CLIMAS

CLIMAte change citizens engagement toolbox for dealing with Societal resilience

Deliverable 2.1 – Map of citizen participation strategies adapted to different cultural, social, political, and environmental contexts

Issue date: 12/2023

Work package leader: IHS

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Information table

Project Acronym	CLIMAS
Grant Number	101094021
Deliverable Number	2.1
Deliverable Title	Map of citizen participation strategies adapted to different cultural, social, political and environmental contexts
Responsible Partner	IHS
Contractual Date of Delivery	31/12/2023
Actual Date of Delivery	30/12/2023
Type	Report
Dissemination Level	PU – Public

Disclosure Statement

This project has received funding from the European Union's research and innovation programme Horizon Europe under the grant agreement No. 101094021. This document reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains

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Version control sheet

Version	Date	Main modifications	Organisation
v0.1	11.22.2023	First rough draft of deliverable	IHS
V0.2	11.12.2023	Incorporation of feedback from partners	IHS
V0.3	18.12.2013	Final Deliverable 2.1	IHS
V1.0	29/12/2023	Final version by PC	VILNIUS TECH

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List of Acronyms

Acronym	Definition
CA	Climate assembly
OECD	Organization for Economic and Development
KNOCA	Knowledge Network on Climate Assemblies
WP	Work package
NLP	Natural language processing
AI	Artificial intelligence
EU	European Union
DMP	Deliberative mini-public
NGO	Non-governmental organisation
CSO	Civil society organisation

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Key terms used

Policy coupling	Following Hendriks (2016) this describes the institutional arrangements regulating interactions between mini-publics and elected representatives
Delivery team	The organising and oversight team responsible for designing, coordinating and governing the implementation of a Climate Assembly
The setting	Describes the local or spaces used to host the CA process (digital, hybrid, or in-person)
Agenda setting	The stage of the CA process in which the precise dilemmas, topics, and questions are determined and around which the final recommendations are written to address
Purposive sampling	Sampling technique which selects a subset of the population from which to sample additional members from in order to ensure their representation
Selection bias	Describes the tendency for those who engage in CA processes to be of a certain attitude towards climate change in general
Attitudinal stratification	Sampling technique in which respondents first answer a series of attitudinal questions in order to ensure equal representation of perspectives in the final sample for selection
Information	Describes the stage of the CA in which knowledge is procured, presented and critically reflected on as the basis for deliberation
Citizen science	Denotes the involvement of citizens in the scientific process such that they are equal co-creators in the problem definition and research question in a given research study
Collective intelligence	The capacity of the populace to generate knowledge, synthesize and apply collective intelligence
Civic technology platform	Describes any digital tool or service that can be used to deploy citizen engagement methods or assist government in their digital capacities to engage with their constituents

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CLIMAS Project Overview

Climate change is one of the most critical issues to tackle today as it is foreseen to have detrimental social, environmental, and economic impacts in the near future. The last climate change events, such as flooding in Germany and Belgium in both Continental and Atlantic regions, heat waves and lack of water in both Mediterranean and Boreal regions, show that the policymakers, experts, and stakeholders' actions are not enough, and a 360º citizens engagement is urgently needed. Therefore, we need to learn from the good experience in citizens' engagement in climate change action and build up citizens` supporting infrastructure for climate adaptation measures to help the 150 European regions and local communities to resist. Climate assemblies and Living labs are considered as sustainable and reasonable tools to stimulate deliberative democracy in climate policymaking.

The ambition of the CLIMAS project is to support a transformation to climate resilience by offering an innovative problem-oriented climate adoption Toolbox, co-designed together with stakeholders by applying a values-based approach, design thinking methods and citizen science mechanisms. All that will be carried out with a gender and diversity approach. It is expected that the use of the Toolbox will anticipate possible tensions, points of controversy and dilemmas vis-a-vis the adaptation to resilience. Therefore, the Toolbox aims at enabling empowerment and engagement strategies that produce a society "resilient by design". In addition, CLIMAS will include the empirical component for testing this Toolbox and formulating scientific based guidelines for policymakers on how to shift Climate Assemblies from technically based deliberations that belong to climate change experts to multi-stakeholders' deliberations based on solving the dilemmas from a bottom-up, more societal, and value-based perspective. CLIMAS outcomes will positively influence policy development and awareness raising process and offer sustainable strategies to enhance the acceptance of citizens' led decisions by policymakers.

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Executive summary

CLIMAS Deliverable 2.1 “Map of citizen climate participation strategies adapted to different cultural, social, political and environmental contexts” maps insights from 76 climate assembly (CA) experiences on the national, regional, and local levels across the EU and beyond. It introduces the term of Climate Assemblies and puts it in the context of the concept and history of deliberative democracy. The deliverable provides an overview of CA cases, and a deeper understanding of their citizen engagement practices and the civic technologies which mediate and support them. It provides several design options to safeguard the CA process’ neutrality, independence, transparency, efficacy, effectiveness, and inclusiveness during the lifetime of a CA. This process can be divided into stages (1) the idea of starting a CA, (2) the assembly process, (3) handing over recommendations, and (4) evaluation and response to process. The basis for this Deliverable was 76 cases which have been chosen according to selection criteria. The Deliverable shows that there is ample experience in how to run a CA according to the above-mentioned principles. It also shows that challenges exist in each stage of a CA which have to be carefully considered. The Deliverable provides examples from the cases of how these challenges have been addressed in previous CAs. The Deliverable also highlights that there are future challenges ahead for CA, particularly the inclusion of Machine Learning and Artificial Intelligence in the development of current and future civic technology platforms. In addition, the inclusion of citizen science practices to enrich CA is still an unchartered territory.

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1. Introduction

CLIMAS is a European project which aims to drastically improve the current practice of citizen engagement in planning, mitigating and importantly, adapting to the realities of climate change. To proactively face these challenges, actions are required on behalf of all members of society. Taken together, these actions can and should lead us towards a better, more climate-resilient system. To aid in the necessary steps, the European Union (EU) has established the Mission on Adaptation to Climate Change[1] to support a minimum of 150 European communities in local measures to become climate resilient by 2030. The mission aims to support 150 EU regions by 2030 and has signatures from 291 EU regions and local authorities from 25 Member States and 17 additional countries. On the mission website, the objective of adaptation is explained:

> Despite all continuing efforts to reduce emissions and to achieve carbon neutrality, a warmer climate can't be avoided anymore and we need to be better prepared to cope with the inevitable effects of climate change, adapting our way of living. We must step up action both to cut emissions and to build our resilience.[2]

While numerous expert-driven initiatives to inform such climate change and adaptation measures have already taken place, citizens' perspectives need to be prioritized in these efforts to ensure they are effective and just (Willis et al., 2022). Understanding how specific measures can reach their full potential requires engaging citizens about the kinds of values and practical realities that come with potential measures or policy implementation. To support and improve this necessary citizen engagement requires first taking stock of current strategies.

The CLIMAS project embarks on the overall task **of learning from previous experiences of citizen engagement to enhance it.** Within this task, one of the main outcomes will be a toolbox focusing on strengthening the quality of citizen engagement encompassed within and surrounding the deliberative model of a Climate Assembly (CA). The aim of work package 2 (WP2), in which this deliverable is situated, is **to identify barriers and facilitators of citizen participation in climate adaptation and policymaking** using past examples of CA implementation. The learnings from WP2 will be used as a constructive argument and content for the creation of the aforementioned toolbox (WP3).

The CA model is itself an engagement mechanism, having evolved from decades of practical and scholarly work on deliberative democracy and participation, however, the micro-processes that

[1]See: https://climate-adapt.eea.europa.eu/en/mission/the-mission/
[2] See: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/adaptation-climate-change_en

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have shaped individual and unique CA instances have produced important lessons about how to implement the model in practice (Boswell et al., 2023). The specific focus of this work, Deliverable 2.1, is to map the insights from these previous CA experiences on different levels of government, across various EU regions, within different Member States, and hosted on different digital and in-person platforms. The output is an updated overview of CA cases, and a deeper understanding of their citizen engagement practices, and the civic technology tools used to mediate and support them. The role of digital platforms and civic technology tools is highlighted in this work because of the increasingly important role digital tools play in assisting in nearly all stages of the CA process and deliberative modes of citizen engagement more broadly. This document is structured as follows:

- Chapter 2 provides a brief theoretical background introducing the argument for citizen engagement in the climate emergency and situating the concept of CAs in the wider movement of **citizen assemblies** and **deliberative mini-publics** (DMP) (Fung, 2003). This is followed by a section describing the nearer-term context of CAs, their rise, and the important knowledge bases which have helped to further the spread of DMPs in practice. Chapter 2 concludes with a description of the methodological approach taken by the authors to frame the mapping exercise, including criteria for case selection and literature search. This methodological section includes critical reflection on the challenges of collecting insights and researching CAs from a distance given their deeply contextual and practical character.
- Chapter 3 presents the main empirical findings according to the sequential stages of a CA: **(1) setting up an assembly, (2) recruitment and representation, (3) deliberation, (4) recommendations and voting, (5) and follow-up from the assembly**. Each of these stages is described using information found in the grey and research literature about design features, organisational choices and interactions between citizens and the CA. Chapter 3 concludes with an overview of civic technology platforms and their role in supporting citizen engagement related to CAs and, where available, extractable lessons about their use from case examples.
- Chapter 4 concludes Deliverable 2.1 with a summary and **reflections on the opportunities for and barriers to meaningful citizen engagement associated with CAs** and the use of digital platforms as a form of civic engagement.

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2. Citizen involvement in climate policy

2.1 Background

Various forms of public participation have been used to involve citizens in climate change planning ranging from surveys and focus groups to future visioning workshops and green hackathons (Galende-Sánchez & Sorman, 2021). The argument commonly used to support these participatory engagements often points to the limitations of traditional democratic practices for addressing climate change, necessitating the exploration of deliberative practices as both an experiment in democratic renewal and a response to the climate emergency (Curato et al., 2022). Advocates and scholars have argued that citizen engagement is now imperative due to the political responses, or lack thereof, to the climate emergency thus far. Reasons for this are reflected in the incongruence between the long-term nature of climate change and the shorter-term pressures of election cycles and lobbying campaigns, as well as the power imbalance with these politically savvy actors and citizens whose voices might be weak in comparison. Consequently, the current democratic system lacks incentives for the substantial challenges and investments essential for long-term climate change adaptation and planning (Gupta, 2007).

On a separate stage, since the 1960s advocates of deliberative democracy, which is a form of democracy in which multiple stakeholders and citizens are invited to deliberate about a topic as part of the decision-making process, have been experimenting with various formats such as citizens' juries, citizens' panels, and consensus conferences, to name a few (for example Fung, 2003; Devaney, 2020; Courant, 2021). Mansbridge (2017), describes the democratic advantages of deliberation as "recursive representation", or the fostering of two-way interactions between politicians and citizens that go beyond established democratic practices such as voting. Recursive representation goes beyond because it involves a higher-order form of engagement that promotes mutual learning and understanding of diverse views, values, and potential actions between political representatives and the citizens who elect them. DMPs or deliberative mini-publics briefly mentioned in the introduction, are a specific type of deliberative format which takes a randomly selected representative sample of the wider population to deliberate about and provide thoughtful input (usually in the form of considered policy recommendations) to a particular topic (Setälä, 2017). Depending on the size, structure, and time allocated for the process, these formats can have different names, i.e., citizen juries or citizen assemblies. Applied in the realm of climate policy, they are usually referred to as Climate Assemblies (CA), a term we will use often, and which describes the form of DMP that has been recently popularized as a pathway for citizens and politicians to work together on climate decision making.

