
SOCIAL SUSTAINABILITY BAROMETER FOR THE ENERGIEWENDE: 2019 EDITION



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Key messages and summary of the main findings

PREFACE

Dear readers,

Germany can look back on a few success stories in the energy transition and climate protection in 2019. Due to a significant decline in coal-based power generation, the electricity sector emitted 50 million tons less carbon dioxide (CO₂) than in the previous year. In the same period, the share of renewable energies in electricity generation reached an all-time high. The Fridays For Future movement ignited a broad societal debate on climate protection and justice. The protests have stepped up the pressure on politicians to take action and were instrumental in bringing about Germany's first Climate Action Law. They also revealed the importance (young) people attach to this issue, as well as their desire for effective climate action and a socially just energy transition.

Based on a survey that the Institute for Advanced Sustainability Studies (IASS) conducts every year in cooperation with the innogy Foundation and the 100 Prozent erneuerbar Stiftung under the joint name *dynamis*, the Social Sustainability Barometer reflects current public attitudes and concerns in relation to the German Energiewende. As such, it is an important scientific basis for developing energy transition policies that are responsive to the population's needs.

In a nutshell, the findings of this year's study show that the vast majority of the German population continues to support the key political objectives of the Energiewende. In a similar vein, most respondents to our survey approve of the Fridays For Future movement. At the same time, the Barometer indicates that criticism of the way in which the Energiewende is being implemented and politically managed continues to mount. Public satisfaction with and confidence in the federal government's performance in this area are now at a worryingly low ebb.

The respondents want politicians to make faster progress in implementing effective climate protection measures. Designing measures that are socially just and based on the polluter-pays principle is one of today's most pressing policymaking challenges. The study shows that the majority of Germans are willing in principle to shoulder more costs for climate protection. But lower-income households in particular are seeking compensation to lessen the financial burdens imposed on them by carbon pricing. Most citizens believe that the revenues from carbon pricing should be earmarked for the development of a climate friendly transport system and renewable energies. Given this consensus and the scientific community's sustained criticism of the ineffectiveness of the measures foreseen in the Climate Package, the onus is now on politicians to adjust those measures promptly.

The most urgent need for action is in the transport sector, the problem child of the Energiewende. Recent expert assessments predict that the federal government will not meet its emissions reduction targets in this sector. The government-commissioned reports by Prognos AG and the Öko-Institut in Freiburg come to the same conclusion. The Barometer's findings make it clear that what people are really looking for here are attractive alternatives to car-centred mobility. For most citizens, the transport transition starts with the expansion of local and national train services and a better cycling infrastructure. However, the majority is opposed to far-reaching restrictions on conventional car traffic, like a ban on combustion engines or restricted access to city centres. Meanwhile skepticism about support for e-mobility remains, particularly among people who drive cars with combustion engines. Nevertheless, the widespread public approval for a proposed speed limit on motorways and the abolition of tax advantages for diesel fuels indicate that many citizens are willing to resist the harmful effects of car traffic. More than in any other other sector, the transport transition calls for fundamental behavioural change and thus requires a strong commitment on the part of political and economic decision-makers to encouraging sustainable mobility behaviour by creating the infrastructure for climate friendly mobility.

A slight upward turn in support for the expansion of renewables technologies gives cause for optimism. The majority of respondents are in favour of the expansion of offshore wind energy, the use of geothermal energy, the installation of PV systems on rooftops and other available space, and the construction of biogas plants. After a drop in support last year, approval rates for on-shore wind energy have risen again. In the opinion of the respondents, two measures are particularly effective when it comes to increasing public acceptance for the construction of new plants: revenue-based payments by wind-energy companies and profit sharing among the residents and communities as a result of opportunities to invest in wind power. By contrast, the minimum distance rules for wind turbines currently being debated in the political sphere are the least popular measure.

In our view, the latest edition of the Social Sustainability Barometer provides a comprehensive and eye-opening overview of public attitudes and expectations in the context of Germany's Energiewende. We call on all Energiewende actors to view public support for and criticisms of the implementation process to date as an incentive to step up their efforts towards achieving the goal of a socially just energy transition.



Prof. Dr Ortwin Renn



Dr René Mono



Dr Stephan Muschick

THE SOCIAL SUSTAINABILITY BAROMETER

In the struggle to find the right solutions, the way in which social objectives like justice, participation, and social compatibility are handled will be crucial to the continued success of the Energiewende. Social sustainability can be understood as a positive guiding principle for a collective societal undertaking to which all sections of society are called upon to contribute and play an active role in shaping their own living environment. To be socially sustainable the Energiewende process must be compatible with the wishes, needs and values of a broad majority, and the policies that guide its implementation should be perceived as fair and just by most citizens.

With our research on the social sustainability of the German Energiewende, we strive to provide a robust empirical knowledge base on German people's perceptions of the challenges, opportunities and risks of the Energiewende. The comprehensive data gathered in the Social Sustainability Barometer also feeds into an annual monitoring process that charts developments in the various social dimensions of sustainability. We have been conducting this annual representative survey of the attitudes, experiences, sense of justice, preferences and intentions of the German population since 2017. We are guided by the following questions: How does the German population view the Energiewende and its current implementation? What do people expect of a "fair" Energiewende? To what extent do they feel personally affected by the process? To what extent are they willing to participate in the Energiewende, and what are their expectations with regard to future developments in this transformation process?

The Barometer is a measurement tool for describing the status quo and tracking positive and negative developments from the perspective of the respondents. The data gathered also highlights existing or emerging challenges and problems. The Barometer's findings pinpoint areas where there is a need for action and appropriate policy measures. Thus it also serves as an early-warning system to help policymakers set the right priorities.

The Barometer is prepared and analysed by the Institute for Advanced Sustainability Studies in the context of the dynamis partnership. A self-proclaimed "think-do-rethink" tank, dynamis was founded in December 2016 by the innogy Foundation for Energy and Society, the 100 Prozent erneuerbar Stiftung, and the IASS.

This brochure presents the main results of the third edition of the Social Sustainability Barometer for the German Energiewende. The findings presented draw on three internet-based, representative household surveys, which were conducted on the basis of the forsa.omninet household panel and in cooperation with the RWI - Leibniz Institute for Economic Research in the years 2017, 2018 and 2019.

We would like to thank the sponsors and supporters of the Social Sustainability Barometer, in particular the Federal Ministry of Education and Research (BMBF), the Kopernikus Project ENavi, and our two dynamis partners, the innogy Foundation for Energy and Society and the 100 Prozent erneuerbar Stiftung. We are also grateful to our colleagues at the IASS and to other experts from science, politics, civil society and the private sec-

tor, who have followed the development of the Barometer with great interest and provided valuable advice.

The Social Sustainability Barometer for the German Energiewende provides the knowledge base required to steer the Energiewende in the right direction. It highlights the areas where more political attention is required and where perceived deficits need to be tackled.

We hope that the findings presented here will encourage decision-makers to give greater consideration to the social dimension of the energy transition, alongside the technical and economic aspects of its implementation, and to be unwavering in their efforts to address the identified challenges.

Potsdam, 15 April 2020
Ingo Wolf and Ortwin Renn



1 | GENERAL INTEREST IN POLITICS BUT MAJORITY FEELS EXCLUDED FROM ENERGIEWENDE PROCESS AND DOES NOT TRUST POLITICIANS TO MANAGE IT EFFECTIVELY

The vast majority of German households attest to a general interest in politics. However, only a minority believe that citizens have enough opportunities to shape Energiewende policies in Germany. Public confidence in the political actors involved in the Energiewende is at a very low ebb.

Three out of four respondents (**78%**) have a general interest in politics. One fifth (**21%**) claims not to be particularly politically interested. The supporters of all the political parties have a broadly similar level of interest in politics.

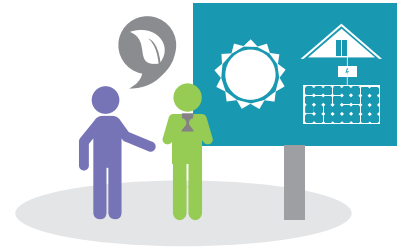
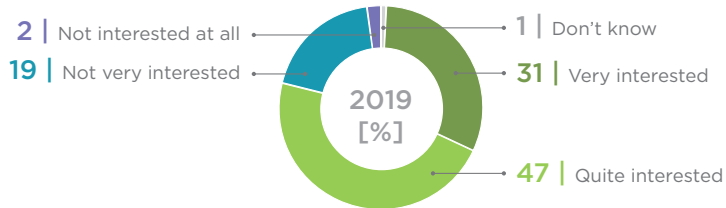
Three quarters (**75%**) of respondents feel that they are not afforded enough opportunities to have their say in government decision-making on the Energiewende. **21%** are satisfied with the existing opportunities for them to have a say. Education and party-political affiliation emerge as key factors in the respondents' views. While **18%** of people with a basic school leaving certificate (Hauptschulabschluss) are satisfied with the existing opportunities to have their opinions heard and considered, this is the case for **28%** of respondents with an Abitur (A-levels equivalent). A disproportionately high percentage of AfD (**92%**) and Left Party (**82%**) supporters share the view that they are not sufficiently involved in political decision-making on the Energiewende.

