



CLIMAS

CLIMAtE change citizens engagement
toolbox for dealing with Societal resilience

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List of Abbreviations

ACF	Advocacy Coalition Framework
AI	Artificial Intelligence
API	Application Programming Interface
ASCII	American Standard Code for Information Interchange
CA	Climate Assembly
C3S	Copernicus Climate Change Service
CLIMAS	CLIMAtE change citizens engagement toolbox for dealing with Societal resilience
CSV	Comma Separated Values
GIS	Geographic Information System
GRIB	General Regularly-distributed Information in Binary form
HDF5	Hierarchical Data Format version 5
IPCC	Intergovernmental Panel on Climate Change
JSON	JavaScript Object Notation
KEBS	Knowledge and Evidence-Based Support
LDA	Latent Dirichlet Allocation
ML	Machine Learning
MSF	Multiple Stream Framework
NetCDF	Network Common Data Form
NLP	Natural Language Processing
OECD	The Organization for Economic Cooperation and Development
PDF	Portable Document Format
PET	Punctuated Equilibrium Theory
SQL	Structured Query Language
UI	User Interface
URL	Uniform Resource Locator



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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 shortly. 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 360° citizens engagement is urgently needed. Therefore, we must 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 resist. Climate assemblies and Living labs are considered sustainable and reasonable tools to stimulate deliberative democracy in climate policymaking.

The CLIMAS project aims to support a transformation to climate resilience by offering an innovative problem-oriented climate adoption Toolbox, co-designed 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. The Toolbox is expected to anticipate possible tensions, points of controversy, and dilemmas regarding 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-stakeholder 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 processes and offer sustainable strategies to enhance the acceptance of citizens' led decisions by policymakers.



Executive Summary

CLIMAS project develops a novel knowledge and evidence-based support (KEBS) tool that will help Climate Assembly organisers set agendas for a wide range of candidate topics. The tool has been conceptualised following the well-known Multiple Stream Framework (MSF), a theoretical agenda-setting framework. Multiple Stream Framework (MSF) helps establish agendas in areas such as climate change by identifying problems, solutions, and approaches. The MSF explains the rise and fall of issues through the interaction of three streams—problems, policies, and politics. This comprehensive approach ensures that the agenda-setting process is informed, inclusive, and aligned with community needs and standards. We have defined five steps for the agenda-setting tool: Comprehensive Information Collection for Knowledge and Evidence-Based Support (KEBS) System, Development of CLIMAS Knowledge and Evidence-Based Support (KEBS) System, extracting a List of Preliminary Agendas from the KEBS, Filtering the Agendas, Prioritising Agendas by Scores.

Machine learning approaches and artificial intelligence techniques analyse mainstream media and social media data. This analysis and the climate data constitute the KEBS that plays a central role in agenda setting. This tool also provides guidelines on how the preliminary list of agendas can be prioritised by using expert reviews. The KEBS will contain a database that stores climate-related data from different sources, including legacy databases. Those data will be processed using the artificial intelligence (AI) and machine learning (ML) approach (Knowledge Fusion). The main database is integrated with the ontology to confirm the interoperability. Besides the support from the high-level technology, expert intervention is also required at the last two steps of the methodology. These expert-level reviews will be based on various feasibility assessments, including technical and political considerations. Subsequently, the tool will support the rank and prioritise of the draft final list of agendas according to community standards. Once the ranking and prioritisation are completed, the Climate Assembly's final agenda will be set. This report will present a brief overview of the current practice of agenda setting by reviewing literature and an initial version of the CLIMAS approach to setting agendas.



1. Introduction

The objective of D3.6, “Knowledge and evidence-based support tool for Climate Assemblies’ agenda setting”, is to present the initial version of the Knowledge and evidence-based support (KEBS) tool, including methodology design, connections to existing data, relevant standards, review of best practices and ontology development.

The initial version of the tool was developed by conducting extensive desk research and leveraging the expertise of CLIMAS partners through Work Package 3 meetings. Insights from other CLIMAS tools and deliverables and a comprehensive literature review of institutions working in Climate Assemblies were integrated. More specifically, CLIMAS D2.1, “*Map of citizen climate participation strategies adapted to different cultural, social, political and environmental contexts, will contain a report on the task*” and D2.2, “*Report on bottlenecks, barriers and drivers, reaching deliberation by solving value-based problems*” provide context for how CAs operate in different cultural, social, political, and environmental contexts, identifying bottlenecks, barriers, and drivers in reaching deliberation. In addition, D3.2, “*Methodological guidelines and manual for setting up and facilitating Climate Assemblies. Initial version*”, outlines organising and facilitating CAs, highlighting how an agenda can be generated. This document is structured as follows:

- **Section 2:** Presents a brief overview of the existing theoretical framework of agenda-setting
- **Section 3:** Describes the tool's initial structure and explains each step of the Methodology
- **Section 4:** Outlines the next steps in developing the tool.

Deviations from GA: Given the early stages of tool development, the user-support tool has not yet been developed. This addition to the KEBS will be included in the Final version of the tool (D3.13 due M34).



2. Theoretical Framework of Agenda Settings: Brief Overview

2.1. Introduction to key terms

An **agenda** is a set of correlated issues communicated in a hierarchy of importance at a time. Political scientists Roger Cobb and Charles Elder (1972/1983) defined an agenda in political terms as "*a general set of political controversies that will be viewed at any point in time as falling within the range of legitimate concerns meriting the attention of the polity*" (Cobb & Elder, 1983). Although an agenda is conceptualised as existing at a point in time, agendas are clearly the result of a dynamic interplay. This dynamic interplay ensures that agendas are not static but are constantly evolving in response to the interactions between various stakeholders. As different issues become essential over time, agendas provide snapshots of this fluidity (Dearing & Rogers, 1992).

The **agenda-setting process** is an ongoing competition among issue proponents to gain the attention of media professionals, the public, civil servants and policy elites. Agenda-setting explains why information about specific issues, and no other problems, is available to the public in a democracy, how public opinion is shaped, and why particular issues are addressed through policy actions to confirm deliberative democracy. In contrast, other issues are not. Deliberative democracy has effectively handled complicated matters such as climate change. For instance, citizen-expert and policymaker gatherings known as Citizen Climate Assemblies have effectively brought people together to discuss climate action plans in countries like France and Ireland. These assemblies have contributed to developing practical and broadly accepted climate policies, such as recommendations for reducing carbon emissions and promoting renewable energy. Reforming the healthcare system is another area where deliberative democracy has proven successful. Accessibility and funding for healthcare have been addressed in Canada through public consultations and citizen panels. The study of agenda-setting is the study of social change and stability; here, social stability refers to maintaining order and consistency within a society. (Hassel & Kai Wegrich, 2022).

Dilemmas are complex problems characterised by conflicting values, interests, or choices with no straightforward solutions. They are inherently subjective, as their resolution depends on the values and beliefs of the stakeholders involved. Unlike technical problems, dilemmas require nuanced and often value-based approaches to find acceptable solutions.

Scenarios are crucial in shaping how and when specific issues or dilemmas are addressed in political and decision-making processes. Scenarios are situations influenced by the current political, social, and economic context. They are fluid and can shift with changes in leadership, public opinion, or external events. These scenarios help assess the feasibility of tackling dilemmas by determining if the conditions are right for successful deliberation and implementation. Scenarios might show the potential results of various choices and possible



difficulties. Because they highlight the particular issues or challenges that must be addressed, dilemmas are essential to establishing the agenda. Problems must be identified before agenda items can be addressed. Once recognised, difficulties are posed as particular queries or issues that require answers. The process's ultimate product, the agenda, is moulded by identifying problems and investigating possibilities.

An agenda serves as a roadmap, prioritising the most pressing dilemmas to ensure they receive attention. It outlines the set of priorities or issues that a political body, assembly, or organisation chooses to address, establishing a hierarchical order for decision-making and policy efforts. By setting a clear agenda, decision-makers can focus on the most critical issues, effectively navigating the dynamic interplay of scenarios and dilemmas.

