

# **Green Cooling Africa Initiative**

## **Final Report Part V**

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## Appendices

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- GIZ Press Release: “28th Meeting of Parties (MOP) to the Montreal Protocol: CTCN-project showcased during GIZ-side event on how to integrate HFC Amendment in ongoing mitigation actions”
- Agenda RAC Inventory Workshop Mauritius
- Article on RAC Inventory Workshop Mauritius in *Le Mauricien*
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# Green Cooling Africa Week

## Introduction & Thematic Overview

June 7-10, 2016, Centurion, South Africa

### Venue

Leriba Hotel and Spa

245 End St, Centurion, 0157, South Africa

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hosted by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Proklima Program,  
in cooperation with Department of Environmental Affairs (DEA), South Africa, and Climate  
Technology Centre & Network (CTCN)



On behalf of:



Federal Ministry  
for the Environment, Nature Conservation,  
Building and Nuclear Safety

of the Federal Republic of Germany

green   
cooling initiative



environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA



## Green Cooling Africa Week

### Embarking on a Climate-friendly Refrigeration and Air-Conditioning Development Pathway in Africa

#### Green Cooling Initiative, NAMA Training & Transport Refrigeration

Due to low efficiency levels and high leakage rates of refrigerant gases with high global warming potential (GWP), the refrigeration and air-conditioning (RAC) sector is responsible for a significant share of global greenhouse gas (GHG) emissions, and this share is expected to rise to 30% by 2030. Especially in Africa, the rapidly expanding middle class and changing lifestyles translate into growing demand for refrigeration and air-conditioning. In order to mitigate both direct and indirect emissions from the cooling sector, the introduction and diffusion of green cooling technologies is of paramount importance.

Three projects financed under the international climate initiative (IKI) of the German Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety (BMUB) are therefore organising a joint Green Cooling Africa Week.

The **Green Cooling Initiative (GCI)** recognizes that exchange between technology suppliers and users, as well as between industry, public institutions and civil society, is important for the promotion of green cooling technologies. Aiming at a reduction of emissions from the cooling sectors, *Green Cooling* promotes the use of natural refrigerants and energy-efficient cooling appliances. It furthermore fosters a sustainable approach to private and commercial energy consumption.

The **RAC NAMA project** is also supporting partner countries worldwide with the development and implementation of nationally appropriate mitigation actions (NAMA) in the cooling sector.

The German-South African **transport refrigeration project** in South Africa introduces climate-friendly transport refrigeration by reducing direct refrigerant emissions of the cooling systems and by increasing energy efficiency of the vehicle insulation.

The **objectives** of this workshop are to:

- Introduce GCI approach, inform policy-makers about relevance of cooling sector and technology options for GHG mitigation and sustainable development in Africa;
- Illustrate best practices (standards, regulations, technologies) of green cooling projects worldwide
- Introduce NAMA development process in a step-by-step- approach;
- Facilitate exchange between policy-makers and RAC industries from the region on technology pathways & standards;
- Expand the GCI network in Africa and further dissemination of green cooling technologies.

**Participants** (see detailed list on last page)

- National ozone officers/national climate mitigation focal points from 15 African countries
- Policy-makers from the ozone/climate/energy-efficiency sectors
- GCI Network Partners, RAC manufacturers

**Week Overview** (see detailed schedules below)

DAY 1, Tue June 7, Green Cooling Africa Network	DAY 2 – Wed June 8, NAMA Training Day 1	DAY 3 – Thu June 9, NAMA Training Day 2	DAY 4 – Fri June 10, Transport Refrigeration
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## Tuesday, June 7, Green Cooling Africa Network

Time	Program	Responsible/ Speaker
<b>08:30</b>	<b>Arrival and Registration, Coffee</b>	
<b>09:00</b>	<b>Welcome</b>	Salome Margaret Molefe (NOU), DEA, South Africa
<b>09:30</b>	<b>Introduction of Participants</b>	Moderation: Nika Greger GIZ Proklima/GCI Germany
<b>10:00</b>	<b>Introduction &amp; Overview of Green Cooling Initiative (GCI)</b> <ul style="list-style-type: none"> <li>The benefits of green cooling in the context of integrated ozone and climate protection</li> <li>Best practices</li> <li>Discussion</li> </ul>	Philipp Denzinger GIZ Proklima/GCI Germany
<b>10:30</b>	<b>(I)NDC and NAMA related issues in South Africa</b> <ul style="list-style-type: none"> <li>(I)NDC of South Africa</li> <li>NAMA process on national &amp; subnational level</li> <li>Discussion</li> </ul>	Mkhuthazi Steleki (tbc) , Director DEA, South Africa
<b>11:00</b>	<b>Coffee break</b>	
<b>11:30</b>	<b>Rationale for Climate Action RAC&amp;F</b> <ul style="list-style-type: none"> <li>Emissions &amp; mitigation potential</li> <li>Financial options</li> <li>Technology options</li> </ul>	Jonathan Heubes, Consultant HEAT Germany
<b>12:00</b>	<b>Lunch break</b>	
<b>13:00</b>	<b>Climate Technology Centre &amp; Network (CTCN)</b> <ul style="list-style-type: none"> <li>Introduction of the UN technology mechanism</li> <li>Role of CTCN</li> </ul>	Thando Ndarana, Council for Scientific & Industrial Research (CSIR), Pretoria, South Africa, CTCN Consortium Partner
<b>13:20</b>	<b>Green Cooling Africa Initiative (GCAI)</b> <ul style="list-style-type: none"> <li>Objectives and Activities of the GCAI (BMUB/CTCN funded)</li> </ul>	Joseph Baffoe, NDE, EPA Ghana
<b>13:40</b>	<b>A private sector representative's perspective on Green Cooling Technologies</b> <ul style="list-style-type: none"> <li>Experiences gained and benefits of CO2</li> </ul> <p>The feasibility of CO2 in high ambient climates</p>	Wynand Groenewald – Head of Engineering, Commercial Refrigerant Services (CRS), South Africa
<b>14:00</b>	<b>Interactive session (panel) on climate &amp; ozone link</b> What are synergies, links and different viewpoints of HMPMs, NAMAs & NDCs dealing with RAC&F	Moderation: Johanna Bergmann NAMA Consultant Germany
<b>15:00</b>	<b>Coffee break</b>	
<b>15:30</b>	<b>NAMA Development Process</b> <ul style="list-style-type: none"> <li>Under the UNFCCC</li> <li>10 steps approach</li> </ul>	Johanna Bergmann
<b>15:50</b>	<b>NAMA RAC&amp;F Moduls &amp; Training</b> <ul style="list-style-type: none"> <li>10 steps of RAC&amp;F NAMA Handbook</li> <li>Outlook to day 2 &amp; 3</li> </ul>	Nika Greger
<b>16:00</b>	<b>Transport refrigeration</b> <ul style="list-style-type: none"> <li>Outlook to day 4</li> </ul>	Michael Schuster GIZ, South Africa
<b>16:10</b>	<b>What's next?</b> <ul style="list-style-type: none"> <li>The Green Cooling Initiative Network</li> <li>Next Steps/ how to use this "at home"</li> <li>Evaluation &amp; Feedback</li> </ul>	Philipp Denzinger
<b>16:45</b>	<b>Closing remarks</b>	Salome Margaret Molefe (NOU), DEA, South Africa

