

A Sociological Perspective on the Climate Crisis

Interview with Andreas Diekmann

Conducted by Jasmin Siri¹

Jasmin Siri: In 2024, you summarized many years of research and reflections on environmental issues in your book »Climate Crisis« (Diekmann 2024). Was there a specific reason for this, and how important is the topic to your work?²

Andreas Diekmann: The specific reason was that I've been giving lectures and leading seminars on the topic for many years now, and it was finally time to put it all down in writing. »Climate Crisis« is, after all, a synthesis of various disciplines – sociology, of course, but also social psychology and economics. And integrating the findings and theories in this way – I think that's something new. The topic itself has occupied me for many years, because I've actually been working on it—both empirically and theoretically—using models and theories for nearly half a century, since the late 1980s. Together with Anatol Rapoport, I had a DFG (German Sociological Association) project on the tragedy of the commons back then, as early as the late 1980s. And then I continued my research in Bern. In collaboration with Peter Preisendörfer, we conducted empirical studies on environmental awareness and behavior. That is the background. And along the way, we published various books. The first volume was published in Bern, co-edited with my doctoral student at the time, Axel Franzen, on cooperative environmental action (Diekmann/Franzen 1995). Another noteworthy development from that time is the first special issue on environmental sociology in the Cologne journal from 1996, co-edited with Carlo Jäger (Diekmann/Jäger 1996). In 2001, Peter Preisendörfer and I then wrote the first German textbook on the subject of environmental sociology (Diekmann/Preisendörfer 2001). These were all milestones along the way here.

Jasmin Siri: How do you conceptualize sustainability theoretically, and how would you implement that?

1 The interview was conducted in January 2026.

2 The translation of this interview was generated by DeepLPro and then manually edited and refined.

Andreas Diekmann: Sustainability is, after all, a term from forestry that dates back to the 18th century. And sustainability, as is generally known, means that resources should be conserved for future generations and not essentially consumed by the current generation. As calculations by Johan Rockström (2009) of the Potsdam Institute show, we have far exceeded planetary resource limits in many areas. We also run the risk of crossing tipping points in the climate and environmental system, in the Earth system. There is still some leeway in some areas, while in others we have long since gone beyond that point. People always talk about the climate crisis or climate change, but it's not just the climate. Nowadays, we speak of a polycrisis: the climate crisis, resource overexploitation, and biodiversity loss.

Jasmin Siri: It is, after all, a sociologically interesting paradox that despite all the climate conferences and despite all the research you've just traced back to the 1980s and 1990s, world society has so far been unable to halt climate change. How do you explain that? You are well known for your game-theoretical work, including on the prisoner's dilemma. How would you explain, from a game-theoretical perspective, that global society does not see itself as capable of preserving itself and its very foundations?

Andreas Diekmann: First of all, without any game theory at all, on the level of perception. These are mostly processes that unfold gradually. We hardly notice them. We don't perceive climate change because we lack the sensory awareness for it. Nor can we directly sense the loss of biodiversity. If we drove on the highway in the 1980s, to give an example, the windshield would be covered in insects. Today, the windows are largely clear in that regard. Some species we used to encounter on forest walks have declined by 90%. That is a creeping process that is barely noticeable. When you consider that shocking events like Chernobyl or Fukushima immediately created political pressure to act, it's striking. But the processes that are now even more serious, we hardly notice. We perceive them through the media, which is why communication about this is so important—especially regarding the scientific expertise that draws attention to these connections. That is the first point.

The second point would be the game-theoretical explanation. Climate change mitigation is a public good, which creates a coordination problem³ Without further measures, the actors – that is, states at the global level and individuals at the local level – will act as 'free riders'. When discussing the much-cited discrepancy between environmental awareness and behavior, it is not the discrepancy itself that is surprising, but rather the opposite – namely, that at least some citizens do behave in an environmentally conscious manner, provided that such behavior is not too costly. Yet this does not solve global environmental problems. The

3 For an introduction to game theory, see Diekmann 2016.

›tragedy of the commons‹ or ›prisoner's dilemma‹ are the key concepts here. This is the standard but highly simplified description. Perhaps the dilemma can be illustrated quite well using the fish pond example from social psychology, which has also been used in experiments (e.g., Mosler/Gutscher 1996). Of course, this is just a metaphor. The fish in the pond reproduce at a rate of 25% within a period of, say, one year. We have 10 fisherman catching fish from the pond. What must they do to ensure the pond is managed sustainably? They must ensure they catch exactly 20% of the fish population—meaning 80% must be preserved, and 20% can be harvested. Then, with a growth rate of 25%, the population will return to 100% by the end of the period. That would be sustainable management. If there are 10 fishermen and things are to be done fairly, then each should catch 2% of the fish so that the pond can regenerate to 100%. But what does each individual fisherman do? He thinks: My colleagues will want to take out much more. So I'll take more too. This brings us straight to the topic of conditional cooperation. And we're faced with the question of how the fishermen can best get out of this predicament. The best way, of course, is for them to sign an agreement and say: ›Each of us is allowed to take only 2%‹. But then we face the problem that we need a monitoring system for what they catch. And then we face the next problem: What do we do if they break the rules? In that case, sanctions are necessary, and we need an institution to enforce them. Games like these—and other, more complex variations of these resource games—are an excellent way to study how people react in such situations.