Almost four out of five (**78%**) respondents feel that, in general, Germany's political system does not allow them to influence policymaking on the Energiewende. Only **19%** believe that they can influence policy in this area. Here too, supporters of the AfD (**93%**) and the Left Party (**83%**) have a far more negative view of their possibilities to influence policy than people with affiliations to other political parties, e.g. the CDU/CSU (**71%**). Furthermore, the higher people's level of education, the more likely they are to have a positive view of their capacity to influence policy. This is the case for **17%** of people with a basic school leaving certificate and **23%** of those with the Abitur.

When it comes to keeping the public informed about developments in the Energiewende, the credibility of political actors continues to be very low. Only a small percentage of respondents gave the highest credibility rating for municipalities (**3%**, -1 percentage point (pp) from 2018) and state governments and the Federal Government (**3%**, -1 pp and **4%**, -1 pp respectively). The scientific community (**61%**, +7 pp) and consumer (**41%**, -11 pp) and environmental associations (**37%**, -7 pp) have the highest credibility.

GENERAL INTEREST IN POLITICS

How interested are you in politics?



Basis: 2019: 6,163 | data source: IASS/dynamis | percentage figures | deviations from 100 per cent due to rounding

OPPORTUNITIES TO HAVE A SAY IN THE ENERGIEWENDE

From your perspective, to what extent does the political system in Germany give people like you a say in what the government does in relation to the Energiewende?



Basis: 2019: 6,162 | data source: IASS/dynamis | percentage figures | deviations from 100 per cent due to rounding

Response categories

- not at all (1)
- (2)
- (3)
- (4)
- (5)
- (6)
- (7)
- (8)
- (9)
- completely (10)
- don't know/ not reported

OPPORTUNITIES TO INFLUENCE ENERGIEWENDE POLICY

From your perspective, to what extent does the political system in Germany give people like you the opportunity to influence Germany's Energiewende policy?



Basis: 2019: 6,161 | data source: IASS/dynamis | percentage figures | deviations from 100 per cent due to rounding



The results confirm that most Germans continue to have a strong general interest in politics. When it comes to a socially sustainable energy transition, however, the majority's perception of a lack of opportunities to influence policy in this area gives cause for concern. This is probably fuelling the negative assessments of the Energiewende implementation process and public (dis)satisfaction with the German government's performance highlighted in the following chapters. Transparent communication and the further development and expansion of existing participation formats to give citizens a say in aspects of the Energiewende that affect them are some of the key areas where action is needed to address these criticisms and the poor overall credibility of political actors.

2 | SUPPORT FOR THE ENERGIEWENDE – VAST MAJORITY SEE IT AS A TASK FOR THE WHOLE OF SOCIETY

Overall support for the Energiewende continues to be very high in the German population. A clear majority of respondents (**82%**, up 2 percentage points on last year) views the Energiewende as a broad societal undertaking to which everybody is called upon to contribute. At the same time, the proportion of Energiewende skeptics has also risen slightly (+2 pp).

While the high level of support indicates a broad consensus in the population on this issue, some clear differences have emerged between the supporters of the different parties. Attitudes to the Energiewende are particularly positive among supporters of Bündnis 90/The Greens (**96%**, +1 pp), the SPD (**89%**), and the Left Party (**86%**, +2 pp). The level of support is lower among supporters of the liberal FDP (**77%**, -1 pp), other parties (**79%**, +14 pp) and the AfD (**46%**, -2 pp).

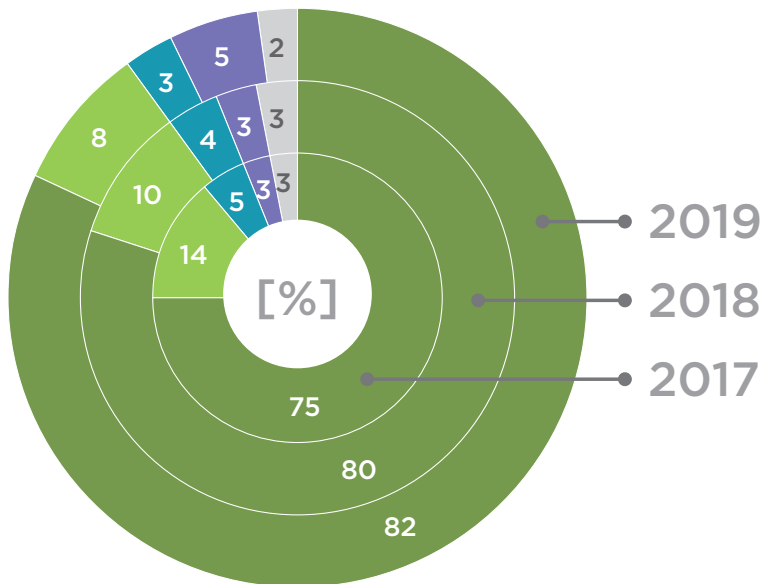
People's employment status, level of education, and income continue to account for slight differences in attitudes to the Energiewende. Thus support is lower among the unemployed than among those in employment, pupils, and students. The higher people's level of education and income, the more likely they are to have a positive attitude to the Energiewende.

The Länder with the lowest proportion of households that are critical of or indifferent to the Energiewende are Schleswig-Holstein (**3%**, -2 pp), Hamburg (**5%**, +1 pp) and Rheinland-Palatinate (**5%**, -1 pp). Opposition to the Energiewende is strongest in Saxony (**17%**, +5 pp), Mecklenburg-Vorpommern (**14%**, +7 pp) and Brandenburg (**13%**, +5 pp).

Support for the Energiewende and a willingness to make a personal contribution to it also depend on people's perceptions of climate change. While **77%** (-3 pp compared to 2017) of respondents believe that global climate change is an indisputable fact, one fifth (**21%**, +3 pp) does not share this view. Compared to those who acknowledge the existence of climate change (**93%**), a lower proportion of the climate skeptics (**81%**) have a positive attitude to the Energiewende. It is nonetheless remarkable that four out of five of them support the Energiewende.

PERSONAL CONTRIBUTION TO THE ENERGIEWENDE

When you think of your personal contribution to the Energiewende, which of the following statements applies most to you?



Response categories

- The Energiewende is a collective undertaking to which everyone in society, myself included, should contribute.
- I think that the Energiewende is a good thing, but I'm not able or willing to contribute much to it.
- The main thing is that I have a sufficient supply of cheap energy. Everything else is secondary.
- I think the Energiewende is wrong and I do not want to participate in it.
- Don't know/not reported.

Basis: 2019: 6,398; 2018: 6,447; 2017: 7,313 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding



The results show that, on the whole, citizens have a very positive attitude to the Energiewende, and this support has remained at a consistently high level over the last three years. The majority sees the Energiewende as a process that requires the active involvement of the entire population. Broad-based support for the implementation of the Energiewende and a strong interest in citizen participation can therefore be expected. At the same time, stark differences of opinions among supporters of the different political parties indicate that people's attitudes are strongly influenced by specific values and convictions. For effective political management of the Energiewende process, it therefore makes sense to pay attention to these differences between the respective population groups and develop communication formats with that in mind.

3 | ENERGIEWENDE TARGETS – SUPPORT FOR RENEWABLES CONTINUES TO GROW

A stable majority of German households supports the key political objectives of the Energiewende. The goals of increasing energy efficiency, increasing the share of renewable energies, and reducing energy consumption enjoy the highest approval rates. Public support for further grid expansion and the planned exit from coal and nuclear energy is slightly lower. As in previous years, the level of opposition to these measures continues to be low. With the exception of the exit from coal and nuclear energy, there have been hardly any changes in disapproval rates over time.

The majority of respondents (**56 %**, -8 pp compared to 2018) continues to be in favour of the nuclear phaseout. The steady rise in the proportion of people who are opposed to this phaseout is, however, striking. In comparison to previous years, this group grew by 9 percentage points to a share of **24 %** in 2019. More women (**65 %**, -6 pp) than men (**50 %**, -8 pp) and more West German households (**58 %**, -8 pp) than East German households (**48 %**, -9 pp) support the phaseout. Clear differences are also apparent between the supporters of the different political parties: the highest approval rates for the nuclear phaseout can be found among supporters of Bündnis 90/The Greens (**81 %**, -12 pp), the SPD (**69 %**, -9 pp) and the Left Party (**63 %**, -9 pp). Levels of support for this undertaking are considerably lower among supporters of the CDU/CSU (**46 %**, -6 pp), the FDP (**37 %**, -10 pp) and the AfD (**19 %**, -10 pp).

