



**FUTURE OF
CLIMATE
COOPERATION**

A VISION FOR THE ECOSYSTEM OF GLOBAL CLIMATE ACTION

ACCELERATING ACTION FOR THE DECISIVE
DECADE AND BEYOND

OCTOBER 2021



FUTURE OF CLIMATE COOPERATION

This document reflects a common vision for the ‘ecosystem’ of global climate action, through the lens of what it will take to transform every sector of the global economy in a timeframe that meets the highest ambition of the Paris Agreement in delivering a climate resilient, net zero and nature positive future. This vision articulates what the necessary level of cooperation and coordination within the ecosystem entails, and how the multitude of actors that comprise it can work together to realize its full potential in this decisive decade and beyond. This document reflects the innovations that have already occurred within the climate action field, identifies strategic opportunities on the horizon, and describes how the landscape is evolving to advance the goals of the Paris Agreement.

This work reflects the wisdom of many. It has been curated over the last 12 months by the Future of Climate Cooperation project through a series of group convenings, including regionally focused sessions in Latin America, Africa, and the Asia-Pacific, alongside numerous bilateral meetings. The document does not seek to put forward a ‘negotiated’ view that reflects the unanimous agreement of this very diverse range of actors, but rather captures points of broad consensus.

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SUMMARY //

Momentum on climate action is stronger than ever before. There are countless areas one can look to see groundbreaking and exciting progress taking place across society and the economy. The evolving landscape of global collaborative climate action has played a key role to drive this progress. Yet, we are still not seeing the change in a majority of sectors at the speed and scale that is required if we are to realize a climate resilient, net zero and nature positive future by mid-century. In working to deliver on the step change in action that this decisive decade demands,¹ this interconnected and complex system of collaborative climate action will need to fulfill its full potential over the upcoming critical years.

This document aims to help realize the potential of the climate action ecosystem by presenting both a snapshot of the current landscape of sectoral climate action and a collective vision for this community to strive toward.

The first section outlines the increasing importance of sectoral climate action, providing a high-level mapping of the 'ecosystem' of actors and institutions performing key functions within and across different sectors, along with an

identification of challenges facing this ecosystem. It also highlights recent progress made towards ameliorating some of the gaps and weaknesses previously identified in the ecosystem, showing both what has been achieved and what more can be done.

The subsequent section presents a shared vision of the optimal ecosystem to collectively work towards, framed by a set of operating principles to guide actions in order to realize that vision. The section thereafter lays out priority areas of work which can advance the collective goals of a strengthened ecosystem of sectoral cooperation. Lastly, the appendix provides a mapping of the landscape of actors and institutions compromising the ecosystem, alongside more detailed analyses into current challenges for the ecosystem and the game-changers that can radically transform it.

¹ Roy, J., Das, N., Ghosh, D., Kahn-Ribeiro, S., Konar, M., Masera, O., Roa, N., Some, S., & Wood, R. (2021). *Critical Junctions on the Journey to 1.5°C: The Decisive Decade*. London/The Hague: Climate Strategies. <https://imaginefuture.global/reports/the-decisive-decade>

CONTEXT //

1. The rising importance of sector-based cooperative climate action

Following the step change in approach that delivered the Paris Agreement, global climate governance has moved away from a singular focus on states and high-level commitments, towards a concurrent mobilization of the groundswell of actors comprising the 'real economy', as well as specific sectoral targets in key areas that often bring state and non-state actors together.² Beyond simply spurring greater ambition among states' commitments, taking sectoral and 'all of society' approaches reflects the growing understanding that delivery of global and national climate targets requires coordinated transformations of entire economic sectors.³

Efforts promoting sectoral cooperation – often in the form of international multi-stakeholder initiatives – have therefore risen rapidly in the last decade, and will take an even more prominent role in the current one.⁴ These efforts emerge from the groundswell of both state and sub-/nonstate actors' self-organization in identifying problems and opportunities and working with others to address them. Within the

UNFCCC process, this change has been marked by countries' decision at COP21 to appoint High-Level Climate Champions tasked with bridging the multilateral process with actions taking place across the real economy;⁵ the decision to institutionalize the groundswell of multi-stakeholder collaborative actions under the Marrakech Partnership for Global Climate Action (MPGCA) at COP22 in 2016;⁶ and the decision at COP25 in 2019 to extend the mandate of the MPGCA into this decade of implementation.⁷

But the groundswell of climate action of course extends far beyond the UNFCCC, including many different fora and processes at global, regional, and domestic scales. For example, the years since Paris have also seen a number of global summits organized by the UN Secretary General, different international organizations, individual governments, and sub- and non-state actors (see Figure 1). These summits and other 'forcing' events have produced a growing array of diverse cooperative initiatives, with some dedicated to addressing specific sectoral niches among a

² Hale, T. (2016). "All hands on deck": The Paris Agreement and Nonstate Climate Action. *Global Environmental Politics*, 16(3), 12–22. https://doi.org/10.1162/glep_a_00362

³ Victor, D. G., Geels, F. W., & Sharpe, S. (2019). *Accelerating the low carbon transition: The case for stronger, more targeted and coordinated international action*. Washington: Brookings Institute. <https://www.brookings.edu/research/accelerating-the-low-carbon-transition/>

⁴ UNFCCC Global Climate Action Portal. <https://climateaction.unfccc.int/views/cooperative-initiatives.html>; Kuramochi, T., Smit, S., Hans, F., Horn, J., Lütkehermöller, K., Nascimento, L., Emmrich, J., Höhne, N., Hsu, A., Mapes, B., Wang, X., Roelfsema, M., Chan, S., Deneault, A., de Souza Nagasawa, B., Mohan, M., Whitney, M., Brehm, J., Hassel, J., Clapper, A., Hiremath, A., & Hale, T. (2021). *Global climate action from cities, regions and businesses. 2021 edition*. NewClimate Institute, Data-Driven EnviroLab, Utrecht University, German Development Institute/Deutsches Institut für Entwicklungspolitik, Carbon Disclosure Project, Blavatnik School of Government, University of Oxford. <https://newclimate.org/2021/06/23/global-climate-action-from-cities-regions-and-businesses-2021/>; Pattberg, P., & Widerberg, O. (2015). Transnational multi stakeholder partnerships for sustainable development: Conditions for success. *Ambio*, 45(1), 42–51. <https://doi.org/10.1007/s13280-015-0684-2>

⁵ UNFCCC. (2015). Decision 1/CP.21, para. 122(c). <https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf#page=2>

⁶ UNFCCC. (2016). *Marrakech Partnership for Global Climate Action*. https://unfccc.int/files/paris_agreement/application/pdf/marrakech_partnership_for_global_climate_action.pdf

⁷ UNFCCC. (2019). Decision 1/CP.25, para. 28. https://unfccc.int/sites/default/files/resource/cop2019_13a01E.pdf

