



*Addressing the cooling sector's challenges in
the EU energy transition*

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Keynote Speaker

Director General

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Cooling is important

Many sectors:

- Food
- Health products
- Health equipment
- Air conditioning
- Liquefaction of gases → energy
- Heat pumps
- Preservation of seeds..., CO₂ capture...
- Information technology, data centres...
- Biotechnology
- Space industry
- Steel industry
- Leisure
- ...

Temperature is a key unit for materials and the life of species.

A few figures (IIR infromatory note):

- 5 billion systems worldwide, including 2.6 billion air-conditioning units (1.1 billion residential; 1 billion mobile; 0,5 billion commercial), 2 billion domestic refrigerators and freezers (+0.12 billion commercial refrigeration...)
- 0.22 billion heat pumps
- ...
- Annual sales: 500 billion USD
- Already 20% of the overall electricity used worldwide
- 7.8% of global GHG emissions, 63% due to indirect emissions

Figures are constantly increasing and will continue to increase dramatically, particularly because of two sectors:

➤ Food and health products

Food losses are huge due to a lack of a cold chain: about 20% of the global food supply

Ex: India

22% fruits and vegetables, 34% meat → cold chain / Europe 95%

The number of heat-sensitive healthcare products increased by 45% from 2011 to 2017; one out of 2 medicines on the market is now heat-sensitive.

➤ Air conditioning

AC-ownership rate:

4% in India

60% in China

10% in Europe

90% in the USA and Japan

100% in some Middle East countries

According to the IEA, global energy needs for space cooling would triple by 2050 (baseline scenario-business as usual).

Vital needs

Health is vital, and cooling is health, including air conditioning.

Ex: US

“The mortality impact of days with a mean temperature exceeding 27°C has declined by about 75% over the course of the 20th century”

Development is necessary

Population is dramatically increasing in the less developed countries (Africa, South Asia)

Ageing population is increasing all over the world.

Consequences

Demand for cooling will continue to increase dramatically and global warming will further accentuate this trend, including in Europe.

→ Need for more people

Ex: In the US, employment of mechanics and installers in HVACR is projected to grow by 15% from 2016 to 2026 (average for all occupations: 7%)

→ Need to reduce the environmental impact

The Kigali amendment, the F-gas regulation, the MAC directive...

Use of renewable energy , energy efficiency.

Solutions exist

Certifications

Training

Development of alternative refrigerants

Development of solar energy

Integrated systems (buildings, districts....) but not enough focused on cooling

Energy efficiency margins: ex, the average efficiency of ACs sold today is less than half what is typically available and one third of best available technology.

But Need for information, particularly for SMEs

Promoting cooling in schools (to attract future technicians, engineers...) and in the direction of public authorities is essential

Initiatives

Refrigeration day

Congresses and conferences

Informatory notes, briefs, statements

Databases

Working groups

Research and innovations

...



THANK YOU

Questions

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World Café Introduction



Andrea Voigt

Director General of EPEE

World Café Discussions



Oliver Jung
EHPA
Table Host #1



Jonas Loholm Hamann
GFCCC
Table Host #2



Susanne Tull
Danfoss
Table Host #3

Coffee Break

Reflection & discussion with policy experts and business representatives



Oliver Jung
EHPA



Jonas Loholm Hamann
GFCCC



Susanne Tull
Danfoss



Irene di Padua
Solar Heat Europe/ESTIF



Julie Hanson
GCCA



Andrea Voigt
EPEE

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Thank you!