In the OECD's 2020 instrumental report in the field of deliberative democracy, 'Innovative Citizen Participation and New Democratic Institutions: Catching the Deliberative Wave'[3], numerous

[3] See: https://doi.org/10.1787/339306da-en.

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deliberative models and practices are highlighted and described. This report was significant because it consolidated empirical examples of case studies in deliberation across OECD member states and beyond, which can be seen as a reflection of the surge in interest in these approaches for the 21st century and its associated societal and political challenges. In an ongoing effort to track similar developments, public databases like Participedia.net[4] and PeoplePowered.org[5] serve as digital repositories for hundreds of instances of citizen participation around the globe. As of November 2023, Participedia alone has 875 case study entries from 2010 to the present day related to the 'deliberative and dialogical process'. Another valuable resource, the OECD's Toolkit and Case Navigator for Open Government[6] offers a comprehensive overview of participatory and digital innovations in government. While these resources extend beyond the scope of CLIMAS, they are significant in that they align with the interest and broader trend of experimenting with democratic processes to enhance resilience and capacity in addressing societal challenges, such as climate change.

The rise of climate assemblies

CAs, which as described, are a subset of DMPs thematically focused on climate change, stand out as sustainable and effective tools for promoting deliberative democracy in climate policy making (Elstub & Escobar, 2017). These assemblies are characterized by the gathering of a random but diverse group of citizens to engage in a structured learning and deliberation process to produce recommendations about how to respond to climate emergencies and adaptation (Cherry et al., 2021). The outputs of a CA can be seen both on the level of process and content. On the one hand, (1) outputs are related to the deliberation process, which is itself an experiment in a democratic system, and on the other hand, (2) informed recommendations on the given question or topic.

The design and implementation of the process involve nuanced choices specific to each assembly. Considering the importance of context, for example, social and legal aspects, local goals, and climate-related considerations such as geography and climatic conditions, CAs present unique challenges in their practical implementation (Escobar & Elstub, 2019). Despite not being one-size-fits-all, recurrent patterns in challenges faced by CAs have been identified in the literature (Courant, 2021; Lewis et al., 2023; Pow, 2023). These challenges encompass decision-making aspects such as how to consider the design, implementation, governance, and utilization of civic technologies or platforms in an assembly in the context of a specific CA locality and scale.

Scholars and practitioners have played a significant role in consolidating this information to learn from different experiences, particularly following the 2016 Irish Citizens' Assembly. In many ways, this was the first national-level CA to capture the imagination of what CAs could offer and

[4] See: https://participedia.net/: Case material can be filtered and sorted by issue topic, scope of influence, purpose/goal, approach, spectrum of public participation, openness, recruitment method, types of methods, tools/techniques, digital or in-person, organising unit, funder, type of change sought.
[5] See: https://www.peoplepowered.org/
[6] https://oecd-opsi.org/toolkits/

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interestingly, climate change was only included as an ad-hoc topic later in the deliberative process (Farrell et al., 2019). Since then, but also throughout the 2000s at smaller, more local scales, CAs and juries have been practised around the globe. Signifying an intensification of this trend, particularly amongst national-level initiatives, was the establishment of The Knowledge Network on Climate Assemblies[7] (KNOCA) in 2021. KNOCA serves as a locus for knowledge sharing on the topic of CAs by frequently scheduling learning calls, gathering scholars and practitioners, conducting virtual meetings, and publishing findings about emerging trends. In a 2023 report by KNOCA (Smith, 2023), the authors captured trends, challenges, and opportunities, and concluded that while significant progress has been made, the full potential of CAs has not yet been realized. The position of the CLIMAS project is that the potential of CAs, i.e., their efficacy and impact, can be improved by supplementing the model with strategies for enhancing the inclusivity, insights, and empowerment of citizens' perspectives. This deliverable aims to map existing practices and identify the ones that can contribute to these objectives.

The framework for CAs used in the CLIMAS project is shared below (Figure 1) and is inspired by a synthesis of the OECD Citizens' Assembly model[8] included in the report mentioned above and a KNOCA document describing the "Key features of climate assemblies"[9].

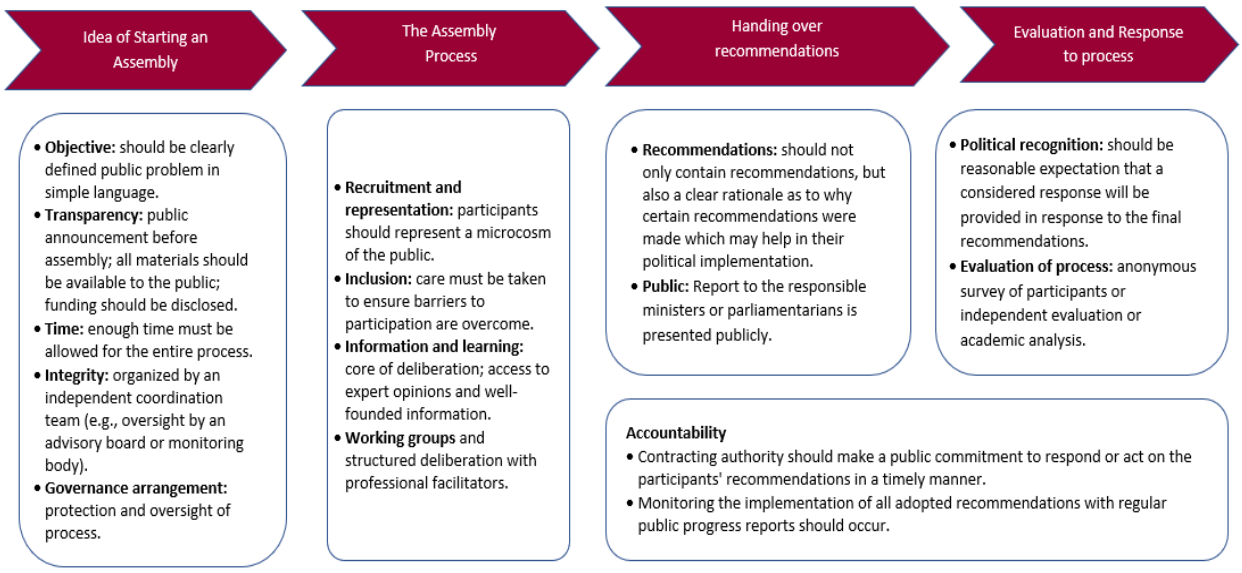

Figure 1: CLIMAS model adapted from OECD and KNOCA. Source: project team (2023)

This model represents the generally accepted criteria for a process to more or less be categorized as a CA. In the current context, a comprehensive assessment of the strategies used by practitioners to satisfy the criteria and fit the model to their citizen engagement needs is warranted. Individual

[7] https://knoca.eu/
[8] https://www.oecd-ilibrary.org//sites/339306da-en/1/3/2/index.html?itemId=/content/publication/339306da-en&_csp_=07698b7c924c319dbb92a6500bf563da&itemIGO=oecd&itemContentType=book#figure-d1e2939
[9] https://knoca.eu/key-features-of-climate-assemblies/

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cases where the CA model is implemented reveal unique engagement strategies that are determined by localized factors or conditions and influence the process of quality of citizen participation.

2.2 Methodological approach

This deliverable adopts a descriptive approach to map current citizen engagement strategies employed in combating climate change, with a specific focus on the CA model (see Figure 1). Emphasizing the importance of engaging the broader public in climate action, the report distinguishes between the CA process and general citizen engagement initiatives. Recognizing that CAs centre on deliberation with a randomly selected mini-public (Fung, 2003), the strategic questions about improving participation differ significantly from those relevant to the general public. For example, CAs must take care to understand the current events, political cycles, and other issues that coincide with their implementation as they are given a finite piece of the public's attention, whereas other climate change campaigns are ongoing. Navigating and understanding this separation is crucial, as citizen engagement at the public level is also critical for the success of CAs. Criteria for case selection are based on the primary criteria for citizen assemblies of (1) random selection of citizens, also known as sortition, (2) informed deliberation (3) production of and voting on recommendations and (4) a thematic focus on climate-related issues. Cases with a focus on citizen engagement in the topic of climate change were included if they were informative about parallel processes of citizen engagement alongside a CA, even if they did not fit the main CA criteria.

As part of the EU Mission on Adaptation discussed in the introduction section, citizen engagement is mandated and in June 2023 a report was published titled, "Do it yourself (DIY) manual for mobilizing and engaging stakeholders and citizens in climate change adaptation planning and implementation"[10] to support representatives. The first selection of cases focused on the national and local governments committed to the mission to set the scope of cases which were likely to include engagement activities that align with CLIMAS' focus on CAs and adaptation. However, not all of the identified cases were included in the final selection due to various reasons, i.e., not enough information was found, or information was not available in a language accessible to the CLIMAS project. Therefore, any omission of cases is not indicative of a lack of citizen engagement strategies. Exclusions could be due to the absence of formal actions, unsuitable design characteristics, or limited access to information. The second round of case selection was expanded to include other examples found in the literature and the aforementioned participatory databases which met the five criteria listed above.

Within the final sample of CAs, the engagement strategies were investigated according to specific stages so that practical insights could be distilled about what helps or hinders engagement in the process. The stages are visualized in Figure 2 below. Looking at engagement strategies according to stage will enable the CLIMAS project to better understand case insights according to the sequential

[10] See: https://climate-adapt.eea.europa.eu/en/mission/solutions/citizen-engagement-manual

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nature of CA processes and inform the development and adaptation of the toolbox in WP3 and WP4 of the CLIMAS project with this perspective.

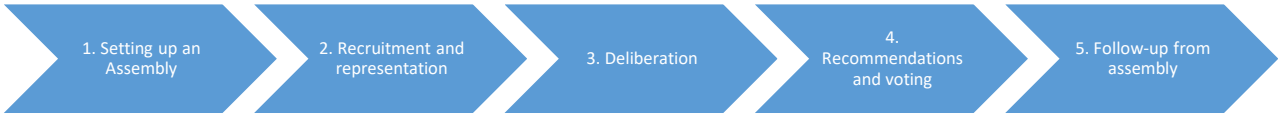

Figure 2: CA process according to chronological stage

As mentioned above, cases were also included which examine the context and environment outside of the CA process, either in tandem with or independent of a CA process. By doing so, the authors acknowledge the inherently exclusionary nature of mini-publics based on the selection of a limited sample of citizens for participation in the process. While the CA does restrict the participation of all citizens, there is certainly evidence of the active involvement and importance of what Devaney et al., 2020) refer to as the midi-public, or the citizens on the periphery of a CA, who are engaging with and following along with the process from the outside. While activities to engage the midi-public do not fit within the process illustrated in Figure 2, this report does include various initiatives and digital tools to promote engagement at this level.

The methodological approach aims to build on existing CA initiatives, ensuring the CLIMAS toolbox complements prior efforts. While strengthening citizen perspectives is the primary focus, the report acknowledges the additional importance of fortifying the interface between citizen engagement initiatives and political institutions, although this is outside the scope of this report.