## Wednesday, June 8, NAMA Training Day 1

Time	Program	Responsible/Speaker
8:30	Welcome Coffee	
09:00	Introductions, introduction to the agenda and objectives	Nika Greger
09:30	<b>What is a good NAMA?</b> <ul style="list-style-type: none"> <li>- transformational change</li> <li>- bankability</li> <li>- relationship to LEDS and INDCs</li> </ul>	Johanna Bergmann NAMA-Trainer Germany
9:45	<b>Introduction to the NAMA Tool</b>	Johanna Bergmann
10:15	<b>Coffee Break</b>	
10:45	<b>Establishing NAMA readiness on the national level</b> <ul style="list-style-type: none"> <li>- institutional structures</li> <li>- data availability</li> <li>- inventory</li> </ul>	Jonathan Heubes NAMA-Trainer, HEAT Germany
11:10	<b>Useful tools for NAMA readiness and Climate Reporting on the national level</b> <ul style="list-style-type: none"> <li>- DIS Tool</li> <li>- HFC inventory and projection tool</li> </ul>	Jonathan Heubes
11:20	<b>The NAMA Development Process</b> <ul style="list-style-type: none"> <li>- steps and responsibilities</li> <li>- timeline</li> <li>- stakeholder engagement</li> <li>- success factors</li> </ul>	Johanna Bergmann
11:45	<b>The NAMA Development Competition – Introduction</b>	Johanna Bergmann
11:50	<b>Technical Options</b> <ul style="list-style-type: none"> <li>- mitigation potential</li> <li>- costs</li> <li>- availability</li> <li>- advantages / disadvantages etc.</li> </ul>	Jonathan Heubes
12:15	<b>Policy Options for mitigation in the RAC&amp;F sectors</b> <ul style="list-style-type: none"> <li>- Policy instruments – refrigerants/energy efficiency</li> <li>- Best practice: EU regulation</li> </ul>	Jonathan Heubes
12:30	<b>Lunch Break</b>	
13:30	<b>Case Studies</b> <ul style="list-style-type: none"> <li>- Thailand</li> <li>- Colombia</li> </ul>	Jonathan Heubes
13:45	<b>Discussion on transformational potential of the case studies</b>	
14:00	<b>Steps 1 – 3: From LEDS to a NAMA</b> <ul style="list-style-type: none"> <li>- selecting interventions to make good quality NAMA – prioritization of options, stakeholder engagement</li> <li>- determining sectoral, temporal and geographical scope</li> <li>- establishing emission baselines and mitigation scenarios</li> </ul>	Johanna Bergmann
14:20	<b>Co-benefits from a NAMA in the RAC&amp;F sectors and the co-benefits tool</b>	Jonathan Heubes
14:40	<b>The NAMA Development Competition – Exercise I</b> <ul style="list-style-type: none"> <li>- developing ideas</li> <li>- assessing co-benefits and mitigation potential</li> <li>- selecting suitable technologies and policies</li> </ul>	
15:30	<b>Coffee Break</b>	
16:00	<b>Scenario Calculation</b> <ul style="list-style-type: none"> <li>- emission savings and scenarios (30')</li> </ul>	Jonathan Heubes
16:50	<b>Summary / reflection / feedback</b>	
17:00	<b>End of day 2</b>	

## Thursday, June 9, NAMA Training Day 2

Time	Program	Responsible/Speaker
9:00	Looking back at day 1, Agenda day 2, open questions	
9:30	<b>The NAMA Development Competition – Exercise II</b> - prioritization of ideas	
10:15	<b>Financing NAMAs</b> <ul style="list-style-type: none"> <li>- financial architecture of NAMAs</li> <li>- leveraging private funds</li> <li>- involving potential financiers</li> <li>- funding opportunities</li> </ul>	Johanna Bergmann
10:30	Discussion, Questions and Answers	
10:45	Coffee Break	
11:15	<b>MRV – a key element of NAMAs</b> <ul style="list-style-type: none"> <li>- formulating good quality, measurable and ambitious NAMA objectives and indicators</li> <li>- developing an MRV plan</li> <li>- MRV in the RAC&amp;F sectors</li> </ul>	Johanna Bergmann & Jonathan Heubes
11:45	<b>The NAMA Development Competition - Exercise III</b> <ul style="list-style-type: none"> <li>- formulating objectives and indicators</li> <li>- developing an MRV plan</li> </ul>	
12:25	Reporting and Verification	
12:45	Lunch Break	
13:45	<b>Filling in NAMA templates</b> <ul style="list-style-type: none"> <li>- UNFCCC</li> <li>- NAMA Facility</li> <li>- Ecofys</li> </ul>	Jonathan Heubes
14:00	<b>Implementing NAMAs</b> <ul style="list-style-type: none"> <li>- organisational structure</li> <li>- identifying and communicating best practice</li> <li>- institutionalizing improvement and learning</li> </ul>	Johanna Bergmann
14:15	Discussion	
14:25	Participative development of quality criteria for NAMAs	
14:50	<b>The NAMA Development Competition – Awards Ceremony</b>	
15:30	Coffee Break	
16:00	<b>Analysis of the situation in your country</b> <ul style="list-style-type: none"> <li>- responsibilities,</li> <li>- data availability,</li> <li>- your job,</li> <li>- barriers, needs,</li> <li>- NAMA activities</li> <li>- Potential NAMA ideas in the RAC&amp;F sectors</li> </ul>	
16:35	<b>Take-away messages</b>	Philipp Denzinger & Nika Greger, GIZ Proklima, Germany
16:45	Feedback / Evaluation	
17:00	End of day 3	

Friday, June 10, Transport Refrigeration		
<i>Time</i>	<i>Program</i>	<i>Responsible/ Speaker</i>
<b>09:00</b>	<b>Welcome and Introduction</b>	
<b>09:10</b>	<b>Transport refrigeration sector – Key facts and figures</b>	Michael Schuster, GIZ South Africa,
<b>09:30</b>	<b>Options for mitigation</b> <ul style="list-style-type: none"> <li>· Policy options</li> <li>· Technical options</li> </ul>	Michael Schuster
<b>10:00</b>	<b>Discussion</b>	
<b>10:15</b>	<b>Project activities in South Africa</b>	Michael Schuster
<b>10:40</b>	<b>Coffee Break</b>	
<b>11:00</b>	<b>Transfer by bus to Linbro Business Park, Johannesburg</b>	
<b>11:30</b>	<b>Site visit domestic manufacturer Transfrig</b> <ul style="list-style-type: none"> <li>· Introduction to Transfrig</li> <li>· R290 transport refrigeration system</li> </ul>	Mark Demartinis, Leon De Swardt, Transfrig
<b>12:30</b>	<b>Lunch Break</b>	
<b>13:30</b>	<b>Transfer by bus to Groenkloof, Pretoria</b>	
<b>14:15</b>	<b>Site visit South African Bureau of Standards (SABS)</b> <ul style="list-style-type: none"> <li>· Introduction to SABS</li> <li>· Thermal test chamber for refrigerated vehicles</li> </ul>	Jelena Janjic, SABS Herman Strauss
<b>15:45</b>	<b>Evaluation and closing remarks</b>	Michael Schuster
<b>16:00</b>	<b>End of Green Cooling Africa Week</b>	
<b>16:00</b>	<b>Transfer to the airport and hotel</b>	

Participant List				
First Name	Last Name	Country	Organization	Position
Igobe	Malidza	Botswana	National Ozone Unit	National Ozone Officer (NOO)
Edison	Chaba	Botswana	Climate Change Unit, Department of Meteorological Services	Chief Technical Officer
Enok	Chiwire	Botswana		RAC Expert
Maseko	Mompati	Botswana		RAC Expert
Philipp	Denzinger	Germany	GIZ Proklima	Project Manager
Nika	Greger	Germany	GIZ Proklima	Project Manager
Jonathan	Heubes	Germany	HEAT Consultancy	NAMA-Trainer
Johanna	Bergmann	Germany		NAMA-Trainer
Joseph	Baffoe	Ghana	Environmental Protection Agency	Principal Program Officer
Michael	Onwona-Kwakye	Ghana	Environmental Protection Agency	Assistant NOO Coordinator
David	Rono	Kenya	Ministry of Environment, Water & Natural Resources	Deputy Director Policy
Charles	Tseole	Lesotho	Lesotho Meteorological Services	Meteorologist
Sete	Marshall	Liberia	Environment Protection Agency	Ozone Officer
John	Mawenda	Malawi	Ministry of Forestry, Fisheries and Environmental Affairs	Environmental Inspector
Jacques Rudy	Oh-Seng	Mauritius	Ministry of Environment, Sustainable Development, Disaster and Beach Management	Environment Officer
Anita	Kawol	Mauritius	Ministry of Environment, Sustainable Development, Disaster and Beach Management	Environment Officer
Rosana Luís	Francisco	Mozambique	Ministerio para a Coordenacao da Accao Ambiental	Assistant NOO, Technician
Amalia	Nangolo	Namibia	Ministry of Industrilaisation, Trade and SME Development	Assistant NOO
Paulus	Ashili	Namibia	Ministry of Environment and Tourism	Conservation Scientist
Nurudeen	Yaru Mahmud	Nigeria	Federal Ministry of Environment	Chemical Engineer
Chioma Felistas	Amudi	Nigeria	Federal Ministry of Environment	Senior Scientific Officer
Inese	Chang-Waye	Seychelles	National Ozone Unit	NOO
Margaret	Molefe	South Africa	Department of Environmental Affairs	Director Hazardous Chemicals Management

