



Cool your NDCs! How to integrate the cooling sector in your NDCs

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Bangkok, Theatre

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Agenda

Welcome Remarks	Sebastian Schnatz German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)
Cool Contributions Fighting Climate Change: Tools and Guidance to integrate the cooling sector in your NDCs – and to measure mitigation measures	Irene Papst HEAT GmbH
Practical insights into strategies to cool your country's NDC	Leslie Smith National Ozone Officer, Grenada
Questions & Answers	All participants
Conclusion and Closing Remarks	Guntram Glasbrenner GIZ Proklima



Welcome Remarks

Sebastian Schnatz, German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)



Cool Contributions Fighting Climate Change: Tools and Guidance to integrate the cooling sector in your NDCs – and to measure mitigation measures

Irene Papst, Heat GmbH

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Selection of tools and guidance

New series of minimodules

Exemplary MRV system for NDC measure

NDC guideline for policy makers

Self-analysis quick check tool

Whitelist for financing equipment

MRV blueprint for the RAC sector

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A new series of “Mini-modules”

- Aimed to provide short - to the point - information
- Problems solvers addressing distinct issues when cooling your NDC

Brand new:

Exemplary Monitoring,
Reporting,
and Verification (MRV)
system for a
mitigation action in the
cooling sector

Soon to come:

Using Art 7 data for HFC
emission reporting in the
National Inventory Report

Soon to come:

Approach to setting an
HFC emission baseline
within the NDC

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Exemplary MRV of Cooling NDC measure

- Condensed guidance showcasing the application of MRV on project level
- Example: PV deployment to support cooling systems
- 5 - Step approach to project MRV



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Key objectives

- Emissions Reductions through the use of renewable energy
- Implementation target: installed PV capacity
- Co-benefits: reduced peak-load, job creation, etc

Monitoring

- Establish baselines: no or little PV deployment linked to cooling systems
- Identify key variables: installed PV capacity, average yield
- Regular data collection, analysis, and production of results

Reporting

- Regular generation of detailed reports
- Reporting on key variables identified: number of installed systems, impact on emission reduction
- Transparent documentation in the reports, e.g. data collection and sampling methodology

Verification

- Independent third-party verification, e.g. of the number and size of installed systems, sample testing of performance, horizontal/vertical cross-checks with similar initiatives or previous years
- Ensure clarity and credibility

Continuous Monitoring

- Ongoing data collection and analysis: follow the performance of the PV system to document long-term impact
- Supports corrective and active management of programmes.

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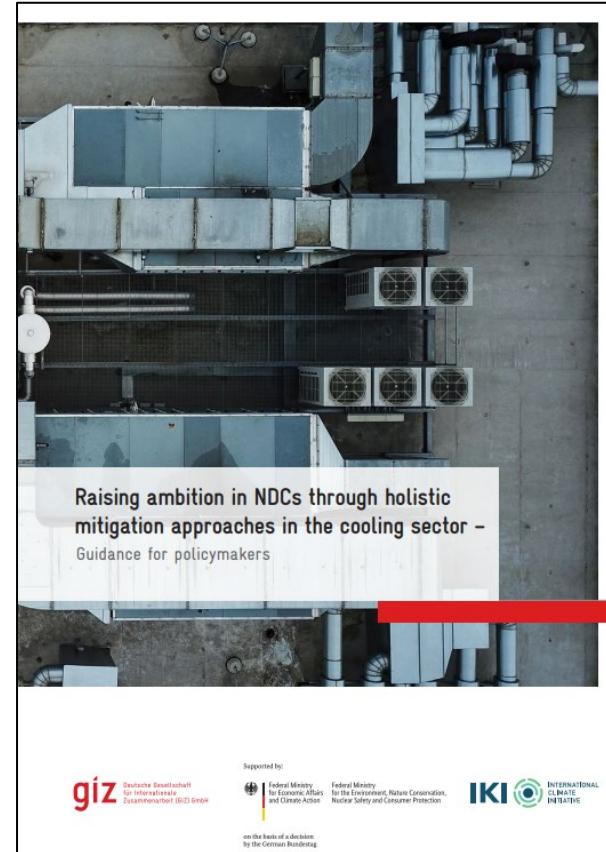
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Raising ambition in NDCs through approaches in the cooling sector

Guideline for policy makers

- 5-Step approach to integrate cooling sector targets into the NDCs
- Extensive list of possible measures
- Benchmarking tool
- Links to background information



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Step 1: A solid data base / Baseline setting

Check out your current NDC

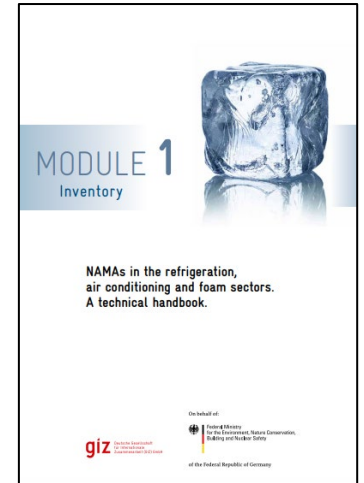
Is there a comprehensive data set on cooling sector equipment and emissions?