2.2.1 Data collection

The data collection for this task took place in two parallel processes, denoted as **Process A** and **Process B**.

- **Process A**: systematic desk research covering all 308 signatory nations (291 EU and 17 non-EU) and local communities with a focus on identifying ongoing or past CA processes within these localities. Cases in which a CA was identified were meticulously recorded in alphabetical order within an Excel sheet. A website, blog post, or some form of online representation was necessary for each assembly, ensuring the reliability of our search. To cross-verify national-level findings, the KNOCA database was consulted, and Participedia and the German Bürgerrat database of Citizens' Assemblies[11] were used for local cases (Gastil et al., 2017). However, despite the breadth of these databases, reliance on them proved inconsistent as not all local CAs could be validated there, necessitating cross-verification from websites and independent news sources.

[11] See: https://www.buergerrat.de/en/citizens-assemblies/

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At both national and local levels, essential criteria were documented, including country, level of government, date of assembly, size (in terms of members and duration of assembly), topic, remit, and website. Additionally, if accessible, final reports or evaluations of the assembly were included in our documentation. Each entry featured an empty field for information on unique or innovative engagement strategies during the CA process, colour-coded according to the stages (Figure 2, Stages 1-5) for easy identification when selecting exemplar cases.

Process B involved a literature search using Google Scholar, incorporating research papers and grey literature resulting from our stage-based approach. Search strings, such as 'agenda setting' AND 'climate assembly', 'engagement' AND 'deliberation' AND 'climate assembly', 'inclusion' AND 'methods' AND 'climate assembly', 'digital tools' AND 'climate assemblies', 'follow up' AND 'climate assembly', 'voting' AND 'deliberation' AND 'climate assembly', and 'mini-public' AND 'climate assembly', were employed. These search strings generated approximately 150 papers, which underwent screening for relevance, with approximately 50 papers deemed informative for our purposes.
Overall, the scholarly literature contributed to the conceptual framing of each phase as well as aided in the identification and, sometimes, enrichment of case studies identified in **Process A**.

In the end, 76 cases were selected based on their satisfaction of the four main criteria of 1) random selection 2) informed deliberation 3) production of recommendations and 4) a focus on climate-related issues.

A map of the cases is included in Figure 3 below. In this figure, yellow dots are used to indicate the national-level CAs while blue dots represent the sub-national CAs. However, it is important to note that the actual geographical location of participants of any given CA is much more widespread. This applies in cases of national assemblies where members are invited from all over the country, as well as online assemblies that are designed to cover the participation of a wide geographical area.

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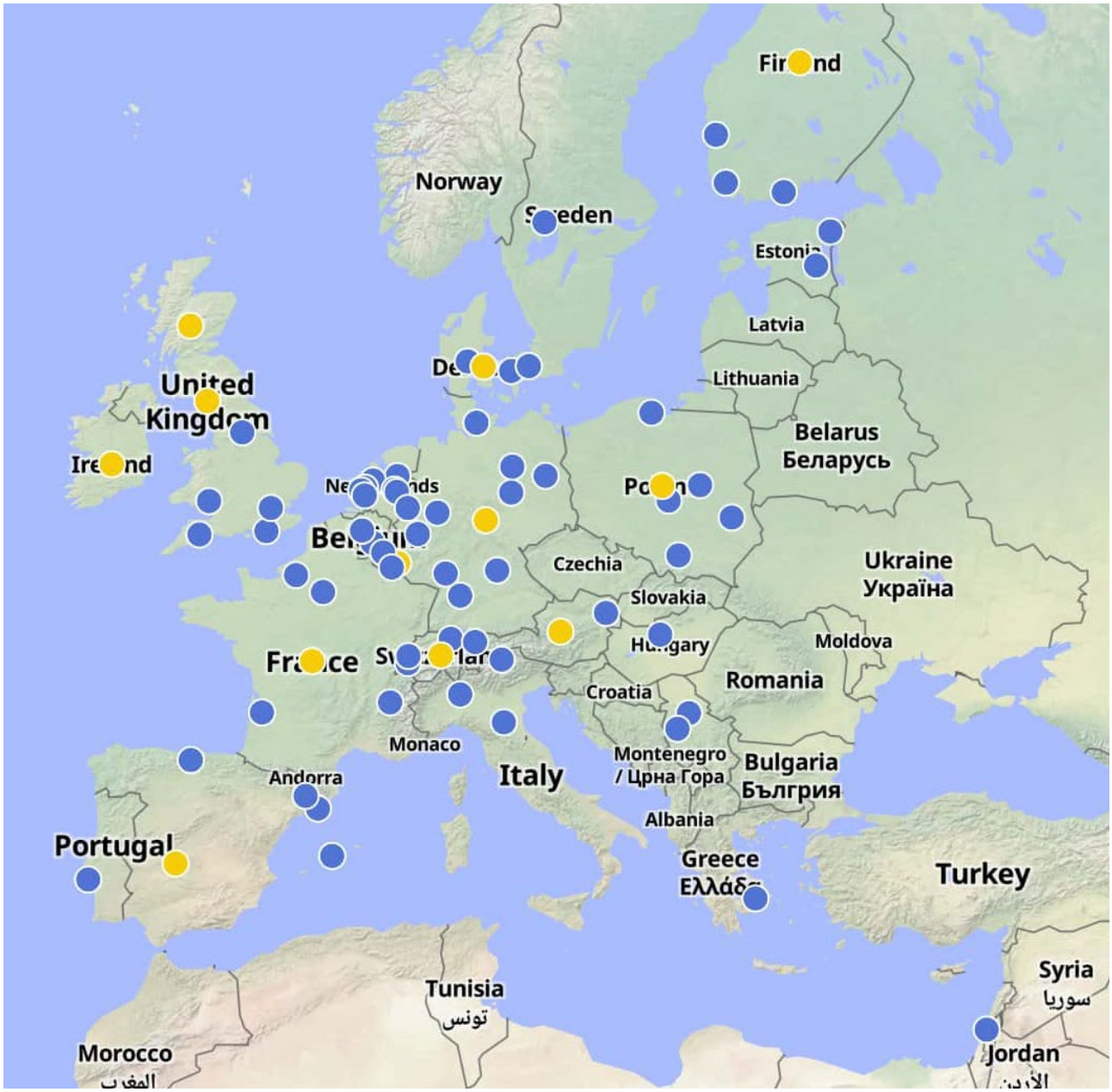

Source: Own. Map created with © OpenMapTiles © OpenStreetMap contributors.

Figure 3: Map of CA cases used in D2.1

Information about each of the cases included in the overview map is provided in Table 1 below according to country, year and including hyperlinks to the respective websites and information sources.

Table 1: Cases of CA selected based on criteria.

National level OR Regional/local level	**Name of Assembly**	**Date**
Austria	Klimarat (National Assembly for Climate Action)	2022
Vienna, Austria	Wiener Klimateam (Vienna Climate Team)	2022 - 2023

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Vorarlberg, Austria	Bürgerrat Klima-Zukunft Vorarlberg (Citizen's Jury Climate Future)	2021
Belgium		
Brussels, Belgium	Brussels: Assemblée Citoyenne pour le Climat (Citizens' Climate Assembly)	2023-permanent
Brussels, Belgium	Climacteurs – 100 voix pour le Climat (Climacteurs — 100 voices for climateClimacteurs)	2015
Arlon, Belgium	Panel citoyen pour l'énergie et le climat (New Covenant of Mayors for Energy and Climate)	2022
Wallonie, Belgium	Panel Citoyen pour le climat de Wallonie (Climate Citizen Panel of Wallonie)	2021-2022
Namur, Belgium	Panel citoyen pour le climat de Namur (Climate Citizen Panel of Namur)	2021-2022
Denmark	Borgertinget Pa Klimaomradet (Denmark's Climate Assembly)	2022
Horsholm, Denmark	Hørsholm Kommunes Klimaborgerpanel (Hørsholm Municipality's Climate Citizen Panel)	2022
Copenhagen, Denmark	Københavnernes Klimaborgerting (The Climate Citizens' Assembly of Copenhagen)	2023-2024
Zealand, Denmark	The Region of Zealand citizens' summit on climate	2010
Estonia		
Tartu, Estonia	Tartu Kliimakogu (Tartu Climate Assembly)	2022
Ida-Viru, Estonia	Ida-Viru Kliimakogu (Ida-Viru Climate Assembly)	2021
Finland	Ilmastotoimia arvioiva kansalaisraati (Finland's Citizens' Jury on Climate Actions)	2021
Uusimaa, Finland	Uudenmaan liikenneraati (The Uusimaa Transport Jury)	2022
Satakunta, Finland	Satakunta2050 Citizens' Assembly	2020
Turku, Finland	Turku Deliberates	2020
France	La Convention Citoyenne pour Le Climat (France Citizens' Convention on Climate)	2019-2020
Rouen, France	Convention Citoyenne Rouen (Citizens' Convention Rouen)	2022, reoccurring
Grenoble Alpes-Métropole, France	Convention Citoyenne Métropolitaine pour le Climat (Citizens' Convention for the Climate)	2022-2023
Est Ensemble, France	Convention citoyenne locale pour le climat d'Est Ensemble	2021-2022
Bordeaux, France	Le Grand dialogue citoyen (The Grand Citizen Dialogue)	2023-2024
Germany	Bügerrat Klima (Citizens' Climate Assembly)	2021
Rhein-Berg, Germany	Klimafreunde Rhein-Berg Bürgerrat (Climate Citizens' Assembly)	2022-2023
Saxony-Anhalt, Germany	KlimaPlanReal (University network of CA in Saxony-Anhalt)	2022
Berlin, Germany	Berliner Klimabürger:innenrat (Berlin Climate Assembly)	2022
Neumünster, Germany	Klimabürgerrat (Citizens' Climate Council)	2023

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Osterburg, Saxony-Anhalt, Germany	Bürgerrat Osterburg (Citizens' Jury Climate Action Working Group)	2022-2023
Stuttgart, Germany	Klima-Bürgerrat in Stuttgart (Citizens‘ Climate Assembly)	2023
Erlangen, Germany	Klima-Aufbruch in Erlangen (Climate awakening in Erlangen)	2022
Mannheim, Germany	Bürgerrat "KlimaSchutz 2030" (Citizens' Jury "Climate Protection 2030")	2021-2022
Bonn, Germany	Bonn4Future – Wir fürs Klima	2022
Arnsberg, Germany	Citizens' Jury "Tackling the Energy Crisis together"	2022
Greece		
Athens, Greece	Youth Assemblies on Climate Change	2022
Hungary		
Hungary, Budapest	Klímavészhelyzet van – mit tegyen Budapest? (We have a climate emergency - what should Budapest do?)	2020
Ireland	Citizens' Assembly (2016-2018)	2016-2018
Ireland	Citizens’ Assembly on Biodiversity Loss	2022
Israel		
Tivon, Israel	Kiryat Tiv'on assembly on waste management	2022
Italy		
Milan, Italy	Assemblea permanente dei cittadini sul CLIMA (The Permanent Citizens' Climate Assembly)	2022-2030
South Tyrol, Italy	Klimabürgerrat Südtirol (South Tyrol Citizens' Climate Council)	2023-2024
Bologna, Italy	Assemblea cittadina per il clima (Citizen Assembly for the climate)	2023-2024
Luxembourg	Klima Biergerrot (Climate Citizens' Council)	2022
Netherlands		
Rheden, Netherlands	Burgerberaad "G1000 Rheden" (Climate Assembly)	2022
Gelderland, Netherlands	Burgerberaad Gelderland (Citizens' climate council)	2022
Rotterdam, Netherlands	Burgerberaad over klimaat (Citizens' climate council)	2024
Den Haag, Netherlands	Burgerberaad Statenkwartier (Citizens' climate and energy council)	2022
Leiden, Netherlands	Burgerberaad Energietransitie (Citizens' climate council Energy transition)	2023
Amsterdam, Netherlands	Mini-burgerberaad (Mini citizens' deliberation)	2021
Zwolle, Netherlands	Burgerberaad (Citizens' climate council)	2024
Poland	Poland's Citizens’ Assembly on Energy Poverty	2022
Gdańsk, Poland	The first Gdansk Citizens' Panel	2016
Łódź, Poland	Łódzki Panel Klimatyczny (Lodz Climate Panel)	2019
Warsaw, Poland	Warszawski Panel Klimatyczny (Warsaw Climate Panel)	2020
Kraków, Poland	Krakowski panel klimatyczny (Krakow climate panel)	2021
Lublin, Poland	Lublin City Citizens' Panel on Air Quality	2018
Portugal		

