APPROVED ENGAGEMENT STRATEGY FOR THE COOLING SECTOR

1. Objective and Approach

In order to contribute to achieving the full climate benefits associated with the cooling sector, the Cooling Engagement Strategy aims to maximize the environmental benefits of the HFC phasedown under Kigali Amendment to the Montreal Protocol through promoting early and complementary actions on HFCs, supporting strategic actions in the short-term to minimize climate-related emissions throughout the life-cycle of HFC refrigerants and HFC-based cooling equipment, and reducing the energy demand associated with new and existing cooling equipment (whether using fluorocarbons or natural refrigerant). The type of actions and activities to be undertaken will include fostering government and industry specific commitments related to cooling, supporting targeted activities and projects in developing countries that have a potential for wide replicability, and developing and sharing tools, good practices and strategic guidance and advice. The Cooling Hub will be the platform wherein this work will be designed and developed, with implementation of specific activities to be led by designated partners, the CCAC Secretariat, and/or other organizations. The Hub will also provide a forum for all actors and organizations active in the cooling space to interact and share information and experiences related to their work. Activities will be structured around four key inter-related objectives, as described below, on the understanding that an activity could contribute to multiple objectives.

The following sections list the four principal objectives of the strategy, as well the key activities associated with each objective, and the key partners (other than CCAC Partners) that will be involved. It should be noted that some of these partners are organizations that would be consulted to ensure effective coordination, identify synergies and avoid overlap, while others are organizations that would be actively engaged in either the design or implementation of activities. The specific roles and responsibilities of each key partner will depend on the particular activity to be undertaken and will be further defined within the Hub.

2. Goals

*Goal 1 – By **2025**, the CCAC will have significantly **raised high-level global awareness** of the relevance of the cooling sector to combating climate change (including by reducing the need for cooling) and **mobilized political support** for ambitious action and the provision of finance beyond that provided by the Multilateral Fund of The Montreal Protocol to assist developing countries transition towards climate-friendly cooling.*

Key activities:

- Highlight cooling in at least one annual ministerial event;
- Hold at least one CCAC Ministerial roundtable on cooling resulting in declaration with commitments by governments and industry;
- Promote consideration of issue of cooling on agendas of high-levels forums (G-7, G-20, UN Ministerial meetings, etc.);
- Develop and disseminate one high level publication on cooling.

Key partners: Cool Coalition,[i] K-CEP,[ii] Super-Efficient Equipment and Appliance Deployment (SEAD), and Ozone Secretariat, Multilateral Fund Secretariat and Executive Committee (ExCom), industry

Goal 2 – By 2023, all CCAC partner countries have ratified the Kigali Amendment or have demonstrated intent to ratify and have started the ratification process.[iii]

Key activities:

- Highlight importance of Kigali ratification and implementation at each Annual Ministerial Event;
- Letters from CCAC co-chairs to partner countries that have not ratified;
- CCAC partners that have ratified to encourage others to do so on bilateral basis.

Key partners: Ozone Secretariat, OzonAction, K-CEP

*Goal 3 – By **2030**, the CCAC has significantly contributed to enhancing the environmental benefits of the Kigali Amendment through early and complementary actions to reduce HFC and energy-related emissions in the cooling sector.*

Interim objectives by **2025:**

- All CCAC partner countries should consider measures and plans to enhance energy efficiency in the cooling sector alongside HFC phasedown.
- All CCAC developing country partners have been provided with information or training on good practices for servicing, collection, treatment and disposal of HFCs and other fluorocarbons.
- At least 50% of CCAC country partners commit to making best efforts to phase down HFCs in advance of the Kigali Amendment.
- At least 50% of CCAC country partners commit to put in place measures that promote zero or low-GWP and energy efficient cooling technologies in public procurement.