Mactavish	Makwarela	South Africa	Department of Environmental Affairs	Director: Climate Change Transport Mitigation
Rabelani	Tshikalanke	South Africa	Department of Environmental Affairs	Director: Climate Change Transport Mitigation
Maweni	Lubalo	South Africa	Department of Environmental Affairs	Deputy Director: Hazardous Chemicals Management NOU
Molokwane	Gift	South Africa	Department of Environmental Affairs	Assistant Director : Hazardous Chemicals Management NOU
Ndlovu	Lutendo	South Africa	Department of Environmental Affairs	Assistant Director : Hazardous Chemicals Management NOU
Mundalamo	Mashudu	South Africa	Department of Environmental Affairs	Deputy Director: Climate Change Transport Mitigation
Motha	Andrew	South Africa	Department of Environmental Affairs	Deputy Director: Climate Change Industry Mitigation
Thando	Ndarana	South Africa	CSIR	
Schuster	Michael	South Africa	GIZ South Africa	Advisor
John	Ackermann	South Africa	Southern African Refrigerated Distribution Association (SARDA)	Chairman
Wynand	Groenewald	South Africa	CR Services (CRS)	Head of Engineering
Jocelyn	Kettle	South Africa	CR Services (CRS)	
Sihle	Mkhatshwa	Swaziland	Department of Meteorology	INDC Focal Point
Alhagie	Sarr	The Gambia	National Environment Agency	Program Officer Ozone Unit
Bruce	Simfukwe	Zambia	Environmental Management Agency	Assistant NOO
Absalom	Sakala	Zambia	Ministry of Lands, Natural Resources and Environmental Protection	Environment Management Officer
Lawrence	Mashungu	Zimbabwe	Ministry of Environment, Water & Climate	Climate Change Mitigation Expert, NAMAs Approver
George	Chaumba	Zimbabwe	Ministry of Environment, water & Climate	NOO

<b>Family Name</b>	<b>First Name</b>	<b>Country of Residence</b>	<b>E-Mail Address</b>
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**GIZ Press Release**  
**16.06.2016**

## **Green Cooling Africa Week, 7-10 June, 2016, South Africa**

Due to low efficiency levels and high leakage rates of refrigerant gases with high global warming potential (GWP), the refrigeration and air-conditioning (RAC) sector is responsible for a significant share of global greenhouse gas (GHG) emissions. Especially in Africa, the rapidly expanding middle class and changing lifestyles translate into growing demand for refrigeration and air-conditioning. In order to mitigate both direct and indirect emissions from the cooling sector, the introduction and diffusion of green cooling technologies is of paramount importance.

Three GIZ projects (Green Cooling Initiative, NAMA Project, Transport Refrigeration South Africa) financed under the international climate initiative (IKI) of the German Federal Ministry of Environment, Nature Conservation, Building and Nuclear safety (BMUB) organized the Green Cooling Africa Week from June 7-10 2016 in Centurion, South Africa.

The organizers acknowledge, that exchange between technology suppliers and end-users, as well as between industry and public institutions, is important for the promotion of green cooling technologies. Consequently, around forty stakeholders, comprising national ozone officers, climate change focal points, industry representatives of twelve African countries were invited and joined the four-day event.

Within the framework of the Green Cooling Africa Initiative (GCAI), CTCN and BMUB support four African partner countries (Ghana, Kenya, Mauritius and Namibia). Seven delegates from those countries, working in the ozone and climate departments of their home ministries, were among the participants engaged in a vivid exchange on how to further the goal of transformational change in the cooling sector via sped up technology transfer and implementation of sectoral RAC NAMAs.

During the event, CTCN and its activities, as well as the Green Cooling Africa Initiative, were introduced. Presentations by the CTCN consortium partner 'Council for Scientific and Industrial Research', as well as by representatives of the four CTCN-GCAI partner countries, spurred great interest among the participants.



REPUBLIC OF NAMIBIA

MINISTRY OF FINANCE

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Enquiries: Mr J. M. Sanandwa

Fiscus Building  
10 John Meinert Street  
Private Bag 13295  
WINDHOEK

Our Ref..... Your Ref: 29/09/2016.....

26<sup>th</sup> October 2016

Mr Gabriel P. Sinimbo  
Permanent Secretary  
Ministry Of Industrialisation Trade & SME Development  
Private Bag 13340  
Windhoek

**Attention: Mr Oscar**

Dear Colleague,

**RE: ESTABLISHMENT OF A NATIONAL INVENTORY DATA COLLECTION ON ENERGY CONSUMPTION AND GREEN HOUSE GASSES (GHG) EMISSIONS RESULTING FROM REFRIGERATION AND AIR CONDITIONING (RAC)**

The Ministry of Finance hereby acknowledging receipt of your letter dated 29<sup>th</sup> September 2016.

Kindly be informed that your request on provision of information of Mercury Inventory is appreciated.

It is therefore advised that Ms. Sharma contacts staff members responsible for Statistics at Customs Mr. Javan M. Sanandwa, Controller – Statistics and Trade Data Verification at **061-2092290**, Email: [Javan.sanandwa@mof.gov.na](mailto:Javan.sanandwa@mof.gov.na) or Ms. H. Iiyambo Senior Customs Officer at **061-2092290/2288** Email: [helvi.iyambo@mof.gov.na](mailto:helvi.iyambo@mof.gov.na).

Yours sincerely,

**MS. E. B. SHAFUDAH**  
**PERMANENT SECRETARY: MINISTRY OF FINANCE**

  
**DATE**



REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

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10 November 2016

Mr. Gabriel P. Sinimbo  
Permanent Secretary  
Ministry of Industrialization, Trade and SME Development  
Private Bag 13340  
Windhoek

**Subject: Solicitation of Joint Project Implementation of the Green Cooling Africa Initiative**

Dear Mr. Sinimbo,

The Green Cooling Africa Initiative (GCAI), carried out in Namibia for the Response Plan assigned under the Climate Technology Centre & Network (CTCN), represents a regional initiative aimed to prepare for a transformational change towards sustainable cooling appliances. The request was submitted by the Ministry of Environment and Tourism, however, the National Ozone Unit has been involved from beginning. The project intends to support countries in developing the required capacity for a climate friendly and energy efficient cooling sector. As an intended result, the involved countries will develop a clear understanding on how the cooling sector contributes to their national energy consumption and total greenhouse gas (GHG) emissions and where appropriate policy measures are required.

The ongoing project implementation in Namibia includes the data collection for a national inventory of the refrigeration and air conditioning sector, as well as a national stakeholder inventory workshop, held on September 22, 2016, in Windhoek. Further national and regional workshops are planned, in order to transfer the project's results from the national level to the region and to exchange views on best practices as well as opportunities and challenges.

To achieve above-mentioned results and carry out the planned activities accordingly, a joint implementation of the project's goals and activities by line Ministries is of high importance. For this reason, the Ministry of Environment and Tourism is kindly requesting your Ministry through the National Ozone Unit to support and carry out the Green Cooling Africa Initiative.

Thank you in advance for your support to the project.

Yours sincerely,

  
M. Lindeque  
Permanent Secretary



**"Stop the poaching of our rhinos"**

All official correspondence must be addressed to the Permanent Secretary





REPUBLIC OF NAMIBIA

## MINISTRY OF INDUSTRIALISATION, TRADE AND SME DEVELOPMENT

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WINDHOEK

Enquiries: Mr. F. Oscar

Our Ref:..... Your Ref:.....

29 March 2017

Dr. Malan Lindeque  
Permanent Secretary  
Ministry of Environment and Tourism  
Private Bag 13306, Windhoek

Dear Dr. Lindeque

### SUBJECT: SOLICITATION OF JOINT PROJECT IMPLEMENTATION OF THE GREEN COOLING AFRICA INITIATIVE

Reference is made to the letter dated 10<sup>th</sup> November 2016, on the above-stated subject.

The Ministry Industrialisation, Trade and SME Development through the National Ozone Unit would hereby like to provide its assurance to Ministry of Environment and Tourism that it will provide full support to the Green Cooling Africa Initiative in Namibia. Such support will include, among others the ongoing data collection for a national inventory of the Refrigeration and Air- Conditioning Sector (RAC) and organization of the national stakeholder workshops. We therefore look forward to a successful completion of the said tasks.

