# Living with climate change

*Report from the CLIMLIFE project 2023*

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## Summary of the report

This report contains research results from the cross-disciplinary CLIMLIFE project led by professor Kjersti Fløttum at the Department of Foreign Languages, University of Bergen, Norway, and financed by the Research Council of Norway 2020 – 2023. The project studies how Norwegian citizens relate the challenges of climate change to their normal, day-to-day life choices. The report summarises contributions from project members, in addition to a preface by journalist and author Andrew C. Revkin and an epilogue by former European Commissioner for Climate Action, Connie Hedegaard.

The report opens with an overview of the conclusions presented in the IPCC AR6 report (2021-2023). Global anthropogenic emissions of carbon dioxide show a nearly four-fold increase between 1960 and 2022. Encouragingly, the collective $CO_2$ emissions from the EU-28 states, including $CO_2$ emissions from the United Kingdom until the end of 2022, are falling at a rate consistent with the 2° C target. It is also worth noting that the 2021-2023 report of the IPCC, for the first time, presents a list with options on how societies and individuals can cut emissions. These options are detailed in what is called the *avoid-shift-improve* approach.

In order to focus on people's views on and attitudes to the climate challenge, the research group implemented narrative theory and polyphonic theory with a view to develop a narrative linguistic approach. The topic lent itself particularly well to a dramatic plot structure, comprising several of French text linguist Jean-Michel Adam's five prototypical narrative stages (initial situation, complication, action, resolution, final situation).

The data collected for the various studies mostly comes from different surveys, in particular through the research-based Norwegian Citizen Panel (NCP), part of the DIGSSCORE infrastructure, at the University of Bergen. Key target groups have been a representative sample of the Norwegian population as well as specific groups such as high school students (aged 16-18), seniors (aged 65+), journalists and politicians.

To investigate people's willingness to change their lifestyle in order to reduce the consequences of climate change, we undertook a study of how Norwegian citizens themselves understand what a climate-friendly lifestyle implies. An analysis of the answers identified four main topics: consumption, transportation, energy and politics, where the first three can be clearly related to everyday life choices. The analysis of the survey answers clearly point to reduced consumption and public transportation as the most important factors in living a climate-friendly life.

The CLIMLIFE group also wanted to investigate linguistically the different ways in which people express their motivations to change or not to change their lifestyle. A survey based on open-ended questions, fielded during the summer of 2019, and undertaken by the Norwegian Citizen Panel, provided freely formulated answers from 1,077 Norwegian citizens. The findings indicate key dimensions about the citizens' motivations to contribute to a climate-friendly life; they recognise their responsibility for the challenge, but some also give reasons for no change, where the usefulness of individuals' contributions is questioned. This research is complementary to existing literature in climate communication. The variety of opinions in the answers demonstrates the complexity of the issue of lifestyle related to climate change and should encourage decision-makers and communicators at both local and national levels to provide more guidance to, and facilitation for, individuals to make green choices.

Another perspective investigated is whether there is reason to suspect a generational gap regarding views on climate change and lifestyle, or whether students and seniors in fact agree more than disagree about climate issues. Survey answers from both the young (16-19-year olds) and seniors (65+) were studied. In both groups, a majority expressed a wish to live a climate-friendly life, and both generations emphasise public transportation, reduced consumption and waste recycling as important climate-friendly measures. The results also reflect contextual factors specific to Norway. Concerning language use, respondents in both age groups were very critical to how useful emotional words such as "shame" were in a climate context. To an open-ended question on Greta Thunberg's statement from 2019 that "The older generations are failing us", presented to the senior group, the answers were dominated by negative and harsh content words. Some of the responses related to the person rather than the statement, and occasionally reflected a generation gap, blaming young people for being selfish and for lacking knowledge about what older generations have contributed to the general welfare.

Young people's views were further investigated in studies on their civic participation in public debates about climate change, through the following questions: How do young people participate in the public debate about climate change, and how do they experience the possibilities of participation? Youth-led climate activism has drawn attention to children and young people as a political force in the climate issue, creating increased public awareness and support for the climate cause. Prominent young activists and youth movements seem to have contributed to a revitalisation of democracy, as they have put many young people on the track to a lasting political engagement. However, the opportunities to engage are also restricted through the absence of full citizenship rights before voting age and discourses about political

immaturity. In addition to calling for system transformation and climate justice, young climate activists have therefore criticised and challenged dominant perceptions of the place of young people in the democratic debate. They have questioned children's and youth's democratic rights and representation in politics and contributed to increasing young people's opportunities to be taken seriously as fellow citizens worth listening to and discussing with.

From a different angle, CLIMLIFE also researched the attitudes of Norwegian journalists and editors to lifestyle journalism on climate change. To what extent do journalists think they should report on climate and lifestyle in order to encourage people to make more climate friendly choices, and to what extent do they think of such an approach as a form of constructive journalism? The point of departure was the postulate that climate change affects our everyday lives in many ways, and therefore journalism on climate and lifestyle should reflect this. One third of the journalists polled had written stories about climate change and lifestyle during the last 12 months. Most of these worked within the beats of politics, economy, culture, and crime and accidents. The respondents were also asked about the importance of journalism on climate and lifestyle, as compared to journalism on the systemic problems related to climate change. One third of the respondents answered that both were equally important; the rating in favour of lifestyle journalism was found to be high. Concerning the question about to what extent the respondents find lifestyle journalism to be constructive, either showing readers what they should or could do, the results indicate that they do so to quite a high degree.

Furthermore, a study was undertaken based on survey data collected from two panels that compare the role of individual action in climate policies with the citizens' willingness to act on political incentives. The results show that almost all politicians think it is necessary that individuals make more climate friendly choices. However, the political parties clearly differ in their views on which policies should be put in place in order to make people live more climate friendly. Next, by asking a representative sample of citizens about how they make their choices in their daily lives, a high number of respondents answered that they always choose the most climate friendly option, or do so if it is practical and affordable. This seems to reflect a high level of motivation to act in climate friendly ways. Moreover, the citizens were asked if they also wanted the authorities to enable them to make more climate friendly choices, and the results seem to suggest that trying to make climate friendly choices has become a social norm among Norwegians. With these results in mind, there seems to be evidence of problems at two levels: the measures the politicians plan to put in place to mitigate climate change are probably not sufficient to reach the climate goals, and it seems

unlikely that the measures that will be put in place will be met with general support. The study seems to imply an argument for political measures that can make people act in more climate friendly ways, measures that do not depend on people being motivated to help mitigate climate change.

We hope the contributions of the CLIMLIFE project may inspire others to undertake further studies related to climate and lifestyle. At the end of the report, we suggest some possibilities for how to take our findings further, which we hope are relevant for initiating discussions among researchers, communicators, politicians, journalists and others.

## Norsk sammendrag

Denne rapporten presenterer forskningsresultater fra det tverrfaglige prosjektet CLIMLIFE, ledet av professor Kjersti Fløttum, Institutt for fremmedspråk, Universitetet i Bergen, og finansiert av Norges forskningsråd 2020–2023. Prosjektet studerer hvordan norske borgere relaterer klimautfordringene til sine vanlige, daglige valg av levemåte. Rapporten oppsummerer bidrag fra prosjektmedlemmene og inneholder i tillegg et forord av journalist og forfatter Andrew C. Revkin og et etterord av tidligere EU-kommissær for klimaspørsmål, Connie Hedegaard.

Rapporten åpner med en oversikt over konklusjoner presentert i IPCC AR6-rapporten, 2021–23. Tallene for globale menneskeskapte $CO_2$-utslipp viser en nesten firedobling mellom 1960 og 2022. Det er likevel noe oppmuntrende at de samlede $CO_2$-utslippene fra landene i EU-28, inkludert $CO_2$-utslippene fra Storbritannia, frem til slutten av 2022, faller i takt med 2°C-målet. Det er også verdt å merke seg at AR6-rapporten fra IPCC for første gang presenterer en liste med muligheter for hvordan samfunn og enkeltpersoner kan kutte utslipp. Disse mulighetene er detaljert beskrevet i det som kalles *avoid-shift-improve*-tilnærmingen.

Data for CLIMLIFEs studier er i stor grad hentet fra ulike undersøkelser, spesielt fra Norsk medborgerpanel, som er en del av DIGSSCORE-infrastrukturen ved Universitetet i Bergen. Deltakerne i undersøkelsene har vært representative utvalg av den norske befolkning, samt spesielt utvalgte grupper som elever ved videregående skole (alder 16–18), eldre (alder 65+), journalister og politikere.

For å forske på folks vilje eller uvilje til å endre livsstil for å redusere klimautslipp, er det gjennomført en studie av hvordan norske borgere selv forstår hva en klimavennlig livsstil kan være. Analysen av svarene identifiserer fire hovedtemaer: forbruk, transport, energi og politikk, hvorav de tre første klart kan relateres til valg i hverdagen. Analysen viser tydelig at nordmenn anser redusert forbruk og kollektivtransport som de viktigste faktorene for å leve et klimavennlig liv.

CLIMLIFE-gruppen ønsket også å gjennomføre språklige undersøkelser av de ulike måtene folk uttrykker motivasjon for å endre eller ikke endre livsstil på. En spørreundersøkelse basert på åpne spørsmål, gjennomført sommeren 2019 ved Norsk medborgerpanel, resulterte i fritt formulerte svar fra 1077 norske borgere. Funnene indikerer sentrale dimensjoner rundt innbyggernes motivasjon for å bidra ved å endre levemåte. De anerkjenner ansvar for å bidra til å løse klimautfordringene, men gir også argumenter for ikke å endre levemåte, hvor det stilles spørsmål ved nytten av enkeltpersoners bidrag. Denne

forskningen supplerer eksisterende litteratur innen klimakommunikasjon. De ulike meningene i svarene demonstrerer kompleksiteten i spørsmålet om livsstil knyttet til klimaendringer og burde invitere beslutningstakere og kommunikasjonsspesialister på både lokalt og nasjonalt nivå til å gi mer veiledning til og tilrettelegging for enkeltpersoner til å ta grønne valg.

Et annet perspektiv som undersøkes er om det er grunn til å anta at det finnes et generasjonsgap i synet på klimaendringer og livsstil, eller om ungdom og eldre er mer enige enn uenige i klimaspørsmål. I denne undersøkelsen ble svar fra både unge (alder 16–19) og eldre (alder 65+) studert. I begge gruppene uttrykker et flertall et ønske om å leve et klimavennlig liv, og begge generasjoner fremhever kollektivtransport, redusert forbruk og avfallsgjenvinning som viktige klimavennlige tiltak. Resultatene gjenspeiler også kontekstuelle faktorer spesifikke for Norge. Når det gjelder språkbruk, er respondentene i begge aldersgruppene svært kritiske til nytten av følelsesord som «skam» i klimasammenheng. På det åpne spørsmålet om Greta Thunbergs uttalelse fra 2019 om at «De eldre generasjonene svikter oss», presentert for eldregruppen, var svarene imidlertid dominert av negative og skarpe ord. Noen av svarene var knyttet til personen Greta Thunberg snarere enn utsagnet, og reflekterte noen ganger et generasjonsgap, hvor de eldre beskyldte ungdommen for å være egoistisk og mangle kunnskap om hva den eldre generasjonen har bidratt med til generell velferd.

Interessen knyttet til unges synspunkter ble videre undersøkt i studier om de unges deltakelse i offentlige debatter om klimaendringer: Hvordan deltar unge i samfunnsdebatten om klimaendringer, og hvordan opplever de mulighetene for å delta? Klimaaktivisme ledet av ungdom har rettet oppmerksomheten mot barn og unge som en politisk kraft i klimaspørsmålet, og skaper økt offentlig bevissthet og støtte til klimasaken. Profilerte unge personer og ungdomsbevegelser ser ut til å ha bidratt til en revitalisering av demokratiet ved at de har satt mange unge på sporet til et varig politisk engasjement. Mulighetene til å engasjere seg begrenses imidlertid gjennom fraværet av fulle politiske rettigheter og av umyndiggjørende språkbruk. I tillegg til å etterlyse systemendringer og klimarettferdighet, har unge klimaaktivister kritisert og utfordret dominerende oppfatninger av de unges plass i den demokratiske debatten. De har stilt spørsmål ved barns og unges demokratiske rettigheter og representasjon i politikken og bidratt til å øke de unges muligheter til å bli tatt på alvor som medborgere det er verdt å lytte til og diskutere med.

Ved å se på i hvilken grad journalister mener rapportering om klima og livsstil bør hjelpe folk til å ta mer klimavennlige valg og i hvilken grad de anser dette som en form for konstruktiv journalistikk, har CLIMLIFE undersøkt norske journalisters og redaktørers

holdninger til livsstilsjournalistikk om klimaendringer. Utgangspunktet var postulatet om at klimaendringer påvirker folks hverdag på mange måter, og derfor bør journalistikk om klima og livsstil reflektere dette. En tredjedel av de spurte journalistene hadde skrevet tekster om klimaendringer og livsstil de siste 12 månedene. De fleste av disse journalistene jobbet innenfor områdene politikk, økonomi, kultur, kriminalitet og ulykker. Respondentene ble også spurt om viktigheten av journalistikk om klima og livsstil, sammenlignet med journalistikk om systemiske problemer knyttet til klimaendringer. En tredjedel av respondentene svarte at begge var like viktige, og tilslutningen til livsstilsjournalistikk var høy. Undersøkelsen omfattet også spørsmålet om i hvilken grad respondentene opplevde livsstilsjournalistikk som konstruktiv, ved å vise leserne enten hva de burde eller kunne gjøre, og resultatet indikerte at journalistene i ganske stor grad anser dette som konstruktivt.

