



Climate Governance Commission

Knowledge Sharing and Learning through a Global Climate Policy Clearinghouse: Options and Opportunities

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Executive Summary

Lengthy negotiations within the United Nations Framework Convention on Climate Change (UNFCCC) culminated with the adoption of the landmark Paris Agreement in 2015, which established norms and articulated the urgency of taking strong global action on climate change of unprecedented scale. Reinforced by the signals coming from science, namely from the Intergovernmental Panel on Climate Change (IPCC), this emphasis on urgent action means a major shift in focus within the UNFCCC; from negotiations to implementation, where a critical role is attached to the **key “vital policies”** or **“exponential policies”** that need to be implemented swiftly, with skill, at a global scale, and at all levels of governance.

The progress in the systematic implementation of climate policies so far has been slow, as is highlighted by ever growing GHG emissions and their concentration in the atmosphere. One of the reasons is that current, largely fragmented and decentralised global climate governance has been developing following a “bottom up” approach. This paper aims to identify one possible solution – a Global Climate Policy Clearinghouse – to overcome, at least in part, such fragmentation, and its impact on the ability of countries and other stakeholders to implement the “vital policies” necessary to realize ambitious climate action. Such a Clearinghouse aims to provide a more coherent and consistent approach to one of the functions of global climate governance, namely acquiring knowledge and sharing learnings on sound and effective implementation of climate policy, which still happens primarily at the national level.

The paper explores opportunities, challenges and options for a Global Climate Policy Clearinghouse on climate change policies and actions together with relevant means of implementation that together would represent a “one-stop-shop” for high quality information, and a platform for engagement of international and national stakeholders and communities engaged in climate policy implementation. It can help to replicate, adapt and implement key climate legislation and other policy innovations that have been proven to be effective in certain jurisdictions, creating opportunities for exponential diffusion of policy innovations and paving the way for the next generation of emerging policy approaches.

Based on an overview of several existing high-quality but scattered initiatives, data, information, and knowledge sources, the paper shows how building on and linking them, and how using the power of artificial intelligence, machine learning and interdisciplinary collaboration of policy experts, data scientists, visual designers, and interactive programmers, the Clearinghouse could provide an intelligent open-access platform that is powered by cutting edge data analysis. It could become a premier tool and a single, authoritative entry point for sharing knowledge and learning about climate policy implementation by governments and other stakeholders that informs crucial and time-sensitive policy choices and enables next generation data-driven policy making. Several essential questions are formulated in the paper, which need to be addressed in-depth before any decision can be taken regarding design and implementation of the Clearinghouse.

“A more systematic sharing of policies across the globe can address the problem of countries failing to learn from others. Existing climate policy databases could be grown into intelligent open-access platforms, with automated collection of policies and dynamic identification and surfacing of top practices in different areas, driven by machine learning.”

- Exponential Roadmap. Scaling 36 Solutions to Halve Emissions by 2030.¹



1. Introduction and Rationale

Lengthy negotiations within the United Nations Framework Convention on Climate Change (UNFCCC) culminated with the adoption of the landmark Paris Agreement in 2015, which established norms and articulated the urgency of taking strong global action on climate change.² The urgency of taking such action is further reinforced by the Intergovernmental Panel on Climate Change (IPCC), which established that the current decade is decisive for reversing emissions trends and maintaining a fair chance of keeping temperature increase to well below 2 degrees Celsius and towards 1.5 degrees Celsius, in line with the goals enshrined in the Paris Agreement.³

In sum, this emphasis on urgent action means a major shift in focus within the UNFCCC, from negotiations to implementation, with a view to mobilise for the achievement of the global goals established under the Paris Agreement. Critical for implementation are key “vital policies” – including those which might be labelled “exponential policies” – in service of the required levels of climate action, that need to be implemented swiftly, with skill, at a global scale, and at various levels of governance (e.g., local, national, regional and international).⁴

In contrast to the focused and inclusive negotiations that took place under the UNFCCC process, broader global governance on climate change that might support the practical implementation of the Paris Agreement goals, has been developing in a “bottom-up” fashion in the last three decades and remains largely fragmented.⁵ Implementation of obligations under the Agreement generally remains on the shoulders of individual states, include loose coalitions of states or multi-stakeholder alliances and involves a plethora of other actors and institutions that are not necessarily connected.

Such fragmentation, together with numerous overlaps and gaps among current initiatives,⁶ do not reliably ensure strong climate action at the international and national levels, and by all stakeholders. However, such systematic engagement at all levels of governance, including by all stakeholders, is fundamental to ensuring the necessary strong climate action during the current decisive decade for climate action.⁷

This paper aims to identify one possible solution – a **Global Climate Policy Clearinghouse** – to overcome, at least in part, such fragmentation in the global governance of climate change, and its impact on the ability of countries and other stakeholders to implement the “vital policies” necessary to realize ambitious climate action. The proposals sketched in this paper are based on a review of relevant literature and interviews with experts on climate policy, and related databases and tools.⁸



2. The Need for a Global Climate Policy Clearinghouse and Objectives

So far, progress in the systematic implementation of climate policies has been slow, as is manifested by growing GHG emissions and their concentration in the atmosphere. This is despite the growing certainty within climate science and the alarming messages from the recent IPCC reports that there is little time left to bend the emissions curve, and to proceed towards a safe climate future.⁹ So far, the main reason for the failure of truly coming to grips with the climate challenge and of bending the emissions curve has been the lack of political will to actually implement climate policies, due, in particular, to power asymmetries, vested interests and short-termism in politics. To address these obstacles, Stoddart et al. argue that “delivering on the commitments enshrined in the Paris Agreement now requires an urgent and unprecedented transformation away from today’s carbon- and energy-intensive development paradigm.”¹⁰ These findings were supported by exploring reasons for continuous emissions growth through “nine thematic lenses – covering issues of climate governance, the fossil fuel industry, geopolitics, economics, mitigation modelling, energy systems, inequity, lifestyles, and social imaginaries.”¹¹

There are, however, unequivocal and promising signs of change and growing political will after the United States re-joined the Paris Agreement in 2020, and considering the new political momentum now building towards COP26 and beyond. A main current question is whether governments and other stakeholders have sufficient knowledge and understanding to proceed with rigorous climate policies and global governance in place, to ensure effective implementation?

