

# CoAct Database indices

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# 1. Accountability index

To capture how accountable cooperative climate initiatives are, we developed an accountability index. The index aims to include various aspects of accountability and transparency such as whether initiatives have explicit monitoring arrangements and whether they publish annual reports, or whether they set control mechanisms for their members. The index is calculated by taking an equally-weighted average of several indicators ranging from 0 to 1.

The first two indicators represent the monitoring practices of initiatives, which is an essential part to be able to hold initiatives accountable. The first one comprises of an indicator that represents whether the initiative implements explicit monitoring arrangements as a binary variable. Second, we calculate the share of all years that an initiative has been active in which they have published a monitoring, annual, or emissions report.

The third indicator captures if the initiative has any arrangements or requirements for their members to adhere to, hence representing internal accountability mechanisms. These arrangements could include requirements or expectations for members to set targets, develop implementation plans, or track their emissions. The variable is binary.

We capture accountability to external experts and stakeholders in our fourth indicator through the presence of an advisory body. Advisory bodies can link the initiative and its actions to the current state of knowledge and external perspectives. Hence, advisory bodies increase accountability.

The fifth indicator represents the presence of quantifiable targets. Targets play a key role in holding actors accountable for their promises or lack of action. In the CoAct Database, we capture several types of targets, including emission reduction targets, renewable energy targets, funding targets or targets on the number of people or organisations reached. As initiatives can perform several functions, we treat all target types equally and capture them in one binary variable representing the presence of any quantifiable targets.

As transparency is an essential precondition for accountability, we include two indicators on transparency. Our sixth indicator captures if an initiative transparently discloses their operational budget, which is necessary to hold them accountable for how they spend their money. The seventh indicator represents is the initiative transparently disclose how they are operating through a governance structure.

In summary, the following indicators comprise the accountability index:

1. Presence of explicit monitoring arrangements
2. Share of active years in which the initiative has published a report
3. Presence of arrangements for membership control
4. Presence of an advisory body
5. Presence of quantifiable targets
6. Disclosure of budget
7. Disclosure of a governance structure

## 2. Inclusiveness index

We developed an index to capture the inclusiveness of an initiative. The index captures various aspects of participatory patterns, representation of actors on the geographic and actor type level, and the openness of an initiative to new actors to get involved. The index is calculated by taking the average of various indicator that all fall between 0 and 1, thus representing equal weights for each indicator.

The first indicator that is considered in the index is a binary variable for institutional openness of an initiative. This variable captures if the initiative publicly invites new actors to join the initiative and providing information on the procedure for joining the initiative.

As a second aspect of the index, we include an indicator that captures if non-profits or non-governmental organisations (NGOs) are involved in the initiative as either a participant or a leader. NGOs often play a key role in representing the needs of specific, underrepresented stakeholder groups, and thus contribute to inclusiveness. This is a binary variable.

The third, fourth and fifth indicator consider the extent to which the actor types of the participants are represented in the leadership of the initiative. We create three indicators, one that assess the representation in the executive body, one in the advisory body, and one among the leading actors of the initiative. We approximate this representation of actor types by calculating the share of participant actor types that are also in the respective body or leaders.

A sixth indicator captures the geographic representation and captures if the initiative involves actors from the countries in which they are implementing. The indicator is calculated as the share of countries of implementation for which a participant or leader from the respective country is involved in the initiative.

Similarly, the seventh indicator also assesses the representation of the locations of implementation, but only considers the leaders to account for higher decision-making power. Additionally to account for lower numbers of leaders, we assess the representation among the regions of implementation, where the regions include 17 global regions. The indicator is then calculated as the share of regions of implementation for which an actor from the respective region is leading the initiative.

Finally, a geographic representation indicator is included in the index, to account for geographic representation of participants in the decision-making. The indicator is calculated as the share of countries where participants are from for which a leading actor is also from.

An equally-weighted average is taking over all eight indicators. However, if an initiatives does not have participants, the third, fourth, fifth, and eight indicators are excluded from the average. Similarly, if we do not have recorded countries of implementation, the sixth and seventh indicators or excluded, while if the initiative does not disclose an executive and/or advisory body, the third and/or fourth indicators are excluded. Lastly, if an initiative has not reported leaders, indicator five, seven and eight are excluded from the average.

In summary, the following indicators compose the inclusiveness index:

1. Institutional openness (1 – yes; 0 – no)
2. Presence of an NGO (1 – yes; 0 – no)
3. Share of participant actor types represented in the executive body – excluded if the initiative does not disclosure participants or an executive body

4. Share of participant actor types represented in the advisory body – excluded if the initiative does not disclose participants or an advisory body
5. Share of participant actor types represented in the leadership of the initiative – excluded if the initiative does not disclose participants or leaders
6. Share of the countries of implementation represented in the participants of the initiative – excluded if the initiative does not disclose participants or countries of implementation
7. Share of the regions of implementation represented in the leaders of the initiative – excluded if the initiative does not disclose leaders or countries of implementation
8. Share of countries of participation represented in the countries of the leaders – excluded if the initiative does not disclose leaders or participants

### 3. Capacity index

To approximate the capacity that cooperative climate initiatives possess to carry out their functions, we developed a capacity index. The index aims to capture various aspects of organizational, financial, and human resources that contribute to effective operation. The index is calculated by taking an equally-weighted average of several indicators, each ranging from 0 to 1.

