar adoption growth - particularly before 2015 - while exhibiting higher AfD vote shares.

We categorized all 10,733 German municipalities into five groups based on voting behavior. This classification is derived from the relative political preference, calculated by subtracting the AfD vote share from the Green Party vote share in the 2021 federal election and standardizing by state and population density. Each group is standardized by subtracting the mean and dividing by the standard deviation within the respective category. While eastern municipalities have seen strong solar adoption growth in recent years, absolute levels remain lower. Additionally, residential solar adoption is shaped by urban-rural dynamics. Urban areas, which tend to favor the Green Party, often face physical barriers such as limited roof space and fewer owner-occupied homes. Standardizing by population density helps control for these factors, ensuring adoption differences are not over-attributed to political preferences.

Even after this adjustment, the overall relationship between political ideology and green technology adoption remains (Supplementary Fig. 4). For solar PV, the correlation is small but significant ($r = 0.03$, $p = 0.005$), while for EV adoption, the correlation remains strong and significant ($r = 0.22$, $p < 0.001$).

Supplementary Note 5: Robustness Checks for Linear Panel Data Models

To ensure the robustness of our linear panel data models to variation in model specification and variable construction, we tested various model alternatives. These include the gradual inclusion of control variables and variation of employed fixed effects (see Supplementary Table 1 for solar PV systems and Supplementary Table 3 for EVs). In addition to municipality and year fixed effects, some specifications incorporate County-Year fixed effects to account for unobserved, county-specific changes in legislation or subsidy programs. We also varied the definitions of our key political variables - our main variables of interest - as well as the definition of the EV share (see Supplementary Table 2 for solar PV systems and Supplementary Table 4 and 5 for EVs). Furthermore, we split the sample between Eastern and Western federal states to account for regional differences (see Supplementary Table 6 for both solar PV and EV adoption). While coefficient estimates vary across specifications, we find that they generally confirm our main results.

Main Treatment - Solar PV adoption

	1	2	3	4	5	6
Dependent Variable	*New Solar Systems per Residential Building*					
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (Lagged,Composite, Interpolated)	-0.014* (0.01; -2.64;0.027)	-0.009 (0; -1.96;0.082)	-0.002 (0; -1.42;0.192)	-0.007*** (0; -10.62;<0.001)	-0.004** (0; -3.1;0.002)	-0.006*** (0; -11.06;<0.001)
Green Vote Share (Lagged,Composite, Interpolated)	0.008 (0.01; 1.07;0.312)	0.002 (0.01; 0.28;0.786)	0 (0; 0.09;0.934)	0.003*** (0; 5.07;<0.001)	-0.001 (0; -1.51;0.131)	0.002*** (0; 4.24;<0.001)
Income		0.041** (0.01; 4.51;0.001)	0.016** (0; 3.45;0.009)	0.013*** (0; 4.39;<0.001)	0.007** (0; 2.61;0.009)	0.012*** (0; 4.24;<0.001)
Share Single Family Homes			-0.006*** (0; -5.63;<0.001)	0.039*** (0.01; 4.21;<0.001)	0.055*** (0.01; 5.78;<0.001)	0.036*** (0.01; 4.02;<0.001)
Share over 65			-0.013** (0; -3.51;0.008)	-0.003 (0; -1.68;0.093)	0.007*** (0; 3.39;<0.001)	0.006 (0; 1.9;0.057)
Share Unemployed			-0.011 (0.01; -1.41;0.196)	0.035** (0.01; 3.01;0.003)	-0.001 (0.01; -0.21;0.835)	0.065*** (0.01; 9.29;<0.001)
Lagged PV Systems per Inhabitant			0.076*** (0.01; 10.55;<0.001)	-0.018 (0.02; -1.03;0.304)	-0.201*** (0.02; -8.81;<0.001)	0.037* (0.02; 2.18;0.029)
Sun hours per Year			0.001* (0; 2.49;0.038)			
Global Irradiation			0.001** (0; 4.45;0.002)			
Share Owner Occupied Housing			0.002* (0; 2.8;0.023)			
Low Population Density			0.001*** (0; 7.36;<0.001)			
Mid Population Density			0.001** (0; 4.16;0.003)			
New Construction per Inhabitant						0.091*** (0.02; 5.42;<0.001)
Fixed-Effects:						
Municipality	Yes	Yes	Yes	Yes	No	Yes
Year	No	No	No	Yes	Yes	Yes
County-Year	No	No	No	No	Yes	No
Model Family	Linear Panel	Linear Panel	Linear Panel	Linear Panel	Linear Panel	Linear Panel
Clustered SE	by: Year	by: Municipality	by: Municipality	by: Municipality	by: County - Year	by: Municipality
Observations	105,200	105,200	92,502	92,502	92,502	77,630
R2	0.71	0.71	0.53	0.62	0.66	0.68
Within R2	0.01	0.03	0.17	0.01	0.01	0.01

Supplementary Table 1: Comparison of coefficients for Linear Regression models explaining solar PV adoption. The dependent variable is the number of newly installed residential solar PV systems divided by the number of residential buildings within a municipality. AfD and Green Party voting shares are the average (i.e. "composite") of federal, state, and municipality election results, lagged by one

year and interpolated for years without election results. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Robustness Checks PV - Varying the political indicator (i.e. the independent variable)

	1	2	3	4
Dependent Variable	*New Solar Systems per Residential Building*			
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (Lagged,Federal,Interpolated)	0 (0; 0.19;0.849)			
Green Vote Share (Lagged,Federal,Interpolated)	0.038*** (0; 15.64;<0.001)			
Political Leaning (Lagged)		0.008*** (0; 7.65;<0.001)		
Combined Pro-Environmental Score Voting			0 (0; 1.4;0.161)	
Combined Right - Left Score Voting				0*** (0; -17.3;<0.001)
Share Unemployed	0.012*** (0; 4.19;<0.001)	0.013*** (0; 4.36;<0.001)	0.014*** (0; 4.56;<0.001)	0.011*** (0; 3.98;<0.001)
Lagged PV Systems per Inhabitant	0.035*** (0.01; 3.87;<0.001)	0.038*** (0.01; 4.17;<0.001)	0.033*** (0.01; 3.55;<0.001)	0.055*** (0.01; 6.01;<0.001)
Sun hours per Year	-0.002 (0; -1.22;0.222)	-0.003 (0; -1.72;0.085)	-0.005** (0; -2.85;0.004)	-0.002 (0; -0.98;0.328)
Global Irradiation	0.041** (0.01; 3.17;0.002)	0.037** (0.01; 3.08;0.002)	0.045*** (0.01; 3.38;<0.001)	0.017* (0.01; 2.21;0.027)
Share Owner Occupied Housing	-0.016 (0.02; -0.91;0.36)	-0.012 (0.02; -0.69;0.488)	-0.013 (0.02; -0.77;0.439)	-0.022 (0.02; -1.26;0.208)
Fixed-Effects:				
Municipality	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Model Family	Linear Panel	Linear Panel	Linear Panel	Linear Panel
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	76,880	76,880	76,880	76,880
R2	0.7	0.7	0.7	0.7
Within R2	0.1	0.1	0.09	0.12

Supplementary Table 2: Linear regression models explaining the new residential solar solar systems per residential building in a municipality. AfD and Green Party voting shares are the average (i.e. "Composite") of federal, state and municipality election results, lagged by one year and interpolated for years without election results. *Political Leaning* is the difference between Green Party and AfD vote shares based on the average of federal, state and municipality election results, lagged by one year and interpolated for years without election results. *Combined Pro-Environmental Score* is the sum-product of the vote shares of the six major parties' votes shares (Green Party, AfD, CDU, SPD, FDP and LINKE) and the environmental score assigned to each party by the MANIFESTO Project[4]. It is designed to reflect the parties' stance on general policies aimed at environmental protection, combating climate change, and promoting other 'green' initiatives. *Combined Right-LEFT Score*

is the sum-product of the vote shares of the six major parties' votes shares (Green Party, AfD, CDU, SPD, FDP and LINKE) and the right-left position score assigned to each party by the MANIFESTO Project[4]. Standard errors are clustered as denominated and given in parentheses. Significance levels are . $p<0.1$, * $p<0.05$, **$p<0.01$, and ***$p<0.001$.