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	Lisbon, Portugal	Conselho de Cidadãos de Lisboa (Lisbon Climate Assembly)	2022
Serbia			
	Valjevo, Serbia	Air pollution Valjevo	2021
	Belgrade, Serbia	Citizen assembly on traffic	2021
	Spain	Asamblea Ciudadana para el Clima (Citizens' Assembly for the Climate)	2022
	Cantabria, Spain	Jurado Ciudadano del Besaya (Citizen Jury on fair and inclusive ecological transition)	2021
	Mallorca, Spain	Assemblea Ciutadana pel Clima (Citizens' Climate Assembly)	2023
	Catalonia, Spain	Asamblea Ciudadana para el Clima (Citizen Assembly for Climate)	2023-2024
	Barcelona, Spain	Asamblea Ciudadana para el Clima (Citizen Assembly for Climate)	2022-2023
	Scotland	Scotland's Climate Assembly	2020-2021
	Skåne, Varmland County, Sweden	(E-)Skånepanelen: Online Citizen Panel and its Citizen Groups	2014-2020
	Switzerland	Conseil du climat (Climate Council)	2020
	Yverdon-les-Bains, Switzerland	Conseil citoyen pour le climat (Citizen Council for the Climate)	2022
	Prilly, Switzerland	l'Assemblée Citoyenne (Citizens' Assembly)	2023
	Uster, Switzerland	Citizens' panel for more climate protection in Uster	2021
	United Kingdom	Climate Assembly UK	2020
	Camden, United Kingdom	Citizen Assembly on climate crisis	2019
	Leeds, United Kingdom	Leed's Climate Change Citizen Jury	2019
	Adur and Worthing, United Kingdom	Adur and Worthing Climate Assembly	2020
	Blaenau Gwent, United Kingdom	Blaenau Gwent Climate Assembly	2021
	Devon, United Kingdom	Devon Climate Assembly	2021

2.2.2 Critical reflection of data collection

The outcomes of our search process underscored two crucial lessons that merit careful consideration. Firstly, while the identification of CA cases proved relatively straightforward, delving into the intricacies of the CA at a process level posed significant challenges. Unravelling insights into strategies, adjustments, and their subsequent impact on the quality of citizen participation proved elusive. This difficulty was primarily attributed to the prevailing practice of presenting CAs with an emphasis on outcomes rather than the experiential nuances of the process. Websites, acting as bulletins of updates, often lacked narrative descriptions of the lived experiences within the CA, hindering a comprehensive understanding of their unique qualities.

Moreover, the prevalence of private enterprises supplying digital platforms for some assemblies, as discussed in the Civic Technologies section (pg.44), introduced a layer of opacity. The use of commercial platforms for assembly-related content rendered it inaccessible for our purposes due

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to its association with enterprise. This limitation obscured insights into the inner workings of these CA, impeding a nuanced examination of their processes.

In certain instances, language and localization added complexity. Some CAs hosted content on local government websites or blogs in their native languages, presenting a hurdle for researchers. This language barrier, also presumably the likely lesser resources for smaller scale cases, indicates a paucity of information about lesser-known local CAs and a possible over saturation of information about larger scale, better researcher CAs. The challenge of navigating content in diverse languages underscored the need for robust multilingual approaches in future research endeavours as well as further efforts to improve knowledge collection in databases that can be easily translated.

A notable observation from our initial case sampling was the significant overrepresentation of CA in the United Kingdom. Recognizing the potential bias this might introduce, we opted not to delve into each UK case at the same depth as cases from a more diverse geographical scope. This decision aimed to prevent a skewed perspective and ensure a more balanced representation of engagement practices on an EU scale. However, for a comprehensive overview, a UK deliberative democracy organization called *Involve* produced a robust 2023 report titled "Innovations in subnational climate mini-publics in the UK"[12].

[12] See: https://involve.org.uk/resource/innovations-local-climate-assemblies-and-juries-uk

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3. Climate assembly stages of engagement

3.1 Setting up an Assembly

It is widely acknowledged within both research and practitioner circles that the implementation of a CA is far from a one-size-fits-all endeavour. The initial stages of establishing and preparing for the implementation process are particularly resource-intensive due to the multitude of decisions and process dimensions that must be considered. While the general CA model and best practices provide a valuable template, the critical aspect of adapting to the local context, scale, and unique features of the community cannot be overstated.

3.1.1 Frequently used guidelines

A variety of resources have been developed and widely used by practitioners to facilitate the initial stages. These include the following best practice guidelines and accepted methodological approaches:

- *Good Practice Principles for Deliberative Processes for Deliberative Decision Making* (OECD)[13]
- *Preparing for a climate assembly* (KNOCA)[14]
- *How to run a citizens' assembly - A handbook for local authorities* (Involve, The Democratic Society, the RSA, mySociety)[15]
- *The Extinction Rebellion Guide to Citizens' Assemblies* (Extinction Rebellion)[16]
- *Climate Assemblies and Juries: A people powered response to the climate emergency* (People Powered)[17]
- *How Do I Setup a Citizens' Assembly?* (Involve)[18]

3.1.2 The commissioner

The commissioner of a CA refers to the representative body, either a public authority or a civil society organisation (CSO), which initiates and sponsors an assembly. Commissioning a climate assembly requires a keen understanding of the unique context, considering the conditions, needs, and opportunities that the process could provide. Initiating an assembly process entails a labyrinth of tasks, including setting the mandate, gauging and generating public interest and ideas, justifying costs, and providing direction for progress (King & Wilson, 2023). The two primary routes in which CAs have been commissioned are top-down and bottom-up approaches, often in response to institutional commitments or grassroots movements, respectively.

[13] See: https://www.oecd.org/gov/open-government/good-practice-principles-for-deliberative-processes-for-public-decision-making.pdf
[14] See: https://knoca.eu/preparing-for-a-climate-assembly/
[15] See: https://www.thersa.org/globalassets/reports/2020/IIDP-citizens-assembly.pdf
[16] See: https://extinctionrebellion.uk/wp-content/uploads/2019/06/The-Extinction-Rebellion-Guide-to-Citizens-Assemblies-Version-1.1-25-June-2019.pdf
[17] https://www.peoplepowered.org/resources-content/climate-assemblies-and-juries
[18] https://involve.org.uk/resource/how-do-i-setup-citizens-assembly

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In the initiation phase of setting up a CA, the commissioner, or the responsible authority on behalf of the commissioner, plays a pivotal role in making the initial design choices (Courant, 2021b). This section focuses on mapping this stage, exploring the conditions, opportunities, and tools used to enhance citizen engagement and drawing insights from examples found in previous CAs. These examples highlight an important aspect that several routes can be taken according to the situation in which the CA is created.

Institutional Route: The institutional route towards CA involves direct engagement with existing administrative bodies within the governmental framework. This strategy is facilitated by political authorities who endorse and support the process either directly or indirectly by making themselves available. Parliament and local governing bodies, with dedicated offices for citizen participation, have increasingly played a vital role in initiating climate assemblies.

Case examples of institutional route

- **Asamblea Ciudadana para el Clima (Spanish National Assembly)**: *The Declaration on the Climate Emergency in Spain*[19], approved by the Council of Ministers, acted on a preexisting citizen participation mechanism to call for the establishment of a Citizen Assembly for Climate, focusing on achieving climate neutrality by 2050.

- **Assemblée Citoyenne pour le Climat (Brussels, Belgium: Citizens' Climate Assembly):** This is the first-ever permanent CA, institutionalized to address climate issues continually.

- **Assemblea permanente dei cittadini sul clima (Milan, Italy: The Permanent Citizens' Climate Assembly):** Permanent assembly initiated by the municipality to support citizen engagement and accompany Milan's implementation of the City's Air and Climate Plan until 2030. There is commitment on behalf of the municipality to respond to proposals, questions and concerns arising from the assembly.

Grassroots route: Non-governmental organisations (NGOs) and CSOs, particularly those focused on climate issues or deliberative processes, have successfully initiated CA from a bottom-up perspective. In these cases, involving political representatives becomes crucial and equally challenging for the process's success.

[19] https://empresaclima.org/wp-content/uploads/2020/01/6_declaracionemergenciaclimatica_tcm30-506551.pdf

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Case examples of grassroots route

- **Bügerrat Klima (Germany's Citizens' Climate Assembly):** Initiated by civil society organizations after the success of a Democracy-focused assembly, bypassing parliamentary funding (Dean et al., 2022). The civil society organisation BürgerBegehren Klimaschutz funded the process and partnered with other CSOs, namely Scientists for Future and Mehr Demokratie. Importantly, the former German President Horst Köhler agreed to be the patron of the process, providing some political legitimacy.

- **Two assemblies in Belgrade and Valjevo, Serbia**: Assemblies on urban mobility and air pollution were organized by the Institute for Philosophy and Social Theory at the University of Belgrade, in cooperation with the European Jean Monnet Network ACT WB which focuses on active citizenship in the Western Balkans. These cases demonstrate the importance of social movement-initiated citizen assemblies particularly in weaker democracies that tend to have more authoritative regimes (Fiket & Dordevic, 2022).

Hybrid: The term hybrid denotes a shared effort by both public authorities and bottom-up efforts, in which mutual commitments are responsible for bringing forth a commissioning effort.

Case example of hybrid route

- **Klimarat (Austria's National Assembly for Climate Action)**: Initiated through a popular initiative on climate change resulting in almost 400.000 signatures. This led to a resolution of the National Council requesting the government to establish a CA which was then prepared and tendered by the Federal Ministry for Climate Action and Environment.

Depending on who initiates a climate assembly, subsequent design decisions are implicated based on the overarching principles and aim towards neutrality, independence, and transparency (Elstub et al., 2021). Research indicates that the commissioner's identity substantially impacts political commitment (Niessen, 2019). Although there are counterexamples such as the ones listed above under the 'Grassroots route', processes originating within the political system, through legislative acts or government agencies interested in deliberative fora, are more likely to garner political momentum and commitment. Alternatively, when processes are initiated outside the established political system, there is a risk of perceived unwanted intervention or disturbance in democratic processes.