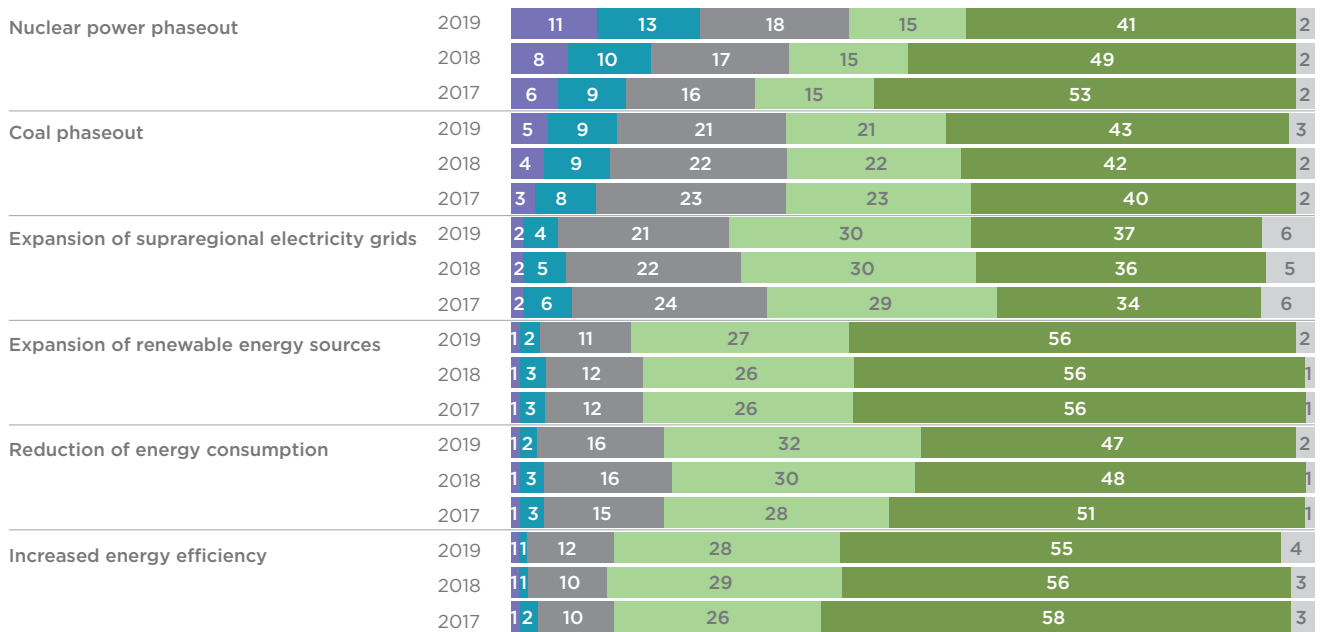
Almost two thirds of households (**64 %**, unchanged from 2018) approve of the coal exit. Around one in six households (**14 %**) is opposed to the coal exit, a slight increase of 1 percentage point compared to 2018. Clear differences of opinion on this issue can be observed between Eastern and Western German states. While half of East Germans (**51 %**, -2 pp) are in favour of the coal exit, two thirds of West Germans (**68 %**, +1 pp) support it.

There is broad support for plans to expand the electricity grid (**67 %**, +1 pp). Interestingly enough, the highest approval rates for this can be found among the over-sixties and pensioners. Support for grid expansion is highest in the federal states of Bremen (**81 %**, +5 pp), Berlin (**76 %**, +10 pp) and Hamburg (**75 %**, +7 pp), and lowest in Bavaria (**59 %**, +2 pp), Saxony-Anhalt (**57 %**, -5 pp) and Thuringia (**48 %**, +1 pp).

There is a broad consensus that the following three objectives are worthwhile: increased energy efficiency (**83 %**, -2 pp), the expansion of renewables (**83 %**, +1 pp), and a reduction in energy consumption (**79 %**, +1 pp).

SUPPORT AND REJECTION OF THE POLITICAL OBJECTIVES OF THE ENERGIEWENDE

The Energiewende encompasses a range of energy policy objectives. Please indicate your personal stance on each of them.



Response categories ● Strongly oppose (1) ● (2) ● (3) ● (4) ● Strongly support (5) ● don't know/not reported

Basis: 2019: 6,480; 2018: 6,553; 2017: 7,459 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding



A large majority endorses the federal government's broad energy policy objectives. This shows that most citizens support the envisaged transformations of the energy system and believe they are right. There have been interesting developments with regard to the nuclear phaseout. Influenced in all likelihood by recent discussions about the climate benefits of a nuclear come-back, public opinion has shifted in favour of opponents of the phaseout. Consistently high approval rates for the coal exit and the expansion of the supraregional electricity grid are an important prerequisite for the successful continuation and further development of existing measures in these areas. However, regional differences in attitudes need to be taken into account, especially in the case of extending the grid.

4 | CRITICISM OF ENERGIEWENDE IMPLEMENTATION CONTINUES TO GROW

Criticism of the way in which the Energiewende is being implemented continued to mount in 2019. Although overall support for the Energiewende is high, people are increasingly critical of certain aspects of the process such as costs, political management, fairness and public engagement.

The issue of costs comes in for particular criticism. The overwhelming majority of households (**78 %**, +3 pp) sees the Energiewende as expensive, while only **7 %** (-3 pp) believes it is affordable. Supporters of the AfD (**92 %**, +4 pp), FDP (**84 %**, -4 pp), and smaller parties (**83 %**, +12 pp) are especially critical of this aspect of the process. Furthermore, people who live in rural areas tend to have a more negative view of the process than city-dwellers.

Two thirds (**66 %**) of Germans believe that the implementation of the Energiewende is chaotic, and less than one in six (**15 %**) feel that it is well organised. The proportion of skeptics has thus risen six percentage points since 2018. Supporters of the AfD (**86 %**, +6 pp) and Bündnis 90/The Greens (**62 %**, +4 pp) differ the most in this regard.

More than half of all households (**56 %**, +5 pp) consider the Energiewende unjust, while only **18 %** (-3 pp) find it just. Compared to the total sample, a higher than average share of respondents in the following categories see the Energiewende as just: those aged 18 to 29 years (**29 %**, -5 pp), those with an Abitur (**25 %**, -3 pp), and those who support Bündnis 90/The Greens (**32 %**, -4 pp).

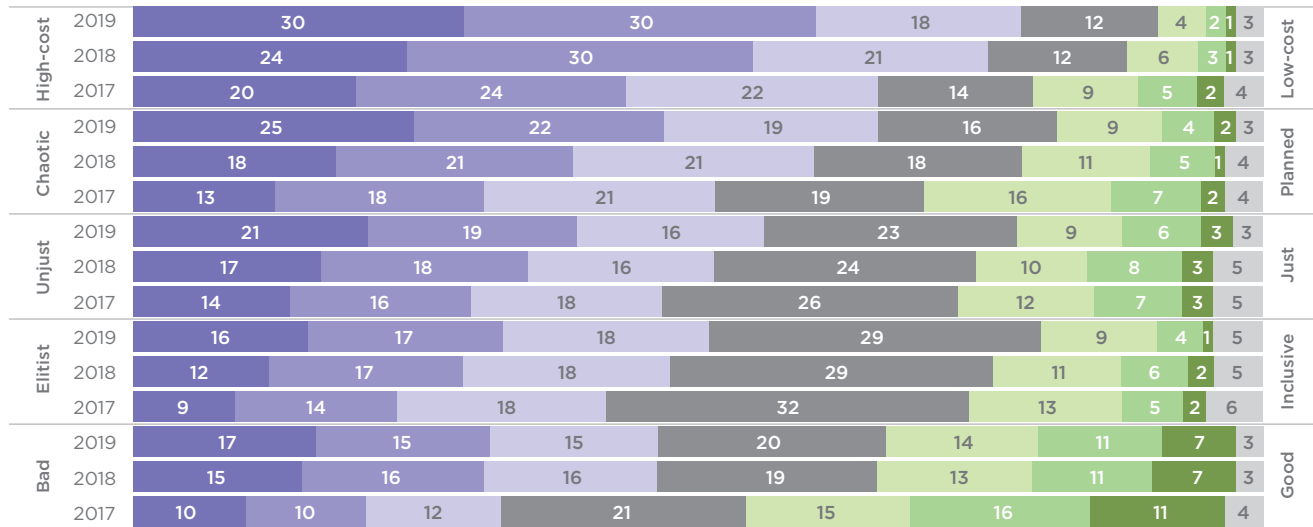
A critical attitude also prevails with regard to public engagement. The majority of respondents (**51 %**, +4 pp) believes the Energiewende is an elitist project, while only a small minority (**14 %**, -5 pp) thinks citizens are sufficiently involved in the process. Almost one third of households are undecided on this issue. In particular, people with a lower educational level and supporters of the AfD and the Left Party tend to bemoan the lack of public engagement in the implementation of the Energiewende.

At **47 %**, the proportion of respondents who have a negative overall view of the Energiewende process is unchanged from last year. One in three (**32 %**, +1 pp) has a positive view. Those who express a positive attitude tend to be younger (18 to 29 years), have a higher level of education, and identify with Bündnis 90/The Greens and the SPD.

ASSESSMENT OF GERMANY'S ENERGIEWENDE ON THE BASIS OF PAIRS OF OPPOSITES



Below is a list of different pairs of opposites. In each case, please indicate the characteristics that immediately strike you as appropriate to describe Germany's Energiewende.



