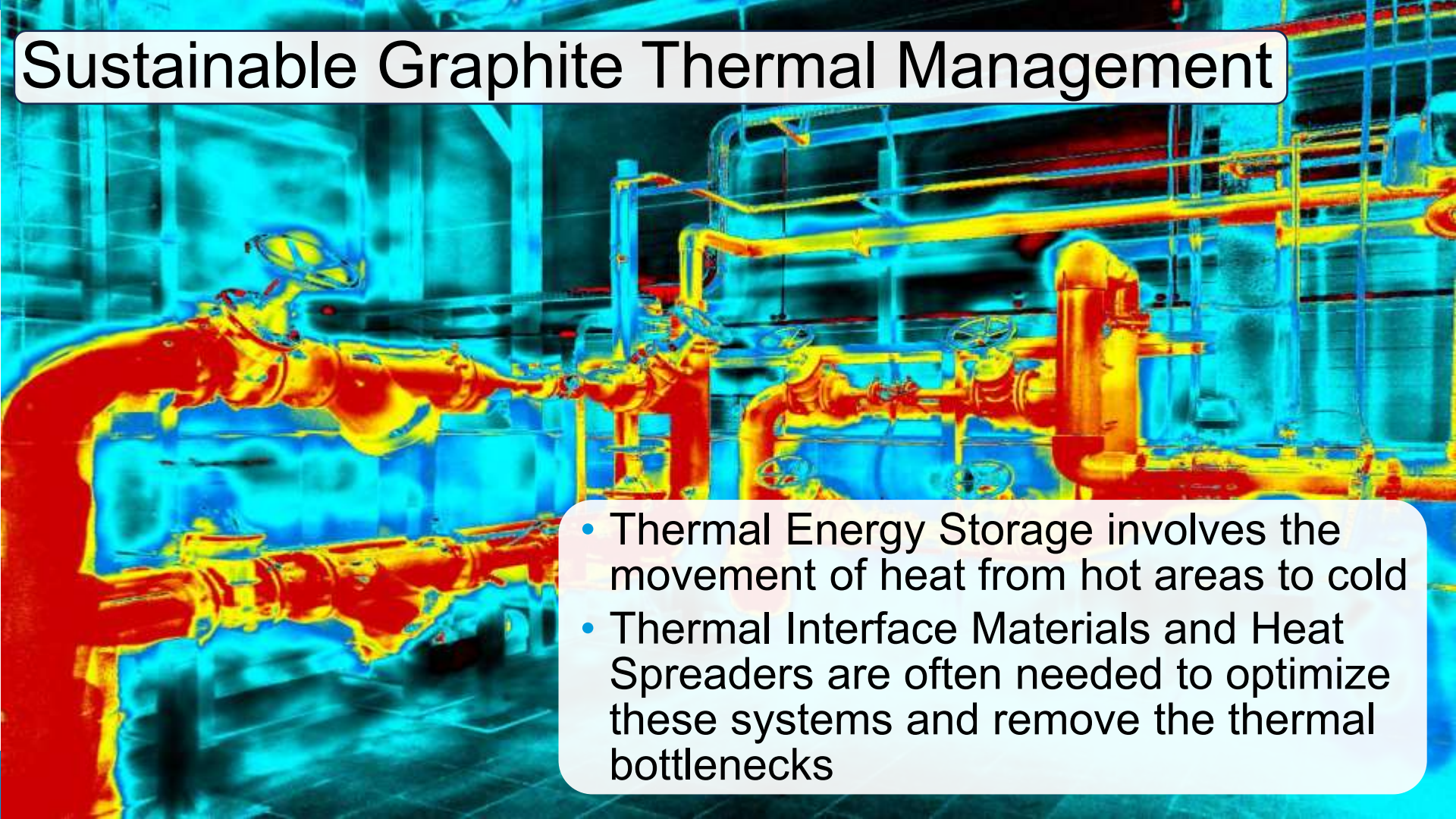


THE THERMAL MANAGEMENT EXPO NORTH AMERICA

Using eGraf[®] Flexible Graphite to Unlock Sustainability
Goals in Thermal Energy Storage

