



Collaborative action to achieve 24/7 Carbon-Free Energy

Co-ordinated by:



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Executive summary

Full decarbonization of electricity systems is the linchpin to mitigating climate change. It has the potential to eliminate nearly 50% of global greenhouse gas emissions.

In 2021, a group of companies, governments, and other organizations launched the [24/7 Carbon-Free Energy Compact](#) - a set of [principles](#) and actions designed to drive systemic change. It has become a leading international initiative to accelerate the complete decarbonization of electricity grids by making 24/7 CFE achievable for all.

This report is a building block towards a more comprehensive roadmap to advance these goals. The report is the outcome of two three-hour intensive deep dive sessions with more than 65 people representing 50 companies and organizations including energy buyers, suppliers, governments, system operators, solutions providers, investors and other signatories of the Compact.

This report reflects their views on key priorities, challenges and opportunities.

The opportunities are technological, such as deploying physical and digital infrastructure, market-based, such as attracting financial capital for new technologies, and informational, such as enabling greater knowledge sharing among buyers of energy to improve awareness of how to move towards 24/7 CFE.

Standardization opportunities include creating common definitions, standards, emissions accounting methods and metrics across organizations and jurisdictions. **Socioeconomic, environmental, and other public policy** opportunities include improving understanding of how to move towards 24/7 CFE while minimizing emissions and negative ecological and social impacts, and embedding climate justice protocols and standards into strategies.

1

The first section of the report outlines key barriers to achieving these goals, which are in turn areas of opportunity for progress.

2

The second section sets out actions and solutions to enable progress.

This report proposes the following objectives for a first phase of work for signatories of the Compact, organized according to distinct workstreams.

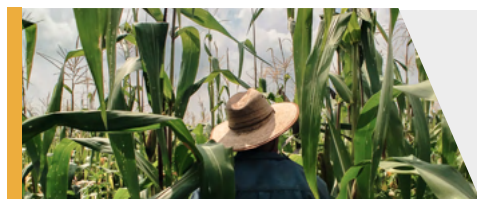
While each workstream is naturally interconnected, there is a need to design distinct phasing for the work.

In summary, the phases of work identified are:



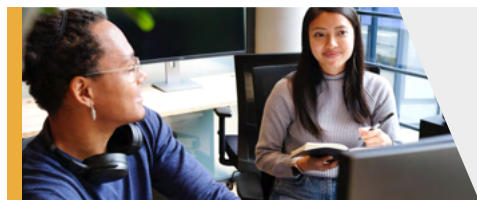
Organizational design

Setting up a governance structure, seeking financing, and setting a strategy that supports local efforts, especially in the Global South.



Climate justice, equity, diversity and inclusion

Defining terms such as these, clarifying principles, setting up an accountability mechanism, and engaging underrepresented communities.



Knowledge, innovation and learning

Engaging new signatories, setting up a knowledge hub, and producing educational materials to catalyze demand for and supply of 24/7 CFE.



Communications, amplification and outreach

Growing the ecosystem by engaging industry and NGO leaders, engaging governments to build recognition for investment and strategic partnerships, and advocating for policy reform, market incentives, and shared standards.



Shared standards, definitions and metrics

Helping signatories to map and align standards, definitions around carbon accounting methodologies, and metrics for performance for the Compact, including reframing annual goals to hourly goals.

Work on many of the objectives identified as priorities for the Compact is already underway, led by other initiatives and organizations.

For example,

EnergyTag is working on standards, market development and policy awareness of granular energy certificates. The Compact intends to support, align, and amplify related work globally, rather than duplicate existing efforts.



It is our hope that this report is the start of a process to scale existing solutions, advance policies and market changes to make 24/7 CFE achievable for all, and coordinate stakeholders that are already innovating and commercializing new technologies for zero-carbon grids.

In the coming months, it will be vital to:

Map out the stakeholders and signatories that are already advancing on the identified objectives in order for signatories to take on leadership roles in the gaps.

Recruit a broader spectrum of experts, advisors, businesses, governments, NGOs and others to join the Compact.

Use this platform to coordinate and collectively advocate for 24/7 CFE at a global scale



What is 24/7 Carbon-Free Energy?

24/7 Carbon-free Energy (CFE) means that every kilowatt-hour of electricity consumption is met with carbon-free electricity sources everywhere, every hour of every day. It is both the end state of a fully decarbonized electricity system and a transformative approach to energy procurement, supply, and policy design critical to accelerate its arrival.

The Compact has defined the following five principles as central to achieving this shared ambition:

Time-matched procurement

24/7 CFE focuses on matching each hour of electricity consumption with carbon-free electricity generation. Hourly matching helps connect clean energy purchasing to underlying electricity consumption.

Local procurement

24/7 CFE means purchasing clean energy on the local/regional electricity grids where electricity consumption occurs. This is the only way to drive consumer electricity-related emissions to zero.