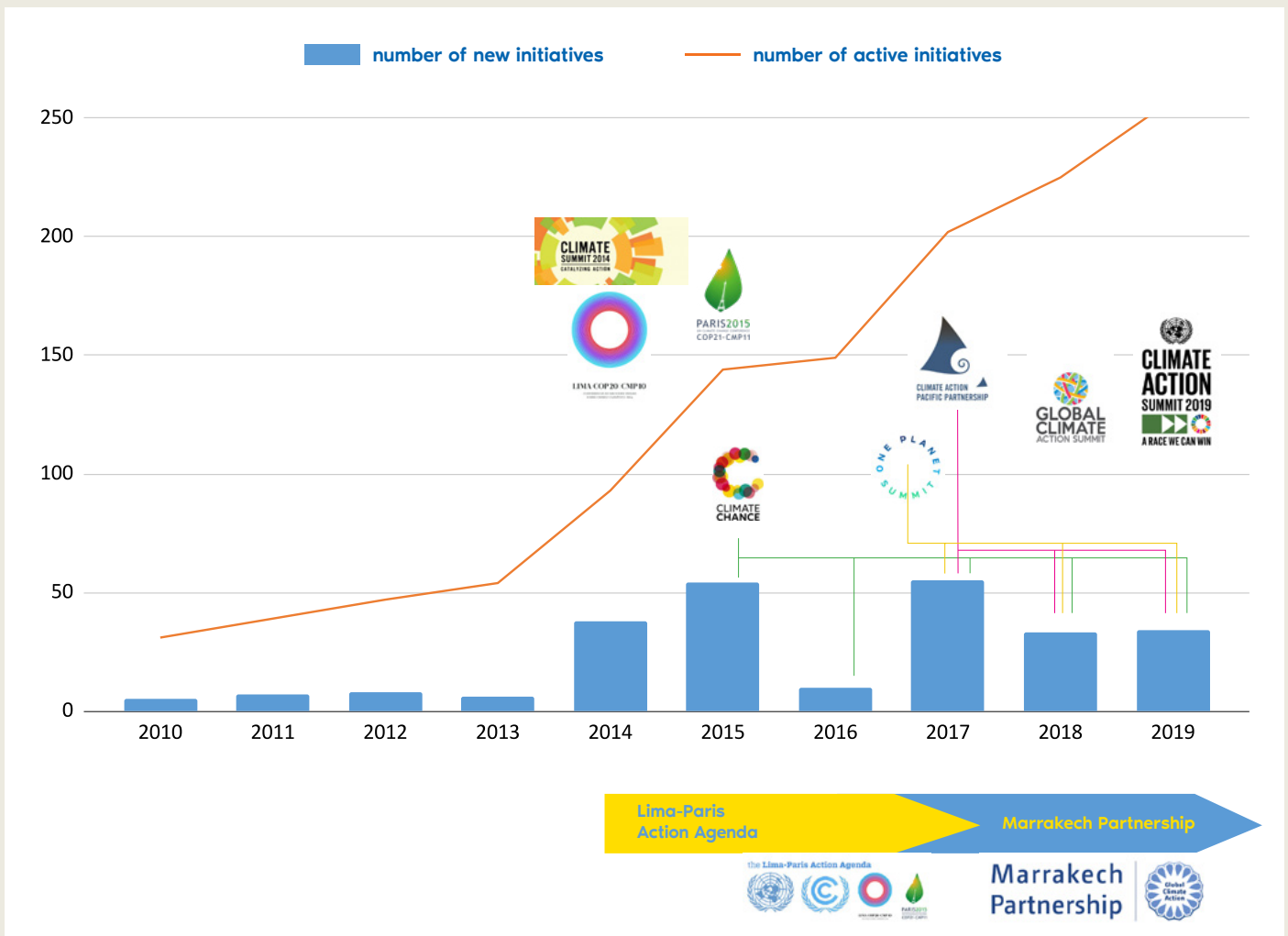


Figure 1. Number and growth of cooperative climate initiatives, and approximate timeline of climate action summits and mobilization efforts.

narrow group of first-movers, while others look more comprehensively across sectors and stakeholder groups to mobilize broad coalitions to scale up action.

As COP26 will likely mark the conclusion of negotiations around the Paris 'rulebook', 2022 will signal the transition towards the wholesale implementation of the Paris Agreement. In practice, this must mean an acceleration of cooperation between national governments and all other actors of society. In contrast to the multilateral process, where national governments are largely represented by environment or foreign affairs ministries, national governments will need to implement many of their commitments through their line ministries (whose portfolios include energy, transport, planning, finance, housing, industry, etc.) – signalling a need for greater cooperation

between sector-based line ministries and the myriad of actors shaping economic sectors. As such, aligning ambitious pledges by national governments with sectoral net zero targets by non-state actors will be critical for realizing the goals of the Paris Agreement, in ensuring that concrete progress toward collective goals leads to greater future ambition – the so-called 'ambition loop'.⁸

Yet the shift in the climate regime towards stronger cooperative and sector-based action reflects another evolution in our collective understanding of climate action: that addressing the problem of climate change does not entail simply reducing greenhouse gas emissions or adapting to climatic changes as they come, but instead requires the wholesale transformation of existing sectors of the economy. In most cases, this

⁸Dickerson, A., Drew, D., Joseph, N., Metzger, E., Meyer, A., Northrop, E., Prasann, A., Reichart, E., & Yehounme, G. (2018). *The Ambition Loop: How business and government can advance policies that fast track zero-carbon economic growth*. World Resources Institute, We Mean Business Coalition, United Nations Global Compact. <https://static1.squarespace.com/static/5bbe243651f4d40801af46d5/t/5c00266c0e2e728a28cee091/1543513751309/The-Ambition-Loop.pdf>

means the displacement of incumbent actors and systems, and their replacement with new regimes of actors, technologies, and systems. Given the interconnectedness of economic sectors, the effects of the transformation of one sector of the economy will have corollary effects on others. The complexity of these interlocking systems, and the dynamics of their transformation, often therefore mean that these changes do not occur linearly; they are instead exponential.⁹ This means that while precisely ‘planning’ these transitions is near impossible, the activation of positive tipping points or breakthroughs, through targeted interventions and other disruptive actions, can set in motion cascading transformations that catalyze exponential shifts in the system.¹⁰

As is clear with the rapid decline in renewable energy costs and its cascading knock-on effects across different sectors, we have already seen tipping points in certain sectors – all but confirming our entry into the new climate economy. However, unlike transformations in social, technological, or political systems of the past, we are both time-bound in enacting specified sectoral transitions, and are required to do so across multiple sectors simultaneously. We therefore need to ensure that sectoral transformations take place as quickly and equitably as possible, in identifying and targeting breakthrough areas per sector (e.g., sustainable aviation fuels make up 10% of fuels globally by 2030), working to eliminate barriers that impede rapid transitions (e.g. fossil fuel subsidies), and anticipating areas of displacement, leakage, or lock-in¹¹ (e.g. in supply chains or path dependency of gas infrastructure) – all while implementing innovative changes at scale (e.g. focusing on actions that have synergistic effects across multiple sectors).

Driving the required changes across a multitude of

interconnected sectors (which are often at different stages of transformation) and among different actor groups (which perform different functions depending on a multitude of conditions) is a fundamentally complex challenge. Establishing the right mix of cooperation, coordination, and unilateral action among actors targeting specific sectoral outcomes will necessarily involve iterative waves of experimentation, stocktaking, and readjustment. In helping drive that process forward, this document presents a mapping of the existing ‘ecosystem’ of actors and institutions working collectively to transform sectors of the global economy. Presenting a view and vision of this broad and complex assemblage of actors and institutions as an ecosystem can help actors understand the wider landscape within which their work is situated, identify and address current weaknesses and gaps in the ecosystem, and cultivate a more strategically-minded systems approach towards climate action.

As a first step in supporting this orientation, the sections below trace the contours of the global ecosystem of sectoral climate action, provide an overview of current challenges, and present a stocktaking of recent progress. The subsequent sections outline a common vision for the optimal ecosystem, operating principles to help realize that vision, and priority areas for action.



⁹ Victor, D. G., Geels, F. W., & Sharpe, S. (2019). *Accelerating the low carbon transition: The case for stronger, more targeted and coordinated international action*. Washington: Brookings Institute. <https://www.brookings.edu/research/accelerating-the-low-carbon-transition/>; Ives, M.C., Righetti, L., Schiele, J., De Meyer, K., Hubble-Rose, L., Teng, F., Kruitwagen, L., Tillmann-Morris, L., Wang, T., Way, R. & Hepburn, C. (2021). *A new perspective on decarbonising the global energy system*. Oxford: Smith School of Enterprise and the Environment, University of Oxford. Report No. 21-04. <https://www.smithschool.ox.ac.uk/publications/wpapers/workingpaper21-04.pdf>

¹⁰ Roy, J., Das, N., Ghosh, D., Kahn-Ribeiro, S., Konar, M., Masera, O., Roa, N., Some, S., & Wood, R. (2021). *Critical Junctions on the Journey to 1.5°C: The Decisive Decade*. London/The Hague: Climate Strategies. <https://imaginethefuture.global/reports/the-decisive-decade/>; UNFCCC Race to Zero Campaign. (2021). *Upgrading our systems together: A global challenge to accelerate sector breakthroughs for COP26 – and beyond*. <https://racetozero.unfccc.int/wp-content/uploads/2021/08/2020-Breakthroughs-Upgrading-our-systems-together.pdf>;

Farmer, J.D., Hepburn, C., Ives, M.C., Hale, T., Wetzler, T., Mealy, P., Rafaty, R., Srivastav, S., & Way, R. (2019). Sensitive intervention points in the post-carbon transition. *Science*, 364(6436), 132-134. <https://www.science.org/doi/abs/10.1126/science.aaw7287>

¹¹ Bernstein, S. & Hoffmann, M. (2019). Climate politics, metaphors and the fractal carbon trap. *Nature Climate Change*, 9, 919-925. <https://doi.org/10.1038/s41558-019-0618-2>;

Geels, F. W. (2014). Regime Resistance against Low-Carbon Transitions: Introducing Politics and Power into the Multi-Level Perspective. *Theory, Culture & Society*, 31(5), 21-40. <https://journals.sagepub.com/doi/pdf/10.1177/0263276414531627>

2. Understanding the ecosystem of sectoral climate action

The ecosystem of sectoral climate action is a complex system, featuring hundreds of institutions and thousands of actors that relate to each other in many different ways across multiple scales and at different phases within sectoral transitions.¹² Given this complexity, there is no single way to comprehend the ecosystem, as each sector requires a different arrangement of actors and functions. The Future of Climate Cooperation has therefore attempted to build a virtual, interactive mapping of the ecosystem that

allows multiple perspectives on the ecosystem (see Appendix A).