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The term "policy coupling" delineates the relationship between the CA and the relevant policy apparatus, characterized as either loose or tight (Hendriks, 2016). These coupling choices involve trade-offs, with tight coupling emphasizing political ownership, facilitating ease in adopting outcomes, while loose coupling provides more independence, minimizing the potential perception of co-optation by political authorities. In response to where the commissioning comes from, organizers must prioritize proper coupling between the CA and the political system to ensure legitimacy, protect transparency, maximize the impact potential of outcomes, and justify resource usage. For this reason, this stage is tightly controlled by the commissioning group, and therefore opportunities for citizen engagement are limited.

Case examples of citizen engagement in delivery of CA

- **La Convention Citoyenne pour Le Climat (France Citizens' Convention on Climate)**: randomly drew two citizens to be part of the committee.
- **Klimarat (Austria's National Assembly for Climate Action):** two elected assembly members joined the core managing team as equal partners after the first weekend.

Civil society-initiated CA encounters a significant challenge related to the costs of designing a process. Costs vary widely, but consensus prevails that there is a critical need for adequate resources which are essential for proper implementation, professional facilitation, member support, and addressing unforeseen needs. In terms of financial resources and time, establishing cooperation between the CA and the relevant political authority is crucial. This cooperative interface not only influences the immediate process but also shapes the medium to longer-term development of deliberative practices in that context.

3.1.3 Delivery team and governance structure

The delivery team, responsible for running the CA, is typically composed of multiple organizations working in partnership to ensure independence. While these teams vary in their structure, they commonly consist of:

- Coordinating body
- Scientific advisory body
- An independent governance committee

Several case examples illustrate the diverse composition of these teams and highlight strategies for ensuring transparency, a crucial element for the assembly's integrity. As for the scientific advisory body, these consist of experts from the relevant fields related to the topic as well as experts in deliberative democracy and participatory process. Their role is limited to that of expert members;

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therefore, they are not in focus of this research and no case examples of citizen engagement in the scientific advisory board are provided.

Coordinating Body: The coordinating body oversees process implementation, often led by independent organizations with expertise in participatory processes.

- The coordinating body typically takes over the mid to late stages of the design process.
- In many cases, independent organizations with expertise in participatory processes are hired for the coordinating role.

Governance Committee: The governance committee ensures clarity of responsibilities both within and outside the assembly, such as final recommendation accountability. In some cases, members of the assembly have been invited to join the governance committee to ensure that the citizen perspective is represented in the steering and guidance of the process.

Transparency is an important aspect of the delivery and governance of an assembly. From the literature, the general strategies and lessons were extracted about how to initiate and sustain a transparent CA process:

- Document the process and design choices made as early as possible, sharing minutes with the public.
- Establish a diverse governance/monitoring committee, particularly in terms of political representation, to reduce ideological bias in oversight.
- Include citizen perspectives in internal governance
- Engage climate governance actors early in the process, addressing uncertainties among climate NGOs about how the efforts of the CA can be synergistic, as highlighted in KNOCA's report on emerging trends in climate assemblies (Smith, 2023).

By adopting these strategies and incorporating citizen perspectives, the delivery team aims to enhance transparency, integrity, and inclusivity in the CA process.

3.1.4 The setting (online/offline/hybrid)

The choice of format and setting for the CA is a critical aspect influenced by context and available resources. Typically, national-level processes with substantial budgets span several weekends, while sub-national processes commonly occur over a single day or weekend. A recommended minimum of 40 hours is suggested for larger-scale processes, often extended based on member feedback or specific requirements, allowing ample time for learning, deliberation, and recommendation formulation (Bryant & Stone, 2020).

Even before the start of COVID-19, CA commissioners utilized online tools to reduce costs, a trend that has further accelerated. Advances in civic technologies tailored for deliberative processes have also become integral to assembly support (O'Brien, et al., 2021). While specialized services may incur expenses, running an online assembly with widely known tools like Google Docs, Zoom,

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SharePoint, etc., offers a cost-efficient alternative. Examples of assemblies which were hosted entirely online include:

Case examples of online CAs

- **Ilmastotoimia arvioiva kansalaisraati (Finland's Citizens' Jury on Climate Actions)**: First nationwide mini-public on climate issues in Finland, held online via Zoom.
- **Turku Deliberates (Turku, Finland):** Held entirely online via Zoom and included discussions involving politicians. The organisers endured that every group had a technical moderator to support the process. Technical training sessions were provided before the assembly.
- **Asamblea Ciudadana para el Clima (Spanish Citizens' Assembly for the Climate):** Held online mainly via Zoom but also utilizing a variety of collaborative digital tools such as Groupmap, Mural, Jamboard, Miro and Survey Monkey.
- **Bügerrat Klima (Germany's Citizens' Climate Assembly)**: Created customized online platform for many aspects of the assembly including daily agendas, a library with relevant literature, and social spaces designed for casual chats amongst participants and digital break rooms.
- **Devon Climate Assembly (Devon, United Kingdom):** Originally planned in person, the COVID-19 pandemic forced the assembly to redirect and assess if an online assembly would work, publishing a report[20] on their assessment and recommendations for online assemblies.

A survey following the UK Climate Assembly found that a hybrid option was preferred by participants in which there was a balance between not having to travel in-person to every meeting but still having some in-person meetings which were important for establishing a social connection between participants which aided in online deliberation (Elstub et al., 2021). A summary of the various trade-offs identified in the literature is featured in Table 2 below.

Table 2: Advantages and disadvantages of the CA format

Format	Online only	Hybrid	In-person
Advantages	• Does not require travel • Potential for increased participation across wider geographical regions	• Members develop social connections aiding deliberation	• Members develop social connections that help in deliberation • Participants generally benefit from face-to-face interaction

[20] https://devonclimateemergency.org.uk/wp-content/uploads/2020/12/Rapid-Review-Online-Deliberation.pdf

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Disadvantages	• Can be an obstacle for non-digital natives • Requires additional training such as tech rehearsals • Participants do not have the same opportunity for informal socializing	• Can be obstacle for non-digital natives • Incurs an additional technical burden on the assembly organisation	• Expense burden on overall budget of the assembly

(Source: author)

Willis et al., (2023) highlight the importance of making accommodations specifically for online formats such as tech rehearsals, possibilities to host social timeouts for participants, and providing additional standby assistance in case technical problems arise. Online formats, either exclusively or in a hybrid model, present distinct advantages, and disadvantages:

3.1.5 Agenda Setting

In the early stages of deciding to run a CA, the commissioner, in partnership with other stakeholders and sometimes the delivery team as well, must define the remit outlining the assembly's mandate (Elstub et al., 2021). While this phase involves limited public engagement due to its unidirectional nature from the delivery body, it is a critical stage for building relationships with political and community stakeholders.

Once the remit is established, attention shifts to defining the topic, question, and agenda. In general, these are the most crucial components guiding the CA in terms of the content and direction of the overall process. The assembly's **question should leverage its unique deliberative nature**, addressing matters best answered by citizens, and encouraging the exploration of trade-offs between different courses of action and how citizens react to their proposition.

During the agenda setting stage, engagement strategies can enhance the process. This stage can involve **feedback and input on sub-topics and questions**, strengthening the CA by validating the perceived relevance of its questions, crowdsourcing ideas, garnering interest from stakeholders, enhancing transparency, and raising awareness. Citizen engagement can occur both within the CA with assembly members (**internal engagement**) and outside the CA with non-members in the midi-public (**external engagement**).

[21] https://involve.org.uk/resource/open-space-technology#:~:text=%E2%80%8BOpen%20Space%20Technology%2C%20or,discussions%20around%20a%20central%20theme

[22] See: https://pol.is/home

[23] See: http://www.iramuteq.org/

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Case examples of internal engagement in agenda setting within the CA

- **Climate Assembly UK (United Kingdom):** assembly members decided on principles and values for the path to net zero, providing insights into constituents' expectations (Elstub et al., 2019).
- **Assemblea cittadina per il clima (Bologna, Italy's Citizen Assembly for the climate):** the "Open Space Technology"[21] was used during the agenda setting where new issues were suggested until no more new ideas arise. Participants then assessed the issues which they are most interested in engaging in.
- **Blaenau Gwent Climate Assembly (United Kingdom):** used the **Pol.is**[22] tool, allowing assembly members to select themes.

Case examples of external engagement in agenda setting with midi-public

- **G1000 (Brussels):** utilized a public, open agenda-setting process through online consultation, using an 'idea box' on the assembly website for citizens to post questions or problems which resulted in a few thousand submissions.
- **La Convention Citoyenne pour Le Climat (France Citizens' Convention on Climate):** online contributions from citizens using Iramuteq software[23] which uses Natural Language Processing (NLP) methods. Contributions were synthesized into understandable documents and then distributed to the 150 assembly members during their working sessions and made available to the public online.

3.2 Recruitment of Members and representation

Random recruitment, or sortition, stands as a fundamental pillar in DMPs, serving as the mechanism to select assembly members who will represent the citizens of a specific context (Farrell et al., 2020). Typically, the process starts with a larger pool, foreseeing that some participants may discontinue their involvement. National assemblies usually comprise 100-150 individuals, while sub-national assemblies may vary from 20 to 100 participants from initiation to completion, often involving a two-stage process.

In the first stage of recruitment, a broad call is made for expressions of interest in assembly participation. In the second stage, a random stratified sampling process typically takes place which aims to select representation across specific dimensions such as age, gender, nationality, or socio-economic status. The objective is to prevent the omission of large societal segments in the results. To avoid this, there are often predefined upper and lower quotas for demographic groups in either

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or both stages of recruitment. The choice of dimensions for stratified sampling is context-dependent, influenced by the remit, goals, and contextual factors such as historical, political, social, and environmental considerations. Recognizing these diverse factors is imperative, steering away from a one-size-fits-all approach and ensuring that the CA composition authentically mirrors the unique characteristics of each locality (Harris et al, 2021).

Case examples of representative recruitment efforts at two contrasting levels

- **The Global Assembly (COP26, Glasgow):** identified one hundred locations globally utilizing NASA population density data, with a fair distribution towards population hubs. In each location, a local host organization was enlisted to choose individuals through random door-to-door visits and on-street interactions, forming an initial group of potential assembly members. This pool was then categorized to ensure a globally representative sample based on age, gender, education, and perspectives on climate change.
- **Camden Citizen Assembly on climate crisis (United Kingdom):** recruited members through a door-to-door approach and street recruitment led by community researchers trained by the city council.

Selection algorithms play a pivotal role in this, ensuring a randomized group with proportional representation of various social groups within the wider population. Notably, this sampling process is increasingly assisted by algorithms provided by private or non-profit service providers, some of which include:

- ***StratifySelect*** and ***GroupSelect*** provided by The Sortition Foundation[24];
- Public services such as the ***Digital and Population Data Services Agency*** in Finland[25];
- Open-source sortition tools, such as newDemocracy's ***Stratified Random Selection Tool***[26].

Research on the algorithms used for the selection process is quite sparse, however, there have been some claims about vastly improving these methods in recent years. For example, Flanigan et al. (2021) conducted a study comparing their LEXIMIN algorithm used in ten citizens' assemblies with a benchmark from assemblies using the LEGACY algorithm also used in past citizen assemblies. The authors found that their algorithm resulted in substantially fairer selection probabilities according to the principles of randomness and equal probability of selection.