Acquiring knowledge and sharing learnings on sound and effective implementation of climate policy – which still happens primarily at the national level – should be ensured to be among the key functions of current decentralized global governance. Other (related) key functions might include guiding and signalling, setting rules and standards, transparency, and accountability.¹² Such implementation should be enabled by enhanced means of international support for policy design and application, and linked to support for technology transfer, capacity building, and climate finance, which represent additional functions of global governance.¹³

While it might be overly optimistic to expect changes in the near future in relation to dominant decentralised approaches to the global governance of climate change, it might be feasible for the international community to move quickly in the direction of a more coherent and well-coordinated approach to at least one of the functions of the current global climate governance; namely, acquiring knowledge and sharing learning on the sound and effective implementation of climate policy in a systematic way. As the IPCC has shown in its reports, there is a good understanding that solutions for addressing GHG emissions and their removal are available and, in many cases, they are cost effective.¹⁴

However, “translating this understanding into concrete decisions is happening way too slowly.”¹⁵ Acquiring knowledge and learning, when done in a purposeful and systematic fashion, has the potential to accelerate policy diffusion and to disseminate information on such solutions and best practices at a global scale.

Indeed, numerous publications, databases, clearinghouses, hubs and other similar tools already exist for sharing knowledge and information on climate



policies among governments and other stakeholders. However, information on policies that are actually implemented is scattered and there are overlaps, inconsistencies, and gaps that make it difficult for the stakeholders engaged in climate change policy implementation to capitalise on the approximately three decades of experience with policy implementation, to, for example: identify leading, successful policies or employing novel approaches – “exponential policies” in particular;¹⁶ find relevant information; adapt to their national contexts; and engage with other stakeholders in the quest to accelerate decarbonization.

One of the main knowledge/analysis gaps that exists is in relation to policies that have actually been implemented on the ground, how they have worked, whether and how their effect on emission levels have been measured and quantified, and what the lessons are for other jurisdictions that can implement similar policies. As Joanna Depledge noted in the interview conducted as part of this research: “I know that the IPCC AR6 Working Group III is struggling to find evidence of such policies and their impact, despite the knowledge that they do exist. For example, India distributing 45 million low energy lightbulbs under the CDM [Clean Development Mechanism] – this was a large-scale, highly successful programme that must have made a dent in India’s emissions. How was it carried out? What would be the lessons for other large emerging economies wanting to do something similar?”¹⁷

Altogether, this makes a strong case to explore opportunities, challenges and options for a Global Climate Policy Clearinghouse on climate change policies and actions. Furthermore, it highlights the need for relevant means of implementation of such a facility that would represent a “one-stop-shop” for high quality information and a platform for engagement of the international and national stakeholders and communities that work on – or should work on – climate policy implementation.

The main objective of such a clearinghouse could be to provide a platform for information sharing, learning from the implementation of climate policies, actions, practices and approaches, and to be a means of implementation and gaining insights into relevant new research, data, and information. The ultimate goal could be to enable accelerated expansion of the scale and scope of climate policies and actions, globally, by governments and all relevant stakeholders, with a particular focus on policies that bring transformational changes towards economies with net zero emissions and carbon neutrality.

Given recent advances in climate policy implementation, the approach taken in the design of a Clearinghouse could be to provide lessons from climate policy implementation in developed countries, given their decades of experience, and to make a concerted attempt to elicit information on these policies from the Global South, that can capture increasing experience with climate policies in countries such as South Africa, Kenya, Chile, and elsewhere. This can make the Clearinghouse a truly valuable platform for governments and other stakeholders to shape their climate policies and action pathways, and for the international community to get a clear understanding of the challenges and opportunities of decisions that may emanate from UNFCCC processes, such as from the Global Stocktake under the Paris Agreement.¹⁸



3. Overview of Selected Existing Climate Policy Clearinghouses and Databases

The design of a Global Climate Policy Clearinghouse does not need to start from scratch and should happen in the context of the ongoing digital and environmental transformation. Such design should take into account possible synergies with progressive and dynamic multi-stakeholder hubs like Race to Zero,¹⁹ Climate Champions economy,²⁰ industry sectoral work, and other identifiable action and practice-focused models, avoiding duplication of effort and striving to fill in the gaps.

Summaries, descriptions and links to some of the existing databases and clearinghouses that may form a part of, and/or give ideas on the features of the Global Climate Clearinghouse are provided in [the Annex](#).

These examples range from rather simple static searchable databases – with lists of climate policies and action and their brief description – to more advanced clearinghouses that provide, in addition, platforms for tracking data and information, collecting and evaluating various policy tools, and for interactive exchanges and engagement with the target audience. They also range from databases and tools created and maintained by international organisations, such as the UNFCCC, OECD, and IEA/IRENA, to those created by academic institutions and research NGOs, such as the LSE and the New Climate Institute, and national or subnational governments, such as the Climate Change Clearinghouse by the US Department of Transportation.



4. Opportunities, Challenges and Options for a Global Climate Policy Clearinghouse

4.1 Opportunities

Access to quality information through knowledge-sharing and learning can greatly facilitate the uptake and diffusion of new policies and technologies and can enable data-driven policy making and innovation. By harnessing the power of artificial intelligence, machine learning and interdisciplinary collaboration of policy experts, data scientists, visual designers, and interactive programmers, the Clearinghouse could provide an intelligent open-access platform that is powered by cutting edge data analysis, with, for example, “automated collection of policies and dynamic identification and surfacing of top practices in different areas.”²¹

Time is critical for decision-making on climate change policy and a consolidated Clearinghouse could provide timely information by updating relevant content much more frequently than any of the existing databases or clearinghouses, as well as by taking an action/practice-focused approach to ensure successful and real efforts at policy implementation “on the ground.”

Having a Clearinghouse with a diversity of authoritative information sources with proven quality is essential to ensure the credibility of the information, and also a level of detail that allows successful replication and scaling up of the key climate policies around the globe. The Clearinghouse should be neither a duplicate, nor a substitute for UNFCCC climate policy data, most of which are collected as part of the reporting by parties and which they are legally bound to submit. Instead, such data, once included in a database, such as the UNFCCC Climate Policies Database, could be one of the sources to be accessed through the Clearinghouse.²² Conversely, the information from the Clearinghouse can complement the UNFCCC information and could serve as an information source for key processes and mechanisms under the Paris Agreement, such as the Global Stocktake that was agreed as part of the mechanism to increase climate action ambition over time.