Videre ble det gjennomført en studie basert på undersøkelsesdata samlet inn fra to paneler som sammenligner rollen til individuell handling i klimapolitikken med innbyggernes vilje til å handle etter politiske insentiver. Resultatene viser at nesten alle politikere mener det er nødvendig at enkeltpersoner tar mer klimavennlige valg. Men de politiske partiene har forskjellig syn på hvilken politikk som bør gjennomføres for å få folk til å leve mer klimavennlig. Et representativt utvalg av innbyggere ble deretter spurt om hvordan de tar sine valg i hverdagen. Et høyt antall respondenter svarte at de alltid velger det mest klimavennlige alternativet, eller gjør det hvis det er praktisk og rimelig. Dette synes å reflektere en høy grad av motivasjon for å handle klimavennlig. Dessuten ble medborgerne spurt om de også ønsket at myndighetene skulle legge bedre til rette for å ta mer klimavennlige valg. Resultatene tyder på at å forsøke å ta klimavennlige valg har blitt en sosial norm blant nordmenn. Undersøkelsen antyder også utfordringer på to nivåer: tiltakene politikerne planlegger å sette i verk for å dempe klimaendringene er sannsynligvis ikke tilstrekkelige for å nå klimamålene, og det virker lite sannsynlig at tiltakene som vil bli gjennomført vil bli møtt med generell støtte. Studien antyder dermed at det er behov for politiske tiltak som kan få folk til å handle på mer klimavennlige måter som ikke er avhengig av at man er motivert for å bidra til å dempe klimaendringene.

For å gjennomføre analysene som skal belyse folks syn på og holdninger til klimautfordringene, har forskergruppen tatt i bruk en narrativ språklig tilnærming basert på narrativ teori og språklig polyfoni-teori. Klimaspørsmålet egner seg særlig godt til en dramatisk plotstruktur, som omfatter flere av den franske lingvisten Jean-Michel Adams fem prototypiske narrative stadier (initial situasjon, komplikasjon, reaksjon, resolusjon og final situasjon).

Vi håper bidragene fra CLIMLIFE-prosjektet kan inspirere andre til å gjennomføre videre studier av klima og levemåte. På slutten av rapporten foreslår vi noen muligheter for hvordan man kan ta funnene videre, som vi håper er relevante for diskusjon både for forskere, formidlere, politikere, journalister og andre.

## Preface by Andrew Revkin

Thirty-five years and half of my life ago, I wrote my first long news article about human-caused global warming, a cover story in Discover Magazine.[1] At the time, I approached this topic as a straightforward pollution problem like smog, acid rain and the synthetic chemicals eroding the planet's protective ozone layer. That framing seemed only natural. With those earlier threats, a pattern had emerged in the late 20th century. Science identified environmental dangers and governments pursued regulations and treaties. Slowly but surely, progress was made.

I didn't grasp this at the time, but the subheading an editor put on the article - "Living with the Greenhouse Effect" - presciently implied that the climate challenge would be far more difficult than earlier environmental problems.

One reason, of course, was atmospheric chemistry: once emitted, much of the main human-generated heat-trapping gas, carbon dioxide, persists for centuries. Another was that affordable energy was a primary driver of development, and the vast majority of the world's billions of people didn't have nearly enough to support decent lives.

My 1988 article hinted at this reality as well. I wrote, "How can the developed countries expect that China, for example, which has plans to double its coal production in the next 15 years in order to spur development, will be willing or even able to change course?" (China's annual coal use did double by 2003 and now is four times its 1988 level, and I don't think anyone can argue that industry propaganda was behind that push.)[2]

Fast forward to 2023 - a year full of heat-wave records, off-the-charts flooding and ice melting and other warning signs. Growth in the use of climate-safe energy still comes on top of, rather than instead of, growth in fossil fuel use.

It's vividly clear that the world will be living with climate change for decades to come, even while working to blunt it. The question now is how well, or poorly, each of us navigates this critical juncture in human history - from political and business leaders to scientists, teachers, journalists, artists, voters and community leaders.

Success won't be measured in a new treaty or law. It will come through the distributed work of millions of people helping societies navigate from climate vulnerability to resilience and from damaging energy and agricultural norms to a sustainable relationship with Earth's resources.

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[1] https://revkin.substack.com/p/hansen-on-a-human-heated-planet-its#%C2%A7the-warming-view-from
[2] https://www.iea.org/data-and-statistics/charts/world-coal-consumption-1978-2020

Happily, this new framing of this grand challenge, and opportunity, was precisely the issue on the floor at this provocative and invaluable conference.

The words "living with," at least in English, can easily be interpreted as describing a passive, adaptive, almost conciliatory response. But the presentations and discussions at the Bergen meeting were centered on actions - ways to shape everyday lives, intergenerational and political discourse and academic and journalistic work with a better physical and social climate in mind.

In my talk, provided long distance from the eroding shore by my coastal home in Maine, I stressed what I see as a crucial need - that living with climate change involves living with difference: understanding, if not necessarily embracing, the reality that there are many internal definitions of the climate problem and prescriptions for addressing it.

Luckily, new social science shows that a diversity of responses is exactly what's needed to foster human sustainability on a fast-changing, complex planet. The work builds on earlier biological research finding[3] that diverse reactions to stress boost the resilience of ecosystems. I encourage you to read the new open-access Nature Sustainability paper, "Response diversity as a sustainability strategy."[4]

So please explore the proceeds and the online videos, find your perspective, place and network in this grand challenge, and join the journey.

Andrew Revkin is an award-winning journalist and author who has focused on climate change since the 1980s. Follow his webcasts and writing at revkin.substack.com.

[3] https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/1540-9295%282003%29001%5B0488%3ARDECAR%5D2.0.CO%3B2
[4] https://www.nature.com/articles/s41893-022-01048-7

# 1 Introduction – CLIMLIFE and LINGCLIM

CLIMLIFE[5] (Norwegian: KLIMALIV) is a cross-disciplinary research project affiliated with the Department of Foreign Languages at the University of Bergen (UiB), Norway, financed by the Research Council of Norway 2021-2023. The project studies how Norwegian citizens relate the challenges of climate change to their normal, day-to-day life choices.

Global, anthropogenic climate change is one of the major challenges of our time. For decades the United Nations' Intergovernmental Panel on Climate Change (IPCC) has collected, revised and advanced research and data to establish a sound understanding of the phenomenon of global anthropogenic climate change. It is against this backdrop that the CLIMLIFE project has done its cross-disciplinary research: how does the individual go on with their daily life whilst such a critical global event takes place? We must all, despite climate change, continue to live our daily lives, to attend to our own needs and interests and care for our family and community.

Norway is a country in a special situation. On the one hand, its average greenhouse gas emissions per capita contributing to climate change are quite high, whilst the country also is a significant fossil fuel producer itself. On the other hand, it is imperative to reduce said emissions in an effort to contribute to the global efforts necessary to reach the goals of the 2015 Paris agreement on climate change. When Norwegian citizens are asked about how to tackle climate change, however, they generally say that "we must all contribute". What does this mean more specifically? How willing are we to change our lifestyle? How do people of all ages relate these challenges to their everyday life choices? And how do politicians and the media address lifestyle questions?

CLIMLIFE research suggests that people use mainly four strategies for integrating, or not, the challenges of climate change into their lives:

1. Activism: People engage actively to influence policies to mitigate climate change.
2. Responsiveness: People respond in accordance with incentives designed for climate-friendly behaviour.
3. Resignation: People recognize the problem but give up engaging with the complex challenges of climate change.
4. Rejection: People actively choose not to consider climate change in their choices.

[5] https://www.uib.no/en/rg/lingclim/139228/climlife

The project has studied these questions through a cross-disciplinary collaboration, including researchers from linguistic, media, political and natural sciences. Our material consists of a combination of text data, data from focus groups and Facebook, but with the major part of data stemming from survey questions (Norwegian Citizen Panel/DIGSSCORE). A large number of the survey questions are open-ended, where citizens, politicians and journalists are allowed to answer in their own words. We use different tools for language and text analysis (see section 3), in a combination of quantitative and qualitative methods.

The project's main goals are to:

- Develop knowledge about the role of climate in questions about lifestyle, about obstacles to as well as opportunities for a climate-friendly lifestyle
- Examine what motives or strategies people have for changing - or not changing – their lifestyle
- Compare the agreement or disagreement between the opinions of citizens, politicians and journalists
- Explore young people's perspective on climate and way of life
- Further develop interdisciplinary research based on linguistics

We believe the CLIMLIFE research project contributes vital knowledge about the role of climate change in everyday lifestyle matters, revealing barriers and opportunities, conflict and consensus. Our findings should be relevant for various stakeholders, climate communicators, politicians and journalists.

The CLIMLIFE project has been headed by professor Kjersti Fløttum (Department of Foreign Languages, UiB), and included professor Dag Elgesem (Department of Information Science and Media Studies, UiB), professor Helge Drange (Geophysical Institute, UiB), associate professor Øyvind Gjerstad (Department of Foreign Languages, UiB), external member, professor Trine Dahl (Department of Professional and Intercultural Communication, NHH Norwegian School of Economics), postdoctoral fellow Ida Vikøren Andersen (Department of Foreign Languages, UiB), research assistants Jana Scheurer and Emil Perron (Department of Foreign Languages, UiB) and researcher Francis Badiang Oloko (Department of Foreign Languages, UiB).

### *LINGCLIM*[6]

The CLIMLIFE research project emerged from the work of the LINGCLIM research group at the Department of Foreign Languages, University of Bergen, headed by professor Kjersti Fløttum. The LINGCLIM research group has over the past decade undertaken research on language use related to the issue of climate change, energy transition and lifestyle issues, in a cross-disciplinary perspective, and in accordance with one of the University of Bergen's priority areas, "Climate and energy transition".

The research group took an interest in how climate change has evolved from being a physical phenomenon to also becoming a social, political, ethical and cultural issue. The many different climate debates observed over the past years have contained a multitude of voices, views and interests, relevant, for instance, to polyphonic research, a method further developed by professor Kjersti Fløttum, associate professor Øyvind Gjerstad and others associated with the LINGCLIM group. This research shows how communication and language use is of great importance in both the dissemination and interpretation of climate issues. Language does more than represent; language also influences attitudes and behaviours, and can create new realities. The research group has been collaborating with NORCE, the Bjerknes Center for Climate Research, NHH Norwegian School of Economics, the Research group for Environmental Humanities (HUMKLIM) and Centre for Climate and Energy Transformation (CET). For surveys and experiments, LINGCLIM collaborates with the Norwegian Citizen Panel within the DIGSSCORE infrastructure (see section 3).

Much of the research undertaken by the LINGCLIM research group have been collected in the book *The Role of Language in the Climate Change Debate* (Fløttum (Ed.), 2017), which presents important results provided by the research group in the years 2013-2017. The research group also made a 30 minute documentary film ("Talking about climate" [7]) which communicates the group's main points and shows the diversity of opinions in the climate change debate.

The project members presented and conveyed the results of the CLIMLIFE research project at the cross-disciplinary conference *Living with climate change*, taking place at the University of Bergen towards the end of the project period in May 2023.[8]

[6] https://www.uib.no/en/rg/lingclim
[7] https://www.uib.no/en/rg/lingclim/97868/talking-about-climate
[8] https://www.uib.no/en/livingclimatechange

***The conference: Living with climate change 8-9 May 2023***

In a great effort to wrap up, communicate and share the research results of the CLIMLIFE project, the research group organised an international conference 8-9 May 2023 at the University of Bergen, Norway. The *Living with climate change* conference focused on some of the same key topics as the research project itself: (i) the relationships between peoples' (notably young peoples') motivations/preferences and choices, (ii) how politicians, at various levels, perceive and prioritise peoples' everyday matters within their seemingly larger and more important issues, and (iii) how media cover everyday lifestyle matters. The core focus was citizens' potential motivations or strategies for action or non-action, such as activism, responsiveness, resignation or rejection.

The conference welcomed over 100 participants from 19 countries, and over 50 paper presentations in a broad range of parallel sessions. The first day took place in the beautiful University Aula, where a number of prominent researchers on climate change illuminated challenges from a number of different angles and disciplines. The entire first day of the conference has been video recorded and can be accessed via the conference website.[9] The second day took place at Dragefjellet (Faculty of Law) where four parallel sessions yielded more than 50 different presentations of recent research in a number of different fields, including linguistics, sociology, political science, media science, psychology, philosophy, and more. The abstracts of both keynotes and papers are posted in the Book of Abstracts, to be found at the conference website.[10]

With an opening keynote by renowned scholar and climate change journalist Andrew Revkin, a closing keynote by former EU Commissioner for Climate Action and former Danish Minister for environment and climate/energy, Connie Hedegaard, and a multitude of perspectives on the challenges and questions as to how to live with climate change in between, we thank all the participants and presenters for their enriching and thought provoking contributions to mark the end of the CLIMLIFE project with a most inspiring international and cross-disciplinary conference at the University of Bergen.

In the rest of this report, we will present different perspectives and various results provided by CLIMLIFE in sections 1-9, followed by a short conclusion with a selection of takeaways (section 10). We are particularly grateful to Andrew Revkin, giving the opening

[9] https://www.uib.no/en/livingclimatechange
[10] https://www.uib.no/en/livingclimatechange

keynote with his views as a climate/environment journalist at the conference and writing a preface to the present report, and to Connie Hedegaard, who gave a strong closing keynote and who wraps up the conference perspectives in an epilogue of the report.

The authors of this report would also like to extend our best thanks to the entire LINGCLIM group for having been a fantastic source of inspiration during the whole CLIMLIFE project period and for their enthusiastic engagement during the conference "Living with climate change": PhD candidates Runa Falck, Johanna Gunn and Solveig Helene Lygren.

## 2 What does the IPCC say? Background on climate change research

The greenhouse effect - the process that heat radiated from the Earth's surface is partially trapped by water vapour and several gases in Earth's atmosphere - has been known since the early 19th century (e.g., Weart, 2008). The effect is a prerequisite for all life on Earth as we know it. Actually, the planetary surface temperature is about 33°C higher than it would be without an atmosphere (Archer, 2012). A logical continuation of this well-established knowledge is that increasing amounts of heat trapping gases in the atmosphere should further warm the Earth's surface. This is indeed what is happening.

