OEWG48

Bangkok
13-17 July 2026

Kigali at 10

From Refrigerant Transition to Sustainable Cooling Delivery

14 July 2026
13:00 – 15:00 (UTC+7)

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THE KIGALI AMENDMENT 2016–2026

Welcome

Mr Amr Seleem

Country Engagement and Climate Policy Lead

UNEP Cool Coalition

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Keynote: **The demand side of the refrigerant transition**

Mr Felix Heydel

Project Manager

Öko-Recherche

OEWG48
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Cool Up
Upscaling Sustainable Cooling

Öko-Recherche
Büro für Umweltforschung und -beratung GmbH

The demand side of the refrigerant transition

Managing growing cooling demand while accelerating Kigali implementation

Felix Heydel, Öko-Recherche

14.07.2026

THE KIGALI AMENDMENT 2016–2026

The Cool Up programme
Upscaling sustainable cooling

Funding:

Supported by:

Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection

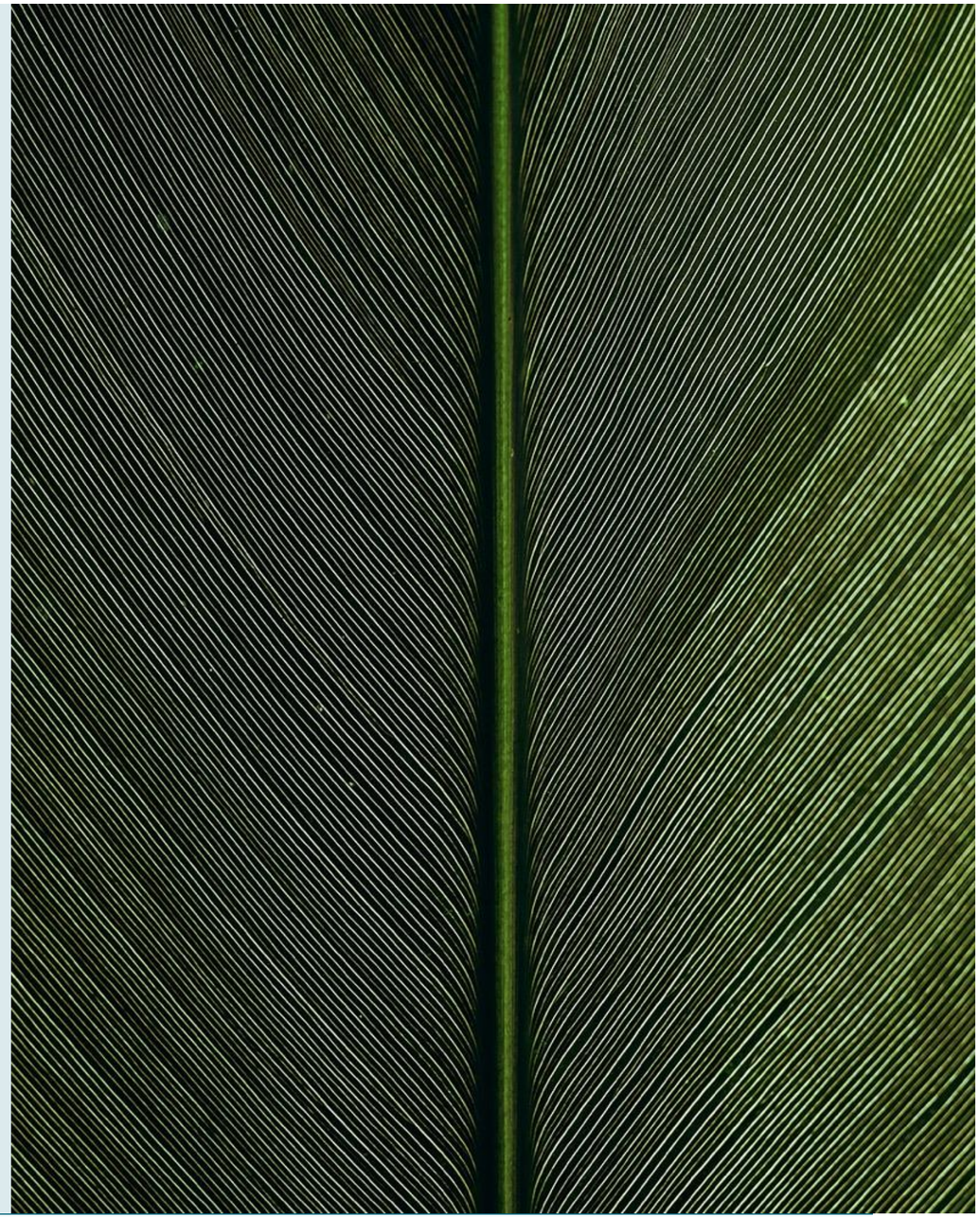
IKI INTERNATIONAL CLIMATE INITIATIVE

based on a decision of
the German Bundestag

Duration: December 2020 – January 2027

MENA countries face a range of energy challenges against the visible effects of **climate change** due to rapidly growing urbanisation, and heavily strained energy infrastructure.

In the region, **cooling** constitutes a major source of energy consumption, and it is expected to grow further. The Cool Up programme promotes accelerated **technological change** in cooling demand reduction, and early implementation of the **Kigali Amendment** and Paris Agreement in **Egypt, Jordan, Lebanon** and **Türkiye**.