Technology-inclusive

24/7 CFE recognizes the need to create zero-carbon electricity systems as quickly as possible and that all CFE technologies can play a role in creating this future.

Enable new generation

24/7 CFE focuses on enabling new clean electricity generation to support the rapid decarbonization of electricity systems.

Maximize system impact

24/7 CFE focuses on maximizing emissions reductions and solving for the dirtiest hours of electricity consumption.

Additional definitions and answers to FAQs can be found [here](#).

Introduction: The 24/7 CFE vision

Electricity accounts for approximately 30-35% of the world’s greenhouse gas emissions, and is also key to decarbonizing large sectors of the economy, including buildings, transport and industry.

Full decarbonization of electricity systems is the linchpin to global efforts to mitigate climate change.

To address this challenge, a group of energy buyers, energy suppliers, governments, system operators, solutions providers, investors and other organizations have joined together to sign the [24/7 CFE Compact](#), a set of principles and actions to accelerate the decarbonization of electricity grids by adopting, enabling, and advancing 24/7 CFE.

These efforts are in line with Sustainable Development **Goal #7**: Ensure access to affordable, reliable, sustainable and modern energy.

Over the course of two days, coordinating partner Sustainable Energy for All (SEforALL), supported by Kite Insights, conducted two three-hour intensive deep dive virtual sessions with representatives from 50 Compact signatories across the public, private, and non-governmental sectors. The team used an extended engagement process with individual signatories to learn about their priorities, the challenges and opportunities they face, and their unique vision for the Compact.

The 24/7 CFE team used a design thinking framework to ensure they built an empathetic and actionable process while creating alignment and momentum around its ambition. Leveraging the complete discipline required participants to collaborate while understanding their own positioning and contributions to the process.

To limit global warming below



the goal of the Paris Climate Agreement, world must cut carbon dioxide emissions by about



from 2010 levels by 2030, then achieve net-zero emissions economies by



The 24/7 Carbon-Free Energy Compact

Signatories to the Compact commit to the following principles and actions:

Data and Transparency

Signatories commit to advocate and support widespread access to the energy data required to enable all consumers to set and measure 24/7 CFE goals, support the optimization of CFE technologies to demand, and maximize the decarbonization impact of consumer actions.

Policy

Signatories commit to publicly advocate and support energy policies that accelerate the decarbonization of electricity grids. This can include policies that help develop, commercialize, and deploy CFE generation and demand optimization technologies; policies that expand and interconnect electricity grids to integrate CFE; policies that expand and enhance electricity markets; and policies that provide direct access to purchases of CFE, among others.

Technology

Signatories commit to supporting the advancement of CFE technology to decarbonize electricity grids, including by any one or a combination of the following actions: enabling the deployment of commercialized CFE generation and demand optimization technologies; enabling the commercialization of next-generation CFE generation and demand optimization technologies; developing or enabling supporting electricity grid infrastructure or technology that integrates CFE; developing or adopting software solutions that advance decarbonization of the electricity sector.

Market Mechanisms

Suppliers and solutions providers commit to provide offerings that enable increasing access to 24/7 CFE, including by developing contractual arrangements, market products, or other innovations that enable the delivery of round-the-clock clean electricity.

Procurement

Energy buyers commit to moving beyond 100% renewable energy annual matching goals and adopting, over time, 24/7 CFE procurement approaches that lead to new clean electricity generation to match hourly electricity demand on local/regional electricity grids where their consumption occurs, in line with the 24/7 CFE principles.

This preliminary report is a key building block of a more comprehensive roadmap to advance 24/7 CFE through the 24/7 CFE Compact.

It's contents are derived from a series of engagements with a wide range of signatories in April 2022.



Part 1: Challenges and opportunities in accelerating 24/7 CFE

Participants reported a range of barriers to the adoption of 24/7 CFE. Each represents an opportunity for progress. They can be broadly divided into opportunities relating to technological, market, information, standardization, and public policy.

Technological



Infrastructure

Challenge:

Participants highlighted a need for both physical and digital technologies and infrastructure for distribution, procurement, and monitoring of CFE. CFE infrastructure remains underdeveloped in many regions, particularly rural areas and underserved markets. Related barriers include a lack of storage technologies, a lack of innovative systems to distribute clean energy and procurement that is not at scales appropriate to local needs.

Opportunity:

Implementing this would enable customers to procure CFE more effectively from locations in regions where they operate. Policy needs to support grid connectivity by facilitating efficient siting and interconnection.



Adapting existing tools for hourly procurement

Challenge:

Existing technology systems and tools for distribution, procurement or monitoring are not yet adapted to implementation at more granular time scales (e.g. hourly). In other cases they are misaligned with varying standards and metrics.

