



INSTITUT INTERNATIONAL DU FROID
INTERNATIONAL INSTITUTE OF REFRIGERATION

CRYOHUB DISSEMINATION EVENT

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Didier Coulomb
Director General

Plan

Introduction: The IIR

I. Environmental challenges

II. Cold chain challenges

Conclusion

Introduction: Who is the IIR?

Founded in 1908

Intergovernmental science and technology-based organisation

Dissemination and promotion of knowledge on all refrigeration technologies and uses



Key Domains Include...

- Food quality and safety from farm to consumer
- Comfort in homes and commercial buildings
- Health products and services
- Low-temperature technology and liquefied gas technology
- Energy efficiency
- Use of non-ozone depleting and low global warming refrigerants in a safe manner



IIR actions

- Databases
- Publications
- Conferences
- Working groups
- International, regional and national projects
- Including CryoHub, a project financed by the European Commission

I. Environmental challenges (1/2)

- Climate change: the biggest challenge of the 21th century
The Paris agreement (2015): not more than +2°C above the preindustrial level, if possible not more than +1.5°C (we are already at about +1°C)
- A general objective, but no international constraints: The National Determined Contributions, to be revised in 2021. Works and negotiations are underway at the European level.

I. Environmental challenges (2/2)

- The refrigeration sector, including the cold chain, air conditioning, heat pumps and cryogenics, accounts for 7.8% of global greenhouse gases emissions. 37% are direct emissions, 63% are indirect emissions related to the production and transport of the energy consumed.

Energy consumption by the refrigeration sector represents 20% of global electricity consumption.

- Moreover, the need for refrigeration is increasing dramatically, especially in developing countries (growing population...) and the environmental impact will also increase.

II. Cold chain challenges (1/2)

- It is essential to have a sustainable development of the cold chain: storage, transport, distribution...
 - Due to food needs: if lost food could be saved thanks to refrigeration, it could theoretically feed 950 million people per year (IIR)
 - Due to health needs: 40% of vaccines are lost because of poor cold chains in developing countries (WHO)
- Storage is a key part of the cold chain

II. Cold chain challenges (2/2)

- Energy is a key issue. Renewable energies (solar, wind) are constantly increasing, especially in Europe. Storing renewable energy is a challenge.
- The objective of the CryoHub project is to solve the problem of energy storage and improve the energy efficiency of cold storage facilities, two important aspects of the energy challenge, particularly in Europe.

Conclusion

- The CryoHub project: an ambitious and difficult project, but innovative and useful
- Cryogenics: a new and interesting approach compared to more traditional ones (batteries)
- Cold storage: an important issue, not only in Europe
- The end of the project is not the end of the story: refrigeration challenges should be at the top of international and national agendas.

New IIR website

Now
online!

www.iifiir.org





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THANK YOU

QUESTIONS?



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