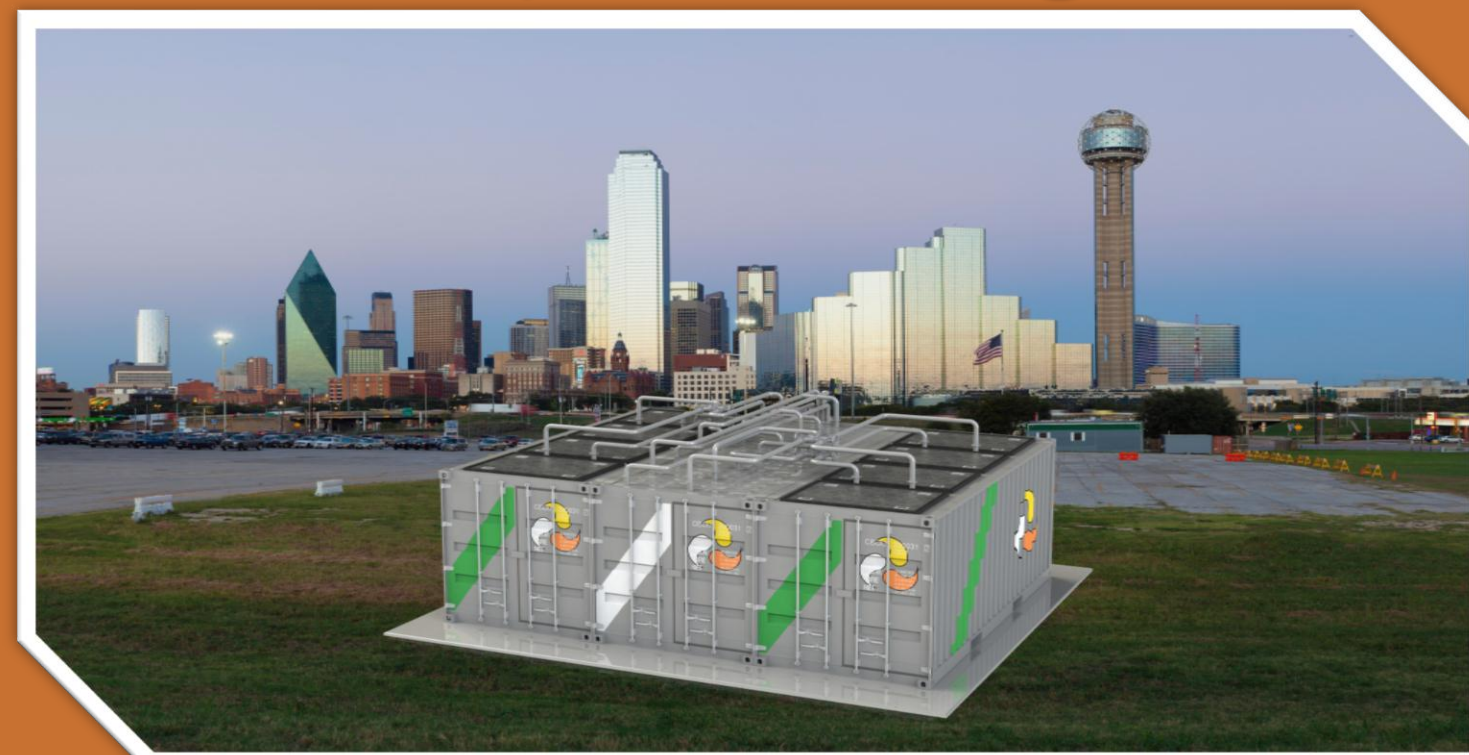


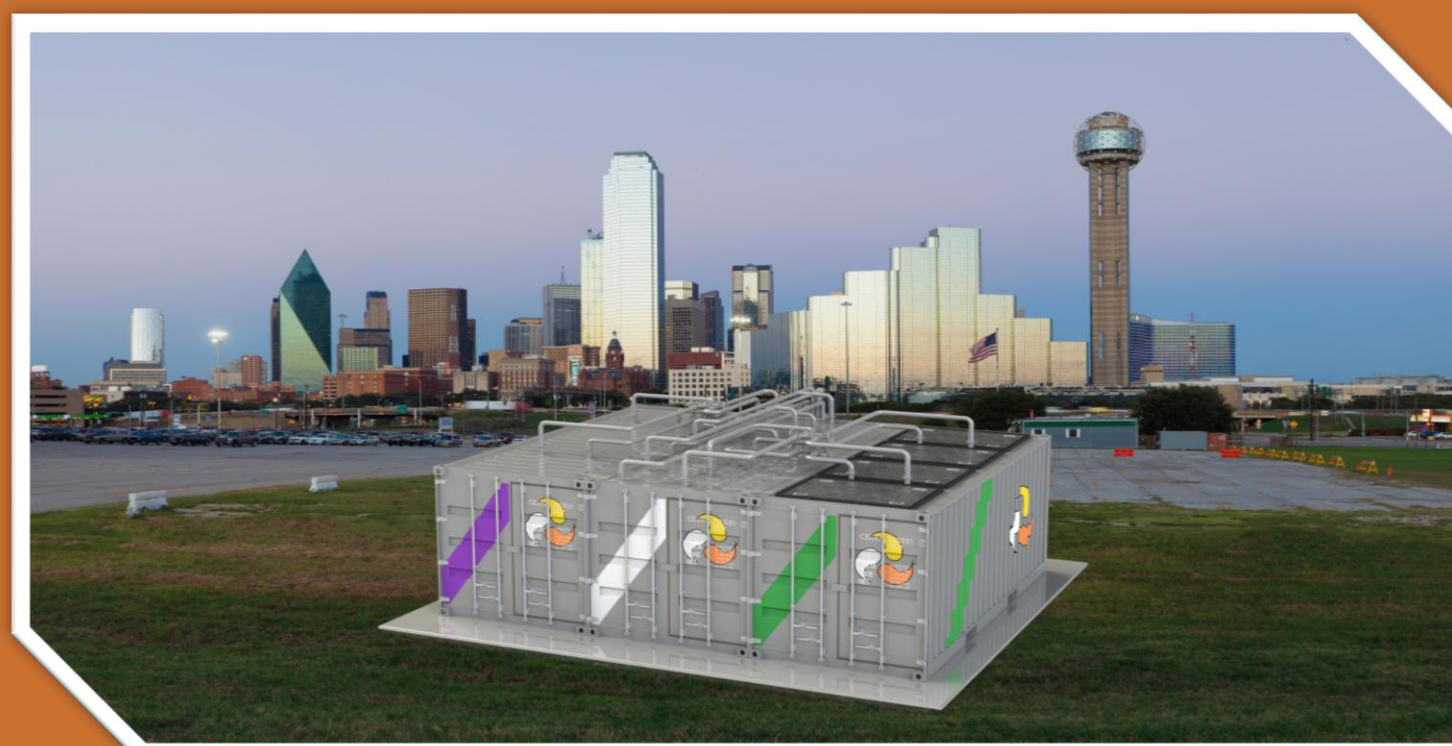


