

**Utility-Scale U.S. Electric Power Capacity Drops by Over 38,600 MW during Summer When Power is in Most Demand.
Turbine Inlet Cooling Can Boost Capacity and Reduce Carbon and Other Emissions During Hot Weather**

According to the latest (2018) data available from the U.S. Energy Information Administration (EIA), the total utility-scale net electric power generation capacity during winter is 1,136,365 MW, as shown in the Table below. During summer, the net electric generation capacity decreases to 1,094,739 MW or a loss of over 41,600 MW. More than 38,600 MW of this capacity loss is due to power generation systems fueled by natural gas, petroleum, and other gases. Besides, there are many non-utility scale electric power generation systems that also lose capacity during summer. Therefore, the total summer capacity power loss in the U.S. is even higher than 38,600 MW. Since the ambient temperature has no significant effect on steam turbine and reciprocating engine system performance, most of the summer capacity loss is due to combustion turbine systems.

Utility-Scale U.S. Electric Power Generation Capacity in 2018

Energy Source	Net Winter Capacity, MW	Net Summer Capacity, MW	Net Capacity Loss During Summer, MW
All Sources	1,136,366	1,094,740	41,626
Natural Gas	505,754	470,237	35,517
Petroleum	35,305	32,218	3,087
Other Gases	2,585	2,544	41

Source: U.S. Energy Information Administration
https://www.eia.gov/electricity/annual/html/epa_04_03.html

Combined-cycle, cogeneration, and combined heat and power (CHP) systems are known for being more energy efficient and produce fewer carbon emissions and other effluents than many other power generation options using similar fuels. It is also well known that all combustion turbine systems lose capacity and efficiency during hot summer weather. **Therefore, turbine inlet cooling on all combined-cycle, cogeneration, and CHP systems during summer can boost capacity and reduce carbon and other emissions by reducing the need to operate less efficient electric power generation systems to meet the summer power demand.**

