

The Western Cape Government together with the Bavarian State Ministry of the Environment and Consumer Protection, the Bavarian Environment Agency and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH are jointly organizing a **technical workshop** about the **opportunities and challenges for energy efficient and climate-friendly cooling solutions in the South African market**.

Date: 20 and 21 June 2019

Time: 08:30 – 17:00

Venue: Elsenburg Agricultural Training Institute, Elsenburg, Stellenbosch

Background

Currently, most of the refrigeration and air conditioning (RAC) applications use fluorinated gases (F-gases) – hydrochlorofluorocarbons (HCFCs) or hydrofluorocarbons HFCs – as refrigerants. These substances have a high global warming potential (GWP) and are up to several thousand times more potent than carbon dioxide (CO₂). When these gases leak – for example during operation, servicing or when an appliance is recycled or scrapped – they cause substantial emissions that contribute to global warming.

The RAC sector currently is responsible for 3.830 million tons of CO₂-equivalent emissions globally. With rising ambient temperatures, the demand for refrigeration and air conditioning equipment is predicted to increase dramatically. Without any serious interventions, the RAC sector could be responsible for 13% of global GHG emissions by 2030. The continuing growth of HFCs in particular, would lead to a 0.1°C temperature rise in 2050, with the potential to increase up to 0.5°C by 2100. A phase down of the production and consumption of HFCs, as stated in the recently adopted Kigali Amendment to the Montreal Protocol can provide an estimate reduction of 6 to 10% of the total GHG reductions by 2050.

The Kigali Amendment to the Montreal Protocol entered into force from January 2019. South Africa intends to ratify the Amendment, and is currently working on legislation to regulate HFCs.

The Government of Western Cape, Department of Environmental Affairs and Development Planning (DEA&DP) has shown a keen interest in encouraging the switch to energy efficient and climate friendly cooling technologies. This could be achieved through cost-effective mitigation, such as the substitution of HFCs with natural refrigerants that do not damage the ozone layer and have low global warming potentials. Policy instruments to advance more sustainable RAC solutions in the European Union, for example, have proven effective. This has resulted in the adoption of climate-friendly chilling and air conditioning systems that combine high energy-efficiency with natural refrigerants.

Objective

This technical workshop aims to bring together government, as well as manufacturers, distributors and servicing companies to discuss on what is required to unlock the market uptake of natural refrigerants and energy-efficient appliances in the Western Cape region. The event will address needs related to the implementation of international and national policy requirements and legislation, competence levels of technicians for safe installation and repair of energy efficient and climate friendly equipment, as well as suitable and successful best practice examples from South Africa. Experiences from best practice in Bavaria shall additionally be presented.



Agenda Day 1: 20 June 2019

Moderator: Derik Coetzer, REAL Consulting

SESSION 1: Opening of Technical Workshop

- 08:30 – 09:30** Registration of participants
- 09:30 – 10:15** **Opening and Welcome Address**
Piet van Zyl, Head of Department, Environmental Affairs and Development Planning (DEA&DP), Western Cape Government
- Welcome Address**
Dr Werner Reifenhäuser, Head of Department, Bavarian Environment Agency
- Welcome Address**
Roland Seidler, German Consulate General Cape Town
- Cooperation Partnership: Bavaria and the Western Cape Government**
Khaya Lala, Chief Director: International & Priority Programmes, International Relations, Western Cape Government
- Driving private sector innovation through bilateral cooperation**
René Schieritz, Southern African-German Chamber of Commerce & Industry
- 10:15 – 10:30** **Project Introduction: Climate-friendly Refrigeration and Air Conditioning, Western Cape Government, Bavaria and GIZ Proklima**
Dr Joy Leaner, Director: Air Quality Management DEA&DP, Western Cape Government
Elisabeth Dusik, Bavarian Environment Agency
- 10:30 – 11:00** **South African RAC Sector: Status Quo, Trends, Developments and Achievements**
Marius La Grange, South African Institute for Refrigeration and Air Conditioning (SAIRAC)
- 11:00 – 11:30** **Keynote Address: The final phase down? Why natural refrigerants are the ultimate solution!**
Katharina Arndt, GIZ GmbH
- 11:30 – 11:45** **Q&A**
- 11:45 – 13:00** **Networking and Lunch Break**