For any enquiries, please do not hesitate to contact the National Ozone Unit Office at  
Tel: +264 61 2837509/7515 or Fax: +264 61 259676 or e-mail: [oscar@mti.gov.na](mailto:oscar@mti.gov.na) or  
[nangolo@mti.gov.na](mailto:nangolo@mti.gov.na)

Please accept the assurance of my highest regard.

Yours sincerely

Gabriel P. Sinimbo

PERMANENT SECRETARY



**"Growth at home"**

All official correspondence must be addressed to the Permanent Secretary

giz Postfach 5180 • 65726 Eschborn • Deutschland

Ms. A. Burrenchobay  
Ag. Senior Chief Executive  
Ministry of Environment, Sustainable Development, and Disaster  
and Beach Management  
Ken Lee Tower  
Cnr Barracks & St Georges Streets  
Port-Louis

Philipp Denzinger  
Project Manager  
Proklima International  
Division Climate Change, Environment,  
Infrastructure/

Dag-Hammarskjöld-Weg 1 - 5  
65760 Eschborn, Deutschland  
T: +49 6196 79 3294  
F: +49 6196 79 803294

November 21, 2016

**Subject: Request for approval of one national and one regional workshop and training in Mauritius under the Green Cooling Africa Initiative**

Dear Ms. Burrenchobay,

The Green Cooling Africa Initiative (GCAI), implemented by the National Ozone Unit and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, is proposing to carry out one national and one regional stakeholder workshop, as well as one training for regional decision-makers in Mauritius in the first quarter of 2017.

The GCAI, carried out for the Response Plan, assigned under the Climate Technology Centre & Network (CTCN), represents a regional initiative aimed at a transformational change towards sustainable cooling appliances. The project intends to support countries in the development of the required capacity for a climate friendly and energy efficient cooling sector. In this context, we hereby propose to hold a one-day national workshop for national decision-makers and relevant representatives of the industry to present the country-specific policy and technology recommendations and jointly develop feasible and appropriate national strategies for technology and policy needs. Additionally, we propose a one-day regional workshop for relevant political decision-makers on the national and regional level, which shall present Mauritius as best-practice example, transfer the project's results from the national to the regional level and exchange views on chances and challenges for the region. We furthermore suggest that the regional workshop be accompanied by a two-day NAMA, MRV or similar training for decision-makers of the region.

Consequently, we hereby kindly request the Ministry of Environment, Sustainable Development, and Disaster and Beach Management to approve and support the implementation of national and regional workshops/trainings in collaboration with the Ministry's National Ozone Unit.

Thank you in advance for your support of this project.

Yours sincerely,



**Philipp Denzinger**  
Project Manager

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH

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TO WHOM IT MAY CONCERN

**Subject: Data confidentiality of refrigeration and air conditioning (RAC)  
inventory**

GIZ, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, in cooperation with the consulting HEAT, is conducting an RAC inventory in Namibia. The project is supported by the National Ozone Unit within the Ministry of Industrialisation, Trade and SME Development and the Department of Environmental Affairs of the Ministry of Environment and Tourism. Under the RAC inventory, necessary data and information are collected in order to assist the countries to develop adequate policies that comply with international and national standards. The project is funded by the UN Climate Technology Centre and Network (CTCN), which are promoting technology transfer from developed to developing countries. The activity started in August 2016 and is expected to run until the end of 2016 / beginning of 2017.

The Namibian Institute of Refrigeration and Air Conditioning (NIRAC) has agreed to assist the project with the organisation of the data collection by forwarding the request and questionnaires to the importers, retailers and end users of RAC equipment.

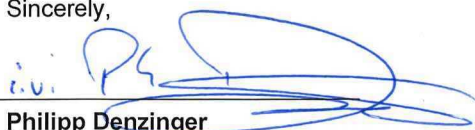
**Please note that the companies' questionnaires (raw data) will be treated fully confidential and the questionnaires will not be shared with NIRAC or the any government institution in Namibia. The questionnaires shall be sent directly to GIZ/HEAT and are treated completely confidential.**

**The consultant in Germany (HEAT) will centralize, analyse and aggregate all information received from companies and individuals into one summary report, which does not include any company names, etc.**

The aggregated data will then be forwarded as one report to the NOU and the Department of Environmental Affairs to be used in the decision process to formulate adequate future policies related to the RAC industry and its potential to save greenhouse gas emission and lower the energy consumption. The data will be presented at a workshop in Namibia in the first quarter 2017 and all relevant stakeholders are welcome to participate.

Thank you for your contribution to this project.

Sincerely,

  
Philipp Denzinger

Philipp Denzinger  
Project Manager  
Proklima International  
Division Climate Change, Environment,  
Infrastructure/

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December 2, 2016

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Ministry of Industrialisation Trade and SME Development  
National Ozone Unit



Ministry of Environment and Tourism



## Agenda RAC Inventory Consultation Workshop

### Green Cooling Africa Initiative (GCAI)

**Date:** 22<sup>nd</sup> September 2016

**Time:** 08:30 – 16:00

Time	Topic / speaker
08:30	<b>Registration and Coffee/Tea</b>
09:00	<b>Opening remarks</b> Ms. Petrina Nakale, Director Industrial Development, Ministry of Industrialisation, Trade and SME Development Dr. Jonathan Kamwi, Chief Conservation Scientist, Ministry of Environment and Tourism
09:20	<b>Introduction of Participants</b>
09:30	<b>Green Cooling Africa Initiative</b> Mr. Philipp Denzinger, Project Manager GIZ Proklima
09:45	<b>Overview of the RAC sector and market in Namibia</b> Mr. Calicious Tatalife, Ministry of Industrialisation, Trade and SME Development
10:00	<b>Importance of a RAC inventory in Namibia: Energy and climate objectives</b> Mr. Sion Kapweya, Ministry of Environment and Tourism
10:15	<b>Coffee/Tea break</b>
10:45	<b>Assignment and data collection approach</b> Ms. Neeta Sharma, Project Manager, Heat GmbH
11:00	<b>Introduction to the inventory questionnaires</b> Mr. David Jarrett, Consultant, RJD Consulting Services CC
11:30	<b>RAC data requirements</b> Ms. Neeta Sharma, Project Manager, Heat GmbH Mr. David Jarrett, Consultant, RJD Consulting Services CC
13:00	<b>Lunch</b>
14:00	<b>Discussion: relevant RAC appliances</b> <i>Facilitated by:</i> Ms. Neeta Sharma, Project Manager, Heat GmbH Mr. David Jarrett, Consultant, RJD Consulting Services CC
15:30	<b>Conclusions, recommendations and way forward</b> Mr. Philipp Denzinger, Project Manager GIZ Proklima
15:45 - 16:00	<b>Closing Remarks</b> Ms. Petrina Nakale, Director Industrial Development, Ministry of Industrialisation, Trade and SME Development

DM0201600236674

**VERGO REAL ESTATES:** Omaruru Wildlife Estate for sale: 4 km Out of Omaruru on the Uis Road. 15.8 Ha plot with water point, no house, no power, need to install solar panels only. Registered in a CC. There are in total 54 plots and 10 have permanent residents. Lots of different game roaming the land and fed by the community, meaning there is a levy of N\$1 000 pm, including 24hr security with electric fence and patrol regularly. N\$1.2 mil. Heike 081-2363666.  
DM0201600236674

**050 KLEINHEWES**

**NUBUANIS:** 5 Ha plot. Residential. N\$2.62 mil. ± 8 km From Windhoek. Can be subdivided to 1 ha plots. Surrounded by tranquility of nature!  
www.leadingrealestates.iway.na  
Frans, 081-1221687.  
DM0201600236678

**FOR SALE:** 92 Hectares land for sale, 30 km before Oanob for N\$1.2 mil with 3 boreholes. Call Freda 081-3399362.  
DM0201600237039

**053 VEILINGS**

**Karoo - OCHSE SENTRAAL**

**VEILINGS DATUMS 2016**

**BEESTE 21 SEPTEMBER 2016**

**NAVRAE:**  
DIETER RUSCH:  
081 124 3480 OF 061 - 234171  
**WILLI BAYER:**  
081 247 3160 OF 062 - 523255  
DÄ 0201600235100 JS