[24] See: https://www.sortitionfoundation.org/services
[25] See: https://dvv.fi/en/digital-and-population-data-services-agency
[26] See: https://selection.newdemocracy.com.au/

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Setting up the assembly, particularly the sampling process, demands substantial resources due to its critical role in establishing inclusivity and legitimacy. Rigorous efforts are required to ensure the representation of citizens who genuinely and fairly mirror the broader population.

In addition to random stratified sampling, there is an option for purposive sampling, which involves deliberately adjusting the sampling from a specific dimension. For instance, this could be applied if the intention is to tailor a process exclusively for young people. A few youth-focused CAs have occurred in recent years, deviating from the traditional CA sampling methods, which typically have an age cut-off of 16. Some scholars argue that the youth perspective is greatly missing from traditional CA processes (Harris, 2021).

Case examples of purposive sampling

- **Youth Assemblies on Climate Change (Athens, Greece):** High school and university students residing in the Athens metropolitan region were selected to participate in a Youth online assembly about the difficulties in their local communities to react to the challenges of climate change and adaptation measures.
- **Ilmastotoimia arvioiva kansalaisraati (Finland's Citizens' Jury on Climate Actions)**: aimed to ensure comprehensive representation, acknowledging the unique position of the Sámi people, an indigenous community facing vulnerabilities due to climate actions (Kulha et al., 2022).[1] To guarantee the participation of the Sámi community, a specific effort was made during the recruitment process. One seat on the Jury was explicitly reserved for a Sámi representative. The recruitment method for this participant mirrored that used for the general participants. A survey was employed, and to reach the Sámi population effectively, it was disseminated through various Sámi organizations and groups, leveraging the network of the Sámi Parliament.

Purposive sampling can be employed to guarantee the representation of a specific demographic, irrespective of the results of the recruitment process. This approach proves valuable when the CA wants to ensure the inclusion of a marginalized group that may be less likely to participate through written invitations but can be effectively engaged by collaborating with relevant stakeholders. In the pursuit of assembling a CA that truly represents the diversity of society, three guiding principles should inform the decision-making process: (1) randomness, (2) representation, and (3) equality (Flanigan et al., 2020; Gasiorowska, 2023).

Achieving equality and social inclusion, particularly during the recruitment phase, poses a well-recognized and intricate challenge such as those posed by intersections of societal marginalisation which make participation a greater challenge (Wojciechowska, 2019). Gasiorowska (2023) found that a mere 2-5% of citizens selected to participate in an assembly typically accept the invitation, and within this limited percentage, acceptances tend to be disproportionately skewed towards

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more advantaged groups. This phenomenon, known as selection bias, implies that those who do participate are not truly representative but often come from privileged, well-educated backgrounds, with the available resources which enable participation such as time away from responsibilities, or already align with supportive views on climate change causes.

While purposive sampling can support the inclusion of groups based on socioeconomic exclusion, attitudinal stratification has been proposed as a strategy for counteracting CA member bias in favour of climate change measures. In this two-stage sortition process, potential participants are first surveyed with questions about their political attitudes, particularly regarding climate issues. Stratifying the sample group along this attitudinal dimension helps ensure the inclusion of diverse perspectives, preventing an ideological imbalance from the outset. Dean et al. (2022) conducted a study on the Bürgerrat (Germany) in which attitudinal stratification criteria was used in the evaluation process and demonstrated an overrepresentation of those with high levels of political interest and support for participatory concepts such as the CA process. The authors demonstrate these findings as a risk of selection bias and call for the importance of using attitudinal stratification during the recruitment process. From our research, no CA processes were identified which employed such methods during the recruitment process.

In order to ensure participation from a wider selection of the public, invitees are usually enticed to with honorariums, however this solution may not fully alleviate challenges for certain groups, such as the elderly or those with responsibilities that hinder day travel. Leveraging digital tools can support organizers in managing attendance and coordinating efforts to enhance participation. For instance, utilizing email and website platforms to inquire about members' means of travel and providing details about the venue and schedule. These systematic processes can be structured to facilitate organizers in accommodating members whose participation might be contingent on small, inclusive gestures.

3.3 Deliberation

The deliberation stage of a CA is a pivotal phase where citizen engagement strategies come to the forefront. This aspect, focusing on the structure and facilitation of engagement with selected citizens, is studied in the academic literature to a significant extent but there are challenges for comprehensive understanding. This is primarily because most information about the deliberation phase is secondary data such as final reports and academic papers. The actual implementation of deliberative facilitation methods often deviates in practice as it requires flexibility and adaptation to real-life scenarios. This section delves into identifiable innovations and adaptations recorded in the literature and case studies, exploring their pragmatic necessity in specific contexts, and extracting broader insights into designing and facilitating empowering, inclusive, and meaningful deliberative meetings.

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3.3.1 Information

In the deliberation stage, information is a key component of the curriculum and procedure, necessitating a multi-stakeholder approach to ensure the representation of diverse perspectives. Scientific and policy knowledge about adaptation measures is crucial, requiring experts to play a role in presenting this information to citizens (Beswick & Elstub, 2019). However, citizens can actively participate in the process by influencing the selection of experts.

In addition to the selection of information, the weighting of expert knowledge is a crucial factor in determining the epistemic values emphasized in the deliberative process. The information provision stage offers an opportunity to give due importance to everyday experiences within a community, leveraging local knowledge, for example, regarding health, gender discrimination, and past climate initiatives. This enriches the expert knowledge with context-specific insights.

To ensure that diverse voices contribute to the assembly in addition to and beyond technical expertise, public engagement during the information provision stage is an option. This can involve crowdsourcing ideas.

Case example of crowd sourcing information during the information phase

- **La Convention Citoyenne pour Le Climat (France Citizens' Convention on Climate)**: Any citizen or group (NGO, firms, trade unions) could publish up to one idea per theme per phase on Decidim[27] platform. Inputs were then synthesized and fed into the assembly process. The sequencing was planned such that public submissions enhanced rather than confused the process. An important insight is the **importance of sequencing** how crowdsourcing can be used delicately during deliberation.

Pace is another critical factor during the information stage, as it can determine how useful the information is to participants. Listening to participants' feedback along the way and adapting the process to their needs is important. For example, citizens can be allowed to request additional expertise when they perceive knowledge gaps or want to seek a different perspective.

Diversifying the delivery of information can help participants with different learning styles (O'Malley et al., 2020). For example, incorporating excursions, short videos, infographics, and oral presentations, in addition to textual presentations, enhances accessibility and engagement. During the information processing stage, various tools can be employed for argument visualization, and mapping evidence, claims, and counterarguments. These tools can facilitate citizens in

[27] Adding to the effort of transparency, Decidim platform has a social contract about the role it plays in public deliberation. See: https://docs.decidim.org/en/develop/understand/social-contract

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collaboration, information organisation, and ultimately, developing informed proposals. Some examples include Coggle[28], Miro[29], Argdown[30], bCisive[31], slido[32].

Case examples of citizen engagement in information stage

- **The first Gdansk Citizens' Panel (Gdansk, Poland):** panellists were allowed to appoint experts themselves.
- **Uudenmaan liikenneraati (Uusimaa, Finland's Transport Jury)**: Evaluation report provides specific recommendations for allowing more time for the information stage so that participants can 1) contribute to the selection of experts and or 2) identify what they perceived to be the appropriate areas of expertise for their task.

Hybrid approaches during argument visualization allow facilitators to collect analogue information and transfer findings to digital tools, providing the opportunity to adapt the information used to the preferences of assembly members. This comprehensive strategy aims to create an inclusive, dynamic, and effective deliberative process.

3.3.2 Citizen Science

An innovative, yet underutilized approach to deepen citizen involvement in the information process of CA is through the integration of citizen science (CS). Defined by Skarzauskiene et al. as, "the active involvement of individual citizens in scientific research, policy, and program development", citizen science in the context of CAs can support citizens in "defining issues, considering solutions, contributing with their effort, knowledge and resources" in the information phase of deliberation (pg. 1, 2023).

Potential Citizen Science tool for CAs

- **The Evidence Co-creation Framework (EFC)** by Mahajan et al. (2022) can be used to systematically map, sense, analyse, and share data collected by citizens for policy making purposes. The important aspect of this method is that the data collection process is co-created with the community for greater impact, which is something that could be done within the climate assembly or as an inclusionary tool with the broader public.

[28] See: https://coggle.it/
[29] See: https://miro.com/
[30] See: https://argdown.org/
[31] See: https://www.bcisiveonline.com/
[32] See: https://www.slido.com/?experience_id=22-b

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The concept of 'citizen social science' by Kythreotis et al. (2019) aligns with the goals of CA, where the generated knowledge represents new and inclusive forms of social understanding. This is a departure from more mainstream citizen science focusing on data collection and observation by citizens involved in scientific research projects and allows for "new methodological and theoretical territory that resonates with more diverse and heterogeneous forms of social knowing, values and cultures of citizens beyond [traditional] CS".

While citizen science initiatives and CAs share the goal of involving the public, our research did not identify cases where citizen science was integrated into the context of a CA. The combination of CA and citizen science methodologies falls under the umbrella of **collective intelligence** (Landemore, 2012), a term used to describe the potential for creating joint policy solutions that surpass individual efforts and which can be harnessed and improved through citizen engagement. This synergistic approach holds promise for fostering collaborative and impactful solutions in the face of climate challenges.

3.3.3 Facilitation methods

Facilitation is a vital professional skill necessary in CA, often requiring specialized training and consulting services to prepare organizers practically. The methods employed for facilitating these assemblies are diverse and adapted from various co-creation and methodological sources. Facilitators play a crucial role in creating inclusive, collaborative, and open spaces where participants feel empowered to express opinions, ask questions, and respect fellow members. Special attention is needed for online assemblies, where extra care must be taken to train members in digital tools to minimize potential power imbalances arising from digital divides.

Case examples of working groups in CA facilitation

- **Adur and Worthing Climate Assembly (United Kingdom):** Micro Groups were conducted consisting of four participants and one facilitator, aiming to foster stronger relationships between assembly members and reduce the reluctance of citizens to find their voice in the process – which can be a bigger obstacle for some in larger groups. The role of an independent facilitator also decreased the risk of domination by certain group members.

To address agenda items comprehensively, CAs are often divided into smaller working groups. Some CAs have allowed members to choose which working group they will be in, otherwise, it is typically assigned to members.

Facilitation Methods

Within the working groups, various methods can be used to guide discussions around certain topics. Within the CLIMAS project, partners are in the process of developing methodological guidelines for facilitating CAs (Deliverable 3.2). The guidelines focus on collaborative learning around a specific

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dilemma (this pertains mainly to the information stage in Section 3.3.1). During facilitation, the guidelines point to different visions and trade-offs related to the main dilemma to arrive at recommendations (Section 3.4). The core values highlighted, which facilitators must strive for in caring for the assembly process, are neutrality, clear task and purpose, managing information, emphatic listening, balanced participation, encouragement of mutual respect, adaptability and inclusivity. From our research, the following case examples demonstrate efforts by other CAs to promote similar innovative approaches to facilitate citizen engagement and empowerment during the deliberative phase.

Case examples of facilitation methods for engaging citizens during deliberation

- **Climate Assembly UK (United Kingdom):** members were presented with a range of 'future scenarios' and 'policy options' for their topic which they discussed and voted on.
- **Ilmastotoimia arvioiva kansalaisraati (Finland's Citizens' Jury on Climate Actions)**: used a mental time travel exercise, although results from Kulha et al. (2021) suggest it had only a modest impact on perspective-taking.