Main Treatment EV

	1	2	3	4	5	6
Dependent Variable	*Absolute Growth of EV Share*					
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (Lagged,Composite, Interpolated)	-0.012*** (0; -30.92;<0.001)	-0.01*** (0; -32.67;<0.001)	-0.006 (0; -2.36;0.05)	-0.007*** (0; -21.36;<0.001)	-0.004*** (0; -4.86;<0.001)	-0.006*** (0; -13.43;<0.001)
Green Vote Share (Lagged,Composite, Interpolated)	0.014*** (0; 28.65;<0.001)	0.009*** (0; 19.95;<0.001)	0.003 (0; 2.22;0.062)	0.004*** (0; 10.67;<0.001)	0.004*** (0; 5.36;<0.001)	0.003*** (0; 6.73;<0.001)
Lagged EV Share		0.244*** (0.01; 43.53;<0.001)	0.308*** (0.02; 17.94;<0.001)	0.232*** (0.01; 17.39;<0.001)	0.143*** (0.02; 7.76;<0.001)	0.207*** (0.02; 13.31;<0.001)
Income			0.01* (0; 2.98;0.021)	0.004* (0; 2.48;0.013)	0.001 (0; 1.07;0.286)	0.002 (0; 1.34;0.179)
Share Single Family Homes			-0.001 (0; -1.71;0.132)	-0.011** (0; -2.58;0.01)	0.004 (0; 0.96;0.338)	-0.013** (0; -3.02;0.003)
Share over 65			-0.001* (0; -3.07;0.018)	-0.005*** (0; -3.86;<0.001)	0.002 (0; 1.92;0.055)	-0.009*** (0; -6.33;<0.001)
PV Systems per Inhabitant			0.001 (0; 0.74;0.482)	0.016*** (0; 6.58;<0.001)	0.005* (0; 2.05;0.04)	0.018*** (0; 6.74;<0.001)
Charging Stations per Inhabitant			0 (0; -1.6;0.153)	0 (0; -1.4;0.162)	0 (0; 0.17;0.867)	0 (0; -1.06;0.29)
Low Population Density			0 (0; 1.35;0.22)			
Mid Population Density			0.001 (0; 1.89;0.1)			
Highway Access			0 (0; 2.12;0.072)			
Share Unemployed						0.015* (0.01; 2.18;0.03)
Share of Commerical Vehicles						0.043*** (0.01; 7.39;<0.001)
Fixed-Effects:						
Municipality	Yes	Yes	No	Yes	Yes	Yes
Year	No	No	Yes	Yes	No	Yes
County-Year	No	No	No	No	Yes	No
Model Family	Linear Panel	Linear Panel	Linear Panel	Linear Panel	Linear Panel	Linear Panel
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality	by: County - Year	by: Municipality
Observations	87,525	87,525	76,880	76,880	76,880	63,605
R2	0.19	0.4	0.65	0.7	0.75	0.74
Within R2	0.02	0.27	0.27	0.1	0.03	0.11

Supplementary Table 3: Linear regression models explaining the growth in share of registered EV cars within a municipality. AfD and Green Party voting shares are the average (i.e. "Composite") of federal, state and municipality election results, lagged by one year and interpolated for years without election results. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Robustness Checks EV - Varying the measure of EV Share (i.e. the dependent variable)

	1	2	3	4	5
Dependent Variable	*Absolute Growth of EV Share*	*Relative Growth of EV Share*	*Municipality EV Share*	*Residential EV Share*	*Commercial EV Share*
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (Lagged,Composite, Interpolated)	-0.007*** (0; -21.36;<0.001)	-47.837*** (6.55; -7.31;<0.001)	-0.007*** (0; -21.36;<0.001)	-0.009 (0.01; -0.99;0.323)	-0.027*** (0.01; -5.11;<0.001)
Green Vote Share (Lagged,Composite, Interpolated)	0.004*** (0; 10.67;<0.001)	-23.792*** (6.45; -3.69;<0.001)	0.004*** (0; 10.67;<0.001)	0.003 (0.01; 0.5;0.614)	0.023*** (0; 5.04;<0.001)
Lagged EV Share	0.232*** (0.01; 17.39;<0.001)	-2903.854*** (258.11; -11.25;<0.001)	1.232*** (0.01; 92.39;<0.001)	-0.012 (0.12; -0.09;0.926)	0.638*** (0.12; 5.32;<0.001)
Income	0.004* (0; 2.48;0.013)	19.54 (23.59; 0.83;0.408)	0.004* (0; 2.48;0.013)	0.033 (0.05; 0.63;0.529)	0.013 (0.01; 1;0.317)
Share Single Family Homes	-0.011** (0; -2.58;0.01)	23.739 (51.97; 0.46;0.648)	-0.011** (0; -2.58;0.01)	0.073 (0.07; 1.05;0.293)	-0.186*** (0.05; -3.72;<0.001)
Share over 65	-0.005*** (0; -3.86;<0.001)	8.618 (15.51; 0.56;0.578)	-0.005*** (0; -3.86;<0.001)	-0.023 (0.03; -0.83;0.408)	-0.09*** (0.02; -4.85;<0.001)
PV Systems per Inhabitant	0.016*** (0; 6.58;<0.001)	221.878*** (24.23; 9.16;<0.001)	0.016*** (0; 6.58;<0.001)	0.097* (0.05; 1.96;0.049)	0 (0.03; 0.01;0.993)
Charging Stations per Inhabitant	0 (0; -1.4;0.162)	-0.123 (0.85; -0.15;0.884)	0 (0; -1.4;0.162)	-0.001 (0; -1.22;0.224)	-0.001 (0; -1.7;0.089)
Fixed-Effects:					
Municipality	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Model Family	Linear Panel	Linear Panel	Linear Panel	Linear Panel	Linear Panel
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	76,880	70,518	76,880	49,132	44,321
R2	0.7	0.47	0.94	0.34	0.43
Within R2	0.1	0.05	0.71	0	0.01

Supplementary Table 4: Linear regression models explaining EV cars within a municipality. *Absolute Growth of EV Share* refers to the difference in the share of EVs (BEV and PHEV) within a municipality between year t and year t-1, while *Relative Growth of EV Share* captures the percentage change in the EV share over the same period. *Municipality EV Share* represents the overall proportion of EVs (BEV and PHEV) among all vehicles within a municipality, whereas *Residential EV Share* and *Commercial EV Share* distinguish between the shares of EVs among residential and commercial vehicles, respectively. Standard errors are clustered as specified and reported in parentheses. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Robustness Checks EV - Varying the political indicator (i.e. the independent variable)