Yet, having a general overview of its constituent parts can help identify areas of strength and areas of improvement, helping coordinate the direction of the overall ecosystem. Presented here is an abstract model of how the ecosystem is structured, covering **actors** and **cooperative institutions** who perform a variety of interlocking **functions** within and across different **sectors**.

Actors

A wide range of **actors** play different roles in this ecosystem, differing according to constituencies (public, private, and civil society), levels (global, regional, national, and local), and geographies. These include:

- Intergovernmental organizations/agencies
- National governments
- Subnational authorities (cities, states/provinces/regions, etc.)
- Companies (public, private, state-owned)
- Investors and finance institutions (public, private, multilateral)
- Philanthropic funders
- Civil society (international, national, and grassroots NGOs, social and business associations, broader social movements)
- Research institutions and academia
- Media (public and private media outlets, social media)

¹²In contrast to a causally linear system, the climate action ecosystem exhibits dynamics of complexity. This means that through the aggregative and complex interactions of its multiple interconnected elements, as a collective system it exhibits properties of self-organization and emergence, polycentricity and multilevel dynamics, and variable states of equilibrium, path dependency and non-linear change. Moreover, 'the' global climate action ecosystem in the singular should more properly be conceived of as a fractal aggregate of a multitude of different sub-systems.

See Bernstein, S. & Hoffmann, M. (2019). Climate politics, metaphors and the fractal carbon trap. *Nature Climate Change*, 9, 919-925. <https://doi.org/10.1038/s41558-019-0618-2>;

Prestre, P. L. (2017). *Global ecopolitics revisited towards a complex governance of global environmental problems*. London: Routledge, Taylor & Francis Group. <https://doi.org/10.4324/9781315563695>;

Cooperative institutions

Many of these actors are organized around a variety of different cooperative institutions. Some of these are created via intergovernmental processes, notably the Marrakech Partnership for Global Climate Action or the UN Climate Action Summits; others are looser networks and coalitions organized under specific initiatives. These institutions differ according to their:

- Composition of actors, as either:
 - Multi-stakeholder (e.g. [Climate and Clean Air Coalition](#) or [Lowering Emissions by Accelerating Forest finance Coalition](#)); or
 - Single-actor type (e.g. [ICLEI](#), [We Mean Business](#))
- Cooperative arrangement, as being:
 - Collaborative (e.g., platforms, networks, coalitions, alliances, partnerships, forums, initiatives, etc.); and/or
 - Target-based (e.g. goals, targets, pledges, campaigns, declarations, principles, initiatives, etc.)
- Sectoral focus, as:
 - Comprehensive (e.g. [Marrakech Partnership for Global Climate Action](#));
 - Multi-sectoral (e.g. [Mission Possible Partnership](#)); or
 - Single (e.g. [Powering Past Coal Alliance](#))
- Geographic scope, operating:
 - Globally (i.e., working across the world with no defined geographic limit); or
 - Regionally (i.e., limited to specific regions by design; e.g. [Africa Adaptation Initiative](#))
- Level of action, covering:
 - Global (e.g. [CA 100+](#));
 - Regional (e.g. [ActionLAC](#));
 - National (e.g. [Alliances for Climate Action](#)); or
 - Sub-national/local (e.g. [Under2° Coalition](#) or [GCOM](#))

Functions

These actors and institutions collectively perform interlocking **functions**. Such functions work to initiate, catalyze, and sustain transitions within and across sectors. Some actors and institutions perform multiple functions, while others are exclusively dedicated to performing a single function within the ecosystem. These functions are necessarily interdependent, where performing one function will often depend on, and in turn affect, the performance of other functions. Key functions include:

- **Goal-setting and roadmaps:** providing a guiding star, outlining pathways for

getting there, and setting the agenda.

- **Experimentation, pioneering and financing:** pushing forward and financing the technology/market/policy frontier in order to change what is possible.
- **Scaling:** diffusing and contextualizing innovations; building capacity and sharing learning; financing wholesale transitions; driving demand for new products and services; mobilizing new actors and maintaining networks; socializing new approaches, standards, or norms.
- **Orchestrating and coordinating:** finding and delivering opportunities for coordination; identifying gaps and weaknesses to fill; resolving redundancies; consolidating linked efforts; championing leaders and first-movers; building trust.
- **Tracking progress:** providing and analyzing data and metrics to track the transition, showcase progress, and enable accountability towards commitments.
- **Regulations and policy:** creating the enabling environment by setting systemic incentives and curbing incumbent regimes through rules, regulations, policies, and legislation.
- **Knowledge and research:** providing scientific knowledge to guide action and planning; research and development of new technologies, techniques, and ideas.
- **Advocating ambition and action:** driving the narrative on action and progress; ensuring fidelity to science; strengthening credibility and legitimacy of action; instigating bottom-up change (social movements, litigative efforts, lobbying, etc.).

Sectors

Finally, the ecosystem covers all **sectors** of the economy. There is no universally agreed comprehensive typology or categorization of sectors, with different elements of the ecosystem instead organizing around a definition that makes sense for their own work (see Appendix A below for one such configuration of the sectoral landscape). Broad 'baskets' include energy, land use, buildings, industry, transportation, and commercial goods, while more narrow groupings include technology-specific topics like green hydrogen or carbon capture, along with particular niches of activity like commercial real estate or riverine transport. There are also of course a number of areas of work that can advance climate action across sectors, such as finance, research, policy, and regulation.

Different parts of the ecosystem focus on broader or narrow areas of work, and subdivide the landscape differently. While this diversity can lead to confusion and redundancy, it also allows for tailored solutions for different aspects of the problem.

As delivering sectoral transformation at the speed and scale that science demands requires the right mix of functions being performed at the right scale of action for the given phase of transition, accelerating this work requires an ecosystem-level understanding of which functions are sufficiently being met and by whom, and where effort needs to be invested to address

gaps and weaknesses. An optimal ecosystem will see all functions being covered by an appropriate array of actors and institutions, distributed in an efficient and impactful manner. Moving from the current organization of the ecosystem to one that is fully oriented to the demands of this decade requires overcoming several challenges, as outlined below.