Key activities:

- Finalize and follow-up on the inventory of international cooling initiatives and programs developed by the Kigali Workstream.
- Demonstrate how to achieve accelerated HFC consumption and emission reductions while enhancing EE in cooling sector through development of: (1) technical reports, case studies, and strategic advice, and (2) project concepts aimed at assisting developing countries advance the phase-down of HFCs and/or demonstrate zero or low-GWP and energy efficient cooling technologies. HFC Hub may seek financing for the development and implementation of project proposals in 5-10 countries. Projects should be complementary to MLF assistance. Funding for projects could come from a CCAC Flagship Programme and/or bilateral donors.
- Map baseline of CCAC partner countries' existing measures and plans related to the Kigali Amendment and enhancing energy efficiency in the cooling sector, in order to assess progress towards achieving objectives and identify opportunities to enhance effort. On the basis of this information, a plan and associated potential commitments related to cooling could be presented to CCAC Annual Ministerial event and above-mentioned Ministerial roundtable.
- Promote communication and exchange of information between national ozone officers, and national authorities responsible for putting in place energy efficiency policy and national legislation, GEF and GCF focal points, among others to encourage action and assistance on phasing out as soon as possible to prevent a possible increase; build back better and seize this opportunity to prevent increase in usage.

- Develop and disseminate tools and guidance, including through technical workshops and documents, to assist partner countries identify and adopt zero or low-GWP, energy efficient alternative technologies, put in place measures and practices to enhance energy efficiency for new and existing equipment, reduce the needs for cooling (nature based solutions, passive solutions, etc), and ensure the sound management and disposal of HFC/fluorocarbon refrigerant banks, including in government operations. Consider development of guidance on how to take into account HFC emissions reductions, including through sound management and disposal, in countries' updated NDCs and national action plans.
- Organize technical workshop on how to mobilize additional financing for the cooling sector, the results of which could feed into Objective 1 (i.e. political support for provision of finance to developing countries).

Key partners: Bilateral donors, GEF, GCF, World Bank, Regional development banks, CIF, Ozone Secretariat, MLF Secretariat, UNDP, UNIDO, UNEP OzonAction, K-CEP, Cool Coalition, IFL, Global Alliance for Buildings and Construction, E3G, GIZ, and many others

*Goal 4 – By **2024**, all CCAC industry partners working in the cooling sector **provide specific commitments** on how they will support and facilitate a faster phase-down of HFCs and/or enhancing energy efficiency in the cooling sector.*[iv]

The CCAC can build on the some of the following existing industry initiatives on cooling:

- COP26 Race to Zero Breakthroughs
- Other industry commitments includingEP100
- Cool Coalition's industry working group

Key partners: Cool Coalition, High-level Champions for climate action

ANNEX 1 – CONTEXT AND CCAC's NICHE OVERALL FOR THIS SECTOR

The CCAC's Cooling Sector Engagement Strategy builds upon the CCAC's HFC Initiative, Efficient Cooling Initiative, the Kigali Workstream, and Japan's Initiative on Fluorocarbons Life Cycle Management (IFL). It focuses on areas where the CCAC's work can add value to other efforts in a sector that has attracted growing interest in recent years due to the recognition that action to promote climate-friendly, efficient cooling can make an important contribution to achieving net zero greenhouse gas emissions and the goals of the Paris Agreement.

Improving the energy use of refrigeration and air conditioning equipment globally while phasing down HFCs has the potential to more than double the climate benefits of the Montreal Protocol's Kigali Amendment, with the combined potential to avoid the equivalent of up to 260 billion tons of carbon dioxide by 2050[1]. Implementation of the the Kigali Amendment by itself can avoid up to 0.1°C of warming by 2050 and up to 0.4°C by 2100. As indicated in the CCAC 2030 Strategy, "concerted global efforts to implement known practices and existing technologies can achieve global reductions of: […] 99.5% of HFCs by 2050 compared to 2010".

With respect to energy efficiency specifically, according to recent analysis by International Institute for Applied Systems Analysis (IIASA) and Lawrence Berkeley National Laboratory (LBNL), applying maximum technically available energy efficiency technologies in parallel with the Kigali Amendment phase-down could reduce electricity consumption by approximately 26% of the expected global electricity consumption in 2050[2]. This would result in reduced climate and air pollutant emissions reductions from energy production. By 2050, annual emissions of CO_2 would be reduced by an estimated 1.4 Gt, and methane by 9 Mt. Similarly, global sulfur dioxide (SO_2) emissions could be reduced by 9%, nitrogen oxides (NOx) by 16%, and fine particulate matter ($PM_{2.5}$) by 8% by 2050.

In addition to alternative vapor compression cooling systems and technologies, it is also recognized that the adoption of passive cooling solutions such as non-mechanical technologies, better design elements, green building codes, insulation, and nature-based solutions are necessary to avoid cooling in the first place.