	1	2	3	4
Dependent Variable	*Absolute Growth of EV Share*			
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (Lagged,Federal,Interpolated)	-0.008*** (0; -10.92;<0.001)			
Green Vote Share (Lagged,Federal,Interpolated)	0.026*** (0; 13.49;<0.001)			
Political Leaning (Lagged)		0.013*** (0; 16.77;<0.001)		
Combined Pro-Environmental Score Voting			0.001*** (0; 7.43;<0.001)	
Combined Right - Left Score Voting				-0.0005*** (0; -27.15;<0.001)
Lagged EV Share	0.228*** (0.01; 16.84;<0.001)	0.231*** (0.01; 17.32;<0.001)	0.236*** (0.01; 17.84;<0.001)	0.203*** (0.01; 13.99;<0.001)
Income	0.004* (0; 2.27;0.023)	0.004* (0; 2.36;0.018)	0.005** (0; 2.72;0.007)	0.003 (0; 1.69;0.092)
Share Single Family Homes	-0.013** (0; -3;0.003)	-0.011** (0; -2.7;0.007)	-0.015*** (0; -3.42;<0.001)	0.002 (0; 0.53;0.598)
Share over 65	-0.005*** (0; -3.85;<0.001)	-0.005*** (0; -4.06;<0.001)	-0.007*** (0; -4.78;<0.001)	-0.001 (0; -1.06;0.29)
PV Systems per Inhabitant	0.018*** (0; 7.44;<0.001)	0.018*** (0; 7.5;<0.001)	0.019*** (0; 7.67;<0.001)	0.015*** (0; 6.26;<0.001)
Charging Stations per Inhabitant	0 (0; -1.26;0.209)	0 (0; -1.25;0.212)	0 (0; -1.19;0.234)	0 (0; -1.33;0.182)
Fixed-Effects:				
Municipality	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Model Family	Linear Panel	Linear Panel	Linear Panel	Linear Panel
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	76,880	76,880	76,880	76,880
R2	0.7	0.7	0.7	0.7
Within R2	0.1	0.1	0.09	0.12

Supplementary Table 5: Linear regression models explaining the growth in share of registered EV cars within a municipality. AfD and Green Party voting shares are the average (i.e. "Composite") of federal, state and municipality election results, lagged by one year and interpolated for years without election results. *Political Leaning* is the difference between Green Party and AfD vote shares based on the average of federal, state and municipality election results, lagged by one year and interpolated for years without election results. *Combined Pro-Environmental Score* is the sum-product of the vote shares of the six major parties' votes shares (Green Party, AfD, CDU, SPD, FDP and LINKE) and the environmental score assigned to each party by the MANIFESTO Project[4]. It is designed to reflect the parties' stance on general policies aimed at environmental protection, combating climate change, and promoting other 'green' initiatives. *Combined Right-LEFT Score* is the sum-product of the vote shares of the six major parties' votes shares (Green Party, AfD, CDU, SPD, FDP and LINKE) and the right-left position score assigned to each party by the MANIFESTO Project[4]. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Robustness Checks PV and EV - Splitting the sample in Eastern and Western Germany

	1	2	3	4
	East	**West**	**East**	**West**
Dependent Variable	*Absolute Growth of EV Share*	*Absolute Growth of EV Share*	*New Solar Systems per Residential Building*	*Solar Systems per Residential Bu*
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (Lagged,Composite, Interpolated)	-0.004*** (0; -6.59;<0.001)	-0.005*** (0; -9.11;<0.001)	0 (0; -0.32;0.752)	-0.005*** (0; -6.07;<0.001)
Green Vote Share (Lagged,Composite, Interpolated)	0.01*** (0; 5.1;<0.001)	0.003*** (0; 8.15;<0.001)	0.006 (0; 1.72;0.085)	0.002*** (0; 3.61;<0.001)
Lagged EV Share	0.124** (0.05; 2.71;0.007)	0.196*** (0.02; 12.22;<0.001)		
Income	0.004 (0; 1.05;0.293)	0.003 (0; 1.77;0.076)	0.015* (0.01; 2.47;0.014)	0.011*** (0; 3.67;<0.001)
Share Single Family Homes	0.013* (0.01; 2.35;0.019)	0.006 (0.01; 1.21;0.225)	0.014 (0.01; 1.08;0.279)	0.045*** (0.01; 6.22;<0.001)
Share over 65	0.003* (0; 1.99;0.047)	0 (0; -0.24;0.807)	-0.001 (0; -0.78;0.437)	0.003* (0; 2.18;0.029)
PV Systems per Inhabitant	0.007 (0; 1.61;0.108)	0.007** (0; 2.63;0.009)	-0.288*** (0.04; -7.31;<0.001)	0.011 (0.02; 0.59;0.556)
Charging Stations per Inhabitant	0** (0; -2.95;0.003)	0 (0; -1.02;0.309)		
Fixed-Effects:				
Municipality	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Model Family	Linear Panel	Linear Panel	Linear Panel	Linear Panel
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	17,261	59,619	20,844	71,658
R2	0.53	0.72	0.55	0.63
Within R2	0.03	0.06	0.02	0.00

Supplementary Table 6: Linear regression models explaining green technology adoption within a municipality. The samples are divided into Eastern and Western German federal states, as indicated, to account for regional differences. Standard errors are clustered as specified and reported in parentheses. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

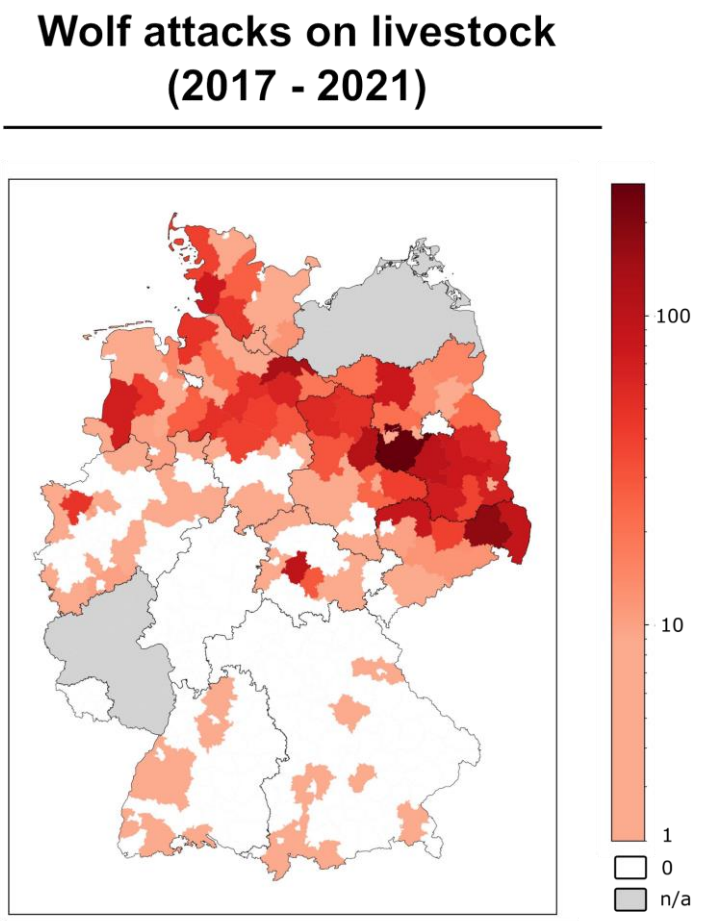
Supplementary Note 6: Instrumental Variable (IV) Regression

Wolves have been re-migrating to Germany, primarily from Eastern Europe, leading to an increase in sightings and attacks on livestock, particularly in the eastern and northern federal states. Since 2017, attacks have also been recorded in the south, notably in the Black Forest region and Bavaria near the Alps (Supplementary Fig. 5).

