

Financing Green Cooling – Opportunities for Financial Institutions

NDC4 Webinar #5

31 October 2023 | 11 am to 12 pm CET

Supported by:



Federal Ministry
for the Environment, Nature Conservation,
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based on a decision of
the German Bundestag

Agenda

Topic	Speaker
Opening Remarks	Franziska Schmittner , GIZ Proklima
Overview: Financing mitigation measures in the cooling sector	Lukas Kahlen , NewClimate Institute
Financing Green Cooling: what are potential roles, opportunities and risks for financial institutions?	Lukas Kahlen , NewClimate Institute
Using credit lines to foster green lending in the cooling sector	Sanna Stockstrom , KfW Development Bank
Questions & Answers	All participants

Welcome Remarks

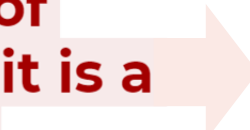
Franziska Schmittner
GIZ Proklima

Overview: Financing mitigation measures in the cooling sector

Lukas Kahlen
NewClimate Institute

Why are we talking about Green Cooling?

Cooling is an essential part of everyday life - it is a basic need for everyone.



- Cold-chains for fresh food
- Safe storage of vaccines / medicines
- Air-conditioned rooms, workplaces, schools, etc.
- ...

However, the Refrigeration and Air Conditioning (RAC) sector is a massive GHG emitter



Providing **climate-friendly** and **energy-efficient cooling solutions** is a key to protecting the **climate** and **contributing to people's well-being** around the world.

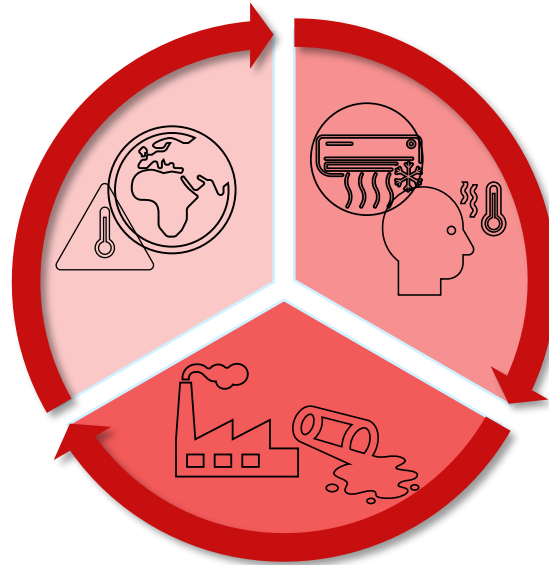
The vicious circle of cooling & its impacts today

The past seven years have been the **hottest ever recorded**

Global temperature rise



Globally, more than **1.2 billion** people are at high-risk of heat-related threats to their lives and welfare ([SEforALL, 2022](#)).



Energy consumption for space cooling has **more than tripled** since 1990

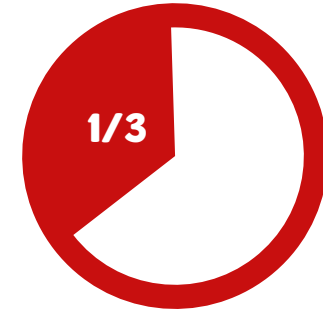
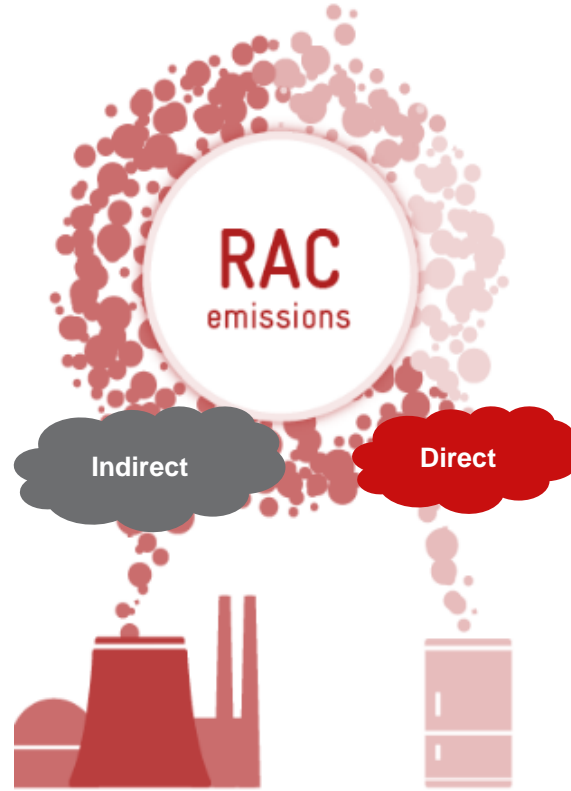
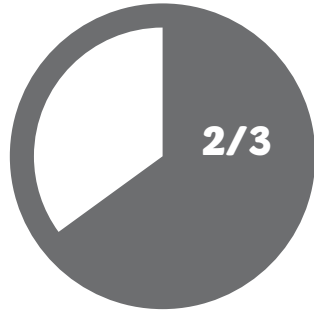
Increasing demand for cooling equipment

Space cooling demand experienced the **highest annual growth** among all buildings end uses in 2021

GHG emissions and ODS

Cooling accounts for **more than 10%** of global GHG emissions (CAIT/GCI, 2016).