Antwortkategorien

● (-3) ● (-2) ● (-1) ● (0) ● (1) ● (2) ● (3) ● don't know/not reported

Basis: 2019: 6,470; 2018: 6,533; 2017: 7,410 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding



Increasingly negative assessments of how the Energiewende is proceeding underline the urgent need for policy intervention in this area. Three aspects have come in for particular criticism: costs, planning, and justice. While it's important to clearly understand the kinds of expenditure, policy implementation processes, and distribution issues that are fuelling people's negative perceptions, it's equally important to involve citizens in the development of courses of action so that they can bring their ideas and demands for a socially sustainable Energiewende to bear in the political process.

5 | (DIS-)SATISFACTION WITH GOVERNMENT - ESPECIALLY IN RELATION TO SOCIAL JUSTICE

For the second year running, dissatisfaction with the government's performance in relation to the Energiewende has risen. Most critics feel that the process is moving too slowly and the dimension of social justice is being neglected. The majority of respondents favours the polluter-pays principle as a way of ensuring a fair distribution of costs.

Two thirds of German households (**68 %**) are currently dissatisfied with the federal government's Energiewende policies – significantly more than in 2017 (+19 pp) and 2018 (+7 pp). This critical attitude crosses demographics like age, income and education level. Only about one in ten people (**8 %**, -8 pp compared to 2017) is satisfied with the implementation process.

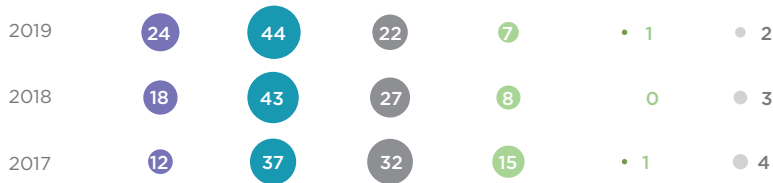
As in 2018, the main criticisms voiced are: progress is too slow to protect the climate (**57 %**, -1 pp); the issue of social justice is neglected (**55 %**, +3 pp); and the costs are too high (**33 %**). In an interesting development, significantly fewer respondents than last year single out the costs of the Energiewende (-8 pp), the competitive environment for renewables (**29 %**, -7 pp), and inadequate nature conservation (**26 %**, -7 pp) for criticism. A minority (**12 %**, +4 pp) still favours a longer time frame for implementation.

Opinions are divided on the question of how the costs of the Energiewende can be distributed fairly. Half of all households (**51 %**, -4 pp) believe that the most important thing is that those who use more energy should pay more per unit. One third (**29 %**, +9 pp) thinks it would be fairer if high-income households shouldered more of the costs than low-income households. Only one in six respondents (**17 %**, -5 pp) believes that the government should distribute the costs evenly among all members of the population.

Supporters of Bündnis 90/The Greens, the CDU/CSU and the FDP tend to favour the polluter-pays principle. Most SPD and the Left Party supporters prefer the income-based solution, while support for an even distribution of costs is highest among AfD and FDP supporters.

SATISFACTION WITH THE FEDERAL GOVERNMENT'S ENERGIEWENDE POLICY

When you reflect on the way the Energiewende is being implemented, how satisfied are you with the policies of the Federal Government in this area?



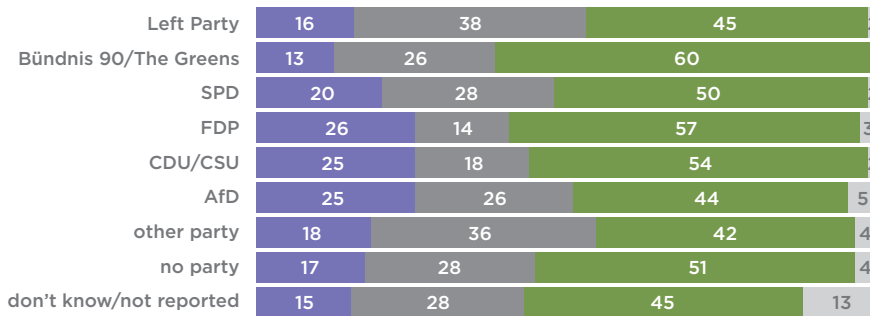
Response categories

- very dissatisfied
- somewhat dissatisfied
- neither satisfied nor dissatisfied
- somewhat satisfied
- very satisfied
- don't know/not reported

Basis: 2019: 6,467; 2018: 6,512; 2017: 7,386 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding

RECOMMENDATIONS FOR DISTRIBUTING THE COSTS OF THE ENERGIEWENDE ACCORDING TO POLITICAL AFFILIATION

If you could give the German government some advice on how it should distribute the costs of the Energiewende fairly, which of the points listed below would be most important to you?



Response categories

- The costs of the Energiewende should be distributed equally among all citizens.
- People with a higher income should contribute more to the Energiewende than people with a lower income.
- The more energy someone consumes, the more they should pay per unit consumed.
- don't know/not reported

Basis: 2019: 6,119 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding



The results show that the government's implementation of the Energiewende is increasingly falling short of society's expectations. Reports of slow progress in the expansion of wind and solar energy and the failure to achieve emissions reduction targets in the transport sector are likely to have contributed to the central criticism that the pace of the Energiewende is too slow. A fair distribution of costs based on the polluter-pays principle, as favoured by the majority, is one way of addressing the criticism that the Energiewende is socially unjust.

6 | FUTURE IMPACTS OF ENERGIEWENDE - SKEPTICISM AND CONCERN ABOUT EFFECTS ON CERTAIN ASPECTS OF LIFE

German households have an increasingly negative view of the likely impacts of the Energiewende on their daily lives. A majority anticipates that it will have a predominantly negative effect on their own financial and economic situation and on mobility. About a quarter of respondents believe it will have a positive influence on their residential environment and about a third feel it will improve their access to new technologies. Interestingly enough, more than two thirds of respondents do not assume the Energiewende will influence their employment situation at all.

The supporters of the different political parties, and different age groups and professions do differ significantly on this question, however. While **31%** (+13 pp compared to 2017) of AfD supporters expect the Energiewende to have an adverse effect in this area, only **6%** (+3 pp) of Bündnis 90/ The Greens supporters share this opinion. Students (**30%**, -2 pp) are more optimistic than those in employment (**11%**, -3 pp). In general, younger people (**22%** of 18- to 29-year-olds, -3 pp) are far more optimistic in this regard than respondents aged 60 years and over (**4%**, -1 pp).

The influence of political affiliations is also clear in the case of people's expectations in other areas of life, including mobility. Supporters of Bündnis 90/The Greens are the most optimistic, followed by supporters of the SPD, CDU and FDP. Optimists are in particularly short supply among AfD supporters, a pattern that is repeated throughout the study.

Despite a drop of 16 percentage points since 2017, a majority of respondents (**57%**) is still convinced that the Energiewende will have a positive impact on future generations. Here, too, differences of opinion can be attributed to education and political affiliation. People with a basic leaving certificate (**49%**, -20 pp) tend to be more skeptical than those with an Abitur (**68%**, -13 pp). A majority of supporters of Bündnis 90/The Greens (**77%**), the SPD (**65%**) and the Left Party (**64%**) are optimistic on this score, while only one in five (**21%**) AfD supporters believes future generations will benefit from the Energiewende.

EXPECTED EFFECTS OF THE ENERGIEWENDE ON DIFFERENT AREAS OF LIFE

Do you think the Energiewende will have more positive or negative effects on your life over the next ten years?



Financial and economic situation	2019	57	34	4	4
	2017	53	33	8	6
Mobility – the scale and modes transport used	2019	39	34	24	4
	2017	25	42	26	6
Residential environment	2019	17	54	23	6
	2017	13	49	30	7
Access to new technologies	2019	14	46	35	6
	2017	9	40	45	7
Professional activity	2019	13	68	8	12
	2017	7	73	11	9

Response categories

- more negative
- neither negative nor positive
- more positive
- don't know/ not reported

Basis: 2019: 6,397; in 2017: 7,297 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding

EXPECTED EFFECTS OF ENERGIEWENDE ON FUTURE GENERATIONS

When you think of your (grand-)children or future generations, do you expect the Energiewende to have more positive or negative effects on them?

2019	18	19	57	6
2017	10	11	73	6

Response categories

- more negative
- neither negative nor positive
- more positive
- don't know/ not reported

Basis: 2019: 6,396; 2017: 7,293 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding



The results present a nuanced picture of people's future expectations in connection with the Energiewende. To allay their greatest fear – of adverse financial effects – it's important that people's expectations of a socially just distribution of costs are fulfilled and any compensation mechanisms are clearly communicated. Where mobility is concerned, the expansion of public transport networks, especially in rural areas, can offer attractive alternatives to today's car-centred mobility. The mostly positive expectations with regard to access to new technologies and the residential environment are an important starting point for highlighting the opportunities and positive aspects of the comprehensive transformation process more clearly than before through targeted (communications) measures.