2.2. Climate change and agenda-setting

One of the most challenging problems of our day is climate change, which involves competing interests, values, and priorities in many spheres of society. As climate change impacts worsen, there is a growing need for clear and prioritised agendas. These agendas must balance political, social, and economic factors and address the most urgent environmental problems. The agenda-setting process guides collective action toward effective climate policies in Citizen Climate Assemblies. By prioritising key climate dilemmas—such as reducing carbon emissions, promoting sustainable energy, and ensuring climate justice—assemblies can help mobilise resources, build political will, and engage stakeholders in meaningful dialogue. Due to the dynamic nature of climate issues, these agendas must remain adaptable and flexible to take advantage of changing opportunities for policy, public opinion, and scientific understanding.

2.3. Theoretical framework for the KEBS tool

2.3.1. Policy analysis frameworks

Following policy analysis frameworks have been considered in the development of the KEBS tool, each with advantages and disadvantages:

- **The theory of punctuated equilibrium (PET)**, developed by Baumgartner and Jones (2018), suggests that policy change occurs in long periods of stability accompanied by brief periods of significant change. This framework focuses on how policy-exclusive rights are challenged and how issues rise and fall on the policy agenda. In more stable policy situations, modest and ongoing policy changes could be more challenging to explain with PET. Additionally, it reduces the importance of individual persons and concepts, favouring structural and institutional considerations.
- **Advocacy Coalition Framework (ACF)**: Sabatier & Weibe (2018) developed the ACF, which focuses on advocacy coalitions—groups of actors who share opinions and collaborate to influence policy within a specific sector over time. The framework examines the interactions and conflicts between various coalitions inside policy subsystems. ACF might be less adaptable when dealing with highly dynamic and unclear policy environments

where the limits of policy subsystems are unclear. Moreover, it strongly emphasises long-term procedures, possibly minimising the significance of temporary openings and chances.

- **Multiple Stream Framework** is well-known for its agenda-setting efficacy (Herweg, Zahariadis, & Zohlnhöfer, 2018). In his 1995 book *Agendas, Alternatives, and Public Policies*, John Kingdon created the Multiple Streams Framework (MSF), which explains how policy issues develop and are resolved inside the governmental agenda. The MSF is beneficial when considering complex, dynamic processes, such as climate change policy, health policy, education policy, environmental policy, etc. (Kingdon, 1995). John Kingdon envisions the rise and fall of issues on the agenda as a product of the interplay of three streams or policy processes: problems, policies, and politics (Kingdon, 1995). These streams operate largely independently of one another, as they tend to have their own rules, 'star' different players, and are subject to various internal dynamics. Nevertheless, at propitious moments (when 'windows of opportunity' open), savvy policy entrepreneurs can help guide the merging of the three streams, and this merging dramatically increases the chances that an issue will receive serious attention from policymakers. Put differently, when a feasible solution is attached to what the public and policymakers perceive as a significant public problem. When political conditions are amenable to change, a policy window opens. Policy entrepreneurs must seize opportunities and push for further action (Pralle, 2009).

Since MSF directly considers the uncertainty and fluidity of the policy-making process, it is more appropriate for analysing challenges involving complex, interdependent, and constantly changing factors, such as climate change. ACF and PET place less emphasis on policy windows than MSF on offering a clear framework for comprehending how and when policy change can happen. This framework's study skilfully incorporates various elements, including politics, policies, and challenges. Its emphasis on the function of policy entrepreneurs—people or organisations that actively seek to alter policy—adds a dynamic dimension that is not as noticeable in other frameworks.

2.4. Problem Stream

Policymakers will almost always argue that a policy responds to some problem (Herweg, Zahariadis, & Zohlnhöfer, 2018). However, what is the problem? According to the MSF, problems are conditions that deviate from policymakers' or citizens' ideal states and are "*seen as public in the sense that government action is needed to resolve them*" (Béland & Howlett, 2016). Thus, problems contain a "perceptual, interpretive element" (Kingdon, 2011) because people's ideals and reality vary significantly. Moreover, a condition previously perceived as acceptable might be recognised as a problem once it becomes evident that other Climate Assemblies are achieving better outcomes. Alternatively, it is starting to see a condition in a different context that turns it into a problem (Herweg, Zahariadis, & Zohlnhöfer, 2018).



For climate change aspects, the problem stream looks deeper to pinpoint the most severe climate-related issues unique to the area rather than just mentioning climate change. This could be rising sea levels threatening coastal communities, extreme weather events disrupting livelihoods, or disruptions to agricultural productivity impacting food security. The problem stream decides the importance and urgency of these difficulties by collecting scientific data and evidence. It highlights the financial, social, and environmental costs of inaction and provides a clear picture of the potential consequences. This **data-driven strategy** helps convince organisers that these problems require severe thought and legislative action. Policymakers become aware of issues through indicators, focusing events, and feedback (Kingdon, 1995).

2.4.1. Assessment Indicators

Numerous indicators are, in principle, relevant for policymakers or the public, such as unemployment figures, budget balances, and crime statistics. Some of these indicators are published regularly; in other cases, they are collected for a specific occasion. However, it is essential to remember that these indicators only inform about conditions until an actor defines them as problems or integrates them into a more extensive policy narrative (DeLeo, 2018). It will be easier to do so if an indicator changes for the worse. If people did not worry about a condition previously and it has not changed, it is complicated to frame it as a problem now. Following DeLeo and Duarte (2021), if a changed indicator threatens the interests of particular groups (“indicator politicisation”), framing a condition as a problem becomes more likely (DeLeo & Duarte, 2022; Herweg et al., 2018). It is also possible to go in the other direction. A group may try to minimise, reject, or even purposefully avoid using an indicator if it puts their interests at risk to keep the condition from being perceived as a severe issue. This technique, sometimes referred to as “indicator manipulation” or “indicator avoidance,” is a type of “agenda control” in which influential people shape the topics that receive attention and the perceptions surrounding them. In both situations, highlighting particular indications can help move a problem to the front of the policy agenda, just as avoiding or suppressing threatening indicators is a calculated move to safeguard the interests of influential organisations.

Indicators arise through both routine monitoring and special studies. For example, contemporary scientific and political interest in global warming was partly sparked by US scientist Charles Keeling’s decades-long monitoring of atmospheric carbon dioxide (CO₂) levels, which he began measuring in the late 1950s. His measurements produced what is known as the ‘Keeling curve,’ which shows an alarming trend of increasing carbon dioxide emissions over the last half century (Kolbert, 2006). Before his study, scientists were unsure whether carbon dioxide would accumulate in the atmosphere or be absorbed by the ocean and the earth’s vegetation. Keeling’s research indicated that CO₂ was concentrated in the atmosphere and provided significant evidence suggesting that humans contributed to the problem (Abatzoglou et al., 2007; Pralle, 2009).



There are many different sources of indicators, such as government publications, academic studies, and other types of data-collecting mechanisms and sources. For example, in the context of climate change, there is scientific literature, climate data, CA-specific reports, media coverage, existing frameworks and tools, and others. When it comes to agenda, indicators support:

- **Identify Problems:** Attention areas requiring action by demonstrating deterioration or unfavourable trends.
- **Monitor Progress:** Monitoring changes in the indicator values to determine how sound policies and interventions are working.
- **Encouraging Decision-Making:** Giving policy decisions a solid foundation can help assess issues according to their importance and urgency (IPCC, 2021).

The Climate Assembly organiser should follow the following qualities to develop the indicators for the Climate Assembly:

- **Reliability:** Reliable and consistent data must serve as the foundation for indicators.
- **Timeliness:** Indicators must be up to date and updated frequently.
- **Relevance:** It should have an obvious relation to the problem stream.
- **Understandability:** Complex data should be created and accessible to non-experts by presenting indicators clearly and understandably.

In summary, indicators give the information required to identify and characterise issues, assist in advocacy, and direct policy decisions. Several environmental, economic, health and social indicators contribute to the urgency and magnitude of the climate change problem (IPCC, 2021).