Zoneering: besigheid & residensieel  
**Erf 74 otavi:**  
1530MP  
Besigheids regte

**The country store - (lopende besigheid)**  
**Logoped & toerusting:**  
International case  
1050 4x4 trekker; atlas compressor & jackhammer  
Isuzu d/cab 4x4; nissan diesel 4x4

Nissan 1400; hyundai gets  
Chrysler; kia; mercedes  
230; polaris 500 quadbike  
Olmi bruch cutter; disc barrow (9x9 hydraulic)  
Rotary cutter, tip trailer (5ton)  
Wood cutter, scrapper, mist blower  
Planter 4row bpi 90, tree sprayer 600x 12m  
Roland printer, besproeiings pype

**Registries:**  
N\$5 000.00  
(Terugbetaalbaar)  
Positiewe identifikasie (id, bestuurs lisensie)  
Insnyrings vir losgoed  
is welkom:  
Kontak: wynand  
081 430 1579  
DM020160023614W

**055 ERWIE**

**AVASBLICK:** Plots, 1 635 m² for N\$2.65 mil, all included, 1250 m² for N\$2.15 mil, all included. Both do not have pre-emptive conditions. Only cash buyers please. PropVestors, 061-304670, 081-8334472.  
DM0201600236688

**OMEYA:** Bargain, 2 000 m² plot. Only N\$1.5 mil, all included. Must have minimum 60% cash. PropVestors, 061-304670, 081-8341149.  
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**FINKENSTEIN:** 7 735 m² Vacant erf for sale. Selling for the remarkable price of N\$2 550 000. Call Freda 081-3399362.  
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Block D: 4 vacant erven adjacent to each other at 748 m² & 780 m² with density of 1:100 and zoned general residence for 15 flats/ offices. Selling at N\$345 000 and N\$358 800 negotiable. Call Venus at 081-1299899.  
DM0201600237016

**REHOBOTH:** Block D: Prime spot, luxury area. Stunning view over town, build your dream castle, only N\$450 000. Call 081-2335141.  
DM0201600236896

**RESIDENTIAL ERVEN:** Serviced in Nubuanis! Near Camic Park. N\$1 490 000 - 4071 m². Can build 4 units. N\$1 890 000 - 6000 m² can build 5 units. N\$2 250 000 - 6000 m². Can build 10 units.  
www.leadingrealestates.iway.na  
Frans, 081-1221687.  
DM0201600236480

**056 REGENSBESIGHEID**

**ESTATE NOTICE FIRST AND FINAL LIQUIDATION AND DISTRIBUTION ACCOUNT:** In the Estate of the late: Willem Van Der Culf.  
Identity Number: 3908165054204  
who died on 5 April 2007 and was residing at Erf No 931 (A portion of Erf No 279) Meersig, Walvis Bay.  
Estate Number: 1056/2007.  
Notice is hereby given that the First and Final Liquidation and Distribution Account in the above estate will lie for inspection at the offices of the Master of the High Court Windhoek and Magistrate's Office, Walvis Bay for a period of 21 days as from 19 August 2016.  
DU PISANI  
LEGAL PRACTITIONERS  
No 67 John Meinert Street Windhoek  
DM0201600236984

**ALCOHOLICS NAMIBIA**  
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Ministry of Industrialisation Trade and SME Development - National Ozone Unit  
Ministry of Environment and Tourism



Supported by giz

# PUBLIC NOTICE

## REFRIGERATION & AIR CONDITIONING INVENTORY (SURVEY) IN NAMIBIA

The Ministry of Industrialisation, Trade and SME Development, National Ozone Unit, together with the Ministry of Environment and Tourism would like to inform the Refrigerant and Air Conditioning (RAC) industry; including all importers and large owners of RAC equipment as well as servicing companies working in the RAC sector; that a RAC inventory survey is being conducted by the government in cooperation with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH through RJD Consulting Services CC, funded by the United Nations Climate Technology Centre & Network (CTCN). The inventory survey is being carried out between August and October 2016. We request the industry's cooperation in this effort, which will help develop viable long-term plans for the RAC industry in Namibia and achieving national energy and climate objectives.

In this context the Ministry of Industrialisation, Trade and SME Development together with the Ministry of Environment and Tourism, in cooperation with GIZ, would like to invite stakeholders of the RAC industry to participate in a RAC Inventory consultation workshop on 22nd September 2016 in Windhoek. We kindly ask you to register for the workshop, latest by 15th September by email katharina.arndt@giz.de.

For further questions kindly contact oscar@mti.gov.na or oscarfestus@yahoo.com  
We are looking forward to your support and participation.

DM0201600236975\_GD

## **28<sup>th</sup> Meeting of Parties (MOP) to the Montreal Protocol: CTCN-project showcased during GIZ-side event on how to integrate HFC Amendment in ongoing mitigation actions**



Participants of the GIZ-Side event on how to integrate a HFC-phase down in ongoing national mitigation actions  
© [Photo by IISD/ENB | Kiara Worth](#)

**Kigali – On October 10<sup>th</sup>, during the 28th Meeting of Parties (MOP) to the Montreal Protocol, around 50 policy makers gathered to exchange about how to integrate a HFC phase down in ongoing national mitigation actions. During the event the Namibia Case as part of the Green Cooling Africa Initiative (GCAI) has been presented, which is funded by the United Nations Climate Technology Centre & Network (CTCN).**

In the opinion of GIZ Proklima, national governments and policy makers have a key position to enable a sector transformation and wider market penetration of low-GWP systems. Preconditions for projects in the Refrigeration, Air-conditioning and Foam (RAC&F) sector are a sound data basis, an examination of current national policies as well as a Technology Needs Assessment (TNA).

Furthermore any actions should be integrated into the respective national climate mitigation policy ((I)NDC). Lastly appropriate tools and methodological approaches are necessary for project preparation and funding.

The regional Green Cooling Africa Initiative, and especially the project activities in Namibia have been presented as a best practice example on how to apply specific tools in order to meet the expectations. The activities under the GCAI aim at enabling countries to have the necessary information (i.e. inventory) and tools (i.e. policy and technology options) to create a shift in the cooling sector to more climate and sustainable technology options.

Just recently – on September 22<sup>nd</sup> 2016 - partners from the RAC&F sector, industry, national ministries and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH came together in Windhoek to discuss the results of a data inventory, carried out in the local RAC sector. The workshop focused on laying the foundations for an actual transition to a sustainable cooling equipment base.

The event was well received by all participants – particularly as a HFC Amendment under the Montreal Protocol is expected to be adopted by the end of the 28<sup>th</sup> MOP.

\*\*\*\*\*

About GIZ: The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a federal enterprise with worldwide operations. We support the Federal German Government in achieving its goals in the fields of international cooperation for sustainable development and international

education. Through our work we assist people and societies in shaping their own futures and improving living conditions.

Contact:

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Advisor/PR PROKLIMA  
T + 49 (0) 6196 79-7195  
M + 49 (0) 171 7764181  
E [nicole.mueller@giz.de](mailto:nicole.mueller@giz.de)

## CTCN Green Cooling Africa Initiative highlighted at 28th Montreal Protocol Meeting: New HFC amendment adopted

Source organisation: Deutsche Gesellschaft für Internationale Zusammenarbeit

Objective: Adaptation, Mitigation

Sectors: Energy Efficiency

Publication date: **Tuesday 18 October 2016**



Nearly 200 countries adopted the Kigali amendment to phase out hydrofluorocarbons (HFCs) during the 28th Meeting of the Parties (MOP) to the Montreal Protocol in Kigali, Rwanda last week. The amendment sets a timeline for the phasing out HFCs, used in air conditioning and refrigeration. HFCs are considered to be 1,000 times more potent than carbon dioxide in trapping heat within the atmosphere, accelerating global temperature rise.

During the meeting, CTCN Consortium Partner GIZ presented CTCN's technical assistance in Namibia as part of the regional Green Cooling Africa Initiative (GCAI) as a best practice example on how to enable countries to utilize effective and sustainable climate technology options to create a shift in countries' cooling sectors.

