

# TOMORROW'S BATTERY TODAY

The global movement towards clean energy is a complex issue. Finding a solution that we can afford while balancing environment concerns, human rights, and our current energy enterprise, combined with the involvement of multiple governments, seems impossible.

Yet the answer will present itself; one idea, one technology, and one solution at a time.

One problem that most people agree on is the battery of today does not work for larger storage requirements. Whether you are referring to performance, cost, carbon footprint, or negative impacts on the environment and human rights, the battery of today is not the answer. However; based on the amount of recent investment by multiple global players, it looks like we are stuck with the current battery technology for the near future.

Another concern is that the battery technology of today will have a higher cost tomorrow. Limited resources controlled by unfriendly governments, combined with negative impacts to the environment, are adversely impacting the value of today's battery. Even with all this unfavorable news, demand is still growing. Reports project the demand for batteries will grow at 40% per year over the next 5-10 years. Therefore, raw material supplies are stranded, environmental impacts from mining and disposal will add cost, and demand will continue to increase. Additionally, in many applications batteries burden the investor with a



required future replacement cost that is difficult, if not impossible, to forecast.

The good news is a solution for large banks of batteries often used to support renewable energy to the grid is here today. This technology will reduce the overall battery demand and set a new path for energy independence. The solution is based on:

- Lowering the carbon footprint
- US manufactured equipment and components
- No cyclical life
- No unknown future expenditure
- Clean energy applications

## EMERGING TECHNOLOGY

CRCES™, Carbon Reduction Clean Energy Storage, will support independence from China and the unknown cost of batteries in the future.

Based on renewable energy such as thermal solar, the entire system could support 100% US manufactured content. In addition, CRCES™ will reduce traditional battery demand helping to take some of the pressure off the EV industry. Planned cost and economics can easily be defined and support a better economic footprint than batteries. Current global applications are under investigation

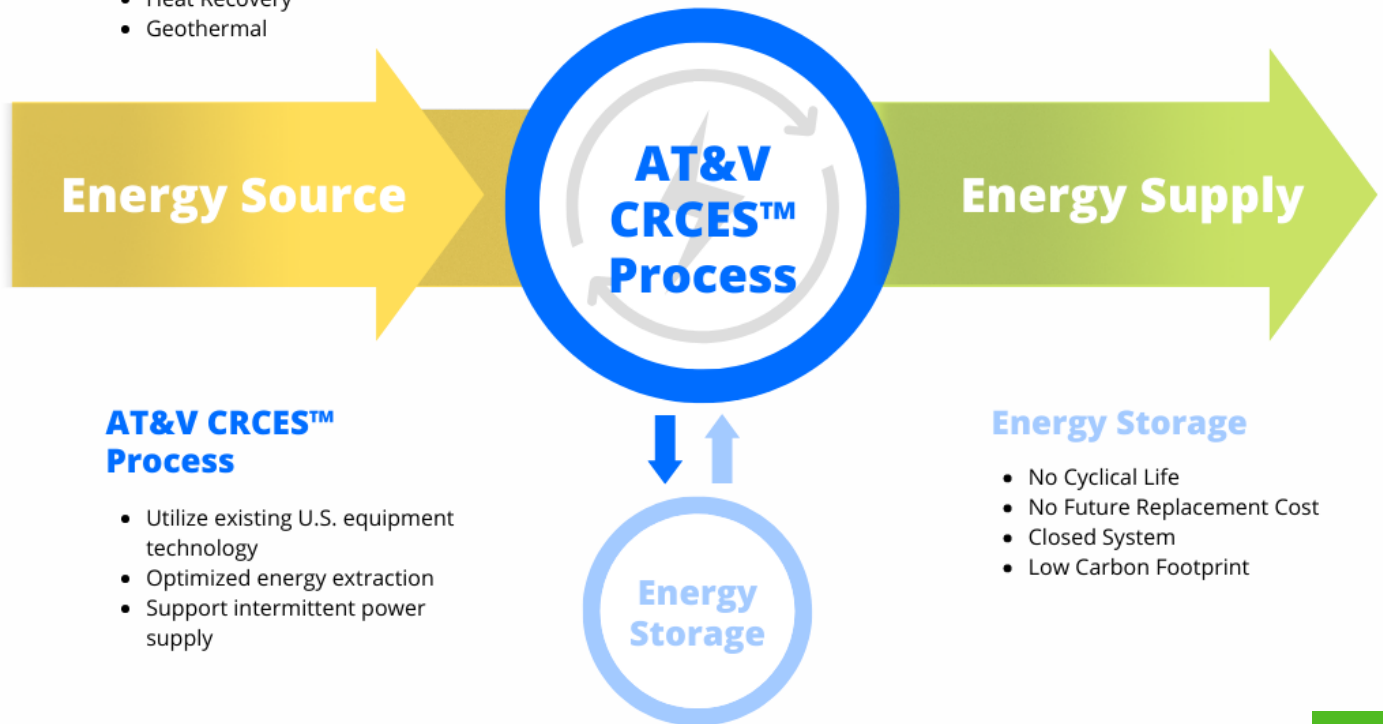
## Energy Source

Consistent or Intermittent

- PV Solar
- Thermal Solar
- Wind
- Heat Recovery
- Geothermal

## Energy Supply

- On Demand
- Heat Supply
- Cold Supply
- Electrical Supply



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to determine the best fit and alliance relationships.

### FOR MORE INFORMATION

If you require additional information about CRCES™ Technology please visit the American Tank & Vessel website at [www.at-v.com](http://www.at-v.com) and click on the Carbon Reduction link. This will provide more information about CRCES™ Technology, as well as technical history and the commercialization process.

If you would like to email us please use [green@at-v.com](mailto:green@at-v.com).

This article was written by

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### ABOUT AMERICAN TANK & VESSEL, INC.

American Tank & Vessel, Inc. (AT&V) was formed in the United States with a mission to be the best at design, fabrication and erection of steel containment structures. Our performance standards and goals are dictated by safety, unsurpassed quality, and maintaining schedules that are significantly better than industry-available time frames. For

over 40 years, AT&V has grown to establish a focus on customer service along with a global capacity. AT&V provides a unique service, with in-house ability to deliver a single tank or an entire terminal. Combined with patented technology and proprietary systems, AT&V can offer the most advanced applications for your tank or terminal needs around the world.

**01** Lucedale, MS AT&V CRCES™ alpha site

**02** CRCES™ energy supply process