Opportunity:

New tools can allow wholesale buyers and end consumers to better align purchases of clean energy with hourly consumption and monitor progress toward 24/7 CFE. Work has started on Granular Certificates and standards by many signatories such as EnergyTag, FlexiDao, M-RETs, and others. The Compact is a chance to bring more signatories to this work and amplify it globally.



Geographic suitability

Challenge:

The availability and geographic suitability of different kinds of CFE generation is uneven, and consumers must continue to use fossil fuel energy to ensure grid reliability and consistent electricity supply when intermittent renewable sources are not sufficiently available.

Opportunity:

Identifying the suitable sites for developing the most appropriate technologies, and targeting a diverse mix of technologies to enable large-scale electricity decarbonization in more geographies.

Market



Funding and investment

Challenge:

At present, developing new CFE technologies and solutions is costly and it is often too difficult to attract and secure funding or investment for R&D, product development, and commercialization at scale.

Opportunity:

New partnerships to invest in and scale nascent technologies and advocacy opportunities to increase public investment in R&D and create new public-private partnerships.



New financial models and products

Challenge:

For some organizations, path dependency relating to existing infrastructure and the risk of stranded assets prevent change.

Opportunity:

New financial models and products are essential. Attracting financial institutions and more policy-makers to join the list of Compact signatories may help here, and should be a priority.



Reducing the transaction costs of CFE

Challenge:

At present, buyers report high transaction costs associated with sourcing CFE and challenges tracking their consumption of CFE as barriers to adoption.

Opportunity:

Reducing these transaction costs will speed the transition. Some of the key digital infrastructure described below is key to track consumption, and present or future financial signatories may be able to advise on reducing high transaction costs.

Informational



Consumer education

Challenge:

There is a need for greater education among buyers of energy to improve awareness of how to move towards 24/7 CFE and the urgency and benefits of doing so. Greater understanding of the business case for time-matched CFE would increase demand.

Opportunity:

Consumer understanding of 24/7 CFE can be improved with research, case studies, and proof points developed by Compact signatories.



Greater education and capacity-building on technical knowhow across electricity value chains

Challenge:

At present, knowledge gaps in organizations often limit informed decision-making and connectivity.

Opportunity:

Filling these gaps by improving knowledge and understanding of how to shift towards CFE would lead to a more efficient market structure and greater engagement, leadership buy-in, and capacity to contribute to transformation in impactful ways.



Greater sharing of knowledge and resources between actors in the value chain

Challenge:

At present, data is decentralized and often private. As a result, there is limited publicly available evidence to strengthen the business case for transitioning towards 24/7 CFE.

Opportunity:

Sharing knowledge and resources between value chain actors would help to drive investment, adoption, and support for 24/7 CFE at every level.

Standardization



Definitions, standards, emissions accounting methods and metrics vary between organizations and jurisdictions at present

Challenge:

This makes it difficult to cooperate in a coordinated way and track collective progress towards shared goals.

Opportunity:

Standardization is an essential part of driving adoption of 24/7 CFE and investment in new solutions. Shared definitions and revised standards can incentivize actors to pursue 24/7 CFE, which will accelerate CFE deployment. Work in this area has already begun and the Compact can build a critical mass for mainstreaming these efforts.

Socioeconomic, environmental, and other public policy challenges



Value chain emissions

Challenge:

Signatories acknowledged that there would be an inevitable emissions footprint to an accelerated transition. For example, upscaling the infrastructure for CFE globally will require materials extraction, processing, manufacturing, transportation, installation, and maintenance.

Opportunity:

There is a need to learn how to achieve this while minimizing emissions, and to make a public argument that the emissions benefits outweigh the costs. Ultimately, the opportunity is to identify ways to reduce emissions in the value chain at the same time as accelerating the transition to CFE.



Socioeconomic consequences

Challenge:

Signatories also noted the potential for the loss of jobs and increased poverty in mining communities and other socioeconomic consequences.

Opportunity:

Those factors and several others point to the need to work with policy-makers, governments, and other actors within civil society to minimize the negative ecological and social impacts of a rapid transition.



Climate justice

Challenge:

Without an intentional and proactive commitment to climate justice, there is a risk that access to technologies and investment is skewed in favor of areas and groups with pre-existing privilege.

Opportunity:

Signatories identified the importance of embedding climate justice protocols and standards into these strategies to ensure equal access and investment.



Part 2: Actions and solutions to accelerate transformation

Several thematic areas for action emerged from the deep dives.

A good deal of work is underway to advance the following objectives. The intention of this initiative is to amplify their work at a global scale.