Well-established scientific knowledge about human-induced warming – of which carbon dioxide resulting from fossil-fuel burning is the main driver – is far from new. Examples include a report by the U.S. President's Council of Advisors on Science and Technology in 1965, stating that continued accumulation of atmospheric carbon dioxide will "almost certainly cause significant changes" and "could be deleterious from the point of view of human beings" (Revelle et al., 1965). Likewise, in an interview immediately following the announcement of the 2021 Nobel Prize in physics, physics laureate Klaus Hasselmann concluded that "We've been warning against climate change for about 50 years or so".[11]

If we consider the annual, global emissions of carbon dioxide since 1960 – spanning the period of the above statements – we get a graph as shown in the left panel of figure 1. Clearly, the scientific warnings are not a prominent feature of the graph. On the contrary, the human-induced global emissions of carbon dioxide show a near four-fold increase between 1960 and 2022.

[11] https://www.youtube.com/watch?v=VN83wvD27tU

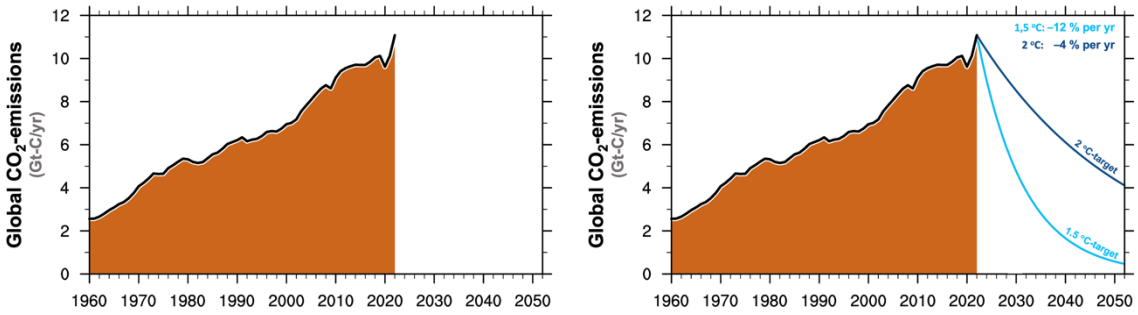


*Figure 1. Global, annual emissions of $CO_2$ (Gt-C/yr) caused by human activities (left, based on Friedlingstein et al. 2022) and indicated emission paths consistent with the 1.5 °C (light blue curve) and 2 °C (dark blue) targets at 50 per cent likelihood (Friedlingstein et al. 2022).*

The single, major deviation from a steadily increasing trend is 2020, with an estimated six per cent drop in the global carbon dioxide emissions (Le Quéré et al., 2021). This is the global imprint of the Covid-19 pandemic. The pandemic is unique in that it influenced essentially all parts of society within months, thus becoming a reference case regarding rapid shifts in the global use of fossil fuels.

Looking forward in time and considering the politically agreed climate target of constraining global warming to well below 2°C and pursuing efforts to limit the warming to 1.5°C (both relative to the pre-industrial average temperature; United Nations Environment Programme[12]), possible emission scenarios are indicated by the blue-coloured curves in the right panel of figure 1. Other emission pathways are clearly possible and even more likely, but the given curves exemplify – and grossly quantify – emission pathways consistent with the 1.5 and 2°C climate targets.

Reductions in global CO2 emissions of 12 and 4 percent per year to meet the 1.5 and 2°C targets (Fig. 1) correspond to emission reductions twice as large or comparable to the emission reduction during the core of the Covid-19 pandemic. Based on this, the 1.5°C climate target seems highly unrealistic. Actually, global warming may reach 1.5°C sometime in the 2030's (almost) irrespective of the actual emission scenario (Lee et al., 2021). Furthermore, substantial efforts – essentially for all sectors and by all actors – are required to limit global warming by 2°C by the end of the century. As of today, taking into account the Nationally Determined Contributions (NDCs[13]), global temperature is expected to increase by about 2.4°C by the end of the century (Climate Action Tracker[14]).

[12] https://wedocs.unep.org/20.500.11822/20830
[13] https://www.climatewatchdata.org/ndc-overview
[14] https://climateactiontracker.org

Part of the reason for the continued growth in the global CO2 emissions is the rapid increase in global population. Since 1960, the population has increased by roughly a factor 2.5. Over the same period, global CO2 emissions have increased by roughly a factor 4.5. Therefore, additional factors are required to explain the greenhouse gas emission curve. Not very surprising, perhaps, is the finding that at present, the richest 10 per cent of households are responsible for nearly half of all greenhouse gas emissions (Creutzig et al., 2021).

On the more optimistic side, global CO2 emissions per capita shown in Fig. 2 are much more positive than the global CO2 emissions in Fig. 1. It is encouraging that the collective CO2 emission from the EU-28 states, including CO2 emissions from the United Kingdom until the end of 2022, is falling at a rate consistent with the 2°C target.

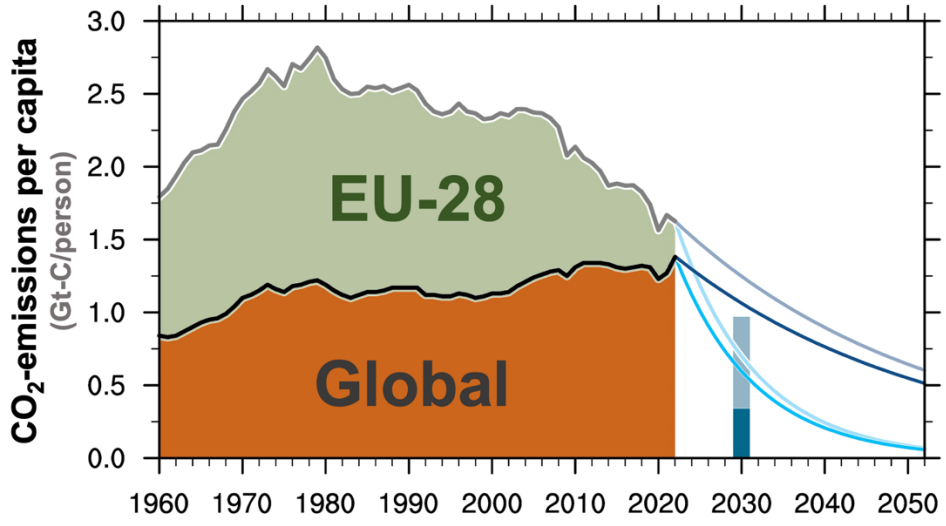


*Figure 2. $CO_2$ emissions per capita for the world (brown colour) and the EU-28 states (including the United Kingdom) in green colour. The two sets of curves starting from 2022 show emission per capita scenarios consistent with the 1.5 and 2°C climate targets. The two-colour bar at 2030 shows 50 per cent reduction relative to the 1990 emissions per capita for EU-28 (tallest bar) and the world (both relative to the 2022 populations). $CO_2$ emission data from Friedlingstein et al. (2022); global population from https://en.wikipedia.org/wiki/World_population.*

For the first time, the 2021/22 report of the Intergovernmental Panel on Climate Change presents a list with options for how societies and individuals can cut emissions. The report concludes – with high confidence – that the 60 options listed (Fig. 3) have the potential to cut global greenhouse gas emissions by as much as 40 to 70 per cent by 2050. The adopted framework is known as *avoid-shift-improve*, originally developed in the 1990's (footnote [15]).

[15] https://en.wikipedia.org/wiki/Avoid-Shift-Improve

As an illustration of the *avoid-shift-improve* approach, one can take the example of cars (bold red text in Fig. 3). *Avoiding* personal cars has a large potential for reducing greenhouse gas emissions. Those dependent on cars may *shift* to battery electric vehicles which, in most cases, also have a large mitigation potential. And finally, public transport may be *improved* to such an extent that the use of personal cars can be largely reduced or eliminated, again with a significant mitigation potential.

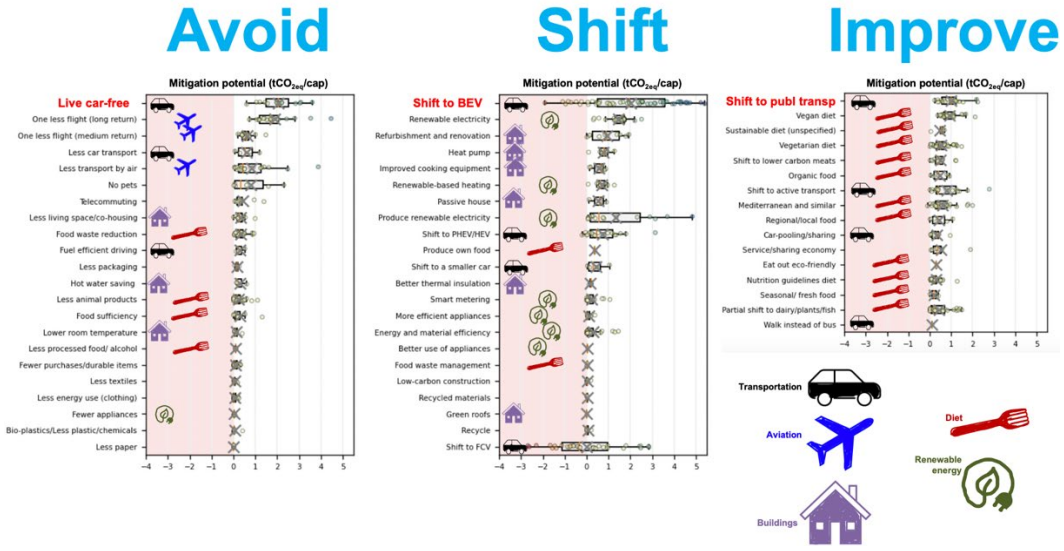


*Figure 3. An illustration of the mitigation potential provided by the 60 avoid-shift-improve options presented in IPCC WG3 (Creutzig et al., 2021). The options can be roughly grouped in transportation, aviation, buildings, diet and renewable energy, as indicated by the coloured symbols. The three columns show the estimated mitigation potential in ton $CO_2$ equivalent per person, with positive numbers indicating reduced emissions. For comparison, the total greenhouse gas emissions in EU-28 correspond to about 8 $tCO_{2eq}$ / capita. The emissions include contributions from all human-generated gases, expressed as $CO_2$ equivalent, or $CO_{2eq}$. Figure adapted from Fig. 5.8 in Creutzig et al. (2021).*

The magnitude of the mitigation potential for the individual options are included in Fig. 3. If we consider the option labelled "Shift to BEV" (BEV is short for Battery Electric Vehicle), the most likely mitigation potential ranges from about 0.5 to 3.5 $tCO_{2eq}$ per capita. This range can be compared to the average emission of about 8 $tCO_{2eq}$ per EU-28 citizen. For the same option, negative mitigation potential (the red shaded colour in Fig. 3) typically originates from cases where the electric car is powered by electricity from coal power plants. This illustrates the need to take the full life cycle chain into account when considering the climate footprint of the various options.

It follows from Fig. 3 that transport, aviation, the building sector and dietary choices have a particularly important potential in reducing greenhouse gas emissions on an individual level.

The ability to make active decisions regarding living in a more climate-friendly way vary greatly between people. Presumably, the wealthiest people are in a better position to make active choices than those living in poverty. It is in this respect interesting to note that dietary choices – including switching from meat and far-away produced food to vegetables and local food – have a huge mitigation potential, exemplified by the many forks in the right-most panel in Fig. 3.

The messages from the IPCC, especially through the avoid-shift-improve framework, constitute essential background information for the CLIMLIFE focus on individual lifestyle changes. In addition to the project's investigation of Norwegian citizens' attitudes towards such changes, we also study the motivations behind people's willingness or lack of willingness to change their way of life. In the next section, we provide an introduction to our theoretical and methodological framework.

# 3 Theoretical and methodological framework

By means of a mixed theoretical framework, combining quantitative and qualitative methods, we have generated analytical tools through narrative theory, linguistic polyphony (multivoicedness), rhetorical textual analysis, content and topic analysis and lexical approaches.

## 3.1 Theoretical framework

Our main theoretical framework is based on narrative structure theory, on linguistic polyphony (the presence of different voices) and on a rhetorical approach to citizenship.

*Narratives and polyphony*

Our point of departure can be formulated through the following question: How can narrative theory and polyphonic theory highlight people's views on and attitudes to the climate challenge?

Kjersti Fløttum first started developing a narrative linguistic approach to the study of discourse on climate change in an article published in 2010 (Fløttum, 2010; see also Fløttum & Gjerstad, 2017; Fløttum et al., 2021). She saw that the topic lent itself particularly well to a dramatic plot crestructure, comprising several or all of French text linguist Jean-Michel Adam's five prototypical narrative stages, as shown in the following narrative, created for illustrative purposes:

1. Initial situation: Human beings lived in harmony with nature.
2. Complication: CO2 emissions have increased since the Industrial Revolution, and dramatically since 1990, causing serious climate change.
3. Reaction: The UN organized international summits (COPs) to discuss action on climate change.
4. Resolution (outcome): At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, global climate agreement.
5. Final situation: Climate change still constitutes a serious threat to the planet and future generations, and those who have contributed least to the problem are the ones most vulnerable to the consequences.

This short narrative corresponds to the prototypical narrative structure as formulated by Jean-Michel Adam (1992). In the years since the development of the linguistic approach to climate change narratives, the LINGCLIM group has analysed such narratives in a range of different discourses and genres: from political speeches and white papers to IPCC reports, newspaper editorials, news articles, and more recently, freely formulated answers to open-ended survey questions, so-called 'survey discourse'. Narrative components such as complications (often embodied by climate change itself), as well as reactions and resolutions, are found in all these text genres. In a quantitative perspective, we have also identified recurring narratives in answers to open-ended survey questions. Among Norwegians, such a recurring narrative is that of Norway's modest size, which according to a number of respondents, exempts the country from taking on a leading role in the fight against climate change.

Our analyses of narrative structures have also revealed a layer of complexity through linguistic polyphony, or 'multivoicedness', through which a speaker can give the floor to other voices (Nølke et al., 2004, Nølke, 2017). Among the linguistic mechanisms used to bring about such voices are reported speech, negation, and concession. In other words, a speaker or author has the ability not only to construct their own narrative, but also to include elements of other narratives, thereby giving the floor to voices temporarily acting as narrators (Gjerstad, 2019).