4.2 Challenges

One of the main challenges for such a Clearinghouse would be to put in place appropriate governance and decision-making structures for the facility, which are essential to ensure its robustness, credibility and deployment at scale, in order that it could bring about transformational change. The facility should also have a sufficient capacity to monitor, validate and update information. Such governance and decision-making structures have the potential to be a rather complex and expensive undertaking, and would need to address questions as to where to locate such a Clearinghouse within the existing climate governance architecture, for maximal effect, and how to arrange its operation in relation to other relevant international organisations and bodies. Any decision on the Clearinghouse positioning and governance should be geared towards the overall goal of effective, swift and high-quality policy implementation globally at scale, and should ensure proper, optimal balance between the needs of different stakeholders, and their engagement and collaboration.

Most existing databases and clearinghouses do not provide an ex-post



evaluation of climate policies. Such an ex-post evaluation is critical to ensure that policies are delivering as planned and, if not, to take corrective action on policy design and implementation. One prominent example that demonstrates the importance of the ex-post evaluation of policies that are implemented on the ground is the evaluation of the European Emissions Trading Scheme.²³ This evaluation triggered several revisions of the scheme and now it represents a premier policy for ensuring robust and steady emission reductions based on specifics of several groups of installations covered by the scheme.²⁴ However, even when such ex-post evaluations are available currently, they are based on diverse methodologies and hence, results are not directly comparable.

Providing ex-post policy evaluation that is robust, yet practical, and not heavy and bureaucratic, with a view to inform further development of climate policies, could be a complicated and rather demanding task. Any such ex-post evaluation of climate policies faces the challenge of taking into account the great diversity in country conditions/policy environments. The Clearinghouse could provide methods and tools to enable governments and other stakeholders to adapt climate policies provided therein to their national context and tailor them to the national circumstances.

Low visibility and use at scale of information presented/shared is yet another challenge facing tools such as the proposed Clearinghouse. To that end, outreach activities need to be planned early enough and in a systematic way to ensure visibility, deployment, and motivation for engagement in such a facility. Early engagement by governments and other stakeholders, together with showcasing and recognition of successful policies, can stimulate uptake of policies, both in terms of speed and scale of diffusion.

4.3 Options

The options for the approach and design of the Clearinghouse proposal presented here, can be framed around key parameters for the Clearinghouse, such as governance and location, target audience, approach, and content, structure and coverage. For analytical purposes, options are presented in this section in a discrete form around the suggested key parameters, while in reality they are closely interrelated. Concrete proposals are made below based on a high-level appraisal of these options, with particular focus on potential effectiveness and impact.

The choice of the governance form and location of a possible Clearinghouse is directly correlated to the level of ambition of any such tool. The light and low-cost approach would imply a decentralised governance architecture, for example, in the form of a network of focal points of several of the most relevant databases and tools with possible rotating chairpersonship and small-scale technical support, e.g., one policy analyst and an information technology specialist. For this option, location is not of great importance, and to avoid political complications, it might be feasible to locate the facility at a leading scientific or research NGO. Another option is one of strictly centralised governance. The recommended option would be a hybrid one that leans towards centralised governance, yet with some elements of decentralisation that make it more democratic and attractive for participation, while also creating a sense of ownership, and helping to achieve the best balance referred to in [section 4.2](#) of this paper. Regarding location, for such a hybrid design, it might be best to have some of the UN organisations as hosts, with a view to leverage their authority and broad expertise. While the UNFCCC is definitely a clear option, perhaps the option of having the Clearinghouse under the IPCC could have the advantage of being within a less political context.²⁵

Similar to other comparable undertakings, the governance structure could



consist of a Steering/Oversight Committee, including key sponsors and a small Executive Secretariat. It would be desirable to put in place a hybrid structure that combines the features of centralised governance, plus a technical advisory board, including representatives from each of the databases and tools that are included in the Clearinghouse, because of the benefits stemming from each of the elements of the governance structure. Such a hybrid option could be the most appropriate to identify gaps and to enable the analytical community to strengthen its capacity to evaluate and measure the impact of key climate policies/actions, with a view to providing updated, accurate and reliable information.

On the target audience, at the one end of the spectrum is the option of targeting national governments only, as they have a principal role in implementing climate policies, and in particular the key “exponential policies.” For this option, the Clearinghouse would not only provide a “one-stop-shop” access to relevant databases and tools, but would also build over them and fill in major gaps, such as eliciting policies from the Global South as mentioned under [section 3](#), above. At the other end of the spectrum is an option where the target audience is as broad as possible and includes, along with national governments, other stakeholders, such as subnational governments, cities, business and green NGOs. This means a much greater level of complexity, with commensurate levels of effort and resources compared to the first option. The recommended option is therefore the one where the national governments are the primary target audience in view of their role in implementing climate policies. However, the Clearinghouse should have open access to allow for the harnessing of experience and lessons from the other stakeholders, and to ensure that NGOs, academic experts and others hold governments accountable to deliver on what they have promised to do in terms of policies.

With regards to the approach and content, in any case, the Clearinghouse should add value and build over similar existing clearinghouses, databases and tools for sharing knowledge and information on implementation of climate policies and action, and avoid overlap and duplication of effort (see [the Annex](#) to this paper for examples of existing tools). To that end, it could consolidate and connect current initiatives and platforms by providing an entry point to a one-stop-shop of authoritative information that will be harmonised over time in terms of description of policies and their effects, with regular updates. This is a low-cost and pragmatic approach, but perhaps the value added in terms of impact may not be high. Alternatively, the recommended approach is for a Clearinghouse to build on such initiatives and platforms by adding some new features, such as ex-post evaluation and interactive engagement of relevant stakeholders that foster catalytic collaboration and systematic changes.