Refrigeration and air conditioning appliances (RAC) are rapidly spreading across Africa. As the electricity in most African countries is still generated through burning of fossil fuels, increased demand for energy results in increased greenhouse gas (GHG) emissions. With the use of highly energy efficient refrigeration and air conditioning devices and the substitution of high global warming potential (GWP) refrigerants with low GWP refrigerants and foam blowing substances, both GHG emissions and energy use can be substantially reduced. Alternative technologies are internationally available but not common in Africa. The Green Cooling Africa Initiative aims at establishing a prototype best practice approach for Ghana, Kenya, Mauritius, and Namibia.

## Programme of workshop

9h45	<b>Introduction of Participants</b>
10h00	<b>Project Background and Country Context</b> Dr. Rajendra Kumar Foolmaun, National Ozone Unit, Ministry of Environment, Sustainable Development, and Disaster and Beach Management
10h30	<b>Overview and Objectives of the Green Cooling Africa Initiative</b> Ms. Katharina Arndt, Junior Project Manager, GIZ Proklima
11h00	<b>Data Collection: Approach and Experiences</b> Mr. Anand Sookun, Consultant
11h45	<b>Questions &amp; Answers</b>
12h15	<b>Lunch Break</b>
13h30	<b>Results of the RAC Inventory</b> Ms. Ramona Nosbers, Consultant, Heat GmbH
14h00	<b>Findings of the Technology Gap Analysis</b> Ms. Ramona Nosbers, Consultant, Heat GmbH
14h30	<b>Questions &amp; Answers</b>
15h00	<b>Conclusions, Recommendations, &amp; Way Forward</b> Mr. Philipp Denzinger, Project Manager, GIZ Proklima

## *Refrigeration and Air-conditioning Inventory Workshop*

### *Green Cooling Africa Initiative*



**Ministry of Environment, Sustainable Development, and  
Disaster and Beach Management**

*in collaboration with*

**Climate Technology Centre and Network  
and GIZ Proklima**

***InterContinental Mauritius Resort  
Balaclava Fort, Coastal Road, Balaclava***

***Monday, 28 November 2016 at 9hr00***

## Survey on Hydrofluorocarbons

The Ministry of Environment, Sustainable Development, and Disaster & Beach Management with the collaboration of GIZ Proklima and HEAT had carried out a survey on the use of Hydrofluorocarbons (HFCs) and Greenhouse Gases (GHG) being consumed in the refrigeration and air conditioning sector in Mauritius. The project is funded the Climate Technology Centre and Network (CTCN). The following sectors were targeted for the survey: importers of Refrigeration and Air-Conditioning (RAC) equipment, hotel, retailer/supermarket, office building, food processing, servicing, amongst others. HFCs are ozone friendly but have high global warming potentials and contribute to global warming and climate change.

### Purpose of survey

The survey results will enable decision-makers to assess technology needs and to come up with a roadmap including legislative framework, training needs, sensitisation programmes amongst others to promote green cooling.

The following natural refrigerants will be promoted for the benefit of climate and ozone: carbon dioxide, ammonia and hydrocarbons

### What is Green Cooling?

Green Cooling helps to protect the environment, resources and the climate and supports the use of renewable technologies within cooling. It thereby contributes towards a sustainable reduction of fossil fuel

It aims at reducing emissions from the cooling sectors through:

- promoting natural refrigerants;
- maximising energy efficiency; and
- fostering a sustainable approach to private and commercial energy consumption

## Programme

8hr45

*All guests to be seated*

9hr00 – 9hr05

*Welcome Address*

**Mrs. D. Sin Lan Ng Yun Wing,**  
**Director of Environment,**  
Ministry of Environment, Sustainable  
Development, and Disaster and Beach  
Management

9hr05 – 9hr10

*Address by*

**Mr. Philipp Denzinger,**  
Project Manager,  
GIZ Proklima

9hr10 – 9hr30

*Address and official opening of workshop by*  
**The Hon. Marie Roland Alain Wong Yen**  
**Cheong, M.S.K.,**  
Minister of Civil Service and  
Administrative Reforms  
and  
Minister of Environment, Sustainable  
Development, and Disaster and Beach  
Management

*Refreshments*



# Alain Wong annonce une feuille de route pour le "green cooling"

Intervenant hier à l'InterContinental Mauritius Resort, Balaclava, à l'ouverture d'un atelier sur le thème « *Refrigeration and Air-Conditioning Inventory Workshop Green Cooling Africa Initiative* », le ministre de l'Environnement a annoncé l'élaboration d'une feuille de route pour promouvoir le refroidissement écologique dans le cadre de l'élimination des hydrofluorocarbones (HFC), gaz à effet de serre n'attaquant pas la couche d'ozone mais ayant un fort potentiel de réchauffement planétaire.

Expliquant la pertinence de cet atelier, Alain Wong a d'emblée avancé que les secteurs de la réfrigération et de la climatisation sont responsables d'une part significative des émissions globales de gaz à effet de serre (GES) à cause de leur bas niveau d'efficacité et leur haut niveau de fuite de gaz réfrigérants qui ont un fort potentiel de réchauffement planétaire. « On prévoit que cette part de GES à fort potentiel de réchauffement de la planète augmentera d'ici 2030 à 30 %, surtout en Afrique vu la demande grandissante pour la réfrigération et la climatisation », dit-il.

« Par conséquent, afin d'at-

ténuer les émissions directes et indirectes du secteur de la réfrigération, l'introduction et la promotion des technologies du refroidissement est d'une importance primordiale, d'où l'objectif de la Green Cooling Africa Initiative de mettre en œuvre le Climate-friendly Refrigeration and Air-Conditioning Development Pathway ».

C'est dans ce contexte, a poursuivi le ministre, que Maurice, le Ghana, le Kenya et la Namibie ont embarqué sur la Green Cooling Africa Initiative (GCAI), qui est un projet régional sous le Climate Technology Centre and Network de la Convention Cadre des Nations unies pour

le Changement Climatique (CCNUCC). « L'objectif est de permettre aux pays participants d'avoir les informations et les outils nécessaires pour un changement transformateur dans les secteurs de la réfrigération et de la climatisation. Cela va se faire à travers une approche régionale pour éviter des duplications au niveau des pays. Le projet qui a débuté en septembre 2015, durera jusqu'en mars 2017 ».

A Maurice, ajoute Alain Wong, le National Ozone Depleting Substances Alternatives Survey a été entrepris de juillet à septembre 2016 comme un premier pas de la GCAI. « Cette étude a consisté en l'organisation de deux inventaires des GES de niveau 2 pour les sous-secteurs prioritaires du refroidissement, comprenant la climatisation stationnaire et mobile ainsi que la réfrigération domestique, commerciale, industrielle et celle du transport. Les hôpitaux, cliniques, ho-

tels, supermarchés, chambres froides et équipement de distributions, entre autres, ont également été couverts ».

Ce sont les retombées de ces inventaires qui ont été présentées lors de cet atelier. Elles serviront à évaluer les besoins en technologies et à élaborer une feuille de route pour la promotion du green cooling. « Cette roadmap comprendra, entre autres, une mise à jour des législations, un transfert de technologie, un renforcement des capacités et des campagnes d'information et de sensibilisation. Le but étant de promouvoir des réfrigérants naturels comprenant le dioxyde de carbone, l'ammoniac et les hydrocarbures en remplacement des substances qui appauvrissent la couche d'ozone et des technologies au potentiel de réchauffement planétaire ».

Alain Wong a rappelé que Maurice et les États fédérés de Micronésie ont été les premiers à proposer l'élimination des hydrofluorocar-  
burés (HFC) sous le Protocole de Montréal, la raison étant que les HFC ont été introduites comme des substituts aux chlorofluoroburés (CFC) qui attaquent la couche d'ozone et provoquent le réchauffement climatique. « C'est ainsi que Maurice, avec d'autres pays africains et la Chine, a commencé le gel de l'importation des HFC depuis 2014 ».

Le ministre ajoute que Maurice a, depuis son adhésion au Protocole de Montréal en 1992, joué un « rôle actif » dans la lutte contre l'utilisation des substances qui appauvrissent la couche d'ozone, jusqu'à proposer proactivement l'amendement de Kigali (octobre 2016) pour promouvoir l'utilisation des réfrigérants naturels et éliminer les HFC.

La directrice de l'Environnement, Dominique Ng, devrait souligner que les équipements utilisant des HFC augmentent. « Une telle augmentation viendra s'ajouter aux impacts climatiques dévastateurs que l'humanité ressent déjà. Si les HFC ne sont pas contrôlés sur le plan global, elles augmenteront de 30 % d'ici 2030. On estime que leur diminution globale peut contribuer à éviter un réchauffement planétaire de 0,5 % d'ici 2100 représentant une contribution significative aux efforts globaux d'atténuation au changement climatique ».

