

# INNOVATIVE GREEN SOLUTIONS

## AIR CONDITIONING & REFRIGERATION SYSTEMS



### **Ice Thermal Storage Air Conditioning Systems**

Like storing energy in a battery

- Reduce peak energy consumption and electric bill
- Lower the total operating cost to the owner and lower the peak loading on the power grid
- Reduce carbon footprint greatly
- 10% improvement in system efficiency
- Improve indoor air quality
- Estimated commercial payback period 2-3 years



### **Solar Powered Absorption Air Conditioning Systems**

- The peak of solar energy and the peak cooling demand match perfectly
- The same energy that creates the demand can be used to cover the cooling demand, cut off electricity peaks
- Replacement of electricity supports not only the power plants but also the power distribution grid
- Be able to reduce the peak load to a level that suits customer needs
- Estimated commercial payback period 7-10 years, depending on the application



### **CO<sub>2</sub> Refrigeration Systems**

- CO<sub>2</sub> is a green and natural refrigerant
- Improved power and efficiency with room temperature below -3 °F
- Lower installed first cost for a CO<sub>2</sub> cascade system compared to 2-stage ammonia system
- Reduced ammonia charge (most systems are below 10,000# and require no PSM or RMP)
- Lower maintenance costs (example: no cooling required on low side compressors)
- CO<sub>2</sub> systems are always operating at a positive pressure
- No ammonia in people and food environment
- CO<sub>2</sub> is non-hazardous and non-flammable
- Smaller engine rooms, CO<sub>2</sub> saturated vapor is 10 times denser than NH<sub>3</sub>

Dunham-Bush, one of the world's top commercial air conditioning manufacturers, has long been committed to offering creative solutions for the customers' requirements over its 100+ years history, in the heating, ventilation, air-conditioning and refrigeration (HVAC/R).

Dunham-Bush offers a complete range of HVAC/R products of large chillers, unitary, airside system, ice tank & cooling towers etc. to residences, commercial buildings & industrial facilities. DB is working to be the leader in the commercialization of green technologies.



Marriot IOI



Serendra Mall



Greenbelt 5 Mall



Gatorade Pepsi CO



Phoenix Arizona



CGD Lisbon Bank

CO<sub>2</sub>



US Cold Storage, Bethlehem PA



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