Guidehouse · Frankfurt School of Finance & Management – German Excellence. Global Relevance. · Öko-Recherche – Büro für Umweltforschung und -beratung GmbH · ILK DRESDEN · UNDP · RCREEE – Regional Center for Renewable Energy and Energy Efficiency · LCEC · Royal Scientific Society · IDG Co.

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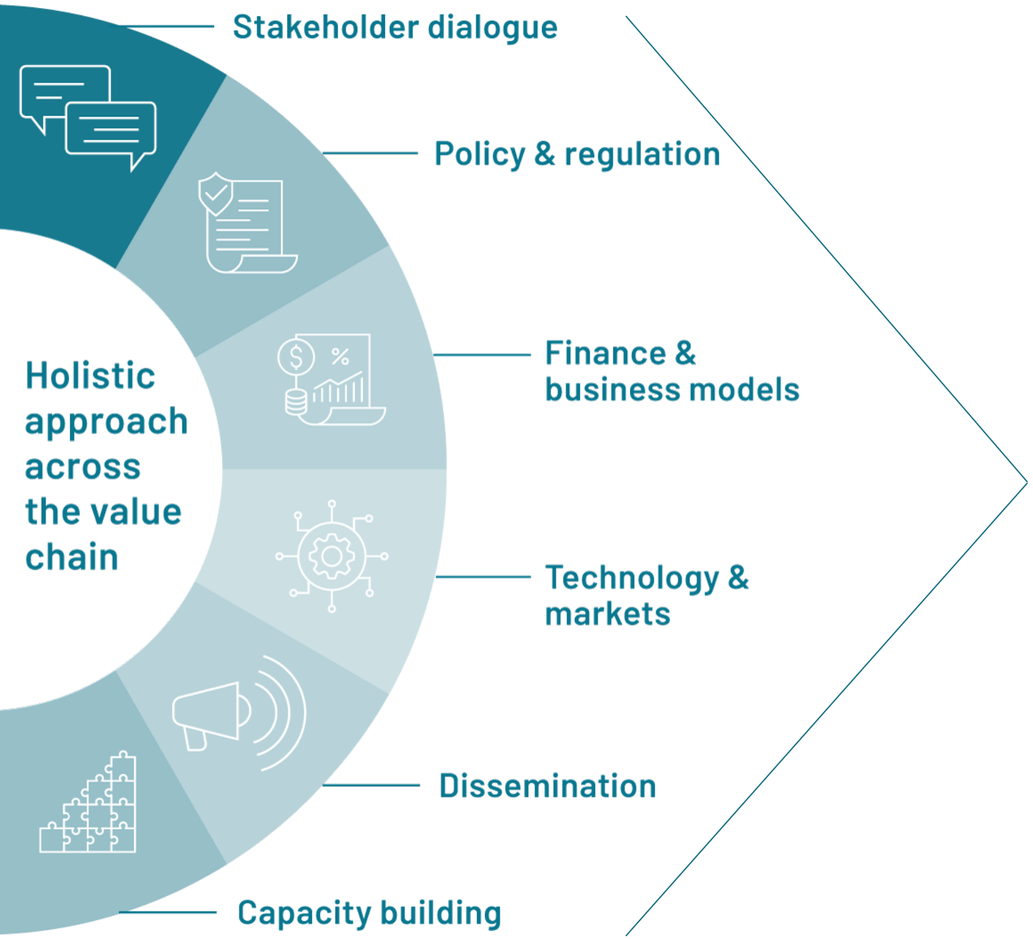
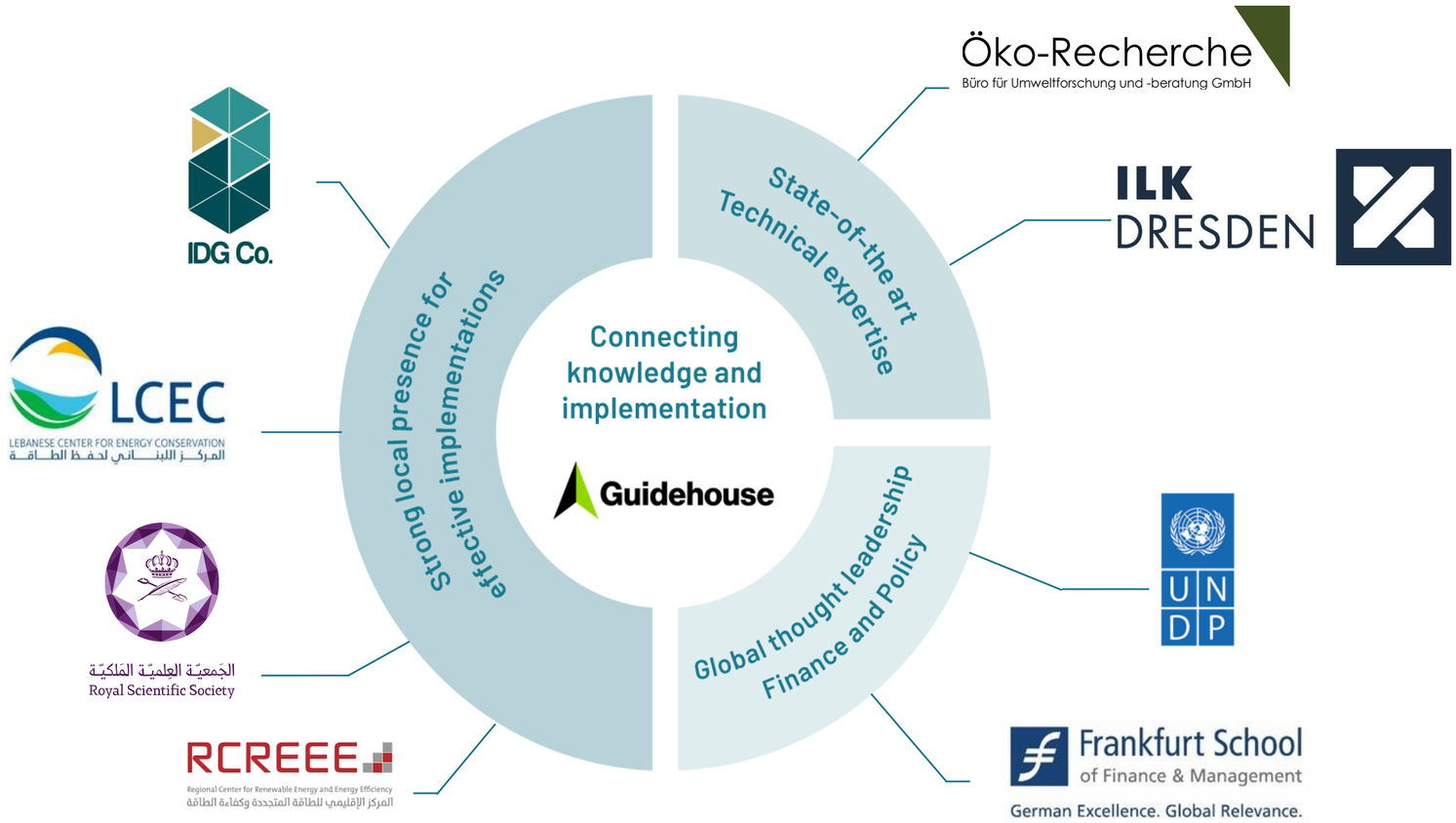
Cool Up has a multi-level, multi-sectoral approach across the value chain