Emissions from the RAC sector

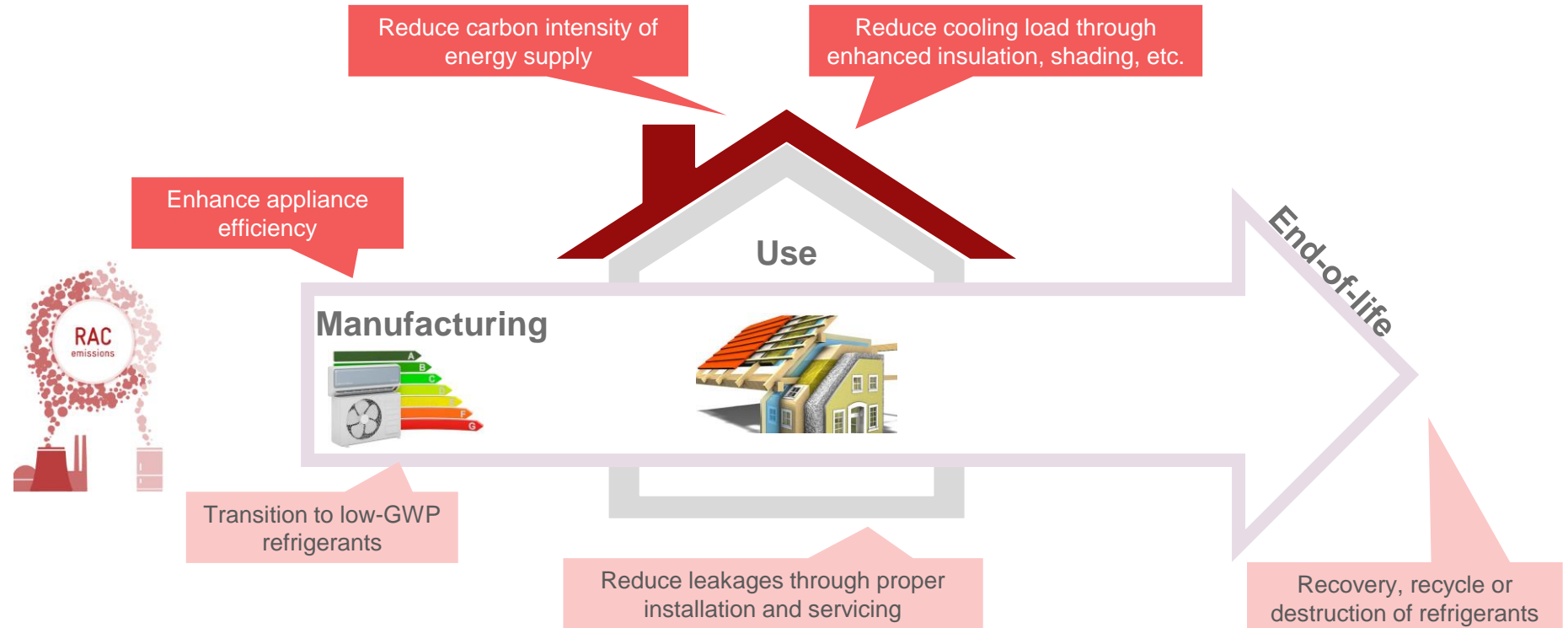


Indirect emissions are related to the energy consumption of cooling appliances.

Direct emissions arise when refrigerants are released.

Source: GIZ Proklima;

Mitigation options for space cooling in buildings



Source: Based on GIZ ProKlima 2017

Principles of Green Cooling

A transition to low-carbon cooling is only possible when adopting an **integrated approach**, entailing the following three **intervention areas**