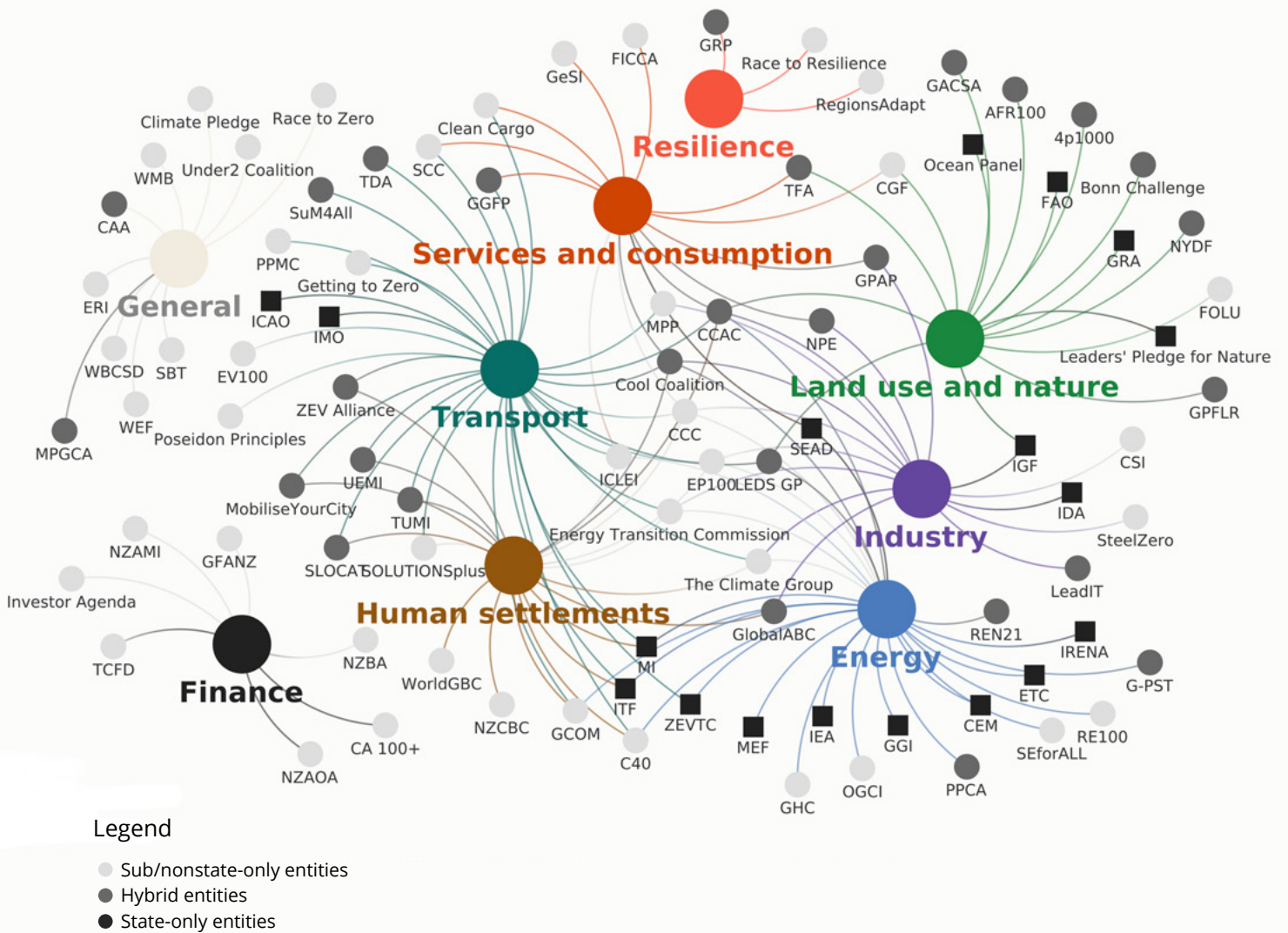


Figure 2. A non-exhaustive view of the ecosystem of climate initiatives operating at the global level, as distinguished by broad sectoral categories.

3. Challenges

While there are elements of the current ecosystem which drive significant progress on climate action, a number of shared challenges across the landscape have over the last years hindered cooperation and limited the effectiveness of sectoral climate action. Listed below are key

challenges that have been collectively identified – grouped around five primary themes that inform the effective functioning of the ecosystem in delivering sectoral transformations (for a detailed overview of specific challenges, see Appendix B).

Looking at the *actors* in the landscape shows:

- Many do not have visibility of the role they or others play in the larger ecosystem.
- There is insufficient engagement in most developing countries, which is particularly problematic where emerging economies have such a dominant role in key sectors and supply chains within the global economy. Many do not see the value of engaging in these approaches, lack a financial incentive to do so, or face financial barriers in doing so.
- Sectoral policymakers (line ministries) are inadequately and unevenly engaged, highlighting the overall disconnect between public and private coordination at the sectoral level.
- There remains a lack of systematic engagement by finance and inclusion of labor in proactively catalyzing faster and more durable sectoral transformations.

An *institutional* lens reveals:

- An overly complex and fragmented landscape that is not easily ‘legible’, where many initiatives overlap with one another.
- Too many global networks and processes are not sufficiently grounded in national contexts and national policymaking, and vice-versa.
- There remains inconsistency of leadership and resources at multiple levels and across different sectors, with much activity continuing to be event-driven without sufficient strategic vision (often resulting in limited long-term sustainability of multi-stakeholder initiatives and the duplication of initiatives).

With respect to *functions*, we find:

- Many functions continue to be performed in a sporadic, ad hoc fashion – in part due to a lack of a sufficiently comprehensive coordinating platform for actors in the ecosystem (particularly with regards to plurilateral and multilateral cooperation).
- The need to better communicate a unifying narrative of sectoral cooperation and convergence of pathways (whilst allowing for local/regional/sectoral specificity).
- Technical ability and coordination of the tracking of commitments by actors and initiatives is insufficient across the landscape, including for the aggregate performance of entire sectors. Accountability mechanisms to drive ambition and ensure credibility among non-state actors are likewise inadequately developed.

Across *sectors* we see:

- Uneven organizational maturity across sectors. In some, there is a good mix of institutions and actors covering the essential functions. In others, key functions go unmet. In others still, overlapping and competing institutions create redundancy.
- There is also a gradient of ambition across sectors. In some sectors, focal institutions are dominated by incumbents that may be less ambitious and dynamic in driving the transition.
- Across all sectors, we see: a need to raise the scale and pace of implementation and results – not just ambition; the need for the creation or strengthening of government-to-government cooperation in multiple sectors; a pressing insufficiency in the engagement on resilience and adaptation among a majority of actors and institutions.



4. Progress is being made

Though the challenges listed above continue to be observed across many areas of the ecosystem, progress is being made. Individual actors and cooperative initiatives are making progress toward their goals. Recent analysis indicates that approximately 80% of companies and subnational governments surveyed are well ahead on delivering 2020 mitigation targets, with the majority of companies on track to meet their reduction targets for 2030 and roughly half of surveyed subnational governments are on track to achieve or exceed their mid-term targets to 2035.¹³ Among a selection of 40 cooperative initiatives, 80% are on track to meet their mitigation targets.

At the ecosystem level, we have seen substantial efforts to address the challenges listed above in various realms. These include, but are not limited to, the following examples:

Marrakech Partnership for Global Climate Action (MPGCA). Following the mandate by national governments at COP25 to improve the MPGCA for its next phase, the High-Level Climate Champions have led the process of [revitalizing the Marrakech Partnership](#) to make full use of its unique role bridging the multilateral process with the ‘real economy’. Doing so allows the MPGCA to play a key orchestrative function across the landscape of sub- and non-state actors in helping to consolidate existing efforts, fill gaps, and drive the ambition loop between national governments and sub- and non-state actors.

Global campaigns. [The Race to Zero](#) and [Race to Resilience](#) campaigns, launched in 2020 and 2021 respectively, have galvanized actors across the ecosystem to converge around robust and stringent net zero and resilience commitments, driving a catalytic movement for robust climate

action and demonstrating momentum.

Breakthroughs. The [2030 Breakthroughs](#), launched in January 2021, have provided a framework for sector-wide ambition and purpose-setting for near-term mobilization of action. The Breakthroughs have additionally worked to socialize the narrative of systems transformation and exponential change, strategically engaging first-movers to help catalyze a ‘race to the top’ among key actors per sector.

Climate Action Pathways. Through an expansive process of collaboration among partnering organizations, the updated and revitalized [Climate Action Pathways](#) have served to converge actors across the ecosystem around common roadmaps for sector-specific transformations, under the overarching umbrella of the UN-mandated MPGCA.

Regional Climate Weeks. Over the last years, the UN-hosted [Regional Climate Weeks](#) have served as key mechanisms to connect global, regional and local-level climate action, facilitating a two-way process of exchange in knowledge, capacity, narrative, and coordination. The recently trialled Implementation Labs have led the way in demonstrating the implementation of commitments through collaboration between line ministries and sector-specific sub- and non-state actors.

Glasgow Finance Alliance for Net Zero (GFANZ). Launched in April 2021, [GFANZ](#) responds to the need to facilitate greater coordination and convergence between key private-sector partnerships in the finance sector. In partnership with the Race to Zero, the alliance brings together the [Net Zero Asset Managers Initiative](#), the [Net-Zero Asset Owner Alliance](#),

¹³Kuramochi, T., et al. (2021). *Global climate action from cities, regions and businesses. 2021 edition*. NewClimate Institute, Data-Driven EnviroLab, Utrecht University, German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE), CDP, Blavatnik School of Government, University of Oxford. <https://newclimate.org/2021/06/23/global-climate-action-from-cities-regions-and-businesses-2021/>

and the newly created [Net-Zero Banking Alliance](#) under one framework, to synergistically drive the redirection of finance towards a 1.5° compliant system.