10 partners bring in their specific expertise

Goal of the Cool Up programme

Four partner countries as action hubs

Challenges

Rapidly growing cooling & final energy demand

Structural energy sector challenges

Regional multiplicators for learning between countries, in the region and beyond

Impacts

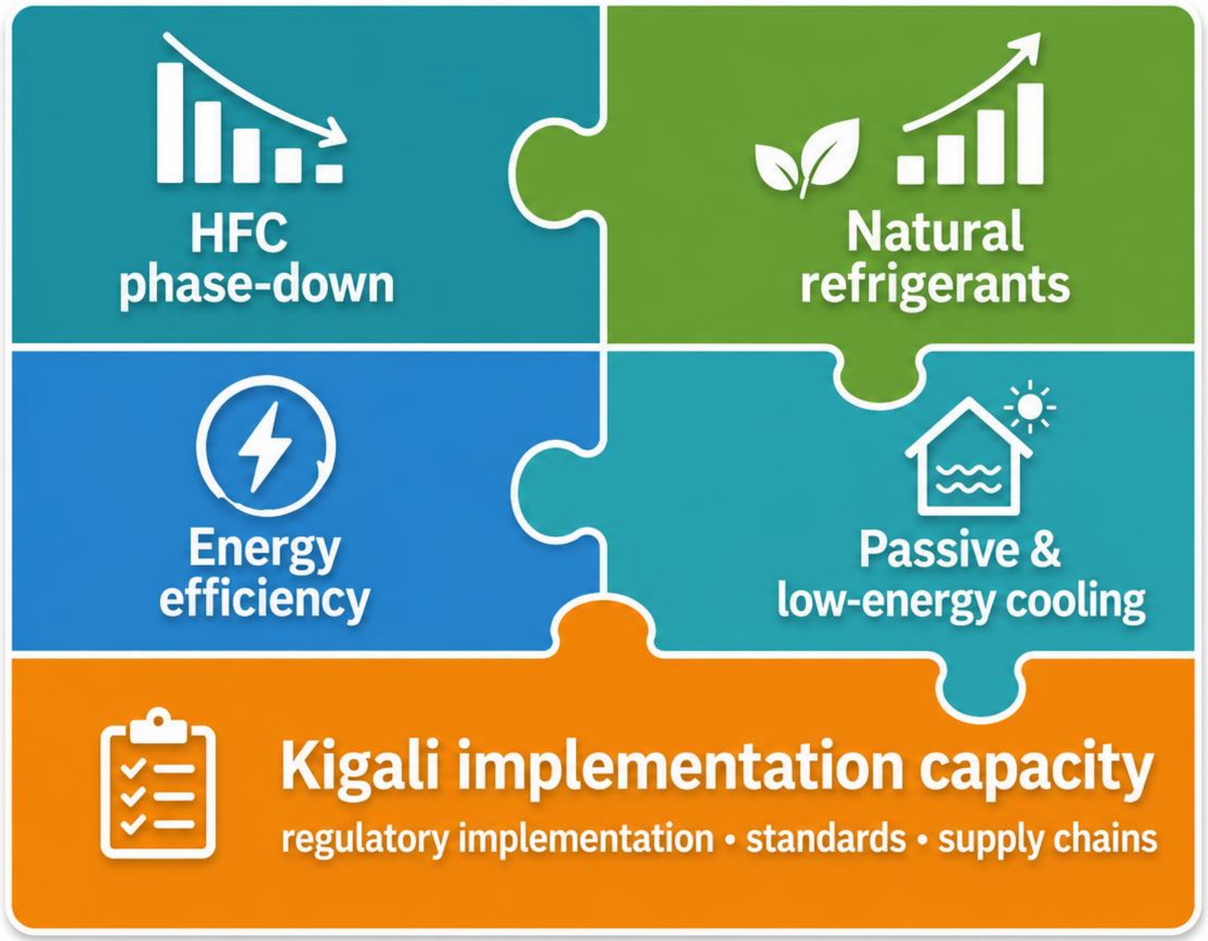
Add to ongoing efforts for building efficiency, climate mitigation and adaptation