We use wolf attacks on livestock as an instrumental variable for AfD vote share (see Methods). To ensure the robustness of our findings, we tested various model specifications, such as incrementally adding control variables and splitting the sample by eastern and western federal states for PV adoption (Supplementary Table 7) and EV adoption (Supplementary Table 8). Results remain robust, with AfD vote shares consistently showing a negative and highly significant effect, while coefficient estimates naturally vary. However, when restricting the analysis to eastern states, the IV regression does not confirm our main findings due to an insignificant first stage (F-statistic <10). This is likely due to missing data (e.g., no observations for Mecklenburg-Vorpommern) and a high prevalence of wolf attacks in the eastern states, leaving few untreated municipalities. For further robustness checks, we tested alternative specifications of the main independent variable, using only federal election vote shares instead of interpolated vote shares across all election types (Supplementary Table 9). We also split the sample into two periods: pre-2013 (before the AfD's founding) and post-2013, focusing on PV adoption, as EVs were rare in Germany before 2013. In the post-2013 subsample, we instrumented Green Party vote share instead of AfD vote share, yielding consistent and statistically significant results. However, in the pre-2013 period, when wolf attacks were rarer, the instrument lacked strength (F-statistic <10), suggesting that the mechanism linking wolf attacks to political mobilization - and thereby influencing green technology adoption - only emerged with the rise of the far-right AfD party.

Supplementary Table 11 presents the detailed first-stage regression results of the 2SLS approach. The effect size is consistent in both direction and magnitude with findings reported by Clemm von Hohenberg and Hager (2022)[7] for AfD and Green Party vote shares.

Wolf attacks on livestock in Germany



Supplementary Figure 5: Wolf attacks on livestock (n=357 counties, 7,742 attacks)

PV - Second stage of IV regression, using wolf attacks on livestock as an instrument for AfD share

	1	2	3	4
	Germany	**Germany**	**East**	**West**
Dependent Variable	*New Solar Systems per Residential Building*	*New Solar Systems per Residential Building*	*New Solar Systems per Residential Building*	*New Solar Systems per Residential Building*
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (instrumented)	-0.037*** (0.01; -5.36;<0.001)	-0.037*** (0.01; -4.96;<0.001)	-0.402 (0.54; -0.74;0.458)	-0.093*** (0.03; -3.54;<0.001)
Green Vote Share (Lagged,Composite,Interpolated)	0.012*** (0; 5.93;<0.001)	0.012*** (0; 5.4;<0.001)	0.265 (0.33; 0.81;0.42)	0.032*** (0.01; 3.56;<0.001)
Income		0.006 (0; 1.56;0.119)	-0.152 (0.26; -0.59;0.555)	0.003 (0; 0.73;0.467)
Share Single Family Homes		0.038*** (0.01; 4.36;<0.001)	0.055 (0.09; 0.59;0.555)	0.052*** (0.01; 6.32;<0.001)
Share Old		0.002 (0; 1.03;0.305)	-0.002 (0.01; -0.42;0.673)	0.004* (0; 2.02;0.043)
PV Systems per Inhabitant		0.024 (0.02; 1.14;0.256)	-0.281** (0.11; -2.66;0.008)	0.082*** (0.02; 3.6;<0.001)

Fixed-Effects:				
Municipality	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Model Family	2SLS	2SLS	2SLS	2SLS
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	69,237	69,237	14,688	54,549
R2	0.63	0.64	-3.28	0.61
F-statistic first stage	709.8	628.8	1.4	120.9

Supplementary Table 7: Second stage of instrumental variables regression in a 2SLS approach using wolf attacks on livestock as an instrumental variable for the share of AfD votes. *AfD Vote Share* is instrumented by wolf attacks on livestock (see Table 10). The samples are divided into Eastern and Western German federal states, as indicated, to account for regional differences. Standard errors are clustered as specified and reported in parentheses. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

EV - Second stage of IV regression, using wolf attacks on livestock as an instrument for AfD share

	1	2	3	4
	Germany	**Germany**	**East**	**West**
Dependent Variable	*Absolute Growth of EV Share*	*Absolute Growth of EV Share*	*Absolute Growth of EV Share*	*Absolute Growth of EV Share*
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share (instrumented)	-0.072*** (0.01; -7.75;<0.001)	-0.054*** (0.01; -5.51;<0.001)	0.079 (0.08; 0.95;0.344)	-0.046** (0.02; -3.02;0.003)
Green Vote Share (Lagged,Composite,Interpolated)	0.028*** (0; 8.97;<0.001)	0.02*** (0; 6.07;<0.001)	-0.056 (0.07; -0.8;0.422)	0.019*** (0.01; 3.46;<0.001)
Lagged EV Share		0.215*** (0.02; 11.73;<0.001)	0.185* (0.08; 2.23;0.026)	0.184*** (0.02; 8.09;<0.001)
Income		-0.002 (0; -0.71;0.478)	0.038 (0.03; 1.12;0.264)	0.004 (0; 1.69;0.092)
Share Unemployed		-0.012 (0.01; -0.96;0.339)	0.015 (0.01; 1.38;0.168)	0.029** (0.01; 2.82;0.005)
PV Systems per Inhabitant		0.034*** (0.01; 3.48;<0.001)	0.001 (0.02; 0.03;0.976)	0.011 (0.01; 1.08;0.28)
Share Single Family Homes		0.002 (0.01; 0.26;0.796)	0 (0.03; 0;0.999)	0.004 (0.01; 0.44;0.661)
Share over 65		0.004 (0; 1.78;0.075)	0 (0; 0.08;0.935)	0.001 (0; 0.65;0.513)
Charging Stations per Inhabitant		0 (0; -1.36;0.172)	0 (0; -0.25;0.801)	0 (0; -0.78;0.435)
Fixed-Effects:				
Municipality	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Model Family	2SLS	2SLS	2SLS	2SLS
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	55,575	55,498	11,895	43,603
R2	0.58	0.66	0.08	0.73
F-statistic first stage	315.2	194.4	3.1	117.7

Supplementary Table 8: Second stage of instrumental variables regression in a 2SLS approach using wolf attacks on livestock as an instrumental variable for the share of AfD votes. *AfD Vote Share* is instrumented by wolf attacks on livestock (see Table 10). The samples are divided into Eastern and Western German federal states, as indicated, to account for regional differences. Standard errors are clustered as specified and reported in parentheses. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

PV and EV - Second stage of IV regression, using wolf attacks on livestock as an instrument for AfD share

	1	2	3	4
	Germany	**Germany**	**2001-2012**	**2013 - 2023**
Dependent Variable	*Absolute Growth of EV Share*	*New Solar Systems per Residential Building*	*New Solar Systems per Residential Building*	*New Solar Systems per Residential Building*
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
AfD Vote Share Federal elections only (instrumented)	-0.274* (0.11; -2.41;0.016)	-0.086*** (0.02; -3.75;<0.001)		
Green Vote Share (instrumented)			0.113 (0.06; 1.92;0.056)	0.086*** (0.02; 4.91;<0.001)
Green Vote Share (Lagged,Composite,Interpolated)	-0.024 (0.02; -0.96;0.339)	0.004 (0.01; 0.34;0.733)		
Lagged EV Share	0.167*** (0.03; 5.27;<0.001)			
Share Unemployed	-0.111 (0.1; -1.17;0.244)			
Income	-0.019 (0.01; -1.61;0.108)	0 (0; -0.04;0.967)	0.006 (0.01; 0.7;0.481)	0.01* (0; 2.51;0.012)
PV Systems per Inhabitant	0.157** (0.05; 3.09;0.002)	0.07** (0.02; 3.08;0.002)	0.156*** (0.02; 6.26;<0.001)	0.021 (0.02; 0.99;0.32)
Share Single Family Homes	0.078 (0.04; 1.79;0.073)	0.062*** (0.01; 4.28;<0.001)		0.02** (0.01; 2.84;0.005)
Share over 65	0.027* (0.01; 2.02;0.044)	0.006* (0; 2.35;0.019)		0.003 (0; 1.42;0.155)
Charging Stations per Inhabitant	0 (0; -0.79;0.431)			
Fixed-Effects:				
Municipality	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Model Family	2SLS	2SLS	2SLS	2SLS
Clustered SE	by: Municipality	by: Municipality	by: Municipality	by: Municipality
Observations	55,498	69,237	82,362	69,237
R2	0.13	0.6	0.46	0.47
F-statistic first stage	24.3	200	19.7	82.9