The two main issues that need to be resolved with regards to the coverage of the Clearinghouse are which sectors to include and which stakeholders/institutions to engage. With regards to sectors, while some key policies, such as carbon pricing or emissions trading, are cross-sectoral, the majority of the key policies target specific sectors and are of interest to the relevant sectors of the government and society, e.g., energy or agriculture. While it might be easier to start with a few of the most important sectors (e.g., energy and agriculture, land use and forestry) it might be prudent to have full sectoral coverage at the outset, even if information for some sectors may not be populated at the beginning of the launch of the Clearinghouse.²⁶ For institutions/stakeholders involved, the choice is between having those that collect, appraise and maintain information on climate policies, or also adding those that provide support to enable implementation of such policies, e.g., Green Climate Fund (GCF) and Global Environmental Facility (GEF) for financial support, and Capacity Building Initiative for Transparency (CBIT)



and Initiative for Climate Action Transparency (ICAT) for capacity building support. A holistic approach to the Clearinghouse would suggest the latter option. This is why, in the initial screening of databases and clearinghouses, we followed such a holistic approach ([see Annex](#)).

In view of the options considered above, the Clearinghouse is expected to have a multidimensional structure. This means that with regards to the description of each policy and its effect, the Clearinghouse would contain further attributes, such as the source of information and sector where it has been applied. It can then be a fixed/ static structure, or dynamic structure that may evolve over time, using some of the principles and artificial intelligence approaches, as information on new policies becomes available, which might not fit the initial structure. The recommended structure is a dynamic one, given that climate change is a new and fast evolving area of policy intervention, in particular with regards to the novel “exponential policies,” and a static structure may not fit the purpose.



5. Overarching Questions

When taking any decisions regarding the design and launch of a possible Clearinghouse, it will be essential to explore, in depth, several high-level questions that are enumerated below. These questions have been addressed by several experts, who were interviewed for this research. Their responses were incorporated in this policy paper. The questions include:

- How can the Clearinghouse capitalise on more than 20 years of experience with climate policy implementation and can it help to overcome the fragmentation, inconsistencies, overlaps, and gaps of the information provided to that end? How can it pave the way to the “next generation”/ emergent policy approaches, such as transformational policies, radical circularity, etc.?
- How can the Clearinghouse add value and build over similar existing clearinghouses, databases and tools for sharing knowledge and information on implementation of climate policies and action and avoid overlaps and duplication of effort?
- Who should be the target audience and what are the trade-offs between a very targeted effort, e.g., the national governments vis-à-vis broader spectrum of government and non-governmental stakeholders? At which stage of the design and implementation of the Global Clearinghouse should the representatives of the targeted audience be engaged? Is it feasible to have as wide a coverage as possible and enable all states and relevant stakeholders to be involved? How should this be done?
- What should the scope and coverage of the Global Climate Policy Clearinghouse be in terms of sectors and institutions involved? Will it cover the institutions with competencies in the key sectoral and cross-cutting policies or will there be a benefit from including institutions that deal with means of implementation, e.g., the GEF and CBIT/ICAT?
- What kind of governance arrangements are necessary, who should oversee the effort and who should participate? Who will be the founding partners, knowledge partners, and outreach partners? Where in the current global governance architecture should such a Clearinghouse be situated? (E.g., a joint program between multiple international bodies, a “hub” connecting existing dynamic initiatives, etc.)
- What kind of institutional infrastructure is needed to monitor, validate and update information, and to engage on an on-going basis with potential users, to ensure that the information collected there reaches the targeted audience and reaches a scale of coverage that makes the clearing house a premier source of comprehensive, accurate, and up-to-date information?
- How can the Global Climate Policy Clearinghouse help identify gaps and enable the analytical community to strengthen its capacity to evaluate and measure the impact of key climate policies/actions with a view to provide updated, accurate and reliable information?



6. Conclusions

Effective climate policies and governance solutions need not always be negotiated and implemented in a “top-down” fashion to have global reach. Key climate legislation and other policy innovations that have been proven to be effective in one jurisdiction can be replicated, adapted and implemented by others, creating opportunities for exponential diffusion of policy innovations and pave the way for the next generation of emerging policy approaches.

To facilitate and speed up such policy diffusion, a possible near-term solution would be setting up a dynamic Global Climate Policy “Hub” or Clearinghouse at the international level.

Building on and linking existing high-quality but scattered initiatives, data, information, and knowledge sources, such a Clearinghouse could become a premier tool and a single, authoritative entry point for sharing knowledge and learning about climate policy implementation by governments and other stakeholders. Such a Clearinghouse mechanism could inform crucial and time-sensitive policy choices and enable next generation data-driven policy making across national jurisdictions, helping to alleviate some of the problems stemming from the current fragmentation of global climate governance.



Annex

Summary (Part 1) and Description (Part 2) of Selected Climate Change Policy Databases and Clearinghouses at the National and International Levels

The Summary and Description of the databases and clearinghouses provided below consists of selected examples and is by no means an exhaustive list. The descriptions of the clearinghouses and databases reproduce, when necessary, with some small amendments, the content of the front pages of the relevant websites, with relevant links provided below. The Summary covers only international climate policy databases and clearinghouses, while the Description that follows covers, in addition, two national and one state level clearinghouse, two initiatives for capacity building and one for climate finance.

Part 1: Summary of Selected Climate Policy Databases and Clearinghouses

Name	Organisation	Substantive Area	Targeted Audience	Short Description
The IEA Policies and Measures Database	IEA	Policies and measures to reduce GHG emissions, improve energy efficiency and support the development and deployment of renewables and other clean energy technologies	National governments and to some extent business and other non-government stakeholders	This unique policy database brings in the same place in a consistent and comparable format data from the IEA/IRENA Renewable Energy Policies and Measures Database, the IEA Energy Efficiency Database, the Addressing Climate Change database, and the Building Energy Efficiency Policies (BEEP) database, along with information on Carbon Capture, Use and Storage (CCUS) and methane abatement policies
OECD Climate Change and Environment Databases	OECD	Primary audience are OECD countries, but access is provided also to non-OECD countries and other stakeholders	OECD Climate Change and environment databases, green recovery and fossil fuel subsidies	The OECD holds an important repository of international data and indicators on the environmental, economic, financial and social dimensions of climate change. The repository supports climate action and OECD policy analyses to help countries design and implement effective policies to achieve net-zero emissions