Strong political and working-level network

The puzzle of the Kigali implementation phase ahead

Connecting the Kigali puzzle pieces

- **HFC phase-down:** reduce controlled consumption under Kigali
- **Natural refrigerants:** unlock long-term low-GWP pathways
- **Energy efficiency:** maximise climate and energy benefits
- **Passive & low-energy cooling:** reduce future cooling loads
- **Kigali implementation readiness:** align planning, supply chains, standards and skills



Impressions from the Jordan NCAP Launch

Passive und low energy cooling

- Reduce loads before sizing
- AC Use shading, insulation, glazing
- Add ventilation, fans, controls
- Scale district / seawater cooling
- Avoid inefficient AC lock-in
- Anchor in codes, retrofits, finance

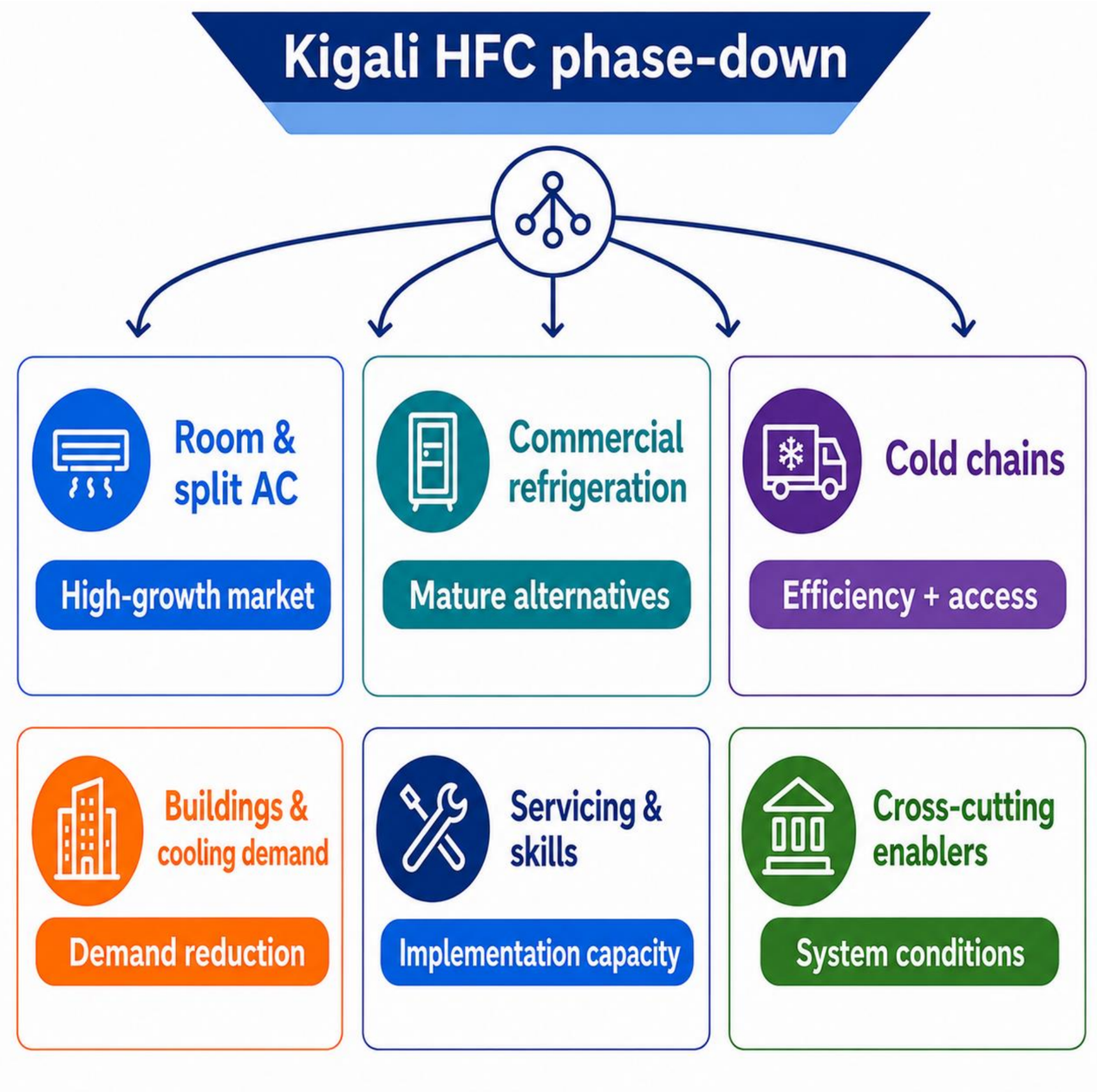
Cold Chain refrigerant transition, efficiency and access

