

Watlow's Glossary for Comprehensive Industrial Decarbonization Terms

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"Fossil fuels are a dead end," according to U.N. Chief António Guterres, requesting an urgent transition to renewable energy. Industrial organizations can push decarbonization forward by shifting process heater systems from fossil fuel-burning to electric. A crucial step towards a carbon-neutral future is grasping the terminology, concepts and renewable energy solutions necessary to achieve it.

Abatement: Reducing the amount of greenhouse gases (GHGs) emitted into the atmosphere that can happen via fossil fuel alternatives.

BTU: British Thermal Unit: A British thermal unit (Btu) measures the heat content of energy. One Btu equals the amount of heat it takes to raise one pound of water by one degree Fahrenheit, when the water is about 39 degrees Fahrenheit (at its greatest density).

Carbon accounting: A method of tracking how much carbon dioxide is emitted by an organization for the intention of setting a goal to continually reduce their role in GHG emissions.

Carbon dioxide equivalent (CO₂e): Compares various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide.

Carbon footprint: The amount of carbon dioxide and other greenhouse gasses released into the atmosphere because of the consumption of fossil fuels. Switching from gas-fired process heaters to electric ones in an industrial process can reduce carbon footprint.

Carbon negative: Emitting less than zero carbon dioxide and carbon dioxide equivalent (CO₂e) by actively reducing carbon emissions to offset the GHGs already release.

Carbon neutral: Energy efficiency allows for carbon neutrality by offsetting the release of GHG emissions. Moving away from fossil-fueled heaters to electric process heating systems makes carbon neutrality easy.

Carbon target: This is a goal to reduce emissions by a specific amount. The goal of the Paris Agreement, for instance, is to keep global warming at or below 1.5 degrees Celsius. For this to happen, emissions need to be reduced by 45% by 2030 and net zero achieved by 2050.

Climate positive: Climate positive means going beyond net-zero carbon emissions. This is possible by capturing and storing GHG emissions.

Closed loop temperature control: Closed loop temperature control incorporates sensors and ongoing feedback to a system to continually regulate temperature based on present conditions. This feedback loop allows the system to accurately adjust and maintain temperature in real time in response to real-world conditions.

Corporate sustainability: Running a business that creates value by pursuing responsible environmental, social and economic strategies.