Le succès de l'adoption des green cooling technologies, dit-elle, repose principalement sur l'engagement et la collaboration de tous ceux concernés, c'est-à-dire les importateurs, les distributeurs, les entreprises de services et les utilisateurs finaux (supermarchés, chambres froides, les grosses compagnies ainsi que le public en général).

Philip Denzinger, Project Manager de GIZ Proklima, a également pris la parole. Cette firme allemande a offert l'aide technique nécessaire pour l'élimination des HFC à Maurice.

Press Release GIZ to CTCN

## CTCN-Workshop in Mauritius: GHG inventory paves way for climate-friendly and green cooling technologies



Participants of the RAC Inventory Workshop in Mauritius, November 28, 2016, ©GIZ



Participants listening to the results of the Data collection to stakeholders, ©GIZ

**Mauritius, November 28, 2016 - A state-of-the-art inventory for the refrigeration and air conditioning (RAC) sector is crucial for countries to comply with international climate policies and their National Determined Contributions (NDCs): Over 50 representatives from the RAC industry, ministries and academic institutions came together to discuss the data collected for the case of Mauritius. The workshop was opened by the Appointed Minister of Environment and Minister of Civil Service and Administrative Reforms, Honourable Alain Wong.**

The stakeholder event was organized by the Ministry of Environment, Sustainable Development, and Disaster and Beach Management in the context of the regional Green Cooling Africa Initiative (GCAI). This initiative, funded by the UN Climate Technology Centre and Network and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, aims at preparing the partner countries for a transformational change towards sustainable and energy efficient cooling appliances.

In his opening speech, the Honourable Minister Alain Wong, pointed out that “the refrigeration and air-conditioning sector is responsible for a significant share of global greenhouse gas emissions due to low efficiency levels and high leakage rates of refrigerant gases which have high global warming

potential". He furthermore highlighted the importance of introducing and promoting green cooling technologies in order to offset direct and indirect emissions from the refrigeration sector.

According to the Minister, with the help of the Green Cooling Africa Initiative, Mauritius paves the way towards climate-friendly refrigeration and air-conditioning and becomes one of the countries to phase-down HFCs.

The innovative nature of the GCAI lies in the fact that it provides a unique opportunity for participating countries – namely Mauritius, Namibia, Ghana and Kenya - to prepare for an early transfer to climate and ozone layer friendly technology in the RAC sector. It allows countries to have access to the necessary information and tools on the policy and technology level not only to comply with the raising international standards, but also with the higher demands for cooling and energy consumption in their countries.

The workshop was characterized by a lively exchange of ideas as well as a critical discussion of the presented data on the RAC sector. Based on the feedback provided by participants, the data base will be adjusted. The inventory according to IPCC Tier 2 methodology, as well as a gap analysis between currently used technologies and internationally available best technology options will provide the basis for a National Technology Roadmap including suitable policy recommendations, for instance for the countries' NDCs. Mauritius is one of the first countries having included the RAC sector in its Intended National Determined Contributions (INDCs).

# Agenda

## Policy and Technology Recommendations for the RAC Sector in Namibia

### Green Cooling Africa Initiative (GCAI)

**Date: May 23, 2017**

**Time: 08:45 – 15:30**


**Venue: Protea Hotel (Marriot Furstenhof)**

Time	Topic / Speaker
<b>08:45</b>	<b>Registration and Coffee/Tea</b>
<b>09:00</b>	<b>Opening remarks</b> Dr. Jonathan Mutau Kamwi, National Designated Entity, Ministry of Environment and Tourism
<b>09:15</b>	<b>Introduction of Participants</b>
<b>09:30</b>	<b>Status Quo Green Cooling Africa Initiative</b> Ms. Katharina Arndt, Project Manager, GIZ Proklima
<b>09:45</b>	<b>Recap Inventory Process and Technology Gap Analysis – Mitigation Potential</b> Ms. Irene Papst, Expert, Heat GmbH
<b>10:30</b>	<b>Coffee/Tea break</b>
<b>11:00</b>	<b>Policy Analysis and Recommendations + Discussion</b> Ms. Irene Papst, Expert, Heat GmbH
<b>12:00</b>	<b>Lunch</b>
<b>13:00</b>	<b>Technology Roadmap + Discussion</b> Ms. Irene Papst, Expert, Heat GmbH
<b>15:00</b>	<b>Conclusions, recommendations and way forward</b> Ms. Nika Greger, Project Manager, GIZ Proklima
<b>15:15</b>	<b>Closing Remarks</b> Mr. Calicious Tualife, Deputy Director (IPPD), Ministry of Industrialisation, Trade and SME Development

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4	Leena NTAkooko	Namibia Training Authority	VET Curriculum Development Officer	lakooko@nta.com.na	0612078661
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10					

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#	Name	Organisation / Company	Position	Email	Phone No
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22	IRENE PAPST	HEAT GmbH	Advisor	irene.papst@ heat-international.de	✓
23					
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Signature




# Agenda Regional Workshop

## Green Cooling Africa Initiative



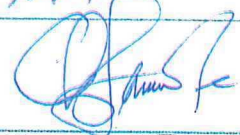
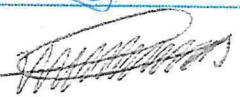
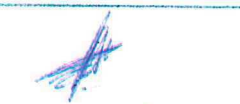

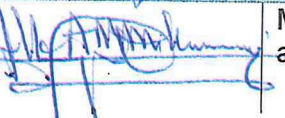
### Embarking on a Climate-friendly Refrigeration and Air-Conditioning Development Pathway in Africa

**Date: May 24, 2017**


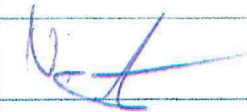
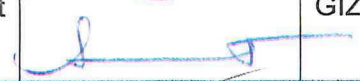
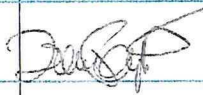
**Time: 08:45 – 16:00**

**Venue: Protea Hotel (Marriot Furstenhof)**

Time	Topic / Speaker
<b>08:45</b>	<b>Registration and Coffee/Tea</b>
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<b>09:30</b>	<b>Introduction of Participants</b>
<b>09:45</b>	<b>Status Quo Green Cooling Africa Initiative</b> Ms. Katharina Arndt, Project Manager, GIZ Proklima
<b>10:00</b>	<b>Recap Inventory Process and Institutionalisation + Discussion</b> Ms. Irene Papst, Expert, Heat GmbH
<b>10:30</b>	<b>Coffee/Tea break</b>
<b>11:00</b>	<b>Exchange of experience between the four GCAI countries</b> Feedback participants
<b>12:00</b>	<b>Lunch</b>
<b>13:00</b>	<b>Policy Recommendations + Discussion</b> Ms. Irene Papst, Expert, Heat GmbH
<b>14:00</b>	<b>Preparation Regional Roadmap + Discussion</b> Ms. Irene Papst, Expert, Heat GmbH
<b>15:00</b>	<b>Coffee/Tea break</b>
<b>15:15</b>	<b>GCAI - Way forward</b> Ms. Nika Greger, Project Manager, GIZ Proklima
<b>15:30</b>	<b>Closing Remarks</b> Mr. Calicious Tatalife, Deputy Director (IPPD), Ministry of Industrialisation, Trade and SME Development

#	Name	Signature	Organisation	Country	Email	Phone No
1	Dr. Jonathan Mutau Kamwi		Ministry of Environment and Tourism	Namibia	MutauKamwi@yahoo.com	+264 61 284 2808
2	Petrus Muteyauli		Ministry of Environment and Tourism	Namibia		
3	Reagan Chunga		Ministry of Environment and Tourism, National Climate Change Committee	Namibia		
4	Paulus Ashili		Ministry of Environment and Tourism	Namibia		
5	Sion Shifa		Ministry of Environment and Tourism	Namibia	Sionshifa@yahoo.com	061-284 2718
6	Calicious Tatalife		Ministry of Industrialisation, Trade and SME Development	Namibia	tatalife@mti.gov.na	0811 405 905
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12	Michael Onwona Kwakye		Environmental Protection Agency	Ghana	mkwakyek@gmail.com	+233 244 645735
13	Marindany Kirui		Ministry of Environment, Water and Natural Resources	Kenya	marindanykirui@yahoo.com	+254 722 847342