Improve building envelope

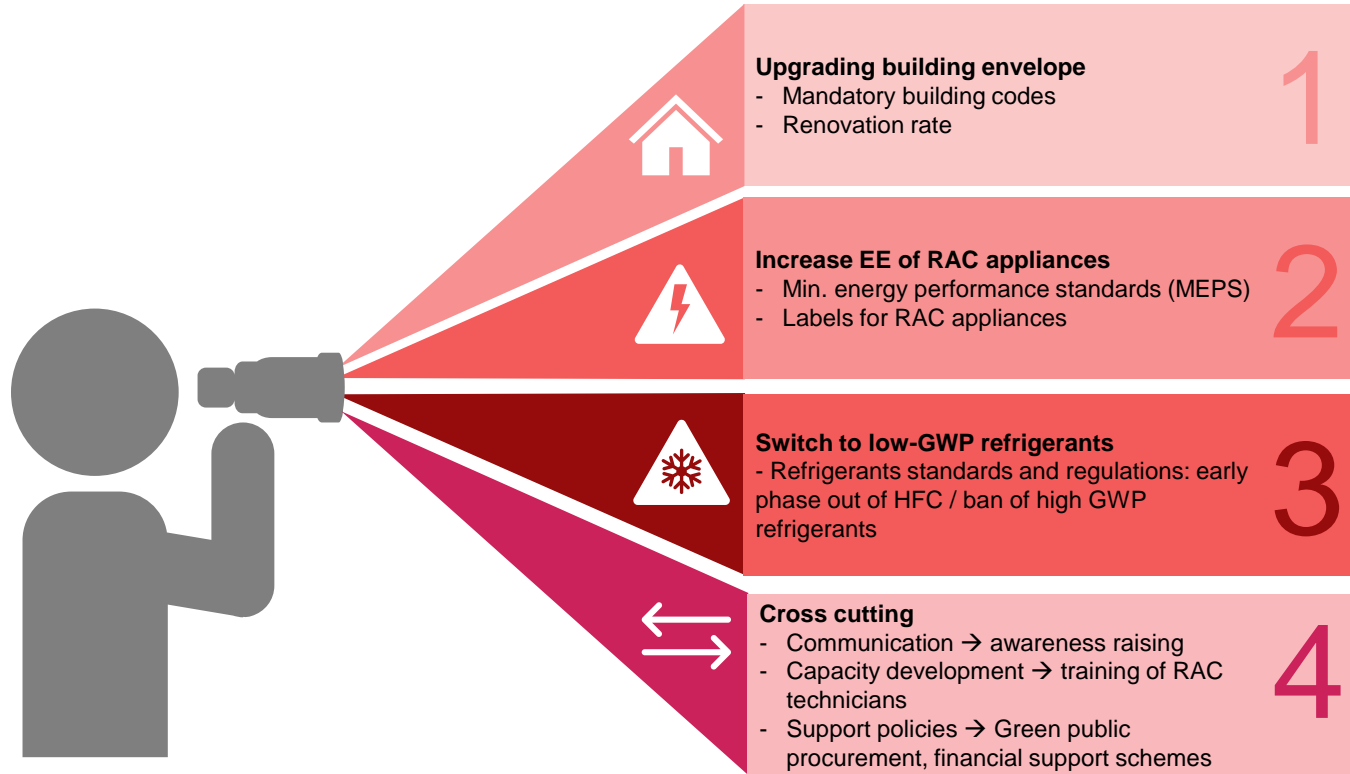


Increase energy efficiency of appliances*

Switch to low-GWP refrigerants

**The electricity supply for cooling appliances must be sourced increasingly from renewable energy sources.*

Policy measures to advancing Green Cooling



Financing low-carbon development in the RAC sector

- Capital investments are needed to facilitate the development, manufacturing, distribution and deployment of low-carbon cooling technologies.
- This covers both the supply side as well as the demand side across a wide range of industries and end use areas.

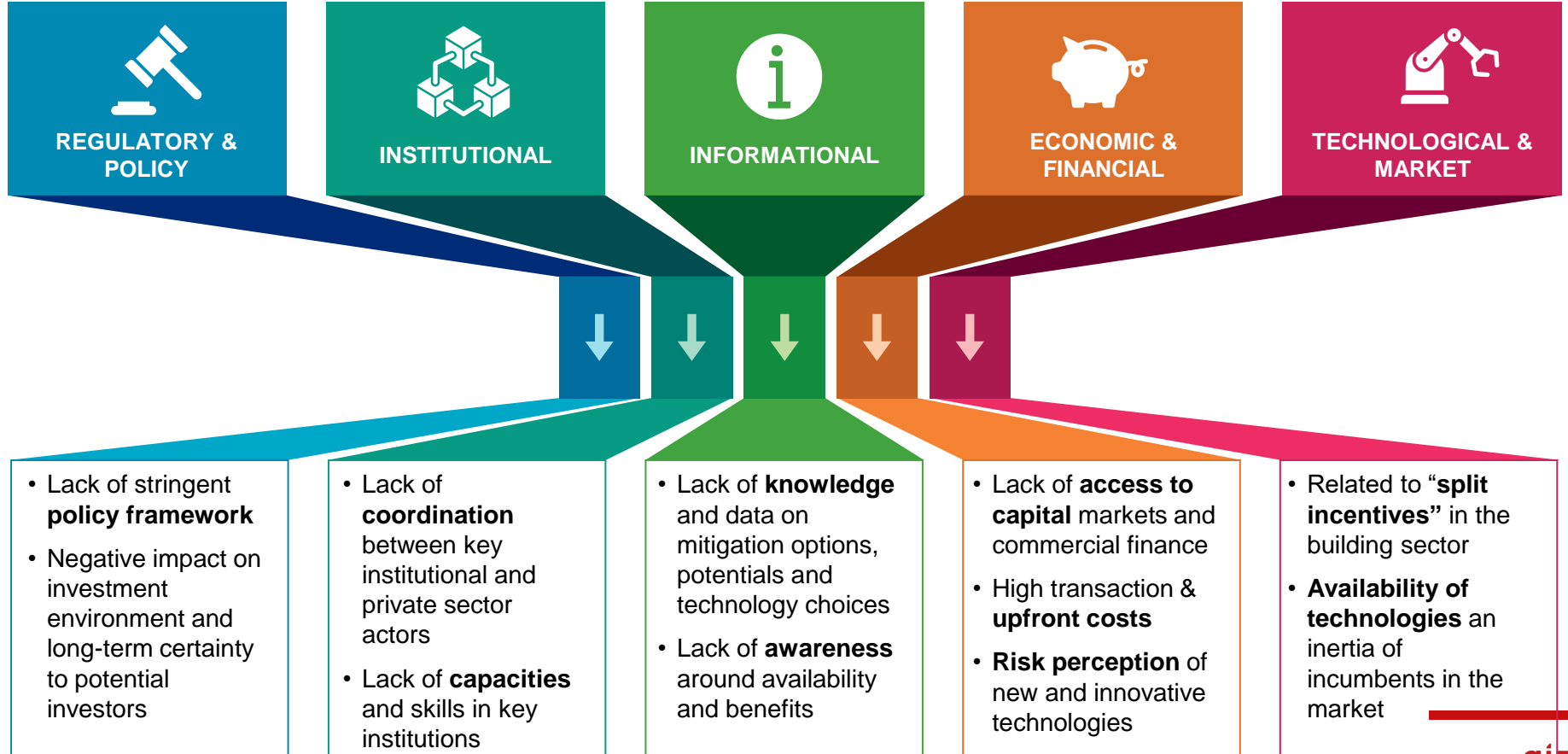
Financing low-carbon development in the RAC sector must address two aspects

