



Cooling for All Training

ECOWAS Regional Energy Forum and Training

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In Partnership With





Sessions:

1. Global Cooling Collaboration
2. Cold Chains
3. National Cooling Action Plans

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3 | National Cooling Action Plans

UNEP & SEforALL

Rationale for a National Cooling Action Plan

National Cooling Action Plans (NCAPs) support implementation of three international agreements and support economic growth

From key international agreements

Kigali Amendment to the Montreal Protocol

- Encourage the phase down of HFCs and support the uptake of climate-friendly alternative refrigerants
- Emphasize the importance of energy efficiency for refrigerant equipment and cold chains

Paris Agreement on Climate Change

- Promote access to cooling while avoiding dramatic increase in energy consumption and associated GHG emissions
- Overcome barriers to achieve climate targets

Sustainable Development Goals

- Enable assessment of overall cooling needs* to address populations at high risk due to high temperatures
- Build roadmaps to provide cooling and achieve SDGs through reduced food loss, improved productivity and health



...to domestic benefits

- Reduced energy consumption for cooling
- Reduction in f-gases, HFCs
- Coordinated action of EE and HFCs to double the climate benefits
- Identification of pathways for action
- Better workplace productivity
- Higher agricultural incomes and job creation
- Innovative business models and services

...and alignment with other countries

*See the Cooling for All Needs Assessment here: <https://www.seforall.org/data-stories/cooling-for-all-needs-assessment>

Access to cooling: from cooling needs to solutions

COOLING SOLUTION APPROACH FOR OPTIMIZATION

THREE COOLING FOR ALL - COOLING NEEDS

COMFORT & SAFETY



FOOD & NUTRITION



HEALTH & CARE



TECHNOLOGY



SERVICES



POLICY



FINANCIAL



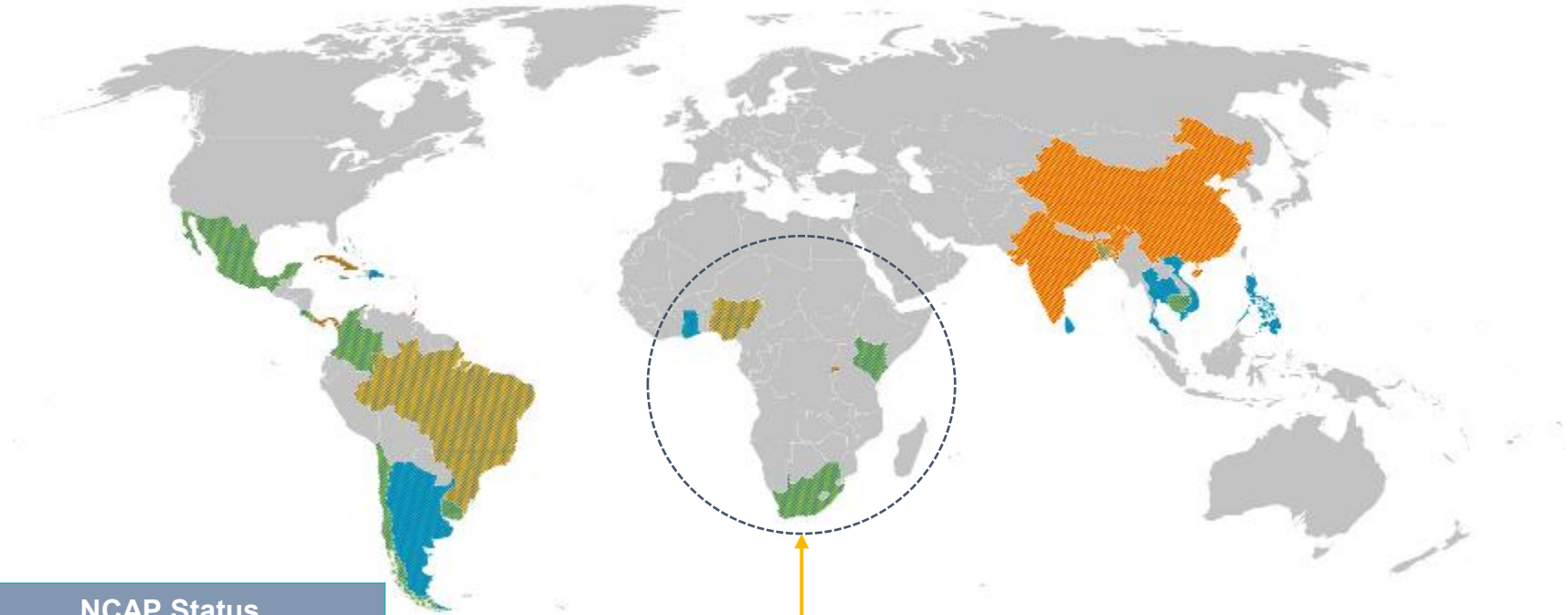
FOUR COOLING FOR ALL - COOLING SOLUTION PILLARS