COP26 Presidency Sectoral Transition Councils in Energy and Zero Emissions Vehicles. Identifying gaps in government-to-government cooperation for major sectors of the global economy (i.e., [energy](#) and [zero-emissions vehicles](#)), the UK COP Presidency initiated two multilateral councils among key governments to accelerate transformation, through identifying and acting collaboratively on barriers, opportunities, and solutions under a sectors transition framing.

Re-launch of the Major Economies Forum on Energy and Climate Change (MEF). Recognizing the importance of international cooperation between governments on sectoral decarbonization, the USA under the Biden Administration has relaunched the [Major Economies Forum](#) – resulting in the creation of the [Global Methane Pledge](#). The MEF provides a key platform to tackle broad sectoral issues that require government-to-government cooperation, allowing coalitions of ambitious governments to drive sectoral transformation through coordinating their regulatory, procurement, and orchestrative influence.

Mission Innovation (MI) and Clean Energy Ministerial (CEM). Recently launching its second phase of work under the [Clean Energy Ministerial](#), [Mission Innovation](#) convenes a critical mass of countries investing in public research to cooperate on research, development, and demonstration of clean energy innovations. Its new phase refocuses efforts around public-private missions oriented around triggering sectoral tipping points, facilitating stronger national-international synergies, and engaging with finance sectors to scale innovations.

Mission Possible Partnership (MPP). Representing a key example of a systems-

approach to strategic collaboration to instigate sectoral transformation, the [Mission Possible Partnership](#) drives targeted disruption across seven key industrial sectors through a multi-step process involving convening and orchestration, aligning of vision and roadmaps, and the embedding of shared commitments featuring common metrics, standards and toolkits.

First Movers Coalition (FMC). The USA government and the WEF have recently created a new coalition to bring together like-minded countries and leading companies to commit to buying low-carbon products by 2030 across hard-to-abate industrial sectors. This orchestrative effort works to build trust among competitors to collectively absorb initial costs of transitioning to carbon-neutral supply chains whilst providing the assurance of government regulatory support, instigating a wider shift that transforms markets and promotes economies of scale for green technologies.



In addition to the improvements highlighted above, new initiatives have launched or grown more robust within specific sectors or constituencies. Drawing on a select group of examples, we have seen progress for:

Biodiversity and nature. An important wave of initiatives have emerged to advance action on the climate-biodiversity nexus. This includes broad campaigns (e.g. [Leaders' Pledge for Nature](#)), mobilization of finance for protecting and investing in biodiversity (e.g. [Lowering Emissions by Accelerating Forest finance \[LEAF\] Coalition](#); [Finance for Biodiversity Pledge](#)), integration of biodiversity into financial planning (e.g. [Taskforce on Nature-related Financial Disclosures \[TNFD\]](#)), and the adoption of holistic systems-wide approaches to interconnected sectors affecting nature (e.g. COP26-led Forest, Agricultural and Commodity Trade [FACT] Dialogue; 2021 UN Food System Summit).

States and regions. Sitting within the [Under2 Coalition](#), which brings together state and regional governments committed to keep global temperature rise to well below 2°C, the [Net Zero Futures](#) initiative was recently launched to catalyze broader adoption of net zero targets among states and regions. This peer-driven platform works to help subnational governments

understand, design, and implement net zero targets (registered under the [Race to Zero](#)) through knowledge exchange, capacity building, and awareness-raising.

Hydrogen. Multiple initiatives have been launched or strengthened to accelerate the transition towards affordable green hydrogen, through mobilizing market front-runners (e.g. [Green Hydrogen Catapult](#)), driving innovation (e.g. Mission Innovation's [Clean Hydrogen Mission](#)), and investing to scale commercial demonstrations (e.g. [Breakthrough Energy Catalyst](#)). These actions build upon earlier initiatives created to catalyze green hydrogen research and development (e.g. [Hydrogen Initiative](#) under the Clean Energy Ministerial, or the [International Partnership for Hydrogen and Fuel Cells in the Economy \[IPHE\]](#)).

The elements described above represent important recent progress towards a more robust ecosystem. But we also know that more work is needed to implement and develop these elements effectively, as well as to build up other parts of the ecosystem where less progress has been made. The remainder of this document outlines a common vision for the sectoral climate action ecosystem to continue to work toward.



VISION //

1. The optimal ecosystem for accelerating sectoral action

To deliver the sectoral transformations necessary to reach a climate resilient, net zero and nature positive global economy by 2050, the ecosystem of global climate action will need to operate at its highest potential. This will involve adjustments at multiple levels across the ecosystem and amongst individual actors to ensure maximum efficiency and impact. The section below lays out a vision for what this ecosystem looks like when operating at the level required to deliver on collective goals, captured across five key dimensions:

Narrative and vision

Compelling narrative: there is a compelling narrative, with a focus on the new economy, the decisive urgency of this decade, and the importance of integrating resilience alongside decarbonization. Within this framing, sectoral and multi-stakeholder climate action is seen as a mainstream and essential part of the broader climate governance regime – with COP26 serving as a turning point to swiftly pivot to sector-based implementation;

Clarity of vision: there exists firm clarity on the vision of what is needed by 2050 in each sector at global and national levels, what concrete interim pathways are needed for 2025, 2030, etc., and what modalities of cooperation are most suited to spurring and scaling transformative change;

Coordination and distribution of action

Clear understanding of roles: there is a clear understanding of respective strengths and roles among actors and institutions, gauged against which functions and actors each sector requires for rapid and inclusive transformation. It is informed by a common and accessible understanding of what new modalities of action need to be developed per sector to tap into emerging opportunities (including who will drive them), as well as where further consolidation of existing efforts is required to support transformational initiatives achieving greater outcomes at scale;

Multi-leveled coordination: sectoral action is coordinated nationally, internationally and transnationally to unblock barriers and ensure necessary scaling-effects, whilst avoiding the duplication of existing efforts;

Productive competition: there is a productive balance/tension between competition and fragmentation among innovation-drivers, in lieu of a single overarching organizational framework;

Scale and impact

Engagement of key actors: across all the priority initiatives, we have the right and most influential/strategic partners, companies, philanthropic organizations, regulators, etc. that are leveraging the full value chain (supply, demand, finance) to implement and drive catalytic and transformative action;

Public-public and public-private coordination:

there is strong public-private cooperation that drives transformation at scale through an ambition-implementation loop (involving government, business, and civil society), coupled by effective coordination and communication between line ministries (within and between governments);

Strong enabling-environment: regulatory structures and flows of investment are aligned to create the enabling environment for pioneers and experimenters to scale action and instigate catalytic transformations;

Anticipation of obstacles: pathways of action and implementation are designed to preempt and address potential ‘traps’ that prevent full implementation of net-zero targets (e.g. reactionary political/social pushback to policies, lock-in of gas infrastructure, etc.);

Continuity and resourcing

Sustained support: existing and future cooperative efforts have sustainable governance mechanisms which ensure continuity of resourcing and ownership by key actors, mitigating against ‘boom’ and ‘bust’ cycles of ambition and interest;

Collaborative ownership: relevant actors sufficiently prioritize cooperative efforts, take proper ownership of such initiatives, and operate under an ethos of radical collaboration (resisting competition over organizational recognition);

Inclusion and accountability

Comprehensive engagement: organizational efforts and the narratives of the ecosystem are inclusive towards critical actors currently unengaged, such as actors from emerging economies, labour unions, youth, indigenous communities, etc;

Holistic, just transformation: transformations being pursued are successfully aligned with the SDGs and result in net benefits for society that are equitably distributed, by addressing root causes for vulnerability and risk to climate impacts (such as gender-based, racial and economic drivers of inequality and marginalization) – thereby avoid enacting maladaptive transitions, domestically and globally;

Science-based goals and transparency: goals and targets are set at a realizable level of ambition, based in credible science and verifiable outcomes with enhanced disclosure and open reporting;

Robust and aggregative tracking: a system exists that integrates tracking of individual actor commitments, the performance of the wider ecosystem, and the progress of transitions per sector – ensuring credibility of action, protection against greenwashing, clarity of progress, and identification of additional areas of work.