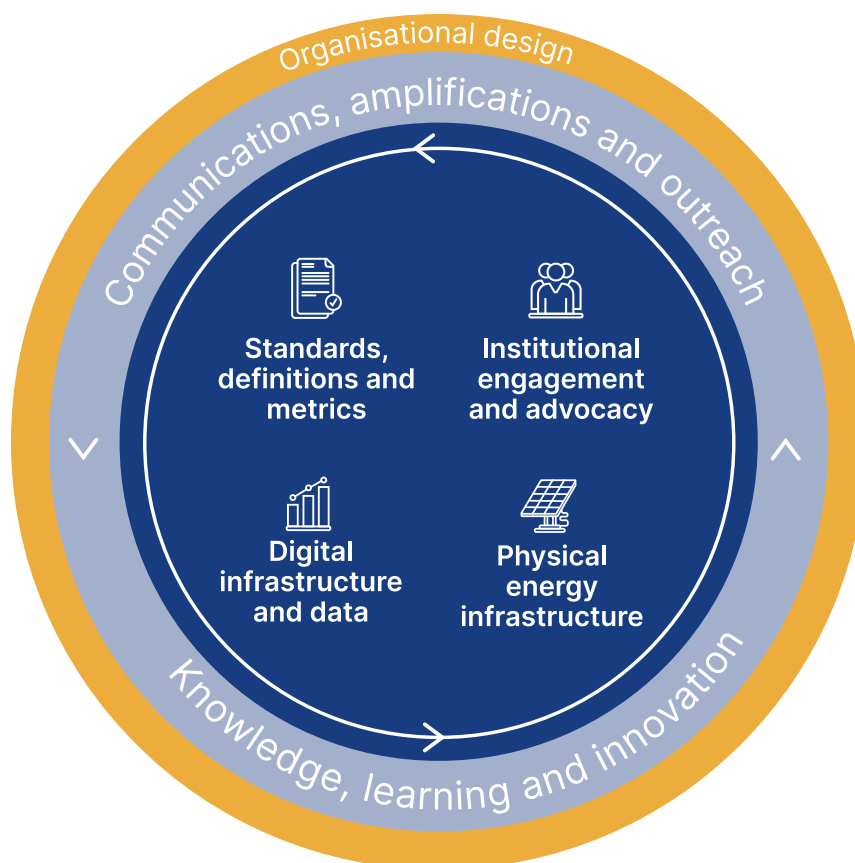
We propose the following set of workstreams. Each track would be designed, led, and delivered by a smaller working group of signatories, but the activities and outputs would intersect with, enable and complement the other workstreams.

Interactions between tracks

Each track overlaps with others, so a constant flow of information is essential. The following tracks, while operating independently, must be harmonized and aligned at every level.

The graphic below illustrates how these cross-cutting and targeted value chain workstreams could interact.

Figure 1: Proposed Configuration for Ecosystem of Workstreams



Climate justice, equity, diversity and inclusion.

At the heart of the Compact is the belief that climate justice, equity, diversity, and inclusion must be integrated across all planning, programming, activities, and communications. A key part of our work must be to draw up thoughtful, appropriate, and actionable definitions of each of these terms, which take due notice of the need to engage underserved regions of the world.

Embedding these values requires clear principles for climate justice in the Compact. An accountability mechanism would support these principles – one that includes assessment of transition risks and physical climate risks associated with the activities of the Compact and puts measures in place to mitigate these risks.



Signatories highlighted the need to work towards universal access to clean energy and support investment in and active participation from emerging economies and underserved communities.

At the time of the deep dives, most signatories were from North America and Western Europe, and signatories expressed that direct participation by organizations and individuals in the Global South and other underrepresented communities would be vital to advancing the 24/7 CFE ecosystem.

It will be important to monitor the shifting composition of the Compact to ensure diverse representation, greater inclusivity, and significant Global South participation. Increased and sustained connections to other UN agencies, coupled with a robust and comprehensive examination of financing or market incentives for scaling individual signatories' efforts, were also mentioned as key opportunities.

Objectives of this workstream:



Clarify a set of principles around climate justice, equity, diversity and inclusion



Set up an accountability mechanism



Engage underrepresented stakeholders



Assess transition risks and physical climate risks associated with the activities of the Compact



Implement measures to mitigate these risks

Knowledge, innovation and learning.

Signatories highlighted that there is a need to build greater understanding of 24/7 CFE and its benefits across stakeholder groups, including large energy buyers, end-users or consumers, and other decision-makers who can help to accelerate the transition. Learning was seen as the core activity to encourage large-scale buyers of energy to invest in 24/7-CFE aligned products and services, and adjust their internal systems to support this.

For instance, signatories pointed to the need to educate clean energy buyers that next-generation technology is vital and that they should use their purchasing power to scale these technologies and help drive down their costs. Likewise, signatories considered the need to provide more information to end-users to enable them to make smarter energy choices and put pressure on energy providers.



Accessible educational materials could support these efforts to transform demand for and supply of 24/7 CFE.

Signatories also noted the need to identify other initiatives and pilots and share success stories, as well as innovative market products, services, or strategies.

