

Appendix to  
 The Politics of Climate Instruments: Investigating Policymakers' Belief  
 Systems in EU Climate Policymaking

Anne Gerstenberg, Kai-Uwe Schnapp

Table 1: Interview questionnaire.

Research Interest	Question(s)
<b>Entry question and policy objectives</b>	
<ul style="list-style-type: none"> <li>– Get a first impression of the interviewee's own perception of climate policy and their sense-making therein.</li> <li>– Is the interviewee familiar with the topic of climate protection/the EU climate goals in general?</li> <li>– Determine the preferences of policymakers with respect to policy goals.</li> </ul>	<p><b>This is my first question: Could you briefly describe your daily work?</b></p> <p>How does your daily work relate to climate policy and climate action?</p>
<b>Perception of climate policy</b>	
<ul style="list-style-type: none"> <li>– Understand the interviewee's attitude toward EU climate goals. Does s/he consider them as too ambitious/not ambitious enough?</li> <li>– Determine whether goals are individual or organizational goals.</li> </ul>	<p><b>Generally speaking, what do you think about EU climate policy?</b></p> <ul style="list-style-type: none"> <li>– To what extent does your institution/organization share the current EU climate goals?</li> </ul>
<b>Instrument preferences I</b>	
<ul style="list-style-type: none"> <li>– Determine the preferences of policymakers with respect to policy instruments.</li> <li>– Analytic interest: consistency of instrument preferences and meta-beliefs.</li> </ul>	<p><b>In your opinion, which tools and instruments are most appropriate to achieve the EU climate goals in the electricity and industry sectors (or the climate goals of your home country)?</b></p> <ul style="list-style-type: none"> <li>– What do you think of the EU Emission Trading System (EU-ETS)?</li> <li>– What is its contribution to achieving the EU climate goals in those sectors?</li> <li>– Do you think that this will change in the next few years?</li> <li>– How do you evaluate other instruments to reduce emissions compared to carbon pricing? Are they better or worse suited for reducing emissions than the EU-ETS?</li> </ul>
<b>Instrument preferences II</b>	
Determine the preferences of policymakers with respect to policy instruments.	<p><b>Which objectives/characteristics/criteria (for non-economist interview-partners) are important to you when thinking about climate policy instruments?</b></p> <ul style="list-style-type: none"> <li>– Are you aware of any relevant side effects?</li> </ul>
<b>Interdependencies between instruments</b>	
<ul style="list-style-type: none"> <li>– Here we want to find out about the actor's strategies for reaching solutions (instrument mixes).</li> <li>– Enquire the extent to which political feasibility shapes the ideas and strategies of the actor.</li> </ul>	<p><b>You just named several instruments to reduce greenhouse gas emissions. Are you aware of any interactions between these instruments?</b></p> <ul style="list-style-type: none"> <li>– Are there instrument combinations that you think should be avoided? If so: Why?</li> </ul>

