

ADAPTING TO RISING TEMPERATURES: Mainstreaming Sustainable Cooling in NDCs

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Sophie Loran

Global Lead, Advocacy & Communications **Climate Action Branch, UNEP**



WELCOME REMARKS



OPENING KEYNOTE The Global Heat Challenge

Amanda McKee

Director for Knowledge and Learning NDC Partnership





Vintura Silva

Team Lead, NDC Technical Support Unit, Mitigation Division, UNFCCC



SPECIAL REMARKS High Ambitious NDC3.0



Amr Seleem

Country Engagement and Climate Policy Lead UNEP Cool Coalition



PRESENTATION Launch of the NDC Cooling Guide

Cooling and Climate: A Vicious Cycle

The Vicious Cooling Cycle



Breaking this cycle with sustainable cooling is urgent.



e at high risk	
cooling by	

Environment

7% of current global GHG emissions. This could 2X by 2050

Energy Systems

By 2050, the global energy demand for ACs would 3X (~10% of global emissions)

Why are mitigation targets important?



- Implementing 3 key actions passive cooling, best practices could avoid up to 60% of projected cooling-related greenhouse gas emissions
- Equivalent to 3.8 billion tons of CO₂eq emissions 10% of project 2050 emissions



Examples

Indonesia	NCAP aims to avoid 128 MtCO2e by 2030
India	NCAP aims to reduce 118 MtCO2e by 2040
European Union	F-gas regulations aim to cut emissions by 310 MtCO2e by 2050
Kenya	NCAP aims to cut 23 MtCO2e by 2050

Why are adaptation targets important?



Food, Nutrition and Agriculture

Cold chains for transportation and storage of perishable, nutritious crops to prevent food waste.



Health Services

Cold chains for transportation and storage of vaccines and blood products. Space cooling of health facilities to support better overall care and patient recovery.



Human Comfort and Safety

Cooling of homes and workplaces for health and wellbeing, leading to improved economic and social outcomes.



Cities

Reducing the urban heat island effect (UHIE), which can cause temperatures to be 1°C to 4°C higher than surrounding areas.





Who is at risk due to the lack of cooling?

In a warming world, access to cooling is not a luxury. It is an issue of equity, necessary to adapt and thrive.



People at high risk for the lack of cooling

Do you know the cooling access gap in your country?





Part 1: Mitigation Measures into NDCs

The cooling sector is <u>multi-dimensional</u>. Starting with key guiding questions can help surface the suitable leverage points and priorities for the country.

- What are the unique drivers and/or needs in your country? For example: •
 - UAE: Driven by the need to reduce building sector energy 0 consumption and emissions
 - Nigeria: Driven by need for adaptation to rising temperatures Ο
 - Grenada: Bold national vision (world's first HFC-free island nation) Ο
- How can your country balance the need for increased cooling access with • emission reduction goals?
- What existing governance structures could be leveraged to integrate cooling into your NDC?
- What data gaps exist in your country regarding cooling demand and • access?



Translate cooling targets into NDCs Commitments

ESTABLISHED PROCESS

KIGALI AMENDMENT

HFC production and consumption reduction

Step-wise reduction schedule for production and consumption of HFCs, measured in CO₂eq

RECOMMENDED

NATIONAL COOLING ACTION PLAN

Cooling sector targets affecting several sectors:

MITIGATION: Energy and Industrial Processes and Product Use/HFCs ADAPTATION: Health, food, cities and sustainable development

GLOBAL COOLING PLEDGE

Collective reduction of 68% of cooling-related emissions by individual measures targeting refrigerant transition, appliance efficiency, buildings and research Integrate HFC reporting in national inventory report

- Align assumptions for business-as-usual and mitigation scenarios
- Define contribution to national targets



PARIS AGREEMENT

GHG emissions mitigation and adaptation

REQUIRED

- National GHG emission mitigation target
- National scenarios
- HFC emission reporting (in t CO₂eq) only mandatory for industrialized countries
- Plan of policies and measures to achieve target
- MRV system to track progress