2.4.2. Focusing Events

Focusing events are significant events or improvements that serve as reasons for bringing a problem to the top of the public and political agenda. They create urgency by focusing on the fact that a problem needs immediate attention and cannot be ignored. They mobilise action by urging policymakers, interest groups, and the public to demand or support action. Focusing events typically have specific characteristics: they happen suddenly or unexpectedly; they have significant, often visible consequences that are easy to explain and understandable; they gain a lot of media attention, public interest, and political attention; and they are inseparably linked to the issue they draw attention to, making it hard to overlook the connection Birkland (1998).

According to Tom Birkland's definition, focusing events are sudden and relatively rare, are at least potentially harmful, and are known to policymakers and the public simultaneously (Birkland, 1997). Although it is far from certain whether events like natural disasters (earthquakes, hurricanes), severe technical accidents (aeroplane crashes, nuclear accidents), and severe forms of violent crimes (terrorist attacks, high school shootings) will lead to agenda change, they at least increase the probability of agenda change. Moreover, there are different

forms of focusing events. Some are so grave that they “*simply bowl over everything standing in the way of prominence on the agenda*” (Kingdon, 2011, p. 96), while others are more subtle, including powerful symbols or personal experiences of policymakers (Pralle, 2009).

Identification of Focusing Events: The agenda-setting tool can use news outlets, academic papers, and reports from relevant organisations to monitor climate-related events and identify those that draw significant public interest. Natural disasters like wildfires, droughts, and extreme weather events like hurricanes, heat waves, and floods frequently act as focal points to draw attention to the immediate effects of climate change and the urgency of taking action (Birkland & Warnement, 2013).

Salience and Awareness: Monitoring climate-related events makes climate change issues more salient and known to the public, media, and policymakers. Devastating wildfires and heat waves that break records draw attention from the press, ignite public debate, and elevate climate change to the political agenda—a pressing concern for decision-makers (O'Donovan, 2017).

Assess Media Coverage: When climate-related incidents—like extreme weather or environmental disasters—are widely covered by the media, it is a sign that the public is becoming interested and paying attention. Because it raises awareness of climate change's immediate effects and consequences and puts it on policymakers' agendas, the increased media coverage acts as a focusing event (Ford & King, 2015).

Utilise Case Studies: Case studies of focal events in the context of climate change are crucial to comprehending how these events have impacted policy agendas and decision-making processes. By examining particular events or catastrophes like Hurricane Katrina, the wildfires in California, or the 2003 heatwave in Europe, interested parties can learn about the dynamics of focal events and how they influence policy reactions (Birkland & Warnement, 2013).

2.4.3. Feedback

According to John Kingdon's Multiple Streams Framework, feedback is data about the outcomes or effects of current proposals. It is essential for determining the effectiveness of current policies, focusing on areas in which changes are required, and affecting decisions about future policy (Kingdon, 1995). In the policy-making process, feedback is crucial for assessing the impact of policies, identifying issues and gaps, and providing information for changes to be made. It comes from several sources: media reports, academic and research studies, stakeholders and public feedback, program evaluations, and performance metrics. There are three different kinds of feedback: negative feedback, which exposes flaws and calls for revisions; positive feedback, which shows policy success and may lead to program expansion or continuation; and neutral feedback, which identifies areas for improvement without pointing out significant achievements or failures. Continuous improvement, accountability, evidence-based decision-making, and resource allocation depend on feedback (Knaggård, 2015).



By offering information on emissions, climate impacts, economic analyses, and public opinion, feedback in the context of climate change helps adapt and improve strategies. Creating the Paris Agreement from the Kyoto Protocol, modifying carbon pricing schemes, and implementing prosperous renewable energy initiatives such as Germany's Energiewende are a few examples of feedback influencing policy. Generally, feedback is essential to guaranteeing responsive, effective, and aligned policies—particularly when tackling global problems like climate change.

Monitor Indicators: Data may be analysed to determine past trends and patterns in essential indicators after data is gathered. It has to be searched for changes or differences from past patterns, evaluate the strength and consistency of observed patterns, and determine connections or correlations between indicators and policies. Monitoring indicators makes iterative learning procedures and feedback loops more accessible. Stakeholders keep updated on and analyse policy changes, bringing fresh data and perspectives to bear on upcoming decision-making procedures (Jacob et al., 2010).

Evaluate Co-benefits and Trade-offs: When addressing underlying issues, consider the co-benefits and trade-offs related to climate change policies and interventions. In addition to any unintended consequences or adverse effects, policies intended to reduce greenhouse gas emissions may also improve public health, improve air quality, or create economic opportunities (Cohen et al., 2021).

Leveraging Simulation and Modelling Results: Simulation and modelling are effective instruments for analysing feedback chains and motion in complex systems impacted by climate change. Using these tools' results, stakeholders can investigate multiple scenarios, learn about the possible impacts of policy interventions, and understand the interactions between various system elements. The outcomes of these models and simulations give the Problem Stream vital information that aids in defining and identifying new problems.

2.5. Politics Stream

While the policy stream is located at the level of the policy subsystem, where debating is the dominant mode of interaction, the political stream is situated at the level of the political system, where bargaining and powering dominate, as majorities for proposals are sought. The different political forces and factors that influence the policy agenda are included in the Politics Stream. Because it assesses whether political circumstances are conducive to tackling specific problems and progressing policy solutions, the Politics Stream is essential (Pralle, 2009).

Kingdon identified three core elements in the political stream: the national mood, interest groups, and government (Kingdon, 1995).

2.5.1. National Mood

The idea that many people in a nation tend to think similarly and that the mood differs frequently is known as the "national mood." Kingdon assumes policymakers detect a "national mood," possibly through public opinion polls. This mood increases the possibility that the policymakers will focus more on specific issues and solutions than others.

The national mood includes the public's collective opinions and emotions about various topics, such as political, economic, and social issues. It represents the overall pattern of public opinion, which can be positive or negative, supportive or opposing (Knaggård, 2015).

The media plays a crucial role in shaping the national mood by impacting how issues are portrayed and discussed by the public. Media sources can intensify specific issues, heighten emotions, and direct public conversation by selectively focusing on, framing, and covering specific themes.

Pressure organisations, also known as interest groups, impact the country's sentiment by galvanising popular sentiment and promoting specific causes. These organisations frequently employ focused campaigns, lobbying initiatives, and open protests to raise awareness of particular topics to sway lawmakers and the general public.

Momentum for Climate Action: Responding to the growing concern about climate change is urgent. Most people in the country favour taking action on climate change, which could result in solid policies, financial commitments to renewable energy sources, and international collaboration to slow global warming.

Policy Gridlock: Progress on climate policy may stall if the country's mood reflects political gridlock on climate change (Binder, 1999).

Public Scepticism: Policymakers may encounter disagreement about establishing climate policies when most people in the country are sceptical about climate change. The efforts to address climate-related issues may be limited by public scepticism about climate change, conflicting priorities, and financial concerns (Foreh & Grier, 2003).

Crisis Response: The national mindset may change to immediate crisis response during a significant climate-related incident, such as a natural disaster or extreme weather event. To address the immediate effects of the event, the focus switches to emergency management, disaster relief, and resilience-building campaigns, which frequently result in a rise in public awareness and support for climate action in the wake of the incident.

2.5.2. Pressure Group Campaign

Interest group campaigns make up the second component of the political stream. An idea is less likely to be included on the agenda; the more interest groups oppose it, the stronger these groups are. However, remember that interest groups engage in more than just campaigns; the MSF is willing to recognise and consider this fact.

Groups or organisations organise advocacy, interest, and pressure groups to influence public policy, government decisions, or public opinion on particular issues. These associations include grassroots organisations, labour unions, business groups, professional associations, non-governmental organisations (NGOs), and unions (Rozbicka & Spohr, 2016). Some of the recognised pressure groups are:

Environmental NGOs: Organizations that advocate for environmental causes, such as the World Wildlife Fund, Greenpeace, and the Sierra Club, are essential in pressuring policymakers to tackle climate change. Similar types of organisations at local and or regional levels need to be listed and considered. These non-governmental, non-profit organisations advocate for stronger environmental laws and climate-friendly policies through lobbying, public awareness campaigns, and legal challenges.