	<p><u><i>In case the combination of coal vs. emissions trading is not named here by the interviewees themselves; ask:</i></u></p> <ul style="list-style-type: none"> <li>– Some would say that incentivising abatement by the EU-ETS and a mandatory coal phase-out contradict each other. What do you think about that?</li> </ul> <p><u><i>In case the person interviewed appears to be familiar with details of the EU-ETS, ask:</i></u></p> <ul style="list-style-type: none"> <li>– We talked about the interaction between the EU-ETS and other climate policies. In that context, what do you think is the role of the Market Stability Reserve?</li> </ul>
<b>Interplay of social and climate policy</b>	
<p>This block seeks to enquire about the knowledge and consciousness of actors for and about the interlinkage between the topics and which narratives are told about the social costs/effects of climate policy.</p>	<p><b>Some people say that climate policies affect people’s livelihoods. Which role do such considerations play in your thinking?</b></p> <ul style="list-style-type: none"> <li>– Which social policy instruments do you consider effective for alleviating the social costs of climate policies?</li> </ul> <p><u><i>If the person interviewed appears to be well informed about the EU-ETS, ask:</i></u></p> <ul style="list-style-type: none"> <li>– How important do you consider more effective management of allowance prices in the EU-ETS for social or other reasons?</li> <li>– Are you familiar with the price-stabilization mechanism [in Article 29a of the EU-ETS directive]?</li> <li>– Do you have preferences to change it? If so, how?</li> </ul>
<b>The Fit-for-55 package and amendment of the MSR</b>	
<ul style="list-style-type: none"> <li>– Ask specifically about what happened during the Fit-for-55 policymaking process and the amendments of the Market Stability Reserve (MSR). What were the interests of different actors? Which roles did they play? Which actors are how satisfied with the results?</li> <li>– If people go into legitimacy questions, do not immediately interrupt.</li> </ul>	<p><b>In the context of the Fit-for-55 package, there is a discussion to reform the EU-ETS. What is your position in this discussion?</b></p> <ul style="list-style-type: none"> <li>– Which actors were particularly influential?</li> <li>– Can you identify particularly effective advocacy groups?</li> <li>– What was their role?</li> <li>– Who was driving the process and who dragged his feet?</li> <li>– What types of arguments and issues did these actors use in their lobbying?</li> <li>– Which strategies were most effective?</li> <li>– Concerning the make-over of the EU-ETS: What would be your ideal outcome or what is still missing in your opinion?</li> <li>– And how about the suggested changes in the MSR?</li> </ul>
<b>Meta-questions</b>	
<p>Analytic interest: consistency of instrument preferences and meta-beliefs.</p>	<p><b>Generally speaking, what do you want to achieve with your own work in the field of climate policy?</b></p> <ul style="list-style-type: none"> <li>– Why do you want to achieve this objective?</li> <li>– How do you want to achieve this objective?</li> </ul>

	<ul style="list-style-type: none"> <li>- In your opinion, what are the key political constraints to changing the current mix of climate policy instruments?</li> <li>- How would a carbon-free world ideally look to you?</li> <li>- What is, in your view, the difference between environmental policy and climate policy?</li> <li>- Which energies are most suitable in your country to sustain your country's energy supply? Why?</li> </ul>
<b>Reference System</b>	
<ul style="list-style-type: none"> <li>- Identify sources of the actor's beliefs (education, former jobs...)</li> <li>- What shaped their beliefs and fundamental reference system?</li> <li>- Awareness of the influence of their own bubble on their opinions?</li> </ul>	<p><b>How do you get informed about recent developments in the realm of climate policy and the effects of individual instruments?</b></p> <ul style="list-style-type: none"> <li>- Which academic institutions/researchers are you in contact with/do you „listen“ to?</li> <li>- Why did you choose those?</li> <li>- How do you evaluate/estimate their trustworthiness/correctness?</li> <li>- Has there been a special occasion or phase in your life that shaped your thoughts about climate change and climate policy?</li> <li>- I can imagine that, on a personal level, you have had to deal with some frustrations over time when working in this difficult field for as long as you have. How does that make you feel?</li> </ul>
<b>Biographic information</b>	
	<ul style="list-style-type: none"> <li>- Which year were you born in?</li> <li>- Do you hold an academic degree or degrees?</li> <li>- If so, which disciplines did you study at which academic level (UG, PG, PhD)?</li> <li>- For how many years have you been working with your current institution/employer?</li> <li>- What is the exact name of your job position?</li> <li>- Professional background - What previous education(s)/experience do you have regarding your current job?</li> </ul>
<b>Closing</b>	
<ul style="list-style-type: none"> <li>- Leave space for things that the person would still like to share.</li> <li>- Find out about other possible interview-partners.</li> </ul>	<p><b>Finally: If you had the power, what exactly would you change in the current policy mix? Think freely.</b></p> <p><b>Thank you for all the interesting insights. We have come to the end of my questionnaire now. Is there anything that we haven't talked about yet, that is still important to cover in your view?</b></p> <ul style="list-style-type: none"> <li>- Is there anybody else that we should talk to in your opinion?</li> </ul>

Source: Own categorization.

Table 2: Codebook.