Cold Chain stage	Refrigerant transition	Efficiency & access
Farm / harvest	R290 cold rooms or solar cooling	Less spoilage directly after harvest
Pre-cooling hub	Natural refrigerants where feasible	Shared hubs and cooling as a service improve access for small producers
Cold storage	NH_3 / CO_2 systems for larger facilities	Efficient compressors, controls and insulation for reliable storage
Transport / reefer	Natural refrigerants such as CO_2, where feasible	Reliable cold transport reduces losses and links producers to markets
Retail	CO_2 systems or R290 plug-in units	Lower operating costs, safer food
Households / end use	R600a refrigerators	Affordable food preservation

The HFC phase down: sequencing the transition

From phase-down to sector roadmaps

- Ready alternatives first
- Early action in growth markets
- Avoid repeated transitions where the same enabling actions are needed
- Clear dates for investment certainty
- Tailored pathways for complex uses
- Enablers: standards, supply, finance, skills



Kigali implementation capacity

- Update standards without lowering safety
  - Remove outdated barriers to natural refrigerants
- Supply chain
  - HC purification & logistics
  - Secure components: compressor conversion and efficient design
- Certify technicians for safe, efficient installation
  - Update standards & curricula

Thank you for your attention.

Felix Heydel

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Cool Up
Upscaling Sustainable Cooling

Cool Up side events at OEWG48

13–17 July 2026 | Bangkok, Thailand

Cool Up will contribute to four side events during the 48th meeting of the Open-ended Working Group of the Parties to the Montreal Protocol.

The sessions cover sustainable cooling finance, evidence from high ambient temperature demonstrations, Kigali implementation beyond refrigerant transition, and recovery, recycling and reclaim in the MENA region.

Across the week, Cool Up will highlight practical pathways from national plans to investment, technology validation, market readiness and lifecycle refrigerant management.

13.07.2026 | Time: 13:00 – 15:00 (GMT +7)

Financing Sustainable Cooling: From National Plans to Investment Pipelines

Turning national cooling plans into investment pipelines and addressing finance as a central implementation bottleneck.

Organizers: UNEP Cool Coalition with Cool Up, GIZ and IFC – World Bank Group
Venue: Theatre, Foyer

13.07.2026 | Time: 18:00 – 20:00 (GMT +7)

From Demonstration to Evidence: Leveraging Data to Advance Energy Efficiency in Cooling in HAT

CoolUp demonstration evidence from high ambient temperature contexts, including CO_2 cold rooms, R290 air handling units and digital monitoring.

Organizers: UNDP and CoolUp Programme
Venue: Theatre, Foyer

14.07.2026 | Time: 13:00 – 15:00 (GMT +7)

Kigali at 10: From Refrigerant Transition to Sustainable Cooling Delivery

Moving from refrigerant transition as a stand-alone compliance agenda to sustainable cooling delivery across equipment, buildings and cold chains.

Organizers: UNEP Cool Coalition with CCAC, GIZ and CoolUp Programme
Venue: MR-A, Level 1

16.07.2026 | Time: 18:00 – 20:00 (GMT +7)

Cool Up: Perspectives on ODS and HFC Recovery, Recycling and Reclaim in the MENA Region

Concepts and implementation pathways for RRR and lifecycle refrigerant management, with examples from Cool Up partner countries.

Organizer: Cool Up Programme (Öko-Recherche)
Venue: CR-4, Level 1

Source: UNEP Ozone Secretariat side-event schedule, OEWG48, accessed 12 July 2026.

Panel discussion: **Delivering sustainable cooling from refrigeration transition**

Moderator

Ms Kerstin Kress

Communications Specialist
GIZ Proklima

Panellists

Ms Denise San Valentin

Programme Management Officer
Climate and Clean Air Coalition

Mr Leslie Smith

Director
Ministry of Climate Resilience, the Environment and Renewable Energy
Grenada

Ms Miruza Mohamed

Deputy Director General
Ministry of Climate Change, Environment and Energy
Maldives