UNFCCC Nazca /Portal	UNFCCC with data provided by partners: CDP, Carbon Climate Registry, The Climate Group, Global Investor Coalition on Climate Change, UN Global Compact, Global Covenant of Mayors, Climate Bonds Initiative and the UN Environment's Climate Initiatives Platform	Land use, oceans and coastal zones, water, human settlements, transport, energy industry	Governments that submitted NDCs and have at least one non-Party stakeholder (i.e., region, city, company, investor, organization) located or headquartered in that country with a registered climate action (individual action or initiative participation)	Announced initiatives represented at major climate action events and summits that have not yet been reported through one of the portal's data providers. The portal helps provide transparency and accountability for new initiatives and facilitates tracking their progress and impact. The first major step in this regard is the requirement that announcements are registered through one of the portal's data providers within a fixed timeframe. Announcements are highlighted across the website in grey
The UNFCCC Policy Options Database	The UNFCCC with data provided by countries and intergovernmental organisations that are engaged in the technical examination process	Renewable energy, energy efficiency, land use, non-CO2 GHGs, CCSU, transport, value of carbon	Governments and relevant policy makers and NGOs	The policy options cover climate actions undertaken by national governments and communicated to the UNFCCC in the submissions from Parties and observer organizations. These climate actions complement the commitments highlighted in the NAZCA portal, which registers climate action by companies, cities, subnational regions, and investors. Additionally, the policy options complement the work under the Lima-Paris Action Agenda (LAAA) that showcases transformational initiatives, which accelerate ambition by 2020 and beyond
Climate Policy Database of the New Climate Institute	New Climate Institute with support from PBL Netherlands Environmental Assessment Agency and Wageningen University and Research	Energy efficiency, energy services demand-side management, non-energy use, other low-carbon technologies	Governments and non-state stakeholders	The Climate Policy database covers national mitigation-related policies and is updated periodically. Planned policies are excluded from the database, with an exception of energy and emission targets announced as Intended Nationally Determined Contributions (INDCs) for the post-2020 period. The aim is to establish an open, collaborative platform to gather information on climate-related policies, with full geographical and sectoral coverage
SME Climate Hub	Race to Zero initiative, ICC, Exponential Roadmap Initiative and We Mean Business Coalition initiatives and University of Oxford	Tools and resources to specifically address the needs of the SME community	Small and medium enterprises	The SME Climate Hub is a pioneering global initiative that aims to create a tipping point for mainstreaming climate action and building business resilience. It aims to remove the obstacles SMEs face as they take climate action — whether curbing emissions in their own business or getting green solutions to market — and help them unlock valuable incentives



The Green Growth Knowledge Platform	The founding partners are the Global Green Growth Institute (GGGI), Organisation for Economic Co-operation and Development (OECD), United Nations Environment Programme (UNEP), United Nations Industrial Development Organization (UNIDO), and the World Bank	Agriculture, buildings, energy, finance, fishery, forestry, information communication and technology, manufacturing, metals and minerals, tourism, transport, waste and water	Governments and relevant policy makers and advisors, small and medium-sized enterprises (SMEs), and banks, insurance, and investment firms	The platform serves for sharing the latest knowledge, tools and emerging best practices, and engagement by stakeholders in priority economic sectors
Climate Change Laws of the World	The Grantham Research Institute to the London School of Economics in partnership with the Inter-Parliamentary Union and GLOBE International	Climate Laws and policies, and Climate litigation cases	Governments and other stakeholders	The database comprises climate Change Laws of the World and Climate Change Litigation of the World database. The database covers climate and climate-related laws, as well as laws and policies promoting low carbon transitions, which reflect the relevance of climate policy in areas including energy, transport, land use, and climate resilience
Climate Policy Radar	Climate Policy Radar is a not-for-profit, data-led, climate start-up	Climate policy pathways, but the full scope is unclear yet	Governments and other stakeholders	Climate Policy Radar is perhaps the newest among the tools to support evidence-based climate policy making and investment to drive the transition to a low carbon, resilient world. Its main objective is to map and analyse climate policy pathways globally, to support evidence-based policymaking and investment, and enhance data democratisation and accountability to support the transition to a low carbon, resilient world

Part 2: Description of Selected Climate Policy Databases and Clearinghouses

A. THE IEA POLICIES AND MEASURES DATABASE

The IEA's Policies and Measures Database provides access to information on past, existing or planned government policies and measures to reduce greenhouse gas emissions, improve energy efficiency and support the development and deployment of renewables and other clean energy technologies.

This unique policy database brings together data from the IEA/IRENA Renewable Energy Policies and Measures Database, the IEA Energy Efficiency Database, the Addressing Climate Change database, and the Building Energy Efficiency Policies (BEEP) database, along with information on CCUS and methane abatement policies.

This policy information has been collected since 1999 from governments, partner organisations and IEA analysis. Governments have an opportunity to review the policy information periodically.

The main focus is on policies by the national governments. Therefore, information that is collected there is not exhaustive; for example, information on actions taken by provincial or regional governments is not systematically included.²⁷



B. OECD INTERNATIONAL REPOSITORY IN SUPPORT OF CLIMATE ACTION

The OECD holds an important repository of international data and indicators on the environmental, economic, financial and social dimensions of climate change. The repository supports climate action and OECD policy analyses to help countries design and implement effective policies to achieve net-zero emissions.

Information is presented in hundreds of publications and several databases. The most relevant databases include:

- Policy Instruments database.²⁸
- Environmental indicators database.²⁹
- Fossil fuel support database.³⁰
- Policies and actions for green recovery.³¹
- Database on “effective carbon rate.”³²

Targeted audience are the OECD countries, but data and information are available to other countries and stakeholders.

C. UNFCCC CLIMATE POLICY OPTIONS DATABASE

The UNFCCC Climate policy options database captures climate policy options presented during the technical examination process that was launched in 2014. This process explores high-potential mitigation policies, practices and technologies with significant sustainable development co-benefits that could increase the mitigation ambition of pre-2020 climate action.

The technical examination process consists of regular in-session thematic technical expert meetings and focused follow up work to be conducted by Parties, international organizations and partnerships throughout the year. Parties to the Convention resolved to start this process in 2014 and to further accelerate it by 2020 in order to implement scalable best practice policies and bridge the ambition gap.

The policy options represent one of the key outcomes of the technical examination process and highlight replicable and scalable good practices, approaches and technologies with significant mitigation potential, which could be tapped in the period up to 2020 in many countries across the world.