	Code	Description	Example
<b>Actor position</b>	Actor self-description	Responses to the question: How does your daily work relate to climate policy and climate action?	„I'm a researcher at a think tank consultancy working on climate change. So, basically my entire work life has been on climate change, with a bit of energy. But the main focus is actually European climate policy, not so much energy policy" (Interview 3, DE, Think Tank, 2021, Pos. 4)
	View of other actors	Statements made by one actor about other actors and their positions in the field	<p>„Another one is the actors. I would say that when it comes to consumers, there's a lot less rational decision-making on cost effectiveness or so when people make their personal choices" (Interview 3, DE, Think Tank, 2021, Pos. 38)</p> <p>„And personally, I think that Fridays For Future and Greta did a great job in moving the perception from 'okay, we want to be at 2% or two degrees' now to be at 1.5 degrees and everybody now talks about 1.5 and nobody talks about below two" (Interview 4, DE, Consulting, 2022, Pos. 17)</p>
<b>Climate policy goals</b>	Policy objective	Statements that reveal the actors objectives in climate policy	„... the objective is pretty clear. It's to reach a climate neutrality and net zero by 2050. That's the key objective. And these instruments are the ways to get there" (Interview 21, EU, Consulting, 2021, Pos. 35)
	Perception of climate policy in general	Policy-core beliefs: normative and empirical beliefs concerning policy subsystems	„I think it's no secret electricity is probably the centre of decarbonization. We need to electrify the economy in order to decarbonize the economy" (Interview 21, EU, 2022, Consulting, Pos. 4)
	Perception of EU climate policy	Any statement that evaluates the current EU climate policy	<p>„I think overall the EU climate policy does-, well, it's fairly comprehensive, it does a good job of that. Of course, there are political compromises that occur in the making of policy. But I think they've done a fairly good job overall" (Interview 2, EU, Consulting, 2021, Pos. 7)</p> <p>„Generally speaking, of course it could always be more ambitious" (Interview 12, DE, Parliament, 2022, Pos. 9)</p>
<b>Instrument preferences</b>	Preferred climate policy instruments	Overarching code to the question: which	„... every country will have a different set of policies and a different policy design. And that needs to be taken into account in order to avoid perverse

		instruments do you prefer?	outcomes and to increase the overall efficiency and effectiveness of the system. So, obvious ones like removing countervailing fossil fuel subsidies or providing upfront financing assistance for technologies and where there's barriers to research, development or deployment. There are obvious ones „ (Interview 2, EU, Consulting, 2021, Pos. 41)
	Instruments to avoid	Instruments that are to be avoided in the interview partner's eyes	„... if you ask me, there is an instrument that I would not want, that is the whole taxonomy, what do they call it? Defund it” (Interview 9, EU, Think Tank, 2022, Pos. 39)
	Objectives/ characteristics /effects of instruments	The „criteria“ an instrument should fulfil in the eyes of the interview partner	<p>„They have to be effective, they have to provide the right incentive or provide the right impact, that they achieve the emission reductions they are intended to. Then they should be as efficient as possible but effectiveness is more important, I guess. They have to be accepted, so acceptable for the public, for the voters, because otherwise, they won't be sustainable” (Interview 5, DE, Administration, 2022, Pos. 35)</p> <p>„So, first is to have these long-term and short-term perspectives or well-set targets, but the second, most important criteria is that you need this instrument in forced action now, otherwise you'll have kind of a penalty. So, it needs to be a carrot and stick” (Interview 27, PL, Environmental Organization, 2022, Pos. 31)</p>
<b>Instrument interactions</b>	Perception of instrument combinations	Actors describe how instruments should be best combined in a policy mix	<p>„I think where there's obvious potential gains, it seems like, okay, greater interconnection in the electricity grid, like you're still seeing fairly large price differentials in different regions, in wholesale markets, which suggests that there's fairly large gains from trade” (Interview 2, EU, Consulting, 2021, Pos. 39)</p> <p>„I think there's not a single instrument that's going to solve our problem. So, I don't subscribe to the 'carbon price will fix everything'-approach. And I think every sector is quite different. So, I think we need a specific policy instrument for each sector. And they can supplement each other” (Interview 3, DE, Think Tank, 2021, Pos. 38)</p>