Dr Alaa Olama

Air Conditioning and Refrigeration Specialist
Egypt

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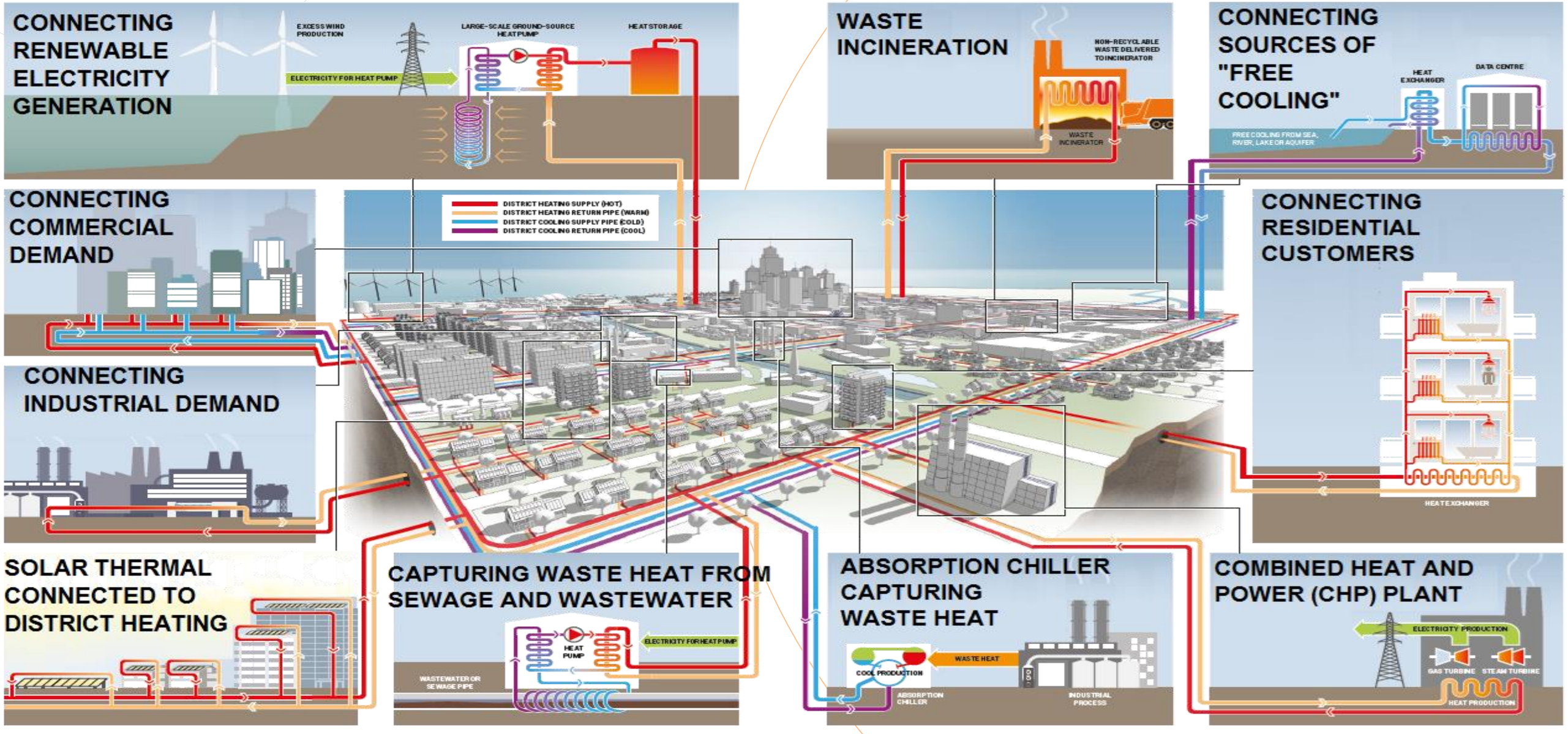
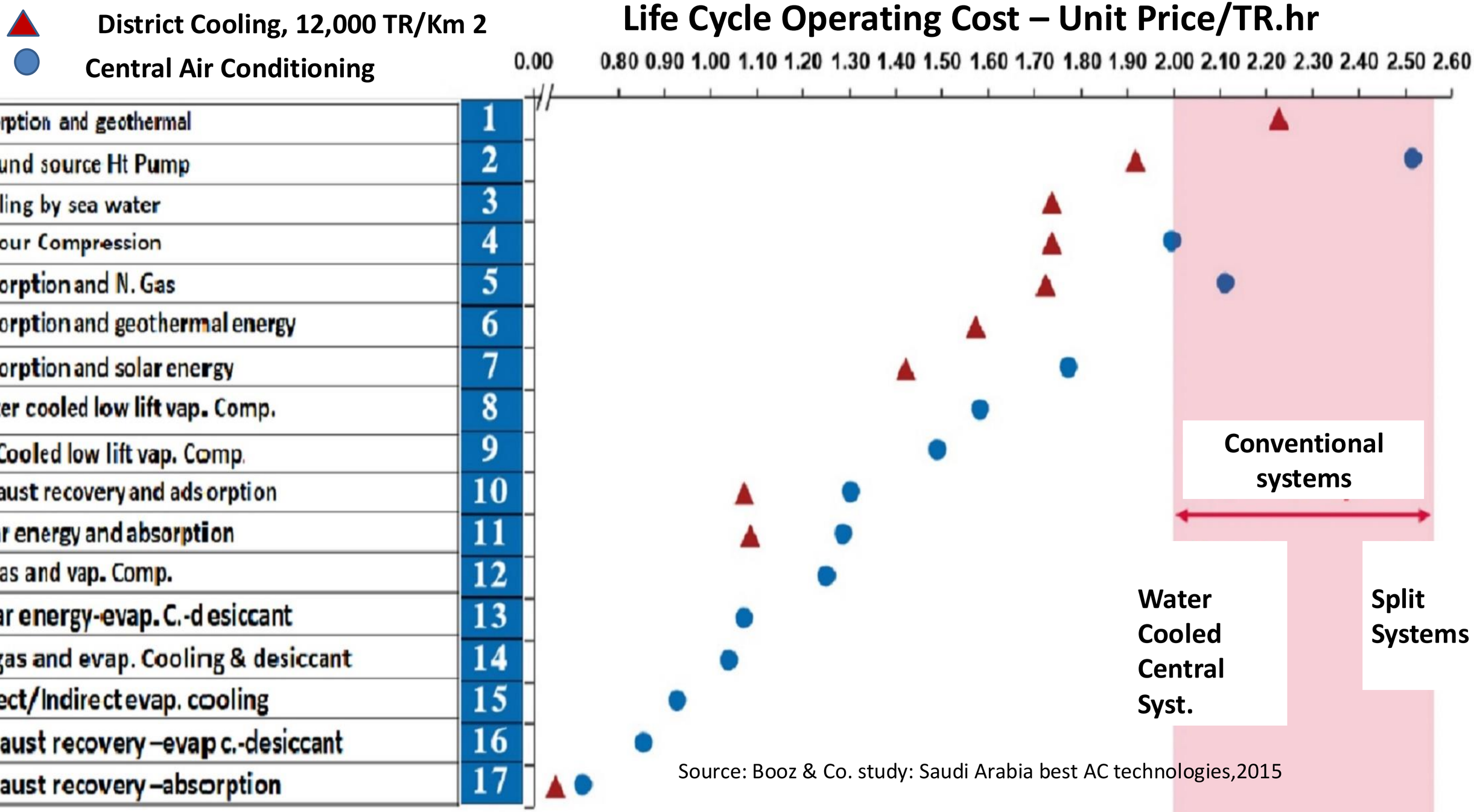
UPSTREAM NIK TECHNOLOGIES

