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Germany's decision to phase out coal by 2038 lags behind citizens' timing preferences

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Supplementary Information

Supplementary Table 1: Distribution of socio-demographic variables in the three samples and comparison with German census data.

		German sample	German population	Rhineland sample	Lusatia sample
Number of Respondents (total)		2,161		533	501
Attention test failed		177		42	28
Final sample		1,984		491	473
<i>Distribution of socio-demographic variables in final samples</i>					
Sex	female	49.7 %	49.3 %	55.4 %	53.7 %
	male	50.2 %	50.7 %	44.6 %	46.3 %
	other	0.05 %		0.0 %	0.0 %
	n/a	0.05 %		0.0 %	0.0 %
Age (years)	18-24	8.2 %	9.0 %	8.6 %	8.5 %
	25-39	21.5 %	22.5 %	26.7 %	28.3 %
	40-59	37.5 %	35.5 %	44.8 %	38.9 %
	60-64	9.1 %	8.0 %	11.8 %	12.7 %
	65-99	23.8 %	25.0 %	8.2 %	11.6 %
Net income per household	less than €960	6.7 %	10.0 %	4.5 %	11.2 %
	€960 to €1289	6.6 %	10.0 %	7.1 %	10.2 %
	€1290 to €1639	10.0 %	10.0 %	9.0 %	11.6 %
	€1640 to €1974	8.2 %	10.0 %	6.1 %	8.5 %
	€1975 to €2364	12.6 %	10.0 %	12.4 %	13.1 %
	€2365 to €2859	13.2 %	10.0 %	11.6 %	11.0 %
	€2860 to €3439	12.9 %	10.0 %	13.9 %	11.8 %
	€3440 to €4214	10.8 %	10.0 %	11.4 %	7.2 %
	€4215 to €5514	6.4 %	10.0 %	7.3 %	2.3 %
	€5515 € or more	2.8 %	10.0 %	3.5 %	2.3 %
	n/a	9.8 %		13.2 %	10.8 %

Note: German population data are based on the following sources:

Statista. Demographie: Statistiken und Daten zu Demographie. (2019). Available at:

<https://de.statista.com/statistik/kategorien/kategorie/8/themen/63/branche/demographie/> (Accessed: 12th April 2019) and Statistisches Bundesamt. Wirtschaftsrechnungen: Einkommens- und Verbrauchsstichprobe Einkommensverteilung in Deutschland. (Statistisches Bundesamt, 2012).

Supplementary Table 2: Average effects of policy attributes on respondents' preference for a coal phase-out.

	Model 1: Phase-out support (only attentive respondents)	Model 2: Phase-out support (full sample)
End date of the phase-out		
2025	0.1066*** (0.000)	0.1004*** (0.000)
2030	0.0672*** (0.000)	0.0614*** (0.000)
Baseline: 2040		
2100	-0.1529*** (0.000)	-0.1467*** (0.000)
Annual costs (per 2-person household / economy-wide)		
Baseline: €0		
€6 (€250 million)	-0.0462*** (0.000)	-0.0432*** (0.000)
€12 (€500 million)	-0.0847*** (0.000)	-0.0772*** (0.000)
€18 (€750 million)	-0.1217*** (0.000)	-0.1115*** (0.000)
Number of lost jobs in the coal industry		
Baseline: -5,000		
-10,000	-0.0395*** (0.000)	-0.0405*** (0.000)
-15,000	-0.0559*** (0.000)	-0.0551*** (0.000)
-20,000	-0.0919*** (0.000)	-0.0883*** (0.000)
Number of newly created jobs		
Baseline: 5,000		
10,000	0.0619*** (0.000)	0.0604*** (0.000)
15,000	0.0942*** (0.000)	0.0908*** (0.000)
20,000	0.1215*** (0.000)	0.1185*** (0.000)
Measures for structural change		
Baseline: Investment in expansion of renewable energies		
Investment in regional funding programmes for new businesses (e.g. start-up funding)	-0.0266** (0.002)	-0.0233** (0.004)
Investment in modern infrastructure (electric vehicles, digitalisation)	-0.0198* (0.018)	-0.0166* (0.038)
Investment in research and development	-0.0302*** (0.000)	-0.0248** (0.002)

Supplementary Table 2 (cont.)

Mixture of further training and early retirement of coal industry employees	-0.0498*** (0.000)	-0.0451*** (0.000)
Constant	0.4849*** (0.000)	0.4766*** (0.000)
F	F(16, 1983) = 91.37	F(16, 2160) = 89.51
Prob > F	0.0000	0.0000
N (n)	31,744 (1,984)	34,576 (2,161)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome “Phase-out support”. The results of Model 1 refer to Figure 2 in the paper.

Supplementary Table 3: Average effects of policy attributes on respondents' preference for a coal phase-out (CPO) by party identification (only attentive respondents).