This example illustrates the problems that arise. Applied to the global commons, this means that individual countries will not cooperate out of their own volition; rather, it requires treaties such as climate protection agreements, which have not yet been optimally successful. We are in the midst of a very difficult cooperation problem. Of course, the metaphor of the fish pond is just an example. The interactions within the global commons are much more complex. Moreover, the relationships are asymmetrical. There are countries that profit from fossil fuels, and then there are countries that lack the necessary resources to address climate change. We have the Global South; we have the wealthy North. We have the countries that have been using fossil fuels for 200 years. We have the fossil fuel industry, which profits from this in the short term, and all the people employed in these industries.

So we're dealing with a massive Gordian knot, a huge tangle of problems that means that despite all the climate conferences, we may have glimpses of solutions today, and all the technical means for a solution, but we're still marching down a devastating path. Fossil fuel interests and lobbies are still far too powerful to allow for a real shift in course.

Jasmin Siri: That does not sound too good. Do you think we're dealing with a problem that's highly unlikely to be solved?

Andreas Diekmann: Let's also consider the scale of the problem: People tend to think: »So much is being done for climate policy and so many resources are being allocated.« In public opinion polls, there are those who say: »We've already done too much. It's far more important to stimulate the economy.« In fact, we are facing a major transformation. The energy transition is a process that encompasses all sectors of society. Karl Polanyi (1973) called the upheavals brought about by the Industrial Revolution and the expansion of capitalist markets »The Great Transformation«. These words can also be applied to the energy transition. If you look at the facts now, we're still pretty much at the beginning. Globally, and even in Germany where supposedly so much has been done, we still rely on fossil fuels for between 70 and 80 % of our energy. So reaching net zero in less than a generation is a massive challenge. But at the same time, there are also things we can count as positives: The rescue of some nearly extinct species, the decline in air pollution in some regions, and the fact that we can now swim in rivers that used to be sewers.

When it comes to climate policy, people often focus only on the costs and burdens. In contrast, we should also clearly emphasize the benefits we will all enjoy. Imagine: Cities where SUVs aren't clogging the streets everywhere. Cities where e-mobility and public transit prevail, where conflicts between cars, cyclists, and pedestrians are better resolved. Imagine a city where no combustion-engine vehicles are driving around. The improvement in air quality would be enormous, as would the reduction in noise. Added to this is the greening of cities, which protects us from the heat, and so on. All of these are benefits that characterize a livable urban environment. And there is one more point that offers hope today, despite all the setbacks caused by crises and backward-looking policies: the production of solar energy, wind energy, solar cells, and battery storage has become dramatically cheaper (see Roser 2020). Regardless of one's ideological stance, this opens up enormous opportunities for the use of green technologies. Today, solar and wind energy are cheaper than electricity generated from fossil fuels or nuclear power. This changes the nature of the dilemma. Instead of free-riding in the prisoner's dilemma, green energy, electric cars, heat pumps, and so on will also have a positive impact on people's wallets. The decline in prices for green technology and energy is a true game changer.

Jasmin Siri: You mentioned that you've been studying this topic for a very long time. In this Special Issue we are also interested in the role of sociology. What can sociology contribute to the debate on sustainability and climate change? How do you observe the role of sociology, and perhaps also: How has it changed since you began working on the topic in the 1980s?

Andreas Diekmann: Sociology is, after all, involved in this topic both theoretically and thematically across all its individual disciplines. Whether it's economic sociology, which examines businesses, or organizational sociology. Whether it's urban sociology, which deals with the architecture and infrastructure of cities; and,

of course, environmental sociology, which has emerged as a new subdiscipline. One could go through the individual branches of sociology; They are all affected. And from a theoretical standpoint, we have a lot to offer, including classical perspectives. Think of Robert Merton and the unintended consequences. Think, also in relation to Merton, of the Thomas Theorem, of the role of what people think, what other people think and expect, of beliefs. This is a very important topic today in sociology, but also in economics and psychology. And in this context, the topic of false beliefs or pluralistic ignorance is quite interesting. Pluralistic ignorance means: »I think I act in an environmentally conscious way, but everyone else—or at least the vast majority—doesn't.« There is an interesting study that has examined this worldwide (Andre et al. 2024). Around the world, environmental awareness is relatively high in many countries. Yet in almost all countries, people believe that others are less environmentally conscious. And we now know that people are more likely to act cooperatively when others do the same. However, due to pluralistic ignorance, they are less inclined to do so because they believe that others are not.

Jasmin Siri: We've just been discussing the relationship between theory and empirical research. My impression is that there are many fascinating empirical studies, but they rely relatively little on theory. Should we provide these empirical studies with a stronger theoretical foundation? Or is it simply due to the breadth of the field and the complexity of the empirical data that this isn't possible—and perhaps isn't even necessary? In your opinion, what should the balance between theory and empirical research look like?