Supplementary Table 9: Second stage of instrumental variables regression in a 2SLS approach using wolf attacks on livestock as an instrumental variable for the share of AfD votes. *AfD Vote Share* or *Green Vote Share* are instrumented by wolf attacks on livestock, as indicated (see Table 10). Standard errors are clustered as specified and reported in parentheses. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

First stage of IV regression, using wolf attacks on livestock as instrument for AfD share

	1	2	3
	Germany	**Germany**	**Germany**
Dependent Variable	*AfD Vote Share*	*AfD Vote Share*	*Green Vote Share*
	Coefficient (clustered standard error; t-statistic; P value)	*Coefficient (clustered standard error; t-statistic; P value)*	*Coefficient (clustered standard error; t-statistic; P value)*
Wolf Attacks	0.019*** (0; 12.76;<0.001)	0.012*** (0; 8.56;<0.001)	-0.001* (0; -2.09;0.037)
Green Vote Share (Lagged,Composite,Interpolated)		0.338*** (0.01; 64.36;<0.001)	
Lagged EV Share		-0.433*** (0.09; -4.6;<0.001)	0.345*** (0.08; 4.41;<0.001)
Share Unemployed		-0.997* (0.45; -2.2;0.028)	0.107* (0.05; 1.99;0.047)
Income		-0.178*** (0.04; -4.15;<0.001)	0.038*** (0.01; 3.45;<0.001)
PV Systems per Inhabitant		-0.163* (0.07; -2.2;0.028)	0.021 (0.04; 0.54;0.588)
Share Single Family Homes		0.542*** (0.07; 7.71;<0.001)	-0.024 (0.03; -0.73;0.463)
Share over 65		0.191*** (0.02; 7.93;<0.001)	-0.033*** (0.01; -5.49;<0.001)
Charging Stations per Inhabitant		0 (0; -0.73;0.463)	-0.001 (0; -1.81;0.071)
Fixed-Effects:			
AGS	Yes	Yes	Yes
Year	Yes	Yes	Yes
Model Family	2SLS - First Stage	2SLS - First Stage	2SLS - First Stage
Clustered SE	by: ags	by: ags	by: ags
Observations	71,087	55,498	55,498
R2	0.74	0.83	0.95

Supplementary Table 10: First stage of instrumental variables regression in a 2SLS approach using wolf attacks on livestock as an instrumental variable for the share of AfD votes. *WolfAttacks* is a binary variable set to 1 if there was a wolf attack in the municipality within the previous four years. Standard errors are clustered as specified and reported in parentheses. Standard errors are clustered as denominated and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Supplementary Note 7: Robustness Checks for Survey Data

To ensure the robustness of our survey data analysis, we tested multiple regression specifications for PV adoption intent (Supplementary Table 11) and EV adoption intent (Supplementary Table 12). We varied the definition of the political variable, using voting intention, interactions with political interest, and self-reported left-right positioning, and tested models with additional control variables. Additionally, we analyzed each survey wave separately (Supplementary Table 13). Our findings remain robust and statistically significant across all specifications.

PV - Logistic regression explaining intention to adopt intent

	1	2	3	4
Dependent Variable	*PV Adoption Intent*	*PV Adoption Intent*	*PV Adoption Intent*	*PV Adoption Intent*
	Coefficient (standard error; t-statistic; P value)	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*
AfD Voting Intention	-0.183* (0.09; -2.14;0.032)	-0.167 (0.09; -1.78;0.076)		-0.176 (0.1; -1.72;0.085)
Green Voting Intention	0.319*** (0.08; 3.97;<0.001)	0.353*** (0.09; 3.86;<0.001)		0.363*** (0.11; 3.33;<0.001)
Low Income Indicator		-0.209** (0.07; -2.81;0.005)	-0.176* (0.07; -2.36;0.018)	-0.254** (0.09; -2.85;0.004)
Age in Years		-0.021*** (0; -11.23;<0.001)	-0.023*** (0; -12.19;<0.001)	-0.02*** (0; -8.76;<0.001)
Male		0.207*** (0.06; 3.48;<0.001)	0.151* (0.06; 2.49;0.013)	0.186** (0.07; 2.72;0.007)
Studied		0.358*** (0.06; 5.51;<0.001)	0.334*** (0.07; 5.12;<0.001)	0.306*** (0.08; 4.07;<0.001)
Sub-urban Indicator		0.144 (0.08; 1.91;0.057)	0.164* (0.08; 2.16;0.03)	0.104 (0.09; 1.18;0.24)
Rural Indicator		0.211* (0.09; 2.45;0.014)	0.221* (0.09; 2.57;0.01)	0.071 (0.1; 0.74;0.461)
Own House		1.074*** (0.07; 15.5;<0.001)	1.061*** (0.07; 15.27;<0.001)	1.001*** (0.08; 12.66;<0.001)
Detached House		0.836*** (0.07; 11.39;<0.001)	0.826*** (0.07; 11.2;<0.001)	0.932*** (0.08; 11.14;<0.001)
PV Adopted		1.467*** (0.13; 11.08;<0.001)	1.472*** (0.13; 11.23;<0.001)	1.637*** (0.15; 10.64;<0.001)
Strong Political Interest - AfD			0.012 (0.13; 0.09;0.925)	
Weak Political Interest - AfD			-0.179 (0.14; -1.32;0.187)	
Strong Political Interest - nonAfD			0.294*** (0.07; 4.44;<0.001)	
Own Car				0.549*** (0.11; 4.89;<0.001)
Fixed-Effects:				
State	Yes	Yes	Yes	Yes
Wave	Yes	Yes	Yes	Yes
Model Family	Logit	Logit	Logit	Logit
SE	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.
Observations	7,948	7,948	7,948	6,339
R2	0.01	0.17	0.17	0.18

Supplementary Table 11: Logistic regression models predicting the intention to adopt PVs for survey participants. The dependent variable is *PV Adoption Intent*, an indicator set to 1 if respondents answered the question "Do you plan to purchase solar panels in the next year?" with either "Have purchased" or "Have not purchased but intend to purchase". *Strong Political Interest - AfD* is the interaction of AfD affiliation and if survey participants stated a political interest above 4 (on a scale of 1 to 5). Standard errors are heteroskedasticity robust and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