7 | EXPANSION OF RENEWABLE ENERGIES – PROPONENTS ARE GAINING GROUND

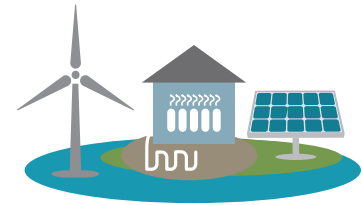
More and more people are in favour of expanding the share of renewable energies in Germany, regardless of the technologies involved. That said, there are clear preferences for certain renewables technologies: while support is strong for rooftop PV systems and the use of geothermal energy, opinions are divided on the expansion of onshore wind energy and biogas plants.

Half of all households (**51%**) are in favour of expanding onshore wind energy – an increase of 5 percentage points on last year. One fifth of respondents (**20%**, -2 pp compared to 2018) does not support this goal. Urban and rural households differ significantly on this question, as do East and West Germans. In large cities, the proportion of those in favour of onshore wind (**58%**, +9 pp) is almost one-third higher than in sparsely populated rural parts of Germany (**45%**, +4 pp). Approval rates are lower in Eastern Germany (**39%**, +1 pp) than in Western Germany (**55%**, +6 pp). Surprisingly, the proportion of households with wind turbines nearby that are opposed to onshore wind energy (**22%** unchanged from 2018) is only slightly higher than the proportion of households with no wind turbines nearby (**19%**, -3 pp).

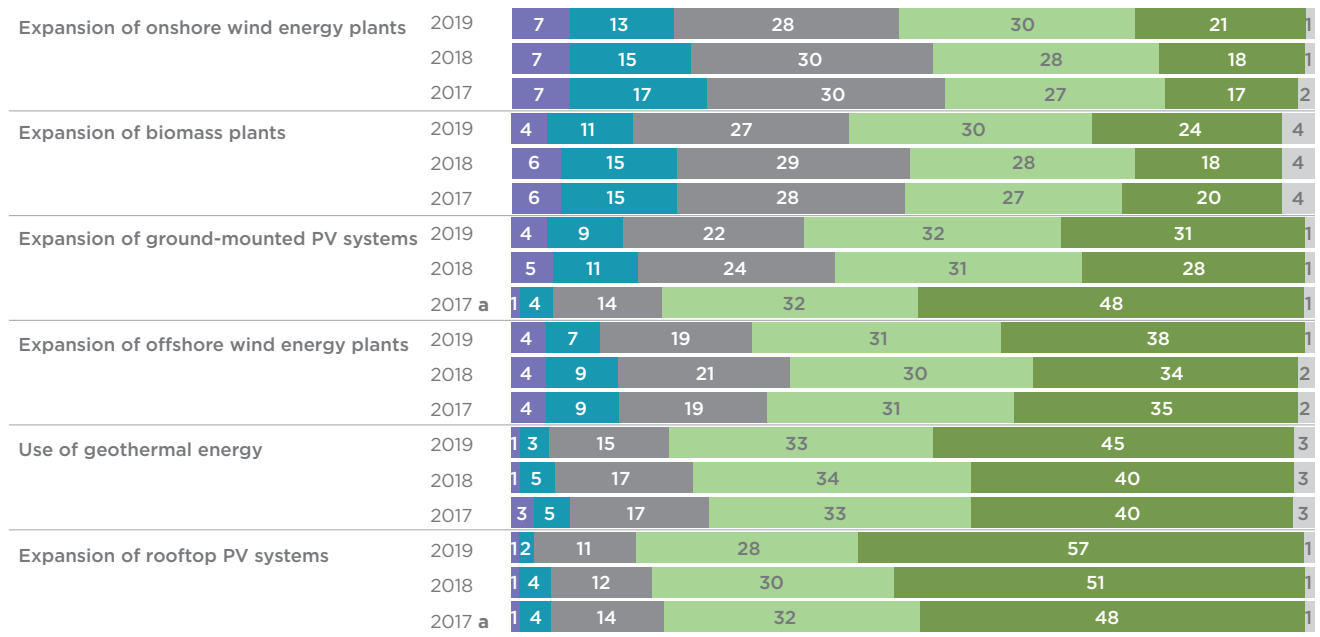
Since 2018, approval for the expansion of electricity generation from biomass has risen by 8 percentage points to **54%**. As in the case of wind turbines, approval rates are broadly similar among households near existing biogas (**50%**, +8 pp) and households with no biogas plants in the vicinity (**56%**, +9 pp).

An overwhelming majority of the population supports the expansion of offshore wind energy (**69%**, +5 pp), the increased use of geothermal energy (**78%**, +4 pp) and the installation of more rooftop PV systems (**85%**, +4 pp). At **11%** (-2 pp, wind), **4%** (-3 pp, geothermal energy) and **3%** (-2 pp, solar) respectively, opposition to all three technologies remains at a very low level.

SUPPORT FOR AND REJECTION TO THE EXPANSION OF RENEWABLE TECHNOLOGIES



The Energiewende entails the expansion of renewable energies. Please indicate your personal stance on the different technologies.



Response categories ● Strongly oppose (1) ● (2) ● (3) ● (4) ● Strongly support (5) ● don't know/not reported

Basis: 2019: 6,467; 2018: 6,512; 2017: 7,386 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding
a = In 2017 the item did not differentiate between rooftop and ground mounted PV systems



The results show that large sections of the population are broadly in favour of the further expansion of renewables. Growing approval rates for all relevant technologies suggest that the increased urgency of the climate crisis and the debates triggered by the Fridays For Future movement have had a positive effect on public acceptance of climate-friendly energy sources. Declining skepticism even in the case of less attractive energy sources like onshore wind and biomass signals a change of heart. In the implementation of concrete expansion projects, it will be important to take account of different regional preferences. It's also likely that investment opportunities for citizens and their early involvement in planning processes will increase public acceptance of new renewable energy plants.

8 | REVENUES FROM CARBON TAX – CLEAR MAJORITY IN FAVOUR OF USING THEM TO FINANCE CLIMATE FRIENDLY MOBILITY

Most German households are willing in principle to contribute to climate protection by paying more for petrol, heating oil, and natural gas. There is a broad public consensus on how the additional revenue should be shared out and used, with most people convinced that the moneys should not go into the federal budget but instead be used to finance a climate friendly transport system and renewable energy sources.

Half of the respondents (**54%**) state that they are willing in principle to shoulder higher energy costs, while **40%** are not willing to do so. The different income groups differ significantly in this respect. The higher a household's income, the more likely they are to be willing to pay more for climate protection. Thus almost double the number of high-income households than low-income households are prepared to accept higher costs.

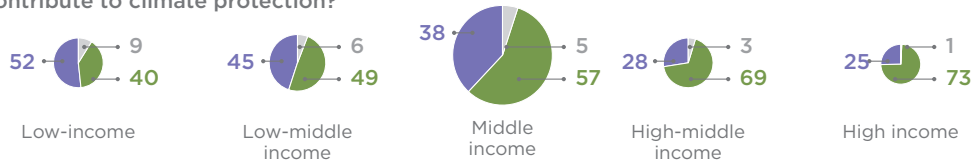
Two thirds of the population (**69%**) believe that the additional revenues from a carbon tax should not go into the federal budget. A majority (**52%**) is also against the proposal to use the moneys to lower taxes in other areas. Differences of opinion on this issue of lowering taxes can be attributed to income, education level, and party-political affiliation. Most opponents to this measure can be found among high earners, those with an Abitur, and Bündnis 90/The Greens and SPD supporters.

Of all the investigated options for redistributing the revenues, the per-capita reimbursement has the most support (**43%**), followed by the reimbursement of financially stretched households (**37%**), and targeted support of low-income households (**34%**). In contrast to supporters of the per-capital reimbursement, supporters of the latter two measures are generally older and have a low to medium income. Most have a low to medium level of education and tend to live in large cities.

At **73%** and **70%** respectively, a clear majority is in favour of using the additional revenues to expand a climate friendly transport system and support renewable energy sources. At **8%** and **9%**, the proportion of opponents to these measures is extremely low.

WILLINGNESS TO SHOULDER ADDITIONAL COSTS FOR CLIMATE PROTECTION, BY INCOME GROUP

Are you prepared in principle to pay more for petrol and heating oil or natural gas in order to contribute to climate protection?



Response categories

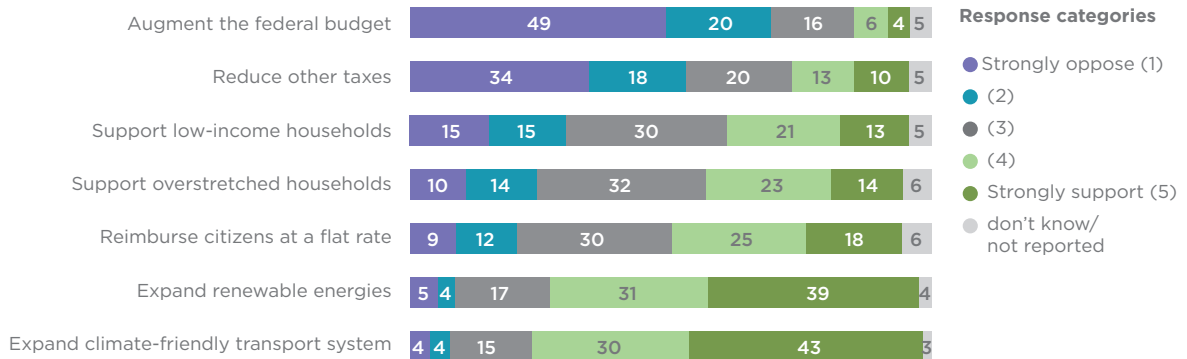
- No
- Yes
- Don't know/not reported

Basis: 2019: 6,380 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding

SUPPORT AND REJECTION OF PROPOSALS FOR HOW TO USE ADDITIONAL REVENUES FROM CARBON PRICING

Please indicate to what extent you support or oppose the following measures.