- E.g. as part of a Kigali Implementation Plan or a National Cooling Action Plan
- An equipment-based approach, covering refrigerant emissions and energy use is recommended

Define status quo

- Are HFCs included in the baseline?
- Are HFCs reported in the last National Inventory Report?

→ If not, liaise with National Ozone Unit about data available for Tier 1 HFC emission reporting



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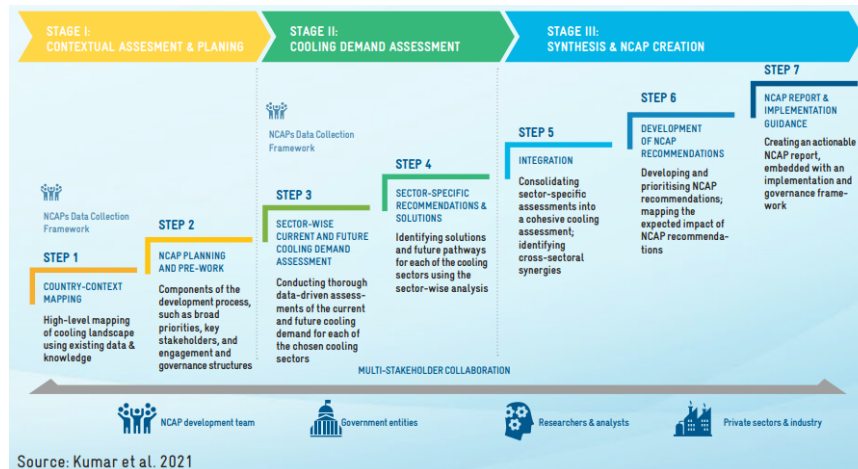
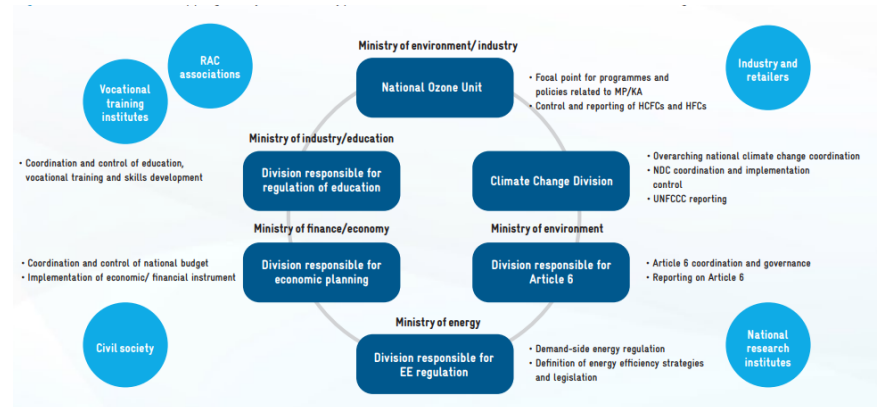
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Step 2: Develop a comprehensive mitigation strategy

Bring stakeholders together

- Advance a shared vision and long-term strategies
 - Consider the relevance for adaptation and access to cooling for all citizens
 - Build on the HFC reduction obligations mandated by the KA
 - Consider emissions generated by energy use
- final document could be a National Cooling Action Plan



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Source: Kumar et al. 2021

Tool box on 64 policy instruments targeting refrigerant use and energy efficiency

Policy instruments	Refrigerants	Energy efficiency
Overall target	1	
Financial instruments	6	
Regulatory instruments	20	12
Market related instruments	6	7
Capacity building	3	
Tracking and MRV	5	
Enforcement		4



