Appendix A – Manufactured Components

Inverter			
End product suitable to convert DC to AC, sourced from one or more solar modules or certified distributed wind energy systems • Must be able to connect with such modules or systems in the form sold by the manufacturer			
Name	Capacity	Credit Rate Per Watt (AC)	Brief Description
Central Inverter	>1,000 KW	$0.0025	Large utility-scale systems
Commercial Inverter	≥20 KW, ≤125 KW	$0.0200	Commercial or utility-scale applications; rated output of 208, 480, 600 or 800 volt three-phase power
Distributed Wind Inverter	≤ 150 KW	$0.1100	Residential or non-residential; uses one or more certified distributed wind energy systems
Microinverter	≤ 650 W	$0.1100	Suitable to connect with one solar module; many more requirements in proposed regulations
Residential Inverter	≤ 20 KW	$0.0650	Suitable for a residence
Utility Inverter	>125 KW, ≤1,000 KW	$0.0150	Suitable for commercial or utility-scale systems

Qualifying Battery Components		
Qualifying battery component = electrode active materials, battery cells or battery modules		
Name	Credit Rate	Brief Description
Electrode Active Materials	10 percent of costs incurred	Cathode or anode electrode materials and electrochemically active materials that contribute to the electrochemical processes necessary for energy storage
		Must be battery-grade materials, meaning the processed materials found in a final battery cell or an analogous unit, or the direct battery-grade precursors to those processed materials
Battery Cells	$35 per KWh capacity	Electrochemical cell (i) comprised of one or more positive electrodes and one or more negative electrodes; (ii) energy density of not less than 100 watt-hours per liter; and (iii) capable of storing at least 12 watt-hours of energy
Battery Modules with Battery Cells	$10 per KWh capacity	Two or more battery cells configured electrically, in series or parallel, to create voltage or current to a specified end use
Battery Modules; no Battery Cells	$45 per KWh capacity	Capable of storing and dispatching useful energy, that contains an energy storage medium that remains in the module, and that is not a custom-built electricity generation or storage facility

Solar Energy Components		
Name	Credit Rate	Brief Description
Photovaic Cell	Four cents per watt, DC	Smallest semiconductor element of a solar module that performs the immediate convertion of light into electricity • Either a thin film photovoltaic cell or a crystalline photovoltaic cell
Photovoltaic Wafer	$12 per square meter	A thin slice, sheet or layer of semiconductor material of at least 240 square CM that comprises the substrate or absorber layer of one or more photovoltaic cells • Must be produced by a single manufacturer by: o forming an ingot from molten polysilicon and then subsequently slicing it into wafers; o forming molten or evaporated polysilicon into a sheet or layer; or o depositing a thin-film semiconductor photon absorber into a sheet or layer (i.e., thin-film deposition)
Polymeric Backsheet	40 cents per square meter	A sheet on the back of a solar module that acts as an electric insulator and protects the inner components of such module from the surrounding environment
Solar Grade Polysilicon	$3 per KG	Silicon that is suitable for use in photovoltaic manufacturing and purified to a minimum purity of 99.999999 (six nines) percent silicon by mass
Solar Module	Seven cents per watt, DC	Connection and lamination of photovoltaic cells into an environmentally protected final assembly that is: • suitable to generate electricity when exposed to sunlight; and • ready for installation without an additional manufacturing process
Solar Tracker		Mechanical system that moves solar modules according to the position of the sun to increase energy output
Torque Tube	87 cents per KG	Structural steel support element (including longitudinal purlins) that: • is part of a solar tracker; • is of any cross-sectional shape; • may be assembled from individually manufactured segments; • spans longitudinally between foundation posts; • supports solar panels and is connected to a mounting attachment for solar panels (with or without separate module interface rails); and • is rotated by means of a drive system
Structural Fastener	$2.28 per KG	Component that is used to: • connect the mechanical and drive system components of a solar tracker to the foundation of such solar tracker; • connect torque tubes to drive assemblies; or • connect segments of torque tubes to one another