The HCFC phase-out and the HFC phase-down is supported through the **Multilateral Fund (MLF)**



Sources for funding energy efficiency measures are more scattered and involve many stakeholders as well as institutional mandates.

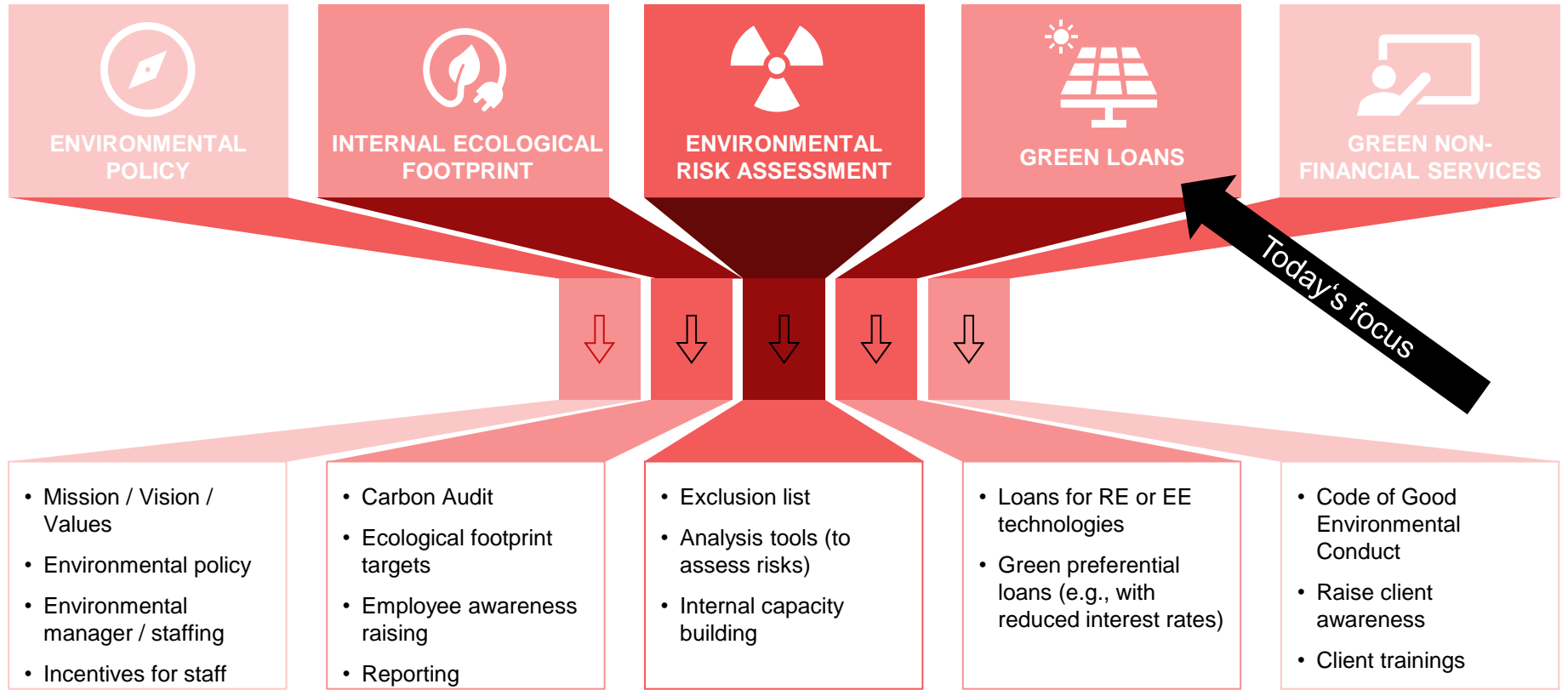
Barriers to finance low-carbon development in the RAC sector



Financing Green Cooling: what are potential roles, opportunities and risks for financial institutions

Lukas Kahlen
NewClimate Institute

Scope of „green“ initiatives by financial institutions



Green loans and beyond: Why do banks play an important role?