2. Operating principles

As the landscape of climate action is a complex system, the ecosystem cannot be precisely 'planned' or managed. However, aligning around certain 'operating principles' will allow this broad community of actors and institutions to catalyze

and deliver transformations at the speed, scale, and quality required to achieve our collective goals. This document proposes four operating principles to guide this work together going forward:

Follow common overarching goals and roadmaps that can be tailored in specific ways

- Goals, targets, and pathways will follow the best-available science.
- Regularly update goals, targets, and pathways to reflect deepening scientific understanding and changing conditions in technology, policy, risk, and other drivers.
- Outline general goals, pathways, and standards that can be tailored to suit diverse needs, while still remaining credible.¹⁴

Within sectors, converge around a mix of broad and narrow focal institutions

- Ensure a mix of broad and narrow focal institutions, both overarching and within different sectors at different scales of specificity.
- This institutional mix aims to create synergy (including via some productive tension) between two categories of focal institution:
 - *Narrow focal institutions will focus on pioneering and innovation.* They will remain nimble while avoiding 'negative' exclusion by ensuring engagement with and links across the ecosystem (e.g. a coalition pioneering deployment of a new technology will ensure channels for consultation with those who may be adversely affected by the new technology).
 - *Broad focal institutions will focus on scaling and diffusion.* They will aim to be inclusive while avoiding least-common denominator dynamics by avoiding 'veto' decision structures and instead focus on problem-solving.

Track and share progress to enable coordination and promote accountability

- Each piece of the ecosystem commits to set specific and verifiable goals, and to release information to assess progress toward those goals.
- To the maximum extent possible, follow an 'open source' approach to information to allow diffusion and scaling.
- Work to converge around and employ common benchmarks for tracking progress and ensuring accountability, as suited to the requirements of each sector.

¹⁴The UNFCCC Race to Zero and Race to Resilience provide promising models of this approach. See <https://racetozero.unfccc.int/join-the-race/> and <https://racetozero.unfccc.int/join-the-race-to-resilience/>.

Take an open, reflexive, and adaptive approach

- Collectively review the whole ecosystem and its components (strategy, institutions, functions) regularly (e.g. at key milestone events) to achieve balance between long-term adaptability and short- and medium-term continuity.
- Act in a manner that is additive to the ecosystem (as relevant to the particular phase/maturity of the specific sector) – particularly when launching new initiatives, distributing funding, or selecting partnerships to either join or invest resources in.
- Promoting an adaptive, experimental, and entrepreneurial approach among and between institutions – to work creatively, ambitiously, collaboratively, and reflexively in the interest of realizing common goals.



PRIORITY AREAS OF ACTION //

Realizing the common vision described above will require concerted, ongoing effort. The following list outlines **priority areas** that require immediate and sustained attention in the months and years ahead.

Narrative and vision

Establishing a common vision and operating principles for the ecosystem to organize around and guide action moving forward.

Mainstreaming the importance and value of multi-stakeholder sectoral work as a key mode of climate cooperation and a primary component of the 'implementation' of the Paris Agreement.

Ensuring that sectoral coordination with state and non-state actors can be fully embraced by national governments as a key facet in the design and implementation of their NDCs.

Promoting sectoral transformation as a more constructive vision for climate action among business, government and the general public, where taking action on climate stands less as burden and more as an opportunity for healthier lives, new and better jobs, sustainable growth, first-mover advantage, etc.

Ensuring that transition pathways align with achieving the Sustainable Development Goals and the biodiversity goals emerging from the

post-2020 Aichi Framework decided at COP15 for the Convention on Biological Diversity.

Coordination and distribution of action

Ensuring more effective communication and coordination among actors in the ecosystem, in understanding where the landscape stands sectorally and as a whole; identifying leverage points and how to utilize them; coordinating and consolidating existing efforts, reducing duplication, and responding to gaps.

Wider dissemination of new modes of cooperation and governance within institutions (e.g. all-of-government coordination), between institutions (e.g. We Mean Business), and the wider ecosystem (e.g. UNSG's call for a new multilateralism¹⁵).

Ensuring non-competitive ownership of and participation in initiatives (removing political jockeying over ownership of initiatives).

Scale and impact

Promote regulatory coordination to scale enabling conditions for the policy environment and market transformations.

Apply all-of-government approach to domestic climate policy and policy implementation,

¹⁵United Nations. (2021). *Our Common Agenda*. <https://www.un.org/en/content/common-agenda-report/>

coordinated across line ministries; creating more effective forums for focused government-to-government cooperation in each sector.

Driving strong government and regulatory body participation and continuity; coherence across COP Presidencies and different international organizations.

Greater utilization of intergovernmental organizations (e.g. multilateral development banks) and sector-/geography-focused agencies and networks across the UN system (e.g. UNSDG, UNCBD, etc.) to assist in implementation of climate goals at scale.

Instituting tracking mechanisms and processes to evaluate the evolving quality of the overall climate action ecosystem, in addition to ensuring credibility of individual commitments.

Continuity and resourcing

Ensuring sustainability of existing and future initiatives through sufficient resourcing, governance, and ownership – most critically following high-profile launches at international summits.

Funders shift from programme-bound framing for funding, monitoring, and reporting, to an ecosystem-focused approach that gauges projects against a wider strategic landscape (including its priority areas, opportunities, etc).

Inclusion and accountability

Ensuring that planned and existing sectoral initiatives expand to new actors (e.g. state-owned enterprises), geographies (e.g. emerging economies), and constituencies (e.g. labour and marginalized communities); ensuring narrative of sectoral cooperation is not exclusionary towards unengaged but otherwise relevant actors (through emphasizing co-benefits and locally-relevant framings).

Developing a common approach towards tracking, verification, and transparency; establishing a gold-standard to align and ensure accountability across sectors and actor groups – including sector-wide benchmarks, in alignment with existing efforts (e.g. the UNFCCC Global Stocktake, the Global Climate Action Portal, etc.)



NEXT STEPS //

While the priorities listed above provide general actions to be taken forward in realizing the common vision of this ecosystem, the areas of leverage listed below can serve to radically accelerate and scale the work of this ecosystem (see Appendix C for a detailed overview of select cases). Harnessing the opportunities presented by these ‘game-changers’ should be considered a key priority for guiding strategic considerations for this decade.

Finance. We see a growing range of net zero commitments in private finance, exerting system-level pressure on all sectors. Setting sectoral targets for transformation could increase the power of this lever. Moreover, a similar transformation is needed in public finance, including reform of distorting subsidies.

Labour. How can the demand/need for a ‘just transition’ become a driver for sectoral action?

China. There has been very little engagement of Chinese actors thus far in key sectoral initiatives or net zero targets, though Chinese companies play an enormous role in many key sectors. However, the national 2060 net zero target creates opportunity for a paradigm shift and model for engaging state-owned enterprises.

Trade/investment governance shifts. Countries are considering taking significant steps to align global economic governance to climate

goals (for example by instituting carbon border adjustment mechanisms). Depending on how they are implemented, such measures could create further incentives for green transition, or potentially cause frictions that could undermine that goal.

United States. How will the reemergence of the US federal government as an advocate for greater ambition shape the trajectory of sectoral action?

COVID-19 recovery. Can the narrowing opportunity to ‘build back better’ still be utilized to jumpstart transitions and promote resilience framing for recoveries?

Radical transparency. Creating accountability by best-in-class reporting and publicizing achievement of commitments, enabled by new forms of data collection and disclosure.

Youth. How can a new generation of climate-aware youth (in facing climate impacts, entering the job market, emerging as critical consumers, and exercising their right to vote) be best empowered to drive wholesale transformations across sectors?

Digital Media. Facilitating rapid shifts in consumer and voting behaviour through far-reaching media campaigns.

APPENDICES //

A: Interactive mapping of the sectoral climate action ecosystem

As a complex system, by definition there is no universal or ‘right’ way to map the landscape of sectoral climate action, as there is no perspective that can view the whole. The Future of Climate Cooperation project has therefore created an [interactive digital map](#) of the ecosystem, allowing for bespoke arrangements of actors and institutions, based on sector, function, geography, actor type, or level of action.¹⁶

This map utilizes the typology of sectors outlined below. We do not claim this is the only or best way to categorize sectors (and their interlinkages), but simply do so as one possible configuration in order to render the ecosystem more comprehensible – and thus actionable.