Status of National Cooling Action Plans

NCAPs have been published and implemented around the world.

Partners that support NCAP development include:

- UNEP
- UNDP
- CLASP
- UN ESCAP



Country	Risk category	NCAP Status
Ghana	High Impact	In progress
Nigeria	Critical	In Progress
Kenya	Other	In Progress
Rwanda	Other	Published
South Africa	Other	In Progress

Access to cooling vulnerable populations



RURAL POOR

- Rural people that live on less than USD 1.90 per day
- May lack access to electricity
- Farmers without access to an intact cold chain
- Patients that may lack access to properly stored vaccines

ECOWAS rural poor:

- 94 million people
- 24% of population



URBAN POOR

- Urban people that live on less than USD 1.90 per day
- May lack access to electricity
- May have poor quality housing
- May have a refrigerator, but food may spoil due to intermittent power.

ECOWAS urban poor:

- 129 million people
- 33% of population



LOWER-MIDDLE INCOME

- People that live on less than USD 10 per day
- May purchase a low cost, thus likely inefficient air conditioner or refrigerator
- Higher energy consumption and GHG emissions.

ECOWAS lower-middle income:

- 139 million people
- 36% of population



MIDDLE INCOME

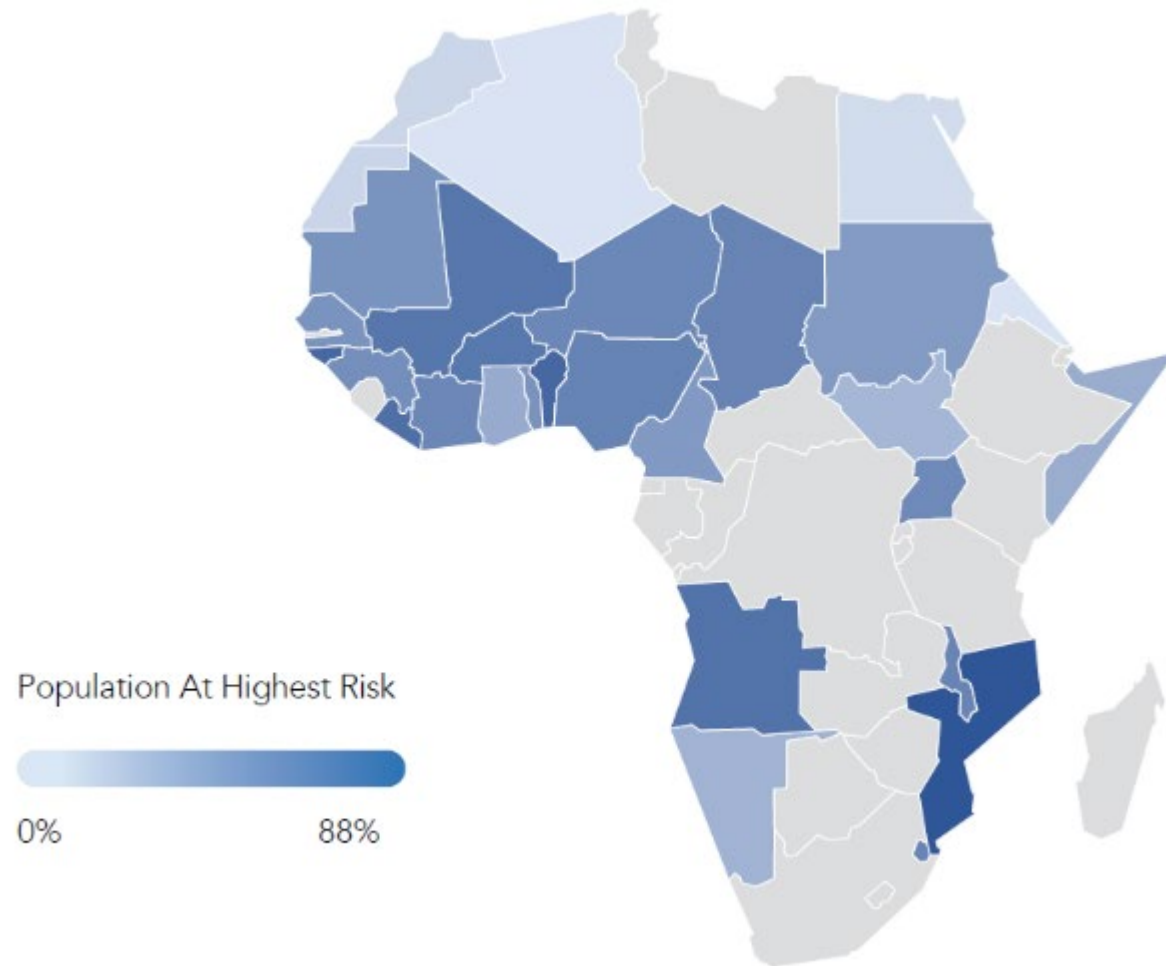
- People that live on less than USD 20 per day
- May be able to afford a more efficient air conditioner or minimize its use
- May move to energy efficient housing and working environments.