Barriers to accessing green cooling

Higher up-front costs compared to conventional technologies and insufficient access to finance

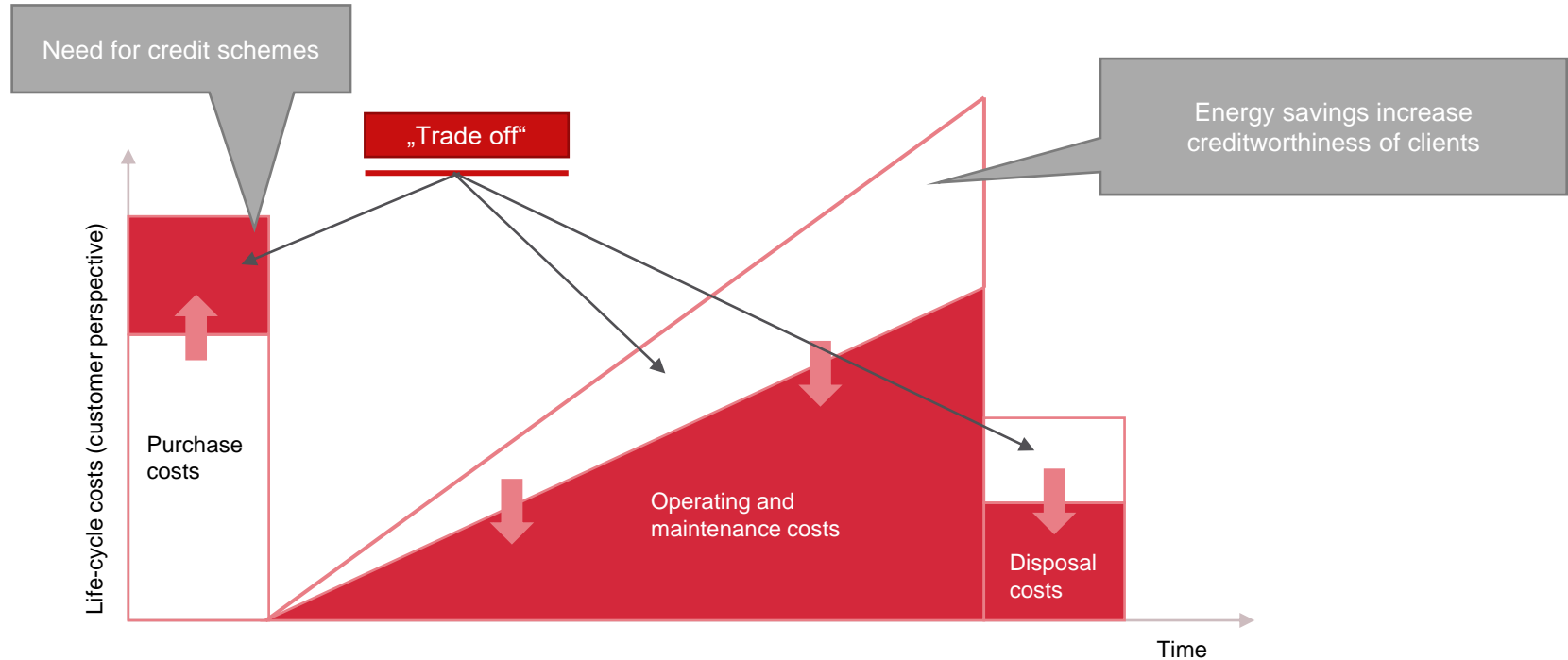
Insufficient awareness of benefits and information on the Green Cooling market among final customers

Role of the bank

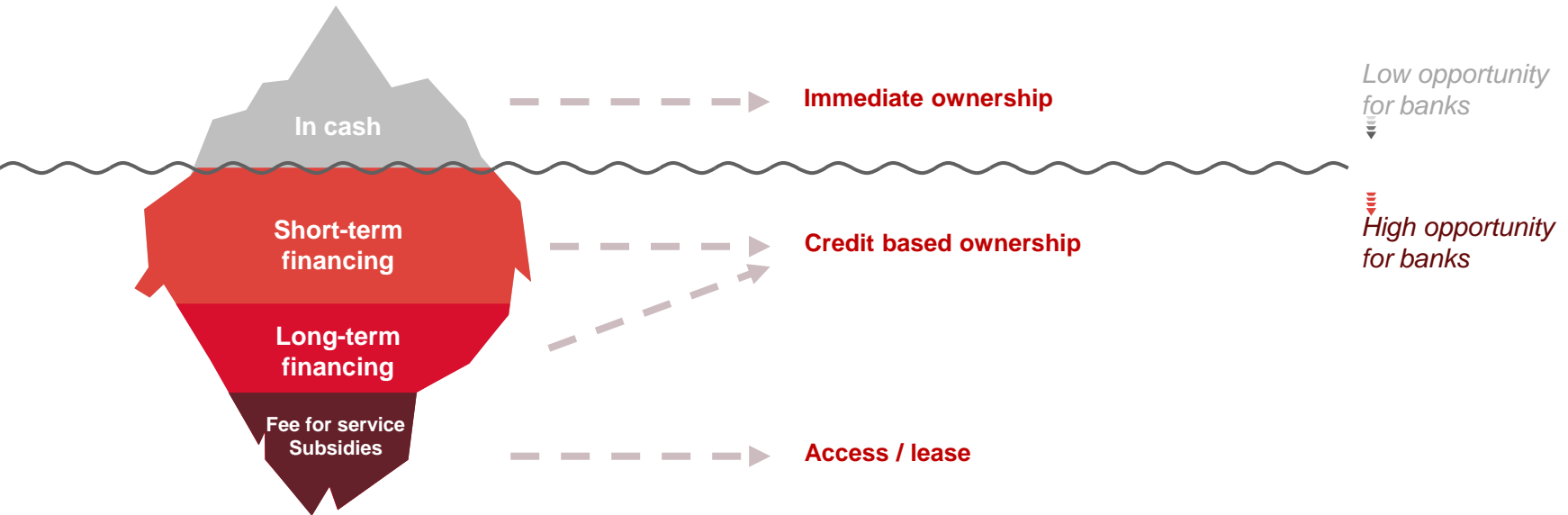
Provision of adequate financing solutions, such as green credits to overcome up-front investment costs