Andreas Diekmann: I wouldn't view this quite so negatively. After all, the study just cited is based on theoretical insights into beliefs, pluralistic ignorance, and reciprocity. Grand theories, on the other hand—such as Luhmann's systems theory—are difficult to apply empirically, even though they undoubtedly provide some useful insights. Furthermore, the term »theory« is used in very different ways within sociology. For me, conceptual disputes over terminology do not yet constitute a theory. By »theory«, I mean a set of interconnected statements from which at least some hypotheses can be derived that are testable using empirical data.

On the empirical side, a particular problem arises, which can be illustrated by the multitude of studies on environmental awareness and environmental behavior. In these and many other empirical studies, conclusions about causalities are often drawn prematurely. Furthermore, the question of environmental behavior is frequently measured using fairly simple indicators. Whether people recycle, turn off the lights, or engage in similar behaviors generally has very little to do with actual resource consumption and actual greenhouse gas emissions. And it is possible that many studies are actually misleading in this regard. As Stern (2000, p. 408 ff.) points out, we must distinguish between »intent-oriented« behavior and the actual »impact«, that is, the actual CO₂ emissions of a household or

company. To uncover causal relationships, we would need to approach this much more rigorously from a methodological perspective, for example by using panel data—which we are attempting to do here with the new GLEN project (German Longitudinal Environmental Study, <https://glen-studie.de>). But back to the connection with theory. As I said, I wouldn't view the current situation so negatively. We have theoretical models and hypotheses derived, for example, from behavioral game theory and considerations regarding social dilemmas. Incidentally, this isn't just about the prisoner's dilemma – which is a very simplified model – but there are very different structures. And we try to model these structures using game theory. The prisoner's dilemma – and especially the symmetric prisoner's dilemma – is an extreme simplification; at best, it is a metaphor or a parable. One must recognize that there are environmental problems of very different natures. Indeed, a serious environmental problem was largely solved, namely the ozone problem in the 1980s. While global warming caused by CO₂ has been known for a long time, the depletion of the ozone layer was discovered relatively late, in the 1970s and 1980s. Paul Crutzen, who also coined the term »Anthropocene« (Crutzen 2002), played a key role in this. In record time, as early as 1987, nations agreed on the Montreal Protocol. In particular, CFCs, used, among other things, as refrigerants or in the infamous aerosol cans, were banned. Incidentally, the ban also reduced the greenhouse effect, as CFCs contribute to it as well. It is interesting to note that this was not a prisoner's dilemma situation, but rather a problem with an entirely different structure that facilitated a solution. So we see how, in this case, the theory and conceptualization of the situation lead to entirely different recommendations and solutions. That is why it is essential to recognize the exact structure of a social problem.

Jasmin Siri: Could you explain how the nature of the problem contributed to the solution?

Andreas Diekmann: Yes. One of the main reasons was that the U.S. realized in the 1980s that the costs of cancer cases caused solely by ozone were significantly higher than the profits generated by production. There were only a few manufacturers, unlike in the fossil fuel sector, where millions of companies are involved, and once other countries were brought on board and states with limited resources were compensated, a solution could be found that benefited everyone. The ozone problem was also a public goods problem, except that in this case, one actor already had an interest in producing the public good, as Cass Sunstein (2007) had pointed out. In the sense of Mancur Olson's theory of public goods, the U.S. was a so-called privileged actor. A solution to the climate crisis would also be beneficial for everyone, but it is far more difficult to achieve, as it involves many more sources of emissions, widely diverging interests, capital locked into fossil fuels, and the climate-damaging interests of the fossil fuel lobby. There is no one-size-fits-all model for all environmental problems.

Jasmin Siri: Does the time dimension play a role in this? I mean, I imagine that the CFC problem was fairly straightforward to conceptualize in terms of the time dimension, whereas the melting of the poles might not be imminent enough to be taken seriously as a problem? Or am I wrong, here?

Andreas Diekmann: Ozone was also something that people didn't really notice. The greenhouse effect has been known in science for over a hundred years – the principle itself for over 200 years – and the findings have been increasingly substantiated to this day. The Swedish pioneer Svante Arrhenius, back around 1900, already predicted global warming. He still saw it in a positive light: »Great, then it'll get warmer in Scandinavia, that can only be an advantage.« But he had already made calculations showing the extent to which CO₂ influences the climate. This research was continuously refined until, after considerable effort, Charles Keeling finally established the observatory in Hawaii—which is now under threat from the Trump administration.⁴ Based on precise measurements of atmospheric CO₂ concentrations, the steeply rising »Keeling Curve« was subsequently determined. However, it is also true that the tendency to focus heavily on the present prevents us from investing in the future. Although we are already experiencing climate change firsthand – for example, through extreme weather events – some processes and consequences have a long-term time horizon. As our own studies show (Bruderer Enzler et al. 2014, 2019), a large proportion of people have strongly present-oriented interests: »What I have in my wallet today is more important to me than what I will have tomorrow.« This already applies to the purchase of electric cars or heat pumps: »I have to invest now; I'll enjoy the benefits later.« Economists refer to this as a high personal discount rate; the value of the future is subjectively devalued to a great extent. This is a problem for future investments, whether in terms of personal health, nutrition, addictive behaviors, or the environment.