Youth Movements: Extinction Rebellion and Fridays for Future are two examples of youth-led movements that have become influential supporters of climate action. Through social media campaigns, youth-led initiatives, protests, and strikes, these movements bring attention to the urgent need to address climate change.

Business Coalitions: Industry organisations and business coalitions serve various interests in the private sector, such as those in the fossil fuel, sustainable, and renewable energy industries (Herweg et al., 2015).

It is to be noted that these are not only the groups. Several NGOs and charity groups are working at each level (local to regional), and a precise mapping and outreach strategy is required to reach and involve them in this process.

2.6. Policy Stream

One of the three streams in John Kingdon's Multiple Streams Framework, which describes how issues come to light and make their way onto the policy agenda, is the Policy Stream. The main objectives of the policy stream are the development, advancement, and improvement of possible solutions (Kingdon, 1995).

In the policy stream, policy alternatives are generated in policy communities. *“A policy community is mainly a loose connection of civil servants, interest groups, academics, researchers and consultants (the so-called hidden participants), who engage in working out alternatives to the policy problems of a specific policy field”* (Herweg, 2015). Most policy community members are policy experts who advocate and discuss policy ideas.

Value Acceptability: The degree to which suggested policies match society's standards, beliefs, values, and preferences is called value acceptability. It evaluates whether stakeholders and the general public will find the suggested policies **morally, ethically, and politically acceptable**.



Morally and ethically sound policies have a greater chance of winning public and political support, making them easier to adopt and implement. On the other hand, policies that run counter to common opinion or are opposed by powerful interest groups may run into opposition and need help to move forward with the policy-making process.

Technical Feasibility: Considering the resources, technology, experience, and administrative capacity, technical feasibility evaluates the viability and practicality of implementing proposed policies. Given the operational and institutional limitations, it looks at how well the suggested policies can be implemented. Technically, possible policies are more likely to successfully implement and produce the intended results and effects (Pralle, 2009).

2.7. Windows of Opportunity

The likelihood of any issue rising to prominence on the agenda is significantly increased when the **problem, policy, and politics streams join together**. Such windows of opportunity open due to activities in the political stream or because a problem is deemed especially pressing. Kingdon (1995) argues that some windows are predictable, such as the budgetary and reauthorisation processes in the US Congress, electoral cycles, and the like. Other windows are governed by less predictable processes such as focusing events, damning reports, and the emergence of pressing problems (Kingdon, 1995). Policy entrepreneurs must be ready to seize the moment, whether a window opens predictably or randomly, for the windows rarely stay open for long (Pralle, 2009).

2.8. The demise of issues

Public enthusiasm for solving problems initially helps to get issues on the agenda. However, subsequent cynicism, unwillingness to sacrifice, or lack of understanding may lead to declining attention and agenda status. The public tends to lose interest as the costs and difficulty of solving a problem become more evident. Similarly, if the public believes that significant sacrifices are required (in behaviour, for example), then attention to a problem may wane. A somewhat different cause of issue decline is when the public (mistakenly or not) believes the stakeholder has solved a problem and, therefore, feels free to turn their attention elsewhere (Kingdon, 1995; Pralle, 2009).



3. Knowledge and evidence-based support (KEBS) tool for Climate Assemblies' agenda setting – Methodology

After analysing the MSF and its key components, a flowchart has been developed to construct the agenda-setting tool.

Climate Assemblies are essential platforms for discussing and making decisions about climate-related issues. Prioritising the most relevant and pressing issues is necessary, though, because there are many possible topics and limited time. KEBS is intended to assist organisers in sorting through various climate change-related issues and agenda items, highlighting the "hot topics" most relevant to the assembly's objectives.

KEBS is an essential part of the CLIMAS toolbox, which equips organisers of Climate Assemblies with the knowledge and resources they require to create effective agendas. By providing a prioritised list of climate change issues, KEBS ensures that the discussions within the assembly are focused, relevant, and aligned with the broader goals of the CLIMAS project.

While the KEBS methodology is general, its application within CLIMAS is particular to Climate Assemblies. The climate change-specific database created by KEBS will include a broad range of subjects while emphasising those most critical to the assembly's objectives. By enabling users to enter CLIMAS-related information, the tool will accelerate the agenda-generating process and allow quicker and more precise identification of critical issues.

The flowchart represents continuously gathering, analysing, and refining data to create solid and practical agendas. It features public opinion, expert input, scientific information, and practical factors to ensure that the final policy decisions are comprehensive, well-informed, and appropriate given the climate change and environmental context of the time. There will be five steps for the methodology:

1. Comprehensive Information Collection for Knowledge and Evidence-Based Support (KEBS) System
2. Development of CLIMAS Knowledge and Evidence-Based Support (KEBS) System
3. Extracting a List of Preliminary Agendas from the KEBS
4. Filtering the Agendas
5. Prioritising Agendas by Scores

Before the Assembly, Organisers will use KEBS to create and finalise the agenda, clearly describing assembly participants' expectations and the benefits of their involvement.

- **Interactive Part:** The tool features an interactive component where the software offers specific features and requests minimal input from the user. Based on the provided



information, KEBS will generate a preliminary list of agendas that align with the assembly’s goals and the broader climate resilience objectives.

- **Non-Interactive Part:** After the initial list is created, the organiser will move to the non-interactive phase. This involves manual intervention, where expert opinions are sought to assess the feasibility of the proposed agendas. This step ensures the agendas are realistic and aligned with current scientific and policy frameworks. The final output is a prioritised list of agendas ready for discussion and decision-making during the assembly.

Figure - 1 provides a flowchart showing the five steps and the main components of these steps. The KEBS tool will give intelligent support to perform Steps 1 to 3 (external). Expert groups and CA organisers’ interventions are required to perform Steps 4 and 5. The procedure is explained briefly below:

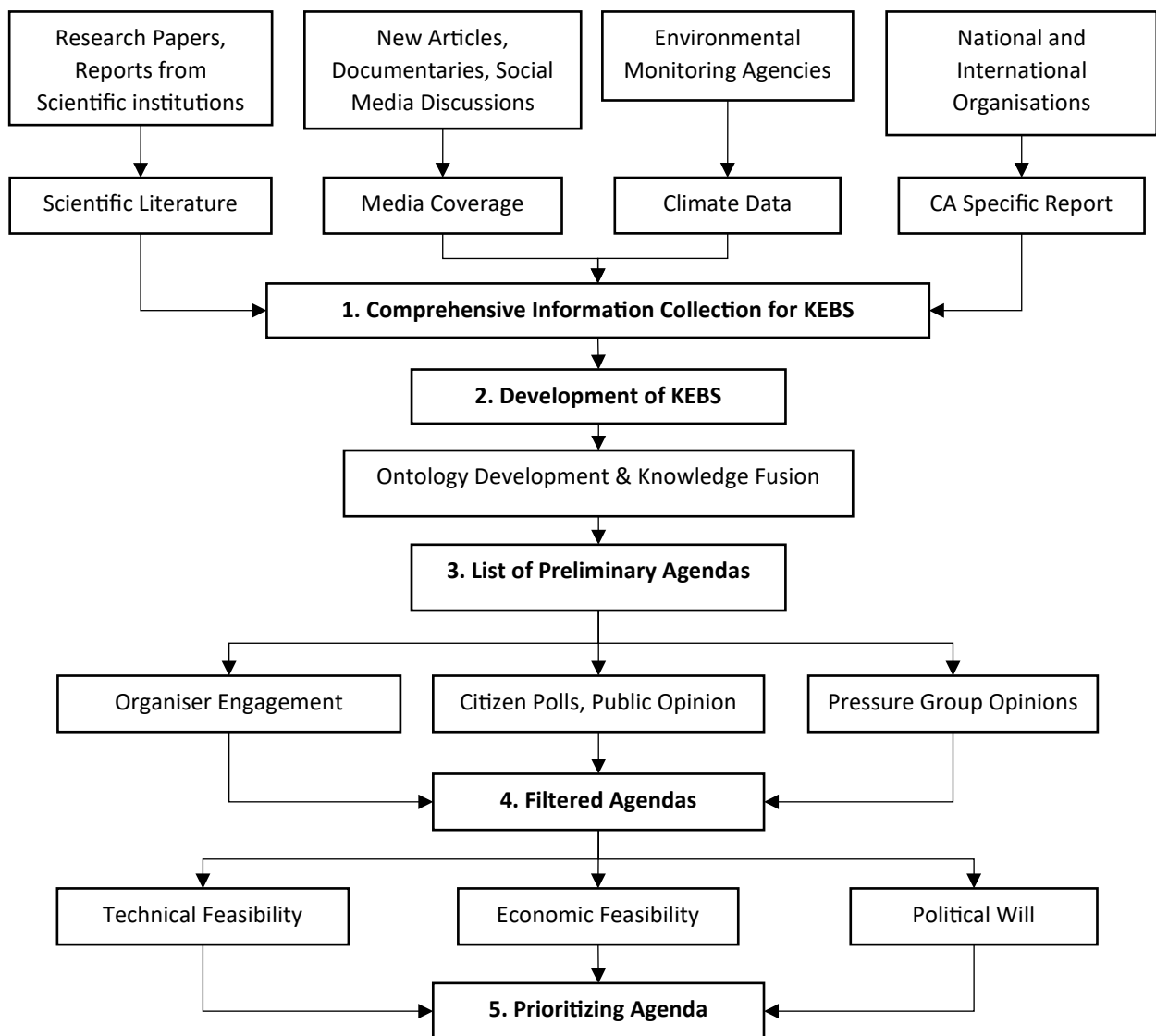


Figure - 1 Overall Workflow of Agenda Settings

3.1. Comprehensive Information Collection for Knowledge and Evidence-Based Support (KEBS) System Development

The first step in the procedure is gathering large amounts of varied and comprehensive data from multiple trustworthy sources that comply with the principle of problems stream in MSF, as mentioned in section 1. This phase is essential for building a solid knowledge base and ensuring all relevant data and evidence are accessible for well-informed decision-making. The primary sources, such as scientific literature, mainstream media coverage, climate data, etc., are briefly discussed below:

3.1.1. Scientific Literature

Research papers and institutional reports are vital for providing rigorous, evidence-based information on various issues. Academic literature offers a detailed understanding of the impact of climate change on various geographical areas. Research has identified the vulnerabilities of several geographical regions, providing insights into the successful outcomes of different adaptation plans and mitigation techniques used to address the impact of climate change (IPCC, 2021). By examining research, reports, and evaluations, climate-related issues such as rising sea levels, extreme weather, and changing precipitation and natural recharge patterns can be identified. Reviewing scientific literature helps to identify significant findings, patterns, and trends related to the impacts, vulnerabilities, and adaptability to climate change.

Method to extract data from the scientific literature:

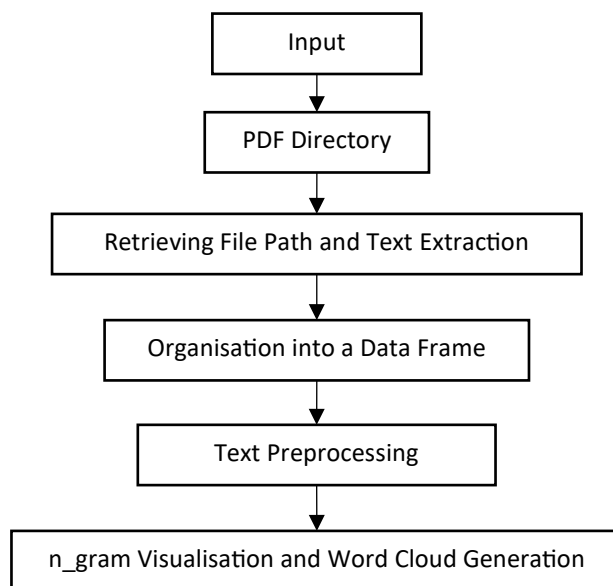


Figure - 2 Flowchart for Data Extraction from Scientific Literature

The following steps outline processing and analysing text from scientific literature in different formats, such as PDFs. Steps include extracting text, preprocessing, n-gram analysis, word cloud generation, and topic modelling.

Step 1: The initial input in the code would be the PDF directory.

Step 2: Extracted text and metadata are stored in dictionaries. The PDF file paths are retrieved, and texts are extracted from the pages. The Extracted text and metadata are stored in dictionaries.

Step 3: The titles, authors, and text content are extracted and organised into a Pandas data frame.

Step 4: Text Preprocessing:

- **Whitespace and Special Characters Removal:** Text preprocessing involves removing extra spaces, newlines, non-ASCII characters, URLs, and specific patterns.
- **Tokenisation and Stop Words Removal:** The code then tokenises text, removes stop words, and applies to stem, mapping stemmed to original words.

Step 5: The tokenised texts are then used to generate, clean, and sort n-grams and select the top n-grams for visualisation. Stemmed n-grams are mapped back to the original words and visualised as a bar chart. Finally, a word cloud is generated to represent frequent words visually. A word cloud is a visual representation where the size of each word indicates its frequency or importance in the text. In contrast, an n-gram visualisation displays the frequency of n-grams (sequences of n words) in the text.

Topics are then visualised using Gensim's LDA model and further visualised. This visualisation interface will be developed in the second version of the report.

3.1.2. Media Coverage

News articles, documentaries, and social media discussions capture current opinions and social discussions. In media coverage, two types of media are considered: mainstream media, such as CNN, BBC, Guardian, etc., and social media, such as YouTube, X, Facebook, etc.

Media coverage can reveal public views and attention to climate change issues. The level of public interest, awareness, and sentiment about the impacts, vulnerabilities, and responses to climate change can be determined by reviewing media coverage. Media analysis can be used to evaluate media bias, framing, and representation of climate change topics. Over time, it assists in monitoring trends and patterns in climate change coverage. Media analysis also offers stakeholders, policymakers, and decision-makers insightful information about public attitudes and concerns around climate change.

Method to extract data from media coverage:



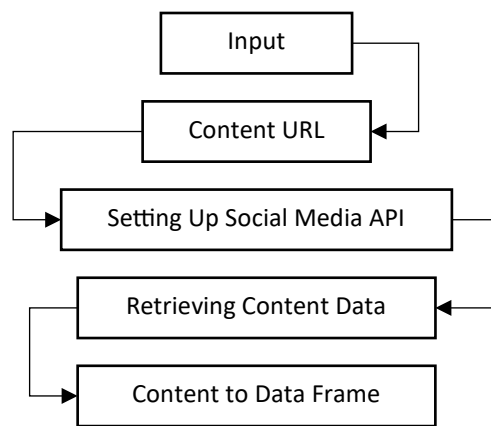


Figure - 3 Social Media Content Extraction Flowchart

Step 1: The methodology describes extracting social media data, specifically posts and comments. It starts by setting up the social media API client with an API key and continuously retrieving posts, comments, and replies for specific content.

Step 2: The data is stored in lists and then converted to a data frame, which is saved to a CSV file. Error handling ensures that failures are retried. Pagination is considered while managing data, and delays are incorporated to avoid hitting rate limits. The process continues until all comments are retrieved, with lists being reset for each new batch of comments and the results appended to the CSV file.

The technical details with sample codes will be further explained in the next version of the deliverable.

3.1.3. Climate Data

Local and regional climate data: Local and regional climate data provide an overview of the stress on the environment and water system due to climate change. These types of data can be time series, shape files of a catchment, soil and agricultural coverage, land use and land cover, etc. Simulation output (Forecasting temperature, recharge, rainfall, etc.) can help understand future threats.

Environmental monitoring agencies and legacy databases (such as COPERNICUS) provide comprehensive information about the present situation and climate change on a regional and global scale.

Monitoring Climate Variables: Temperature, precipitation, humidity, wind speed, sea level, and greenhouse gas concentrations are among the many essential climate variables that may be objectively measured using climate data.

Adaptation and Mitigation Strategies are informed: Priority areas can be determined now for adaptation actions by analysing the climate condition.

Supporting Global Policy Development and Decision-Making: Climate data offers scientific proof and perspectives that help with global policy development and decision-making.

