

Qualifying Projects Under Section 48C

Greenhouse Gas Emission Reduction Projects		
<p><i>Any project that re-equips an industrial or manufacturing facility, including in energy-intensive manufacturing sectors, such as cement, iron and steel, aluminum, chemicals, and other sectors, with equipment designed to reduce greenhouse gas emissions by at least 20 percent through the installation of one of more of the following:</i></p>		
Categories	Qualifying Examples	Non-Qualifying Examples
Low- or zero-carbon process heat systems.	Electric heat pumps, combined heat and power (CHP) systems, thermal storage technologies, and other heating systems based on electricity, clean hydrogen, biomass, or waste heat recovery.	
Carbon capture, transport, utilization, and storage systems.	<p>Carbon capture equipment necessary to compress, treat, process, liquefy, pump, or perform some other physical action to capture carbon oxides, and specialized equipment and materials needed for the transport and storage of carbon oxides, including carbon dioxide pipelines, monitoring equipment, and injection equipment and well components such as packers, casing strings, CO₂-resistant cement, steel tubulars, well heads, valves, and sensors suitable for use in Underground Injection Control Class VI wells.</p> <p>Additional examples include equipment to convert carbon oxides through mineralization, thermochemical, electrochemical, photochemical, plasma-assisted, or other catalytic process approaches to carbon-based products such as synthetic fuels, chemicals, solid carbon products, and inorganic materials.</p>	<p>Scrubbers for conventional air pollutants, except those that are required to remove pollutants upstream of carbon capture equipment for technical performance reasons.</p> <p>Energy generation equipment, except as related to energy recovery at carbon capture systems; and refining equipment.</p>
Energy efficiency and reduction in waste from industrial processes	Technologies that reduce direct fuel use, electricity use, or waste in industrial applications, such as industrial heat pumps, CHP systems, insulation, sensors, controls, advanced recycling approaches, smart energy management, and similar advanced efficiency technologies.	
Any other industrial technology designed to reduce greenhouse gas emissions, as determined by the Secretary.	Electrification of direct fuel use processes, adoption of renewable or low-emissions fuels and feedstocks, and other equipment replacement or process redesigns that reduce process- or fuel-related emissions or otherwise contribute to reducing GHG emissions by at least 20 percent.	
Critical Material Projects		
<p><i>Any project that re-equips, expands, or establishes an industrial facility for the processing, refining, or recycling of critical materials (as defined in § 7002(a) of the Energy Act of 2020 (30 U.S.C. § 1606(a)).</i></p>		
Categories	Qualifying Examples	Non-Qualifying Examples
No categories defined.	Processing of raw ore, brines, mine tailings, end-of-life products, waste streams, and other source materials into critical materials.	Subsequent physical or chemical transformation of critical materials into derivative products, including metals manufacturing such as aluminum extrusion and chemical manufacturing such as anode and cathode materials production.
		However, projects involving such derivative products may be eligible under the Clean Energy Manufacturing and Recycling Projects category.
Clean Energy Manufacturing and Recycling Projects		
<p><i>Any project that re-equips, expands, or establishes an industrial or manufacturing facility for the production or recycling of specified advanced energy property.</i></p>		
Categories	Qualifying Examples	Non-Qualifying Examples
Property designed to be used to produce energy from the sun, water, wind, geothermal deposits (within the meaning of § 613(e)(2)), or other renewable resources.	Solar panels and their specialized support structures; wind turbines, towers, floating offshore platforms, and related equipment; power electronics designed for use with eligible solar or wind property; equipment to concentrate sunlight to generate heat for industrial processes or to convert it to electricity; geothermal turbines and heat pumps; hydropower turbines; and other products directly used to generate electrical and/or thermal energy from renewable resources, as well as the specialized components, subcomponents, and materials incorporated into any such eligible property, including equipment for sensing, communication, and control.	Equipment for applications other than the conversion of energy from renewable resources for delivering electricity, building heat, or industrial process heat such as a gas turbine generator set which burns natural gas, or a building that houses a boiler to heat water from fossil fuel.