Green Cooling Africa Initiative Regional Workshop: Embarking on a climate-friendly RAC pathway in Africa  
May 24, 2017, Windhoek, Namibia

14	Gaudensia Aomo Owino		Kenyan Industrial Research and Development Institute	Kenya	gauchie.aomo@gmail.com	+254 722 395678
15	Yovanie Poinen		Ministry of Social Security, National Solidarity, and Environment and Sustainable Development	Mauritius		
16	Girish Munhurrun		Ministry of Social Security, National Solidarity, and Environment and Sustainable Development	Mauritius		
17	Nika Greger		GIZ Proklima	Germany	nika.greger@giz.de	✓
18	Katharina Arndt		GIZ Proklima	Germany	katharina.arndt@giz.de	✓
19	Irene Papst		HEAT Consulting Germany	Germany	irene.papst@heat-international.de	✓
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- TO WHOM IT MAY CONCERN -

**Invitation for participation in Green Cooling Africa Week in Port Louis,  
Mauritius, from June 13<sup>th</sup> to 16<sup>th</sup>, 2017**

Dear Sir or Madam,

On behalf of the Climate Technology Centre & Network (CTCN), GIZ Proklima in cooperation with the Ministry of Social Security, National Solidarity, and Environment and Sustainable Development, Mauritius, hereby cordially invites you to the **Green Cooling Africa Week, from June 13<sup>th</sup> to 16<sup>th</sup>, 2017, in Mauritius**. Anglophone African countries may nominate one UNFCCC Focal Point and one National Ozone Officer, as well as selected National Designated Entities to participate in the event.

Refrigeration and air conditioning (RAC) are responsible for a significant share of national greenhouse gas (GHG) emissions and energy consumption. The demand for cooling equipment is rising in most countries, resulting in increased GHG emissions. Introducing energy efficient RAC equipment using natural refrigerants has a huge mitigation potential at low costs, and can hereby support the implementation of Nationally Determined Contributions (NDCs).

Throughout the week, the results of the Green Cooling Africa Initiative (GCAI), such as Tier 2 inventories, technology gap analyses, as well as policy and technology roadmaps for the RAC sector, will be presented and discussed. Political decision-makers of the region will engage in a detailed exchange of experiences related to the project's activities and discuss the replication of the technology and policy roadmaps in their respective countries. Furthermore, the inclusion of the RAC sector in the countries' NDCs, funding opportunities and MRV systems shall be discussed.

June 2017	Activity
Monday 12 <sup>th</sup>	Arrival in Mauritius
Tuesday 13 <sup>th</sup>	Regional workshop on policy and technology roadmaps within the RAC sector
Wednesday 14 <sup>th</sup>	Training on the pathway from a Tier 2 Inventory to a project proposal
Thursday 15 <sup>th</sup>	Training on financial Instruments and proposals
Friday 16 <sup>th</sup>	Field trip and visit of CO <sub>2</sub> Cascade System
Friday 16 <sup>th</sup> /Saturday 17 <sup>th</sup>	Departure

All travel expenses will be covered, including flights, accommodation, full board, national transport, workshop and field trip costs. Please note that local transport, e.g. transport to the airport in your city of departure, and DSA will not be granted. No visa is necessary prior to travel and will be granted upon arrival.

We kindly ask you to send us a copy of your passport and register under the following [link](#) latest by May 26<sup>th</sup>.

If you desire more information or have any further questions, please do not hesitate to contact [joana.cortes@giz.de](mailto:joana.cortes@giz.de).

We are looking forward to your participation.

Sincerely,



Philipp Denzinger  
Project Manager

Philipp Denzinger  
Project Manager  
Proklima International  
Division Climate Change, Environment, Infrastructure

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May 12, 2017

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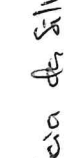





























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Registration no. HRB 18384  
Local court (Amtsgericht)  
Frankfurt am Main, Germany  
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# MINISTRY OF SOCIAL SECURITY, NATIONAL SOLIDARITY, AND ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

## Regional Workshop for Promotion of Climate Friendly Technologies in the Refrigeration and Air Conditioning Sector

### Attendance Sheet:

SN	Participants	Country	Organisation	Signature		
				Tuesday 13 June	Wednesday 14 June	Thursday 15 June
1.	Lesedi Bafetanye	Botswana	Energy Affairs Department			
2.	Maikutlo Mokakapadi	Botswana	NOU			
3.	Adama Sawadogo	Burkina Faso	NOU			
4.	Abiy Tekle	Ethiopia	Technology selection and dissemination expert			
5.	Asaye Sekie	Ethiopia	UNFCCC Focal Point			
6.	Joseph Baffoe	Ghana	NDE			
7.	Antwi Boasiko Amoah	Ghana	Principal Programme Officer, Environmental Protection Agency			
8.	Michael Onwona-Kwakye	Ghana	✓			
9.	Fredrick Musieba	Kenya	NDE, Research Scientist			
10.	Peter Omeny	Kenya	Senior Assistant Director, Climate Change Mitigation			
11.	Mathatela Ntsatsi	Lesotho	NOU			
12.	Kabelo Lebohlang	Lesotho	UNFCCC Focal Point			

SN	Participants	Country	Organisation	Signature		
				Tuesday 13 June	Wednesday 14 June	Thursday 15 June
13.	Charles Dennis	Liberia	Assistant Ozone Officer			
14.	Catherine Musa	Malawi	UNFCCC Focal Point			
15.	Memory Kamoyo	Malawi	Environmental Officer, Ministry of Natural Resources Energy and Mining			
16.	Lucia da Silva	Mozambique	Technician, Ministry of Land, Environment and Rural Development			
17.	Rosalina Naife	Mozambique	Technician, Ministry of Land, Environment and Rural Development			
18.	<del>Jonathan Mutau Kamwi</del> Jonathan Mutau Kamwi	Namibia	NDE - NEI			
19.	Calicious Tutalife	Namibia	Deputy Director, Ministry of Industrialisation, Trade and SME Development			
20.	Sion Shifa	Namibia	UNFCCC Focal Point			
21.	Ogechukwu Franca Eze	Nigeria	NOU			
22.	Reine Marie Coly Badiane	Senegal	NOU			
23.	Marie Neige Philoe	Seychelles	NOU			
24.	Will Agricole	Seychelles	UNFCCC Focal Point			
25.	Salome Margaret Molefe	South Africa	NOU			
26.	Mactavish Makwarale	South Africa	Director, Climate Change Mitigation, Policy, Regulation and Planning			

SN	Participants	Country	Organisation	Signature		
				Tuesday 13 June	Wednesday 14 June	Thursday 15 June
27.	Pemy Gasela	South Africa	UNFCCC Director			
28.	Abubacarr Kujabi	The Gambia	Assistant Program Officer, Natural Environment Agency			
29.	Freeborn Taruvunga	Zimbabwe	NOU			
30.	Willard Mazimbo	Zimbabwe	Climate Change Officer, Ministry of Environment, Water and Climate			
31.	Dietram Oppelt	Germany	HEAT			
32.	Philipp Denzinger	Germany	GIZ Proklima			
33.	Nika Greger	Germany	GIZ Proklima			
34.	Katharina Arndt	Germany	GIZ Proklima			
35.	Foolmaun Dr R.K.	Mauritius	Divisional Environment Officer			
36.	Chamilall Mr Dinkar Sharma	Mauritius	Ag. Divisional Environment Officer			
37.	Kawol Mrs Anita	Mauritius	Environment Officer			
38.	Munhurrun Mr Girish	Mauritius	Environment Officer			
39.	Poinen Miss Yovanie	Mauritius	Environment Officer			
40.	Doorghen Mrs Joanna	Mauritius	Environment Officer			
41.	ASoolKun	"	Consultant GIZ			
42.	Elohes Pomon		Lead Analyst			

43. S. chinwacha

Mauritius

STH (Ministry)

SN	Participants	Country	Organisation	Signature		
				Tuesday 13 June	Wednesday 14 June	Thursday 15 June
43.	Patricia KARARI	KENYA	National - Commonwealth	✓	<i>Patricia</i>	<i>Patricia</i>
44.						
45.						