



Cool Challenge

Innovation Competition hosted by Beverage Industry Environmental Roundtable's (BIER) Coolition



About BIER

The Beverage Industry Environmental Roundtable (BIER) works to reduce consumption, mitigate impacts, and ensure sustainable continuity and future of the global beverage industry.

BIER brings together global leaders in the beverage industry to advance the sector's environmental sustainability by:

1. Serving as a technical resource and knowledge base
2. Being a conduit for transparency throughout the value chain
3. Establishing robust relationships with strategic stakeholders
4. Fostering sustainability collaborations within the sector
5. Maintaining membership that is representative of the industry
6. We are a common voice across the beverage sector, speaking to influence global standards on environmental sustainability aspects most relevant to the sector, affect change both up and down the supply chain and share best practices that raise the bar for environmental performance of the industry.

Through the collective experience and knowledge of its membership, BIER collaborates to define the environmental sustainability aspects most relevant to the beverage sector. By doing so, BIER is able to monitor data and trends, engage with key stakeholders, develop best practices, and guide a course of action for the future.





About Coolition



The Coolition is a value-chain coalition of beverage, fridge and component manufactures to address the topic of sustainability in commercial refrigeration through collaboration in 3 workstreams:

- 1) Standards and Legislation
- 2) Circularity
- 3) Energy Efficiency and Innovation

Established in 2023, the Coolition consists of 34 companies across ~25 countries worldwide and is financed and facilitated by BIER





About the Cool Challenge

Join our groundbreaking Innovation Competition hosted by Beverage Industry Environmental Roundtable's (BIER) *Coolition*, where we invite passionate innovators to revolutionize commercial refrigeration related to chilled, canned or bottled beverages at their point of sale and shape a sustainable future for the industry.

The competition features five captivating categories:

1. **Radical Change in Energy Efficiency:** Unleash your game-changing ideas using cutting-edge technologies to redefine current energy efficiency levels
2. **Incremental Change in Energy Efficiency:** Optimize energy efficiency by leveraging existing compressor technology and pushing boundaries
3. **Retro-fit Solution for Improvement in Energy Efficiency:** Transform existing and/or future cooling systems with retrofit solutions that boost energy efficiency and sustainability
4. **Circularity:** Showcase innovative solutions that promote circularity in commercial refrigeration, minimizing waste and maximizing resource conservation
5. **Business Model:** Recognizing groundbreaking business models driving sustainability and transforming the future of commercial refrigeration
6. **Overall Best Solution:** Grand stage for visionary thinkers! Present comprehensive solutions encompassing energy efficiency, sustainability, circularity, and more

Join us in this exciting journey to reshape commercial refrigeration, reduce environmental impact, and pave the way for a cooler, greener future. Submit your innovative proposals, highlighting impact, feasibility, and implementation strategies. Connect with industry leaders, gain recognition, and win a pilot with one or more of the leading beverage companies!



Rules (1/2)



Eligibility:

- The competition is open to individuals, teams, or organizations with innovative ideas or solutions related to commercial refrigeration as long as they are not a part of the panel of Judges for that category
- Participants may be professionals, researchers, students, startups, or industry experts
- While we prefer ideas to be at prototype stage already, all innovative ideas are welcome

Submission Guidelines:

- All participants must submit a detailed proposal via this online application form by 15th August, 2023:
<https://forms.office.com/e/aPXJsfHGZE>
- Short-listed candidates will be **informed on 1st September, 2023** and invited to present at the [Live] Cool BIER Conference, **end of October 2023**
- Proposals should include a clear description, methodology, expected outcomes, and potential impact of the innovation
- Participants may be required to provide supporting materials such as diagrams, research findings, or prototypes

Intellectual Property:

- Participants must ensure that their submissions do not infringe upon the intellectual property rights of others
- It is recommended that participants protect their own intellectual property before submitting their proposals

Judging Criteria:

- The judging process will be based on predefined criteria that align with the objectives of the competition and will be category-specific
- Criteria are specified per category and may include innovation, impact, feasibility, scalability, environmental sustainability, energy efficiency and circularity



Rules (2/2)



Evaluation Process:

- A panel of judges, comprising of industry experts, researchers, and relevant stakeholders, will evaluate the submissions
- Winners will be selected based on the highest scores or rankings determined by the judging panel
- Prizes will be awarded to winners in each category, as well as an overall best solution winner
- Prizes include a chance for a pilot with one or more BIER members, networking opportunities with leading fridge and component manufacturers, communication of the winners on BIER platforms

Confidentiality:

- Participants should be aware that the proposals they submit will be shared with the judging panel, organizers, and potential partners for evaluation purposes
- Confidential information should be clearly identified, and participants may request non-disclosure agreements if necessary

Disqualification and Disputes:

- Participants found in violation of the competition rules or engaged in unethical practices may be disqualified from the competition
- If a category has only 1 submission, this category will be taken out of the competition
- Any disputes or disagreements related to the competition will be resolved by the competition organizers, whose decision will be final

Rights and Ownership:

- Participants retain ownership of their intellectual property rights; however, organizers may request non-exclusive rights to showcase or promote the innovations



1. Radical Change in Energy Efficiency

Judging Criteria:

- Degree of energy efficiency improvement of the cooling system compared to state-of-the-art refrigeration technology
- Novelty and uniqueness of the technology
- Potential impact and scalability
- Cost-effectiveness and feasibility
- Overall CO₂e footprint reduction of the concept / business case

Minimum Requirement Criteria:

- Demonstrable significant improvement in energy efficiency and CO₂e reduction [Weight factor 40]
- Implementation technical feasibility and potential for commercialization assuming large scale implementation [Weight factor 20]
- Potential to disrupt and revolutionize the cooling industry [Weight factor 30]
- Profound documentation and justification of the new technology and its functionality [Weight factor 10]



2. Incremental Change in Energy Efficiency

Judging Criteria:

- Percentage improvement in energy efficiency and / or heat load reduction of the cooling system as per European Energy Efficiency Index calculation according to Regulation on energy labelling for refrigerating appliances with a direct sales function (EU) 2019/2018
- Applicability and compatibility with existing compressor technologies
- Cost-effectiveness and feasibility
- Performance reliability and longevity
- Overall CO₂e footprint reduction of the concept

Minimum Requirement Criteria:

- Demonstrable improvement in energy efficiency and CO₂e footprint reduction using existing compressor technology [Weight factor 40]
- Realistic cost and affordability considerations assuming a yearly production [Weight factor 30]
- Clear evidence of practical implementation, feasibility and functionality [Weight factor 20]
- Profound documentation and justification of performance improvements and reliability [Weight factor 10]



3. Retro-fit Solution for Improvement in Energy Efficiency

Judging Criteria:

- Energy efficiency improvement achieved through retrofitting
- Compatibility and ease of integration with existing and future refrigeration systems
- Cost-effectiveness and return on investment
- Reliability, functionality and longevity of the retrofit solution
- Documentation of successful retrofits and case studies

Minimum Requirement Criteria:

- Clear evidence of energy efficiency improvement through retrofits [Weight factor 30]
- Compatibility and adaptability to a range of existing refrigeration systems [Weight factor 30]
- Practicality and feasibility of implementation [Weight factor 20]
- Evidence of successful retrofits with tangible energy savings [Weight factor 10]
- Profound documentation and justification of the retrofit solution and its components [Weight factor 10]



4. Circularity

Judging Criteria:

- Design for recyclability, repair, material choice resource optimization and waste reduction
- Use of renewable or recycled materials (% Virgin feedstock kg, %recycled content kg, %renewable)
- Potential for closing the material loop (% weight), materials with lower carbon footprint
- Dismantling and reuse potential
- Circular business models and practices
- Principles of Circulytics by Ellen MacArthur Foundation

Minimum Requirement Criteria:

- Clear evidence of circular design principles and practices [Weight factor 30]
- Use of recyclable or recycled materials in the solution [Weight factor 20]
- Integration of circular business models, such as take-back programs or remanufacturing [Weight factor 20]
- Potential for circularity throughout the product lifecycle [Weight factor 20]
- Profound Documentation and justification of waste reduction strategies and resource optimization [Weight factor 10]



5. Business Model

Judging Criteria:

- Uniqueness and originality of the business model
- Contribution to reducing CO₂e and promoting sustainability
- Contribution to circularity
- Potential to scale up and adapt the business model across different contexts within the industry
- Demonstrated financial sustainability

Minimum Requirement Criteria:

- Primary emphasis on environmental sustainability in commercial refrigeration [Weight factor 40]
- Potential for scalability and applicability in different market segments and business sizes [Weight factor 30]
- Demonstration of implementation feasibility, considering technology, regulations, and market factors [Weight factor 20]
- Clear and well-defined description [Weight factor 10]



6. Overall Best Solution

Judging Criteria:

- Overall energy efficiency performance and impact
- Innovation and novelty of the solution
- Environmental sustainability and circularity considerations
- Cost-effectiveness and market viability
- Scalability and potential for widespread adoption

Minimum Requirement Criteria:

- Consideration of environmental sustainability and circularity principles [Weight factor 30]
- Demonstrable energy efficiency improvement and overall performance [Weight factor 20]
- Evidence of innovation and unique features in the solution [Weight factor 20]
- Commercial viability and potential market acceptance [Weight factor 20]
- Documentation of scalability and potential impact [Weight factor 10]



Questions in the Application Form



General Information:

- Name of the individual/team/organization
- Contact information (email, phone number, address)
- Brief overview of the participant's background and experience

Category Selection:

- Which category of the competition are you submitting your proposal to?

Proposal:

- Title of the proposal
- Summary of the proposed solution or innovation (requested in a video format via a YouTube unlisted link, maximum 3 mins video)
- Explain the underlying technology or approach used
- Outline any relevant prototypes, experiments, or tests conducted
- Highlight any partnerships, collaborations, or existing industry involvement related to your proposal

- Are there any intellectual property or confidentiality considerations associated with your solution?

Impact and Implementation:

- What are the potential gains in energy efficiency, circularity and/or other environmental or social sustainability of your solution? Include supporting data, research findings, or case studies that validate your solution
- Explain the feasibility and practicality of implementing your solution to different contexts or scales of operation
- What is the business case? What are the costs of development and deployment?
- Please state any potential challenges or barriers to implementation and how you plan to overcome them
- Provide estimated timelines and non-financial resource requirements for development and deployment

Supporting Materials:

- Attach any other relevant information via a WeTransfer link



For questions, please reach out to



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