3.1.4. CA Specific Reports

Nation and international organisations provide direct experiences and practical knowledge about climate change impacts, vulnerabilities, and adaptation plans. They offer a variety of opinions, skills, and information. By incorporating local knowledge, observations, and data sources into the database, organisers' participation improves the quality and accuracy of climate data.

All information can be collected and centralised in a 'Database for KEBS (section 3.2).' This database is an integrated repository that processes the data further. The goal is to condense large amounts of information into easily understandable and helpful information.

3.2. Development of CLIMAS Knowledge and Evidence-based Support (KEBS) System

3.2.1. Data Type Overview and Acquisition

It is essential to develop this database system to know different types of data (section 1) and their uses. To learn more about the data types and their use cases, data acquisition has been considered an essential aspect of the initial step of designing the database. In the realm of climate data, data sources can be categorised into two primary types:

1. **Input Data**
2. **Process Data.**

Input Data is acquired through various means:

- **User Contribution:** Data contributed (uploaded to the database) directly by users.
- **Historical and Legacy Databases:** Data from established sources such as Copernicus C3S.
- **Academic Literature or Journals:** Information extracted from published research.
- **Media Platforms / Sources:** Data gathered from print, news media, and social media platforms, ex: YouTube, X (Formerly Twitter), etc.

Process Data is generated through:

- **Simulations:** Data produced from climate models and simulations.
- **Engram or AI Models:** Information derived from language or machine learning models.

These datasets collectively provide comprehensive information related to Climate Change Impacts, adaptation, and mitigation measures, providing a comprehensive overview for climate analysis and decision-making.



3.2.2. CLIMAS KEBS Development

3.2.2.1. Overview

The KEBS represents a cutting-edge approach to disaster resilience, leveraging one relational (SQL) database, which stores GIS-based information. PostgreSQL has been chosen as the Relational Database Management System (RDBMS) for the centralised database due to its robust support for geospatial data through the **PostGIS** extension. **PostGIS** is a powerful extension that enhances **PostgreSQL** by adding support for geographic objects, enabling the database to store, query, and manipulate spatial data efficiently.

PostGIS extends **PostgreSQL** by adding spatial data types such as **geometry** and **geography**. Tables can be created with columns to store points, lines, polygons, etc.

The KEBS is designed after considering the following aspects of the project: (1) The KEBS is the central space to the tool, stores access data and analyses data; (2) It is seamlessly integrated with the ontology and data fusion techniques to interoperable data to the users and prepare the initial list of agenda.

3.2.2.2. Data Types

In this section, the specific data types are explored and categorised into Input Data and Process Data.

Input Data: Input Data encompasses data that is directly acquired from various sources, which can be detailed as follows:

- a. **User Contribution:** This includes various Geographical Information System (GIS) files users upload. These files can come in multiple formats, such as:
 - **Shapefiles:** A popular vector data format for geographic information system (GIS) software.
 - **Raster Files:** Grid-based data files used to represent spatial variation.
 - **NetCDF (Network Common Data Form):** A set of data formats and software libraries for array-oriented scientific data.
 - **HDF5:** A file format and tools for managing complex data.
 - **GRIB:** A concise data format commonly used in meteorology to store historical and forecast weather data.
- b. **Historical Legacy Database:** Data pulled from long-established databases can vary in format. The most common formats include:
 - **CSV (Comma-Separated Values):** A simple text format for tabular data.
 - **JSON (JavaScript Object Notation):** A lightweight data interchange format.
 - **Lists:** Data arranged in lists, which may be in various textual formats.

- c. **Academic Literature or Journals:** Data obtained from scientific publications and research papers, typically in the form of:
- **Text Data:** Extracted text from articles and papers.
 - **PDF (Portable Document Format):** Documents that contain text data from various academic sources.
- d. **Media Platforms/Sources:** Data sourced from different media outlets, which generally comes as:
- **Text Data:** Extracted text from articles, reports, and news.
 - **PDF:** Documents that encapsulate text information from various media sources.

Process Data refers to data generated or synthesised through computational methods and models. This type of data typically includes:

- **GIS Files:** Various GIS files are generated from processed data and are often used in mapping and spatial analysis.
- **Simulation Output Files:** Depending on the simulation software used, data produced from climate and environmental simulations can include a variety of file formats.
- **Engram or AI-generated Output Data:** Data outputs from advanced computational models such as Engram or AI models. These outputs can be in diverse formats for further analysis and decision-making.

Together, these data types provide information for analysing climate-related information, facilitating comprehensive studies and informed decision-making processes.



3.2.2.3. Data Flow Diagram

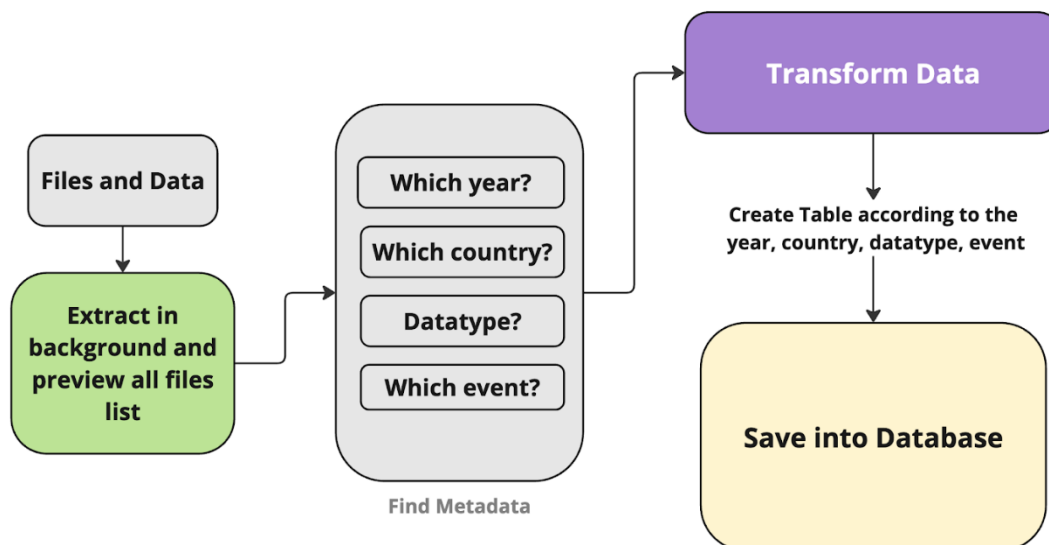


Figure - 4 The Data Flow Diagram for Saving Data into the Relational Database

The process of uploading or saving a file to the database is illustrated in Figure 1 by a data flow diagram. The specific questions about a file the user wants to upload are as follows:

1. What is the timeframe in the Year that the file contains? (e.g. 2019 or 2010-2020)
2. Which country does the data represent?
3. What is the data type that file contains? (e.g. Building Data or Rainfall)
4. Which event does the file represent? (e.g. Flood, Earthquake, etc.)

This additional information is considered the metadata of every file or data that has been passed into the pipeline. These questions will be asked separately for every uploaded file.

Based on the answers to these questions, a unique name includes the Year, country, and event name. This unique name is used to create a table in the relational database, with the table's attributes determined by the original file data. This issue is essential in relating data to the interoperability function and ontology.