Jasmin Siri: You previously emphasized that your understanding of theory involves deriving at least some empirically testable hypotheses from interconnected observations of social phenomena. You referred to these as statements. You also argued that the connections between the micro, meso, and macro levels are crucial for sociological argumentation. What would happen to our arguments if we didn't take that into account?

4 The Mauna Loa climate observatory is facing closure, as the U.S. government plans to cut funding for this station and three others in its 2026 budget, stations that have been providing atmospheric data for decades. Source: <https://www.spiegel.de/wissenschaft/natur/mauna-loa-klima-messstation-auf-hawaii-von-schliessung-bedroht-a-68e6d3f1-c525-4a92-84e2-3f38745ed22c>, last accessed on February 2, 2026.

Andreas Diekmann: Today, the social sciences and sociology examine human reactions as well as the interactions between human behavior and ecological systems. Based on various models – such as social dilemmas, which can be formalized using game theory, among other methods – as well as other theories, researchers develop hypotheses, for example regarding conditional cooperation or the social adoption of new technologies such as electric cars or heat pumps. These hypotheses are tested in field trials, surveys, and laboratory experiments. In this way, we obtain the empirical data needed to confirm or refute these hypotheses. Numerous hypotheses have been refuted or could not be replicated. We know from many studies on nudging – the classic example comes from Thaler and Sunstein (2009), i. e., non-monetary incentives, those small psychological ›nudges‹ – that many of these so-called effects are not replicable. While nudge research has yielded some interesting insights for psychology, it has been massively overestimated in relation to environmental behavior and climate policy. Among these are studies that have been cited thousands of times. Replications, however, show that the effect does not exist at all, or not in the claimed form, or that the effects are much smaller than originally assumed.

One exception is the ›default effect‹. That is, the strong influence of default settings, which has been utilized, for example, in the ordering of green electricity (e.g., Liebe et al. 2021) or in legal regulations regarding organ donation. This effect has been replicated very successfully. On the other hand, a great deal of effort has been invested in research that may have yielded little overall benefit. Psychology and social psychology need to rethink their approach here, as some authors acknowledge; the critical contributions by Niesen et al. (2021) and by Chater and Loewenstein (2023, p.1 ff.) are good examples of this. The latter speak of the ›i-frame‹ and the ›s-frame‹, of individual behavior and of structural, systemic conditions. They argue that greater weight should be given to the ›system frame‹ in research.

Jasmin Siri: In many debates – both in the public sphere and within sociology – the view is held that individuals can actually make a difference through their concrete actions in the environmental sphere. I am interested in your perspective on this. Your recent book focuses heavily on large-scale structures and political measures. But then: How relevant are individuals and their concrete actions in the environmental sphere? And how does the meso level come into play?

Andreas Diekmann: If you focus solely on individual characteristics – or, to put it in quotes, merely practice psychology – then you might fail to recognize the truly effective policies. It's very much about systems and structures – and this is hardly news, especially in sociology. But it's not just about the macro level; it's about how these systems and structures influence individual behavior.

We need to clarify this context and these interconnections, and I would argue that we can start with a model in which, at the macro level, we have the role of institutions, international treaties, regulations, laws, and incentive structures, and that we then have a level of individual action – the micro level. In between lies a meso level consisting of organizations, companies, local authorities, etc., and these three levels interact with and are interconnected. Of course, ultimately it is always people who act. It is well known that the problems we face today with social security systems or the shortage of skilled workers are attributable, among other things, to the decline in birth rates since the mid-1960s. Ultimately, these are unintended consequences of millions of individual decisions, the outcomes of which at the macro level – in this example, the decline in the birth rate – have been known for decades and whose consequences were accordingly predictable. Yet it is the structures and processes underlying these developments that constitute the systemic causes sociology seeks to investigate. This is precisely the task of analytical sociology: To provide a deeper explanation for the interconnections we observe at the macro level – such as the rise in CO₂ emissions and global warming despite all the climate conferences – that is, to shed light on the darkness of the black box of social processes. Such explanations can then also contribute to the development of more effective climate policy instruments that gain public acceptance.

Jasmin Siri: Your book and your lectures are heavily influenced by knowledge from natural sciences. In particular, it contains information about scientific studies and data, which you then interpret from a sociological perspective. Do you think that sociologists who want to learn more about sustainability also need to engage more deeply with developments in the natural sciences in order to explain sustainability?