	Mixes to avoid	Instrument combinations that should be avoided	„So this combination of regulatory law and emissions trading is simply unnecessary. If you have greater ambitions to protect the climate, then you reduce the cap and let the market do it” (Interview 20, DE, Parliament, 2022, Pos. 21)
	Unaware of negative interactions	Actors express that they are not aware of any negative interactions between the ETS and other instruments	„No. Actually, I can't think of any specific combination. [...] I mean, it's even possible to combine carbon taxes and emissions trading and some member states are doing it. If there's a compromise for an emissions trading system with a certain ambition leading to a certain price level, then there are certain member states which are even more ambitious and put an additional price on carbon to get an even higher price overall. So, those policies definitely need to be kind of coordinated, but it's possible to combine. Actually, I haven't thought [about it], I don't know if you have a list of examples” (Interview 33, EU, Bureaucrat, 2023, Pos. 15-16)
	Instrument interactions - impact on total emissions	Actors speak about the interrelation between the ETS and national climate policy instruments especially in regard to the fact that national instruments do not have an impact on total emissions	„Because the coal phase-out actually, let's just say so, has no national influence on the CAP and thus has no influence on ... no climate effect. But ultimately, it only has a price effect, purely in Germany” (Interview 20, DE, Parliament, 2022, Pos. 18)
	Interaction between ETS and coal exit	Positions formulated about the interaction between the ETS and the German coal exit	„I: So, some would say that incentivizing abatement by the ETS and a mandatory coal phase out to contradict each other. What would you say about that?  B: I do not agree. I know that there's this debate. But I do not agree” (Interview 5, DE, Administration, 2022, Pos. 45)
<b>EU-ETS</b>	Perception of the ETS	The expressed perception of the EU-ETS	„I think it's an essential part of achieving EU climate goals. I know there is some debate about its efficacy and its ability to drive emissions reductions to date. However, well, I think it's obvious that if you have a reasonable price incentive that is coming out of the emissions trading system, then it is

			driving de-carbonization” (Interview 2, EU, Consulting, 2021, Pos. 13)
	ETS - criticism and improvement suggestions	All statements that express criticism toward the functioning of the ETS and how they would like to change it	„Another blank in the EU policy is addressing non-CO <sub>2</sub> emissions from aviation. So, the CO <sub>2</sub> emissions from aviation are only one third of the climate impact. Two-thirds is cloud formation and then other impacts on methane, ozone, and so on in the atmosphere. And these two thirds of aviation emissions are still not addressed in any regulation or other mechanism, no pricing, no regulation. So, that is a big blank spot still in the ETS” (Interview 3, DE, Think Tank, 2021, Pos. 58)
	ETS - price stability	Statements on the importance of price stability or Price Stabilization Mechanism in Article 29a	„Frankly, I don't think article 29a is an effective mechanism. Like, we looked at it as part of the MSR review and it's too slow, it's too blunt, it's poorly calibrated. Yeah, I don't think it'll have much of an impact. I think there's better tools that you have in your toolkit than article 29a“ (Interview 2, EU, Consulting, 2021, Pos. 17)
<b>MSR</b>	MSR general	This code refers to all statements that are made about the MSR: its general design and its role in instrument interactions (to be subclassified later)	„I think it is an important instrument because we have seen how important it was in the last two years where it didn't work as we wanted it to work. So, there were too many certificates on the market, the price was low. And that led to an almost completely inefficient or effect less ETS in the first few years. And so, that's a big task for the MSR to achieve” (Interview 12, DE, Parliament, 2022, Pos. 37)
	MSR - role in policy interactions	Role of the MSR in policy interactions	„... in theory, the cap is set in line together with the other targets, like energy efficiency, like renewables. And in theory, if all goes well, then we'd have synergies between these headline targets which are important in the sector, energy efficiency, renewables and ETS. But reality is always different than modelled, when the cap was proposed in the pathway. So, we have seen that with the economic crisis in 2009, we have seen this with Corona. We have faster deployment of renewables maybe then foreseen in older modelling. So, basically, the MSR can ensure that the ETS stays ambitious and keeps working, even if external circumstances are different than envisaged beforehand. So, it's a safeguard against the oversupply in the ETS” (Interview 3, DE, Think Tank, 2021, Pos. 42)