Let us have a look at one of the answers to an open-ended question in a Norwegian Citizen Panel (NCP) survey from 2021, where we asked the following question: "What are the obstacles to reaching Norway's climate objectives?" The respondent simply answered

"Norway cannot save the world on its own", which could be interpreted as a discussion on or even as a refutation of the reaction and resolution stages of the climate change narrative (see Figure 1). Behind the apparent simplicity of this answer is a hidden meeting of voices: a positive voice asserts that 'Norway can save the world on its own', a straw man which is refuted by the respondent.

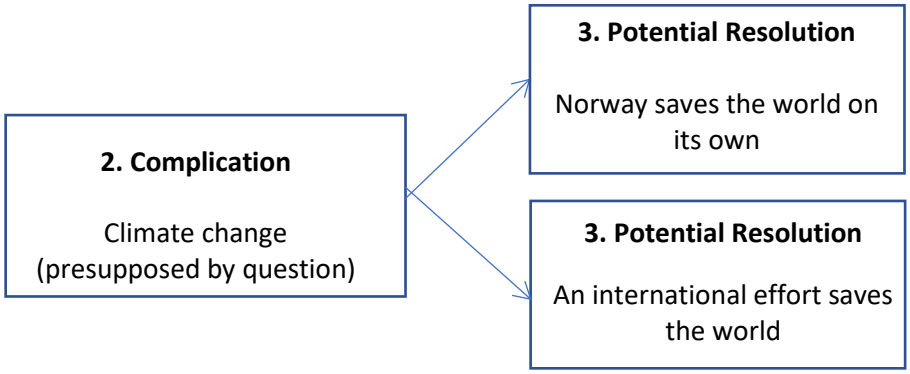


*Figure 1. Clashing narratives through negation*

Concession has a more conciliary function than polemic negation, although this marker also creates a basis for a divergence between narratives, after an initial convergence. As one respondent in the 2021 NCP survey stated: "Carbon Capture and Storage [CCS] is a good idea, but I fear it will counteract what we really need, which is changes in attitudes and behaviour". By using the word *but*, the respondent concedes that CCS has potential, before presenting a counter-argument that is portrayed as more relevant in the current context. This allows for discounting the argumentative validity of the first argument, leaving the second one as the only course of action. In a narrative perspective, this concessive structure first presents a possible reaction to the complication that is climate change, before presenting an unintended consequence of this reaction, in the form of a secondary complication, which is that CCS will counteract required changes in attitudes and behaviour, corresponding to the point of view presented as the most important one by the respondent. Embedded in this secondary complication is the statement that 'we need changes in attitudes and behaviour', which is in itself a reaction espoused by the respondent (see Figure 2).

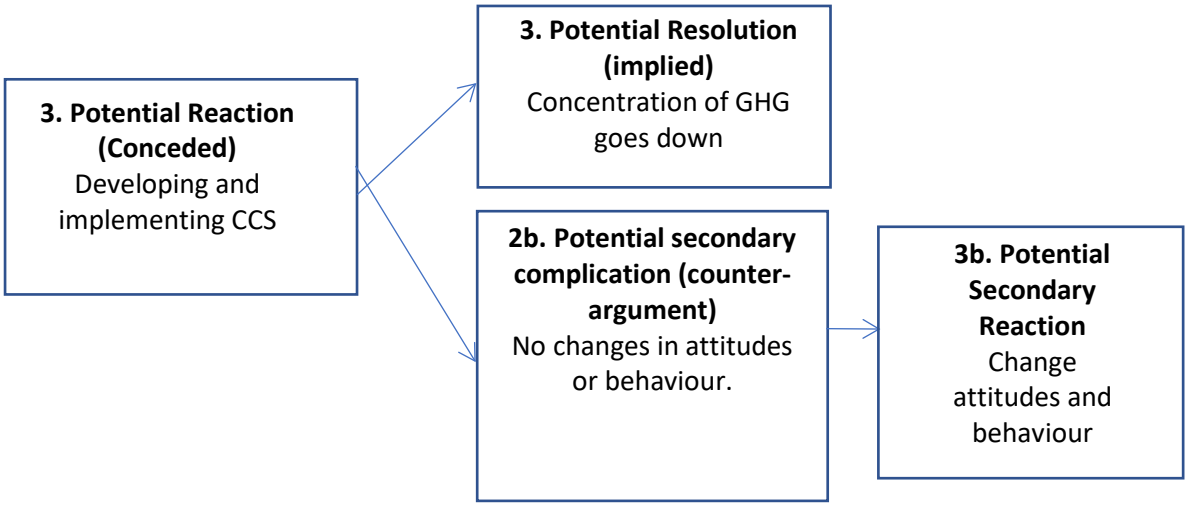


*Figure 2. Meeting of narratives through concession*

By including polyphony in narrative analysis in this way, we can unveil not only the stories on climate change that exist in society, but also the stories that respondents themselves think exist and feel the need to include in their own answers, in order to confirm, concede to or refute them. In other words, when respondents recurrently state that 'Norway cannot save the world', they not only construct a narrative on climate change but also show how they themselves feel that this narrative is situated in relation to others, forming a contentious issue. The two short analyses of negation and concession, respectively, are quite illustrative of the NCP surveys, as both of these linguistic markers are frequently used by survey respondents, reflecting the contested nature of CC among Norwegians.

The narrative perspective is further developed in a study where we focus on theoretical and methodological challenges related to descriptive versus normative climate change narratives (Gjerstad & Fløttum, 2022). Our claim is that understanding how such narratives are constructed, how they circulate in society, and how they impact people's understanding and willingness to act, "may be of vital importance for developing the right communicative tools to stimulate action at all levels of society, from the individual to political institutions" (Gjerstad & Fløttum, 2022: 1). This effort would require an advanced multidisciplinary methodology, both quantitative and qualitative, to study complex narrative patterns across large text corpora mined from surveys as well as political and media discourse.

*Rhetorical citizenship*

Our studies of young people's engagement with the issue of climate change are also informed by a rhetorical approach to citizenship (Andersen, 2023c; Kock & Villadsen, 2017). The concept of rhetorical citizenship foregrounds the rhetorical and participatory aspects of citizenship by viewing rhetoric as a medium for being a citizen, through which citizens interpret, articulate, perform and negotiate their membership in the political community. As a theoretical perspective on the public sphere, this approach suggests that citizens craft and enact their citizenship both when actively participating in the public debate and when they are on the receiving end of public rhetoric (Kock & Villadsen, 2017).

As an analytical and critical approach to the public debate, rhetorical citizenship is therefore concerned with people's public use and reception of rhetoric. Specifically, the perspective takes an interest in how the rhetoric of elite members of the community (e.g., politicians, the media) enables or undermines citizens' possibilities to make sound judgements on matters of shared concern. Moreover, it is concerned with how concrete instances of public rhetoric and debate shape citizens' experience of being part of a political community and having meaningful roles to play within it. Finally, the approach carries normative expectations that citizens have the opportunity to participate in the political community's debates and decisions. Therefore, studies of rhetorical citizenship are also concerned with understanding what enables and obstructs (groups of) citizens from participating and influencing collective decisions.

In the project, we have approached questions regarding young people's rhetorical citizenship through a combination of rhetorical analysis of texts written or spoken in public by youth and focus group discussions with high school pupils.

## 3.2 Material and methods

*Survey data and content analysis*

In addition to media texts and focus groups (see below), the collection of data has mostly been undertaken through different surveys, in particular by the research-based Norwegian Citizen Panel (NCP), part of the DIGSSCORE infrastructure, an infrastructure for advanced social science data collection and multi-disciplinary research at the University of Bergen (https://www.uib.no/en/digsscore). The Norwegian Citizen Panel is a probability-based sample of the Norwegian population above the age of 18, randomly drawn from the National Population Registry of Norway.

We have also carried out separate surveys with high school students (aged 16-18) and seniors (aged 65+) (see section 6), as well as journalists and politicians (see sections 8 and 9).

Our surveys have been based on both closed-ended and open-ended questions. However, we have taken a particular interest in open-ended questions, providing particularly rich and nuanced data from answers freely formulated by the respondents, both with regards to form and length. Analyses of the collected data have consisted of both close-reading, manual content approaches as well as lexical frequency studies using the AntConc tool (Anthony, 2005). Some of the large data sets, consisting of answers to open-ended survey questions, have also been investigated through the semi-automated machine analysis undertaken by the tool Structural Topic Modelling (STM; Roberts et al., 2014). Topic modelling through STM generates topics using a clustering algorithm based on the co-occurrence of words across documents. Each answer text is typically estimated by the model to belong to several topics to different degrees. We define topic prevalence as the degree to which a single response belongs to a given topic, based on the words it contains (for more details, see Fløttum et al., 2021; Tvinnereim et al., 2017).

*Rhetorical textual analysis*

The texts analysed through this approach are mostly debate articles published in the youth column Si; D, in the Norwegian newspaper Aftenposten. The column was launched in 2005 as a daily page in the paper version of the newspaper, containing opinion articles written by young people aged 12-21 (Skotheim, 2008). At the time, it was the first column of its kind in Norway, but later other newspapers have established similar columns for young people.

The column is an important platform for young people who wish to voice their opinion in public – and an important arena for young people to be exposed to politics and issues of public concern. The column accepts texts from representatives from political youth parties and organisations, such as Young Friends of the Earth, and individuals voicing their opinion as citizens. While young people are the primary readers of the youth column, articles published in it often reach a broader audience. Occasionally, articles in the column are the newspaper's "most read" articles. Moreover, many of the articles written by youth are replied to by national politicians, media professionals, business leaders and the like.

We have collected all debate pieces concerned with environmental matters (including climate change, loss of biodiversity, pollution, and plastic waste) from the column's webpage, https://www.aftenposten.no/meninger/sid/, between 2016 and 2020, resulting in 349 texts.

To analyse this material, we first performed a distant reading, where we searched for regularities and interesting irregularities in how environmental issues were addressed and argued about. This means that we searched for recurring patterns and tendencies in what the young contributors wrote about (thematic content) and how they wrote about it (patterns of arguments and discourses). We also searched for texts and utterances that diverged from the recurring patterns and tendencies, which could offer insight into individuals' or groups' views and rhetorical modes.

Based on this initial distant reading, samples of concrete texts were then selected, either because they represented recurring patterns and tendencies in the larger material or because they constituted interesting irregularities. These texts were examined through close textual analysis pursuing the question of how these texts – and particular arguments and other rhetorical modes within them – function. By this, we mean what discursive actions were performed in the texts, how they invite specific responses from particular audiences, and what they can reveal about the speakers' and (intended) audiences' assumptions and views about climate change and other environmental issues.

Additionally, we have studied how young people's participation in environmental activism is discussed in the adult public sphere. Specifically, we analysed a parliamentary debate concerning the school strikers' absence from school (Stortingstidende, 2019-2020, pp. 497-507) and the debate articles written about this issue by adults (including journalists, politicians, teachers, parents and grandparents) in Norwegian newspapers in 2019. The close reading of these two multi-voiced debates paid attention to the adult world's portrayal of the young activists, the assumptions they voiced about children and youth's place in society, and the ideals for young people's democratic participation they articulated.

*Focus group discussion*

To explore how young people engage with public debates about climate change, we carried out focus group discussions with a total of 64 high school students in Norway. The informants were aged 16-19 years and attended either a large high school (approximately 1000 students) located in the centre of a large city or a smaller school (approximately 150 students) in an industrial village. Mainly students in general study programmes leading to university studies participated in the study; however, 13 students from the vocational studies programmes electricity and electronics and industrial production also participated.

The data collection complied with privacy regulations as advised by the Norwegian Centre for Research Data (NSD). The focus group discussions were conducted and transcribed in Norwegian. For this report, the material has been translated into English.

The focus groups were designed as discussions about two overall themes: The first part took its point of departure on the informants' interest and participation in public debates about environmental issues and their perceptions of these debates. The second part explored the informants' evaluations of various rhetorical modes and forms of civic engagement in the public sphere. Here, the informants were shown examples of statements from contemporary public debate and media representations of recent youth environmental activism.

Focus group discussions are advantageous for exploring complex issues "not thought out in detail" because they allow informants to explore and negotiate meaning collectively (Morgan, 1997, p. 11). In doing so, the informants may discover new aspects of the topic, which they may not have explored when answering survey questions individually. Moreover, the focus groups generate discussions that make it possible to observe both the meanings people read into the topic of discussion and the rhetorical interaction between the informants as they negotiate meaning, issues, views and arguments with others (Kjeldsen, 2020, p. 145; Lunt & Livingstone, 1996, p. 96).

Rhetorical citizenship is the analytical framework guiding the interpretation of the focus group discussion. Consequently, the analysis explores both how rhetorical practices in the public environmental debate create and shape youth's experience of being part of a political community and having meaningful roles to play within it and how they, through their rhetorical practices, articulate, perform and challenge norms of democratic membership in the political community (Andersen, 2023c; Kock & Villadsen, 2017).

As in our textual analysis, we have in our analysis of the focus group discussions searched for recurring patterns of thematic content, arguments and discourses, as well as utterances and interactions that diverged from this. Additionally, we focused on how meaning was negotiated within the group (cf. Bengtsson & Hoff-Clausen, 2020; Kjeldsen, 2020). We paid particular attention to passages in the discussions that revealed significant assumptions and views about citizens' agency and norms for their participation in environmental debates and decisions.

# 4 Conceptions of a climate-friendly life

When studying people's willingness to change their lifestyle in order to reduce the consequences of climate change, it seems essential to understand what "a climate-friendly life" or "green living" imply. There are numerous interpretations of these notions, but to understand more about how Norwegian citizens understand them, we undertook a study where we asked what a climate-friendly lifestyle may imply (Gjerstad & Fløttum, 2021). This open-ended question, fielded through the Norwegian Citizen Panel (see section 3.2), provided 1,149 answers from respondents across Norway. The analysis, combining a lexical and a text linguistic narrative approach, identified four main topics: consumption, transportation, energy and politics. While the last topic, politics, relates more clearly to system-related factors than to everyday choices, the first three relate to choices people make in their daily life: reduce consumption, use public transportation/avoid long-haul transportation and limit the use of energy/electricity. Consumption and transportation are by far the most frequent categories, indicating that "in the view of Norwegians, these are the most important factors when living in a climate-friendly manner" (ibid.: 394).