Andreas Diekmann: I think that, at least to a certain extent, one has to engage with these issues. Of course, we are not climate scientists who are currently analyzing ice cores, and climate science itself consists of so many different disciplines and brings together knowledge from various fields. But just as one must also deal with technological innovations in the sociology of technology, the same applies to environmental processes. When analyzing people's reactions to environmental processes, one will have to incorporate scientific findings there. I myself have to rely on the consensus of climate science. In a scientific field characterized by collaboration, I need to be able to trust and rely on many things. That, by the way, is also an interesting problem. Of course, we rely on a multitude of scientific measurements. Who tells me that Mont Blanc is 4,805.5 meters high? Here we rely on the measurements of geographers. It was recently reported that the length of the Rhine had been incorrectly stated for decades. The fact that a section of the Rhine had been omitted and the incorrect figure repeatedly circulated apparently stemmed from a transposed digit in a source that was continuously used. But hopefully that is the exception when it comes to facts that have been re-

peatedly verified. With new, barely verified hypotheses, however, this is no exception. Fallibilism (German: Fallibilismus) teaches us that all knowledge, no matter how thoroughly it has been examined, carries a certain degree of uncertainty. We must build upon the findings of the natural sciences and take into account what is considered provisionally established knowledge. An important source here is the climate reports of the IPCC (Intergovernmental Panel on Climate Change, <https://www.ipcc.ch>).

Jasmin Siri: This seems like a good time to discuss the topics of conflict, counter-movements, legitimization, and delegitimization. In »Climate Crisis: Ways Out of the Dilemma« (Diekmann 2024), you also examined in depth the reactions of society and the public to the climate crisis and climate policy. For example, you examined a possible redistribution of CO₂ emissions and suggested that low-income earners could benefit from it – which is almost tantamount to a policy recommendation. Would you recommend such a model to increase acceptance of sustainability measures, and if so, why?

Andreas Diekmann: That's an interesting topic. It's also a very important topic in environmental research, namely the question of acceptance of environmental policy – and especially, let's say, environmental policy that actually makes a difference. Promoting environmental awareness is important, not because people will necessarily act more environmentally consciously in their daily lives as consumers. What matters far more is citizens' environmental awareness as active participants in society, as citizens. That is, as politically engaged citizens who, even if they are passive, make their views known through their voting behavior or actively participate in protests. At least in democracies, and ultimately even in authoritarian systems, climate policy will only change if the public gets on board. And now to this question, which has to do with acceptance: What kind of policy is appropriate here?

We know that raising the price of fossil fuels – that is, of CO₂ – has a very strong impact and is an extremely effective measure. And strangely enough, as we can now see from our GLEN data, a great many people believe that this is not effective. Higher taxes and prices are unpopular. We face a dilemma similar to that in risk research, where laypeople and experts perceive risk differently. The public thinks differently about the effectiveness of CO₂ taxes than experts do. Many studies show that CO₂ taxes have a very strong influence on behavior. In particular, the European Emissions Trading System is hardly known to the general public, even though it affects everyday life and all of us. We also asked, »How well informed are you about CO₂ taxes?« A large majority is not informed at all. Yet the Emissions Trading System (ETS) has achieved so much. Over the past few decades, greenhouse gas emissions covered by this system have declined by about one half. The ETS has contributed significantly to this. Just imagine that. That's a hundred

times more than all nudging, all individual, and all educational programs combined. And building acceptance for this is therefore incredibly important.

And now on to the next question about redistribution. As part of the GLEN project, we've just developed a module to track CO₂ emissions – that is, the impact of household actions and investments. We've made this as precise as possible through surveys. We have a highly detailed framework covering mobility, consumption, housing, and food. We've even included pets. Our four-legged favorite, dog, emits an average of one ton of CO₂. That's not something to be overlooked. And now we come to the distribution of CO₂ emissions – what is commonly referred to as the ecological footprint. This concept is also viewed critically, as it originates from BP (British Petroleum). It is claimed that the company developed it to shift responsibility from industry onto citizens. That said, the concept itself isn't bad. Of course, industry manufactures the products, and people buy cars and other things. But it's certainly interesting to know the distribution of CO₂ emissions. For example, how big is the difference between the bottom 10% and the top 10%? The average figure is about 10 tons, which is slightly higher than the official statistics. It is possible that some of the data in those statistics is underreported; there is much to be said about the survey methods. In line with other studies, we find a heavily right-skewed distribution of CO₂ emissions. Our research group found similar results in Switzerland (Bruderer Enzler, and Diekmann 2019). A right-skewed distribution means that the 50% threshold – the median – lies below the mean. Using the German data, this results in a median of about 8 tons. About two-thirds of the population falls below the mean. With a CO₂ tax featuring per-capita redistribution, everyone who emits less CO₂ than the mean of 10 tons per year would benefit net. This proposal would therefore benefit two-thirds of the population!

In reality, however, the proposal for a CO₂ tax with redistribution is, as we've found, highly unpopular. In the book, I defended this proposal. For many years – since the 1990s – this idea has been around under the name ›eco-bonus‹. But the idea is often misunderstood or rejected, presumably in part because the eco-bonus is also distributed to wealthy individuals. Yet the system has a socially equalizing effect. A CO₂ tax without redistribution acts like a regressive tax: The poorer pay higher CO₂ taxes relative to their income. With redistribution, however, the regressive tax becomes a progressive one. Poorer households benefit.