Facilitating external engagement with digital tools

External engagement during deliberation is vital for deliberative democracy. CA can achieve such engagement by sharing documentation of processes, information, conclusions, and decisions with the public through digital tools, live streaming, and open platforms.

Case examples of external engagement with citizens using digital tools

- **Jurado Ciudadano del Besaya (Cantabria, Spain's Citizen Jury on fair and inclusive ecological transition):** used the Decidim platform to invite citizens to share their ideas for the region. These are to be grouped by experts and presented to the participants of the Citizens' Jury for consideration.
- **Camden Citizen Assembly on climate crisis (United Kingdom):** 225 proposals were collected on Commonplace[33] platform, a digital platform that can be customized for a given location. The proposals were then deliberated on during the assembly and exhibited on display throughout the process.
- **G1000 (Brussels):** used a software application called G-Homes aimed at online discussion, and a parallel process called G-Offs which gathered citizens all over Belgium to discuss the same issues at local in-person tables.

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In addition to digital platforms, some assemblies open their processes to the public, promoting transparency.

Case example of opening CA to public observers

- **Copeland's People's Panel on Climate Change (United Kingdom):** As part of the Oversight Panel 's commitment to transparency several spaces were made available for people wishing to observe the panel process live in action.

Inclusion of all voices

Research in the scholarly domain emphasizes the pivotal role of intersectionality in designing deliberative facilitation. Facilitators bear the responsibility to ensure the inclusion of all voices, particularly those from marginalized groups or else there is a risk of worsening exclusion (Lupien, 2018; Bächtiger & Beauvais, 2020). Wojciechowska (2019) highlights the importance of actively considering the social circumstances of the group to prevent the perpetuation of inequalities and disempowerment within the assembly. Failure to address these dynamics risks undermining the core objective of climate assemblies, which is to enhance citizen engagement and empowerment.

3.4 Recommendations and voting

After the deliberative process, CA members proceed to draft, revise, and vote on final recommendations, culminating in collective decisions. The voting phase offers participants the opportunity to endorse or modify proposed solutions, and this interaction between recommendations and voting can be structured in various ways, allowing for the inclusion of external citizen perspectives. Citizens must develop a sense of ownership over the recommendations, reinforcing the connection between deliberative input and government accountability.

Case examples of transparency and citizen engagement in CA voting

- **Devon Climate Assembly (Devon, United Kingdom):** members voted on each resolution, and the percentage of support for each was shared after the statement in the final publication of recommendations.
- **Klimarat (Austria's National Assembly for Climate Action):** used a custom platform (no longer operable) including the Pol.is tool to give the public the opportunity to evaluate the 97 statements by the Climate Council and to contribute their own ideas. Over 6,000 people took part.

[33] https://www.commonplace.is/

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Tools that have been used for voting in deliberative forums include:

- Citizen OS[34]
- Mentimeter[35]
- Voxvote[36]
- Poll Everywhere[37]

Some CAs lean towards consensus-building while some use formal voting to arrive at negotiated recommendations and there are important trade-offs to consider in both instances. Machin (2023) advocates for 'agonism' in climate assemblies, which means rather than urging CAs only toward consensus, embracing disagreement as a path towards enrichment. Indeed, more recent practices show a shift from presenting consensus-driven recommendations towards transparent results that reflect varying levels of support within a CA.

Collating responses can be resource-intensive, and the most visible contributions to or support specific recommendations tend to come primarily from active stakeholders. As a common practice, including quotes from discussions provides more nuance to recommendations in the form of insights into members' reasons for supporting or opposing specific proposals. Such practices enrich the recommendations by offering a nuanced view into the deliberative process as well as an understanding of contested trade-offs and considered arguments.

There is also a role to play in facilitating the recommendation and voting process through dynamic facilitation sessions:

Case example of consensus-oriented facilitation during recommendation drafting process

- **Klimarat (Austria's National Assembly for Climate Action):** Recommendations from small groups were presented to all members, who had the opportunity to raise "serious objections". If ten or more "serious objections" were collected, a dynamic facilitation session was held. These intensive sessions, requiring trained moderators, aimed at consensual opinion. In most cases, recommendations underwent reformulations and only once was "no consensus" reached. Ultimately, all recommendations were accepted by the plenum, with no more than two serious objections per recommendation.

[34] See: https://citizenos.com/
[35] See: https://www.mentimeter.com/
[36] See: https://www.voxvote.com/
[37] See: https://www.polleverywhere.com/

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3.5 Follow-up from CA

After the recommendations have been delivered to the authorities they address or are willing to receive them, there are several avenues for continued engagement that can significantly enhance the impact of a CA. One approach involves assembly members sustaining their involvement through personal advocacy or by petitioning for an extension of the process.

Case example of extensions of CA after handing over recommendations

- Scotland's Climate Assembly: an extra assembly weekend was instituted to assess the government's response and provide members with an opportunity to hold politicians accountable for action. In addition, a stewarding group operated for nine months post-assembly to oversee recommendations, and a Sponsorship Team was responsible for overseeing and ensuring the government response.

Case example of citizen-led follow-up initiative

- La Convention Citoyenne pour Le Climat (France Citizens' Convention on Climate): assembly members created a follow-up association called 'les 150'. A dedicated website was made to follow the implementation of the recommendations however it has not been updated since July 2022.

While not universal, some CAs establish a special oversight committee early on dedicated to holding the government accountable for the final report and recommendations.

Throughout the follow-up process, a survey can be used in a variety of ways such as evaluating member satisfaction with the execution of the process, the government's response to the recommendations, and external citizen satisfaction with the recommendations. Examples of evaluation methods often include anonymous participant surveys, academic analysis, and independent evaluations by third-party organizations.

Public events, press conferences, and inviting public witnesses to observe certain CA sessions can elevate engagement in this phase. These strategies offer several advantages:

- Publicizing recommendations to a wider audience
- Recruiting citizens to join follow-up advocacy efforts.
- Promoting accountability for action from public officials

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3.6 Civic technology platforms

In the realm of CA, the challenge of low public awareness often exists, primarily due to resource constraints within media and communication teams. CA processes involve two key groups: citizen participants (selected assembly members) and the wider non-participating citizens observing the assembly from the outside. News cycles tend to be dominated by more immediate topics, overshadowing processes that unfold over several weeks or months. Curato and Böker (2016) underscore the importance of inclusive critical engagement for effective deliberative democratization. They argue that even if an assembly internalizes deliberative values, without a similar level of deliberative capacity in the wider public, the critical counterpart needed to sustain enriched discursive engagement is lacking. Regardless of internal quality, mini-publics have an external obligation to persuade the wider citizenry (Itten & Mouter, 2022; Muradova et al., 2020). Civic technology platforms, especially assembly websites, play a vital role in connecting mini-publics and maxi-publics. Their importance is highlighted by available resources with explicit guidance just for the website, such as the People Powered *Citizens assembly websites: Practical guidance*[38].

Recent developments in artificial intelligence (AI), data analysis, and trend analysis have introduced digital tools that enhance innovation in democracy and citizen engagement. While there is a shortage of climate-specific cases utilizing these tools, their potential for CAs is significant. Digital tools, particularly those leveraging NLP and AI, aid in processing public submissions. Currently underway is the Orbis[39] project, funded by the EU to create cutting-edge technologies for the next generation of digitally mediated deliberative tools. Although it is too early in the project to say what exactly these tools entail, Orbis exemplifies the direction of AI being developed and integrated into CA processes. Currently, the capabilities are mainly helping to identify patterns, clusters, and duplicate responses. However, the community of practitioners and scholars must pay close attention and scrutiny to how such AI tools are being developed as they have a high potential to fundamentally structure the social and technical aspects of CA implementation.

These tools encompass various functions, including synthesizing data, identifying trends, analysing sentiment, categorizing inputs, visualizing data and arguments, monitoring social media, and answering participant questions. While no cases have specifically addressed their role in climate adaptation and or engagement in policy making, there have been studies of similar AI tools in other deliberative forums and in defining possible courses of action to achieve the Sustainable Development Goals (Smith et al., 2021). In summary, most of these tools relate to collecting and processing submissions externally from the wider public and some of them have functions that can assist greatly in the moderation and consensus formation internally within an assembly. These tools have a variety uses that can be summarised as follows:

[38] See: https://www.peoplepowered.org/resources-content/citizens-assembly-websites-guidance-8e535
[39] See: https://orbis-project.eu/

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- Synthesizing large volumes of data via online consultations, surveys, discussion forums
- Identification of key trends and themes
- Analysis of sentiment and tone of submissions
- Categorizing inputs into topics, conclusions, and summaries
- Data and argument visualization
- Social media monitoring and analysis
- Digital assistants to answer participant questions

Examples of tools used in climate assemblies include:

- Pol.is[40]
- Adhocracy+[41]
- Decidim[42]
- Commonplace[43]
- Citizen OS[44]
- Hypothes.is[45]

Communication and media

Effective communication and media strategies are pivotal elements in maximizing the impact of a CA. Establishing communication methods during the initial design stages is crucial for ensuring the assembly's saliency, impact, and legitimacy. Most assemblies adopt practices such as regular website updates, blog posts, and the dissemination of key assembly components, such as expert inputs, on platforms like YouTube.

Case example of enhancing communication strategies around climate issues

- **The LIFE-IP AdaptInGR project**[46] **(Greece):** EU project aimed at providing information and guidance to various public groups about climate adaptation strategies. Material is tailored towards schools, municipalities, enterprises and organisations.

The significance of a well-thought-out communication strategy extends beyond publicizing the CA itself; it serves as an opportunity to promote citizen engagement in and around contentious topics on deliberative rather than confrontational terms. As Curato and Böker (2016) assert, "mini- publics can also prompt further citizen engagement by reaching out to broader publics and setting

[40] See: https://pol.is/home
[41] See: https://adhocracy.plus/
[42] See: https://decidim.org/
[43] See: https://www.commonplace.is/
[44] See: https://citizenos.com/
[45] See: https://web.hypothes.is/
[46]

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deliberative rather than confrontational terms of public discourse" (p. 177). Therefore, communication and media strategies are integral components that require careful planning.

Case example of media engagement

- **Citizens' Assembly (2016-2018) (Ireland):** streamed proceedings online, made comprehensive information available to the public, which played a crucial role in fostering greater societal awareness, enhancing understanding of the assembly, and encouraging active engagement.
- **La Convention Citoyenne pour Le Climat (France Citizens' Convention on Climate):** observers and media were allowed to attend sessions with restrictions in order to not disrupt the deliberative process, i.e. only one observer was allowed per table during

Public relations for CAs serve as a powerful tool for engaging the wider public in dialogue on climate issues and deliberative processes. According to the OECD, effective public communication can facilitate broader public learning about an issue, encouraging increased participation in public life. Deliberative processes, by amplifying citizens' voices and bridging the gap between citizens and governments, gain support and legitimacy through public communication. This, in turn, facilitates the implementation of recommendations and resulting policies (Raphael & Karpowitz, 2013). Furthermore, communication not only aids in learning and addressing the citizen-politician divide but also serves as a tool to counter polarization and disinformation on the discussed topic.