In order to find out to what extent the respondents include themselves in the answers (which mostly consisted of lists of various measures), we undertook an analysis of the use of the first person singular pronoun *I* (*jeg/eg* in Norwegian) and the first person plural pronoun *we* (*vi* in Norwegian). Interestingly, the findings show that the first person singular pronoun was often used in a context where the respondents portrayed themselves, in narrative terms, as *heroes* (contributing by various climate actions), while the first person plural pronoun was most frequently used in a context where the respondents portrayed themselves as *villains* (being responsible for causing climate change). In other words, while respondents frequently presented themselves as heroes at an individual level, they tended to dilute their negative impact on the climate through their inclusion in a collective *we*. These findings, in addition to the use of polyphonic markers such as polemic negation and argumentative connectives reflect "the contentious nature of the issue" (ibid.).

The indications of consumption and transportation as central factors of living a climate-friendly life were corroborated by surveys undertaken among high school students aged 16-18 (Fløttum et al., in press, 2023) and among seniors aged 65+ (Fløttum & Perron, 2022) (see more on these surveys in section 6). In these surveys we first gave examples of what a climate-friendly way of life could imply, such as reduce flights, reduce shopping and become a vegetarian. Then we presented a list of 16 adjectives from which they could choose the ones

they found to be appropriate labels for green living (for more information, see Fløttum et al., in press). The results from the survey undertaken among the high school students showed that they found the following three adjectives to be the most appropriate ones: *challenging* (78% of the 381 respondents), *difficult* (63%) and *admirable* (42%). Adjectives assessed as least appropriate in this cohort were *virtuous/honourable* (4%), *widespread* (7%) and *rebellious* (10%). We can conclude from this that "while the students find green living *admirable* to some extent, their very clear preference for the alternatives *challenging* and *difficult* reveals that they do not perceive it to be an easy or straightforward way to live" (ibid.: 10).

In the study undertaken among 1,000 seniors aged 65+ (see Fløttum & Perron, 2022), we found correspondence with the results from the high school survey in that the seniors too pointed to *challenging* and *difficult* as the most appropriate adjectives to characterise "green living". However, we noted that more students than seniors pointed to *difficult* (63% and 35% respectively) and *challenging* (78% and 43% respectively). The seniors also had the possibility to answer by other adjectives than those listed; among these we found *unrealistic/silly* (*urealistisk/tullete* in Norwegian) from 24 respondents and *reasonable/natural/normal* (*fornuftig/naturlig/normal*) from 17 respondents.

## 5 Citizens' motivation for lifestyle change

What does motivate people to change or not to change their lifestyle? To study how people linguistically express their motivation for changing or not changing their lifestyle to limit harmful climate change consequences, we undertook an investigation based on open-ended survey questions providing freely formulated answers by 1,077 Norwegian citizens. The survey, fielded during the summer of 2019, was undertaken by the Norwegian Citizen Panel/DIGSSCORE (NCP), a representative research-purpose internet panel (for more information on NCP, see Summary, and Tvinnereim et al., 2017). Through a semi-automated analysis, using the tool Structural Topic Modelling (STM; Roberts et al., 2014), the material was structured in nine topics, from those motivated to contribute to those claiming they already live a climate-friendly life (Fløttum, Gjerstad & Skiple, 2021; Gjerstad & Fløttum, 2021; Fløttum, 2017).

Our data consists of three survey items. The first question was formulated as follows:

> *In previous surveys, we have seen that many Norwegian citizens are willing to change their way of life to limit harmful climate change. Have you changed your way of life to help limit harmful climate change?*

The response alternatives were “yes, a lot”, “yes, a little”, “no”. Of the 1,311 respondents who answered this question, 114 said “yes, a lot”, 955 “yes, a little”, and 242 “no”. Concerning this first question, the results are clear: a large majority think they have changed their lifestyle. An interesting issue here is why the majority answered “yes, a little”. Is it because they are modest, or that they feel they have to be honest, or because it is difficult to know what is climate-friendly? It could also be that this answer is the one that corresponds the best to the reality. When thinking about one’s own everyday actions, how many of our choices do really correspond to a change of lifestyle?

Following this, the respondents were invited to answer open-ended follow-up questions in their own words. Those who had answered “yes” (both “a lot” and “a little”) got the following invitation:

*We would like you to tell us what has motivated you to change your way of life*.

And those who had answered “no” were invited to develop their answer in the following way:

*We would like you to tell us why you have not been motivated to change your way of life*.

We received 876 answers from the yes-group and 201 from the no-group. These 1,077 answers constitute the main data for our analysis. Both the form and length of the answers varied substantially; in terms of length, they varied from 1 to 140 words in the yes-answers and from 1 to 228 words in the no-answers.

The large and heterogeneous dataset provided by the survey was subject to a combination of the STM topic analysis and a qualitative linguistic/discursive analysis. The qualitative reading was important as a basis for assessing the output of the quantitative topic analysis.

The main results are presented in the two following tables, with labelled topics. The labels created for the topics are given the form of a sentence, which represents a generalisation of the (15) most representative answers.

| Topics | Motivations for lifestyle change | Topic prevalence |
|---|---|---|
| **Topic 1** | I consume less, reuse and recycle | 0.28 |
| **Topic 2** | I want to contribute | 0.18 |
| **Topic 3** | I care about the future of our (grand-)children | 0.18 |
| **Topic 4** | I assume responsibility for nature | 0.14 |
| **Topic 5** | I am preoccupied with climate/environment | 0.11 |
| **Topic 6** | I am motivated by knowledge and fear | 0.10 |

*Table 1. Motivations for lifestyle change*

The overall impression is that the topics are quite evenly represented, with Topic 1 as the most prevalent. And it is particularly interesting that this topic does not constitute an answer to the question, i.e., the answers in this category do not contain anything about motivation, but just an enumeration of what is considered to be climate-related actions. What may be the reason for this? Perhaps the respondents think that it is more interesting to show what they actually do than why they do it, or maybe it is their actions they want to focus on. Another reason may be that it is easier to list actions rather than formulate explanations for possible motivations. A methodological lesson we can take from this is that we may not get answers as expected when respondents themselves think it is easier or more interesting to write about something else.

Let us now move on to the reasons for no lifestyle change, which are listed in Table 2.

| Topics | Reasons for no lifestyle change | Topic prevalence |
|---|---|---|
| **Topic 1** | I don't think my or Norway's efforts matter | 0.39 |
| **Topic 2** | I do what is expected<br>(little travel, modest consumption, reuse, recycling) | 0.34 |
| **Topic 3** | I already live a modest/frugal life | 0.27 |

*Table 2. Reasons for no lifestyle change*

With regard to the no-answers, it is first of all noteworthy that relatively many respondents have answered "no" (242 of 1,311). It is perhaps not so surprising, given the somewhat

complacent Norwegian self-image, considering us as a leading country in environmental and climate issues, even though we also are a large oil and gas provider. This is an image that may lead to the conclusion that "I/we have done enough. If Norway is climate friendly, I am also climate friendly. I don't need to change."
Furthermore, we have seen various traces of resignation, especially in the answers claiming that one individual or one country, such as Norway, is too small to make a difference. The respondents of these answers do not necessarily have difficulties recognizing the problem, but they rather seem to have given up engaging with the issue, because of the complexity of the climate change challenges. However, there are also examples where the respondents are answering no to the idea of change, not to the idea of engagement: they feel they are already engaged so they have not changed their behaviour recently, which does not imply that they are not engaged in the fight against climate change.

It is also interesting to observe that topic 1 of the no-answers, concerning the limited effect of individual actions or actions undertaken by the "small" country of Norway, is the most prevalent. This finding corroborates results in a previous study about individual action (Falck Langaas et al., 2020). However, in the same study, the most clearly expressed motivation for action seemed to be the one concerning the awareness of humans being guilty of causing climate change and its consequences. We see traces of this concern in many of the yes-answers. On the other hand, among the no-answers, there were some –albeit very few – answers implying rejection of the phenomenon of climate change, and thereby a rejection of doing anything at all related to lifestyle, such as in comments like this one "The climate question resembles a dogma … and I am not religious."

To sum up: The main aim of this section was to present how Norwegian citizens express their motivations (Fløttum, Gjerstad & Skiple, 2021). And at first glance, the findings may seem very general. However, the labels indicate central dimensions about citizens' motivations to contribute in the yes-answers and reasons for no change in the no-answers. In relation to existing literature on climate communication, the present study can be seen as complementary, by taking a general perspective on individuals' motivation or lack of motivation for lifestyle change. A general finding in the yes-answers is that the respondents recognise the responsibility they have, and in the no-answers, doubt about the usefulness of individuals' contribution.

So, what are the implications? All in all, these various opinions demonstrate the complexity of the issue of lifestyle related to climate change and should urge decision-makers

and communicators at both local and national levels to provide more guidance to and facilitation for individuals to make green choices.

In several surveys, irrespective of the form of the questions asked, as well as in public debates, we have seen that respondents point at the use of too much negative and demotivating presentations and stories of the climate change phenomenon. Among these comments we also see reflections of a longing for hope, which may encourage to more climate action. In order to find out, in a more direct way, what words or arguments citizens think would be motivating, we undertook a survey through the NCP, fielded from 16 February to 14 March 2023. We asked the following open-ended question, with a contextual introduction:

> *This question concerns climate and language. The way one speaks about climate may influence people's willingness to take climate-friendly choices in their everyday life. Imagine that you were asked to motivate people to live in a climate-friendly way. Which words and arguments would you use?*

This survey provided 4,070 answers (71,012 words), with an average length of 17 words, but many contained up to 100 words. We take this as an indication of a keen interest in how climate change is talked about and how viewpoints and arguments are expressed.

The main arguments and words mentioned were the following:

- Children/grandchildren/generations (to come)
- Nature; the earth/planet
- Consumption (+ negative attitudes)
- Recycling (reuse, positive attitudes)

The most frequent verbs, and accompanying objects, used to encourage or to request action were *take care of* (*the nature*) and *think of/consider* (*the future of the generations to come).*

As regards some preliminary conclusions from this study, we observe that a 'soft 'rather than a 'hard' communication approach is preferred in order to motivate climate action. In addition to the verbs *take care of* and *think,* the answers display a diversity of cognition and action verbs.

In the answers there is much focus on encouraging people to do something («every little helps») rather than rejection of the relevance of individual action. These rather 'careful' language forms represent a stark contrast to the language used by Greta Thunberg and other young activists.

However, more studies should be undertaken on this dataset. We propose the following: traces of internal deliberation between different points of view in one and the same answer (polyphonic approach), the use of deontic expressions and the importance of the Norwegian paradox regarding oil production and attention paid to climate matters.

For climate communicators these findings may indicate that effective messages should focus on generations to come, the importance of individual action («You matter more than you think», see O'Brien, 2021), while always carefully considering the balance between alarming and encouraging language use.

## 6 Similarities and differences between generations

One of the questions the project was interested in finding out more about was this: Is there a generational gap as regards climate change and lifestyle? This section deals with this particular issue. Our focus on the young and their attitudes to climate-related activities has in many ways been a follow-up of opinions and attitudes identified in this age group during the previous LINGCLIM project (Fløttum, Dahl & Rivenes, 2016). This time we decided that it would be very interesting to also chart the opinions and attitudes among the other end of the age scale, in order to see whether the generational gap that the media sometimes refer to actually exists, or whether students and seniors in fact agree more than disagree about climate issues. Surveys, notably from the English-speaking world, have found both generational similarities and differences in terms of climate knowledge and worry (e.g., Duffy, 2021; Farber, 2020).

In the CLIMLIFE project, with a focus on lifestyle issues, we have therefore carried out surveys that, among other things, focused on what members of each generation are willing to do personally in terms of climate friendly measures and what they find difficult to give up. The young generation were polled through a high school survey in the winter of 2021, comprising 381 students from the Bergen area between the age of 16–19, who were asked six open-ended and eight closed-ended questions (Fløttum, Dahl & Scheurer, In press/2023), while the senior group survey was undertaken in the winter of 2022 and comprised 500 respondents from all parts of Norway in the age group 65–85+ (Fløttum & Perron, 2022).

The results we gained reflect several contextual factors specific to Norway, such as the special situation of Norway as a wealthy, oil-producing but also climate-concerned nation, as well as a country with a topography making climate-friendly public transport a challenge.

As a starting point we may note that in both groups a majority expressed a wish to live a climate-friendly life. As regards the survey question 'To what degree do you want to live a climate-friendly life?' the response categories 'to a very high degree' or 'to a high degree' were chosen by 54% in the student group and 56% in the senior group. For the senior survey we also had the possibility to distinguish between male and female respondents for the close-ended questions. This question revealed a gender difference, in that 64% of the women chose these two answers, while the percentage for the men was 49. Among the seniors, measures linked to consumption were also frequently mentioned. This was not the case to the same extent among the young.

As regards the question of climate-friendly measures the survey respondents already undertake, the two age cohorts both rank transportation and waste recycling as the top two. Interestingly, transportation is also the top category for both groups in terms of what they are not willing to give up. More specifically, this relates to car and air travel. This finding can easily be linked to Norway's topography and weather. It takes almost seven hours to travel by train between Oslo and Bergen, while the flying time is only 40 minutes. Price may also be a contributing factor, since the train is considerably more expensive. In terms of convenience, summer holidays in sunnier climates also tend to be far easier to undertake by plane than other means of transportation. An additional factor regarding car use is the fact that Norway has the highest percentage of electric cars per capita in the world. A more interesting finding is perhaps the fact that both groups were a bit hesitant about giving up meat, but the young appeared to support this measure somewhat more than the seniors.

