

1st IIR Conference on Cold Chain and Sustainability



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www.iifiir.org

International
Institute of
Refrigeration



Environmental and economical sustainability

- High energy prices make it necessary to reduce CO2 emissions
- Certain refrigerants are subjected to international regulations
- In developing countries, post-harvest losses not only impact food security and rural development , but also involve huge waste of natural resources, and greenhouse gas emissions.



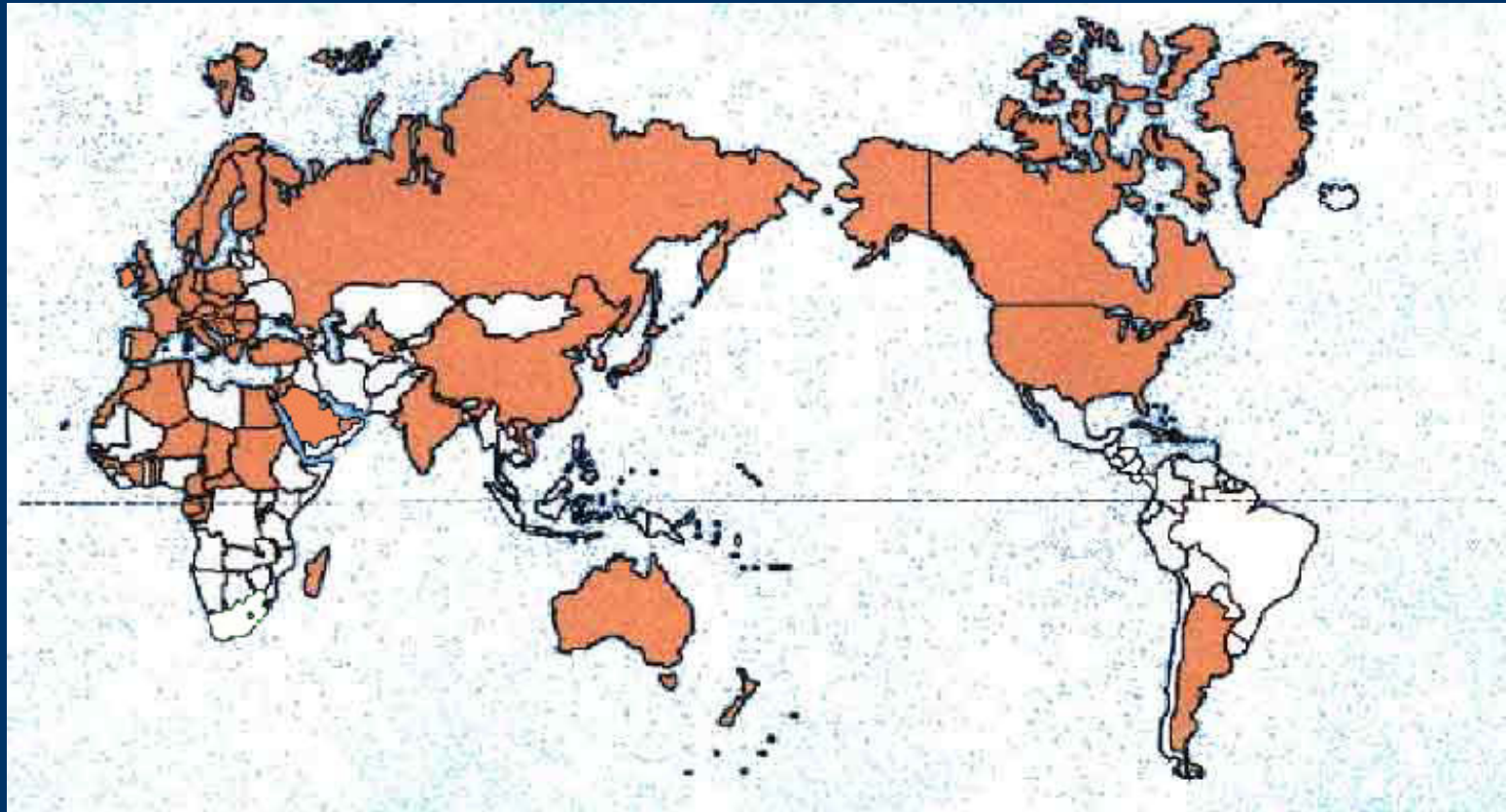
Refrigeration and food security and safety

- In developing countries, consumers demand more but also more diversified food: increased need of the cold chain
- Where the cold chain exists, it must be reliable in terms of food safety and quality and guarantee expected shelf-lives of products



Member Countries

- Intergovernmental organization
- 62 Member Countries
- Developed and developing countries



Mission of the IIR

The International Institute of Refrigeration (IIR) is the only independent intergovernmental organization which promotes knowledge of refrigeration and associated technologies that are necessary for life in a science-based, cost-effective and environmentally sustainable manner including:

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



Tools (1)

- Selection of scientific, technical and economical articles from all over the world, in various languages, included in a database: Fridoc
 - 87 000 entries, 3 000 keywords, 50 000 authors
 - new services in 2011 : Fridoc is to be opened to everybody and it should be possible for users to download articles, and be connected to other databases
- Periodicals
 - International Journal of Refrigeration (IJR) for scientific articles with peer-review.
 - > Papers from the conference could be selected for the IJR.
The best impact factor in its field.
 - Newsletter
 - Bulletin



Tools (2)

- **Books, guides:**
 - Technical books, brochures, diagrams...
- **Reference documents:**
 - International Dictionary of Refrigeration , for example (11 languages, about 4 400 terms and definitions)
- **Training courses**
- **International standards**
- **Review articles**
- **Informatory notes**



Tools (3)

- **Statements prepared for international events:**
 - **Montreal Protocol on ozone depletion:**
The last one: MOP21 (Port Ghalib, Egypt, 2009)
 - **Mitigation of Global Warming and Kyoto Protocol:**
The last one: COP-15/CMP-5 (Copenhagen, Denmark, 2009)
 - **World Summit on Food Security: FAO , 2009**
 - ...