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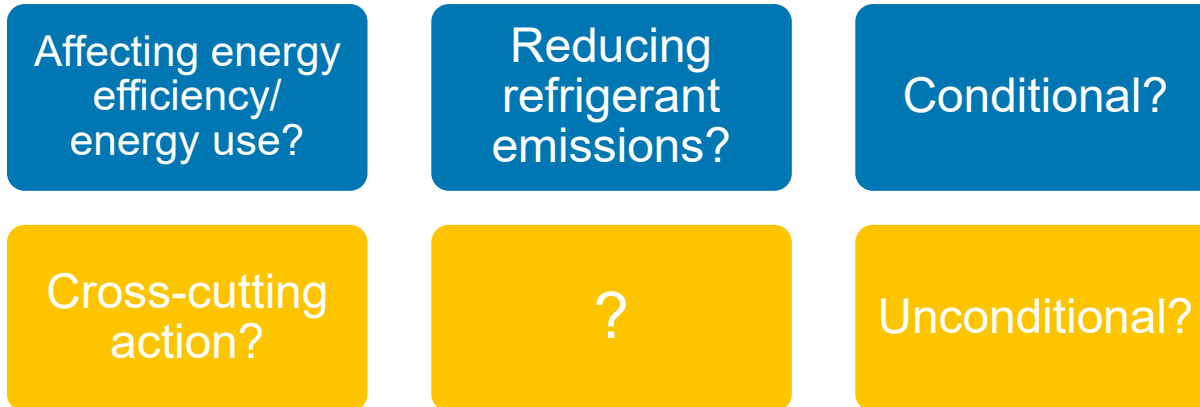
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Step 3: Anchoring in the NDC update process

Talk to other government entities

- Define and frame mitigation measures
 - Based on sector plans (Kigali implementation plan), National cooling action plan, energy efficiency strategy, etc.
- Describe mitigation potential
- Joint decision making by all key stakeholders to determine the best position of the sector in the respective NDC
- Relevant questions:



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Step 4: Linking cooling sector goals with other sectors

Maximize the benefit

The linkage of cooling sector-related mitigation measures and plans with other relevant sectors and targets set for them, especially the building sector and demand side energy efficiency, including the consideration of institutional structures and coordination with the respective (governmental) actors.

Establish links e.g. to

Power sector

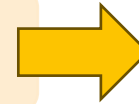
- Decarbonisation
- Energy efficiency

Housing policies

- Insulation requirements for efficient cooling
- City planning to avoid heat island effects
- Promotion of natural ventilation

Adaptation

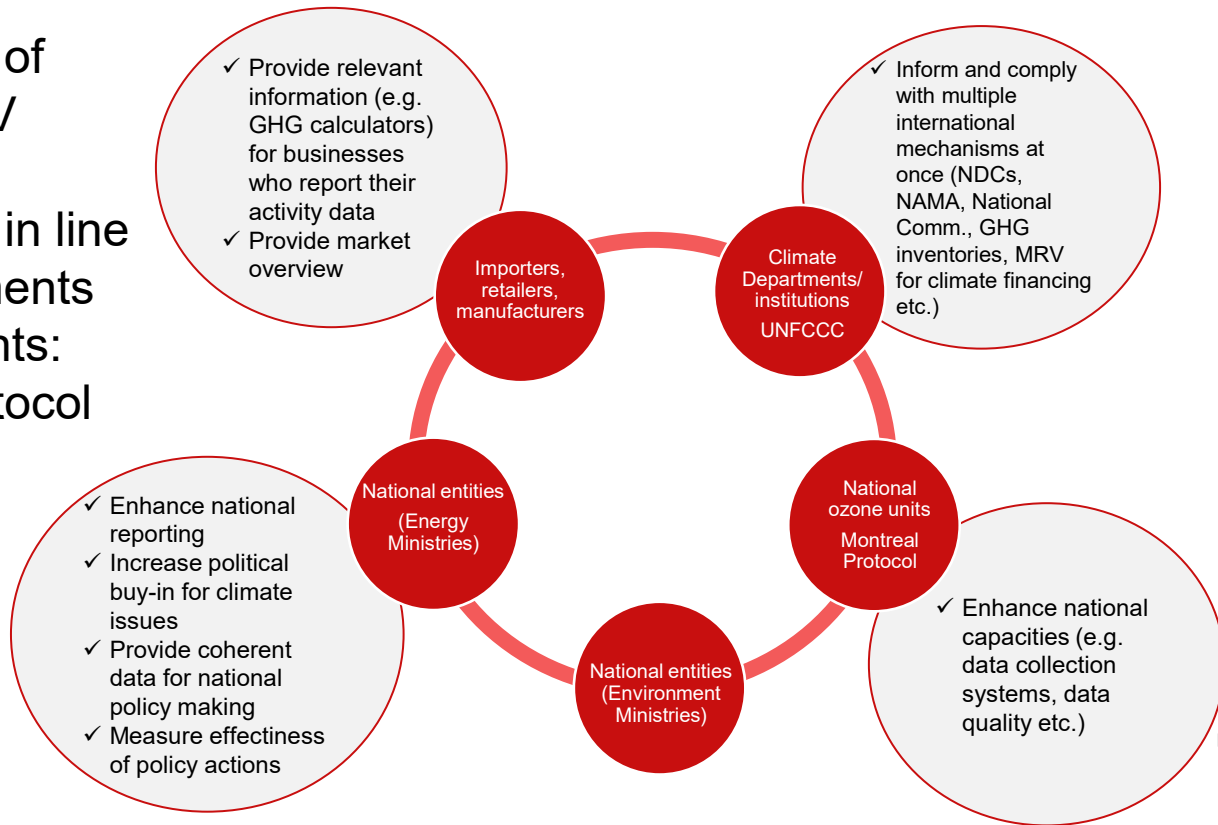
- Reduce food losses due to improved cold chain
- Protect health during heat-waves
- Increase productivity by improving thermal comfort