3.2.2.4. Database Architecture Design

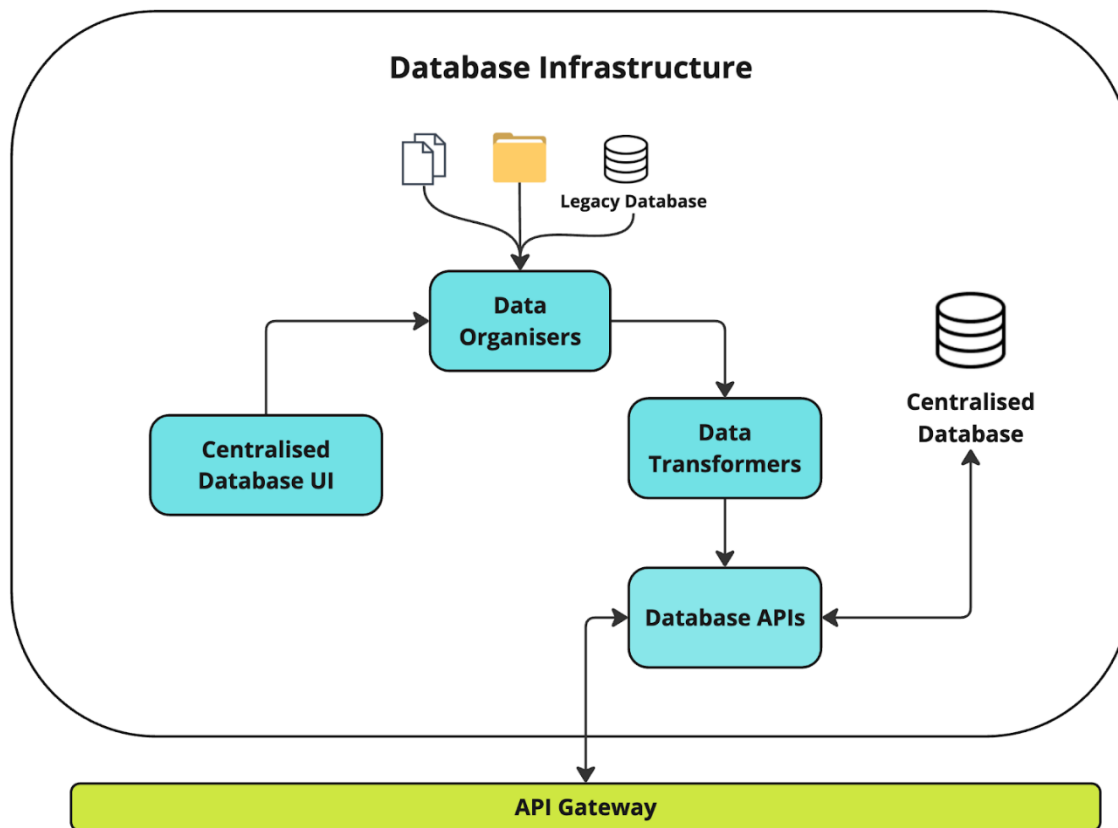


Figure - 5 High-Level Structure of the Centralised Database

Figure 5 shows a very high-level database structure to fulfil the abovementioned functionalities. As explained earlier, a data pipeline is created to facilitate the database's uploading or inserting files into the pipeline, transforming the data, and storing the data.

The centralised database infrastructure consists of three major components:

1. Data Organisers
2. Data Transformation
3. User Interface and Interaction

Data Organisers: This component allows users to upload files into the platform. Once uploaded, file owners can add extra information about the file, such as the region, Year, and country. The platform also has a user interface for partners to upload files, track progress, and download uploaded files.

Data Transformation: This component reads files from the Data Organisers, retrieves information, processes and transforms data, and saves it into a Relational Database. The platform supports various file formats, including Shapefile (.shp), Raster (.raster), NetCDF (.nc), Grib (.grib), and PDF(.pdf). Each Data file creates a new table in the database.

User Interface and Interaction:

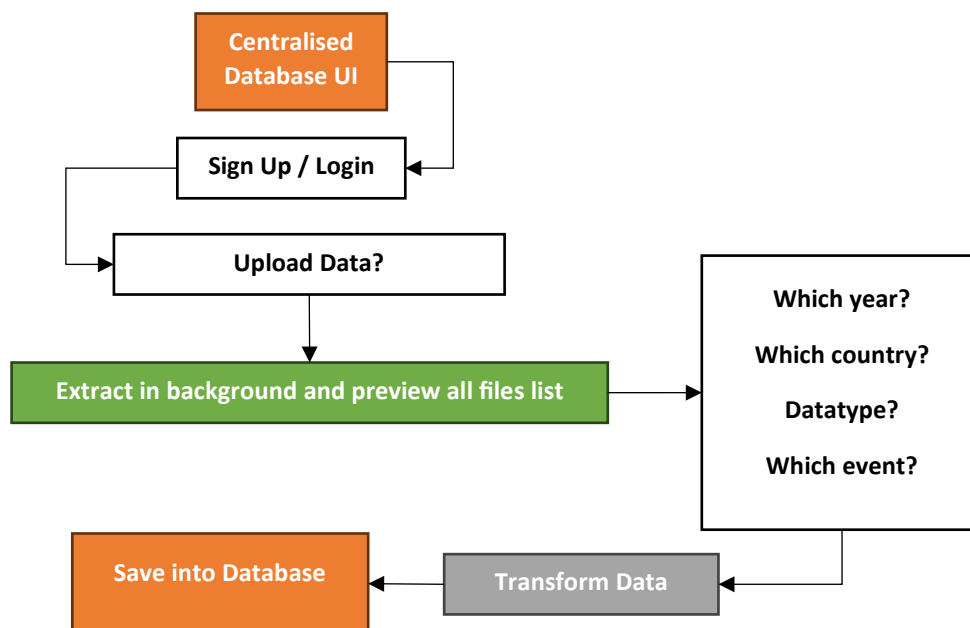


Figure - 6 Data Flow Diagram for User Interface and Interaction

Figure 6 represents the data flow of the User Interface. Users can create an account or sign in to the platform. The primary objective of this User interface is to provide partners with an easy-to-use interface for uploading files and visualising the uploaded lists. Partners can also see the progress of any individual file, whether it is being processed or already transformed and ready to be used in querying for standardised data.

3.2.3. Integration of Legacy Database with KEBS

3.2.3.1. Overview

With its rich history and ongoing contributions, Copernicus is a legacy database that continues to evolve. It plays a vital role in providing a wealth of data that spans diverse domains, including climate, atmosphere, land, and others. Copernicus operates on the principle of open access, making its data freely available to the public.

3.2.3.2. Copernicus Climate Change Service (C3S)

Copernicus Climate Change Service (C3S) is a vital component of the Copernicus program, explicitly addressing climate-related data and information. C3S serves as a centralised repository for a vast array of climate-related data. This includes information on temperature, precipitation, atmospheric composition, and various other climate variables. The database's extensive coverage spans both historical and real-time datasets.

3.2.3.3. *Integration with C3S and Download*

There are few datasets in C3S services. Partners can download files from the Centralised Database Platform. There is a dedicated page for selecting the dataset and other filter options as follows:

1. Origin
2. Region
3. Time Aggregation
4. Variable
5. Horizontal Aggregation
6. Years
7. Others

The filter options may vary according to the changes in the dataset. Once the download is complete, partners will receive a zip file.

3.3. Extracting a List of Preliminary Agendas from the Database

3.3.1. Ontology Development & Knowledge Fusion

Interoperability and Climate Assembly ontology generation: The methodological steps to achieve interoperability have been addressed in this phase. The key informational artefact behind this is an ontology for representing climate data, which can describe data semantics using logical formalisms with more generic, specific, and associative concepts. Standardisation of the terms used to label concepts and properties will be carried out to align with community-specific terminology. The ontology will be grounded in domain ontologies and a top-level ontology to facilitate mapping with other ontologies applied to represent similar data. Ontology, standardisation, and mapping will be functional in finding correspondence across ontologically represented data. This approach will enable the project to achieve interoperability. The ontology will cover concepts, object properties, and data properties to capture climate change-related insights generated by natural language processing (NLP) tools by analysing thousands of spatiotemporally annotated documents. Rules will be defined using a standard rule language as an overlay on the ontology to create the agenda of the Climate Assembly based on the interoperable climate data and captured knowledge.

3.4. Filtering the Agendas

The first set of agendas is filtered using the combined input and feedback from the public and stakeholders. Considering stakeholder priorities, scientific advancements, and current societal needs, the initial agendas are assessed for relevance and urgency. Agendas that do not fit these requirements are changed or rejected. The remaining agendas have been refined to ensure they are feasible and actionable in the present economic and policy environment.

3.4.1. Organiser Engagement

A wide range of organisers must be included in the filtering process to implement the agenda-setting process successfully. Both offline and online activities are a part of this process, and they are all essential to ensuring that the final agendas are thorough and valuable. Regular meetings, consultations, and workshops are examples of offline actions where stakeholders—public agencies, corporate sector, academics, civil society organisations, and community groups—can have face-to-face conversations, exchange opinions, and work together to develop action plans. These face-to-face exchanges are crucial for establishing reliable alliances, offering helpful advice, and guaranteeing that the suggestions are based on experience.