May 6th, 2026

NeoGraf Solutions, LLC



Sustainable Graphite Thermal Management

- Thermal Energy Storage involves the movement of heat from hot areas to cold
- Thermal Interface Materials and Heat Spreaders are often needed to optimize these systems and remove the thermal bottlenecks

Thermal Bottlenecks



Thermal Energy Storage systems often generate heat or cold faster than it can be rejected, stored, or reused

Common thermal problems:

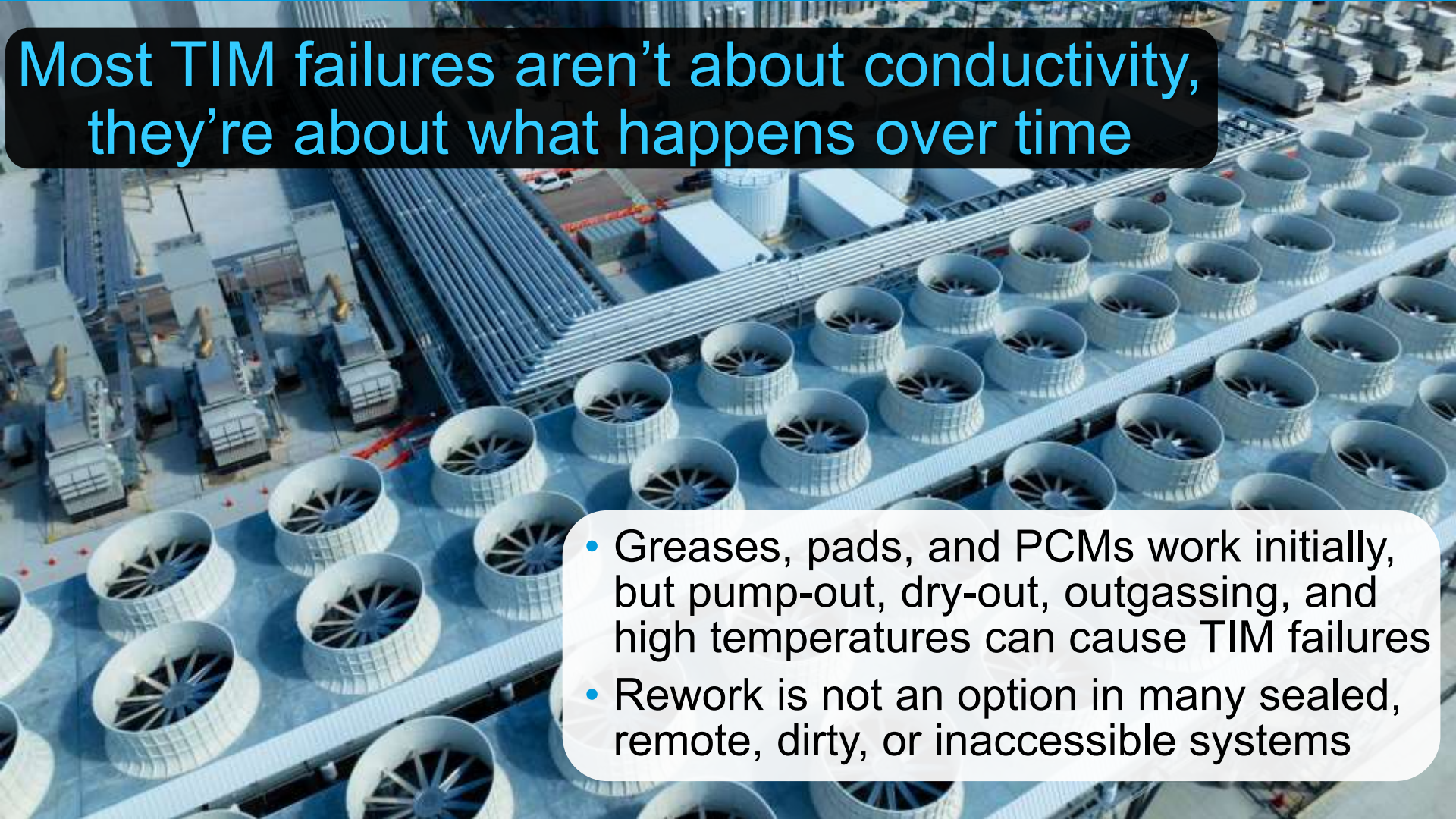
- Localized hot/cold spots
- Thermal gradients reducing conversion efficiency