	CPO support if party = Die Grünen	CPO support if party = SPD	CPO support if party = Die Linke	CPO support if party = CDU	CPO support if party = CSU	CPO support if party = FDP	CPO support if party = AFD
End date of the phase-out							
2025	0.232*** (0.000)	0.125*** (0.000)	0.0847* (0.012)	0.0982*** (0.000)	0.0398 (0.404)	0.171*** (0.001)	0.0808* (0.011)
2030	0.159*** (0.000)	0.0903*** (0.000)	0.0366 (0.173)	0.0933*** (0.000)	0.0313 (0.393)	0.141** (0.003)	0.0484 (0.114)
Baseline: 2040							
2100	-0.162*** (0.000)	-0.176*** (0.000)	-0.216*** (0.000)	-0.181*** (0.000)	-0.176*** (0.000)	-0.175*** (0.000)	-0.0836** (0.003)
Annual costs (per 2-person household / economy-wide)							
Baseline: €0							
€6 (€250 million)	0.00214 (0.941)	-0.0403* (0.032)	-0.0781** (0.001)	-0.0215 (0.266)	0.0130 (0.735)	-0.120** (0.004)	-0.0787** (0.008)
€12 (€500 million)	0.00866 (0.755)	-0.0737*** (0.000)	-0.0803** (0.007)	-0.0547** (0.007)	-0.0618 (0.123)	-0.168*** (0.000)	-0.148*** (0.000)
€18 (€750 million)	-0.0548 (0.081)	-0.0860*** (0.000)	-0.128*** (0.000)	-0.115*** (0.000)	-0.0965* (0.019)	-0.186*** (0.000)	-0.175*** (0.000)
Number of lost jobs in the coal industry							
Baseline: -5,000							
-10,000	-0.0383 (0.158)	-0.0344* (0.049)	-0.0305 (0.217)	-0.0483** (0.007)	0.00639 (0.871)	-0.0583 (0.143)	-0.0175 (0.541)
-15,000	-0.0381 (0.192)	-0.0502* (0.014)	-0.0484 (0.067)	-0.0570** (0.003)	-0.0342 (0.338)	-0.0665* (0.043)	-0.0742** (0.008)
-20,000	-0.0962** (0.002)	-0.0893*** (0.000)	-0.0866** (0.002)	-0.0917*** (0.000)	-0.106** (0.008)	-0.110* (0.011)	-0.0502 (0.108)
Number of newly created jobs							
Baseline: 5,000							
10,000	0.0447 (0.088)	0.0606*** (0.001)	0.0878** (0.001)	0.0881*** (0.000)	0.0624 (0.105)	0.113** (0.007)	0.0511 (0.070)
15,000	0.0977*** (0.001)	0.0718*** (0.000)	0.125*** (0.000)	0.139*** (0.000)	0.127*** (0.001)	0.0703 (0.066)	0.0531 (0.069)
20,000	0.109*** (0.001)	0.0702*** (0.000)	0.149*** (0.000)	0.155*** (0.000)	0.190*** (0.000)	0.165*** (0.000)	0.0980** (0.001)

Supplementary Table 3 (cont.)

Measures for structural change							
Baseline: Investment in expansion of renewable energies							
Investment in regional funding programmes for new businesses	-0.00151 (0.961)	-0.0255 (0.214)	-0.0217 (0.430)	-0.0411 (0.057)	-0.0429 (0.341)	-0.0393 (0.397)	-0.0709* (0.018)
Investment in modern infrastructure (electric vehicles, digitalisation)	-0.0152 (0.678)	-0.0301 (0.143)	-0.0423 (0.175)	-0.000975 (0.963)	-0.00253 (0.948)	0.0115 (0.777)	-0.0830** (0.009)
Investment in research and development	-0.0473 (0.161)	-0.0454* (0.023)	-0.0224 (0.408)	-0.0308 (0.141)	-0.00192 (0.962)	-0.0345 (0.377)	-0.101** (0.002)
Mixture of further training and early retirement of coal industry employees	-0.0751* (0.030)	-0.0713** (0.001)	-0.0370 (0.234)	-0.0543* (0.012)	-0.0341 (0.415)	-0.0934* (0.014)	-0.0467 (0.133)
Constant	0.409*** (0.000)	0.539*** (0.000)	0.521*** (0.000)	0.476*** (0.000)	0.444*** (0.000)	0.507*** (0.000)	0.531*** (0.000)
F	F(16,137) = 11.02	F(16,324) = 16.99	F(16,159) = 12.40	F(16,320) = 17.35	F(16,84) = 7.97	F(16,80) = 10.30	F(16,128) = 5.66
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N (n)	2,208 (138)	5,200 (325)	2,560 (160)	5,136 (321)	1,360 (85)	1,296 (81)	2,064 (129)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses. * *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001. The dependent variable is the dichotomized rating outcome “Phase-out support”. The results related to the attribute “End date of the phase-out” are shown in Figure 3(a) in the paper.

Supplementary Table 4 (robustness check): Average effects of policy attributes on respondents' preference for a coal phase-out (CPO) by party identification (full sample).