The first two indicators represent the core organizational infrastructure of initiatives. The first indicator is a binary variable capturing whether the initiative has dedicated staff and/or a secretariat. The second indicator is also binary and represents the presence of an executive body, which provides strategic oversight and decision-making capacity.

The third indicator captures the financial resources available to the initiative through the presence of funders. This binary variable reflects whether the initiative has a dedicated source of financial support, which is essential for sustaining operations and implementing plans.

We include two indicators related to transparency and governance. One is a binary variable representing whether the initiative publishes its organizational governance structure, which clarifies roles and responsibilities and supports efficient operation. The other captures initiative size by taking the natural logarithm of the number of participants and rescaling it from 0 to 1. This reflects the assumption that larger initiatives have greater access to resources and expertise, but that the marginal benefit of each additional participant declines as membership grows.

The sixth indicator, leadership intensity, captures the relative concentration of leadership roles within an initiative. This is calculated by adjusting for the number of participants and scaling to reflect diminishing returns at higher values. This recognizes that while strong leadership increases capacity, there are diminishing returns to additional leadership as the number of leaders and participants grows.

In summary, the following indicators comprise the capacity index:

1. Presence of dedicated staff and/or secretariat (1 – yes; 0 – no)
2. Presence of an executive body (1 – yes; 0 – no)
3. Presence of funders (1 – yes; 0 – no)
4. Publication of organizational governance structure (1 – yes; 0 – no)
5. Number of participants (log, normalized)
6. Leadership intensity (log, normalized)

# 4. Output effectiveness index

We use the Function-Output Fit (FOF) to determine initiative's output performance.

- Initiatives have **functions** or activities: how they describe what they do (e.g., *knowledge dissemination, project implementation*)
- Initiatives have annual **outputs**: what they produce (e.g., *publishing reports, holding events*)
- FOF is the degree to which an initiative produces relevant **outputs** to fit its **functions** on an annual basis
- FOF can be understood as "the **likelihood** that an initiative will meet its social and environmental goals"
- FOF is a range of 0-1; a value of 0.5 or higher represents a medium-high or high **likelihood**

A '1' or a 'full function-output-fit' does not ensure desired changes or problem-solving, rather output performance measured by FOF should be interpreted as a precondition for achieving other forms of effectiveness, including environmental impacts. Conversely, the absence of any fitting outputs precludes any attributable and desired effects. The table below gives an approximate interpretation of FOF scores.

## The Methodology

FOF indicates whether and to which extent a climate initiative's declared function(s) matches with fitting outputs, using data on functions and outputs (see sections 1, 2, 3). FOF has previously been applied to 'Partnerships for Sustainable Development' and to smaller sets of climate initiatives. However in the CoAct Database, function and output data categories have been adapted to better reflect the characteristics of the current set of climate actions, as well as to allow for time-series data on output performance.

To generate FOF, every function is linked to outputs that are considered relevant to it (see section 3). The FOF is calculated by dividing the number of functions for which an initiative has produced relevant outputs by the total number of functions that are relevant to the initiative, resulting in a score between 0-1, where 0 indicates that an initiative has not produced relevant outputs for any of its relevant functions, and 1 indicates the production of relevant outputs for every relevant function.

## Interpretation of FOF values

A '1' or a 'full function-output-fit' does not ensure desired changes or problem-solving, rather output performance measured by FOF should be interpreted as a precondition for achieving other forms of effectiveness, including environmental impacts. Conversely, the absence of any fitting outputs precludes any attributable and desired effects. The table below gives an approximate interpretation of FOF scores.

Score category	FOF score range	Interpretation
Low	0.00 - 0.25	The initiative remains largely a paper promise to take action. It has very few or no outputs that correspond with its commitment(s).

<b>Medium</b>	Low 0.26 - 0.50	The initiative has taken the first steps towards implementing its commitment(s). Outputs are produced, even when they are not yet enough to fulfil every function relevant to the initiative's commitment(s).
<b>Medium-high</b>	0.51 - 0.75	The initiative is clearly implementing its commitment(s) to improve social and/or environmental indicators. Outputs are relevant to some of the functions that the initiative wants to address.
<b>High</b>	0.76 - 1.00	The initiative produces relevant outputs for all or a large majority of its functions. The initiative meets minimal criteria of output performance, and is in a comparatively better position to generate the social and environmental impacts it aims at.