TES effectiveness is often limited by how efficiently heat reaches and passes the storage/recovery interface

Thermal Interface Materials



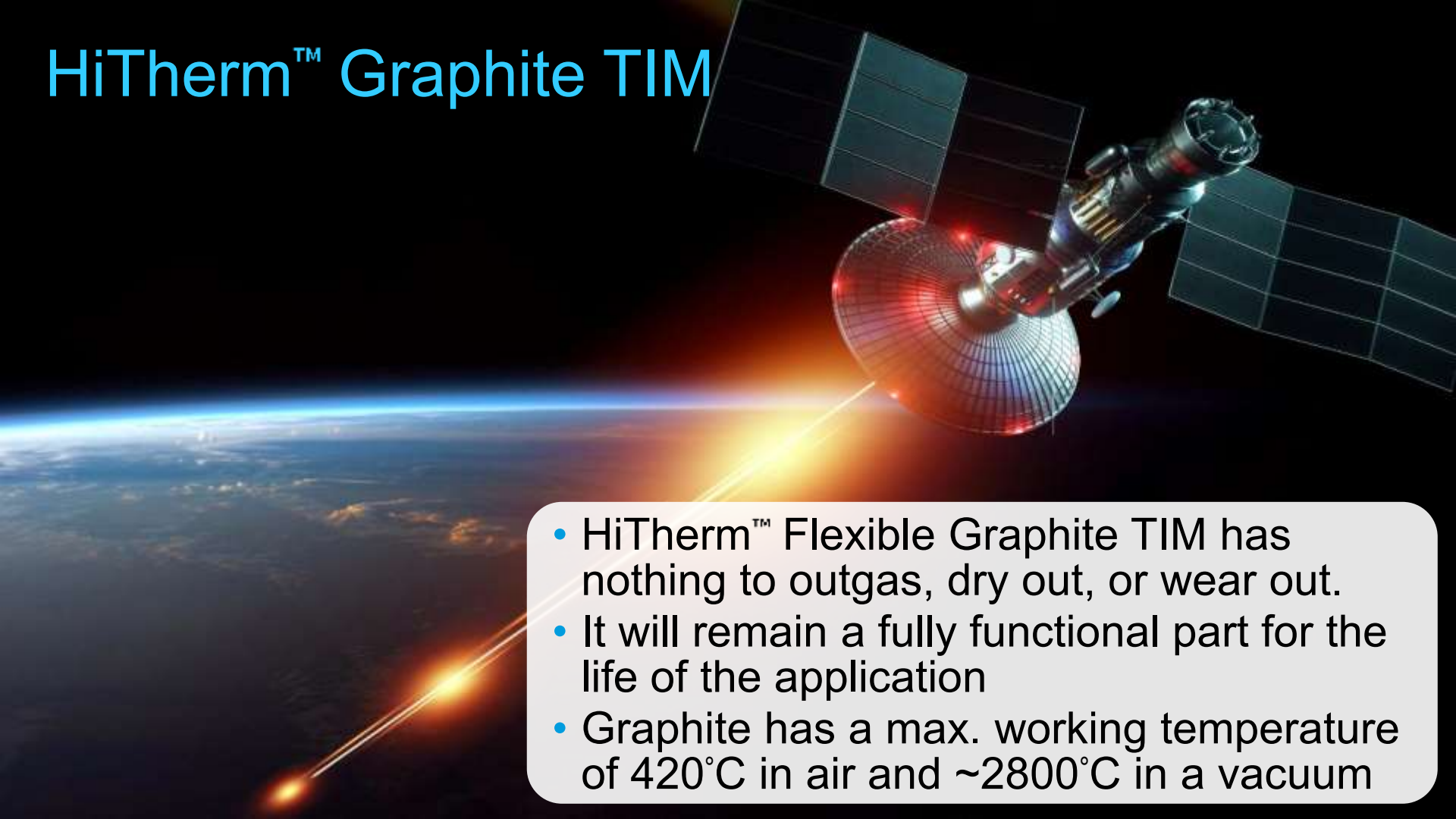
- For effective Thermal Energy Storage, heat often needs to move between hot surfaces and cold surfaces
- TIMs are typically used to facilitate thermal spreading
- Many types of TIMs exist
- All have their strengths and weaknesses