### Industry Offerings



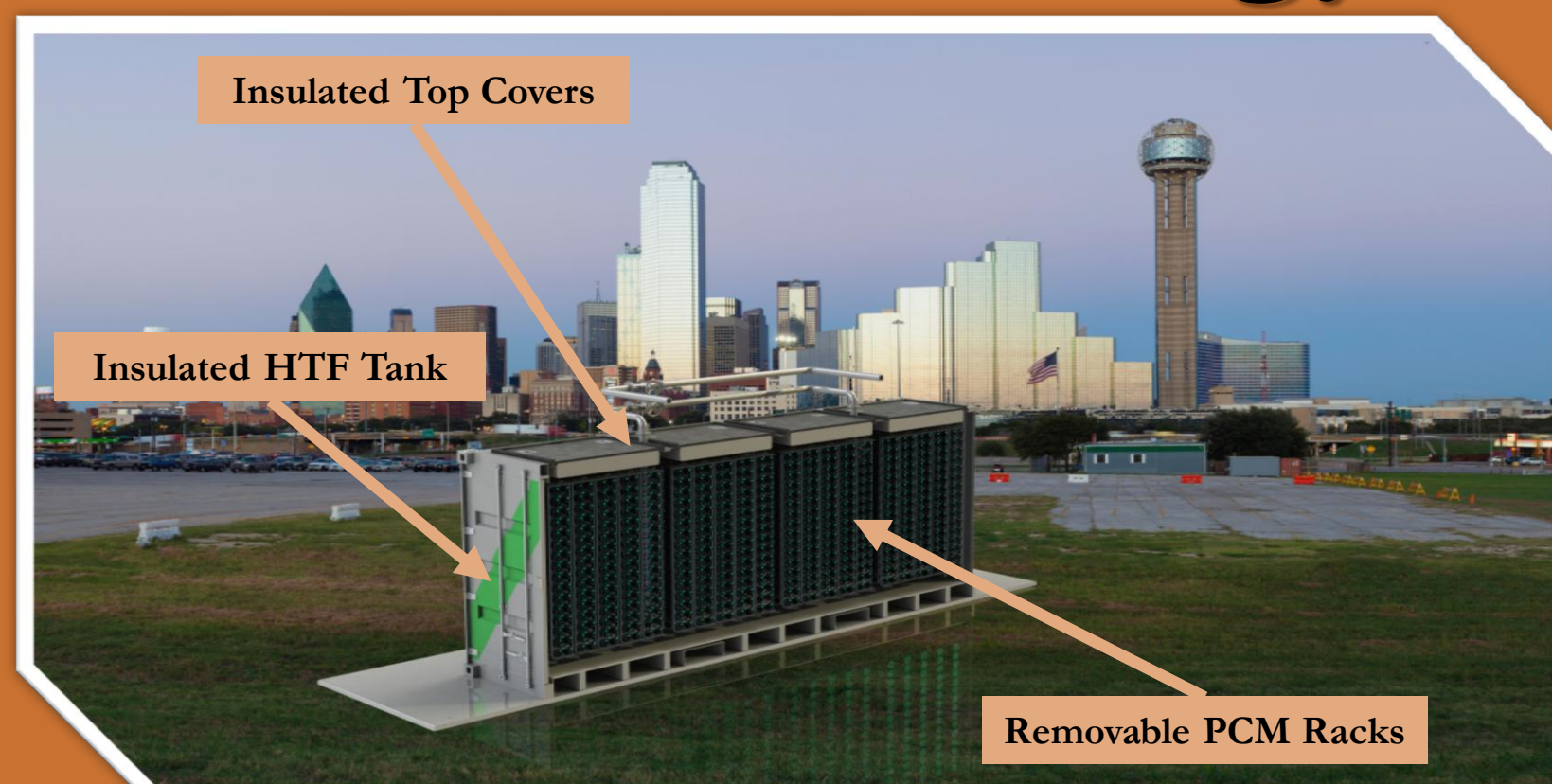
Combining **TIAC** and **TES** systems increases Efficiency and Lowers Cost