Sectoral categories:

- **Energy** (Renewables | Bioenergy | Hydrogen | Oil & gas | Coal | Charging | Grids)
- **Land use and nature** (Food & agriculture | Forestry & restoration | Metals & mining | Fisheries & oceans | Water | Waste | Natural sinks & offsets)
- **Human settlements (Buildings** | Infrastructure & urban planning | Cooling)
- **Transport** (Light-duty vehicles | Heavy-duty vehicles | Shipping | Aviation | Rail | Active mobility)
- **Industry** (Steel | Cement & concrete | Aluminium | Chemicals | Plastics)
- **Services and consumption** (Apparel | Consumer goods | Retail | Mobile & ICT | Tourism)
- **Crosscutting:**
 - Finance & investment
 - Resilience & adaptation
 - Short-lived climate pollutants
 - Efficiency
 - Supply chains
 - CCUS
 - Circularity
 - Social Well-being & Equity (Health | Poverty | Gender | Race | Youth | Labour | Indigenous)
 - Narrative & Communications (Media & Art | Education | Norms & Behaviour)

¹⁶ <https://kumu.io/FCC/global-climate-action-ecosystem>

B: Functional problems and disconnects in the sectoral climate action ecosystem

While there are elements of the current ecosystem which drive significant progress on climate action, a number of challenges remain across the landscape that continue to hinder cooperation and limit the effectiveness of sectoral climate action. Below are several such key bottlenecks and functional disconnects that require priority attention.

Challenge	Solutions
Narrative and vision	
<p>The need to adapt the narrative of climate action to local contexts, avoiding polarizing partisan narratives or perceptions of climate change as a low priority, irrelevant, or insurmountable</p>	<ul style="list-style-type: none"> • The need to adapt the narrative of climate action to local contexts, avoiding polarizing partisan narratives or perceptions of climate change as a low priority, irrelevant, or insurmountable
<p>Insufficient alignment on vision of common pathways – per sector, and for societal transformations globally and nationally</p>	<ul style="list-style-type: none"> • Facilitate stronger multi-stakeholder consensus on vision of transformational pathways and short-/medium-term measures of success
Coordination and distribution of action	
<p>An overly complex and fragmented landscape that is not easily 'legible', where many initiatives overlap with one another, creating confusion, duplication of effort, and unproductive competition</p>	<ul style="list-style-type: none"> • Align on clearer architecture • Build shared narrative and understanding around sectoral action • Be cognizant of – and work to overcome – institutional and sectoral silos • Converge around common efforts to map ecosystems of climate action; take open-source approach to sharing mapping efforts
<p>Shared, intermittent, and sometimes contested leadership amongst COP Presidencies, High-Level Champions, UN Secretary-General, and other major players (e.g. One Planet Summit, Biden Leadership Summit, etc.)</p>	<ul style="list-style-type: none"> • Redesign of MPGCA to increase institutional resilience; facilitate stronger engagement of UNSG office; cultivate stronger ownership of initiatives by countries and COP Presidencies (including after COPs) • Early socialization of importance and role of each institution during handovers/personnel change; acknowledge importance of institutional knowledge • Open channels; trust-building; spirit of radical collaboration

Scale and impact

<p>Uneven maturity of institutions and ambitions across sectors</p>	<ul style="list-style-type: none"> • Sector by sector approach to generate appropriate mix of institutional elements in each sector • Coalesce around key institutions in mature sectors (e.g. IEA, ETC, etc. in energy sector); developing task forces to assess institutional landscape for nascent sectors and cultivate convergence
<p>Inadequate engagement of line ministries to implement national climate targets and align private sector with national-level targets (moving beyond climate being siloed to environment ministries or foreign affairs ministries)</p>	<ul style="list-style-type: none"> • Administer all-of-government approach to implementing climate targets - domestically and internationally • Increase public-private engagement through targeted participation at sector-level summits (e.g. UN Food Summit) and industry fora, and increased multi-stakeholder initiatives • Frame implementation phase of Paris Agreement (both NDCs and COPs) as moment to regionalize and increase Party-NPS interaction
<p>Too many global networks insufficiently or unevenly engaged in national contexts and national policymaking</p>	<ul style="list-style-type: none"> • Dedicate resources to 'localizing' global networks, through regional offices/hubs/networks; intentional participation at regional events; establish more regional partnerships • Engage with line ministries, country focal points, etc. (e.g. through UN Office for Project Services, UN Sustainable Development Group, UN Resident Coordinators, and UNEP Regional Offices)
<p>Absence of government-to-government institutions in key sectors that have the right mix of ambition and capacity to address the problem</p>	<ul style="list-style-type: none"> • Create bodies with right mix of mission and membership (e.g. COP26 Transition Councils) • Have medium-term strategic plan and infrastructure in place to ensure follow-up from launch of new initiatives • Empower existing multilateral institutions/initiatives to exercise the adequate level of ambition and capacity to become effective

Continuity and resourcing

<p>Scarce financial resources available for supporting existing - or creating new - initiatives across the institutional landscape</p>	<ul style="list-style-type: none"> • Engage philanthropic and public funders on the value and necessity of cooperative climate initiatives/institutions through emphasizing an ecosystem-approach to sectoral transformation – highlighting the critical importance of sufficient and sustained resourcing for initiative secretariats, capacity building, and resource distribution • Creation of new dedicated public-private financing bod(ies) on the model of the Global Fund or GAVI
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<p>Inconsistent continuity and cooperation over ownership, support, and strength of initiatives in the face of varying cycles of interest/support (e.g. SEAD initiative)</p>	<p>Employ a 5-10 year vision for strategic planning, emphasizing contingency arrangements for governance and implementation in anticipation of inevitable 'boom and bust' cycles of support (e.g. through strategically-minded coalitions, funding sources, etc.)</p>
<p>Inclusion and accountability</p>	
<p>Insufficient engagement with and representation of actors from emerging economies</p>	<ul style="list-style-type: none"> • Ensure greater inclusivity of narrative (e.g. respective capacities; sustainable development; resilience/adaptation) • Ensure roadmaps and pathways are inclusive towards developmental pathways and contexts • Increase financial incentives; help reduce financial barriers; identify co-benefits (reframing climate action) • Dedicate more resources to translation and commit to linguistic diversity • Provide more resources to track, showcase and connect regional climate action and initiatives with global-level platforms (e.g. through the UNFCCC Global Climate Action Portal)
<p>Key stakeholder groups are not mobilized for action (e.g. labour)</p>	<ul style="list-style-type: none"> • Establish more inclusive narrative; be intentional in engaging under-represented constituencies • Ensure participatory process in design and implementation of multi-stakeholder initiatives
<p>Tracking progress of delivery and implementation too lagged, incomplete, and fragmented; absence of overarching framework to better coordinate tracking and accountability; tracking of non-state and sectoral climate actions insufficiently linked with credibility advocates (as an important leverage point to exert greater political pressure to catalyze stronger action and ambition)</p>	<ul style="list-style-type: none"> • Reinforce Camda as community of practice, ensuring continued and sufficient resourcing • Surge efforts toward Global Stocktake, including establishing stronger inputs for the MPGCA to inform the GST • Establish stronger coordinating architecture for tracking and accountability ecosystem – particularly for independent verification of commitments (distribution of labour among existing and new trackers), and stronger mechanisms allowing tracking, data, and analysis work to translate to political accountability • Create common benchmarks to allow for standardized tracking of commitments for specific actor types and sectors, and of transformations of whole sectors (e.g. Systems Change Lab)

C: Drivers for breakthroughs in the sectoral climate action ecosystem

As sectors transform according to principles of nonlinearity and exponential change, targeted interventions can yield positive impacts disproportionate to the resources invested in such efforts. Conceived variably as tipping points, points of leverage, or sensitive intervention points,¹⁷ systems-informed strategic actions in key areas can radically scale and accelerate the work of the climate action ecosystem. The section below lays out select cases that provide such leverage points.

Net zero finance driving wholesale sectoral transformation

Context: Over the past years, investor groups have scored key victories by pressuring individual companies to adopt stronger climate measures. Now, we see a growing range of ‘net zero’ commitments in finance, organized via GFANZ and increasingly backed by regulation, exerting system-level pressure on all sectors. Setting sectoral targets for transformation could increase the power of this lever.

What could be achieved? Once a sufficient coalition of investors agrees on a certain path for a sector, companies will face overwhelming incentives to align to net zero pathways.

What needs to happen?

- Crystalize clear, science-aligned common ‘asks’ from finance actors to the companies in which they invest/provide services.
- Progressively shift Paris alignment requirements from voluntary leadership commitments to baseline regulatory requirements.
- Expand geographic reach.

Who makes it happen?