Signatories agreed that there is a need for more thought leaders and advocates supported by clearly defined and tracked pilot programs. They also noted that facilitated deep-dive discussions are vital to secure new signatories and drive greater change, adoption, and support of the program across governments, the private sector, and advocates.

For this reason, participants prioritised identifying pilots across several areas of the landscape, developing rich case studies, and translating those into easily understood and shareable success stories across many languages, cultures, audiences, and platforms. Diversity could be improved by identifying existing knowledge platforms where stories could be shared and amplified to engage and enlist new audiences.

An example of a pilot practice could be around market mechanisms, such as 24/7 CFE time-matched certificates in a particular geography. A successful pilot in this instance helps build scientific evidence and business as well as regulatory imperatives for the growth and CFE across geographies and industries.

Objectives of this workstream:



Engage signatories, set up a knowledge hub or interactive platform, produce educational materials to grow awareness



Support efforts to transform demand for and supply of 24/7 CFE, pilot new programmes, and identify new opportunities



It must also define key terms such as 'full life-cycle carbon accounting,' 'net carbon-free energy,' 'gross carbon-free energy,' and so on

Communications, amplification and outreach.

Several signatories note that strategically growing the ecosystem requires targeted and inclusive outreach and engagement.

These efforts would be harmonized with knowledge and learning activities, drawing on landscape mapping to identify industry leaders and missing actors to bring into the group. It would also work closely with climate justice activities to engage underrepresented stakeholders and ensure cultural and other sensitivities in all communications materials.

Similarly, communications and amplification would play an important role in retention and delivering value for signatories by profiling and amplifying their offerings and success stories alongside other initiatives working towards shared goals and impact.



It would also be essential to deliver the educational strategy - to provide timely and rich information to key audiences in ways that build deeper understanding, engagement, and support in the face of enormous change.

Signatories might focus their communications and outreach on underserved markets.

This would not only help the compact engage with missing actors, but it would also help develop a stronger business case for signatories looking to expand into new markets as the communications and outreach could also lead to a growth in demand for CFE in new markets.

For example, the Compact might engage regional business groups and chambers of commerce - in regions of underserved countries - about the advantages of 24/7 CFE and how their members might support it.

Objectives of this workstream:



Growing the ecosystem by engaging industry leaders and missing actors, and engaging government to build recognition for investment and strategic partnerships and advocate for policy reform, market incentives, and shared standards



The Compact is particularly well-placed to engage governments and put these issues on the agenda internationally (including by using moments such as COP and UNGA), given its links to the UN

Organizational design.

A strong organizational design is essential, including a funding model for the Compact and a governance structure that coordinates, supports, and empowers signatories so that their work has global effect.

That process would include mapping existing work underway by signatories (and others), the design and evolution of the roadmap, developing a strategy for managing coalitions and regular dialogues, and supporting the design of KPIs/impact metrics and monitoring & evaluation to inform adaptive learning and the ongoing evolution of the Compact.



Objectives of this workstream:



Undertake mapping of existing work, set up a governance structure, obtain the financing necessary to coordinate activities across each of the core 24/7 CFE workstreams



Set a strategy which enables the organization to manage the entire value chain at a global scale while supporting localized efforts, especially in the Global South



The workstream should also address internal processes to ensure the integrity of the Compact is maintained, appropriate checks around funding sources are in place, and decision making processes are appropriately flexible and robust

Target value chain workstreams

Several opportunities for value chain transformation emerged.

Shared standards, definitions, and metrics

In an emerging, change-driven endeavour of this scope and scale, there is great interest and support for shared definitions, standards, and metrics across various activities, disciplines, and processes.

There is a need for alignment to reform accounting standards such as the Greenhouse Gas Protocol to recognize and incentivize high-impact decarbonization activities including 24/7 CFE. There is also a need to improve carbon emissions reporting, including moving from annual average accounting to an hourly granularity.

Many participants noted that performance and impact KPIs that can be applied widely would be vital at every stage, as would impact metrics that recognize different rates of progress. For example, not all geographies or organizations will be able to move to 100% 24/7 CFE in the immediate term - interim targets and milestones will enable progress on the journey to 24/7 CFE.

A few of the existing signatories are working on developing standards for reviewing each generation technology, and in other instances developing proposals for hourly certificate standards. Greater collaboration within the Compact can help develop shared standards that would help build alignment across the Compact ecosystem.

Institutional engagement and advocacy

Building recognition for investment and strategic partnerships, advocating for policy reform, market incentives, and shared standards were all mentioned as essential activities. These disciplines would work collaboratively with the efforts to develop shared standards and metrics, engaging key decision-makers in policy and finance.

Similarly, efforts would be needed to engage finance sector stakeholders, so the Compact could inform and, in time, benefit from suitable funding instruments.

As identified in the deep dives, engaging with regulatory bodies and having them on board is seen as critical for the Compact. By working on this, signatories would be able to work with regulatory bodies to create a favourable regulatory and policy environment that would help signatories expand and promote CFE in different geographies.