EV - Logistic regression explaining intention to adopt intent

	1	2	3	4
Dependent Variable	*EV Adoption Intent*	*EV Adoption Intent*	*EV Adoption Intent*	*EV Adoption Intent*
	Coefficient (standard error; t-statistic; P value)	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*
AfD Voting Intention	-0.782*** (0.12; -6.33;<0.001)	-0.84*** (0.13; -6.33;<0.001)		-0.794*** (0.14; -5.68;<0.001)
Green Voting Intention	0.558*** (0.09; 6.46;<0.001)	0.523*** (0.09; 5.54;<0.001)		0.79*** (0.11; 7.3;<0.001)
Low Income Indicator		-0.513*** (0.09; -5.54;<0.001)	-0.474*** (0.09; -5.15;<0.001)	-0.402*** (0.11; -3.59;<0.001)
Age in Years		-0.029*** (0; -13.24;<0.001)	-0.032*** (0; -14.33;<0.001)	-0.029*** (0; -10.65;<0.001)
Male		0.551*** (0.07; 8.12;<0.001)	0.49*** (0.07; 7.15;<0.001)	0.484*** (0.08; 6.24;<0.001)
Studied		0.343*** (0.07; 4.79;<0.001)	0.332*** (0.07; 4.6;<0.001)	0.342*** (0.08; 4.12;<0.001)
Sub-urban Indicator		-0.095 (0.09; -1.11;0.266)	-0.065 (0.08; -0.77;0.442)	-0.163 (0.1; -1.66;0.097)
Rural Indicator		-0.173 (0.1; -1.7;0.09)	-0.156 (0.1; -1.53;0.126)	-0.237* (0.11; -2.17;0.03)
Own House		0.613*** (0.08; 7.57;<0.001)	0.59*** (0.08; 7.3;<0.001)	0.632*** (0.09; 6.94;<0.001)
Detached House		0.14 (0.09; 1.61;0.108)	0.133 (0.09; 1.52;0.128)	0.352*** (0.09; 3.76;<0.001)
PV Adopted		1.282*** (0.09; 14.34;<0.001)	1.286*** (0.09; 14.39;<0.001)	
Strong Political Interest - AfD			-0.988*** (0.19; -5.08;<0.001)	
Weak Political Interest - AfD			-0.514** (0.18; -2.93;0.003)	
Strong Political Interest - nonAfD			0.337*** (0.07; 4.67;<0.001)	
Own Car				1.183*** (0.15; 7.69;<0.001)
Fixed-Effects:				
State	Yes	Yes	Yes	Yes
Wave	Yes	Yes	Yes	Yes
Model Family	Logit	Logit	Logit	Logit
SE	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.
Observations	7,948	7,948	7,948	6,339
R2	0.02	0.14	0.14	0.13

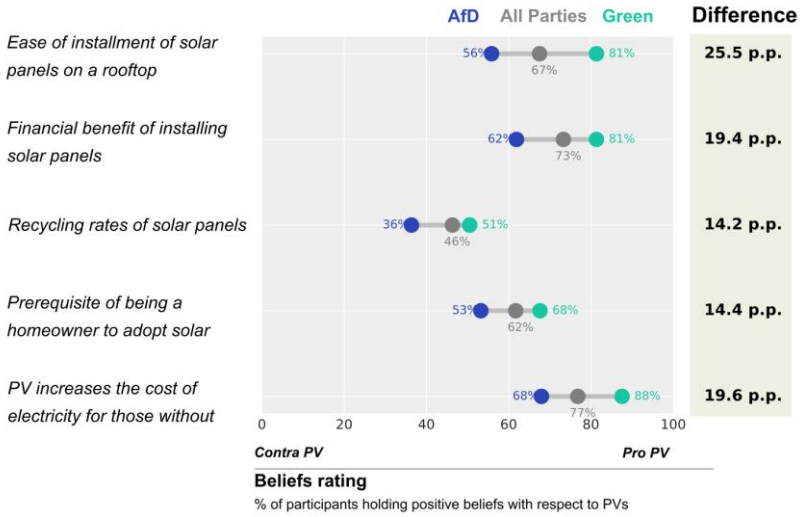
Supplementary Table 12: Logistic regression models predicting the intention to adopt EVs for survey participants. The dependent variable is *EV Adoption Intent,* an indicator set to 1 if respondents answered the question "Do you plan to purchase an electric vehicle in the next year?" with either "Have purchased" or "Have not purchased but intend to purchase". *Strong Political Interest - AfD* is the interaction of AfD affiliation and if survey participants stated a political interest above 4 (on a scale of 1 to 5). Standard errors are heteroskedasticity robust and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Robustness for PV and EV - regression explaining intention to adopt intent

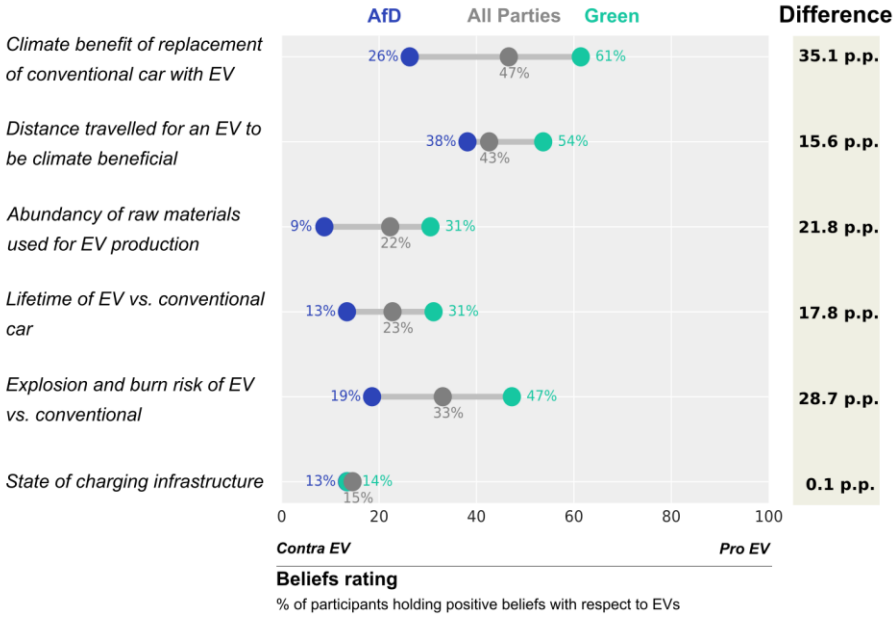
	1	2	3	4	5	6
	All Waves	**All Waves**	**Wave 1**	**Wave 1**	**All Waves**	**All Waves**
Dependent Variable	*PV Adoption Intent*	*EV Adoption Intent*	*EV Adoption Intent*	*PV Adoption Intent*	*PV Adoption Intent*	*EV Adoption Intent*
	Coefficient (standard error; t-statistic; P value)	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*	*Coefficient (standard error; t-statistic; P value)*
AfD Voting Intention	-0.023 (0.01; -1.74;0.082)	-0.073*** (0.01; -7.47;<0.001)	-1.129*** (0.34; -3.29;<0.001)	-0.224 (0.22; -1;0.317)		
Green Voting Intention	0.053*** (0.02; 3.46;<0.001)	0.073*** (0.01; 5;<0.001)	0.119 (0.16; 0.74;0.457)	0.294* (0.15; 2;0.046)		
Low Income Indicator	-0.021* (0.01; -2.25;0.025)	-0.04*** (0.01; -4.99;<0.001)	-0.691*** (0.15; -4.49;<0.001)	-0.127 (0.13; -1;0.317)	-0.236** (0.07; -3.16;0.002)	-0.526*** (0.09; -5.68;<0.001)
Age in Years	-0.003*** (0; -11.17;<0.001)	-0.003*** (0; -13.36;<0.001)	-0.027*** (0; -7.49;<0.001)	-0.023*** (0; -6.95;<0.001)	-0.022*** (0; -11.69;<0.001)	-0.03*** (0; -13.58;<0.001)
Male	0.032*** (0.01; 3.59;<0.001)	0.063*** (0.01; 8.07;<0.001)	0.441*** (0.12; 3.7;<0.001)	0.135 (0.11; 1.25;0.211)	0.199*** (0.06; 3.32;<0.001)	0.501*** (0.07; 7.37;<0.001)
Studied	0.061*** (0.01; 5.61;<0.001)	0.052*** (0.01; 5.28;<0.001)	0.442*** (0.12; 3.64;<0.001)	0.431*** (0.11; 3.84;<0.001)	0.37*** (0.07; 5.69;<0.001)	0.392*** (0.07; 5.51;<0.001)
Sub-urban Indicator	0.021 (0.01; 1.91;0.056)	-0.007 (0.01; -0.69;0.487)	-0.093 (0.15; -0.62;0.534)	0.342** (0.13; 2.62;0.009)	0.145 (0.08; 1.89;0.058)	-0.106 (0.08; -1.25;0.212)
Rural Indicator	0.028* (0.01; 2.16;0.031)	-0.021 (0.01; -1.85;0.065)	-0.191 (0.21; -0.92;0.359)	0.35* (0.18; 1.98;0.048)	0.205* (0.09; 2.36;0.018)	-0.217* (0.1; -2.12;0.034)
Own House	0.186*** (0.01; 14.74;<0.001)	0.076*** (0.01; 6.97;<0.001)	0.508*** (0.14; 3.56;<0.001)	1.105*** (0.13; 8.64;<0.001)	1.073*** (0.07; 15.32;<0.001)	0.593*** (0.08; 7.29;<0.001)
Detached House	0.157*** (0.01; 11.25;<0.001)	0.02 (0.01; 1.65;0.099)	0.137 (0.16; 0.86;0.391)	0.645*** (0.14; 4.71;<0.001)	0.849*** (0.07; 11.47;<0.001)	0.157 (0.09; 1.79;0.073)
EV Adopted	0.304*** (0.02; 12.41;<0.001)			0.919*** (0.25; 3.71;<0.001)	1.469*** (0.13; 11.08;<0.001)	
PV Adopted		0.224*** (0.02; 12.93;<0.001)	0.937*** (0.19; 5.03;<0.001)			1.275*** (0.09; 14.29;<0.001)
Left-Right Scale					-0.042** (0.02; -2.64;0.008)	-0.074*** (0.02; -4.03;<0.001)
Fixed-Effects:						
State	Yes	Yes	Yes	Yes	Yes	Yes
Wave	Yes	Yes	No	No	Yes	Yes
Model Family	Linear Regression	Linear Regression	Logit	Logit	Logit	Logit
SE	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.	Heteroskedast.-rob.
Observations	7,948	7,948	2,348	2,356	7,800	7,800
R2	0.19	0.13	0.11	0.16	0.19	0.13