Given the multifaceted role of communication, CA and deliberative processes, in general, should designate specific roles for communication activities. Examples include the appointment of a media consultant, press officer, or director of communications to ensure effective and impactful communication throughout the initiative.

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4. Summary and Conclusion

The focus of Deliverable 2.1. is **mapping insights from previous CA experiences** on different levels of government, across various EU regions and within different Member States, and hosted on different digital and in-person platforms. The deliverable should produce an overview of CA cases and a deeper understanding of their citizen engagement practices and the civic technologies which mediate and support them.

Traditional democratic practices have limitations in addressing climate change, necessitating the exploration of deliberative democracy as both an experiment in democratic renewal and a response to the climate emergency. Since the 1960s, advocates of deliberative democracy and greater participation have been experimenting with formats. Depending on their size, structure, and time allocated for the process, these formats can have different names, i.e., citizen juries, citizen assemblies, citizens' panels, and consensus conferences. Applied in the realm of climate policy, they are usually referred to as climate assemblies (CAs) and are intended to provide a pathway for citizens and politicians to work together on climate decision-making.

CAs are characterized by the gathering of a random but diverse group of citizens to engage in a structured learning and deliberation process to produce recommendations about how to respond to climate emergencies and adaptation. Their outputs can be seen both on the level of the democratic process and content on democracy and climate change as well as mitigation measures. Challenges faced by CAs encompass aspects such as the design, implementation, governance, and utilization of civic technologies or platforms in an assembly.

There are numerous examples of CAs on local, regional, national, and global levels. This deliverable maps and describes current citizen engagement strategies employed in combating climate change. Criteria for case selection were based on the primary criteria for citizen assemblies of (1) random selection of citizens, also known as sortition, (2) informed deliberation (3) production of recommendations and (4) a focus on climate-related issues. (5) Cases with a broader focus on citizen engagement in the topic of climate change were included if they were informative about engagement amongst the broader public and the CA on the topic of climate.

Data collection included systematic desk research covering all 308 signatory nations and local communities with a focus on identifying ongoing or past CA processes within these localities and a literature search using Google Scholar, incorporating research papers and grey literature resulting from our stage-based approach. In the end, 80 cases were selected due to them meeting the four criteria mentioned earlier.

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The CLIMAS model adopted from OECD and KNOCA divides a CA into four stages (1) idea of starting a CA, (2) the assembly process, (3) handing over recommendations, (4) evaluation and response to process.

Desk research faced several challenges, primarily attributed to the prevailing practice of presenting CAs with an emphasis on outcomes rather than the experiential nuances of the process. Websites often lacked narrative descriptions of the lived experiences within the CA, hindering a comprehensive understanding of their unique qualities. In addition, the practice of using mainly private enterprises supplying digital platforms for public engagement limited access to information. In addition, there were language barriers for local CAs. Finally, there was a significant overrepresentation of CA in the United Kingdom.

The **initial stages** of setting up a CA are particularly resource-intensive due to the multitude of decisions and process dimensions that must be considered. The importance of adapting to the local context cannot be overstated. Guidelines from the OECD, KNOCA and others provide best practice models for setting up a CA. The role of the Commissioner of a CA is pivotal in the beginning of the process and the degree of "**policy coupling"** between the CA and the relevant policy apparatus. The commissioner is either a public authority or a civil society organisation (CSO), which initiates and sponsors an assembly. Commissioning a climate assembly requires a keen understanding of the unique context, considering the conditions, needs, and opportunities that the process could provide. The two primary routes in which CAs have been commissioned are top-down and bottom-up approaches. Depending on who initiates a CA, subsequent design decisions are implicated. Research suggests that processes originating within the political system are in general more likely to generate political momentum and commitment. Alternatively, when processes are initiated outside the established political system, there is a risk of perceived unwanted intervention or disturbance in democratic processes. These coupling choices involve trade-offs, with tight coupling emphasizing political ownership, facilitating ease in adopting outcomes, while loose coupling provides more independence, minimizing the potential perception of co-optation by political authorities. CA organizers must prioritize proper coupling between the CA and the political system to ensure legitimacy, protect transparency, maximize the impact potential of outcomes, and justify resource usage.

The delivery team is responsible for running the CA. They will vary in size and structure and commonly consist of (1) a coordinating body, (2) a scientific advisory body, and (3) an independent governance committee. Typically, national-level processes with greater budgets span several weekends, while sub-national processes commonly occur over a single day or weekend. CA commissioners often use online tools to reduce costs, a trend that has further accelerated since the COVID-19 pandemic. A hybrid option for CA might be preferably for participants in which there is a balance between not having to travel in-person to every meeting but still having some in-person

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meetings which were important for establishing social connections between participants which aids in online deliberation.

Agenda setting, mainly done by the commissioner, in partnership with other stakeholders and sometimes the delivery team as well, is a critical stage in the CA, particularly for building relationships with political and community stakeholders. After defining the CA's remit, the topic, question, and agenda are defined. During this stage engagement strategies can enhance the process. The CA's question should leverage its unique deliberative nature, addressing matters best answered by citizens, and encouraging the exploration of trade-offs between different courses of action and how citizens react to their proposition.

Random **recruitment**, or sortition, stands as a fundamental pillar in DMPs, serving as the mechanism to select assembly members who will represent the citizens of a specific context. National CA usually comprises 100 to 150 individuals, while sub-national assemblies may vary from 20 to 100 participants from initiation to completion, often involving a two-stage process. To avoid large societal segments being left out, there are often predefined upper and lower quotas for demographic groups in stages of recruitment. The CA composition should mirror the unique characteristics of each locality. Selection algorithms play a pivotal role in this, ensuring a randomized group with proportional representation of various social groups within the wider population. In addition to random stratified sampling, there is an option for purposive sampling, which involves deliberately adjusting the sampling from a specific dimension. In the pursuit of assembling a CA that truly represents the diversity of society, three guiding principles should inform the decision-making process: (1) randomness, (2) representation, and (3) equality (Flanigan et al., 2020; Gasiorowska, 2023). Attitudinal stratification has been proposed to counteract selection bias.

In the **deliberation stage** citizen engagement strategies come to the forefront. In practice, the actual implementation of deliberative facilitation methods often deviates from academic literature, as it requires flexibility and adaptation to real-life scenarios. In the deliberation stage, **information** is a key component of the curriculum and procedure, necessitating a multistakeholder approach to ensure the representation of diverse perspectives. **Scientific and policy knowledge** about adaptation measures is crucial, requiring **experts** to play a role in presenting this information to citizens (Beswick & Elstub, 2019). However, **citizens** can actively participate in the process by influencing the selection of experts. The **weighting of expert knowledge** is a crucial factor in determining the epistemic values emphasized in the deliberative process. To ensure that **diverse voices** contribute to the assembly in addition to and beyond technical expertise, public engagement during the information provision stage is an option. Listening to participants' feedback along the way and adapting the process to their needs is important. Diversifying the delivery of information can help participants with different learning styles (O'Malley et al., 2020).

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Citizen science initiatives and CAs share the goal of involving the public, but our research did not identify cases where citizen science was integrated into the context of a CA.

Facilitation is a vital professional skill necessary in CA, often requiring specialized training and consulting services to prepare organizers practically. Facilitation **methods** employed are **diverse** and adapted from various co-creation and methodological sources. Facilitators play a crucial role in creating inclusive, collaborative, and open spaces where participants feel empowered to express opinions, ask questions, and respect fellow members. Special attention is needed for online assemblies. Methods include working in smaller working groups, future scenarios, mental time travel exercises and the use of external engagement tools. Facilitators bear the responsibility to ensure the inclusion of all voices, particularly those from marginalized groups or else there is a risk of worsening exclusion (Lupien, 2018; Bächtiger & Beauvais, 2020). Failure to address these dynamics risks undermining the core objective of climate assemblies, which is to enhance citizen engagement and empowerment.

After the deliberative process, CA members proceed to draft, revise, and vote on **final recommendations**, culminating in collective decisions. Often voting platforms are used. Some CAs lean towards consensus-building while some use formal voting to arrive at negotiated recommendations and there are important trade-offs to consider in both instances. Machin (2023) advocates for 'agonism' in climate assemblies, which means rather than urging CAs only towards consensus, embracing disagreement as a path towards enrichment. Indeed, more recent practices show a shift from presenting consensus-driven recommendations towards transparent results that reflect varying levels of support within a CA. There is also a role to play in facilitating the recommendation and voting process through dynamic facilitation sessions.

After the recommendations have been delivered to the authorities they address or are willing to receive them, there are several avenues for continued engagement that can significantly enhance the impact of a CA. One approach involves assembly members sustaining their involvement through personal advocacy or by petitioning for an extension of the process.

With CAs often the challenge of low public awareness exists, primarily due to resource constraints within media and communication teams. Civic technology platforms, especially CA websites, play a vital role in connecting mini-publics and maxi-publics. Recent developments in AI, data analysis, and trend analysis have introduced digital tools that enhance innovation in democracy and citizen engagement. These tools encompass various functions, including synthesizing data, identifying trends, analysing sentiment, categorizing inputs, visualizing data and arguments, monitoring social media, and answering participant questions. While no cases have specifically addressed their role in climate adaptation and or engagement in policy making, there have been studies of similar AI tools in other deliberative forums and in defining possible courses of action to achieve the Sustainable Development Goals (Smith et al., 2021).

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Effective **communication and media** strategies are pivotal elements in maximizing the impact of a CA. Establishing communication methods during the initial design stages is crucial for ensuring the assembly's saliency, impact, and legitimacy. Most assemblies use regular website updates, blog posts, and the dissemination of key assembly components, such as expert inputs, on platforms like YouTube.

As we navigate the future challenges of citizen engagement in CAs, it becomes imperative to explore innovative approaches, including the incorporation of AI and machine learning (ML). By appropriately integrating AI and ML, assemblies can enhance their capacity for more robust and efficient processes, moving beyond traditional reporting and templated summaries.

An observation worth noting is the existing gap in the abundance of information between national and local assemblies. While national assemblies have been extensively studied, local assemblies often remain understudied, with limited accessibility due to language barriers and resource constraints. Local assemblies, operating on smaller budgets, struggle to produce extensive reports, update their websites, or translate materials, hindering the sharing of their valuable experiences. To address this gap, databases play a crucial role in collecting and disseminating information. Efforts should be made to communicate the importance of these databases among practitioners and researchers involved in climate assemblies. Updating these databases with local assembly experiences should be considered a best practice, fostering a collaborative knowledge-sharing environment.

The European Union's initiatives to provide local geographical data on climate adaptation challenges are promising but still in their early stages. Increased awareness among CAs, practitioner networks, and research communities is essential to ensure these initiatives become integral best practices. This can significantly enhance the climate-geological specificity of climate CA remits and questions.

In essence, the call is not for additional guidelines in the design or implementation of CA but rather for better practices in sharing the backstage experiences and stories that contribute to the empirical evidence base. The knowledge repository of CAs needs constant updating to incorporate diverse evidence bases, acknowledging that the participatory nature of climate assemblies generates data unique to the interactions with the people involved. However, it is essential to recognize that despite the wealth of empirical evidence and knowledge, much of it remains inaccessible to the public, emphasizing the need for increased transparency and open access to foster a more inclusive and informed approach to climate assemblies.

The potential for citizen science initiatives to enrich CAs is an area still to be discovered.

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