Digital infrastructure and data tools

Virtually every participant in the deep dives considered data access and availability essential for success. While the range of data-related needs is wide and varied, a few areas stood out as uniquely crucial to build trust and momentum. Better traceability and quality data on energy supply are vital and must be implemented as soon as possible. Establishing the business case for investment in solutions to advance 24/7 CFE hinges on delivering accurate real-time data on energy consumption. Such real-time data can improve implementation.

The lack of quality data also hinders a range of decarbonization activities, such as making demand more flexible to align with times when electricity supply is cleanest. Improving data access can unlock these sorts of opportunities. Verifying and certifying the clean energy use at an hourly level to confidently demonstrate time-matched procurement of CFE is vital to enable widespread adoption of 24/7 CFE. Digital tools and infrastructure could also support the creation of a CFE marketplace to facilitate transactions that enable 24/7 CFE for more consumers.

Objectives for this workstream might include reviewing what lessons and best practices might be learned from other areas. For instance, many European countries have advanced energy data hubs that provide consumers with access to and exchange of electricity metre data. But more work remains to be done to expand these types of solutions around the world to empower energy consumers and support the development of tools to advance 24/7 CFE.

Physical CFE technologies and infrastructure

Last but not least, physical infrastructure for CFE generation and distribution is a vital part of the transformation toward 24/7 CFE for all.

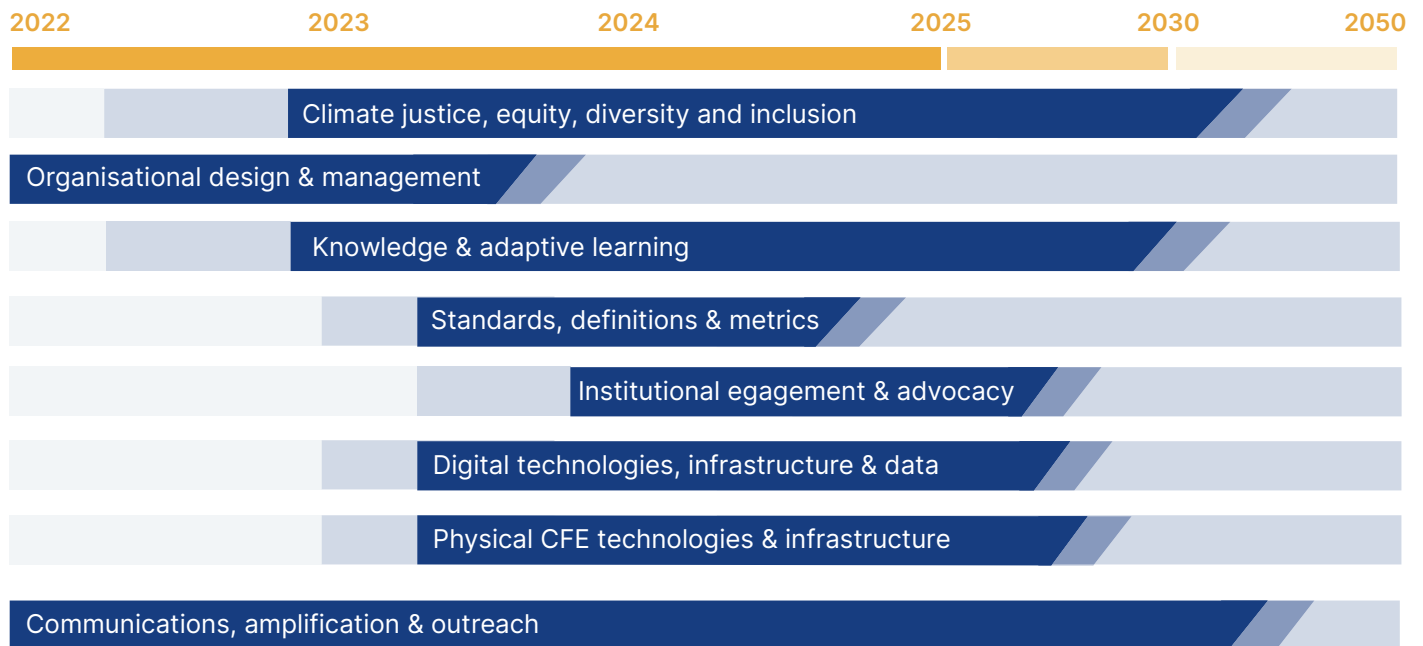
Developing CFE infrastructure in less developed geographies reinforces the tenets of climate justice. It fuels economic growth of sustainable economies in ways that can help build a thriving middle class where there has long been intransigent poverty.