The additional revenues from a carbon tax should be used for the following purposes:



Response categories

- Strongly oppose (1)
- (2)
- (3)
- (4)
- Strongly support (5)
- don't know/not reported

Basis: 2019: 6,299 | data source: IASS/dynamis | Figures in percent | Deviations from 100 percent due to rounding¹



The results show that support for carbon pricing depends strongly on a household's disposable income. Compensation mechanisms targeted at lower-income households and poorer segments of the population can help to increase public acceptance of this measure. The clear preferences for using the additional revenues to finance more renewable energy projects and climate-friendly transport speak volumes about people's expectations and the terms under which they are willing to accept these higher costs. It's safe to assume that the effectiveness of policy measures in these areas will determine future public acceptance of climate-related increases in energy prices.

9 | MEASURES IN SUPPORT OF A TRANSPORT TRANSITION - ABANDONMENT OF CONVENTIONAL COMBUSTION ENGINE REMAINS THE MAIN CHALLENGE

When it comes to reducing emissions in the transport sector, most Germans favour measures to expand regional and long-distance train services and cycling networks. Policy interventions aimed at discouraging the sale and use of cars with combustion engines in urban areas and a proposed ban on domestic flights are, however, rejected by most households.

Measures that target cars remain controversial. Thus the majority of respondents is skeptical about the proposed ban on new registrations of cars with combustion engines from 2030 (**64%**, +10 pp compared to 2018); restricted access for cars that run on diesel or petrol (**52%**); and subsidies for the purchase of e-cars (**37%**). More than one third of respondents are in favour of the expansion of e-mobility (**34%**), while almost one third is against it (**31%**). The rest is undecided. By contrast, most households are in favour of a general speed limit on motorways (**52%**) and the abolition of tax advantages for diesel fuels (**48%**).

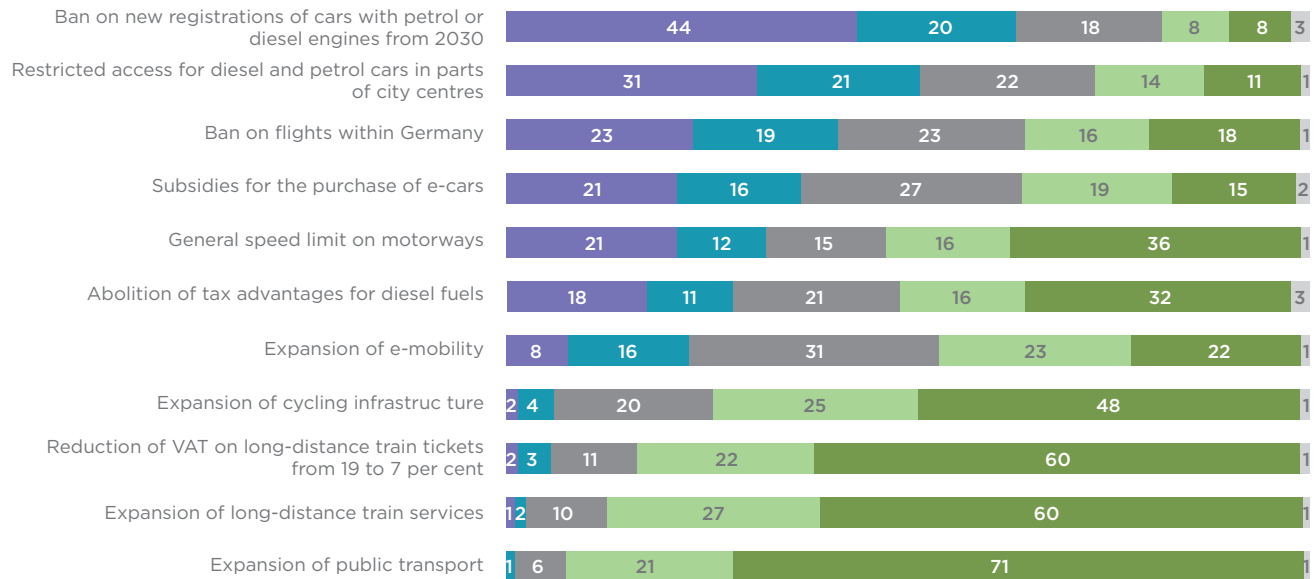
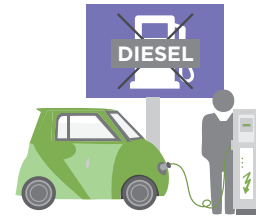
The supporters of these emissions-lowering instruments tend to be younger (with the exception of the speed limit), female, and people from car-free households. In addition, a higher than average proportion of them identify with Bündnis 90/The Greens and the Left party, live in large cities, especially the city states of Berlin, Bremen, and Hamburg, and are students or unemployed.

Support for the expansion of regional and long-distance train services is overwhelming. Approval rates of **92%** for the expansion regional public transport networks, **87%** for the expansion of long-distance train services, and **82%** for the (already implemented) measure to lower the VAT on train tickets are a clear indication of where the population's priorities lie.

Three out of four households (**73%**) are in favour of improving the cycling infrastructure. Here levels of support are notably lower in Saarland (**54%**) and the city states of Berlin (**66%**) and Hamburg (**66%**) than in other Länder.

SUPPORT AND REJECTION OF MEASURES FOR CLIMATE-FRIENDLY TRANSPORT

Various measures are proposed to promote Energiewende in the transport sector. To what extent do you approve or disapprove of the following measures?



Answer categories ● Strongly oppose (1) ● (2) ● (3) ● (4) ● Strongly support (5) ● don't know/not reported

Basis: 2019: 6,447 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding



High approval rates for the expansion of cycle lanes and regional and interregional train services indicate where citizens would like the transport transition to start: with the growth of attractive alternatives to the private car with a combustion engine. The relatively low level of support for e-mobility suggests that, for many people, this form of mobility is not yet an affordable option that meets their needs. As yet, there is no broad societal support for turn away from the combustion engine. However, about half of respondents are in favour of the proposed speed limit on German motorways and tax exemptions for diesel fuels. The development of effective alternatives, including financial and non-financial incentives for behavioural change, is to be welcomed, but they need to be tailored to the different target groups.

10 | MEASURES TO INCREASE ACCEPTANCE OF WIND ENERGY - FINANCIAL PARTICIPATION ENJOYS HIGHEST SUPPORT

After a rise in 2018, people's willingness to protest against planned wind turbines dropped once again in 2019. Of the investigated measures to increase public acceptance of new wind turbines, the most popular options are direct investment opportunities for communities and citizens as well as revenue-based payments by wind energy companies to communities and citizens. A majority is against general minimum distance rules for wind turbines.

More than half of all households would not contemplate protesting against planned wind turbines (**55%**) - up 8 percentage points since 2018. This figure is still 5 percentage points short of the proportion of households that held this view in 2017. Willingness to protest and active participation in protests is higher in Eastern Germany (**48%**, -8 pp) than Western Germany (**39%**, -9 pp). In the new Länder, willingness to join protests against planned wind turbines is highest in Thuringia (**56%**, -9 pp) and Mecklenburg-Vorpommern (**55%**, -12 pp). The level of resistance among households with and without wind turbines in the vicinity is surprisingly similar (**43%** vs **41%**).

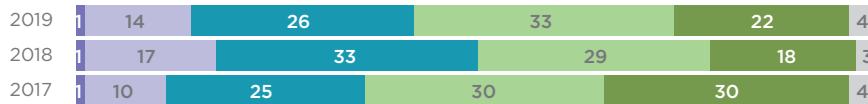
The proposed minimum distance rules that stipulate a distance of ten times the height of planned wind turbines from residential areas are the least popular measure (**45%**). In general, young people (18 to 29 years, **27%**) and West Germans (**20%**) are more opposed to this measure than older people (60 years upwards, **17%**) and East Germans (**13%**). About one in two households (**52%**) believes that wind energy companies should pay a fixed sum to communities affected by the construction of new wind turbines. The wealthiest households are significantly more opposed to this measure (**27%**) than low-income households (**17%**). Almost two thirds of respondents (**62%**) are against universally applicable minimum distance rules for wind turbines and demand that the local context be taken into account. Disapproval of the proposed measure is highest in the federal states of Brandenburg, Mecklenburg-Vorpommern, Lower Saxony, and Saxony Anhalt (**19%** in each case).

