

Power & Energy

Power and energy are required to operate and maintain virtually all modern weapon systems and most support items.

This strategic thrust area is devoted to reducing fuel consumption, improving power conversion efficiency, and increasing power generation density. With good sources of information, this thrust will support informed design decisions, improve performance and lower life cycle costs.

Technologies include:

- Fuel Cells – Solid oxide fuel cells (SOFC) are rapidly approaching the full development state for use in auxiliary power units. Proton exchange membrane (PEM) cells are being used in submersibles.
- Alternative Power Generation – cogeneration and distributed systems of steam, hot water and chilled water technologies.
- Energy Storage – Magnetically suspended flywheel energy storage is useful for utility load leveling and is inexpensive to produce.
- Electric Combat Vehicles – With the application of lightweight long endurance electric power generation new drive trains are being considered for combat vehicles.
- Ship Propulsion – Gas turbine efficiency can be improved with the use of higher inlet temperatures and improved heat resistant materials.
- Compact Reliable Power Resources – The space reactor power system has technology maturity for all potential space systems. The design is for a small compact fast spectrum reactor with thermo electric conversion.

Learn how WSTIAC can assist you within this key strategic area:

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