In both surveys, we also asked the respondents an open-ended question about the use of the word *shame* (Norwegian: *skam*), which in the Scandinavian languages has turned out to be a very productive compound element in the climate discourse: *flight shame*, *meat shame*, *oil shame*. The answers in both age groups revealed that the respondents were very critical to how useful this emotion word was in a climate context. An overwhelming 83% of the seniors provided negative answers here, while 45% of the young did the same. Here are some examples from the young:

- *Idiotic*
- *Childish*
- *Wrong to pressure others into feeling shame*

The following examples are taken from the answers in the senior survey:

- *Nonsense*
- *Idiotic*
- *Everything becomes shame. Small effect, rather the contrary.*

Finally, a few words may be spent on one of the very few named individuals represented in our survey answers, Greta Thunberg. Among the high-school students, her name came up a few times as someone who is an inspiration to live a climate-friendly life. In the senior survey one open-ended question asked about reactions to Greta Thunberg's statement from 2019 that "The older generations are failing us". The answers to this question were quite long and dominated by negative content words. It was in fact somewhat surprising how critical some of the older respondents were. Among the most frequent negative words used were nonsense, *wrong*, *stupid* and *silly*. Some of the responses related to the person Greta rather than the statement, and occasionally reflected a generation gap:

- *Nonsense from a brainwashed kid.*
- *Ignorant. Our generation invented the electric car, carbon capture and hydrogen as energy form.*
- *Silly, she doesn't know what she is talking about. The older generations have often lived in difficult times and learned to live frugally, something the young have no idea about.*

Some answers, on the other hand, reflected the notion of polyphony, or multivoicedness (see the previous section):

- *Too much of a generalisation. But I suppose she has experience with failed attempts at getting oldies like us onboard.*

Here, the first sentence represents a critical voice towards Greta's claim, while the second makes a concession about their own lack of willingness to listen to her.

By way of conclusion regarding a possible generational gap, our survey findings have revealed a surprising agreement between the two groups on issues related to climate change and lifestyle. However, one final intergenerational comment worth mentioning is that some seniors feel somewhat offended by the lack of recognition from the young regarding how much the older generation has contributed positively to society in general and the climate in particular.

# 7 Young people's engagement with environmental debates

Whereas the previous section dealt with young (and elderly) people's attitudes toward climate change from a lifestyle perspective, this section deals with young people's civic participation in public debates about climate change.

The recent cycle of youth-led climate activism has drawn attention to children and young people as a political force in the climate issue (Buhre, 2023; de Moor et al., 2021; Friberg, 2022). In addition to having created increased public awareness and support for the climate cause, prominent young figures and youth movements, like Greta Thunberg and Fridays for Future, are also being discussed as a revitalisation of democracy, as they have arguably put many young people on the track to a lasting political engagement (de Moor et al., 2021; Fisher, 2019). However, young people's opportunity to participate in and influence public debates and political decisions are also restricted through the formal absence of full citizenship rights (e.g., voting) and through widespread and persistent discourses about young people as apolitical and immature citizens-in-the-making (Andersen, 2023a; Ursin, 2019).

In this section, we take a closer look at how young people participate in the public debate about climate change and how they experience the possibilities to do so. Combining rhetorical analysis of texts produced by young speakers and focus groups, we examine young people's rhetoric and reception of rhetoric in the public sphere. We ask: How do young Norwegians participate in public debates about environmental issues? What are they saying? How are they saying it? And what are they hearing as recipients of public debates about climate change and other environmental matters?

*Norwegian youth's public environmental rhetoric*

To examine young people's participation in public debates about climate change, we have collected, categorised and analysed debate articles written by individuals aged 12-21 in the newspaper youth column Si; D in 2016-2022 (see section 3 for additional information).

The collected debate articles are written by representatives from political youth parties (138 articles), youth writing as citizens (125 articles), representatives from youth organisations (37 articles) and the young editors of the youth column (3 articles). The articles address a wide variety of environmental issues – from littering in the local area to international climate policy. The most frequently addressed topics are lifestyle matters (78 articles), activism (49 articles), and local and international climate policies (48 articles), the latter predominantly in articles by representatives from various political youth parties. Other

topics discussed in the column include but are not limited to: animal welfare, plastic waste and littering. Additionally, in a rather large share of the articles, the writers do not address a specific environmental topic or argue a specific point of view but simply voice concern about the future (29 articles).

Through a close reading of selected samples from the material, we were able to establish that the young speakers primarily appeal to their audience in the roles of *responsible consumers* or *activists*. When appealing to their audience as responsible consumers, the young writers  aim is to move their audience to take individual responsibility for promoting sustainability through sustainable consumption and lifestyle choices (Andersen, 2023b). When appealing to the audience as activists, aim is to move their audience to participate in collective action, such as school strikes, to achieve political change (Andersen & Fløttum, 2022).

A recurring tendency both in appeals to individual and collective action is that the young writers often assume a marginalised speaker position, claiming they have limited rhetorical and political agency. In appeals addressed to their audience as responsible consumers, they commonly highlight the limited possibilities they have to influence their parents and other adults' consumption and that their attempts to do so are typically met with resistance and ridicule (Andersen, 2023b). Similarly, when appealing to their audience as activists, the young writers frequently call attention to their limited possibilities to influence collective decisions by lacking voting rights and being dismissed as immature citizens-in-the-making in the public debate (Andersen & Fløttum, 2022). Often, the young communicators use their marginalised position to justify their use of a provocative, "in-your-face" rhetoric, characterised by anger and accusations, which is a prominent characteristic of youth's rhetorical style. In many of the texts published in the youth column, older generations are accused of betraying younger generations by failing to act on the challenges of climate change – either through their unsustainable consumption or their inadequate climate policies (Andersen, 2023b; Andersen & Fløttum, 2022). An example of such a generational accusation is the following quote from a debate article written by a 16-year-old girl:

> "The youth, who neither have the right to vote nor the experience to be taken seriously, are witnessing an unbelievable betrayal from the parent generation." (cited in Andersen & Fløttum, 2022, p. 26)

With such accusations, the young blame the older generations for the problems. However, the invitation to act to solve the problems is usually directed to other young people, who are encouraged to mobilise against the adult society's status quo, whether through their unsustainable consumption practices or inadequate climate policies (Andersen & Fløttum, 2022). Based on this, we argue that the generational accusations by the young serve not only to blame the older generations but, first and foremost, to establish new roles for young people in the community as agents capable of acting and being influential (Andersen, 2023c, pp. 8-9; Andersen & Fløttum, 2022).

The prominence of generational accusations in the material led us to ask about reactions to a generational accusation lauded by Greta Thunberg in the senior study (see section 6). Moreover, our observation that many of the young speakers assumed a marginalised speaker position prompted us to conduct a case study of how youth climate activism was discussed in the adult public sphere (Andersen, 2023a). Specifically, we undertook a study of politicians and other public actors' argumentation about the school strikers' absence from school, which was an issue that occupied much place in the public debate about the school strikes (see section 3 for additional information). The question was also debated in the Norwegian parliament when the then spokesperson for the Green Party, Une Bastholm, proposed granting pupils the right to strike.

The centrality of the question about the climate strikers' absence from school in the public debate came at the expense of a debate about the political content and purpose of the strikes. Thus, the strikes were not acknowledged and properly discussed as rhetorical and political acts. Moreover, the school strikers were frequently referred to as immature citizens-in-the-making who should remain in school to learn to become citizens that can serve society and follow established democratic rules in the future. When they did not do so but instead chose to skip school to protest the political handling of the challenges of climate change, they were dismissed as irrational actors who knew neither their own nor society's best interests. As such, the young were effectively excluded from the political and rhetorical community.

However, this view of the young activists was also challenged by discourses about them as mature and politically competent citizens fighting for system change and increased democratic representation. The school strikes were then considered oppositional and legitimate acts oriented toward destabilising established structures and expanding the democratic rights of children and young people. Thereby, the young were recognised as rhetorically and politically marginalised citizens advocating for the climate but also for

increased representation and an expansion of their democratic rights. Thus, they were included in the political and rhetorical community and treated as fellow citizens in the present.

*Norwegian youth's reception of public environmental debates*

To further explore young people's experiences of their possibilities to participate in the public debate about climate change, we carried out a series of focus group discussions with high school students aged 16-19 years (see section 3 for additional information).

The focus groups provided complex and multifaceted insights into how young people experience the climate debate. While some informants displayed high levels of interest in and knowledge about public debates about climate change, others were rather indifferent to the matter. An example showcasing both attitudes is the following brief exchange between one female and one male informant:

> Male 1: "Okey, to be completely honest, it is quite boring."
> Female 2: "What?! I think it is so interesting!"

Although youth's experiences and engagement with the climate debate differed greatly, their discussions were generally marked by fatigue and frustration. Many said that while they regard climate change as an important topic, they are a "bit fed up" with hearing, speaking, and learning about it. Commonly, the informants attributed their fatigue to the centrality of environmental issues in their education. Whereas most agreed that it is vital to learn about environmental and sustainability questions in school, many also experienced that these issues took up too much space in their school curriculum. For instance, one female informant said:

> "Everything we learn about is somehow connected to the environment. And that is fine, but I want a little break now and then. We must learn about it in the natural sciences; we must learn about it in social studies. We have it in English; we have it in Norwegian."

Moreover, the informants' climate fatigue was directly related to frustration with the political handling of the issue. A view articulated in all groups was that public debates about climate change lack progress and are without political consequences. As one female informant said:

> "I think it is, eh, important but boring. Because I don't feel that they make any progress."

Recurring expressions across all focus groups were: "much talk, but little action" and "one keeps promising, but nothing happens". Many informants had a hard time understanding why one must continue debating an issue they consider decided rather than translating what they perceived as a broad consensus that action is required into political action. An example of how this view materialised in the discussions is the following excerpt from a discussion between three male and two female informants:

> Female 6: “You are a little tired of it, right?”
> Male 4: “I am a bit tired of it because there is so much talk about it all the time.”
> Male 3: "And people call it a debate, not a problem."
> Male 4: “Yeah, that is true. Why are we debating it?”
> Male 3: “It should not be a debate, really.”
> Male 5: “It is quite straightforward, really.”
> Female 7: “Yeah, that is true.”

By questioning the need for a public debate about climate change, the informants in this group suggest that political questions about how to act upon climate change are evident and uncontested. Thus, they suggested that climate change is a post-political issue beyond political debate. This view came up in many focus group discussions, where climate change was primarily seen as an issue requiring action rather than more debate.

Furthermore, many of the informants experienced that their environmental education, as well as the public debate about climate change, put too much emphasis on individual responsibilities. They frequently criticised the idea that individuals are co-responsible for solving the challenges of climate change through sustainable consumption and lifestyle changes and instead called for political facilitation and system transformation. One example of this critique of the individualisation of responsibility is found in a discussion between two female informants:

> Female 3: I feel that we talk very much about it, and it can be very demotivating that we always have to talk about it and hear about it, but nothing really happens. And, like, what can we even do? We are always talking about these small things that individuals can do, but we actually have to…

> Female 5: The teachers always ask us: ‘think about something you as pupils can do’. It is like: ‘think about something’, or ‘propose something’.
> Female 3: And it is always the same things: use public transport…
> Female 5: Pick litter. Those kinds of things. And, of course, it helps, but the powerful must do things. Like, even if we as individuals eat less meat, it does not change the production.

The two informants criticise their education's emphasis on individuals' responsibility to promote sustainability, which they view as an inadequate response to a problem requiring political action. Similar views were voiced in several discussions as the informants expressed low confidence in the view that their individual actions matter.

At the same time, however, many of the young informants tended to limit both their own and others' agency to individual responsibility to promote sustainability. This tendency materialised above all in their discussions about youth climate activism. For example, one group talked about having read in the newspapers that the school strikers had left their posters and other litter behind in the streets. According to the informants, this littering was incompatible with the school strikers' political engagement for climate action. In the group, they laughed about the alleged hypocrisy, which one of the female informants articulated as follows:

> “Sort of, the climate activists, those striking for the climate, and they litter in the streets!”

Another group discussed what Greta Thunberg and the school strikers have achieved by emphasising whether the protesters have started living in a more climate-friendly way. As one of them asked rhetorically:

> “… but all those young people, has each of them done anything? Have they, sort of, in their everyday lives, are they doing anything to improve the climate, to help the climate?”

By assessing the effects of youth climate activism based on the activists’ individual lifestyle choices, the informants reproduced the idea of individualisation of responsibility, which they also criticised.

Indeed, many of the young informants also called for collective action to tackle environmental problems. However, they often limited the scope of collective action to cooperation in the local community to solve shared problems. For example, some informants argued that environmental activists should get involved in the local community with efforts to promote sustainability rather than protesting. An example is the following remark about climate activists' protests from one of the male informants:

> "It would have been better if they did something that helped the climate. If they were doing something good. That they did communal work, sort of. They could, for instance, clean beaches or save endangered animals."

The young informants were generally critical of climate activists' provocative rhetoric, which they viewed as contributing to increased polarisation in an already polarised debate. In addition to dismissing climate activists' protests as contributing to harmful polarisation, some informants also dismissed the activists as irrational "others". For instance, some spoke about climate activists' looks, commenting that they typically have blue hair, and laughed as they pointed out that dyeing one's hair each week is probably not very environmental-friendly:

> Female 6: "I feel that they are young and that they get incorrect information from time to time."
> Male 4: "They often have blue hair and stuff."
> Female 6: "They are a bit like, it is like they are doing it to find some more meaning in their lives."
> Female 9: "And they re-dye their hair every week. That cannot be good to the environment, either."

While many informants perceived that the political question about how to act upon the challenges of climate change was characterised by broad consensus, they nevertheless described the public debate as highly polarised and hostile. Here are two examples illustrating how many of the informants described the climate change debate:

> "In my view, it is only the two extreme sides that get the most, eh, are the most visible in the media. ... And it's hard to pick a side when you don't agree with any of them."

> "I feel it is a very ill-tempered atmosphere in every climate debate. That everyone gets very upset."

When describing the climate change debate as polarised, the young people primarily mentioned disagreements concerning factual propositions about future scenarios. Specifically, they blamed activists and the mass media for "exaggerating" the gravity of the situation and climate sceptics for "understating" them. According to the informants, this led to a less informative and constructive debate, undermining mutual understanding and forestalling political action to solve the problems.