Advances in CFE technology are also critical, as the full range of technologies to reach 24/7 CFE globally are not yet commercially available at scale. Signatories can work to both scale up current technologies and encourage many companies, organizations, and governments to innovate and invest in advanced technologies and solutions that span the range of segments, needs, and challenges. These include CFE generation technologies, electricity grid technologies, energy storage technologies, and demand-optimization technologies, among others.

Indicative timelines and outputs

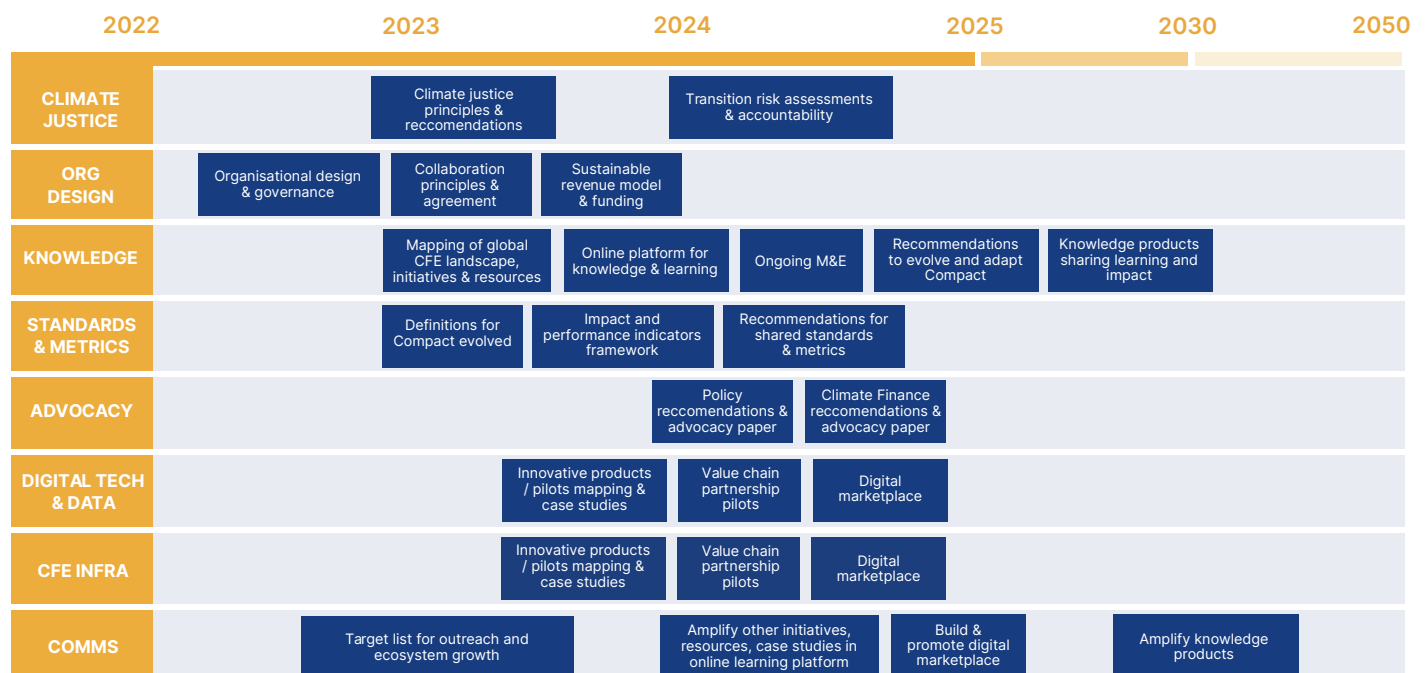
The signatories also reflected on the necessary timescales for establishing and implementing the various workstreams, allowing for their interdependencies and critical intersections.

Figure 2: Indicative Timelines for Designing and Commencing



Potential outputs for each workstream were also discussed, in terms of the value they could create for delivering the goals of each workstream, and the Compact and its wider impact.

Figure 3: Mapping Indicative Outputs



Commitments & Call to Action

The deep dives identified several critical findings and outcomes for signatory commitments and calls to action.

As this report demonstrates, signatories are highly engaged and committed to the goals of 24/7 CFE.

The intersecting workstreams we outlined offer straightforward ways for signatories to make commitments and begin implementing their near-term prototype projects.



Several activities are necessary for the overall 24/7 CFE program to succeed. Chief among them are:

Adding regulatory experts to the Compact

To support lobbying for institutional action on quality data collection and access, encourage cohesion in emission accounting standards, and facilitate the development of digital infrastructure for CFE.

Mapping the existing landscape of the broader clean energy ecosystem

To identify other Compacts and actors to engage.

Developing communications channels, data sharing opportunities and workstreams between signatories

To facilitate knowledge sharing and awareness campaigns and to create the conditions for partnership opportunities to emerge amongst signatories.