OPTIONAL

- National energy efficiency targets/ambitious and mandatory MEPS and labels for key cooling appliances
- HFC phase-out targets for sectors with established alternatives
- Reporting on adaptation measures

Methodology Guide for Mitigation

Stage I: **Baseline definition in** alignment with NDC

Stage II: Target formulation and integration in national NDC target





Stage III: MRV of implementation and ambition review

Step 6



Analysing progress to set ambition for next NDC period

Stage 1: Baseline definition (1/3)

STEP 1: TAKING STOCK OF DATA



- cooling.



KIP focuses on reducing HFC emissions in line with the Kigali Amendment

NCAP addresses both direct (HFCs) and indirect (energy use) emissions and includes broader goals like equitable access to

Stage 1: Baseline definition (2/3)

STEP 1: BASELINE DEFINITION (DIRECT)

KEY CONSIDERATIONS:

- inventory.

Emissions from HFCs

NCAP data is available

Ensure that NCAP assumptions are aligned with national scenario assumptions Ensure NCAP data is updated regularly Use the same data base for NDC cooling targets Ensure integration of NCAP data with Hydrofluorocarbons Phase Out Management Plan (HPMP)/KIP/Article 7 data Maintain MRV system to track progress based on the same data set Regularly revisit and improve data system

NCAP data is not available

Use Article 7 data to report on HFC emissions

Include KIP targets in NDC

Track progress using KIP reporting

Work on NCAP data to have a disaggregated data set

Start the process again with next NDC update



Align with national targets: Use the same baseline year and assumptions as your NDC and GHG

Leverage Kigali data: Article 7 HFC reports are a primary source for setting baselines.

Report non-cooling HFCs separately: Include uses like firefighting and foams; some may count toward NDC mitigation via KIP.

Stage 1: Baseline definition (3/3)

STEP 1: BASELINE DEFINITION (INDIRECT)

Emissions from electricity use

NCAP data is not available

Work on NCAP data to have a disaggregated data set

Ensure that NCAP assumptions are aligned with national scenario assumptions

Start the process again with next NDC update

NCAP data is available

Ensure that NCAP assumptions are aligned with national scenario assumptions

Ensure plausibility of modelled cooling sector's share of total energy consumption

Ensure NCAP data is updated regularly

Use the same data base for NDC cooling targets

Maintain MRV system to track progress based on the same data set Regularly revisit and improve data system

KEY CONSIDERATIONS:

- tracking.



Ensure consistency: Align cooling energy data with national scenarios to support accurate emissions

Use existing sector analysis: Build on any available studies of energy demand (e.g. for lighting, refrigeration, AC) to improve the baseline.

Stage 2: Target Formulation





STEP 4: SELECTING MEASURES

Select most impactful & feasible measures for integration into NDCs

Stage 3: MRV of Implementation and Ambition Review







Part 2: Adaptation Measures into NDCs

Starting with key **GUIDING QUESTIONS** can help surface the suitable leverage points and priorities for the country.

- How well understood is the lack of access to cooling in your country? What data gaps exist?
- What are the most vulnerable sectors in your country that would benefit from cooling adaptation measures? -
- How can your country balance the need for advancing cooling access for tomorrow with the urgency of providing adaptation solutions *today*?
- What resources, networks and innovative models can be leveraged to achieve the necessary speed and scale for advancing adaptation solutions where they are needed the most: the poorest of the poor



Methodology Guide for Adaptation

Stage I Baseline definition in alignment with NDC Stage II Target formulation and integration in national NDC targets



 Assess existing risks, data, and vulnerabilities.