Jasmin Siri: That's interesting. One might therefore wonder why this hasn't been regulated by law for years. In Germany, the Red-Green coalition (1998–2005) could have introduced this measure.

Andreas Diekmann: It was actually a coalition decision by the last German coalition government, but it was never implemented. It's different in Switzerland. There, there is a relatively high CO₂ tax of 120 francs (about 130 €), though only

on heating fuels, of which two-thirds are refunded and one-third goes into a fund for climate measures. In Switzerland, the refund is processed with minimal administrative effort through health insurance. In Germany, we are still waiting for a system that makes it technically possible to make payments to citizens with minimal administrative effort.

My current proposal would be to stop redistributing funds on a per capita basis and instead use the money from the Climate Fund primarily to lower electricity prices for everyone, not just for industry. The simple model of refunding CO₂ taxes has a catch. As we can also see from our GLEN data, affluent households are increasingly investing in renewable energy – namely, heat pumps, solar energy, and electric cars. But then the social balance of per capita redistribution deteriorates year by year. Thus, inequality decreases and the progressive effect of redistribution fades. Here, too, it becomes clear that the dynamics of these relationships are more complex than initially assumed. Lowering electricity prices for everyone is more popular than CO₂ taxes with redistribution. And it creates a win-win effect: there is an incentive effect from CO₂ taxes and an incentive effect from lower electricity prices, which are relatively high in Germany. Both provide incentives to invest in electric cars, heat pumps, etc.

Jasmin Siri: What are your thoughts on social conflicts when you consider examples like these? I'm not surprised that people aren't familiar with these emissions issues – not only because they're complex, but also because they're tied to class issues. What social conflicts do you think are at play here? And perhaps, following on from that, the questions of whether sociology has overestimated the climate protests of the last decade? Or whether we've focused too much on researching these protests?

Andreas Diekmann: The whole climate issue is, of course, also linked to a huge number of questions of social inequality. I think it's very important to study climate protests because we know from theory and empirical studies that interests don't automatically lead to solidarity-based movements and that political entrepreneurs are needed to spark protests. Fridays for Future (FFF) was enormously successful at times. Angela Merkel said she wouldn't have pushed the Climate Protection Act and climate policy so hard if it hadn't been for FFF. Now, however, it seems that the protests have died down significantly, and that we are also facing many other crises.

Research on climate protests is an important topic in sociology and political science. In addition to studies of the environmental movement, the counterforces should also be examined. These issues are interconnected and interrelated. Inequality and class issues, for example, are naturally also present in climate protests. Let's not just think of FFF, but also of the Yellow Vests. That was, after all, an uprising partly by the underprivileged rural population. In the case of the Yellow Vests in France, it was particularly the rural population – the periphery –

against the wealthy people in the center. The rural population, which depended on cars, had good reasons to protest. Macron's French government planned for the CO₂ tax to flow into the general state budget, and people were outraged by this. So, when it comes to the acceptance of this tax, everything was done wrong in France (see Gagnebin et al. 2019). That was certainly a lesson for environmental policy. The fear of the Yellow Vests is a political trauma. But we must not draw the wrong conclusion from this and completely water down climate policy. In Germany, too, we immediately saw protests by farmers over agricultural diesel. Powerful lobbies can spark uprisings when certain privileges or subsidies are curtailed. Climate policy is therefore closely linked to the issue of social inequality.

It is therefore crucial for climate policy to gain public acceptance and to compensate social groups who cannot afford investments in renewable energy or who, as renters, have fewer opportunities to do so. In the GLEN data, we have now seen very clearly that the purchase of heat pumps, solar systems, and electric cars – not surprisingly – correlates strongly with income. Direct subsidies also tend to be distributed from the bottom up, especially since the income thresholds for eligibility are set very high. It would likely be more important to expand the charging station infrastructure and keep electricity prices low. Electricity prices at charging stations that are far too high act as a deterrent. Solar panels on rooftops, on the other hand, are more common among the affluent. So everything is very closely linked to the issue of inequality and thus to one of the central themes of sociology. But we also need to demonstrate this empirically. Of course, we know that wealthier people are more likely to be able to afford this. However, the extent to which this is true, how we can counteract it, and what effects and side effects it has must be determined empirically.

Jasmin Siri: There have also been some interesting political counter-movements recently, such as climate change deniers or so-called ›climate opportunism‹, which actually sees a certain potential in climate change. What is your view on this?

Andreas Diekmann: What I consider important for sociology and for our topic is to take a closer look at the counterforces ›from above‹. For example, to examine in detail how the fossil fuel industry operates and justifies its actions through propaganda. Consider the so-called ›Heizhammer‹ (heating hammer) and the denigration of heat pumps in Germany through a large-scale campaign by these counterforces and its resonance in the media. The campaign contributed to the failure of the Traffic-Light coalition.⁵

5 The so called traffic-light-coalition (german: Ampelkoalition) refers to the coalition of Social Democrats, Greens and Liberals in Germany from 2021–2024. The coalition led by Chancellor Scholz began with goals such as climate protection and modernization, but was marked by in-

Or think about the denigration of electric cars. At GLEN, too, we ask about the practicality of electric cars for everyday use, and a significant portion of the population denies this. Although anyone who has even a passing familiarity with the technology knows that this is practically the future and that the German auto industry has missed the boat. So it is certainly interesting to analyze the discourse; there is already a great deal of work on this in environmental sociology. There was a strong focus on media discourse, involving both qualitative and quantitative discourse and content analyses. This also involves the use of new methods such as web scraping and the analysis of large volumes of digital data.