Supplementary Table 13: Regression models predicting the intention to adopt PV and EV for survey participants. The dependent variable is either *PV Adoption Intent* or *EV Adoption Intent*. *Left-Right Scale* is the self-indicated political orientation on a left (1) - right (11). Standard errors are heteroskedasticity robust and given in parentheses. Significance levels are . p<0.1, * p<0.05, **p<0.01, and ***p<0.001.

Supplementary Note 8: Beliefs of survey participants with respect to PV and EV



Supplementary Figure 6: Beliefs rating of survey participants with respect to residential solar PV on a scale of 0 (all participants with a negative view) to 100 (all participants with a positive view).



Supplementary Figure 7: Beliefs rating of survey participants with respect to residential solar EV on a scale of 0 (all participants with a negative view) to 100 (all participants with a positive view).

Participants were presented with five statements about solar panels and six about EVs, selected to reflect common myths and debated topics, as identified through recent media reports. These statements were tested and refined through expert interviews. Participants were asked to evaluate whether each statement was true or false and to rate

their confidence in their answers on a scale from 1 to 10 (see Supplementary Note 10 for exact wording). As some questions had no definitive right or wrong answer - for instance, the climate benefit of replacing an internal combustion engine (ICE) vehicle with an EV is a function of the respective energy mix, mileage, and the specific vehicles being compared - the survey responses primarily reflect participants' beliefs rather than outright misinformation or knowledge.

Although comparison across technologies is challenging due to the selection of statements, clear trends emerge (Supplementary Fig. 7). Overall, attitudes toward solar panels were substantially more positive (+65%) compared to EVs (+30.5%). Notably, AfD voters were significantly less positive about both technologies compared to the average and especially compared to Green Party voters, who displayed a more favorable attitude. Interestingly, AfD voters expressed higher confidence in their beliefs (mean = 6.8) than the average participant (mean = 6.2) and Green Party voters (mean = 6.0). For PV, the largest differences between AfD and Green Party voters were observed in statements about the ease of installation and the belief that residential solar increases electricity prices for non-adopters. For EVs, the most pronounced discrepancies occurred regarding beliefs about the climate benefit of replacing an ICE vehicle with an EV and concerns about the explosion risk of EVs.

Supplementary Note 9: Comparison of green technologies in Germany

	Rooftop solar	Electric vehicles	Electric Heating
Market Share	**14%** Residential installations / residential buildings *Source: Marktstammdatenregister, Stat. Bundesamt*	**3%** No. of BEV/ No. passenger cars; ~20% new cars *Source: KBA*	**3%** Heating structure of housing stock; ~70% new buildings *Source: BDEW*
Start of Adoption (1% overall reached)	**2004** *Source: Marktstammdatenregister, Stat. Bundesamt*	**2022** *Source: KBA*	**2010** *Source: BDEW*
Avg. Adoption costs in 2024	**10-18k EUR** 10kwp, w/o battery storage but incl. installation *Source: 1komma5grad*	**35-55k EUR** Price range for small and medium cars *Source: CAM*	**25-45k EUR** Average single-family home, incl. installation *Source: Vattenfall*
Subsidies in Germany in 2024	**0 %** Promotional loans, some local exceptions *Source: ADAC*	**0%** Since 2024, was up to 6.5k *Source: ADAC*	**Up to 70%** Depends on income, installation year and model *Source: ADAC*
Price Development	**-89 %** Since 2010, Price in EUR per watt *Source: Our world in Data (2024) , International Renewable Energy Agency (2023)*	**-1%** Since 2018, battery cost decline more significant, but car range increased *Source: Statista Mobility Market*	**-20%** Since 2018 *Source: EHPA stats (2022)*
Political debate	**No**	**Yes** (late 2010s)	**Yes** (Spring 2023)
Polarization in prev. literature	**Small polarization** *Source: Mildenberger et al. (2019), Sunter et al. (2018)*	**High polarization** Mostly survey-based research *Source: Sintov et al. (2020)*	**No polarization** Hypothesized that polarization could change *Source: Burgess et al. (2024)*
Our findings	**Differences, but relatively low level of polarization**	**High polarization. Subjective and objective data; Causal link**	**Polarization developed during 2023-2024**

Supplementary Table 14: Comparison of residential solar, electric vehicles and electric heating along key variables.

Green technology diffusion began in the 2000s, with a 1% household adoption rate reached in 2004 (solar), 2010 (heating), and 2022 (EVs) (Supplementary Table 14). Based on prior research, EVs are highly polarized, while solar and heating have shown low polarization. Our findings confirm this pattern but highlight that heat pump adoption became politically contentious in 2023-2024, driven by public debate. This suggests that political dynamics can shape polarization even for previously uncontroversial technologies.

Supplementary Note 10: Survey Questions (English Version, Excerpt of relevant questions)

Our survey dataset was constructed from a three-wave survey conducted in December 2022, May 2024, and August 2024, targeting German residents. The survey assessed concerns about energy availability and costs, support for government policies, and willingness to adopt green technologies such as electric vehicles and solar panels. Sociodemographic and household information were also collected. The survey waves included 2,356 participants (December 2022), 3,092 (May 2024), and 2,500 (August 2024), with 816 respondents completing all three waves. To maintain representativeness, additional participants were recruited in later waves. The survey was conducted online by YouGov, targeting individuals 18 years and older. It was designed in English, translated into German, and administered in German. Below, we provide an excerpt of the relevant survey questions used in our analysis.