Engage in information and capacity building campaigns (together with manufacturer / distributors)

Rational for financing Green Cooling appliances

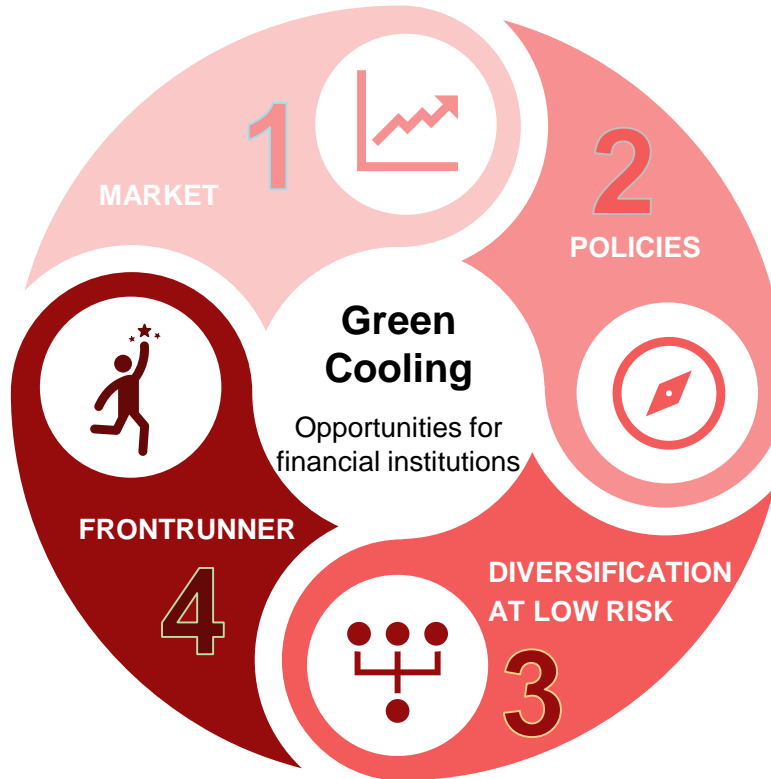


Increase technology penetration through credits



Green Cooling – opportunities for financial institutions

- Substantial market for green cooling appliances
- Market offers **significant growth potential**



- National policies (e.g. MEPS) as well as
- International commitments (e.g. Kigali) **encourage uptake** of green cooling appliances

- Competitive advantage
- Attract add. funding from international funds or financial institutions (at preferential conditions)
- Opportunity to embed this activity in broader **Sustainable Finance Agenda**

- Diversify product **portfolio**
- High energy savings potential increases **creditworthiness** of clients

Engage in the broader Sustainable Finance Agenda

Sustainable Finance....

...supports **economic growth** in a clean, resilient and sustainable manner

...is one of the emerging approaches in the **financing sector**

...has a **multi-dimensional purpose**: for economic development, for social inclusion and for environmental sustainability



... encompasses all traditional **forms of finance**, by banks, non-bank financial Institutions, funds, etc.

... focuses on a **range of instruments, products and services** that address climate change:

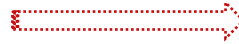
- mitigation and adaptation,
- access to clean and reliable energy, energy efficiency
- solutions for waste, water and sanitation management,
- land management and ecosystem conservation,
- etc.

Source: [Green Inclusive Finance \(GIF\) Resource Center \(microfinancecouncil.org\)](https://www.microfinancecouncil.org/)

Stakeholder overview

Int. climate fund, MDBs, etc.

- offer a range of financing instruments to commercial Banks (at preferential conditions)



Commercial bank

- offer a range of products and services in their areas of outreach



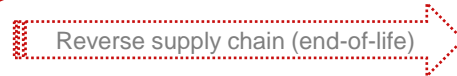
Customer

- Need products and services to improve quality of life / their businesses



Manufacturer/distributor

- can reach populations in demand of their products



Barriers to financing Green Cooling appliances

Potential barriers for commercial banks to engage in financing Green Cooling

Barrier type	Examples
Financial	<ul style="list-style-type: none">• Lack of financial support (e.g. incentives, subsidies, preferential credit lines, etc.) or financial sector reforms (e.g. taxonomy)• Price range of product does not fit the avr. credit size
Institutional	<ul style="list-style-type: none">• Lack of support from management• Resistance to change (i.e., expand portfolio)
Technical	<ul style="list-style-type: none">• (Perception of) limited product availability• (Perception of) inadequate supply (in quantitative a/o quality) of technologies
Regulatory & political	<ul style="list-style-type: none">• Lack of strong policy commitments or regulatory measures
Informational & capacity-related	<ul style="list-style-type: none">• Lack of technical knowledge (e.g. on products or energy efficiency)• Lack of awareness on benefits of green cooling• Lack of information on supplier a/o product landscape

Source: Based on [Green Cooling in Public Procurement](#)



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https://twitter.com/giz_gmbh



»»» Using credit lines to foster green lending in the cooling sector

NDC4 Webinar #5: Financing Green Cooling – Opportunities for Financial Institutions

Sanna Stockstrom, Senior Sector Economist Climate Finance, KfW Development Bank
31.10.2023

Overview

1. Why refinancing green credit lines?
2. Experiences to date

»»» Why refinancing green credit lines?