Jasmin Siri: You have just introduced the concept of counterforces. How can sociology capture these ›counterforces‹? If you were to outline ›counterforces‹ now, including within the framework of problem constellations, how would you do so?

Andreas Diekmann: I'd say all those who are currently profiting from fossil fuels in the short term. That's obviously the oil and gas industry, the fracking industry in the United States –»Drill Baby, Drill!« – and the shift in policy by the U.S. government since Trump took office. Then, of course, the oil-producing nations, namely the U.S., Saudi Arabia, the Emirates, and so on. It's only logical that they all want to sell off their reserves quickly now. That is what the economist Hans-Werner Sinn (2012) has called the »green paradox«. That we are – quite rightly – trying to switch to renewable energy, but there is an incentive to bring even more fossil fuel onto the market. That is undoubtedly a huge challenge.

Jasmin Siri: So for you, the opposing forces would be all those connected to fossil fuels?

Andreas Diekmann: That would be the crux of the matter. Of course, there are also all those who want cheap, fossil-fuel-based energy. The farmers in Germany who use their subsidized agricultural diesel. In general, diesel is subsidized in Germany, whereas that is not the case in other countries. Why do these fossil fuel subsidies exist at all? Why is diesel taxed less than gasoline? There's absolutely no reason for it, but it's been done for many years. And so far, no government has reversed it. These are also barriers to the transition: Fossil fuel subsidies, which are particularly pronounced worldwide and in Germany. Simply scaling back these would already be a major win for the climate and the environment.

Jasmin Siri: In sociology and beyond, there is intense debate about whether and how the market and the state can promote environmentally friendly behavior. We have just discussed this, but if we take it a step further, we might ask to what extent a fundamental transformation

ternal conflicts, including disagreements over economic and finance policy, which led to its collapses.

of capitalism is necessary and whether ›green capitalism‹ is possible. Does this play a role in your thinking?

Andreas Diekmann: The first question is, what is capitalism, anyway? There are people who call for the term to be abolished. Are there any non-capitalist countries at all? Is capitalism defined by the property regime? There is no country that allows for the unlimited use of property or, conversely, does not allow for private markets. Can capitalism or socialism be defined by the public sector share? During Helmut Kohl's time, Germany had a public sector share of 55 %. France still has a public sector share of over 50 %, while other countries – the Anglo-Saxon countries – have a much lower public sector share. There are very different forms of capitalism. The public sector share and the extent of inequality could be used as criteria. Personally, I prefer to live in a welfare state that provides basic services for everyone and limits inequality. What good is wealth to the rich if they have to live in gated communities?

A serious problem is that the immense wealth and resulting wealth inequality stemming from unchecked capitalist economic practices threaten democracy. In her eco-bestseller, Brigitte Herrmann (2022) writes about abolishing capitalism and introducing an eco-economy modeled on the British wartime economy. That strikes me as extremely unrealistic. The climate crisis is hardly going to wait until capitalism is abolished. Socialist and democratic forces should strive to rein in capitalism, establish rules for the tech giants, regulate markets, but also harness the immense innovative power for climate protection and adaptation to the effects of climate change. That is the European way – as opposed to the Anglo-Saxon one – at least in theory, if not always in practice. If you will: more Kant, less Machiavelli.

I am very skeptical of the arguments for degrowth – that is, transformation through renunciation. Very few people actually do that. Sure, there are more and more people who eat a vegetarian diet, who largely forgo meat. But I see little chance of this catching on among the entire population, let alone worldwide. On the contrary: Meat consumption is rising globally, for example in China. As people become wealthier, it increases. Instead, I'm pinning my hopes on technological innovations in the food industry. But that's just speculation. I don't think that reducing consumption – or voluntarily cutting back on consumption – is the solution. However, we do have a method for what I'd call targeted degrowth. It's not as if all growth is bad. In healthcare, education, caregiving, artistic creativity, and services of this kind, growth is certainly welcome. And in science and medicine. It's a major achievement that life expectancy has risen so sharply. In certain areas, we want growth; in others, particularly with fossil fuels, we don't want growth. But if we now tax the externalities precisely or impose levies on them, then growth in these areas will decrease. And in other areas that become relatively cheaper, it may increase. So degrowth is achieved precisely through appropriate institutions, through appropriate institutional rules that redirect the dynamics of growth.

