



Advancing US Gas Turbine Technology

Good for the US

Risks

US Jobs:

High tech jobs. 2013 study¹ estimated about 100,000 direct and another 100,000 indirect jobs tied to US gas turbines

Clean burning - US CO2 emission reductions:

Conversion of an average US coal plant² to a modern gas turbine power plant burning natural gas reduces CO2 emissions by 69% and significantly reduces Nox, Sox, and heavy metals

US High Tech R&D:

US expertise and test facilities at OEMs ... at Universities ... at small businesses

Efficiency:

Efficient use of our domestic gas supplies. Gas turbines in combined cycle power plants can now reach 61%. DOE has set a goal for 65% efficiency.

Proven Platform:

In 2015 32%³ of US electricity came from gas turbines. Technology advancements have a clear avenue to application to achieve real impact.

Economical Power:

EIA Annual Energy Outlook 2015 - "natural gas turbines are the most economical way to meet growth"

Key Technology for Future Power Plants:

EIA Annual Energy Outlook 2015 says "natural gas fired plants account for more than 50% of [capacity] additions in all cases except "high oil prices"

Foreign Investment

Foreign national initiatives and investments risk loss of lead position for USA

Reduced DOE Investment

DOE funding is small ... down by two-thirds compared to mid-nineties

FY17 President budget proposal cuts the already small DOE funding of gas turbine technology from \$15M to \$10M

Risk to US Leading Position

Loss of lead position would lead to loss of manufacturing jobs and weakening of high-value exports, potentially affecting trade balance

Requests

Short Term Need: FY17

Fund DOE-Fossil Energy Gas turbine research at \$20M... minimum needed to move existing Phase 1 programs to Phase 2

Address Longer Term: Authorization Bill

HR 2961 was introduced in the 114th Congress proposing an important gas turbine technology program that would address this shortfall

The America Competes Reauthorization Act of 2015, HR 1806 passed last fall by the House also included this program

Pass either bill

¹ Competitiveness of US Gas Turbine Manufacturers, ICF International, Exhibit 4-3 March 29 2013

² EIA Annual Energy Outlook 2015; Table 8.2 "Avg Tested heat Rates"

³ EIA Electric Power Monthly - Feb 26, 2016