DISTRICT ENERGY IN CITIES INITIATIVE

UN environment



Life Cycle Operating Cost – Unit Price/TR.hr

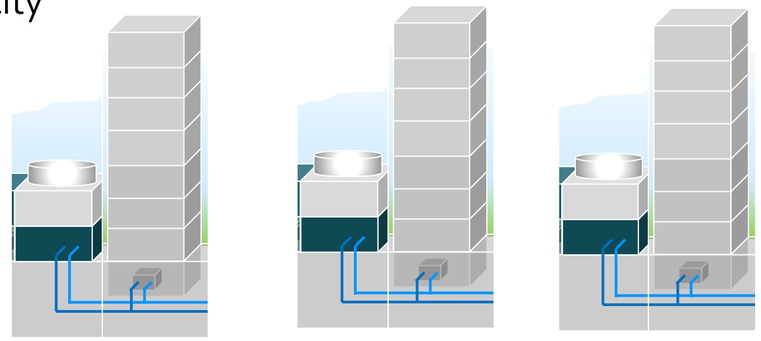


Source: Booz & Co. study: Saudi Arabia best AC technologies,2015

Cooling technology options

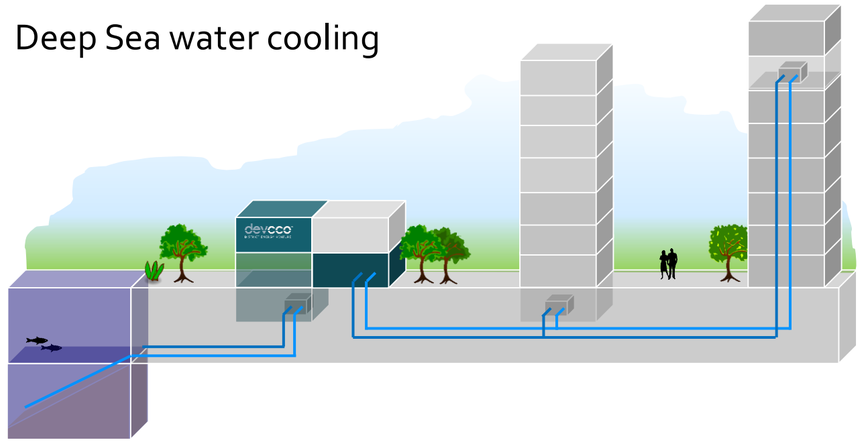
Distributed Chillers

Chillers & cooling towers distributed in the city



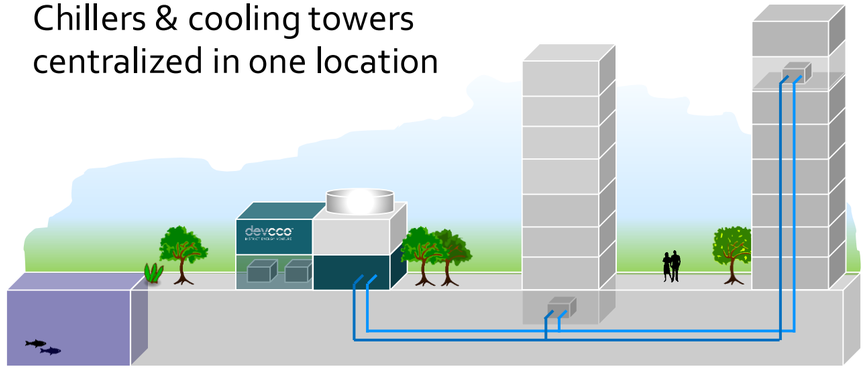
DSC 100%

Deep Sea water cooling



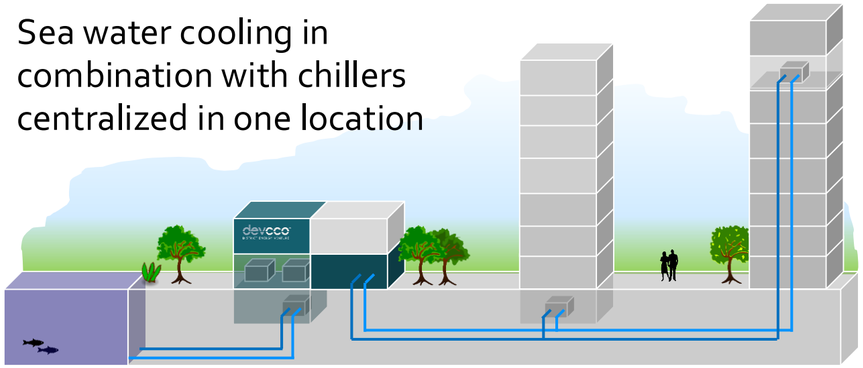
Natural Gas fired chiller system

Chillers & cooling towers centralized in one location