KfW Development Bank's motivation

Our key motivator

As a promotional bank, KfW Development Bank seeks to support the transformation of economies towards achieving the **max. 1,5°C global warming path agreed upon in the Paris Declaration**

Our contribution

- We aim to support partner banks in providing **attractive financial “green” products in local markets**, supporting the transformation of key sectors responsible for high carbon emissions to reduce their emissions gradually
- **We provide attractive financial conditions to partner banks** and expect partner banks to pass these conditions on to final borrowers

Our key impact

- By finding attractive lending conditions, **final borrowers are incentivized to take on promotional „green“ loans instead of conventional loans**
- As a result, new technologies are promoted and introduced to markets – i.e. **green cooling**
- **And private capital is mobilized** to support the achievement of Nationally Determined Contributions (NDC's) to achieve key objectives agreed upon in the Paris Declaration
- The **carbon footprint** of economies is being gradually reduced

What is in it for partner banks?

The future is green: Why a partner bank should engage in climate finance

1. Strengthen the business model of your bank.

There are increased reputational and credit risks if carbon intensive industries continue to be financed. The loan portfolio will be considered risky and your business outlook and rating might be revised.

Analyse your portfolio according to climate risks.

2. Strengthen the brand of your bank.

The transformation of economies towards green, emissions free economies is unstoppable. The question is, when each market participant will come on board. „Those who come late, will be punished by life“ (Gorbatschow)

Be a forward-looking first-mover.

3. Improved refinancing opportunities.

Sound business models are rewarded by investors. There are better refinancing conditions in green financing than in „conventional“ financing of carbon intensive industries and products.

Secure a good rating.

4. Occupy a new market niche with future growth opportunities.

Green financial products face increasing demand in the market. There is business in it.

Be prosperous and have a positive impact on our planet.



Green Cooling

A bankable product



Blacklist harmful substances

- ✓ Suits banking processes – no complex technical verification process as you may have when financing green buildings
- ✓ Can be combined, however, with a green building product
- ✓ Outreach to many types of buildings with cooling needs
- ✓ Outreach to a broad range of clients



Refinancing a bankable product is appropriate when...

... as opposed to other financial instruments

1. **New technologies** are introduced into the market and **cost** is a key impediment to demand. Generation of supply chains etc can be supported
2. **Promotional refinancing conditions** are **passed on** to final borrowers (cost reduction!)
3. **Liquidity** is a key impediment for partner banks to launch a green financial product

»»» Experiences to date

KfW Development Bank's investments in open credit lines

Subjects of investment and financing per sector

Energy

End borrowers:

Companies investing in sustainable energy production and/ or energy efficiency measures

Examples:

- **Renewable energy**, i.e. photovoltaics, solar panels
- **Storage** systems (battery)
- **Energy efficiency measures** (in industry); Cooling systems

Green buildings

End borrowers:

Construction companies, private households

Examples:

- Promotion of **green buildings**
- **Promotion of retrofit**
- **Compact cities, green areas**

Transport

End borrowers:

Private households

Examples:

- **Electromobility**

Agriculture

End borrowers:

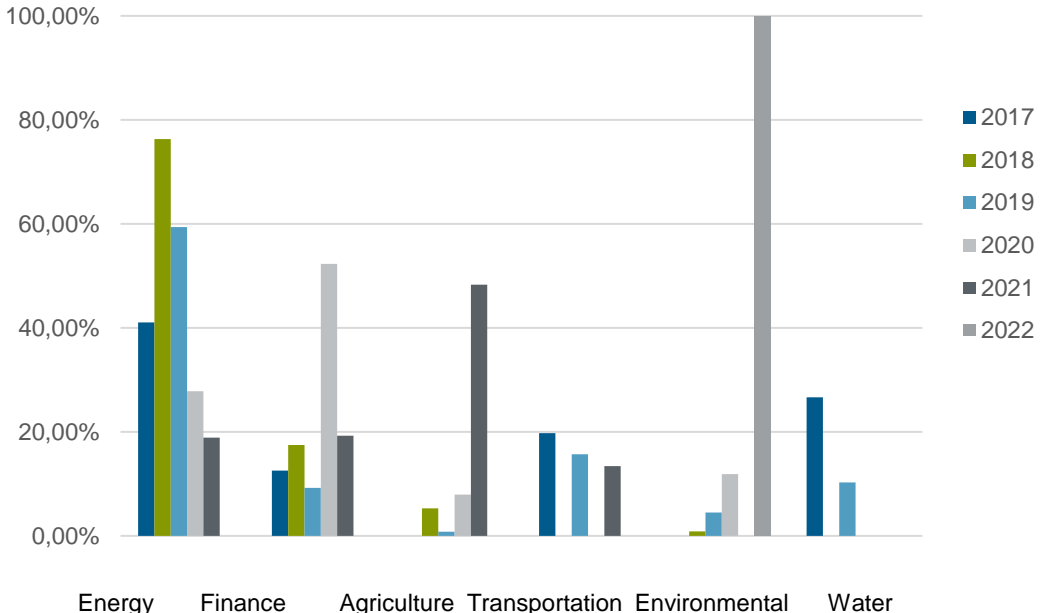
mainly SME companies

Examples:

- Investments in **smart and sustainable farming**
- Climate resilient **crops**
- Innovative, water-saving **irrigation systems**

Open credit lines

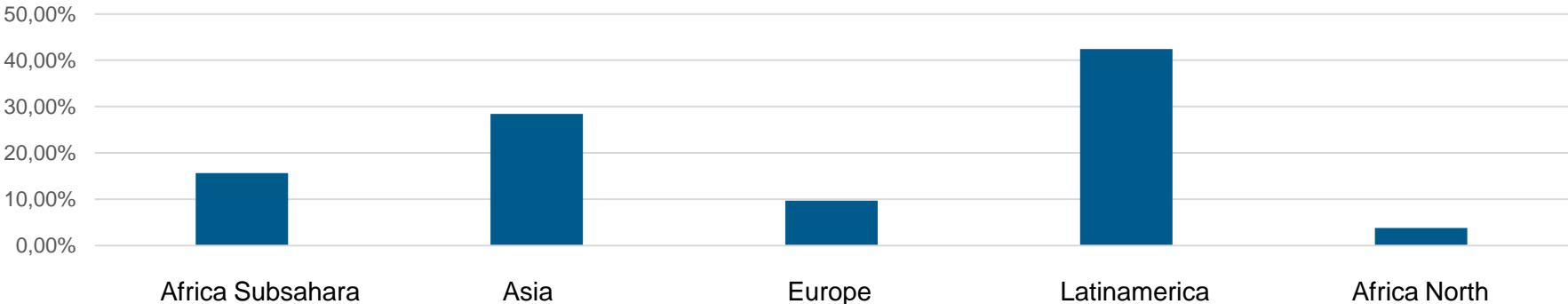
Experiences within FC by sector and year



Source: KfW 2022 portfolio data

Open credit lines

Experiences within FC by region



Source: KfW 2022 portfolio data

Open credit lines

Variety of project types

Project type	I) Micro credit	II) Medium	III) Large
Target group	Small companies, households	Medium-sized companies, municipalities	(large) Construction companies
Volume of individual loans	USD 1.000 – 20.000	> 100 000	Project specific, USD 2,5 - USD 30 mil.
Number of individual loans per credit line	500 - 5.000	< 100	< 100
Share in our portfolio	Aprox. 63%	Aprox. 28%	Aprox. 9%
ESMS risks	Low	Usually low	Potentially high

Project Example: Green Housing



HACIENDA
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SIF SOCIEDAD
HIPOTECARIA
FEDERAL

ecocasa



Country/ Region	Mexico, Latinamerica
Project partner	Sociedad Hipotecaria Federal (SHF), Development Bank
Financial product	Bridge loans (18-36 months; for SME's up to 42 months)
Final borrower	Construction companies
Eligibility criteria	Tools establish eligibility for different windows (at least 20% compared to baseline): EcoCasa renta, EcoCasa venta, EcoCasa Urba; EcoCasa retrofit (upcoming)
Monitoring/ Reporting	Reporting of a set of indicators (CO2 savings, energy savings, water savings, increased comfort)
ESMS	FI B+ / individual projects > USD 5 Mio. require KfW N/O
KfW investment	EUR 200 million revolving (i.e. more than EUR 600 million of investments to date)
Impact to date	More than 2.5 million tCO ₂ e over lifespan of buildings

KFW

>>> Thank you.



Questions & Answers

Join our Alliances

Join the Green Cooling Network



The members of the
Green Cooling Network
are all committed to energy-efficient and climate-friendly
refrigeration & air conditioning.

Join the network and become part of the Green Cooling
community today!

www.green-cooling-initiative.org/network

Become a COPA member



The **Climate and Ozone Protection Alliance (COPA)**
is open to all countries and organisations willing to support
the global shift to sustainable refrigerant management and
closing the loop to a circular economy in the cooling sector.

Find more information on the COPA Website:

**[Climate and Ozone Protection Alliance - Become a
Member \(copalliance.org\)](http://copalliance.org)**

NDC Helpdesk for the cooling sector

The NDC Helpdesk is your resource for expert guidance in the field of Green Cooling. Our mission is to assist policymakers in designing and implementing ambitious Nationally Determined Contributions (NDCs) in the cooling sector.

Areas of Support

- ❄️ Development and implementation of National Cooling Action Plans
- ❄️ NDC cooling sector integration and formulation of trackable mitigation targets
- ❄️ HFC emission calculation and reporting under the UNFCCC (Tier 1 and Tier 2)
- ❄️ GHG Inventories in the cooling sector
- ❄️ Development of a Monitoring, Reporting and Verification (MRV) system in the cooling sector
- ❄️ Any question concerning our provided tools and guidelines

Request our support here:



Contact: ndc4@giz.de

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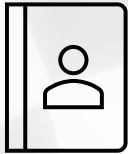
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The NDC helpdesk for the cooling sector is provided by the global project Cool Contributions fighting Climate Change II (C4 II) which is part of GIZ Proklima. C4 II is funded by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) under the International Climate Initiative (IKI).

Contact

Please do not hesitate to contact us with any concerns, questions or requests.



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