ECOWAS middle income:

- 20 million people
- 5% of population

Share of population at highest risk, 2020

Share of urban poor and rural poor combined, 2020

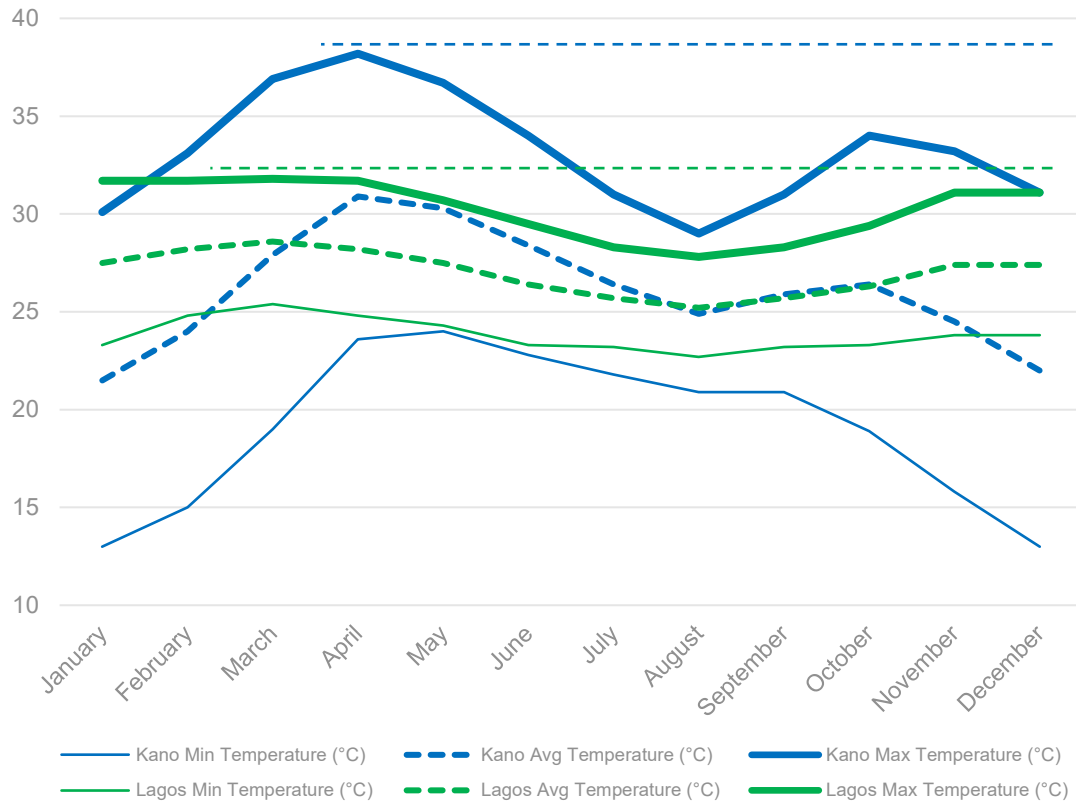


Of the African countries identified as high impact, 10 still have **over 60 percent of their populations at highest risk** – Angola, Benin, Burkina Faso, Djibouti, Guinea-Bissau, Liberia, Malawi, Mali, Mozambique and Togo