Step 5: Tracking progress

Multiple benefits of an MRV system

The development of tracking and MRV systems for HFC emissions that is in line with the requirements of both agreements: the Montreal Protocol and the Paris Agreement.



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Quick self-analysis of RAC sector NDCs

Self-analysis of what can be regarded as an ambitious RAC sector target in the context of NDCs



Takes up the concepts described in the RAC NDC guideline

- Uses the toolbox
- Indicates ambition in relation to country group

Indication of ambition level per target or measure

- Each measure is rated individually

Result: a qualitative colour impression

Refrigerant targets/measures

Overall (economy-wide) declared HFC consumption reduction target
Did your country define an economy-wide HFC emission reduction target?
 Reference to Kigali Amendment, no further differentiation or additional action **Low**
 Freeze of current levels of HFC consumption (no growth of HFC consumption) **Medium**
 Sectoral target to reduce HFC consumption by 25% every 5 years, starting in 2025 with the first step of -25% to be achieved in 2030

Financial Instruments to reduce HFC consumption

Does the NDC foresee any financial instruments to support the reduction of HFC use or to promote natural refrigerants?
 No financial regulation/incentives to reduce HFCs and promote natural refrigerants **Low**
 Levy (e.g. tax, fee) on the use of high GWP HFCs **Medium**
 Financial incentives (e.g., import tax reduction, subsidy), less than 20% of equipment cost, to use natural refrigerants **Medium**
 GWP-weighted levy or carbon tax on all HFCs and HFOs (substances as defined in EU F-gas regulation)
 Financial incentives (e.g., import tax reduction, subsidy), more than 20% of equipment cost, to use natural refrigerants
 Reduction of investment cost via bulk procurement programme.

Regulatory Instruments to reduce HFC production and consumption

Does the NDC include any regulation to control the production and/or use of HFC refrigerants?
 No regulation to reduce HFC use
 Green public procurement with GWP limits for refrigerants based on current EU F-gas regulation



Reflection round

Reflection round



For parties:

Irene has presented different steps on the way to integrating the cooling sector into the NDCs. Where do you stand in your country? What will be your next step?



For observers:

How do you contribute and what's your main take-away?



1st person: 1 minute



2nd person: 1 minute



Conversation: 2 minutes





Practical insights into strategies to cool your country's NDC

Leslie Smith, National Ozone Officer, Grenada

Notes (I)

- Grenada is on a good way to becoming the world's first HFC-free island and aspiring to becoming the world's first natural-refrigerants-only island
- Regulation on Building Performance Standards
- National Cooling Action Plan 2019:
 - Minimum Energy Performance Standards (MEPS)
 - Capacity building
- Cooling sector is Grenada's most successful sector in the NDCs
- Benefits of supporting Green Cooling technologies (natural refrigerants + energy efficiency):
 - Emission reduction
 - Cost reduction (by tax exemptions + energy savings)
 - Health
 - Access to technology and affordability

Notes (II)

Recommendations:

1. Policies
2. Stakeholder consultations
3. Awareness campaigns about natural refrigerants
 - End users
 - Technicians
4. Choosing the right temperature → lower electricity demand
5. Smart AC systems → monitoring and control



Questions & Answers

All Speakers



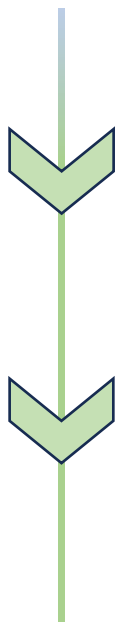
Conclusion and Closing Remarks

Guntram Glasbrenner, Programme Manager, GIZ Proklima



You are motivated? Let's get started!

