

AFFORDABLE, RELIABLE, AND ACCESSIBLE CLEAN ENERGY



For decades the US Petroleum industry has played the role of leader for the global hydrocarbon business. This technology role dictates that they must also be a leader in the energy transition for affordable, reliable, and accessible clean energy. American Tank & Vessel (AT&V) with customer support has pioneered beneficial energy storage technology for over (30) years. The latest AT&V energy deployment offers a solution to the energy trilemma. CRCES™ (Carbon Reduction Clean Energy Storage) supports:

- Reduction in the carbon footprint
- Lower cost of energy
- Harnessing excess power that is already produced
- Economical LDES (Long Duration Energy Storage)
- 100% US materials and labor

How does CRCES™ do it? It starts with the focus on utilizing waste heat, the way it has been done for (40) years. Combine this with the concept of industrial heat pumps and current technologies to act as the foundation to formulate the approach:

- Acquisition of industrial waste heat
- Apply proven historical processes combined with current technology
- Merge together different disciplines to enhance overall efficiency
- Utilize existing infrastructure to minimize deployment time and cost

Realizing that solid financial results is the #1 driver, customer's projects were analyzed to redefine the

specific process, procedure, and market applications. Today, CRCES™ can deliver economical clean energy to the following:

- Low quality industrial waste heat owners and operators
- Solar and LDES customers with 100% US content
- Industrial heat extraction systems to yield water conservation
- Power grids for stabilization

Even though AT&V is driven to support a desirable economic return on all projects some do not initially qualify. In this case, AT&V will study the specific project and look for an economic solution through:

- Aggregating other sources of energy
- Analyzing ITC, PTC, and outside funding such as grants
- Consider integration and/or full application of other technologies

Moving forward AT&V is working with a variety of industries to apply CRCES™ technology. Each application is unique but within the industries they are somewhat repetitive. Overall, the response from customers combined with the market size paint a picture of a major solution to the energy trilemma. Applications can start today and yield benefits immediately. The industrial projects in the US alone run into the hundreds and represent as much as \$130B US dollars per year by ACEEE estimates. These estimates are for industrial waste heat recovery only and do not address the other applications for solar, water conservation, and grid stabilization.

For more information please visit AT&V's website at www.at-v.com and select Carbon Reduction.