	MSR - not enough knowledge	Whenever actors express their limited knowledge about the MSR	„It's a bit too specific for me. So, I can't really say anything. I think one of your colleagues has to brief me on that, they do a lot of work" (Interview 4, DE, Consulting, 2022, Pos. 29)
	MSR - improvement suggestions	Suggestions on how the MSR should be reformed	„For us, there are two main considerations. One is the withdrawal rate, [...] we have long suggested a 36% withdrawal rate[...]. We saw that even with 24%, the market stability reserve would not be able to keep up or at least that there's like a continuous oversupply of somewhere between one and two billion allowances on the market, which we think should be dealt with sooner rather than later. [...] The second aspect for us is the level of the thresholds, which we believe should be corrected in line with decarbonization of the power sector or the necessary decarbonization of the power sector.[...]We have been arguing that these thresholds should go to zero by 2030. So that basically you don't, as soon as there is oversupply, the MSR starts to absorb, you don't leave something on the market" (Interview 14, EU, Environmental Organization, 2022, Pos. 36)
<b>Fit-for-55</b>	Fit-for-55	Every statement that refers to the Fit-for-55 reform process	„I think, generally, the EU Fit-for-55 is good. And a good thing and very important. It's a question of how to implement" (Interview 23, DE, Parliament, 2022, Pos. 15)
	Fit-for-55 - ETS revision	Every statement that refers to the renegotiations of the ETS during the Fit-for-55 reform process	„In the course of the Fit-for-55 package and the new target definition, a stronger reduction path has now been introduced. Because it has just been said that we have to tighten up the targets in this area as well. So I think it's no longer just two comma two percent per year reduction, but 4.1 or 4.2. In other words, a much greater reduction in emissions is envisaged if the package is implemented in this way" (Interview 20, DE, Parliament, 2022, Pos. 15)
	Fit-for-55 - MSR revision	Every statement that refers to the renegotiations of the MSR during the Fit-for-55 reform process	„... my one main disappointment is that they didn't implement that safety valve mechanism in the MSR to mitigate the risks of, let's say, counterproductive interventions from the MSR in the system" (Interview 2, EU, Consulting, 2021, Pos. 53)
	Fit-for-55 - ETS2	All statements that cover the plans for the ETS2 if brought	„And the idea is to extend the ETS 1 to an ETS 2 for other sectors like transport. So, road transport and building sectors are not a bad idea. But it

		up by interview-partners	should not be the compliance instrument. This should be a backstop instrument and a warning system instrument. And it shouldn't replace the ESR <sup>1</sup> , the effort sharing regulation or something else, climate action regulation, which should stay the compliance instrument in our view" (Interview 8, DE, Environmental Organization, 2022, Pos. 33)
	Fit-for-55 - CBAM	All statements that cover the plans for the Carbon Border Adjustment Mechanism (CBAM) if brought up by interview-partners	„I think it's good that the EU is pursuing a carbon border adjustment, even if it is very hard to implement and may not even be implemented long term who knows, right, but it is driving actual change in behaviour in EU's trading partners, right" (Interview 2, EU, Consulting, 2021, Pos. 52)
<b>Social policy</b>	Social policy	Knowledge and consciousness of actors for and about the interlinkage between climate policy and social policy and which narratives are told about social costs/effects of climate policy	„And especially when we are looking at sectors that directly affect consumers, you know especially housing and transport, these are - or also potentially food prices - these are all sectors where people will feel badly designed climate policies quickly. So, it is important that you have designed your climate policies, or you're accompanying social policies in a way to minimize negative impacts. And there you really need to focus on the lowest income groups" (Interview 3, DE, Think Tank, 2021, Pos. 44)
	Why it matters	Reasons and justifications for social policy	„... bad policy, which could in theory reduce emissions but would then lead to a lot of resistance in the sector or in the general public, will not be helpful in the medium to long run. So, having a very high CO <sub>2</sub> price for road transport and heating for example, would likely lead to a lot of resistance. We have seen the yellow jackets in France as extreme case" (Interview 3, DE, Think Tank, 2021, Pos. 34)
	Preferred social policy instruments	Preferred social policy instruments	„I think, especially when you look at the situation in the housing sector, that you see, for example, that the housing allowance is also linked to the situation of the flat. So that it must be an incentive for landlords to provide a well-rehabilitated flat. So that, on the one hand, emissions are reduced, but on the other hand, costs are also reduced" (Int0023, DE, Parliament, 2022, Pos. 92)