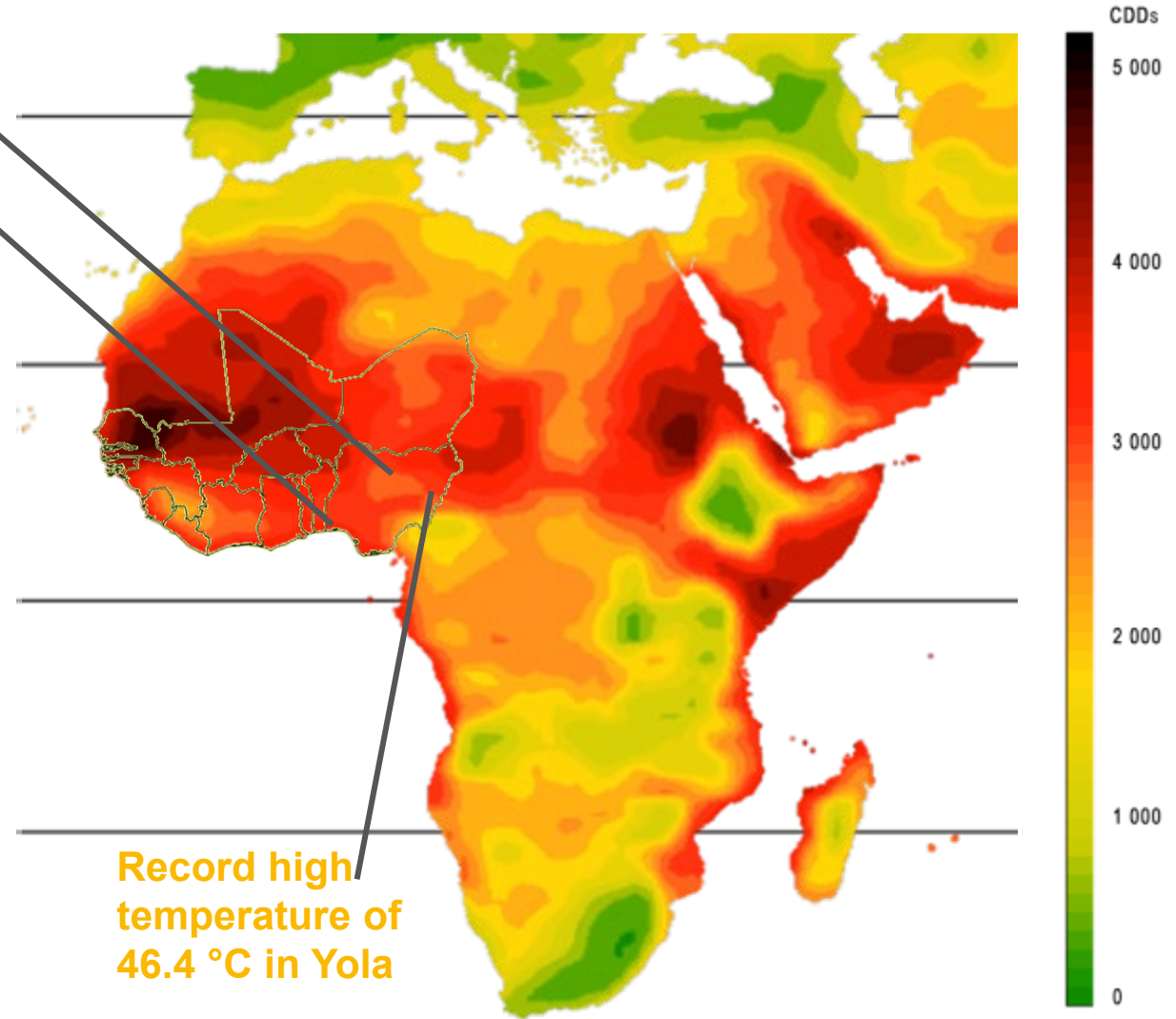
Overall, of the high-impact countries in Africa, **45 percent of their total populations are categorized as high risk**

ECOWAS countries have a large need for cooling across the whole region

Average temperature ranges in Kano & Lagos, °C



Mean annual cooling degree days, 2007-2017



ECOWAS example: Nigeria has higher needs for cooling (temperature and cooling degree days) than countries that use the most energy for cooling.