	CPO support if party = Die Grünen	CPO support if party = SPD	CPO support if party = Die Linke	CPO support if party = CDU	CPO support if party = CSU	CPO support if party = FDP	CPO support if party = AFD
End date of the phase-out							
2025	0.225*** (0.000)	0.116*** (0.000)	0.0739* (0.026)	0.0870*** (0.000)	0.0390 (0.381)	0.160** (0.001)	0.0853** (0.006)
2030	0.151*** (0.000)	0.0811*** (0.000)	0.0315 (0.232)	0.0863*** (0.000)	0.0310 (0.382)	0.133** (0.005)	0.0365 (0.224)
Baseline: 2040							
2100	-0.158*** (0.000)	-0.169*** (0.000)	-0.223*** (0.000)	-0.176*** (0.000)	-0.166*** (0.000)	-0.176*** (0.000)	-0.0726* (0.011)
Annual costs (per 2-person household / economy-wide)							
Baseline: €0							
€6 (€250 million)	-0.00579 (0.840)	-0.0372* (0.040)	-0.0633** (0.009)	-0.0221 (0.230)	0.00811 (0.826)	-0.110** (0.008)	-0.0590* (0.030)
€12 (€500 million)	0.00251 (0.926)	-0.0632*** (0.001)	-0.0705* (0.014)	-0.0468* (0.015)	-0.0578 (0.123)	-0.162*** (0.000)	-0.137*** (0.000)
€18 (€750 million)	-0.0524 (0.087)	-0.0819*** (0.000)	-0.115*** (0.000)	-0.104*** (0.000)	-0.0884* (0.025)	-0.175*** (0.000)	-0.158*** (0.000)
Number of lost jobs in the coal industry							
Baseline: -5,000							
-10,000	-0.0368 (0.166)	-0.0405* (0.017)	-0.0298 (0.209)	-0.0357* (0.038)	-0.0129 (0.735)	-0.0588 (0.130)	-0.0225 (0.412)
-15,000	-0.0340 (0.226)	-0.0614** (0.002)	-0.0514* (0.046)	-0.0453* (0.013)	-0.0282 (0.412)	-0.0698* (0.030)	-0.0574* (0.028)
-20,000	-0.0938** (0.002)	-0.0922*** (0.000)	-0.0824** (0.002)	-0.0786*** (0.000)	-0.0986** (0.009)	-0.107* (0.011)	-0.0426 (0.135)
Number of newly created jobs							
Baseline: 5,000							
10,000	0.0477 (0.067)	0.0590*** (0.001)	0.0919*** (0.000)	0.0807*** (0.000)	0.0653 (0.070)	0.123** (0.003)	0.0570* (0.037)
15,000	0.105*** (0.000)	0.0665*** (0.000)	0.117*** (0.000)	0.138*** (0.000)	0.110** (0.003)	0.0677 (0.074)	0.0644* (0.021)
20,000	0.116*** (0.000)	0.0671*** (0.000)	0.145*** (0.000)	0.155*** (0.000)	0.177*** (0.000)	0.161*** (0.000)	0.102*** (0.000)

Supplementary Table 4 (cont.)

Measures for structural change							
Baseline: Investment in expansion of renewable energies							
Investment in regional funding programmes for new businesses	-0.00838 (0.785)	-0.0224 (0.256)	-0.0301 (0.272)	-0.0415* (0.046)	-0.0208 (0.627)	-0.0393 (0.385)	-0.0553 (0.058)
Investment in modern infrastructure (electric vehicles, digitalisation)	-0.00806 (0.824)	-0.0225 (0.249)	-0.0490 (0.120)	0.00423 (0.836)	-0.00393 (0.915)	0.00735 (0.853)	-0.0818** (0.007)
Investment in research and development	-0.0513 (0.119)	-0.0331 (0.095)	-0.0274 (0.304)	-0.0347 (0.085)	0.00593 (0.875)	-0.0304 (0.428)	-0.0823** (0.009)
Mixture of further training and early retirement of coal industry employees	-0.0800* (0.019)	-0.0648** (0.002)	-0.0395 (0.189)	-0.0497* (0.015)	-0.0315 (0.426)	-0.0987** (0.008)	-0.0305 (0.315)
Constant	0.409*** (0.000)	0.531*** (0.000)	0.516*** (0.000)	0.470*** (0.000)	0.441*** (0.000)	0.501*** (0.000)	0.499*** (0.000)
F	F(16,145) = 11.43	F(16,353) = 15.96	F(16,167) = 12.25	F(16,353) = 17.55	F(16,92) = 7.41	F(16,82) = 10.46	F(16,144) = 5.17
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N (n)	2,336 (146)	5,664 (354)	2,688 (168)	5,664 (354)	1,488 (93)	1,328 (83)	2,320 (145)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses. * *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001. The dependent variable is the dichotomized rating outcome “Phase-out support”. In contrast to Supplementary Table 3, the results shown here are based on OLS regressions including all respondents (irrespective of whether they passed the attention check or not).