- Glasgow Finance Alliance for Net Zero and constituent networks
- Methodology-setting groups and networks
- Financial regulator

Engaging labour to ensure a just transition

Context: In recent years we have witnessed a growing appreciation by governments, businesses, and society at large of the need to ensure a ‘just transition’ (JT) in the shift towards a net zero economy. Integrating labour and social policies with climate objectives maximizes the positive opportunities (including job creation and improved quality of work) and minimizes the negative impacts (job losses and a deepening of social inequity) that arise from sectoral decarbonization. Failing to do so risks engendering reactionary responses – like the Gillet Jaunes in France – and justifies inaction by incumbent actors, under grounds of protecting (carbon-intensive) jobs.

What could be achieved? Incorporating principles of JT ensures buy-in by critical constituencies (i.e., labour and local communities), of whose support is necessary for the sustainability and long-term

¹⁷ Sharpe, S., & Lenton, T.M. (2021). Upward-scaling tipping cascades to meet climate goals: plausible grounds for hope. *Climate Policy*, 21(4), 421-433. <https://doi.org/10.1080/14693062.2020.1870097>;

Farmer, J.D., Hepburn, C., Ives, M.C., Hale, T., Wetzler, T., Mealy, P., Rafaty, R., Srivastav, S., & Way, R. (2019). Sensitive intervention points in the post-carbon transition. *Science*, 364(6436), 132-134. <https://www.science.org/doi/abs/10.1126/science.aaw7287>;

Meadows, D.H. (1999). *Leverage Points: Places to Intervene in a System*. Hartland, VT: Sustainability Institute.

success of climate actions. Doing so also prevents actors justifying inaction on grounds of protecting jobs, and unlocks broader public support for near-term action – thereby establishing a politically-conducive environment for greater ambition by policy- and decision-makers.

What needs to happen?

- Greater utilization of JT principles in the narrative around sector-based cooperative action.
- Ensuring social dialogues and consultative processes between business, labour, government, and local communities in devising and implementing transition pathways.
- Inclusion of JT policies in sector-specific plans by businesses, governments and intergovernmental organizations (e.g., social dialogue, skills development, active labour market policies, social protection, community renewal).

Who makes it happen?

- National governments and their relevant ministries to include JT principles in macroeconomic, sectoral, enterprise, and labour policies (including in NDCs)
- Businesses taking leadership positions on JT – as part of internal employee policies (e.g. renewable transitions within energy majors), and in cooperation with other sectoral actors/competitors
- ILO, ITUC, and other sector-specific labour organizations (domestic and international)

Operationalizing China's 2060 net zero target sector by sector

Context: China accounts for 25% of global emissions, 18% of the global economy, and is the biggest player in many key sectors (e.g. largest steel manufacturer, largest auto market, etc.). However, Chinese companies are significantly underrepresented in sectoral climate initiatives, and nearly absent from global ambition campaigns like the Race to Zero. Yet, the Chinese government's national 2060 net zero target offers a key opportunity for a paradigm shift and model for state owned enterprise engagement, as Chinese companies and policymakers are rapidly working to develop plans for sectoral transformations in line with the 2060 target.

What could be achieved? Decarbonizing emissions-intensive sectors in China would have an enormous direct impact on global emissions pathways. It would also reassure OECD governments and firms who limit their climate ambition out of fears of (or excuses of) Chinese economic competition. Finally, given China's deep supply chain linkages with many economies around the world – and many developing countries in particular – sectoral transformations in China can have powerful ripple effects.

What needs to happen?

- Secure support and encouragement of the Chinese government (e.g. SASAC) to join (or emulate) high-ambition sectoral initiatives.
- Sectoral initiatives and platforms should have a robust China strategy that includes Chinese-speaking staff, outreach, etc.

Who makes it happen?

- High-ambition governments should engage diplomatically with the Chinese government. Emphasize desire for cooperation alongside costs of not having a seat at the table - an especially important incentive as global trade measures begin to emerge
- Sectoral initiatives outreach plans to include China
- High-Level Climate Champions

Climate-alignment in global trade rules

Context: An increasing number of countries are considering adopting trade measures like carbon border taxes or production standards to prevent ‘carbon leakage’ and ensure that the green transition does not lead to a reduction in global competitiveness for their businesses. As such measures come online, their shape and design could have profound implications for sectoral transformation. Well deployed, they can help create the right incentives for higher ambition. But if they lead to fragmentation or mixed signals, they can undercut the transition to net zero. Moreover, to the extent climate-related trade frictions disrupt global supply chains, we may see decarbonization proceeding rapidly in some economies but not others.

What could be achieved? In the best case scenario, border measures would be commonly agreed by a critical mass of economies to provide a smooth and level playing field for sectoral transformation, while exerting incentives on non-participating countries/companies to align to high ambition pathways. In this positive scenario, border measures would be calibrated to meet the needs also of countries that need additional support to upgrade their industrial sectors, and so would not have an adverse effect on the poorest. In a worst case scenario, major economies would adopt conflicting border measures that significantly raise the cost of business for firms and undercut the universal movement toward net zero. Such measures could also be deployed in ways that exacerbate global inequalities.

What needs to happen?

- Ambitious countries should agree on effective border measures that help trade-exposed sectors transition without fear.
- Such countries should adequately consult with vulnerable trade partners to devise capacity upgrades, phased timetables, and other measures that prevent unwelcome side effects.

Who makes it happen?

- National governments to design and apply effective trade measures in a coordinated fashion
- Pro-transition sectors should support governments in the above

D: List of organizations consulted

This document is a product of an iterative process, reflecting inputs and feedback collected from a wide range of stakeholders leading on climate action across the landscape. Below is a list of the organizations that have participated in the development of this vision.

1. Africa Climate Foundation (ACF)
2. Alliance of Small Island States (AOSIS)
3. Alliances for Climate Action (ACA)
4. Allianz
5. Asia Investor Group on Climate Change (AIGCC)
6. Aviva Investors
7. Bridging Ventures
8. C40 Cities Climate Leadership Group
9. Cambridge Institute for Sustainability Leadership (CISL)
10. Carbon Disclosure Project (CDP)
11. Climate Action Methodologies Data and Analysis (Camda)
12. Climate Action Network (CAN)
13. Climate Energy Ministerial (CEM)
14. Climate Finance Group of Latin America and the Caribbean (GFLAC)
15. Climate Policy Initiative (CPI)
16. Climate Works Foundation (CWF)
17. Council on Energy, Environment and Water (CEEW)
18. Dalberg Group
19. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
20. E3G
21. Energy Foundation China (EFC)
22. Energy Transitions Commission
23. European Climate Foundation (ECF)
24. Fundación Avina
25. Global Climate Collaborative (GCC)
26. Global Strategic Communications Council (GSCC)
27. Imagine the Future
28. Indonesia Research Institute for Decarbonization (IRID)
29. Institut de la Francophonie pour le développement durable (IFDD)

30. International Chamber of Commerce (ICC)
31. International Energy Agency (IEA)
32. International Renewable Energy Agency (IRENA)
33. International Trade Union Confederation (ITUC)
34. Mission 2020
35. Mission Innovation (MI)
36. Mission Possible Partnership (MPP)
37. Mohammed VI Foundation for Environmental Protection (FM6E)
38. Net-Zero Asset Owner Alliance (NZAOA)
39. New Climate Economy (NCE)
40. NewClimate Institute (NCI)
41. Plexus Strategy
42. Rocky Mountain Institute (RMI)
43. Stockholm Environment Institute (SEI)
44. Tara Foundation
45. The B Team
46. The Climate Group
47. The Energy and Resources Institute (TERI)
48. Transforma
49. Unilever
50. United Kingdom
51. United Nations Climate Action Team of the Executive Office of the Secretary-General (UN-CAT)
52. United Nations Development Programme (UNDP)
53. United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC)
54. United Nations Environment Programme – Principles for Responsible Investment (UN-PRI)
55. United Nations Environment Programme (UNEP)
56. United Nations Food and Agriculture Organization (FAO)
57. United Nations Framework Convention on Climate Change (UNFCCC)
58. United Nations Global Compact (UNGC)
59. United Nations High-Level Climate Champions
60. United Nations World Food Programme (WFP)

61. United Nations World Health Organization (WHO)
62. United States of America
63. University of Bath
64. University of California San Diego
65. University of Melbourne
66. University of Oxford
67. Vrije Universiteit Amsterdam
68. We Mean Business (WMB)
69. World Business Council on Sustainable Development (WBCSD)
70. World Economic Forum (WEF)
71. World Resources Institute (WRI)
72. World Wildlife Fund (WWF)