

Decarbonization and Energy Efficiency for Industrial Refrigeration



Net Zero

The term **net zero** refers to the target of reducing the greenhouse gas emissions that cause global warming to zero, by balancing the amount released into the atmosphere from sources with the amount removed and stored by carbon sinks.

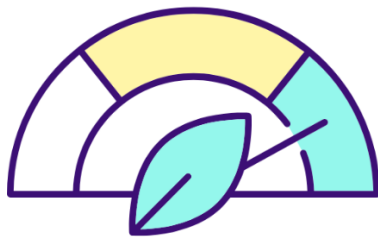
In accordance with the 2015 Paris Agreement, the world must reach net-zero GHG emissions early in the second half of the present century. That will require the transformation of economies and societies alike. Many countries and corporations are setting their aspirations to achieve net zero goals by 2050.



Decarbonization

Decarbonizing existing industrial facilities means getting them completely off fossil fuels. Without burning fossil fuels onsite, most buildings will need to provide space and water heating using electricity instead— typically with heat pumps.

Electrification: Refers to using technologies such as heat pumps that operate with electricity instead of burning fossil fuels such as oil, gas, and coal. Electricity generated through clean resources such as wind and solar power is considered a decarbonization strategy.



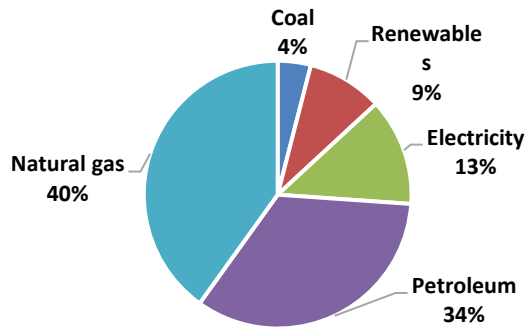
Energy Efficiency

Energy efficiency is the use of less energy to perform the same task or produce the same result. Energy-efficient homes and buildings use less energy to heat, cool, and run appliances and electronics, and energy-efficient manufacturing facilities use less energy to produce goods.

Energy efficiency is one of the easiest and most cost-effective ways to combat climate change, reduce energy costs for consumers, and improve the competitiveness of U.S. businesses.

Energy efficiency is also a vital component in achieving net-zero emissions of carbon dioxide through decarbonization.

Energy Sources for industry in 2021



Electricity represents only 13% of energy sources in the Industry Sector



U.S. Green Building Council: Chapter 8 – Energy & Atmosphere

Primary goals:

- Reducing energy demand
- Increasing energy efficiency
- Replacing fossil fuels with renewable energy
- Eliminating the use of harmful refrigerants
- Monitoring ongoing performance

Bennu Productions LLC is an Organizational Member of U.S. Green Building Council and is an independent consultant to the Florida Food & Beverage industry, by offering the following services:

- Evaluation of different industrial refrigeration system designs, looking for energy efficiency during the system life cycle
- Total cost of ownership analysis of different systems options
- Analysis of current industrial refrigeration systems
- Evaluation of heat pump utilization in the heating process, to reduce carbon emissions

Contact Me:

I am a senior multi-language mechanical engineer with extensive expertise in industrial refrigeration. Additionally, I have a Six Sigma Black Belt and a Lean Green Belt Certification with a focus on data analysis and continuous improvement. I am passionate about world sustainability and helping customers with their decarbonization and energy efficiency journeys to achieve net zero targets.

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