Your first three steps:



- 1 Set up HFC reporting in NIR
- 2 Formulate target for HFC emission reduction and energy efficiency improvement in alignment with national targets
- 3 Attribute mitigation effect to specific activities and report on their progress

Your most important contacts:

- 1 The National Climate Change Committee
- 2 The Department of Energy
- 3 The RAC Industry: Equipment sellers and technicians



You are motivated? Let's get started!

What are the most important approaches?



Minimum target: HFC emission reduction as an effect of KIP implementation



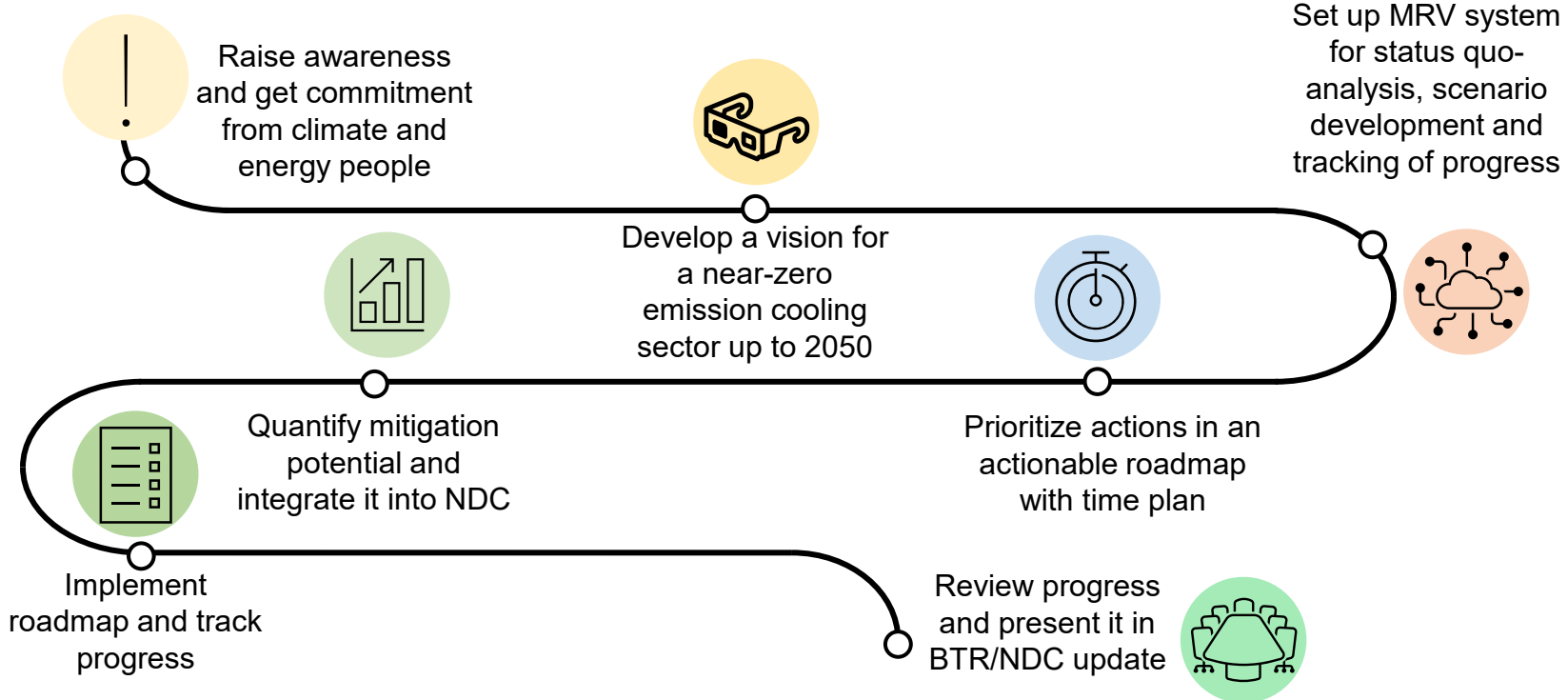
In addition: MEPS for AC and refrigerators, combined with GWP limits
(phased approach, communicated early)



Optimal: real phase-out scenario for HFCs that contains growing use
of fluorinated gases and inefficient appliances now.

You are motivated? Let's get started!

Milestones to raise ambitions in your NDCs:





Request our support here:



Contact: ndc4@giz.de

NDC Helpdesk for the cooling sector





THANK YOU

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