In the focus groups, expectations of the public debate to be oriented to consensus were prevalent. The participants' orientation to consensus was particularly pronounced when they discussed their experiences with engaging in debates. For instance, when reflecting upon how they experienced participating in the focus group discussions, many said they appreciated that their discussions were characterised by broad agreement. As one of the informants said:

> "It was nice that several people agreed with each other. Rather than arguing and discussing, it was possible to have a constructive debate. Of course, disagreeing is allowed, but then the debates often derail and become uncivil."

Similarly, when reflecting upon how they experienced disagreements within the focus group, the informants often articulated an ideal that involved solving the disagreement through deliberation. For example, one of the informants said that:

> "It was totally fine to disagree; it is important that people have different opinions so that one together can reach a conclusion."

Furthermore, discussing their experiences with debating outside the focus groups, most said that they enjoyed debating their views with others and emphasised that it is essential to hear the other side. However, this mainly applied to situations where they could expect agreement. As one of the informants said about debating:

> "It's fine if we agree, but it gets less fun or comfortable if they hold opposite opinions."

The young's preference for consensus-oriented discussions may help explain why they find it difficult to understand why one must continue debating how to act on climate change instead of simply acting. Moreover, it may help explain their dismissal of political opposition and activism as irrational and destructive means to influence decisions and bring about change.

*Young Norwegians' engagement with environmental debates*

Our studies of young people's engagement with public debates about climate change remind us of the fact that the young – like the rest of the population – are a complex and fragmented group consisting of a collection of individuals with different starting points and motivations. Whereas some display strong public connection and commitment to the cause, others have less interest in the climate change debate. Still, some overall tendencies can be observed.

Together, the studies of young people's participation in and reception of the public debate about climate change suggest that many young are tired and frustrated by what they perceive as inadequate political responses to the problem. However, whereas many express their frustration publicly, often in a provocative and confrontational style, others become disinterested.

Moreover, the studies suggest that many young people experience few opportunities to influence environmental decisions. They experience limited agency due to their age, which restricts their formal access to influence political decisions. Moreover, widespread views of young people as citizens-in-the-making that do not belong in the public debate and political arenas limit their informal access to influencing political decisions, by obstructing their opportunities to speak and be heard in the public debate (Andersen, 2023a; Ursin, 2019).

Furthermore, wide-ranging societal processes of individualisation that limit democratic citizenship to individual responsibilities for contributing to solving complex societal issues, such as climate change, may further narrow young people's agency (Hayward, 2021; Walker, 2017). Such individualisation processes are visible in the public debate, where individuals are increasingly called on to take greater responsibility across a broad spectrum of societal concerns, including climate change mitigation. These processes of individualisation also constitute the very foundation of the CLIMLIFE project, which investigates how people relate to and negotiate their individual responsibility for contributing to solve the challenges of climate change. Previous research also suggests that education in environment and sustainability mainly emphasises individual responsibilities and that in education on democracy primarily ideals of the pragmatic, individualised, and consensus-oriented citizen are promoted (Bjørkdahl, 2020; Børhaug, 2018; Marti, 2021). As a consequence, young

people may be given few opportunities to envision collective agency. This is reflected in our studies, where many of the young seem neither to believe that they as individuals have the power to effect change nor to be able to consider alternative ways that they can make a difference.

While many young appear to feel tired, many are also actively engaging in and attempting to influence environmental debates and decisions. In Norway, like elsewhere, youth-led environmental activism has established itself as a political force (Andersen, 2023a). In addition to calling for system transformation and climate justice, young climate activists have criticised and challenged dominant perceptions of the place of young people in the democratic debate. In doing so, they have put questions of children and youth's democratic rights and representation on the public agenda and contributed to increasing young people's possibilities to be taken seriously as fellow citizens worth listening to and discussing with (Andersen, 2023a; 2023c, p. 9; Andersen & Fløttum, 2022).

## 8 Roles of journalists

The current section presents a study on the attitudes of Norwegian journalists and editors to lifestyle journalism on climate change (Hanusch, 2019; From & Kristensen, 2018, 2019; Brüggemann et al., 2022). Our overarching research question is: to what extent do journalists think reporting on climate and lifestyle should help people make more climate friendly choices? That is, to what extent do they think of it as a form of *constructive* journalism (Haagerup, 2017; McIntyre & Lough, 2021)?

The study was undertaken in 2021 among members of the organizations of journalists and editors in Norway. Our starting point is the idea that journalism on climate and lifestyle would have to reflect the fact that climate change is affecting our everyday lives in many ways, from energy policies and energy prices to bad skiing conditions in the winter, food choices, transportation issues, restrictions on new buildings, extreme weather events, etc.

In the study we asked the respondents, first, if they had written stories about climate change and lifestyle in the last 12 months. One third of the journalists said they had done so. We then looked at the journalistic field in which these journalists worked - their beat (Schäfer and Painter, 2021). This gave the distribution depicted in Figure 1:

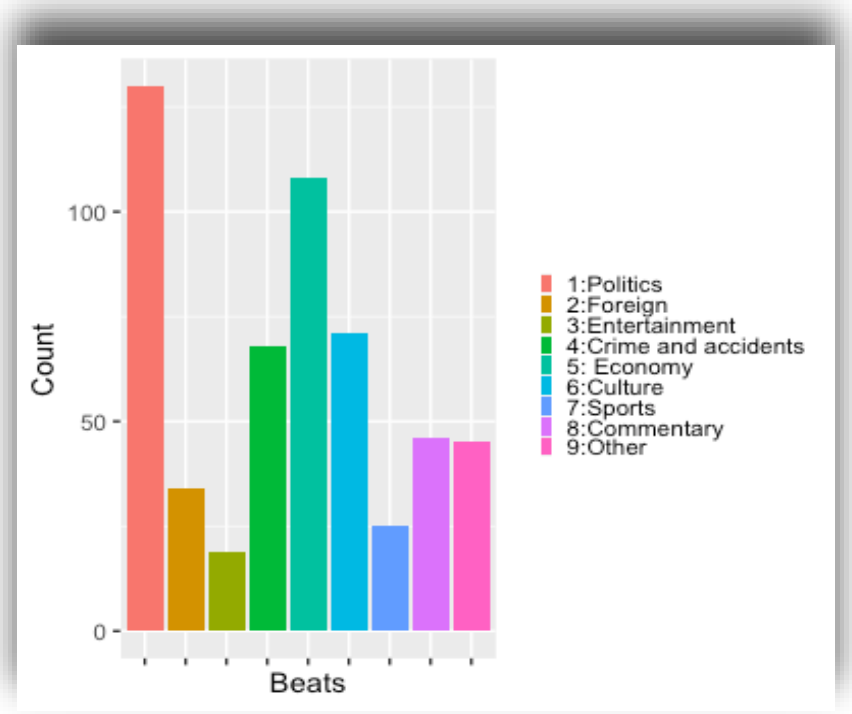


*Figure 1. Coverage of climate and lifestyle by journalists working in different beats*

We see that journalists working within a broad range of journalistic beats say they have written about climate and lifestyle recently. The most frequent areas are politics (red) economy (light green), culture (blue), and crime and accidents (green). We take this as a reflection of the broad and varied impact of climate change on our daily lives, calling for the coverage of all types of journalists; journalism on climate and lifestyle is not only about green lifestyles.

Next, we asked the respondents how they rated the importance of journalism on climate and lifestyle, as compared to journalism on the systemic problems related to climate change: "In your opinion, which type of journalism about climate change is more important: lifestyle or critical reporting on the system?" The distribution of the answers is depicted in Figure 2.

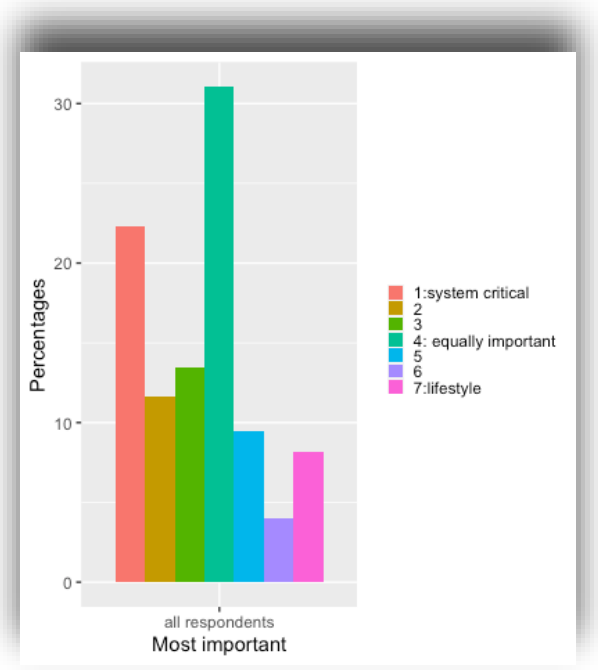


*Figure 2. Evaluations of the relative importance of coverage of climate and lifestyle as compared to the systemic aspects of climate change*

The graph shows that one third of the respondents found the two forms of journalism equally important, as shown by the green bar in the middle. To the left of the green bar are the fifty per cent that think system critical journalism on climate change is, to a greater or lesser extent, more important than lifestyle journalism on climate change. To the right of the green bar are the twenty per cent who think lifestyle journalism is more important.

We found the rating in favour of lifestyle journalism to be high. Our interpretation of the quite strong support for lifestyle journalism in this area again reflects the fact that lifestyle consequences of climate change are tied to such a broad range of questions, requiring the coverage of journalism in different beats. This indicates that lifestyle consequences of climate change are deeply embedded in political questions.

We were interested to see if the respondents considered journalism on climate and lifestyle as a form of constructive journalism (From and Kristensen, 2019).
The defining features of lifestyle journalism on climate and lifestyle are:

1. Addressing individuals
2. in their complex of roles as consumers, citizens, and clients
3. with advice and solutions for how to live in more climate friendly ways, by either,
    a) showing audiences what they *could* do, or

b) telling audiences what they *should* do.

Note that we make a distinction between a strong and a weak form of constructivism: telling people what they *could* do (the weak form), versus telling them what they *should* do (the strong form). The strong form is closer to activism - or perhaps a form of activism - than the weak form.

We then tried to measure the level of constructivism through the following procedure. We therefore:

1. Created a list of nine possible goals for journalism on climate and lifestyles, expressing different levels of constructiveness.
2. Asked the respondents to choose the 3 items from the list they find the most important to journalism on climate and lifestyle.
3. Summarised and scored the goal profiles, i.e., the trio of goals selected by the respondents.
4. Regressed the scores of the goal profiles on demographic variables, and the evaluation of importance of lifestyle journalism.

We thus presented the respondents with this list of nine possible goals of journalism on climate and lifestyle and asked them to pick the three goals they found the most important:

| Goals | % selections |
|---|---|
| **A1. Stimulate people to make more climate friendly choices** | 19 % |
| **A2. Show readers that they can do something themselves** | 14% |
| **A3. Give advice on how to live more climate friendly** | 10 % |
| **B1. Provide information about the consequences of lifestyle choices** | 36% |
| **B2. Help consumers make more informed choices** | 33% |
| **C1. Bringing climate issues closer to people's everyday lives** | 54% |
| **D1. Publish stories many people want to read** | 15% |
| **E1. Provide critical light on climate issues** | 44% |
| **E2. Create debate about climate issues** | 39% |

*Table 1. Suggested goals of journalism on climate and lifestyle. Respondents were asked to select three items from the list they considered the most important.*

Reflecting our distinction between the strong and weak forms of constructive journalism, the A-goals are intended to express strong constructivism, telling people what they should do. The B-goals are meant to express weak constructivism, telling people what they could do.

At the other end, the E-goals are meant to express general goals for journalism we thought any journalist would subscribe to. The C-goal is the goal of making the issue of climate change more relevant to people's lives, a goal of all reporting on climate change. The D-goal is not tied to the topic of climate change. Table 1 reveals that the C-goal is the most frequently chosen goal.

The respondents were then asked to choose from this list the three goals they thought were the most important to journalism on climate and lifestyle.

To represent the different trios of choices, which we called the *goal profiles* of the respondents, we scored each goal from 0 to 3, reflecting their degree of constructiveness. The E-goals were given a score of 0.1, the C-goals were scored 1, the B-goals 2 and the A-goals 3. The D-goal was scored 0.5. This resulted in the following distribution of goal profiles among the respondents:

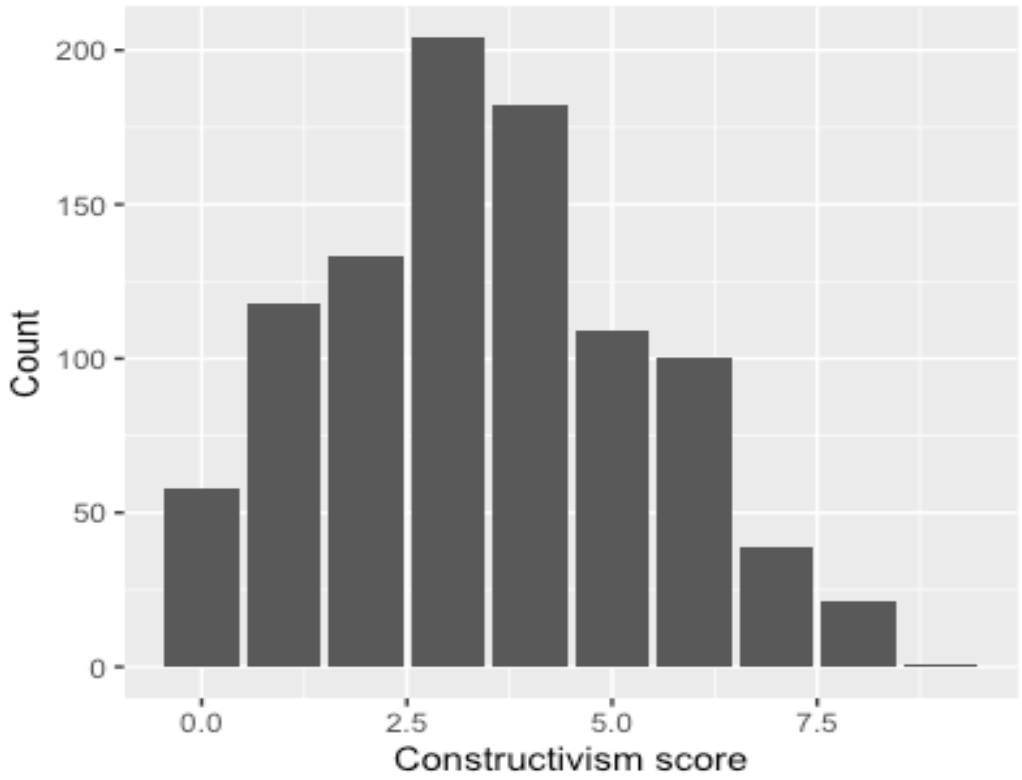


*Figure 3. Distribution of the goal profiles selected by the respondents, scored by level of constructivism.*

The two bars to the far left represent goal profiles without any of the constructive goals. The third and fourth bar from the left represent goal profiles with only one weakly constructive goal. The fifth bar represents profiles with two constructive goals or one strongly constructive goal, etc. The bar to the far right is the one profile with all and only strongly constructive goals. We see that most respondents chose at least one constructive goal.