Examples of Success and Best Practice

Rwanda

Components of Rwanda's NCAP include:

- MEPS & labels for refrigerators and room ACs based on Model Regulation Guidelines
- Financial mechanisms (e.g. on-wage)
- Product registration system / market monitoring
- Collection and recycling
- Awareness raising campaign
- Cold chain scaling

India

Components of India's NCAP include:

- Comprehensive analysis across sectors
- Integrated intergovernmental approach.
- Cooling energy demand reduction targets
- Collaborative multi-stakeholder development framework

Cambodia (in progress)

Components of Cambodia's NCAP include:

Following Cool Coalition model to:

- *Deliver equity* i.e. considers met and unmet demand in Cooling Assessment
- *Cross sectoral*: actions on all 5 cooling sectors.
- *Cooling demand reduction* practices
- *Links to NDC and other policies* incl. Building and Construction roadmap (with UNEP's support)
- *Strong champion* with MoEnv and cross-ministry committee involving 6 other ministries
- *Led to finance for implementation* of priority actions on passive cooling

Built on partner's experience and insights

(Clean Cooling Collaborative, AEEE, UNEP, UNEP-OzonAction, UNDP, SEforALL, Birmingham University, ESCAP, Energy Foundation China, WBG, GIZ, UNIDO)



NCAP development team

Reinforce stakeholder collaboration and define country 's priorities and objectives

- Establish a nodal government entity and a mechanism to engage relevant stakeholders across multiple sectors of cooling
- Sets direction and actionable targets for addressing access to cooling while reducing its environmentally harmful impacts & maximizing the socio-economic benefits