Survey Questions

[gender] Please indicate your gender.

<1>	male
<2>	female

[birthmonth] In which month were you born?

[birthyear] In which year were you born?

[sta] In which federal state do you currently live?

<8>	Baden-Württemberg	<5>	Nordrhein-Westfalen
<9>	Bayern	<7>	Rheinland-Pfalz
<11>	Berlin	<10>	Saarland
<12>	Brandenburg	<14>	Sachsen
<4>	Bremen	<15>	Sachsen-Anhalt
<2>	Hamburg	<1>	Schleswig-Holstein
<6>	Hessen	<16>	Thüringen
<13>	Mecklenburg-Vorpommern	<17>	Not in Germany

<3> Niedersachsen

[Q29_1] Do you plan to purchase **solar panels** in the next year?

<1> Have purchased

<2> Have not purchased but intend to purchase

<3> Have not purchased and do not intend to purchase

<4> Doesn’t apply to me

[Q29_2] Do you plan to purchase **home battery storage system for electricity** in the next year?

<1> Have purchased

<2> Have not purchased but intend to purchase

<3> Have not purchased and do not intend to purchase

<4> Doesn’t apply to me

[Q29_3] Do you plan to purchase **electric vehicle** in the next year?

<1> Have purchased

<2> Have not purchased but intend to purchase

<3> Have not purchased and do not intend to purchase

<4> Doesn’t apply to me

[Q29_4] Do you plan to purchase **electric heating** in the next year?

<1> Have purchased

<2> Have not purchased but intend to purchase

<3> Have not purchased and do not intend to purchase

<4>	Doesn't apply to me

[Q29_5] Do you plan to purchase **energy efficient appliances** in the next year?

<1>	Have purchased
<2>	Have not purchased but intend to purchase
<3>	Have not purchased and do not intend to purchase
<4>	Doesn't apply to me

[housz] How many people, including yourself, live in your household? (Total children and adults)

[housz18] How many children under the age of 18 live in your household?

[pperty_own] Which of the following types of property do you own, if any? Please select all applicable answers.

<1>	Primary residential property for personal use – fully owned	<7>	Land over 4,000 sq m without development
<2>	Primary residential property for personal use – mortgaged	<8>	Commercial property (i.e., property used for business purposes, either used by yourself or rented out to someone else)
<3>	Secondary residential property for personal use – fully owned	<9>	Timeshare property
<4>	Secondary residential property for personal use – mortgaged	<555>	Other
<5>	Residential property rented out to tenants (i.e., long-term)	<777 xor>	Don't know
<6>	Residential property rented out on a short-term basis (i.e., vacation home, etc.)	<666 xor>	Not applicable – I do not own any property

[profile_house_tenure] Are you the owner or renter of the apartment/house you live in?

<1>	Owner – fully owned without a loan/mortgage
<2>	Owner – with a loan/mortgage (i.e., I have borrowed money from a bank or similar institution to purchase an apartment/house)
<3>	Renter
<4>	Neither – I live with my parents, family, or friends and pay them some rent
<5>	Neither – I live with my parents, family, or friends without paying rent
<555>	Other
<666>	I prefer not to disclose

[house_type] How would you describe your living situation?

<1>	Detached single-family home
<2>	Semi-detached house
<3>	Townhouse
<6>	Bungalow
<5>	Apartment
<4>	Duplex
<555>	Other
<888>	Don’t know

[Q38] How difficult is it for you to cover your expenses and pay all your bills right now?

<1>	Very difficult
<2>	Somewhat difficult
<3>	Not at all difficult
<4>	Don't know
<5>	Prefer not to say

[BTW21_Quote] Voting behavior in the 2021 German federal election

<1>	SPD
<2>	CDU/CSU
<3>	Bündnis 90/Die Grünen
<4>	AfD
<5>	FDP
<6>	Die Linke
<7>	Other party
<8>	Non-voter (invalid, did not vote, ineligible)
<9>	Skipped, Don’t know

[pol_interest] Generally speaking, how interested are you in politics?

<1>	Not at all
<2>	Slightly
<3>	Moderately
<4>	Quite a bit
<5>	Very much

[leftright_neu_shift] When discussing politics, the terms "left" and "right" are often used. We would like to know whether you consider yourself more on the left or more on the right.

<1>	left
<2>	1
<3>	2
<4>	3
<5>	4
<6>	5
<7>	6
<8>	7

<9>	8
<10>	9
<11>	right

[pinc] What is your *personal* net monthly income? This refers to your personal income after taxes and social security contributions have been deducted.

<1>	under EUR 500	<8>	EUR 3.500 - EUR 4.000
<2>	EUR 500 - EUR 1.000	<9>	EUR 4.000 - EUR 4.500
<3>	EUR 1.000 - EUR 1.500	<10>	EUR 4.500 - EUR 5.000
<4>	EUR 1.500 - EUR 2.000	<11>	EUR 5.000 - EUR 10.000
<5>	EUR 2.000 - EUR 2.500	<12>	EUR 10.000 and more
<6>	EUR 2.500 - EUR 3.000	<777>	Prefer not to disclose
<7>	EUR 3.000 - EUR 3.500		

[hinc] What is your *household* net monthly income?

<1>	under EUR 500	<8>	EUR 3.500 - EUR 4.000
<2>	EUR 500 - EUR 1.000	<9>	EUR 4.000 - EUR 4.500
<3>	EUR 1.000 - EUR 1.500	<10>	EUR 4.500 - EUR 5.000
<4>	EUR 1.500 - EUR 2.000	<11>	EUR 5.000 - EUR 10.000
<5>	EUR 2.000 - EUR 2.500	<12>	EUR 10.000 and more
<6>	EUR 2.500 - EUR 3.000	<777>	Prefer not to disclose
<7>	EUR 3.000 - EUR 3.500		

[occg] To which occupational group do you belong?

<1>	Self-employed	<8>	Farmer
<2>	Free-lancer	<9>	Other employees
<3>	Senior managers	<10>	Other civil servants

<4>	Senior managers	<11>	Unskilled workers
<5>	Semi-skilled workers	<12>	Other [open] please specify
<6>	Skilled workers, foremen, team leaders, journeymen	<777>	Prefer not to disclose
<7>	Craftsmen masters	<666 if 0>	Not applicable - I am not employed

[urban] Would you describe your living environment as urban, suburban, or rural?

<1>	Urban
<2>	Sub-Urban
<3>	Rural
<777>	Don’t know

[Q_EV_Misinf_1] Misinformation re. EV.

"Do you believe the statement below is true or false?"

Scale 1: True, False
Scale 2: How confident are you in your response? *Slider from 1 - 10*

1. An EV has to travel 80,000+ km to break even in terms of climate benefit compared to conventional cars
2. It is more environmentally friendly to replace an existing conventional car with an EV if you drive with the latter for more than ~ 4 years
3. There are sufficient raw materials for all vehicles to be EVs
4. The lifetime of EV batteries is much lower than that of a traditional combustion engine.
5. EVs can explode and burn more often than conventional cars
6. The infrastructure for charging EVs is equally widespread and reliable as gas stations for conventional cars.

[Q_PV_Misinf_1] Misinformation re. solar panel adoption

"Do you believe the statement below is true or false?"

Scale 1: True, False
Scale 2: How confident are you in your response? *Slider from 1 - 10*

1. Installing solar panels is a complicated process, requiring an expensive remodeling of the roof

2. Most rooftop Solar panels will recoup their investment within 10 years
3. Nearly all of the materials in solar panels can be recycled
4. You need to be a homeowner to install solar panels
5. Solar panels substantially increase the cost of electricity for those without solar panels

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