

**Fiscal Year 2009 Budget Needs**  
**Distributed Generation/Combined Heat and Power**  
**EERE's Industrial Technologies Program**

In FY 2008, Congress re-established a distributed generation activity within ITP, including CHP. The industry applauds this decision and recommends further growth in the program, restoring the FY2009 budget to the historic \$60 million per year levels. The industry supports an aggressive Industrial Distributed Energy effort within the Office of Energy Efficiency and Renewable Energy's (EERE) Industrial Technologies Program that would include:

- Advanced reciprocating engine system research for clean, efficient and fuel-flexible DG/CHP systems for non-traditional CHP applications, such as untapped markets in the industrial sector, including food processing plants and the growing data center sector.

Efforts include increased efficiency (> 50% net electric) and reduced emissions for large gas-fired recip engines (>500 kW) and development of fuel flexible capability to utilize biogas, biofuels and waste fuels without degrading energy or emissions performance - \$10.0 million

Efforts include improvements to the efficiency and emissions of small reciprocating engines (<100 kW) to support advanced packaged systems targeted at new light industrial and commercial applications for CHP/DG - \$2.5 million

ITP would also pursue the growth opportunity in traditional industry CHP applications below 20 MW, including medium-sized plants that require both power and process heat. Specific activities would include:

- The development of alternative/dual fuel capability for turbines that meet the most stringent NO<sub>x</sub> and CO regulations (e.g., those in southern California) - \$5.0 million
- Development of thermally activated technologies such as absorption cooling/refrigeration and desiccant dehumidification to address food processing and data center industry cooling needs, and other industrial and commercial applications that need both heating and cooling - \$10.0 million
- Innovative systems integration to optimize overall CHP system efficiency and reduce capital and O&M costs by 20-30%.

Efforts include development of small engine driven systems (<100 kWe) incorporating both heating and cooling and targeted at light industrial and commercial applications - \$10.0 million

Efforts include advanced systems integration of emerging technologies such as microturbines and fuel cells in low cost, high efficiency CHP/DG systems for a variety of industrial and larger commercial applications - \$7.5 million

Market transformation activities to support market deployment and reducing regulatory and institutional barriers to CHP and DG acceptance, accomplished through a comprehensive public-private strategic partnership for CHP led by ITP, including:

- Expansion of the DOE CHP Regional Application Centers - \$10.0 million
- More aggressive use of existing partnerships and development of new state and local partnerships) to address market, regulatory, and policy barriers - \$5.0 million

These activities are estimated to contribute as much as 300 trillion Btus of displaced energy and 9 MMTCE in annual carbon savings in 2020.