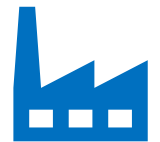
Researchers and analysts



Government entities

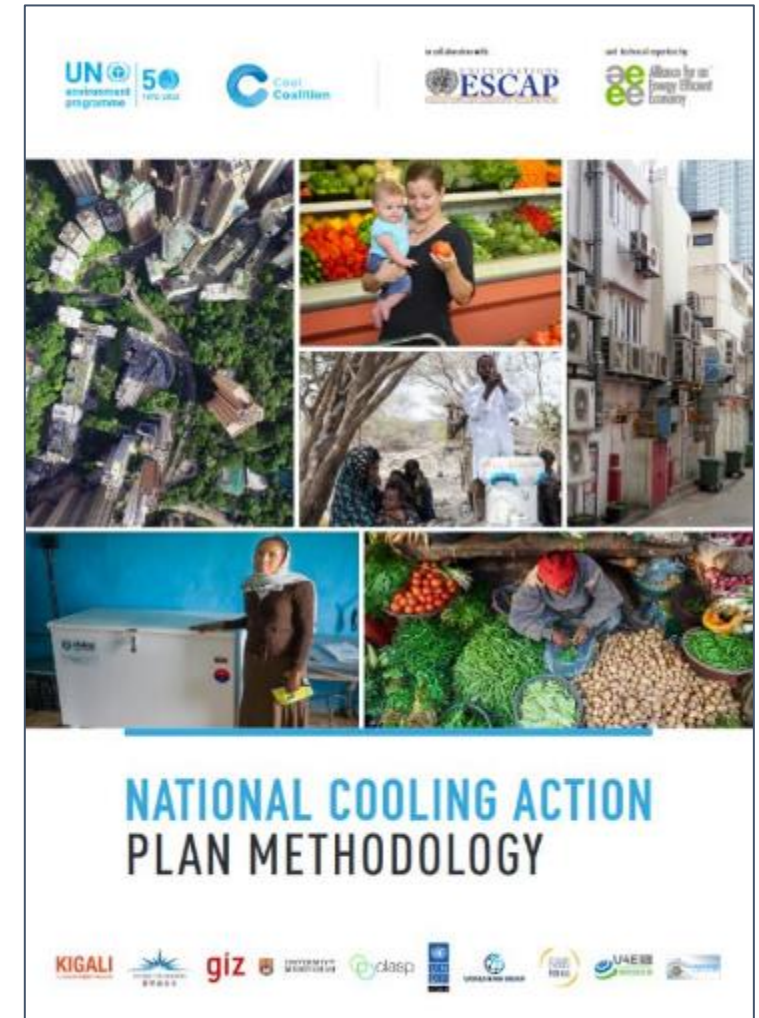
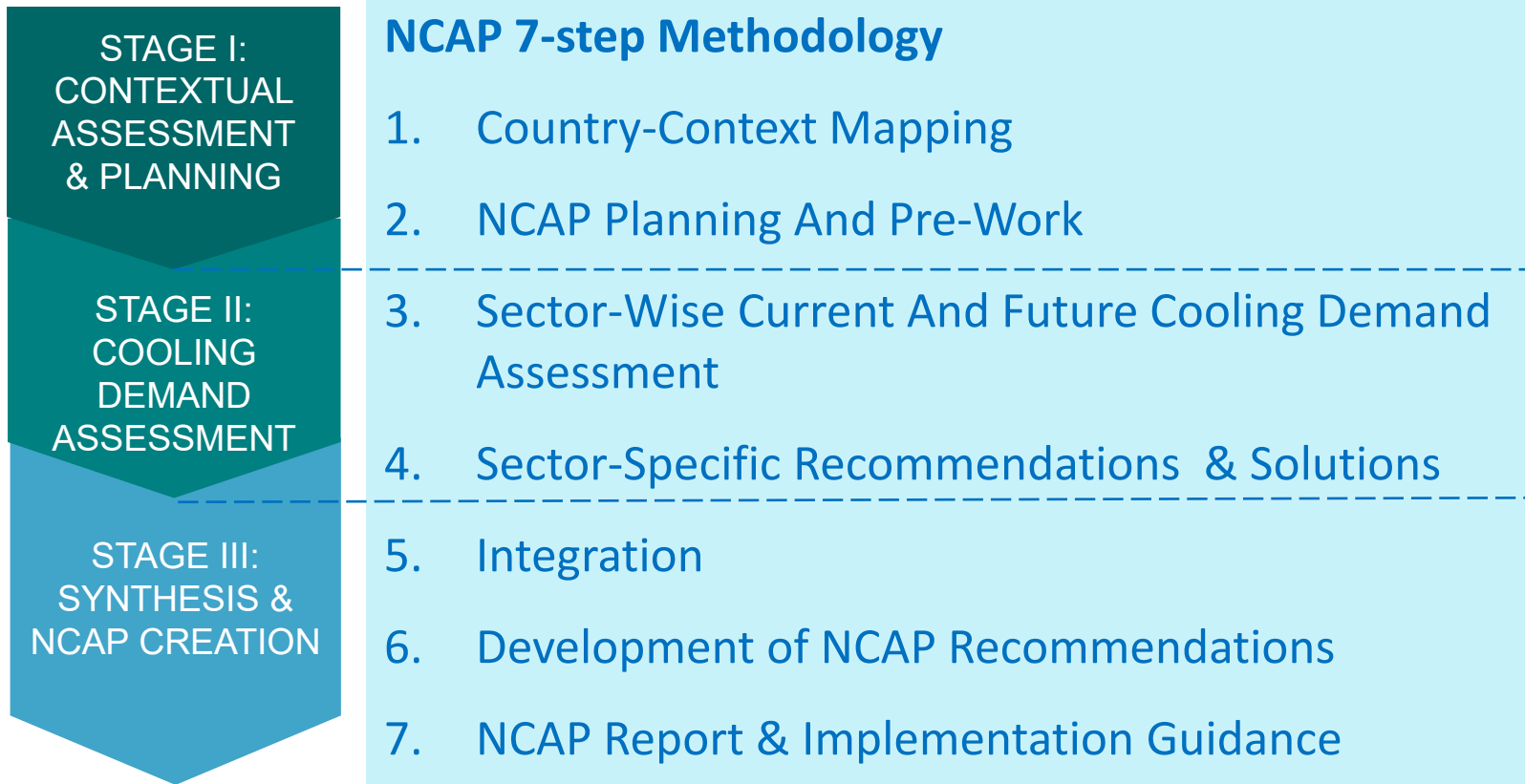
Promote an integrated approach to cooling

- First, reduce the cooling loads to the extent possible
- Then, serve the cooling loads efficiently & with low-climate impact
- And optimise the cooling operations and behaviors