### TIAC + TES



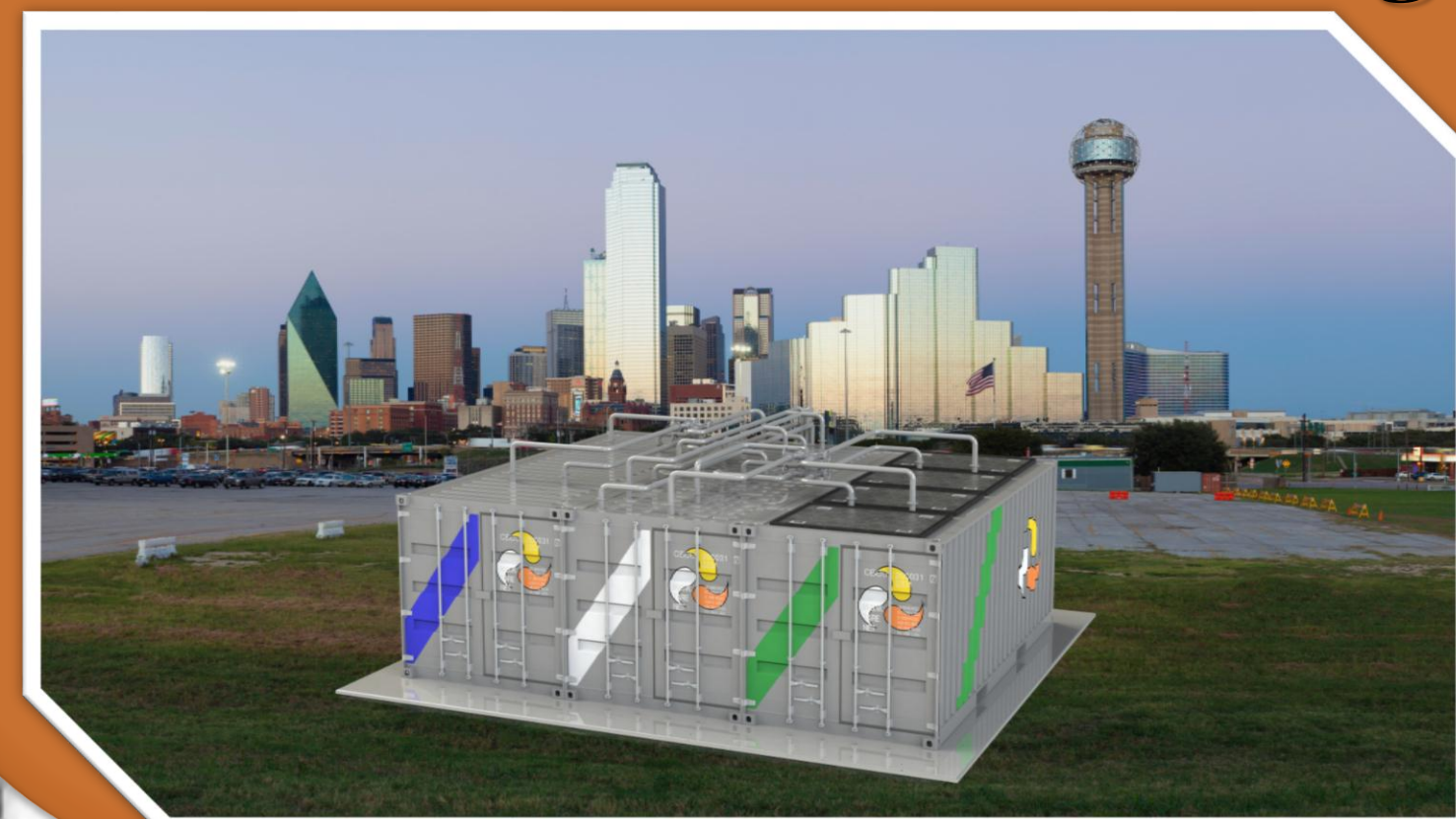
## Modular Thermal Energy Storage

Providing efficiency gains and cost savings for **On Grid** and **Off Grid** waste heat applications through the implementation of **LoCap TES** solutions.



Reversible and Seasonal **TES** with Expandable Capacity and Control options for Heating and Cooling Energy Storage

### CES + TES Peak Shaving



Combining **CES** and **TES** systems delivers cost effective on peak performance with off peak generation

### Current Endeavors



### Modular Thermal Energy Storage Unit

- Reversible – hot/cold thermal energy storage unit 32F-212F
  - Ideal temperature range for most HVAC applications
  - Change storage mode seasonally (Cold TES-Summer vs. Hot TES-Winter)
- Modular – coupled with other LoCap units for custom tailored solutions
  - E.G Additional Controls and cooling units for TIAC applications
- Scalable – Scale storage capacity up or down by adding/removing units
  - Standardized design allows for competitive pricing for small and large scaled storage solutions

### TIAC + TES

- Turbine Inlet Air Cooling (TIAC)
  - Inlet Air Temperature is reduced ~ 40F (110% output vs. ISO conditions)
  - Combustion turbine performance can be improved 30% on average annually (10% over ISO + ~20% avoided losses during warmer season)
- TIAC paired with Thermal Energy Storage (TES)
  - Smaller chillers are required which result in lower equipment costs and higher ROI
  - Chillers operate at higher efficiency during off peak hours
  - No Parasitic loads are caused by the chillers during on peak hours, which result in the maximum possible turbine production

### CES + TES Peak Shaving

- Cryogenic Energy Storage (CES)
  - Low grade heat is introduced during on peak hours to expand the medium and spin a turbine (~50% Efficiency)
- CES Paired with Thermal Energy Storage (TES)
  - Low grade waste heat is captured and stored with TES for peak shaving purposes
  - The waste heat is then converted into peak demand power at much higher efficiencies with CES technology vs. other ORC or other low temperature heat engines

### Industry Offerings

- Waste Heat Engine Efficiency Improvements for Off Grid applications
  - Reducing Size of onsite diesel generators by incorporating LoCap TES
  - Improving Generator Efficiency by including LoCap TES
- Waste heat Engine Efficiency Improvements for On Grid Applications
  - Cost savings by introducing LoCap TES as a Peak Shaving solution
    - Stored Thermal Energy to be transformed into peak demand power