Most TIM failures aren't about conductivity, they're about what happens over time

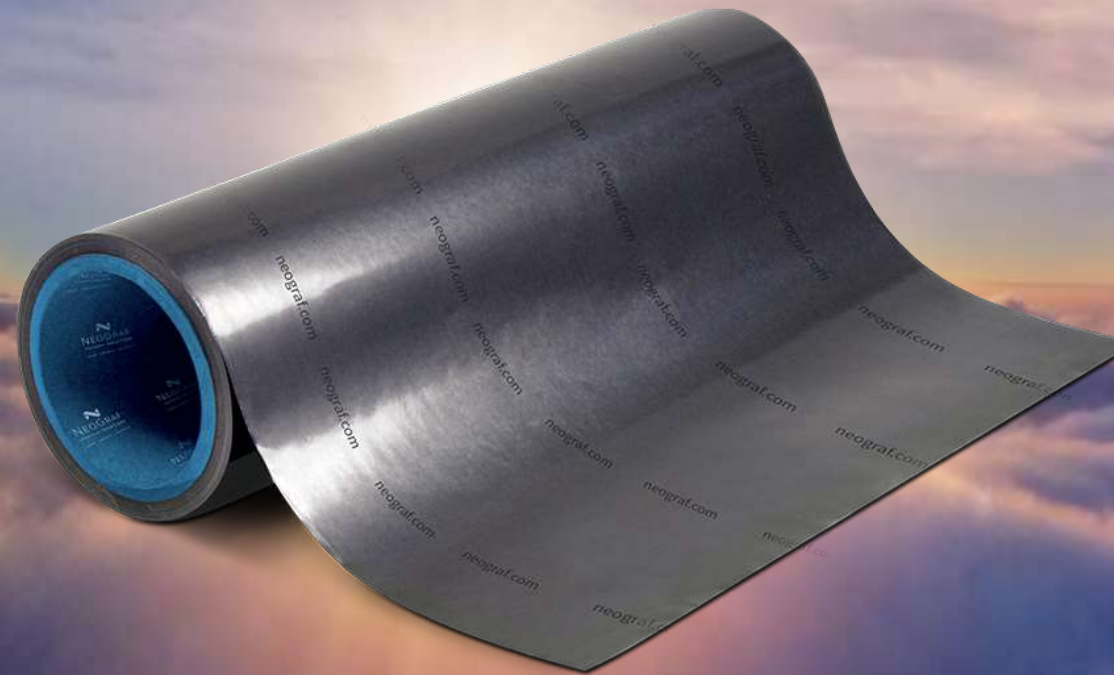
- Greases, pads, and PCMs work initially, but pump-out, dry-out, outgassing, and high temperatures can cause TIM failures
- Rework is not an option in many sealed, remote, dirty, or inaccessible systems