These policy options cover climate actions undertaken by national governments and communicated to the UNFCCC in the submissions from Parties and observer organizations. These climate actions complement the commitments highlighted in the NAZCA portal, which registers climate action by companies, cities, subnational regions, and investors. Additionally, the policy options complement the work under the Lima-Paris Action Agenda (LPAA) that showcases transformational initiatives, which accelerate ambition in 2015 and beyond.³³

D. UNFCCC GLOBAL CLIMATE ACTION: THE NAZCA PORTAL

Non-State Actor Zone for Global Climate Action platform (NAZCA) is an online platform where actors from around the globe - countries, regions, cities, companies, investors and other organizations - can display their commitments to act on climate change.

Launched by UN Climate Change, Peru and France in 2014, the portal was born of the realization that addressing climate change will take ambitious, broad-based action from all segments of society, public and private.

Crucially, it helped build momentum towards the adoption of the Paris Climate Agreement 2015. With the portal’s formal inclusion in the Decision Text of the Agreement, countries welcomed the efforts of all actors to scale-up their climate actions and encouraged them to register these actions via the NAZCA.

The aim is to present a clear, comprehensive view of Global Climate Action,



recognizing actors and inspiring still greater ambition, for the good of current and future generations.

Climate actions, initiatives and associated data registered on the Nazca portal are provided by the UNFCCC data partners: CDP, Carbon Climate Registry, The Climate Group, Global Investor Coalition on Climate Change, UN Global Compact, Global Covenant of Mayors, Climate Bonds Initiative and the UN Environment's Climate Initiatives Platform.³⁴

E. THE CLIMATE POLICY DATABASE OF THE NEW CLIMATE INSTITUTE

The Climate Policy Database, maintained by the New Climate Institute with support from PBL Netherlands Environmental Assessment Agency and Wageningen University and Research, aims to gather information on climate mitigation policies and benchmark these against a policy matrix that represents a comprehensive policy package to mitigate the effects of climate change. The database covers national mitigation-related policies and is updated periodically. Planned policies are excluded from the database, with an exception of energy and emission targets announced as Intended Nationally Determined Contributions (INDCs) for the post-2020 period.

The hosts aim to establish an open, collaborative platform to gather information on climate-related policies, with full geographical and sectoral coverage. Therefore, they welcome comments for continuous improvement and collaboration at: climatepolicydatabase@newclimate.org.

This project is funded by the European Union H2020 project ENGAGE and was, in the previous phase, funded by CD-Links.³⁵

F. THE SME CLIMATE HUB: WHERE SMES COME TO FUTURE PROOF THEIR BUSINESS

The science is clear – we must halve greenhouse gas emissions by 2030 and achieve net zero emissions by no later than 2050 to avoid the worst effects of climate change. By cutting your emissions and providing innovative climate solutions, you will meet the climate expectations of customers, retain market access and win new business. We work with leading partners with the goal to make the path towards a net-zero business simple and beneficial.

The SME Climate Hub for small and medium-sized enterprises (SMEs) provides a one-stop-shop to make a climate commitment and access best-in-class tools and resources. The tools and resources provide support in regards to measuring your emissions, developing your climate strategy, reducing your own emissions and the emissions in your value chain, and exemplifying complementary offset projects.

We also partner with multinational companies, financial institutions and governments to create clear incentives and opportunities for SMEs that commit to halving their emissions before 2030 and achieving net zero before 2050.

The vision of the founding partners of this hub is for a place where small and medium-sized businesses come to curb emissions and gain a competitive edge.³⁶

G. GREEN GROWTH KNOWLEDGE PARTNERSHIP AND PLATFORM

The Green Growth Knowledge Partnership (GGKP) is a global community of policy, business, and finance professionals and organisations committed to engagement and collaboratively generating, managing, and sharing knowledge on the transition to an inclusive green economy.

On knowledge and learning, the GGKP's three knowledge platforms – the Green Policy Platform, Green Industry Platform, and Green Finance Platform – offer quick and easy access to the latest research, case studies, guidance, and tools to empower policy makers and advisors, small and medium-sized enterprises



(SMEs), and banks, insurance, and investment firms to make evidence-based decisions about how to green their operations. Webinars, courses, and academic programmes are also featured on the platforms to facilitate ongoing learning and capacity building for green growth professionals. Users can browse knowledge and learning by 193 countries, 6 regions, and 49 sectors and themes.

The GGKP is committed to sharing knowledge and learning that is relevant for decision-making, evidence-based, reliable, diverse, adaptable, and open.

On engagement, the GGKP facilitates engagement on knowledge and learning through the Green Forum – an online interactive community space for professionals to share and discuss insights in the pursuit of a sustainable economic transition. The Green Forum includes discussions on global topics and the ability for users to create dedicated groups focused on specific themes, initiatives, and projects.

In addition, the GGKP enables its knowledge partners to easily manage and share their knowledge and learning on specific initiatives via customisable +Platforms, as well as generates and applies knowledge through its Expert Working Groups.³⁷

H. CLIMATE CHANGE LAWS OF THE WORLD

The Grantham Research Institute on Climate Change in the World has developed the Climate Change Laws of the World and Climate Change Litigation of the World database. This database was built on more than a decade of data collection by the Grantham Research Institute at LSE and the Sabin Center at Columbia Law School.

Climate Change Laws of the World covers national-level climate change legislation and policies globally. The database covers climate and climate-related laws, as well as laws and policies promoting low carbon transitions, which reflects the relevance of climate policy in areas including energy, transport, land use, and climate resilience.

Climate Change Litigation of the World features climate litigation cases from over 30 countries. These cases raise issues of law or fact regarding the science of climate change and/or climate change mitigation and adaptation policies or efforts before an administrative, judicial or other investigatory body.

This database originates from a collaboration between the Grantham Research Institute and GLOBE International on a series of Climate Legislation Studies. The Inter-Parliamentary Union and GLOBE International are our highly valued partners on this project.³⁸

I. CLIMATE POLICY RADAR

Climate Policy Radar CIC is a not-for-profit, data-led, climate start-up. This is perhaps the newest among the tools to support evidence-based climate policy making and investment to drive the transition to a low carbon, resilient world. Its main objective is to map and analyse climate policy pathways globally, to support evidence-based policymaking and investment, and enhance data democratisation and accountability to support the transition to a low carbon, resilient world.

The vision of the Climate Policy Radar founders is to radically scale collection and analysis of climate policy data, equipping decision makers with rich, high quality, insight-enabling data on the climate policy landscape. It will develop an evidence base and bring to light knowledge that is painfully missing from our landscape: the policy pathways that will lead to a net-zero, resilient and just world.