A majority is in favour of revenue-based payments to affected communities and citizens by wind energy companies (**65%**) and the possibility of local people sharing in the profits made by wind energy plants through their own investments (**66%**). When it comes to disapproval for direct investments in wind energy plants, the starkest differences are seen between supporters of the AfD (**14%**), the FDP (**9%**), and Bündnis 90/The Greens (**4%**).



WILLINGNESS TO PROTEST AGAINST PLANNED WIND TURBINES IN RESIDENTIAL AREAS

Can you imagine yourself signing a petition or participating in a protest or citizens' initiative against planned wind turbines in your locality?



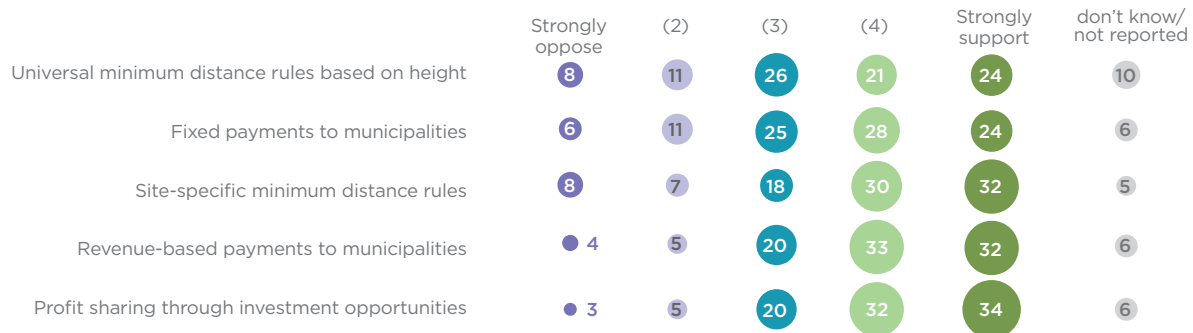
Basis: 2019: 6,383; 2018: 6,434; 2017: 7,226 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding²

Response categories

- I am already engaged in such activities.
- I can well imagine that.
- I can imagine that under certain circumstances, for example, if I was directly affected.
- I find that rather hard to imagine.
- I can't imagine that at all.
- Don't know/not reported

SUPPORT AND REJECTION OF MEASURES TO INCREASE ACCEPTANCE OF NEW WIND TURBINES IN 2019

To what extent are you for or against the following measures?



Base: 2019: 6,412 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding³



In line with a further rise in support for the expansion of wind energy in 2019, people's willingness to protest against the construction of wind turbines is declining. The extent to which this is due to the recent stagnation in the expansion of wind energy or a genuine change of heart cannot be assessed on the basis of our analysis. However, the identified preferences for revenue-based payments to communities and citizens by plant operators show just how important direct economic rewards at local level are for the acceptance of renewable energies. The fact that the majority of households is against universally applicable minimum distance rules based on the height of wind turbines could give new impetus to the political debate. But here too, regional differences should be taken into account.

11 | ATTITUDES TO FRIDAYS FOR FUTURE – MAJORITY SUPPORTS CLIMATE PROTESTS, BUT WITH SOME RESERVATIONS

A majority of respondents is supportive of the Fridays For Future demonstrations, with most people convinced of the political and societal motives behind them. However, only a minority endorses the participation of pupils in the protests during school hours.

Almost half (**45%**) of German households have a positive attitude to the school strikes by pupils in the context of the Fridays For Future movement. But one in three (**32%**) is (somewhat) critical of this. In terms of approval rates, clear differences emerge not only between the different Länder, but also across the rural-urban divide, educational levels, and party-political affiliations. Support is higher in West Germany and larger cities than in the eastern Länder and rural areas. The higher their level of education, the more likely people are to support the protests. The starkest differences in disapproval rates are apparent between supporters of the AfD (**82%**) and Bündnis 90/The Greens (**4%**).

40% of the surveyed households agree with the statement that pupils should have the right to protest for climate protection even if that coincides with school hours. Yet a relative majority (**49%**) does not share this view. At **56%**, disapproval rates are far higher in sparsely populated rural areas than in large cities (**43%**).

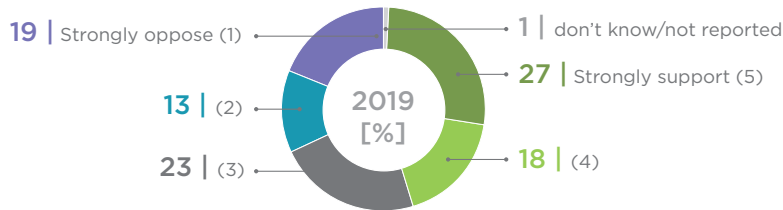
More than half (**57%**) of respondents believes that the protests are overrated and that it would be more important and effective if the pupils made behavioural changes for the sake of climate protection and a sustainable future. One in four people (**27%**) does not share that view. Indeed, the higher people's level of education, the less likely they are to agree with this position.

Two out of three people (**63%**) are convinced that pupils should have the right to participate in the demonstrations, but only in their free time. One quarter (**27%**) of respondents are not of this opinion. Young people (18 to 29 years) are least likely to share this view.

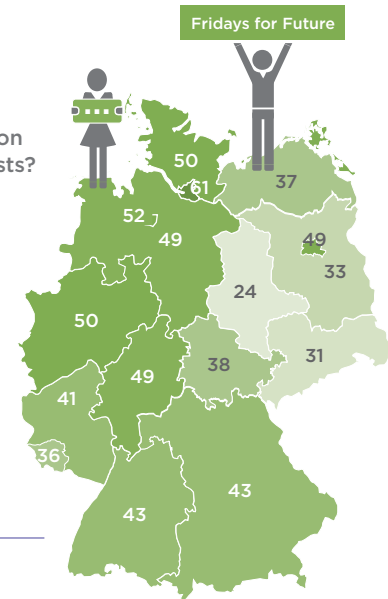
The overwhelming majority (**73%**) subscribes to the view that the protests play an important political role by allowing pupils to emphasise that today's decision-making on climate policy is also about intergenerational justice. Only **15%** of respondents does not share this view. The greatest support for this position is found left of centre, among supporters of Bündnis 90/The Greens (**94%**), the SPD (**83%**) and the Left Party (**82%**).

OVERALL ATTITUDE TO FRIDAYS FOR FUTURE DEMONSTRATIONS

Pupils in many cities are currently demonstrating during and outside of school hours on Fridays for more climate protection. How do you view these Fridays For Future protests?

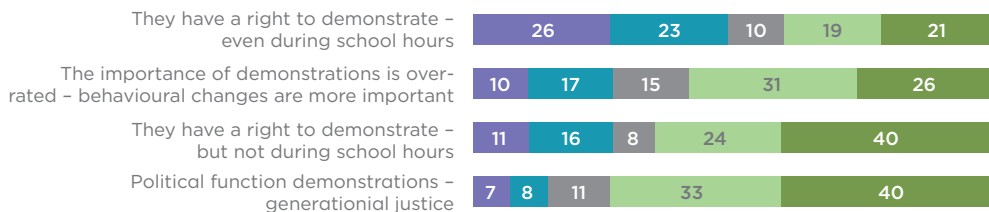


Basis: 2019: 6,546 | data source: IASS/dynamis | percentage figures | deviations of 100 percent due to rounding



AGREEMENT AND DISAGREEMENT WITH STATEMENTS ON THE FRIDAYS FOR FUTURE PROTESTS

Please indicate to what extent you agree with the following statements about the Fridays For Future protests.



Response categories

- Strongly disagree
- Inclined to disagree
- Neither agree nor disagree
- Inclined to agree
- Fully agree
- Don't know/not reported

Basis: 2019: 6,516 | data source: IASS/dynamis | percentage figures | deviations from 100 percent due to rounding⁴



Assessments of the Fridays For Future movement indicate that while the pupils' climate protests are broadly supported, certain issues continue to polarise. Ideological, regional, and cultural factors appear to play an important role in determining the conflicting attitudes of different population groups. An in-depth look at the motives behind these attitudes reveals that those who are skeptical about the protests object mainly to pupils skipping classes and allegedly failing to make behavioural changes consistent with their demands for climate protection. The broad consensus on the political significance of the protests for a sustainable climate policy that considers the needs of future generations can be seen as an expression of support for the political engagement of the younger generation.

CONCLUSION

How long can something be teetering on the brink before finally going over the precipice? In last year's edition of the Barometer we confirmed, based on the findings of the 2018 survey, that the Energiewende was on a knife's edge. One year on, things are even worse. Even more people now believe that the implementation of the Energiewende is too expensive, too chaotic and too unjust.

How can this be reconciled with the overwhelming support for the Energiewende as a "collective societal undertaking" – another clear finding of the 2019 survey? It would seem that the government's invitation to view the Energiewende as a project for all of society continues to resonate throughout Germany. People appear to be willing to take – and actively shape – the path to a decarbonised energy future.

That's the aspiration. But the reality is seen to fall short of that; it is perceived as expensive, chaotic and unjust. Why is that? To extend the metaphor, why do people feel they have been invited to a big party but have to overcome countless barriers to get there in the first place?