Tools (4)

- **Conferences**

- 3-4 IIR Conferences per year and
 - 8 IIR co-sponsored Conferences per year on an average
 - IIR conferences / IIR co-sponsored / co-organized
- 9th IIR-Gustav Lorentzen Conference on Natural Working Fluids (GL2010)
Sydney, Australia, April 12-14, 2010
 - LNG 16 - 16th International Conference on Liquefied Natural Gas,
Oran, Algeria, April 18-21, 2010
 - Cryogenics 2010, Bratislava, Slovak Republic, April 26-29, 2010
 - Clima 2010 - 10th REHVA World Congress, Antalya, Turkey, May 9-12, 2010
 - 5th Asian Conf. on Refrigeration and Air Cond. - ACRA 2010,
Tokyo, Japan, June 7-9, 2010
 - Sustainable Refrigeration and Heat Pump Technology,
Stockholm, Sweden, June 13-16, 2010



.../... Conferences Tools (5)

- 2nd IIR Workshop on Refrig. Charge Reduction in Refrigerating Systems, Stockholm, Sweden, June 16-17, 2010
- 13th International Refrigeration and Air Conditioning Conf. at Purdue, West Lafayette, United States, July 12-15, 2010
- 20th International Compressor Engineering Conference at Purdue, West Lafayette, United States, July 12-15, 2010
- 1st International High-Performance & Green Buildings Conf. at Purdue, West Lafayette, United States, July 12-15, 2010
- 4th International Conf. on Magnetic Refrigeration at Room Temperature (Thermag IV), Baotou, China, August 23-27, 2010
- 9th International Conf. on Sustainable Energy Technologies (SET 2010) Shanghai, China, August 24-27, 2010
- 9th IIR Conf. on Phase-Change Materials and Slurries for Refrigeration and Air Conditioning, Sofia, Bulgaria, September 29-October 1, 2010



.../... Conferences Tools (6)

- International Congress on Energy and the Environment 2010 + Heat Transfer in Components & Systems for Sustainable Energy Technologies,

Opatija, Croatia, October 19-22, 2010

- Cryomedicine 2010: the New State of the Art,

Tokyo, Japan, November 11-13, 2010

- Sources/Sinks alternative to outside Air for Heat Pump & AC Techniques + Int'l Sorption Heat Pump Conference (ISHPC11), Padua, Italy, April 6-8, 2011

- Ammonia Refrigeration Technology,

Ohrid, Macedonia (FYROM), April 14-16, 2011

**23rd IIR International Congress of Refrigeration:
Refrigeration for Sustainable Development
Prague, Czech Republic, August 21-26, 2011**



The environmental issue is a major subject of these publications and conferences:

- Reducing the energy consumption (the main impact factor of refrigerating systems on global warming)
- Reducing refrigerant charges and losses, for environmental and safety issues
- Promoting non-ozone depleting and low-global warming refrigerants
 - Exchange of information
 - Improving technologies
 - Adapting them to various climate conditions, for developing and developed countries all over the world
- For sustainable development: use of refrigeration equipment is necessary for life and will continue to expand fast particularly in emerging and developing countries



Recent IIR publications dealing with the cold chain :

Guides:

- Recommendations for the Processing and Handling of Frozen Foods (English version 2006, French version 2008)
- Guide to Refrigerated Transport (English version 2010; thanks to Robert HEAP)

Informatory notes (English and French)

- RFID Technologies for Cold Chain Applications (2008)
- The role of Refrigeration in Worldwide Nutrition (2009)

Review articles on the IIR website, in IIR journals, conference proceedings...



✓ See publications on the IIR stand

IIR WP and sub commissions dealing with these issues

- Cold Chain for Pharmaceutical products
- Energy Labelling in the Cold Chain
- Cold Chain Optimization
- Cold Chain in Warm Countries
- Data and Models for Refrigeration and Freezing Foods
- Refrigerated Display Cabinets
- Test Stations (refrigerated transport)



Other actions

- **FRISBEE project (Food Refrigeration Innovations for Safety, consumers' Benefit, Environmental impact and Energy optimisation along the cold chain in Europe)**

The IIR is involved in the dissemination of results to consumers, industry, policy makers....



CONCLUSION

Efficient and sustainable cold chains are key factors of worldwide sustainable development .

This conference is the first one of a new series of IIR conferences.

We expect numerous applicants for the next ones

We will inform you as soon as possible where and when (in 2012) the next one will take place

Have a fruitful conference.

Thank you.

See our Web site: www.iifiir.org

Become a member,
you will have the best updated information
on these major issues