Knowledge-sharing, collaborative opportunities and pilot studies

This includes increased communication and education on the mandate of 24/7 CFE, benefits of joining the Compact and the path forward, and specific educational tracts necessary to address the transformation of current energy value chains and the shift in technologies, funding, and management.

Increasing access to finance by engaging investors/ members of financial institutions

To set the stage for a more comprehensive investment analysis and financing plan for the Compact. There is a need to build new funding models, new financial products, and the localized funding ecosystems necessary to position 24/7 CFE as an effective and profitable business proposition so that a diverse range of established, emerging and start-up entities can engage and drive these markets forward. There is also a need to create opportunities for individual signatories to access climate finance to scale their efforts in advancing 24/7 CFE.

Engaging signatories from under-represented areas, particularly the Global South

Recruiting of signatories in this area is vital to flesh out the points of view, perspectives, and recommendations from a grassroots and strategic level. Issues surrounding the last mile of energy implementation are vital to the success of 24/7 CFE in many regions of the world.

Implementing a 24/7 CFE Compact organizational model

This organization must be capable of managing efforts across the entire value chain on a global scale while supporting localized efforts in specific regions, especially the Global South. This organizational design and implementation is a limiting factor for many activities and is among the highest-ranked priorities for the 24/7 CFE program.

Assessing current and future work, and roadmap blueprinting

There is a need to map all the work currently underway by signatories and settle on both a roadmap methodology and implementation partner capable of working through the full range of activities, analysis, and synthesis to put in place a comprehensive road map spanning the next 10 to 15 years.

Establishing and maintaining a clear, concise framework for climate justice, equity, diversity, and inclusion

Such a framework must ensure women are represented across every facet of ownership, management, and planning. It must actively engage youth populations across the full spectrum of activities and establish clear policy guidelines and incentives to ensure the same.





Appendix

Appendix I: Participating organizations in the Deep-Dives

If your organization or government is interested in signing the Compact, please reach out to energycompact@seforall.org

List of Deep Dive Participants

- 3Degrees
 - 8 RIVERS Capital
 - Acciona
 - AES
 - Blok-Z
 - Bright Night Power
 - Brightmerge
 - Buildings Alive
 - Centrica Energy Trading
 - City of Des Moines
 - City of Ithaca
 - City of South Lake Tahoe
 - Clean Air Task Force
 - ClearTrace
 - Constellation
 - Dcbel
 - EDP
 - ElectricityMap
 - Energy Unlocked
 - EnergyTag
 - Engie
 - Enosi
 - Envision
 - Eurelectric
 - Faradai
 - Fervo Energy
 - FirstLight Power
 - FlexiDAO
 - Google
 - Government of Iceland
 - Granular Energy
 - HDF Energy
 - Innovea Development Foundation
 - Iron Mountain
 - Johnson Controls
 - Kaluza
 - Kanin Energy
 - Kärnfull
 - LevelTen Energy
 - Lightsource bp
 - LO3 Energy
 - M-RETS
 - Malta Inc.
 - Microsoft
 - Nord Pool Group
 - Nuclear Energy Institute
 - nZero
 - Ørsted
 - Our Energy
 - Power Ledger
 - Pyxidr
 - Quinbrook
 - SkyPower Global
 - Standard Hydrogen Corporation
 - Stonechair Capital
 - Student Energy
 - Switch
 - Voltus
 - World Business Council for Sustainable Development
 - X
- Observer: The US Government

Appendix II: Recommendations towards clearer definitions and education around

The need for clear definitions and education around the concept of 24/7 CFE was raised by several signatories.

Recommendations included:

- There is a need for clear, thoughtful, and appropriate definition of ‘full life-cycle carbon accounting, also encompassing definitions of ‘net carbon-free energy’ and ‘gross carbon-free energy’.
- Recognition of spatial and temporal boundaries; in terms of how specific markets or geographies for the supply/procurement/consumption of CFE are defined, and framing the timelines for reaching 24/7 in a way that also recognizes progress towards this goal.
- Be clearer that the Compact is talking about decarbonizing electricity rather than the broader energy sector (while acknowledging transition factors such as the shift to EV, converting household gas to electric heating, etc.)

Appendix III: Improving the representativeness of the Compact ecosystem

Participants raised the need for the Compact ecosystem to be more representative. This reveals an opportunity to diversify geographical representation and increase global impact by bringing in signatories from Latin America, Africa, and Asia.

The group is already strong in its representation of CFE providers across the spectrum of CFE generation technologies and providers of digital and data solutions, yet there are notable gaps in other areas, particularly in the public and finance sectors.

There is an opportunity to improve representation of:

- Organisations and individuals from the Global South, especially Latin America, Africa, South and Central Asia
- Public sector policy-makers
- Public procurement decision-makers
- Utility enterprises (state-owned or private; local, national or international) and other large scale energy buyers
- Finance sector actors, in particular, Climate Finance specialists
- Climate justice experts
- Education providers



Acknowledgment

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