Operating at the intersection of technology, AI, policy, social justice and high impact, the Climate Policy Radar is part of the movement to harness digital technologies and AI for the planet.³⁹



J. CLIMATE CHANGE CLEARINGHOUSE BY THE US DEPARTMENT OF TRANSPORTATION

The Transportation and Climate Change Clearinghouse aims to serve as a one-stop source of information for the transportation community on transportation and climate change issues. It is intended for use by the transportation community – from all levels of government, to private industry and non-profits, and provides a forum to share information, learn about new research, and understand practices and approaches that are being used to address the linkages between transportation and climate change.

The Transportation and Climate Change Clearinghouse was funded jointly through the National Cooperative Highway Research Program and the U.S. Department of Transportation's **Center for Climate Change and Environmental Forecasting**. The U.S. Department of Transportation's Research and Innovative Technology Administration maintains this website.⁴⁰

K. THE AMERICAN COUNCIL FOR AN ENERGY EFFICIENT ECONOMY (ACEEE) OFFERS ENERGY-EFFICIENCY POLICY GUIDANCE TO STATES.

The American Council for Energy Efficient Economy (ACEEE) provides Guidance on Measuring the Economic Development Benefits of Energy Efficiency to enable a number of jurisdictions in accounting for the economic development and job-creation benefits of energy efficiency and other clean energy investments. It also provides a library of resources, the Toolkit, to arm stakeholders with valuable, up-to-date information to facilitate effective and successful program and policy development and deployment.

The Toolkit includes a series of technical resources on a variety of energy efficiency policy and programme topics. Each resource provides readers with background information, links for more information and additional technical assistance documents.

The Toolkit continues to evolve as the ACEEE identifies additional needs of states, and users may contact the ACEEE in case they do not find the right tool. The ACEEE also maintains toolkits on local energy efficiency policy and rural energy efficiency.⁴¹

L. THE GREEN CLIMATE FUND

The Green Climate Fund (GCF) – a critical element of the historic Paris Agreement – is the world's largest climate fund, mandated to support developing countries raise and realize their Nationally Determined Contributions (NDC) and ambitions toward low-emissions, climate-resilient pathways.

The GCF takes a transformative approach by investing across four transitions – built environment; energy & industry; human security, livelihoods and wellbeing; and land-use, forests and ecosystems – and employing a four-pronged approach:

- Transformational planning and programming: by promoting integrated strategies, planning and policymaking to maximise the co-benefits between mitigation, adaptation and sustainable development.
- Catalysing climate innovation: by investing in new technologies, business models, and practices to establish a proof of concept.
- De-risking investment to mobilize finance at scale: by using scarce public resources to improve the risk-reward profile of low emission climate resilient investment and crowd-in private finance, notably for adaptation, nature-based solutions, least developed countries (LDCs) and small island developing states (SIDS).
- Mainstreaming climate risks and opportunities into investment decision-making to align finance with sustainable development: by promoting



- methodologies, standards and practices that foster new norms and values.
- Climate change offers businesses an unprecedented chance to capitalise on new growth and investment opportunities that can protect the planet as well. GCF employs part of its funds to help mobilise financial flows from the private sector to compelling and profitable climate-smart investment opportunities.

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M. CBIT AND ICAT

The Paris Agreement on Climate Change rests upon a foundation of Nationally Determined Contributions (NDCs) originally submitted by Parties to the Convention in 2015, and formally adopted on November 4, 2016 as the Agreement entered into force. Each NDC represents the national plans and pledges individual countries have made to meet the universal goal of keeping global temperature increases to well below 2 degrees Celsius above pre-industrial levels (while aiming for 1.5 degrees Celsius) to avoid the worst impacts of climate change.

Consequently, a key result of the Paris Agreement negotiations was the establishment of an enhanced transparency framework (ETF) for tracking and reporting the progress of existing and future country commitments, with built-in flexibility included for non-Annex I Parties.

Two initiatives have been launched to support governments to fulfil their obligations under the Paris Agreement with regards to the ETF.

The first is the Capacity-building Initiative for Transparency (CBIT) that was created at the request of Parties to help strengthen the institutional and technical capacities of non-Annex I countries to meet the enhanced transparency requirements defined in Article 13 of the Paris Agreement.

The CBIT has three aims:

- Strengthen national institutions for transparency-related activities in line with national priorities;
- Provide relevant tools, training, and assistance for meeting the provisions stipulated in Article 13 of the Agreement;
- Assist in the improvement of transparency over time.

The CBIT is one of the ways in which the Global Environmental Facility (GEF) is supporting the successful implementation of the Paris Agreement and its key pillars of transparency and accountability. For example, CBIT activities dovetail with the GEF's critical provision of support to non-Annex I Parties to fulfil their reporting obligations under the United Nations Framework Convention on Climate Change (UNFCCC), including National Communications and Biennial Update Reports.

The Paris Agreement requested the GEF to support the establishment of the CBIT through voluntary contributions during GEF-6 and future replenishment cycles. Following COP 21, the GEF established the CBIT within one year due to high levels of donor support and successful engagement with countries and other key stakeholders.

The CBIT is an integral part of the GEF's climate change support in GEF-7 (2018-2022) and projects are being supported from the GEF Trust Fund.

As an operating entity of the UNFCCC's financial mechanism, the GEF will continue providing resources to developing countries in line with their NDCs



under the Paris Agreement through the GEF Trust Fund, as well as the Least Developed Countries Fund (LDCF), and the Special Climate Change Fund (SCCF).⁴³

The second initiative is the Initiative for Climate Action Transparency (ICAT).

The ICAT integrates guidance, capacity building and knowledge sharing to engage countries in the use of a common framework to assess the impacts of their policies and actions and report progress, fostering greater transparency, effectiveness and ambition. The Initiative will improve the availability and quality of data and enable countries to promote efficient, cost-effective policies. The Initiative will also provide a platform for countries to share lessons learned and build mutual confidence in their climate actions. The main areas of work are development of the assessment guides and capacity-building on the ground.

ICAT Series of Assessment Guides have been developed in collaboration with technical experts from around the world, a series of assessment guides for countries to transparently measure and assess the impacts of climate policies and actions. This includes methodologies for measuring the effects of policies and actions on reducing greenhouse gas emissions, adapting to climate change, responding to sustainable development needs and driving transformational change.