Supplementary Table 5: Average effects of policy attributes on respondents' preference for a coal phase-out by perceived scientific consensus (PSC) (only attentive respondents).

	CPO support if PSC < 50%	CPO support if $50\% \leq \text{PSC} < 70\%$	CPO support if $70\% \leq \text{PSC} < 90\%$	CPO support if PSC $\geq 90\%$
End date of the phase-out				
2025	0.0238 (0.188)	0.0493** (0.003)	0.142*** (0.000)	0.197*** (0.000)
2030	0.0123 (0.462)	0.0391** (0.009)	0.0887*** (0.000)	0.117*** (0.000)
Baseline: 2040				
2100	-0.0931*** (0.000)	-0.130*** (0.000)	-0.173*** (0.000)	-0.205*** (0.000)
Annual costs (per 2-person household / economy-wide)				
Baseline: €0				
€6 (€250 million)	-0.0772*** (0.000)	-0.0522*** (0.001)	-0.0398** (0.001)	-0.0154 (0.332)
€12 (€500 million)	-0.122*** (0.000)	-0.0991*** (0.000)	-0.0744*** (0.000)	-0.0481** (0.007)
€18 (€750 million)	-0.165*** (0.000)	-0.131*** (0.000)	-0.105*** (0.000)	-0.0962*** (0.000)
Number of lost jobs in the coal industry				
Baseline: -5,000				
-10,000	-0.0233 (0.156)	-0.0655*** (0.000)	-0.0288* (0.012)	-0.0416* (0.015)
-15,000	-0.0374* (0.029)	-0.0648*** (0.000)	-0.0521*** (0.000)	-0.0657*** (0.000)
-20,000	-0.0637*** (0.000)	-0.0955*** (0.000)	-0.0990*** (0.000)	-0.0995*** (0.000)
Number of newly created jobs				
Baseline: 5,000				
10,000	0.0219 (0.188)	0.0837*** (0.000)	0.0668*** (0.000)	0.0628*** (0.000)
15,000	0.0623*** (0.000)	0.105*** (0.000)	0.100*** (0.000)	0.0980*** (0.000)
20,000	0.112*** (0.000)	0.115*** (0.000)	0.129*** (0.000)	0.124*** (0.000)
Measures for structural change				
Baseline: Investment in expansion of renewable energies				
Investment in regional funding programmes for new businesses	-0.0154 (0.420)	-0.0394* (0.018)	-0.0291* (0.041)	-0.0129 (0.487)

Supplementary Table 5 (cont.)

Investment in modern infrastructure (electric vehicles, digitalisation)	0.00781 (0.680)	-0.0368* (0.028)	-0.0276* (0.047)	-0.00343 (0.853)
Investment in research and development	0.0000547 (0.998)	-0.0462** (0.004)	-0.0342* (0.013)	-0.0221 (0.232)
Mixture of further training and early retirement of coal industry employees	-0.0140 (0.447)	-0.0664*** (0.000)	-0.0640*** (0.000)	-0.0340 (0.073)
Constant	0.467*** (0.000)	0.497*** (0.000)	0.491*** (0.000)	0.468*** (0.000)
F	F(16,367) = 11.92	F(16,512) = 19.63	F(16,727) = 41.39	F(16,374) = 31.60
Prob > F	0.0000	0.0000	0.0000	0.0000
N (n)	5,888 (368)	8,208 (513)	11,648 (728)	6,000 (375)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome “Phase-out support”. The results related to the attribute “End date of the phase-out” are shown in Figure 3(b) in the paper.

Supplementary Table 6 (robustness check): Average effects of policy attributes on respondents' preference for a coal phase-out by perceived scientific consensus (PSC) (full sample).

	CPO support if PSC < 50%	CPO support if 50% ≤ PSC < 70%	CPO support if 70% ≤ PSC < 90%	CPO support if PSC ≥ 90%
End date of the phase-out				
2025	0.0281 (0.103)	0.0446** (0.004)	0.133*** (0.000)	0.197*** (0.000)
2030	0.0201 (0.204)	0.0261 (0.064)	0.0844*** (0.000)	0.112*** (0.000)
Baseline: 2040				
2100	-0.0862*** (0.000)	-0.118*** (0.000)	-0.174*** (0.000)	-0.204*** (0.000)
Annual costs (per 2-person household / economy-wide)				
Baseline: €0				
€6 (€250 million)	-0.0633*** (0.000)	-0.0505*** (0.000)	-0.0387** (0.001)	-0.0149 (0.342)
€12 (€500 million)	-0.101*** (0.000)	-0.0829*** (0.000)	-0.0745*** (0.000)	-0.0490** (0.005)
€18 (€750 million)	-0.144*** (0.000)	-0.113*** (0.000)	-0.102*** (0.000)	-0.0924*** (0.000)
Number of lost jobs in the coal industry				
Baseline: -5,000				
-10,000	-0.0303* (0.048)	-0.0663*** (0.000)	-0.0230* (0.038)	-0.0485** (0.004)
-15,000	-0.0385* (0.014)	-0.0638*** (0.000)	-0.0512*** (0.000)	-0.0652*** (0.000)
-20,000	-0.0628*** (0.000)	-0.0896*** (0.000)	-0.0942*** (0.000)	-0.101*** (0.000)
Number of newly created jobs				
Baseline: 5,000				
10,000	0.0209 (0.184)	0.0771*** (0.000)	0.0677** (0.000)	0.0654*** (0.000)
15,000	0.0574*** (0.000)	0.0980*** (0.000)	0.101*** (0.000)	0.0968*** (0.000)
20,000	0.112*** (0.000)	0.101*** (0.000)	0.132*** (0.000)	0.122*** (0.000)
Measures for structural change				
Baseline: Investment in expansion of renewable energies				
Investment in regional funding programmes for new businesses	-0.0118 (0.503)	-0.0336* (0.034)	-0.0254 (0.067)	-0.0133 (0.468)