CCAC's Niche

The CCAC is in a unique position as it can bring high level political attention to issues related to mitigation of SLCPs and has demonstrated its ability to convene governments, civil society and industry when it rallied wide support for an amendment to the Montreal Protocol to phase down HFCs between 2013-2016, which contributed significantly to the adoption of the Kigali Amendment in 2016. During that time, the CCAC established a strong track record on engaging national government and industry, developing and implementing technology workshops, demonstration projects and case studies to promote HFC alternatives, and mobilising political leaders to support action on HFCs. After the Kigali Amendment was adopted, the CCAC continued to bring together governments and non-governmental players to build support for ratification of the Amendment and to establish a new initiative aimed at complementing the HFC phase-down by promoting energy efficiency, i.e. the Efficient Cooling Initiative. While there are many platforms and initiatives that aim to promote HFC mitigation and sustainable cooling, the CCAC is the only partnership that brings together governments, civil society and industry, with governments at the forefront of leadership and decision-making.

ANNEX 2: COLLABORATION WITH OTHER INITIATIVES

Collaboration with Other Related Initiatives and Programmes

Through a Cooling Hub, the CCAC will engage representatives of key related international initiatives and programmes in order to amplify and align efforts within the cooling sector. Presently, under the CCAC's Workstream on Complementing Implementation of the Kigali Amendment, Partners are working on the development of an inventory of organizations, programmes and initiatives related to HFCs and cooling that are active internationally. This inventory will help the Cooling Hub identify other organizations that should be consulted or invited to participate in its work.

The Cooling Hub will build on existing CCAC partnerships and collaborations, which will help avoid duplication, including its ongoing collaboration with the Cool Coalition. Both the Cool Coalition and the CCAC Secretariat are hosted by UNEP and already work together to collect and prepare case studies to inspire countries, local governments and companies to include efficient cooling solutions in their economic recovery efforts in response to the COVID-19 pandemic. The Cool Coalition plays an important role in raising awareness, especially amongst non-State actors, and the CCAC would benefit from continuing to collaborate in promoting sustainable cooling, in particular beyond CCAC partners. Similarly, the UNEP hosted Global Alliance for Buildings and Construction will be a partner in promoting passive cooling approaches and other strategies to reduce cooling demand in the built environment.

Furthermore, to ensure complementarity and added value to the Montreal Protocol and its Multilateral Fund (MLF), the Cooling Hub will encourage the involvement of key players and institutions from the Montreal Protocol, in addition to K-CEP and other bilateral and multilateral organizations active in the cooling space.

The Strategic National Planning, Policy and Implementation Hub will coordinate its activities closely with those of the Sectoral Hubs to allow for continuity from national planning to sectoral action. This Hub will engage early on in countries' SLCP planning processes with the sectoral hubs to support the implementation of the plans. Sectoral hubs are the ones that can provide implementation support for measures in their respective sectors that are identified as key priorities in the Strategic SLCP planning process.

The Cooling Hub will provide more details to the plans based on its expertise. Sectoral hubs will play an advisory and support role on delivering and implementing those policies that have been identified as priorities

[i] The Cool Coalition is a platform that promotes the reduce-shift-improve-protect holistic and cross-sectoral approach to meet the cooling needs of both industrialized and developing countries through urban form, better building design, energy efficiency, renewables, and thermal storage as well as phasing down HFCs.
[ii] K-CEP is a philanthropic program to support the Kigali Amendment of the Montreal Protocol. K-CEP envisions a world in which efficient, clean cooling—facilitated and expedited by the Montreal Protocol, governments, and the private sector—is accessible to all. At a program level, the overall goal is to significantly increase and accelerate the climate and development benefits of the Montreal Protocol refrigerant transition by maximizing a simultaneous improvement in the energy efficiency of cooling. The K-CEP results framework includes shorter-term goals. The program provides support across four windows of action: Window 1: Strengthening for efficiency (S4E); Window 2: Policies, standards, and programs (PSP); Window 3: Finance; and Window 4: Access to cooling (A2C).
[iii] 48 out of 71 nation-state partners of the CCAC have ratified the Kigali Amendment as of 29 June 2021 (UNTC)
[iv] *CCAC industry partners to be consulted on potential commitments and activities*
[1] IEA/UNEP: Cooling Emissions and Policy Synthesis Report: https://wedocs.unep.org/bitstream/handle/20.500.11822/33094/CoolRep.pdf?sequence=1&isAllowed=y
[2] Largely from avoided CO2 and methane emissions from coal/natural gas plants