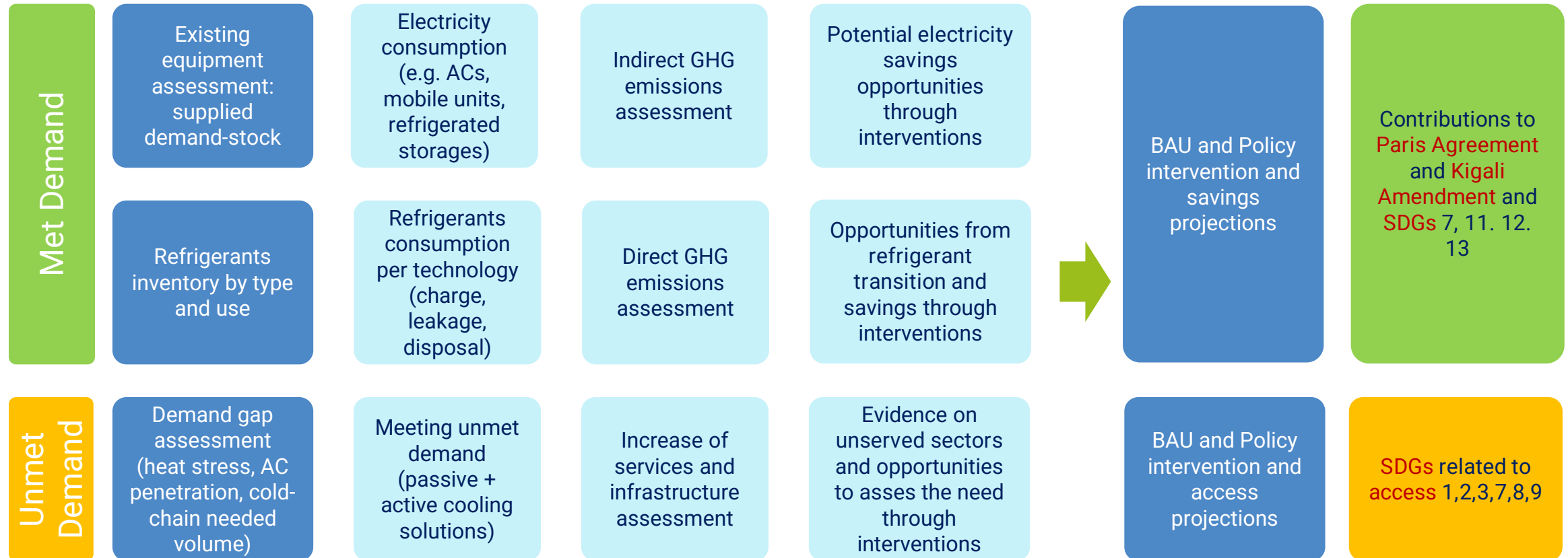
Private sector & industry

Implementation guideline that can be adjusted through modules according to countries' priorities and resources



5 modular sectors: Space Cooling, Food and Healthcare Cold Chain, Mobile AC and Process/Industrial Cooling

The NCAP Cooling Data Assessment address:



Sector-specific Recommendations & Solutions and their Integration

Main elements

- Synthesise the analysis to derive meaningful solutions and future pathways
- Prioritise recommendations based on:
 - Ease of implementation
 - Potential impacts and co-benefits
 - Synergies with existing government policies and programmes

Example: Space Cooling in Buildings

Suggested interventions

- Policy formulation & implementation
Example: Leverage MEPS & S&L of cooling equipment to influence consumers purchasing decisions
- Market enablers & supporting instruments
Example: Capacity building and training of HVAC and refrigerant service professionals
- Innovative financial instruments
Example: Incentive mechanisms to shift the market toward energy efficient, and low-climate impact space cooling

Integration

- Consolidation of sector-specific assessments into an aggregated nationwide cooling assessment
- Relative importance of sectors in terms of demand growth and opportunities for interventions
- Opportunities for cross-sectoral synergistic actions

Discussion:

Is there interest in developing cooling strategies/plans in your country?

Questions to consider:

Is the Cool Coalition NCAP methodology useful for your country?

Are there policies in your country that set the foundation for sustainable cooling progress?

What is the biggest barrier for developing a NCAP?

- A. Lack of data
- B. Need for technical assistance
- C. Lack of awareness on the importance of delivering efficient, affordable and climate-friendly cooling
- D. Finance