Supplementary Table 6 (cont.)

Investment in modern infrastructure (electric vehicles, digitalisation)	-0.00593 (0.733)	-0.0206 (0.199)	-0.0220 (0.104)	-0.00716 (0.693)
Investment in research and development	-0.00414 (0.811)	-0.0303* (0.048)	-0.0302* (0.027)	-0.0206 (0.250)
Mixture of further training and early retirement of coal industry employees	-0.0158 (0.360)	-0.0558*** (0.000)	-0.0574*** (0.000)	-0.0351 (0.060)
Constant	0.448*** (0.000)	0.481*** (0.000)	0.489*** (0.000)	0.473*** (0.000)
F	F(16,426) = 12.29	F(16,575) = 17.49	F(16,767) = 42.12	F(16,389) = 33.06
Prob > F	0.0000	0.0000	0.0000	0.0000
N (n)	6,832 (427)	9,216 (576)	12,288 (768)	6,240 (390)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome “Phase-out support”. In contrast to Supplementary Table 5, the results shown here are based on OLS regressions including all respondents (irrespective of whether they passed the attention check or not).

Supplementary Table 7: Average effects of policy attributes on respondents' preference for a coal phase-out: Rhineland (only attentive respondents).

	CPO support (Rhineland)	CPO support (Rhineland, with coal industry ties)	CPO support (Rhineland, without coal industry ties)
End date of the phase-out			
2025	0.0561*** (0.001)	0.0260 (0.340)	0.0755*** (0.000)
2030	0.0333* (0.029)	0.0149 (0.532)	0.0446* (0.025)
Baseline: 2040			
2100	-0.118*** (0.000)	-0.111*** (0.000)	-0.123*** (0.000)
Annual costs (per 2-person household / economy-wide)			
Baseline: €0			
€6 (€250 million)	-0.0376* (0.020)	-0.0252 (0.311)	-0.0454* (0.032)
€12 (€500 million)	-0.0815*** (0.000)	-0.0924*** (0.000)	-0.0750*** (0.000)
€18 (€750 million)	-0.133*** (0.000)	-0.127*** (0.000)	-0.136*** (0.000)
Number of lost jobs in the coal industry			
Baseline: -5,000			
-10,000	-0.0427** (0.003)	-0.0453 (0.058)	-0.0414* (0.024)
-15,000	-0.0914*** (0.000)	-0.0840*** (0.001)	-0.0957*** (0.000)
-20,000	-0.127*** (0.000)	-0.108*** (0.000)	-0.137*** (0.000)
Number of newly created jobs			
Baseline: 5,000			
10,000	0.0718*** (0.000)	0.0896*** (0.000)	0.0611** (0.002)
15,000	0.119*** (0.000)	0.132*** (0.000)	0.111*** (0.000)
20,000	0.114*** (0.000)	0.130*** (0.000)	0.102*** (0.000)
Measures for structural change			
Baseline: Investment in expansion of renewable energies			
Investment in regional funding programmes for new businesses (e.g. start-up funding)	-0.0236 (0.162)	-0.0264 (0.326)	-0.0232 (0.288)

Supplementary Table 7 (cont.)

Investment in modern infrastructure (electric vehicles, digitalisation)	-0.00965 (0.563)	-0.0401 (0.141)	0.00976 (0.644)
Investment in research and development	-0.0132 (0.425)	-0.0377 (0.160)	0.00152 (0.943)
Mixture of further training and early retirement of coal industry employees	-0.0351* (0.039)	-0.0473 (0.108)	-0.0284 (0.172)
Constant	0.472*** (0.000)	0.496*** (0.000)	0.458*** (0.000)
F	F(16,490) = 20.67	F(16,190) = 7.01	F(16,299) = 15.53
Prob > F	0.0000	0.0000	0.0000
N (n)	7,856 (491)	3,056 (191)	4,800 (300)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome “Phase-out support”. The results related to the attribute “End date of the phase-out” are shown in Figure 4(a) in the paper.