Our overarching question was: to what extent do Norwegian editors and journalists think reporting on climate and lifestyles should help their audiences make more climate friendly choices? We found that 75 per cent of the respondents selected at least one of the weakly constructive goals, suggesting that they do so to quite a high degree.

## 9 Politicians' agendas

This section presents a study that compares the role of individual action in climate policies with the citizens' willingness to act on political incentives (Akenji, 2014; Ivanova, 2020; IPCC, 2022). The study is based on survey data collected in 2021 from two panels:

- data on attitudes among Norwegian politicians through the Panel of Elected Representatives (PER). The respondents were predominantly representatives at the local level (Panel of Elected representatives, 2021)
- data on a representative sample Norwegian citizens were collected using the Norwegian Citizen Panel (Ivarsflaten et al., 2022)

First, we asked the politicians this question:

> "To what extent does the success of your party's climate policies depend on people in Norway making climate friendly choices in their daily lives?"

The alternative answers were: "To a very large, large extent, some extent, little extent, not at all".

This gave the following distribution of answers:

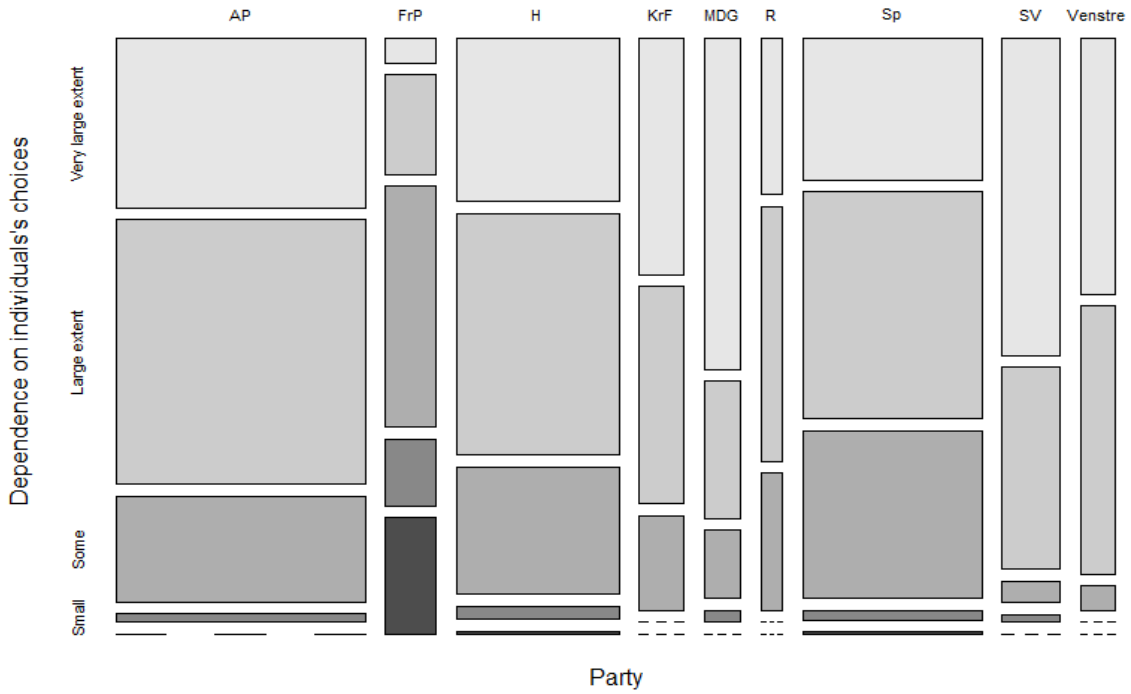


*Figure 1. Distribution of the answers among politicians, by party. The width of the bars represents number of respondents.*

We see that for all parties except the right-wing Progress party, more than 50 per cent of the respondents in all parties answered, «to a large extent» or «to a very large extent». If we include «to some extent» the number goes up to 90 per cent.

Almost all politicians think it is necessary that individuals make more climate-friendly choices. However, the political parties clearly differ in their views on which policies should be put in place to make people more climate friendly (Newell et al., 2021). Next, we then asked a representative sample of citizens this question:

> "There can be different reasons for making or not making climate friendly choices in our daily lives. Which of the descriptions below best describes how you relate to such choices?"

The alternatives and the distribution of answers are charted in this table:

| Alternatives | Per cent |
|---|---|
| I always choose the most climate friendly option | 7.1 |
| I make climate friendly choices when it is practical and affordable | 80.1 |
| I do not think about climate when I make my choices | 6.1 |
| I have given up considering what is climate friendly | 3.2 |
| Other | 2.7 |

*Table 1. Distribution of the citizens' self-reported tendency to make climate friendly choices.*

We see that a high number**,** 87 per cent, say that they always choose the most climate-friendly option, or do so if it is practical and affordable. This seems to reflect a high level of motivation to act in climate-friendly ways.

Next, we asked the citizens if they also wanted the authorities to enable them to make more climate-friendly choices:

"Some people think the authorities must do more to enable a climate friendly way of living. In your opinion, do the authorities do enough to enable you to make climate friendly choices in your daily life?"

This gave the following distribution of answers:

| | Per cent |
|---|---|
| **Yes** | 24.5 |
| **No** | 49.4 |
| **Do not know** | 25.1 |

*Table 2. Citizens' answers to the question:* "In your opinion, do the authorities do enough to enable you to make climate friendly choices in your daily life?"

What does this say about the respondents' motivation to make more climate friendly choices? We see that 50 per cent say that they want the authorities to do more to enable them to make

climate- friendly choices. However, almost 25 per cent say they think the authorities do enough, i.e., that they do not think the authorities should facilitate more climate-friendly behaviour. Note that they say this, even though most of them say that they choose the most climate-friendly option as often as possible, or always. The same is true for the 25 per cent that say they are not certain if they want the authorities to do more to facilitate climate-friendly behaviour.

How should we understand the motivation of these groups to act in climate friendly ways, as they self-report that they do? We suggest that it cannot be the concern to reduce emissions that made these respondents choose the most climate-friendly options. Because, if this was the case, they should have also wanted the authorities to do more to facilitate such behaviour. And it is of course possible to choose the most climate friendly option without being driven by a motivation to reduce the problem of climate change. The results seem to suggest that trying to make climate-friendly choices has become a social norm among Norwegians.
We saw that most of the politicians thought that climate-friendly individual behaviour is necessary for their policies to succeed. However, only half of the citizens welcomed political measures to facilitate climate friendly behaviour, suggesting a mismatch between political measures and citizens' perceptions of these measures as legitimate.

We see evidence of problems at two levels. First, the measures the politicians plan to put in place to mitigate climate change are probably not sufficient to reach the climate goals. Second, it seems unlikely that the measures that will be put in place will be met with general support.

The study seems to imply an argument for political measures that can make people act in more climate-friendly ways, which do not depend on them being motivated to help mitigate climate change.

## 10 How to take our findings further

This report has provided an overview of the contributions of the CLIMLIFE project. We hope these may inspire others to undertake similar studies. We therefore end our report by some suggestions, for various groups, for how our findings may serve as basis for further discussion:

- **For researchers**: We think it may be worthwhile to build on our surveys in the Norwegian Citizen Panel and follow these up in longitudinal studies. Such studies may provide new understandings of current and emerging trends among citizens. We also think it will be fruitful to carry out further studies into the interplay between (i) computational and manual analysis and (ii) open and closed survey questions.

- **For communicators**: We think that our finding regarding the importance of individual action may be exploited to emphasise how each one of us may be part of the solution. Our data has also revealed the need for a carefully calibrated balance between alarming and encouraging language use.

- **For politicians**: We recommend making better use of people's awareness of the challenges as well as the solutions, and to be clear about the time and urgency aspects. Without ignoring the fact that there are divergent views in the population, we suggest that politicians be braver in making decisions that contribute to achieving the goals of the Paris Agreement.

- **For journalists**: We recommend drawing on the fact that lifestyle matters give rise to a broad range of journalistically relevant issues. Such issues provide opportunities for creating more lively debates on climate issues, including the vital role politicians play in making solutions happen.

- **For all:** We think it is important to pay attention to the activism and public participation of young people, ensuring their inclusion in discussions and decisions that affect their future. To enhance young people's engagement and counteract fatigue and frustration, we think it is vital that their views are recognised as valid and valuable contributions to the public debate.

Moreover, we believe that encouraging collective action alongside individual action is essential for empowering young people with a sense of agency to effect change. In general, we find it important to accept that there are disagreements about solutions; we don’t know all the implications of new climate measures.

In addition to the focus on individual action emphasised above, collective responsibilities must not be ignored. We would argue that individual and collective actions together will give us the most powerful impact with regard to climate change solutions.

# Epilogue by Connie Hedegaard

**Strong social sciences are indispensable for a successful green transition**

Nobody should be surprised that the Summer of 2023 was characterised by drought and forest fires in some areas, while others experienced flooding and sudden precipitation. While people in

Southern Europe suffered unbearable heat and emerging water shortages, in Scandinavia we had the wettest July on record, and the cold, grey temperatures stayed for longer than most of us would have liked, while globally temperatures records were broken. Climate change is here - exactly as the scientists have warned us.

Why did we, why did the world not take the needed action earlier? Today almost everyone realises the need for accelerated action. Yet evidently the speed of the transition is much too slow. Not only on a global scale. Also in frontrunning Europe. So how to speed up?

Of course, we still need innovation and to develop ever smarter technologies. But that is not an adequate answer. Today we have enough knowledge to act on a very different scale than is currently the case. That is good. But the relevant knowledge is not always sitting with those taking decisions, and obviously that is bad. And even when knowledge exists, action does not always follow. For many reasons. Among them being the overwhelming complexity of the challenge. To tackle climate change involves geopolitics, it involves our economies and our traditional perception of growth; it is about competition, innovation, jobs transition, skills and trade offs, e.g., when it comes to finding a social balance and to balance between biodiversity, environment and climate change. And it is very much about behaviour and values.

Extreme complexity combined with the need for accelerated action is poisonous for democracies.

Democracy is a lot of good things, but not first and foremost fast and efficient. Nonetheless, the COVID pandemic showed us that fast change - also change in behaviour - is possible. When citizens are explained and understand the urgency.

When it comes to climate change, the natural sciences have been decisive for creating the awareness that - finally - led to the Paris agreement. The technical sciences have helped develop new technologies. Economists have pushed for pricing CO2. All of this is good. But again: It is not good enough. More is needed.

Among other things, we need a new narrative, and the humanities can and must help. Man is not just a homo economicus. Therefore, we urgently also need to zoom in on our behaviour, our values, our consumption patterns, our notions of what is a good life in the 21st century. Remember, we have to go to zero emissions.

In order to make the change happen as fast as the targets require, we also need new ways of working together. New ways to organise ourselves, our administrations, our departments, be it in the public or private sector, and we have to prioritise and work together across silos and sectors. To avoid being bugged down in slow, hierarchical procedures and bureaucracy, we also need to get away from a zero error culture that removes the incentive and courage to try new ways and pursue novel solutions. The social sciences have something to offer here.

Take another example. Today the slow processes around permissions and planning is a major obstacle for more action faster. How to become much more efficient in decision making - without losing the support of citizens and democratic legitimacy? More deliberative dialogue is part of the answer - but many decision makers are unsure of exactly which tools work best here. How to actually do it? Also, we need to move to a paradigm of circularity, replacing the old linear thinking. That means a farewell to the throwaway culture that has been visible in recent decades. So how in mature economies to make a different kind of lifestyle, other priorities attractive and fun and something people want to be part of?

When it comes to our diet, a lot can be achieved through innovation and new cultivation practices and technologies. But we, the consumers, must also play our part. The 10% richest on planet earth - that is us - account for 50% of global emissions. So no, it is not just about what others can and should do. It is about us. We need to change. Urgently. How to do it? How to apply and disseminate knowledge that could help us? How to address the transition in a way that instead of polarisation creates new communities, maybe a new kind of connectedness, something that people seem to be longing for also for a lot of other reasons.

Everybody has to contribute to the change. The politicians, the companies, the investors, you and me. And the researchers. The research community must be far better at bringing knowledge to play - when needed. That also means when relevant for decision making. And sorry, but only very few decision makers read scientific reviews. This is a dilemma: Politics (and media!) is often fast and superficial. It is about what we want. Whereas science is slow, goes deeper and is about what we know. How to align better these two spheres? The quality of decision making gets better when it is fact based. Take as an example the need in the rich part of the world to change our diet. How to transform the agricultural sector? How to make people eat differently - without dictating when who must eat what. In short, how to accelerate

implementation and transformation with the citizens? Could the climate change challenge maybe be used to reinvigorate the democratic dialogue locally and nationally?

The humanities are for the time being more challenged, more reviled, than STEM. I think that for us as societies to transform fast enough, more than ever we will need a strong and timely input from the social sciences and the humanities. By delivering that, Arts would demonstrate why they are absolutely vital for a strong and democratic society and their contributions indispensable for a successful green transition.

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