HiTherm™ Graphite TIM



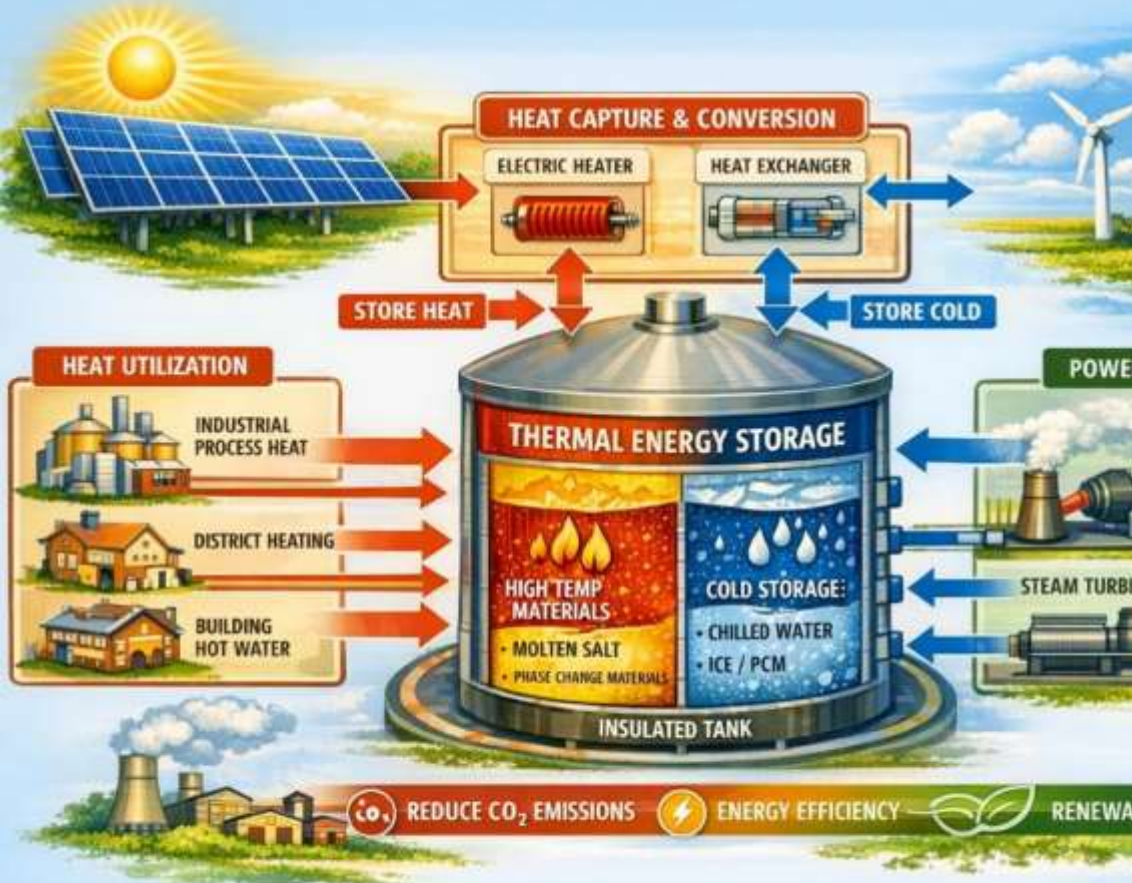
- HiTherm™ Flexible Graphite TIM has nothing to outgas, dry out, or wear out.
- It will remain a fully functional part for the life of the application
- Graphite has a max. working temperature of 420°C in air and ~2800°C in a vacuum

SpreaderShield™ Graphite Heat Spreaders



- SpreaderShield™ is a soft, flexible sheet of highly engineered graphite
- It has very high X-Y plane thermal conductivity
- No curing, no maintenance
- Supplied as rolls, die-cuts, or peel-n-stick parts
- Dielectric plastics and pressure-sensitive adhesives are options

Thermal Energy Storage Systems



- Thermal energy storage isn't just about heat or cold generation; it's about managing heat transfer and spreading efficiently
- Flexible graphite enables:
 - Better heat utilization
 - More compact and reliable systems
 - Longer system lifetimes

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