Stage III MRV of implementation and ambition review

Stage 1: Baseline definition

STEP 1: TAKING STOCK OF DATA

Identify populations at risk due to extreme heat, considering:

- Heat stress exposure

- Energy access (on/off-grid)
 - Poverty rate

*Consider gender-disaggregated data

Use overlap of previous indicators to define the cooling access risk baseline

- Chilling Prospects Series

Use this as starting point for defining adaptation targets and tracking improved adaptive capacity



Link cooling access with key sectors:

-Health (medicines and vaccines preservation)

-Agriculture (food preservation)

-Urban planning (thermal comfort)

Stage 1: Baseline definition

STEP 2: DEFINING THE BASELINE							
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	Population Group/Cooling needs	Comfort & Safety	Food & Nutrition	Health & Care			
seline	Rural Poor (high risk)	No fans or insulation	No cold chains for crops or livestock	No cold chains for vaccines or medicines			
aptation ba	Urban Poor (high risk)	Poor housing, intermittent power	Inadequate food preservation infrastructure	Poorly equipped and built urban clinics			
Adi	Lower-Middle Income (medium risk)	Low-cost, inefficient cooling devices	Variable quality and efficiency of cold chain access	Variable quality and efficiency of cold chain access			



Stage 2: Target Formulation





STEP 4: SELECTING MEASURES

Develop policies, programs, and financing mechanisms for adaptation actions. Monitor progress using adaptation indicators and refine strategies as needed.

Stage 3: MRV of Implementation and Ambition Review



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	Human Comfort and Safety	Food, Nutrition, and Agriculture	Health Services
Primary Need-based Indicators	 % of buildings supported by passive cooling Heat-related illness/mortality % of households owning cooling devices 	 % of households with access to refrigeration % of food loss 	 % and # of vaccines, medicines and medical products lost annually # of health lacking cold storage facilities
Secondary Need-based Indicators	 Workdays/GDP lost annually due to heat stress % of the urban population with access to public green spaces 	 Volume and proportion of food loss and waste in the value chain % of population facing undernourishment or food insecurity 	 % of the target population covered by all vaccines included in the national program

benefits.





STEP 6: Analysing progress



Prioritize gender-disaggregated indicators to track equitable access to cooling and adaptation

Support Package

Are you a Global Cooling Pledge Signatory? Yes, then please reach out to the Cool Coalition Secretariat to schedule a call to arrange the NDC support to help you integrate cooling measures into the upcoming NDC submission.

<u>Our support package for Global Cooling Pledge Signatories includes:</u>

- Support to compile and **collect** high-level cooling sub-sectoral data.
- Assess the GHG impact of sustainable cooling and develop long-term scenarios to provide recommendations for relevant NDC areas and assisting in formulating both qualitative and quantitative NDC targets for mitigation and adaptation.
- Support coordination among sectoral technical lead agencies (as per IPCC sectors, including) Energy, IP, etc.)
- The NDC Cooling Working Group members can provide guidance and advisory support

Means of support are as per country requirement and resource availability can include local and international expert support to provide technical and coordination assistance.







In collaboration with:





Access here:



Panel Discussion

Leadership on Cooling, Adaptation, and NDC Integration



Dr Ziaul Hague Director of the Department of Environment, Ministry of Environment, Forest and Climate Change Bangladesh



Mr Abdullahi Khalif Climate Change Analyst for NDCs and **Climate Finance Lead** Somalia



Mr Leang Sophal

Deputy Director of the Department of Climate Change, Ministry of Environment Cambodia



Mr Hubert Nsoh Zan Assistant Manager, Energy Commission Ghana





Mr Dietram Oppelt Managing Director, HEAT

Chair (Germany) **Technology Executive Coommitee (TEC), UNFCCC**

Moderator

Mr Amr Seleem Country Engagement & Climate Policy Lead, **Cool Coalition, UNEP**



Sophie Loran

Global Lead, Advocacy & Communications **Climate Action Branch, UNEP**



CLOSING REMARKS



THANK YOU!

www.coolcoalition.org