SESSION 2: Parallel Breakaway Session

	Venue: Pinotage	Venue: Hamerkop
13:00 – 13:45	Technical and Training Aspects of RAC Safe handling of natural refrigerants - Tackling safety concerns in installation and maintenance Edgar Timm, HEAT GmbH	Regulatory and Policy Aspects of RAC The EU F-Gas regulation and the regulatory situation: Best Practice from Bavaria Nivedita Mahida-Königsdörfer, Bavarian Environment Agency
13:45 – 14:30	Training and Registration of Heating, Ventilation and Air Conditioning (HVAC) Technicians utilizing natural refrigerants in South Africa Grant Laidlaw, ACRA & SAIRAC Barney Richardson, SARACCA & SAQCC Training and Certification: How the sector can benefit from qualified technicians Jascha Moie, HEAT GmbH	Air Conditioning Regulation and the Regulatory Situation in South Africa (SANS Codes on Air-Conditioning Systems / Cold Storage Refrigeration Systems) Andre van der Merwe, GEA
14:30 – 15:00	Tea and Coffee Break	

SESSION 3: Plenary – Energy Efficiency in Refrigeration and Air Conditioning

15:00 – 15:45	Energy-Efficiency in the Refrigeration and Air Conditioning (RAC) sector Edgar Timm, HEAT GmbH
15:45 – 16:30	Demonstrated Energy Efficiency in Government Projects and Best Practice in Industry Crossing over from HFCs to the natural refrigerant R290 – energy utilization, efficiency and challenges in the process Jaco Wagenaar, Frigoglass Energy Efficiency in Government Buildings with Air Conditioning Systems Edwin Bath, Department of Transport and Public Works, Western Cape Government
16:30 – 16:45	Q&A
16:45 – 17:00	Closing and Summary of Day 1 Gottlieb Arendse, Chief Director: Environmental Quality DEA&DP, Western Cape Government
17:00 onward	Evening Canapé Reception



Agenda Day 2: 21 June 2019

Moderator: Derik Coetzer, REAL Consulting

SESSION 4: Plenary – Climate-friendly Alternatives to HFCs and HCFCs

09:00 – 09:10 Recap from Day 1

Derik Coetzer, Moderator, REAL Consulting

09:10 – 10:45 Panel Session – Implementing natural refrigeration technologies in the Western Cape: synergies between government, industry and associations

Moderation: Katharina Arndt, GIZ GmbH

- Ajay Trikam, Department of Economic Development and Tourism, Western Cape Government
- Cornel Badenhorst, Department of Health, Western Cape Government
- Yusuf Jacob, Department of Transport and Public Works, Western Cape Government
- Andrew Perks, A Perks Enterprises
- Marius La Grange, President, SAIRAC
- Barney Richardson, SARACCA & SAQCC
- Dawie Kriel, ASHRAE
- Dr. Volkmar Hasse, advisor/ expert natural refrigerants

10:45 – 11:15 Tea and Coffee break

11:15 – 12:00 Introduction of Propane (R290) in split air conditioning and chillers in the Western Cape

Edgar Timm, HEAT GmbH

12:00 – 12:30 End of life treatment for RAC appliances and destruction of associated gases

Jascha Moie, HEAT GmbH

12:30 – 13:00 Q&A

13:00 – 13:30 Wrap-up of 2-day Technical Workshop

Gottlieb Arendse and Dr Joy Leaner, DEA&DP, Western Cape Government

13:30 – 14:30 Lunch Break and Networking



SESSION 5: Developing a RAC Pilot Project (optional participation)

14:30 – 16:30 Towards developing a RAC Pilot Project for the Western Cape

- Framework for RAC Pilot Project
- Brainstorming ideas
- Developing the aims and objectives
- Feedback from groups
- Prioritizing ideas

16:30 – 16:45 Way Forward on RAC Pilot Project

Nivedita Mahida-Königsdörfer and Ms Elisabeth Dusik, Bavarian Environment Agency

Dr Joy Leaner, Director: Air Quality Management, DEA&DP, Western Cape Government

16:45 – 17:00 Closure

Gottlieb Arendse, Chief Director: Environmental Quality, DEA&DP, Western Cape Government