## 1. Functions of initiatives

<b>Function</b>	<b>Description</b>
Knowledge production	Production of knowledge, information, innovation (scientific or applied)
Knowledge dissemination	Dissemination of knowledge, including dissemination of 'good practices'
Technical implementation & 'on the ground' action	Implementation of previously existing technologies, (mitigation and/or adaptation) plans and policies, including pilot and demonstration projects, building infrastructure. Including: local pilot projects, new installations and physical infrastructure.
Institutional capacity building	Building new social institutions (with or without legal status, for instance new partnerships) or expanding existing support organizations. Including the formation of new partnerships, organizations and networks.
Norm & standard setting	Setting up new norms or standards or spreading the use of such new norms, including the certification of products. Excluding internal (organizational) norm setting and policies (ruling out CSR)
Campaigning	Campaigns, including raising public awareness on a given topic, and education of the public at large
Lobbying	Lobbying, restricted to pressure applied on governmental actors from non-governmental ones
Participatory management/Increasing participation	Involvement of stakeholders in policy programmes / engaging more local communities and other partners in an initiative
Training	Training of employees, other social actors, or students (including school training if new curriculum is introduced with a specific content related to climate change and/or sustainable development)
Funding	Providing funds and/or financial services for climate related projects, or raising funds
Product development	Developing new or renewed climate-friendly commercial products and services. Excluding financial services
Policy planning	Facilitating policy planning at national or subnational levels (e.g. with the development of policy tools and instruments),

including the production of large policy plans, development or planning of policy instruments

## 2. Outputs of initiatives

<b>Output</b>	<b>Description</b>
publication - research	any publication by the initiative (not by individual partners) documenting academic research, data-gathering for implementation, policy and action research
publication - advocacy	any publication by the initiative (not by individual partners) arguing in favor of the partnership cause with a wider audience than policy makers (public); including campaign material, newsletters, petitions, and promotion materials (such as posters, leaflets, and brochures)
publication - standards	any publication by the initiative (not by individual partners) setting out policy and/or procedural standards (excluding internal operating procedures) for application to climate or sustainable development issues
publication - education	any publication by the initiative (not by individual partners) aimed at training, including best practice manuals and instruction materials
publication - policy	any publication by the initiative (not by individual partners) arguing for specific policies (whether regional, national or transnational) with public policy makers to regulate and or manage climate (and sustainable development) issues.
publication - emissions	reports any publication by the initiative (not by individual partners) indicating emissions reductions as a result of an initiative's activities
publication - reports	any publication by the initiative (not by individual partners) pertaining transparency and accountability towards its partners, stakeholders and wider audiences (such as annual reports, and [self-] evaluations).
data aggregator	databases and systematically organized and retrievable information, including significant changes to existing databases
social media	active and operational websites (including subdomains), and social media accounts
event organization: science-to-science	science-to-science events (co-)organized by the initiative
event participation: science-to-science	participation by the initiative in science-to-science events
event participation: science-policy	participation by the initiative in science policy interface events
event participation: policy-to-policy	participation by the initiative in policy to policy exchange events
event participation: popular	participation by the initiative in popular (general audience) events
tools and instruments	new or enhanced public policy tools and instruments
funding: raised	funding raised for new and existing projects relating to climate action
funding: provided	funding distributed for new and existing projects relating to climate action
event organization: science-policy	science policy interface events (co-) organized by the initiative

event organization: policy-policy	policy-policy exchange events (co-) organized by the initiative
event organization: popular	popular events (co-) organized by the initiative
Infrastructure	construction or improvement of new and existing physical facilities as well as the application
institutions: setup	organizations, institutions and new partnerships and initiatives, (partly) brokered or set up by the initiative (excluding the initiative itself)
Institutions: partners	new partners involved in the initiative and/or in public policy processes
commercial products and services: new	any marketable or marketed new or enhanced products and services with benefits from a climate and/or sustainable development perspective, excluding consultancy services
commercial products and services: advice	provision of professional advice relating to climate (and sustainable development)
other	other types of outputs that do not belong to any of the above output categories

### 3. Relevant outputs by function category

<b>Function</b>	<b>Fitting Output</b>
knowledge production	publication: research; data aggregator; event organization: science-to-science; event participation: science-to-science
knowledge dissemination	publication: education; data aggregator; event organization: science-to-science; event organization: science-to-policy; social media; event organization: policy-to-policy; event organization: popular; event participation: science-to-policy; event participation: popular;
technical implementation & 'on the ground' action	Infrastructure; publication: emissions report
institutional capacity building	Institutions: set up; tools and instruments; event organization: policy-to-policy; event participation: policy-to-policy
norm & standard setting	publication: Standards
campaigning	publication: advocacy; event organization: popular; event participation: popular; social media
lobbying	publication: policy; commercial products and services: advice; event organization: policy-to-policy; event participation: policy-to-policy
participatory management/ increasing participation	institutions: partner; publication: report; event organization: popular
training	publication: education; event organization: popular
funding	funding: raised; funding: provided
product development	Commercial products and services: new

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policy planning

publication: policy-policy; event organization: science-to-policy;  
event organization: policy-to-policy; event participation: science-to-  
policy; event participation: policy-to-policy; tools and instruments

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