Online actions enhance these offline efforts by utilising digital tools to broaden stakeholder engagement and simplify filtering. The tool would, for example, collect agendas from multiple sources, such as citizens' polls, and prioritise agendas according to scoring systems that consider stakeholder preferences. By collecting and analysing feedback from a wider audience, these online actions enable a more inclusive and data-driven approach.

Comprehensive Stakeholder Mapping Process: The following comprehensive stakeholder mapping has been formulated, detailing the criteria for selecting diverse groups and outlining strategies for ensuring genuine representation and inclusive participation. Engagement frameworks such as the OECD guidelines have been referenced to guide these efforts.

Identification: Identify all relevant stakeholders, including public agencies, civil society organisations, private sector entities, academic institutions, and community groups.

- a. Categories of stakeholders based on their influence and interest in the Climate Assembly process:
 - High influence, high interest (e.g., government agencies, key policymakers)
 - High influence, low interest (e.g., potential funders, influential organisations)
 - Low influence, high interest (e.g., local community groups, environmental activists)
 - Low influence, low interest (e.g., the general public, non-engaged citizens)
- b. Selection Criteria for diverse groups and strategies for genuine representation:
 - **Representation:** Ensure representation from various demographic groups (e.g., age, gender, ethnicity, socio-economic status).
 - **Expertise:** Include stakeholders with relevant expertise in climate change, public policy, and community engagement.
 - **Impact:** Prioritize stakeholders directly impacted by the Climate Assembly outcomes.
 - **Engagement History:** Consider stakeholders' previous involvement in similar initiatives or demonstrated interest in climate issues.

c. Engagement Strategies:

- Outreach Initiatives: Implement targeted outreach initiatives to engage underrepresented groups and ensure their voices are heard. A multifaceted strategy comprising surveys, interviews, data reviews, and workshops is used to obtain comprehensive input from diverse stakeholders.
- Facilitation Techniques: Use inclusive facilitation techniques in meetings and workshops to balance power dynamics and encourage equal participation.
- Continuous Feedback: Establish continuous feedback mechanisms to incorporate stakeholders' input.

3.4.2. Citizen Poll and Public Opinion

This is one of the main steps in filtering draft agendas as it depicts the “national mood” of recent climate change issues. The draft agendas will be distributed to the citizens for polling and ranking. A web portal can be used. In the CLIMAS project, a citizen assembly portal has been developed (task 3.7), and the survey and poll module can be used for this step. This input highlights public priorities and concerns that might go unnoticed from a grassroots perspective.

3.4.3. Pressure Group Opinions

Interest group opinions are required to filter some agendas. Interest group representatives can be policy community members and thus propose ideas and participate in the softening-up process.

- Sources: Reports from various pressure groups.
- Process: Collects views and opinions of influential groups.
- Output: Adds another layer of perspective to the "Filtered Agendas".

However, these activities occur in the policy stream and must be kept distinct from the campaigns that interest groups might launch against proposals. Environmental NGOs, youth movements, and business coalitions are examples of interest groups. The second version of these deliverables will elaborate on how to involve them.

3.5. Prioritising Agendas by Scores

A prioritising score is given to each agenda based on the feasibility analyses. This score represents the agenda's overall viability considering the following factors: technological, economic, and political. These elements rank the agendas based on how likely they will be implemented successfully. It will follow a similar hierarchical process based on the CLIMAS prioritisation tool outlined in Deliverable 3.4.

3.5.1. Technical feasibility

Technical feasibility assesses the practicality and viability of implementing proposed policies based on available resources, technology, expertise, and administrative capacity. It examines whether the proposed policies can be effectively implemented within existing institutional frameworks and operational constraints. Technically feasible policies are more likely to be implemented successfully, leading to desired outcomes and impacts. Here are the essential key points to focus on:

Technological Readiness and Resources:

- **Human Resources:** Ensuring the availability of skilled staff to manage and implement policies effectively is essential.
- **Material Resources:** Securing the necessary tools, supplies, and infrastructure is crucial.
- **Technology:** Evaluating current technology and exploring future advancements to facilitate more seamless applications is recommended.

Administrative Abilities and Capacity:

- **Technical Knowledge:** Evaluating the expertise and capabilities of the implementing bodies to ensure smooth execution.
- **Training Needs:** Identifying additional training or capacity-building initiatives required for optimal performance.
- **Institutional Support:** It is essential to gauge whether the administrative capacity and institutional structures fully support policy implementation.

Risk Control:

- **Technical Risks:** Proactively identifying potential technology-related issues and creating effective plans to address them.
- **Contingency Planning:** Making thorough preparations for any unexpected technical difficulties.

3.5.2. Economic Feasibility

The filtered agendas need to be checked for economic feasibility. As financial resources are one of the bottlenecks in most parts of the developing world, economic feasibility will allow an understanding of the budget required to implement the agenda.

Obtaining Income Potential:

- **Financial Benefits:** Learn about the financial benefits of policies, including enhanced public services, increased economic growth, and the creation of jobs.

- **Cost Effectiveness:** To ensure policies offer outstanding value, weigh costs against expected benefits.

Taking Care of Financial Restraints:

- **Resource Restrictions:** Evaluate monetary restrictions that may limit the amount of available funds.
- **Innovative Solutions:** Consider different strategies or adjustments to meet financial constraints.

Assuring Sustainability Over the Long Run:

- **Sustained Viability:** Assess the sustainability of long-term funding while taking operating and maintenance expenses into account.
- **Revenue Generation:** Look for methods to bring in money to maintain the longevity of the policy.

3.5.3. Political will

Political parties' and leaders' commitment and support to carry out the suggested policies is called political will. Maintaining continuity and stability entails getting the approval of significant government figures and legislative bodies and asking for confirmation and assistance from opposition parties. It involves addressing political risks, fostering community leaders' and interest groups' engagement, and constructing a political consensus. Political will must be ensured to provide the backing, resources, and legitimacy required for successful policy implementation. After all these, we propose prioritising the filtered agenda based on its importance. The prioritisation Tool, developed under T3.4, can be used.

4. Conclusions and outlook

This report briefly presents the very initial version of the agenda-setting tool. In the next version, we will also explore the generation/selection of dilemmas in connection with the filtered agenda. During the next reporting period, we will work on the different steps of the methodology and will provide clear steps and guidelines. Our efforts will be focused on developing more advanced methods and strategies for identifying potential effects from scientific literature and media coverage, as well as improving data collection and processing by integrating CA-specific reports and climate data into the KEBS. We will develop more accurate standards and guidelines for importance evaluation and feasibility analysis and standardised processes for agenda refinement to ensure actionability and focus during the comprehensive agenda filtering process. We will also establish a transparent and systematic method for assigning prioritising scores to filtered agendas. A user-friendly and interactive tool will be created and presented to the CLIMAS consortium.

After developing the framework, we will test the methodology in CLIMAS CAs in collaboration with WP4. The following deliverable will provide a comprehensive and detailed overview of the KEBS tool in the next development phase. This will consist of:

- Expanded explanation of the methodology: the deliverable will explain the methodology's theoretical underpinnings and actual uses within the context of Climate Assemblies.
- Tool front-end and back-end development: the front-end and back-end parts will be developed further, focusing on boosting overall functionality and the user interface.
- Refinement of key algorithms: the fundamental algorithms guiding the agenda-setting process will be enlarged and improved.
- Analytical description of algorithms: the deliverable will contain a comprehensive analytical description of the algorithms, covering their construction, operation, and ways in which they improve the tool's precision and effectiveness.
- Tool testing: the tool will be tested with the help of CLIMAS Climate Assemblies and Living Labs, encompassing internal and pilot tests conducted in a simulated climatic assembly environment.

The final version of the KEBS Tool will be prepared and defined in D3.13, “Knowledge and evidence-based support tool for Climate Assemblies’ agenda setting. Final version,” due M34.



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