Fuel cells, microturbines, or energy storage systems and components	Stationary batteries; stationary hydrogen fuel cells; hydrogen storage vessels; microturbines for combined heat and power systems; pumps and turbines for pumped hydropower storage systems; and the specialized components of any such equipment, including equipment for sensing, communication, and control.	Heavy gas turbines
Electric grid modernization equipment or components	<p>Grid equipment for electricity delivery; power flow, control, and conversion, such as transformers, power electronics, advanced cables and conductors, advanced meters, breakers, switchgears, composite poles, converters, medium-voltage direct current (MVDC) and high-voltage direct current (HVDC) lines, grid-enhancing technologies, and electrical steel or alloys used in transformer cores.</p> <p>Examples of eligible property also include the specialized components of any such grid modernization equipment, including components for sensing communication, and control.</p>	
Property designed to capture, remove, use, or sequester carbon oxide emissions.	<p>Carbon capture equipment or other property necessary to compress, treat, process, liquefy, pump or perform some other physical action to capture carbon oxide emissions, including solvents; membranes; sorbents; chemical processing equipment; compressors; monitoring equipment; and injection equipment; and well components such as packers, casing strings, CO₂-resistant concrete, steel tubulars, wellhead, valves, and sensors suitable for use in Underground Injection Control (UIC) Class VI wells. Eligible property also includes transportation equipment, as in a system of gathering and distribution infrastructure. These include pipelines, temporary or transportation-related carbon oxide storage tanks, valves, sensors, and control panels that serve in collecting carbon oxides captured from an industrial facility or multiple facilities for the purpose of transporting that carbon oxide. Additional examples include equipment to convert carbon oxides through mineralization, thermochemical, electrochemical, photochemical, plasma-assisted, or other catalytic process approaches to carbon-based products such as synthetic fuels, chemicals, solid carbon products, and inorganic materials.</p>	<p>Scrubbers for conventional air pollutants (except those that are required to remove pollutants upstream of carbon capture equipment for technical performance reasons), energy generation equipment (except as related to energy recovery at carbon capture systems), and refining equipment.</p>
Equipment designed to refine, electrolyze, or blend any fuel, chemical, or product which is renewable, or low-carbon and low-emission	<p>Eligible property: electrolyzers, mixing devices, pumps, separation devices, bioprocessing equipment, biomass preprocessing equipment, and reactors, so long as they are intended for use to produce eligible fuels, chemicals, and products, as demonstrated through engineering specifications or offtake agreements.</p> <p>Eligible fuels, chemicals, products: include hydrogen produced through electrolysis powered by low- or zero-emission energy; low-emissions ammonia; renewable biofuels, including sustainable aviation fuel and fuels intended to displace petroleum fuel in on-road and off-road applications; and low-emissions chemicals, basic organic chemicals, polymers, and resins</p>	<p>Ineligible fuels and chemicals would include those derived solely from fossil resources produced through conventional petroleum and natural gas refining</p>
Property designed to produce energy conservation technologies (including residential, commercial, and industrial applications).	<p>Technologies and grid-interactive devices eligible for residential or commercial efficiency improvements for purposes of the § 25C credit or the § 179D tax deduction, as well as equipment that directly reduces net energy use in industrial applications, such as ultra-efficient heat pumps, insulation, ultra-efficient hot water systems, sensors, controls, and similar advanced efficiency technologies.</p>	<p>Technologies that reduce electricity usage by increasing direct natural gas or other fossil fuel use and/or lead to increased system-level emissions.</p>
Light-, medium-, or heavy-duty electric or fuel cell vehicles, as well as technologies, components, or materials for such vehicles, and associated charging or refueling infrastructure.	<p>Eligible property: battery electric, plug-in hybrid electric, or fuel cell cars, trucks, and buses, as well as the specialized components of those vehicles, such as batteries, anode and cathode components and materials, electric drive systems, fuel cells, and other materials and subcomponents.</p> <p>Eligible charging or refueling infrastructure: electric vehicle supply equipment (EVSE), components from the grid connection to the vehicle, bidirectional charging equipment, and components used in hydrogen refueling stations (e.g., hydrogen compressors, pumps, storage vessels, and dispensing equipment).</p>	<p>Internal combustion engine vehicles of all sizes, non-plug-in hybrid vehicles of less than 14,000 pounds gross vehicle weight rating, and their components, as well as associated refueling infrastructure, such as petroleum gas, liquefied or compressed natural gas, or ethanol refueling stations.</p> <p>Electrical components upstream of the EVSE connection to the grid and components of charging or refueling stations, such as signage, that are not directly involved in the transfer of fuel or power to the vehicle</p>
Hybrid vehicles with a gross vehicle weight rating of not less than 14,000 pounds, as well as	<p>Traction batteries, converters, power electronics, and assembled hybrid vehicles of not less than 14,000 pounds themselves, but components and materials must be designed for large hybrid vehicles with a gross</p>	

<p>technologies, components, or materials for such vehicles.</p>	<p>vehicle weight rating of not less than 14,000 pounds, as demonstrated through engineering specifications and/or offtake agreements.</p>	
<p>Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary</p>	<p>Specialized components and equipment for nuclear power reactors or their fuels (e.g., including fabrication of fuels, and manufacturing of equipment for conversion, enrichment, and deconversion), and equipment used to reduce the emissions of industrial facilities, such as heat and process emissions. Property may be determined to be designed to reduce GHG emissions either through published guidance or in the letter notifying an applicant that the IRS has accepted the applicant’s application for § 48C(e) certification with respect to the property.</p>	