Supplementary Table 8 (robustness check): Average effects of policy attributes on respondents' preference for a coal phase-out: Rhineland (full sample).

	CPO support (Rhineland, full sample)	CPO support (Rhineland, with coal industry ties)	CPO support (Rhineland, without coal industry ties)
End date of the phase-out			
2025	0.0556*** (0.001)	0.0231 (0.379)	0.0753*** (0.000)
2030	0.0274 (0.064)	0.00125 (0.958)	0.0427* (0.024)
Baseline: 2040			
2100	-0.113*** (0.000)	-0.112*** (0.000)	-0.113*** (0.000)
Annual costs (per 2-person household / economy-wide)			
Baseline: €0			
€6 (€250 million)	-0.0335* (0.028)	-0.0234 (0.331)	-0.0398* (0.043)
€12 (€500 million)	-0.0782*** (0.000)	-0.0844** (0.001)	-0.0752*** (0.000)
€18 (€750 million)	-0.123*** (0.000)	-0.115*** (0.000)	-0.128*** (0.000)
Number of lost jobs in the coal industry			
Baseline: -5,000			
-10,000	-0.0369** (0.009)	-0.0348 (0.141)	-0.0381* (0.030)
-15,000	-0.0820*** (0.000)	-0.0751** (0.002)	-0.0857*** (0.000)
-20,000	-0.115*** (0.000)	-0.102*** (0.000)	-0.122*** (0.000)
Number of newly created jobs			
Baseline: 5,000			
10,000	0.0644*** (0.000)	0.0843*** (0.000)	0.0526** (0.005)
15,000	0.111*** (0.000)	0.128*** (0.000)	0.0999*** (0.000)
20,000	0.111*** (0.000)	0.124*** (0.000)	0.101*** (0.000)
Measures for structural change			
Baseline: Investment in expansion of renewable energies			
Investment in regional funding programmes for new businesses (e.g. start-up funding)	-0.0197 (0.223)	-0.0257 (0.318)	-0.0166 (0.424)

Supplementary Table 8 (cont.)

Investment in modern infrastructure (electric vehicles, digitalisation)	-0.00929 (0.566)	-0.0332 (0.212)	0.00616 (0.763)
Investment in research and development	-0.00881 (0.580)	-0.0334 (0.199)	0.00586 (0.772)
Mixture of further training and early retirement of coal industry employees	-0.0277 (0.095)	-0.0400 (0.164)	-0.0201 (0.318)
Constant	0.462*** (0.000)	0.487*** (0.000)	0.447*** (0.000)
F	F(16,532) = 19.27	F(16,201) = 6.51	F(16,330) = 14.50
Prob > F	0.0000	0.0000	0.0000
N (n)	8,528 (533)	3,232 (202)	5,296 (331)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome "Phase-out support". In contrast to Supplementary Table 7, the results shown here are based on OLS regressions including all respondents of the Rhineland sample (irrespective of whether they passed the attention check or not).

Supplementary Table 9: Average effects of policy attributes on respondents' preference for a coal phase-out: Lusatia sample (only attentive respondents).

	CPO support (Lusatia)	CPO support (Lusatia, with coal industry ties)	CPO support (Lusatia, without coal industry ties)
End date of the phase-out			
2025	0.00986 (0.571)	-0.0166 (0.480)	0.0418 (0.107)
2030	0.0409* (0.011)	0.0335 (0.142)	0.0494* (0.032)
Baseline: 2040			
2100	-0.0539*** (0.001)	-0.0403 (0.053)	-0.0699** (0.004)
Annual costs (per 2-person household / economy-wide)			
Baseline: €0			
€6 (€250 million)	-0.0642*** (0.000)	-0.0812*** (0.000)	-0.0440 (0.064)
€12 (€500 million)	-0.128*** (0.000)	-0.136*** (0.000)	-0.120*** (0.000)
€18 (€750 million)	-0.171*** (0.000)	-0.170*** (0.000)	-0.174*** (0.000)
Number of lost jobs in the coal industry			
Baseline: -5,000			
-10,000	-0.0362* (0.017)	-0.0384 (0.066)	-0.0327 (0.138)
-15,000	-0.0663*** (0.000)	-0.0718*** (0.000)	-0.0585** (0.006)
-20,000	-0.111*** (0.000)	-0.131*** (0.000)	-0.0889*** (0.000)
Number of newly created jobs			
Baseline: 5,000			
10,000	0.0515*** (0.000)	0.0392 (0.061)	0.0642** (0.001)
15,000	0.0791*** (0.000)	0.0672** (0.003)	0.0932*** (0.000)
20,000	0.140*** (0.000)	0.150*** (0.000)	0.125*** (0.000)
Measures for structural change			
Baseline: Investment in expansion of renewable energies			
Investment in regional funding programmes for new businesses (e.g. start-up funding)	-0.0275 (0.104)	-0.0274 (0.244)	-0.0247 (0.308)

Supplementary Table 9 (cont.)