Jasmin Siri: Economic sociologists, including those in the volume we are co-editing, focus on alternative forms of coordination as a path toward greater sustainability. Energy cooperatives, bioenergy villages, local currencies, and, more recently, alliances between the state, the private sector, businesses, and civil society are presented as socio-ecological experiments and pathways for development. How do you assess this, and what potential and limitations do you see in such alternative projects?

Andreas Diekmann: Energy cooperatives can bring about progress in several ways, including social progress, when people come together and build social capital as a byproduct. Take heat pumps, for example. The question is whether it makes sense for everyone to install a heat pump individually in their own home. Or would it be more sensible to centralize this, or for apartment buildings or cooperatives to provide heat through renewable energy, potentially at a lower cost? But there's a problem, and this applies to energy-saving and nudging campaigns as well. This is where the so-called ›waterbed effect‹ comes into play. The sector covered by emissions trading is then relieved of pressure. The local power plant has to buy fewer allowances because we're emitting less CO₂. They then sell those allowances to power plants that may still be running on lignite. And the CO₂ emissions saved are offset again. That's the logic behind capped emissions trading. So in sectors covered by emissions trading, energy conservation isn't rewarded. You have to keep that in mind.

Jasmin Siri: Now I'd like to move on to the final concept we'd like to discuss with you. We know that you've engaged deeply with the idea of solidarity and traditional approaches to it. We'd like to ask you whether – and, if so, what kind of solidarity – class, gender, and generational solidarity, to name just a few, are relevant in light of the urgent climate crisis.

Andreas Diekmann: That brings us back to some of what we've already discussed. Solidarity is, of course, a classic concept in sociology. I would also speak of cooperation here. The two are very similar. Perhaps solidarity also encompasses a value system, meaning that it is cooperation underpinned by shared values. And that is precisely the question that can be well captured through game theory and cooperation theories, and the basis of legitimacy is exactly this question of acceptance of climate policy measures.

Climate change affects both genders and all generations. One might say that younger people are more severely affected, but older people also have children and grandchildren and suffer particularly from the health consequences of, for example, heat stress. One problem, as Jens Beckert has particularly emphasized, is that solidarity within the climate movement is not tied to social class (Beckert 2024). He sees this as an obstacle. However, it can also be an advantage – here we align more closely with Ulrich Beck and his famous observation that ›poverty is hierarchical, while smog is democratic‹ (Beck 1990) Which, of course, isn't entirely accu-

rate. Our empirical studies in four Swiss and German cities showed that while environmental impacts do not differ significantly by socioeconomic status, the upper classes are better able to protect themselves against environmental impacts, particularly noise. Wealthy people in particular are drawn to trendy urban neighborhoods, which often have higher noise levels, but they then have larger apartments, courtyard locations, soundproof windows, and bedrooms that do not face the street. We have called this the »environmental shielding« hypothesis (Diekmann et al. 2023). But it is clear that the middle and upper classes also suffer from environmental stressors, heat stress in cities, or air pollution, even if the poorer classes, especially from a global perspective, are more severely affected. Climate change ultimately affects all of humanity. Again, certainly not to the same extent, especially when considering the situation in developing countries, e.g., the people in the river deltas of Bangladesh or in the slums of New Delhi. However, the fact that it affects people across class lines also presents an opportunity to create, in principle, a very broad basis for solidarity.

Jasmin Siri: To conclude, we would like to ask you what kind of sociology you envision in order to address the challenges we have just discussed. In what ways could or should sociology be different – and perhaps even better?

Andreas Diekmann: I would like to see a sociology that accurately describes macro-level events and interconnections – such as environmental movements, migration, social inequalities, social structure, educational opportunities, etc. – careful description is also important – and that explains these interconnections precisely, in other words, looks inside the black box. The macro-meso-micro framework serves as a good guide here. Explanation means linking back to people's actions within a social context. For it is social actions in interaction with other actors – with their intended and, above all, unintended consequences – that ultimately generate the social systems and macro-level interrelationships we observe. To explain social actions, we need three building blocks: what people intend (their goals or preferences), what they think about the consequences of their actions and the expectations of others (their »beliefs«), and what they are capable of (their resources or opportunities). How these three building blocks are linked depends on the underlying theory of action. If the actions are strategic, game theory can be applied. In this way, one arrives at »medium-range« theories for specific sociological questions. These are the foundations of an analytical-empirical sociology (see also Diekmann 2026).

What I expect from professional sociology is that theories and the hypotheses derived from them be tested using modern methods, appropriate research designs, and so on. Sociology must teach these skills – the methods, including the handling of digital data – at least at a basic level; specialization can come later. Basic knowledge, such as techniques for testing causal hypotheses and an

understanding of potential errors in data analysis, is an integral part of a critically analytical, empirical science. CCS, or computer-assisted social science, is becoming increasingly important, but the same critical methodological principles apply here as well. Research is not about being satisfied with a single study that reports this or that effect. The reproducibility of results is absolutely central. We need more cumulative research and reproducible results. Multiparadigmatic science based on the motto »Anything goes« is a convenient excuse. This approach may work for a certain period of time, but if sociological research is to be taken seriously, it must deliver clear, reproducible results.

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