The methodologies will accommodate different needs and national circumstances to ensure it is widely applicable and broadly supported. It builds on existing methods and approaches, such as the Policy and Action Standard (WRI/Greenhouse Gas Protocol) and other Related Guides.

Capacity Building is the other area of work by the ICAT that aims to strengthen developing countries capacity to assess climate actions (in the context of their NDCs) and report their progress in line with the Paris Agreement, based on individual country needs. ICAT works closely with governments, along with public agencies, higher education institutions and civil society bodies, to strengthen institutional arrangements, processes and procedures. The Initiative supports in-country capacity development programmes through training modules on measurement, reporting and verification (MRV) of policies and actions, and knowledge sharing of good practice and lessons learned.

ICAT was created as an unincorporated multi-stakeholder partnership by the Children's Investment Fund Foundation (CIFF); ClimateWorks Foundation (CWF); the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU); and the Italian Ministry for Ecological Transition (MiTE).⁴⁴



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- 2 Kinley, R. et al. 2020.
- 3 IPCC. 2018.
- 4 Burenius, L. 2021; Global Challenges Foundation. 2021.
- 5 Leiva Roesch, J. and Almeida Nobre, J. 2021.; Van Asselt, H. 2014.
- 6 Leiva Roesch, J. and Almeida Nobre, J. 2021.
- 7 Academic debate on fragmentation vis-à-vis polycentric global governance on climate change is reflected in various publications, for example, see: Zelli, F. et al. 2020.
- 8 Experts that engaged in the interviews and/or provided written responses to interview questions, include Prof. Peter Haas, University of Massachusetts (12.08.2021); Dr. Henning Wuester, Director ICAT (13.08.2021); Dr. Joanna Depledge, Cambridge Centre for Environment, Energy and Natural Resource Governance (CEENRG), (12.08.2021); Dr. Xuehong Wang, Manager Transparency at the UNFCCC (16.08.2021); Dr. Ruta Bubniene, Team lead in Transparency Division at the UNFCCC (16.08.2021); Wolfgang Obergassel, Senior Researcher and Co-Head Global Climate Governance Research Unit and Dr. Lukas Hermwille, Senior Researcher, Wuppertal Institute for Climate, Environment and Energy (17.08.2021). The author of this paper wishes to extend gratitude for the very useful feedback and creative suggestions made by these experts.
- 9 IPCC. 2018.
- 10 Stoddard, I. et al. 2021.
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- 13 Ibid.
- 14 IPCC. 2018.
- 15 Landström, M et al. 2019.
- 16 Global Challenges Foundation. 2021. 8.
- 17 Dr. Joanna Depledge, Cambridge Centre for Environment, Energy and Natural Resource Governance (CEENRG) (12.08.2021). For more information see footnote 6. Shortly before the publication of this paper, a research paper was published, which explores energy efficiency in household appliances, light-emitting-diode lamps and energy-intensive industries – and how in doing so, both drew upon existing capacity within and outside the country, and also built new capacity, to achieve significant energy savings and reduce CO2 emissions. See: Malhotra, A. et al. 2021.
- 18 The Global Stocktake (GST) provides a periodic process to assess collective progress towards achieving the purpose of the Paris Agreement and its long-term goals. The process is to consider mitigation, adaptation, means of implementation and support, in light of equity and the best available science. The outcome is to inform Parties in updating and enhancing their subsequent nationally determined contributions (NDCs) and enhancing international cooperation for climate action.
- 19 See: Race To Zero UNFCCC. 2021. *Race To Zero*. <https://racetozero.unfccc.int/> (Accessed 23 September 2021).
- 20 See: UNFCCC. 2021. *Marrakech Partnership for Global Climate Action*. <https://unfccc.int/climate-action/marrakech-partnership-for-global-climate-action> (Accessed 30 September 2021).
- 21 Falk, J. et al. 2020; A recent example by M. Callaghan shows how to harness the power of artificial intelligence to survey and draw from the growing literature as part of



global environmental assessments. By using the language model BERT, it was possible to identify and classify approximately 100,000 studies on observed climate impacts, to produce a comprehensive machine-learning-assisted evidence map. See: Callaghan, M. et al. 2021.

22 With regards to the relationship with the UNFCCC, it is essential to note that developed countries have reported information on their climate policies since 1995. Following the Cancun and Paris Agreements, developing countries are also required to report such information. Reported information is then subject to technical review that contributes to enhancing the transparency, accuracy, completeness, comparability and consistency of the reported information. Still, reported information is based on one source only, and it is not necessarily clear and complete, as many requirements are non-mandatory; for example, effects of measures (ex-post) are rarely reported, and even when such effects are reported, they are not comparable as they were produced using different methodologies. For further information, see: UNFCCC. 2021c. *Reporting and Review under the Paris Agreement*. <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-paris-agreement> (Accessed 12 October 2021).

23 The EU Emissions Trading Scheme (ETS) operates in 31 countries and covers 11.000 installations, which account for about 45% of European emissions. The ETS is designed to reduce covered emissions in a cost-effective way by providing a price signal for carbon to the market. The scheme was launched in 2005 with a pilot phase that was designed to provide “learning by doing.” The current phase IV of the EU ETS covers 2020 to 2030 and major reform of the scheme is envisaged for 2026. For further information, see: European Commission. 2021. *EU Emissions Trading System (EU ETS)*. https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets_en (Accessed 12 October 2021).

24 Fallmann, H. et al. 2015.; Laing, T. et al. 2013.

25 The IPCC already has some specialised units and databases, e.g., the Task Force on GHG Inventory that maintains an emission factors database. The IPCC also maintains emissions scenarios and climate scenarios databases that are of open access and serve all interested scientists and policy-makers around the globe. For further information, see: IPCC. 2021. *IPCC Data*. <https://www.ipcc.ch/data/> (Accessed 12 October 2021).

26 Different classification by sector is used in different institutions/databases. For example, the UNFCCC database uses sectoral classification that is in consistent with that from the IPCC Guidelines for National GHG emission inventories: energy (renewable energy, energy efficiency, transport and carbon capture), industrial processes (non-CO₂ gases), agriculture, land use change and forestry (land use), and waste. For further details, see: UNFCCC. 2021b. *Policy Options: 517*. <https://unfccc.int/resource/climateaction2020/tep/policy-options/index.html> (Accessed 30 September 2021).

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