<sup>1</sup> ESA - Effort Sharing Regulation

<b>Meta</b>	Meta-beliefs	Deep-core beliefs: fundamental normative orientations	„I'm kind of sceptical that the green growth narratives [...] will lead us anywhere" (Interview 24, DE, Parliament, 2022, Pos. 67)
		Policy-core beliefs: normative and empirical beliefs concerning policy subsystems	„I think it's no secret that electricity is probably the centre of decarbonization. We need to electrify the economy in order to decarbonize the economy" (Interview 21, EU, Consulting, 2022, Pos. 3)
		Secondary beliefs: instrumental beliefs or beliefs about a subset of a policy subsystem	„I want to support the expansion of effective climate policy, and my view is that core part of that is effective carbon pricing systems that are able to create incentives for reducing emissions of course" (Interview 2, EU, Consulting, 2021, Pos. 9)
	(Non-)reflection of their own positioning in the system	Every statement that reflects their own position in the discourse and their (un) awareness of these	„I'm a small wheel in the whole system" (Interview 5, DE, Administration, 2022, Pos. 11)
	Sources of information	How do you get informed about recent developments in the realm of climate policy?	„It's primarily from like Carbon Pulse, I would say like in terms of, if I'm following the day to day politics of what's changing, well they are a pretty good news source" (Interview 2, EU, Consulting, 2021, Pos. 57)
	Important occasion	Has there been a special occasion in your life that shaped your thoughts about climate change?	„I guess there've been many, because I've been working on this for so long, but I wonder what to highlight now. Maybe the Copenhagen Climate Conference, which was actually the first UNFCCC meeting I went to" (Interview 14, EU, Environmental Organization, 2022, Pos. 41)
	Frustration	When actors mention the frustration they experience throughout their work in climate politics	„It's not, it's not even frustration, I am AFTER frustration already. I had this frustration for a couple of years but now, it's just a fact" (Interview 27, PL, Environmental Organization, 2022, Pos. 17)
Knowledge exchange	This code refers to statements where interview-partners speak of their experiences or perspectives on	„Theoretically, one person can be of the opinion that such an instrument is simply the most cost-effective and efficient instrument. If no one else understands this except the academic brain, then	

		knowledge transfer, including science communication, exchanges of information/knowledge	you have lost" (Interview 20, DE, Parliament, 2022, Pos. 29)
	Environmental vs. climate policy	Here are all statements, that express the view and definition of climate policy, environmental policy and their relation	„The task of environmental policy, at least from an economic perspective, is precisely this internationalization of externalities. Whether you do that with the price or with the other instruments is only a question of the costs that arise in the end. In this respect, I would say, climate and environmental policy, i.e. environmental policy, is the generic term. And climate policy is part of environmental policy" (Interview 20, 2022, DE, Parliament, Pos. 43)
	National perspective	Statements relating to an actor's specific national situation	„And it's funny, because in Germany, normally, I have the feeling that there's a big consensus that this is actually the right instrument, and it's actually a good thing to have an ETS2" (Interview 32, EU, Parliament, 2023, Pos. 20)
<b>Other</b>	Financial players in the EU-ETS	Statements about the role of financial players in the ETS	„And the other aspects are to limit speculators from participating in the market, which also seems to be notoriously difficult to implement. Just because you don't have a clear definition of what is the speculator and how do you limit their participation to the market?" (Interview 14, EU, Environmental Organization, 2022, Pos. 27)
	Effort sharing	Statements referencing the Effort Sharing Regulation	„I think the effort sharing regulation, the climate action regulation, the one that's governing non-ETS emissions, has many issues that need to be resolved. Still, in the Fit-for-55 proposal, it doesn't really address that" (Interview 3, DE, Think Tank, 2021, Pos. 7)
	Political constraints	Statements about the (perceived) political constraints to the success of certain policy instruments	„... it's easy to say, if you look at different instruments, 'well, we should combine them'. But that's not feasible because the institutions and the structure there make it really difficult for them to combine" (Interview 4, DE, Consulting, 2022, Pos. 25)

Source: Own categorization.