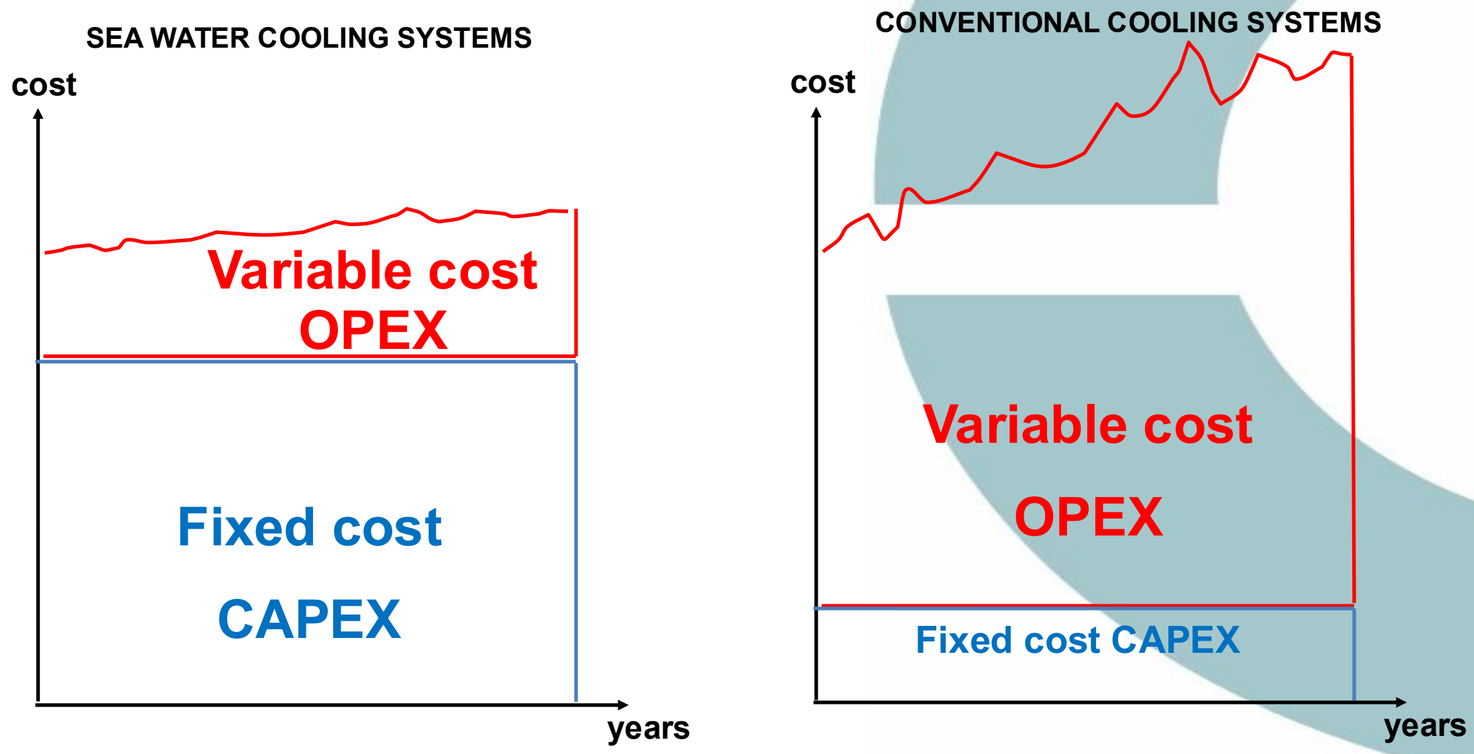


DSC 20%

Sea water cooling in combination with chillers centralized in one location



SEA WATER SYSTEMS are future proof



Deep-Sea water-cooling systems are much less exposed to future volatile energy prices for gas, power and water due to its low operating (variable) cost and dependency of such services

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Q&A

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Closing Remarks

Mr Guntram Glasbrenner

Programme Manager

GIZ Proklima

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