Investment in modern infrastructure (electric vehicles, digitalisation)	-0.0173 (0.290)	-0.0120 (0.585)	-0.0261 (0.285)
Investment in research and development	-0.0352* (0.032)	-0.0217 (0.323)	-0.0511* (0.039)
Mixture of further training and early retirement of coal industry employees	-0.0374* (0.033)	-0.0213 (0.361)	-0.0544* (0.040)
Constant	0.482*** (0.000)	0.492*** (0.000)	0.472*** (0.000)
F	F(16,472) = 17.59	F(16,257) = 9.84	F(16,214) = 9.34
Prob > F	0.0000	0.0000	0.0000
N (n)	7,568 (473)	4,128 (258)	3,440 (215)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome "Phase-out support". The results related to the attribute "End date of the phase-out" are shown in Figure 4(b) in the paper.

Supplementary Table 10 (robustness check): Average effects of policy attributes on respondents' preference for a coal phase-out: Lusatia (full sample).

	CPO support (Lusatia, full sample)	CPO support (Lusatia, with coal industry ties)	CPO support (Lusatia, without coal industry ties)
End date of the phase-out			
2025	0.0106 (0.530)	-0.0154 (0.504)	0.0413 (0.100)
2030	0.0403** (0.010)	0.0308 (0.160)	0.0512* (0.020)
Baseline: 2040			
2100	-0.0514*** (0.001)	-0.0354 (0.082)	-0.0696** (0.003)
Annual costs (per 2-person household / economy-wide)			
Baseline: €0			
€6 (€250 million)	-0.0635*** (0.000)	-0.0809*** (0.000)	-0.0439 (0.052)
€12 (€500 million)	-0.126*** (0.000)	-0.134*** (0.000)	-0.120*** (0.000)
€18 (€750 million)	-0.164*** (0.000)	-0.167*** (0.000)	-0.162*** (0.000)
Number of lost jobs in the coal industry			
Baseline: -5,000			
-10,000	-0.0340* (0.019)	-0.0363 (0.070)	-0.0300 (0.152)
-15,000	-0.0627*** (0.000)	-0.0669*** (0.001)	-0.0565** (0.005)
-20,000	-0.102*** (0.000)	-0.120*** (0.000)	-0.0819*** (0.000)
Number of newly created jobs			
Baseline: 5,000			
10,000	0.0491*** (0.001)	0.0400* (0.047)	0.0580** (0.003)
15,000	0.0763*** (0.000)	0.0682** (0.001)	0.0860*** (0.000)
20,000	0.135*** (0.000)	0.146*** (0.000)	0.120*** (0.000)
Measures for structural change			
Baseline: Investment in expansion of renewable energies			
Investment in regional funding programmes for new businesses (e.g. start-up funding)	-0.0245 (0.142)	-0.0236 (0.305)	-0.0230 (0.343)

Supplementary Table 10 (cont.)