As the Barometer shows, the reasons for this lie in two areas, with further research required to explore how they are interlinked. Firstly, people have a general interest in politics but see their scope to effect political change as limited. The term "political apathy" is by now all too familiar. What it actually describes is the fact that many people have lost faith in their capacity to influence the political process. The Energiewende is just one area where this disempowerment is particularly clear. It is an especially contested area, not just because the Energiewende is leading to huge changes across society. Given the predominantly decentralised use of renewable energies, it's easy to understand why citizens want to be involved in making decisions that affect their communities. But in recent years it has become increasingly difficult to fulfil their desire for participation. We're now paying the penalty for the government's failure to heed the advice given by the Innogy Foundation and the 100 Prozent Erneuerbar Stiftung in their Manifesto for a Socially Sustainable Energiewende.

Secondly, the Barometer clearly shows that the interests and wishes of many citizens with regard to important aspects of the Energiewende have largely been ignored by politicians. If carbon pricing is introduced, low-income households in particular are seeking fair compensation. But rather than simply demanding their money back, as many economists are insinuating, the majority want greater investment in the future. For example, in marked improvements to our public transport system. Politicians have been too tentative in this regard and underestimated the public will to implement effective climate protection measures. As well as failing to consider citizens' wishes, they have underestimated the appeal of civic virtues like community spirit and long-term thinking.

This should give much cause for concern. After all, anybody who for tactical reasons refuses to adopt a clear stance and create an appropriate policy framework forfeits public trust. Because a private individual or a business is only going to invest in the future if there are clear parameters for doing so. If the government does not ensure security of planning or action, it will continue to lose support, even among the 8 percent of respondents who admit to being very or somewhat satisfied with the federal government's performance. That's the nub of the problem.

But it's not all bad news: science can play a stronger role. In the eyes of the German public, scientists are the most credible actors in the Energiewende – this is another finding of the Barometer. But they have to rethink their role if they are to contribute more to the success of the Energiewende project. Systemic thinking, interdisciplinary cooperation and practice-oriented research are still the exception to the rule in scientific research. This despite the fact that communication between researchers and affected communities is crucial to the success of the Energiewende.

A WORD ON OUR METHODOLOGY

As in previous years, the online survey on which the 2019 edition of the Social Sustainability Barometer is based was carried out using the forsa.omninet household panel, which allows for population-representative surveys of the German-speaking population aged 14 years and over. The panel currently comprises around 75,000 people. Based on the ADM telephone master sample, the panellists were recruited in a multi-stage random sampling process.

Respondents were randomly chosen from the forsa-omninet panel, ensuring that only one person per household was selected. From each of the selected households, the person who typically makes decisions about energy-related matters in the home was interviewed. The survey was conducted online using a standardised questionnaire.

The participation of low-income households in household surveys is normally low, but since the views of these households are particularly relevant for the Barometer, the lower income group was disproportionately represented in the sample (stratified sampling). A redressment, i.e. subsequent adjusting of the distribution of the net sample to match the distribution of the parent population (e.g. in terms of sociodemographic attributes), was not carried out.

The income categorisation used here is based on the income stratification developed by the German Economic Institute (IW)⁶. Based on the needs-weighted monthly net income (equivalised income) defined in the OECD equivalence scale, five income categories are identified: 1. Households at risk of poverty (under 60% of the median household income); 2. Low-income or low-middle income households (60 to 80% of the median household income); 3. middle-income households: 81 to 150% of the median household income); 4. high-income or upper-middle income households (150 to 250% of the median household income); and 5. wealthy households (more than 250% of the median household income).

The Social Sustainability Barometer registers the attitudes, preferences, expectations, assessments, experiences and sense of justice of the German population in the context of the Energiewende for six sub-categories. As a survey instrument, it examines recurring themes in people's attitudes and behaviour from one year to the next. At the same time, new sets of questions are introduced with each successive survey in order to gather more detailed information on topical issues.

In 2019, the net sample of completed interviews numbered 6,117 households (initial sample: 9,842). 432 interviews were ended early. Of the total 6,549 surveyed households, 571 completed the 2017 survey only, 1,082 completed the 2018 survey only, and 3,290 participated in both the 2017 and the 2018 surveys. 1,606 households were newly recruited for the 2019 survey in a random selection process.

The distribution of relevant sociodemographic attributes in the sample/parent population:

Variable	Characteristic values	Sample			Parent population
		2017 [%]	2018 [%]	2019 [%]	[%]
Gender ⁵	Male	56.85	56.95	58.28	49.35
	Female	43.15	43.05	41.72	50.65
Income ⁶	Low-income	19.82	17.89	13.77	15.9
	Lower-middle income	9.78	19.10	16.55	16.4
	Middle-income	51.74	48.75	52.24	47.8
	Upper-middle income	18.26	13.95	13.46	16.0
	High-income	0.39	0.32	3.99	4.0
Age ⁷	18 – 29 years	9.95	7.34	5.24	12.84
	30 – 39 years	14.29	12.41	10.44	12.82
	40 – 49 years	15.17	14.79	13.73	12.56
	50 – 59 years	21.50	21.93	20.98	16.23
	60+ years	39.09	43.54	49.61	28.16
Living arrangements ⁸	Tenancy	44.44	42.28	41.06	56.0
	Home ownership	53.78	55.72	56.82	44.0
East/West ⁹	East	24.60	23.08	23.48	19.50
	West	75.40	76.92	76.52	80.50
Education ¹⁰	No school-leaving qualification	0.23	0.21	0.18	4.0
	School-leaving qualification after 7 years maximum	0.06	0.10	0.11	
	Lower secondary education	19.45	21.07	20.55	30.4
	Intermediate school-leaving certificate (GCSE equivalent)	36.63	37.20	37.66	23.1
	University of applied sciences entrance qualification	10.87	10.50	10.91	31.9
	School leaving certificate (Abitur)	31.37	30.15	29.76	
	Not specified	1.40	0.77	0.83	0.1

Information on data collection:

	2017	2018	2019
Data collection period	15 June – 23 July	1 August – 11 September	16 October – 6 November
Parent population	Private households in the Federal Republic of Germany; the respondents were the persons in those households who decide – either on their own or together with their partner – on financial matters.		
Survey sample size	7,843 households	6,594 households Sample increased by 307 households (special <i>Lausitz</i> sample)	6,549 households
Selection process	Multi-tiered random selection in the context of the forsa.omninet panel		

FOOTNOTES

- (1) The complete wording of the instruction and question was: We have summarised a number of proposals for how the federal government could use the additional revenues from a carbon tax. Please indicate the extent to which you support or oppose the following measures. The complete wording of the different options was: Any revenues from a carbon tax should... a) ..., like other tax revenues, be treated as state income and go into the federal budget; b) ... be used to lower other taxes, for example income tax; c) ... be used to provide direct support to low-income households; d) ... be used to support households that are especially disadvantaged by the carbon tax; e) ... be reimbursed in the form of a direct annual payment of an equal sum to all citizens. This would improve the financial situation of poorer households, which generally do not produce as many carbon emissions; f) ... be used to finance the expansion of renewable energies such as wind, solar and hydroelectric power; g) ... be used to develop a climate friendly transport system, e.g. through investment in new cycle lanes and a better train and public transport network.
- (2) The question was put somewhat differently in 2017: Would you be willing in principle to participate in a demonstration against planned wind turbines in your locality?

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- 3) The complete wording of the instruction and question was: The working group "Acceptance/Energiewende" appointed by the federal government is currently considering various measures aimed at increasing public acceptance of onshore wind-energy plants. Please indicate the extent to which you support or oppose the following measures. The complete wording of the different options was: In the construction of new wind turbines, it's important that ...a) ... the wind turbines are built at a minimum distance of ten times their height from the nearest residential area. Thus if the turbines are 100m high, the minimum distance would be 1 kilometre; b) ... no universally applicable minimum distance rules apply, but the specifics of each location are taken into account. This would ensure that any possible adverse effects on nearby residents are avoided; c) ... wind-energy companies pay a fixed charge to affected communities. The money would then be earmarked for local projects to improve people's quality of life; d) ... wind-energy companies pay a revenue-based fee to the affected communities and citizens. Part of the money would go directly to the municipality, while part would be given to citizens in the form of reduced electricity costs and investment in local amenities and associations; e) ... the affected communities themselves have the option of investing in the wind-energy plant and thus sharing in the profits it yields.
- (4) The complete wording of the instruction and question was: Please indicate the extent to which you agree with the following statements about the Fridays For Future protests. The complete wording of the different options was: a) Pupils have the right to demonstrate for climate protection even during school hours. Otherwise, the protests would not attract the level of public and political attention they deserve; b) The significance of the protests is overstated. For a sustainable future, it's more important that pupils make behavioural changes for the sake of the climate; c) Pupils have the right to demonstrate for climate protection. However, they should do so in their free time and not during school hours; d) The protests play an important political role. They are the pupil's way of highlighting that this is about intergenerational justice, i.e. the fact that their future depends on the climate policy decisions of today's adults.
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