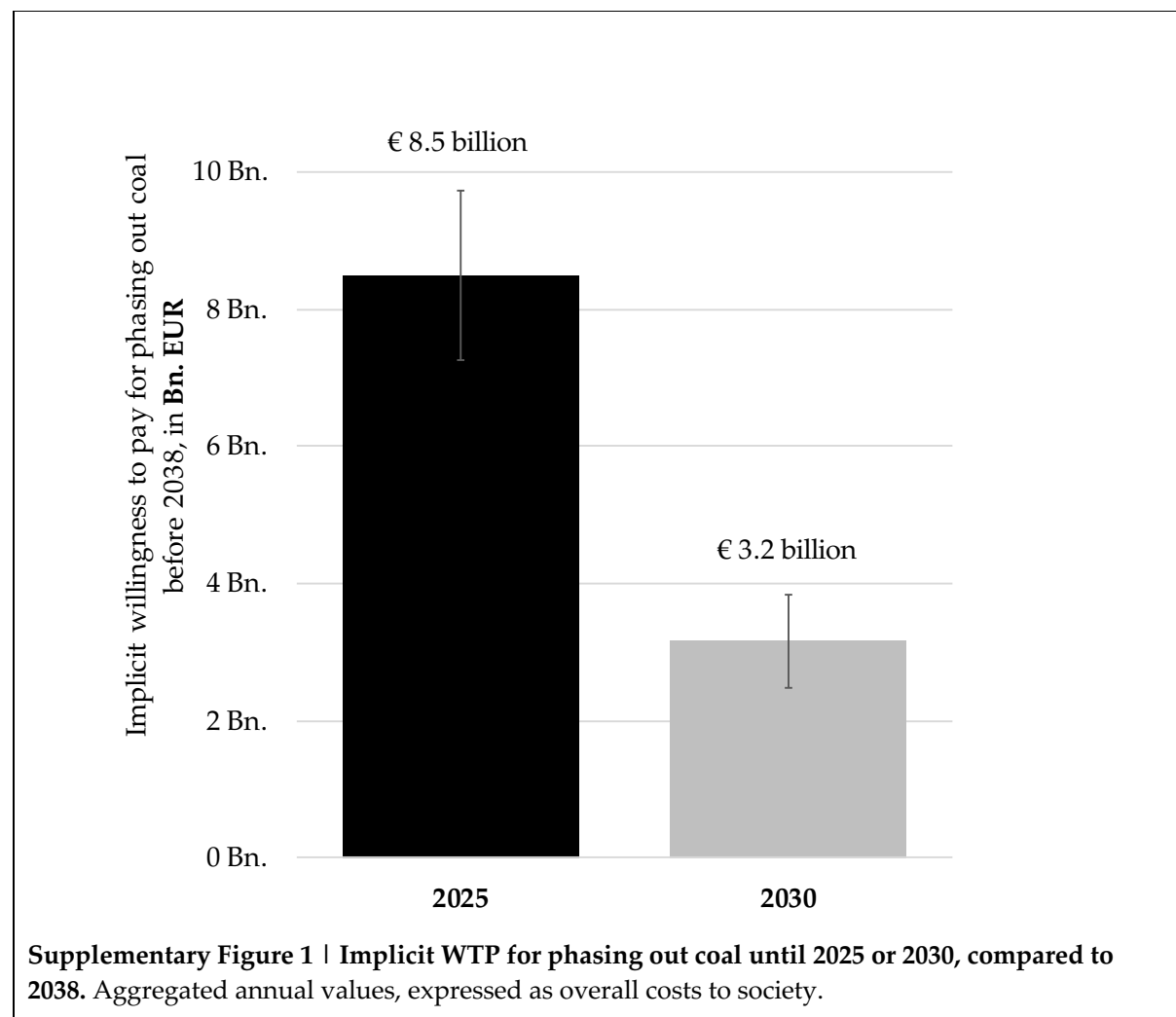
Investment in modern infrastructure (electric vehicles, digitalisation)	-0.0181 (0.252)	-0.0146 (0.495)	-0.0246 (0.293)
Investment in research and development	-0.0340* (0.033)	-0.0189 (0.373)	-0.0519* (0.032)
Mixture of further training and early retirement of coal industry employees	-0.0336* (0.046)	-0.0152 (0.499)	-0.0533* (0.035)
Constant	0.477*** (0.000)	0.480*** (0.000)	0.474*** (0.000)
F	F(16,500) = 17.16	F(16,270) = 9.49	F(16,229) = 9.07
Prob > F	0.0000	0.0000	0.0000
N (n)	8,016 (501)	4,336 (271)	3,680 (230)

Notes: Coefficients from OLS regressions with clustered standard errors; *p*-values in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The dependent variable is the dichotomized rating outcome "Phase-out support". In contrast to Supplementary Table 9, the results shown here are based on OLS regressions including all respondents of the Lusatia sample (irrespective of whether they passed the attention check or not).

Supplementary Note 1: Willingness to pay for a coal phase-out

The results of our choice experiment allow us to calculate respondents' willingness to pay (WTP) for a coal phase-out until 2025 or 2030, compared to later dates. To calculate the WTP, we regress the rating outcome on a parametrized – that is, continuous – variable of the cost attribute and all other variables used in the choice experiment. This parameterization is based on the assumption of a linear relationship between cost and policy support, which is supported by the marginal effects for the different cost levels (see Fig. 2 in the paper). The annual WTP for all attribute levels can be determined by multiplying their coefficients by -1 and dividing each result by the coefficients of the cost variable.ⁱ



Based on the choice experiment data, Figure S1 shows citizens' implicit WTP for the the phase-out timelines 2025 and 2030, compared to a phase-out by 2038 as proposed by the Coal

ⁱ See also p. 16/17 in Bechtel, M. M., Genovese, F. and Scheve, K. F. (2017) 'Interests, Norms and Support for the Provision of Global Public Goods: The Case of Climate Co-operation', *British Journal of Political Science*, pp. 1–23. doi: 10.1017/S0007123417000205.

Commission. Based on the pooled data of both choice experiment variants (respondents were randomly assigned to two different variants in which the presentation of the cost attribute differed; see Methods section), the illustration shows the aggregated WTP when converted to overall cost for society, summed up over the period of time between the respective phase-out year and the year 2038. I.e., while the annual WTP for a phase-out until 2025 is €654 million, summing up the annual WTP values over the 13 years until 2038 leads to the value of €8.50 billion shown in Supplementary Figure 1 (neglecting inflation). For a phase-out until 2030, respondents still have a WTP of €3.16 billion.

Supplementary Note 2: Replicating the analysis based on the forced-choice outcome

In the manuscript, we used a dichotomized version of the rating outcome as dependent variable (see Figure 2 and Methods section). Replicating the analyses based on the forced choice outcome leads to substantively the same results, as shown in Supplementary Figure 2.