Wind Energy Components		
Name	Credit Rate	Brief Description
Blade	Two cents * watts of rated capacity of completed wind turbine	Airfoil-shaped blade that is responsible for converting wind energy to low-speed rotational energy
Offshore Wind Foundation		The component (including transition piece) that secures an offshore wind tower and any above-water turbine components to the seafloor using fixed platforms or floating platforms and associated mooring systems
	Fixed - Two cents * watts of rated capacity of completed wind turbine	Fixed platforms, such as offshore wind monopiles, jackets or gravity-based foundations
	Floating - Four cents * watts of rated capacity of completed wind turbine	Floating platforms and associated mooring systems
Nacelle	Five cents * watts of rated capacity of completed wind turbine	The assembly of the drivetrain and other tower-top components of a wind turbine (with the exception of the blades and the hub) within their cover housing
Related Offshore Wind Vessel	10 percent of sales price	Any vessel that is purpose-built or retrofitted for purposes of the development, transport, installation, operation or maintenance of offshore wind energy components. • A vessel is purpose-built for development, transport, installation, operation or maintenance of offshore wind energy components if it is built to be capable of performing such functions and it is of a type that is commonly used in the offshore wind industry. • A vessel is retrofitted for development, transport, installation, operation or maintenance of offshore wind energy components if such vessel was incapable of performing such functions prior to being retrofitted, the retrofit causes the vessel to be capable of performing such functions, and the retrofitted vessel is of a type that is commonly used in the offshore wind industry.
Tower	Three cents * watts of rated capacity of completed wind turbine	A tubular or lattice structure that supports the nacelle and rotor of a wind turbine

Appendix B – Applicable Critical Minerals

All applicable critical minerals eligible for a credit equal to 10 percent of production costs

Aluminum (including commodity-grade aluminum)	Converted from bauxite to a minimum purity of 99 percent alumina by mass, or Purified to a minimum purity of 99.9 percent aluminum by mass
Antimony	Converted to antimony trisulfide concentrate with a minimum purity of 90 percent antimony trisulfide by mass, or Purified to a minimum purity of 99.65 percent antimony by mass
Arsenic	Must be purified to a minimum purity of 99 percent by mass
Barite	Barite which is barium sulfate purified to a minimum purity of 80 percent barite by mass
Beryllium	Converted to copper-beryllium master alloy, or Purified to a minimum purity of 99 percent beryllium by mass
Bismuth	Must be purified to a minimum purity of 99 percent by mass
Cerium	Converted to cerium oxide which is purified to a minimum purity of 99.9 percent cerium oxide by mass, or Purified to a minimum purity of 99 percent cerium by mass
Cesium	Converted to cesium formate or cesium carbonate, or Purified to a minimum purity of 99 percent cesium by mass
Chromium	Converted to ferrochromium consisting of not less than 60 percent chromium by mass, or Purified to a minimum purity of 99 percent chromium by mass
Cobalt	Converted to cobalt sulfate, or Purified to a minimum purity of 99.6 percent cobalt by mass
Dysprosium	Converted to not less than 99 percent pure dysprosium iron alloy by mass, or Purified to a minimum purity of 99 percent dysprosium by mass
Erbium	Must be purified to a minimum purity of 99 percent by mass
Europium	Converted to europium oxide which is purified to a minimum purity of 99.9 percent europium oxide by mass, or Purified to a minimum purity of 99 percent by mass
Fluorspar	Converted to fluorspar which is purified to a minimum purity of 97 percent calcium fluoride by mass, or Purified to a minimum purity of 99 percent fluorspar by mass
Gadolinium	Converted to gadolinium oxide which is purified to a minimum purity of 99.9 percent gadolinium oxide by mass, or Purified to a minimum purity of 99 percent gadolinium by mass
Gallium	Must be purified to a minimum purity of 99 percent by mass
Germanium	Converted to germanium tetrachloride, or Purified to a minimum purity of 99.99 percent germanium by mass

Graphite	Natural or synthetic graphite which is purified to a minimum purity of 99.9 percent graphitic carbon by mass The term 99.9 percent graphitic carbon by mass means graphite that is 99.9 percent carbon by mass
Hafnium	Must be purified to a minimum purity of 99 percent by mass
Holmium	Must be purified to a minimum purity of 99 percent by mass
Idium	Converted to (i) indium tin oxide or (ii) indium oxide which is purified to a minimum purity of 99.9 percent indium oxide by mass, or Purified to a minimum purity of 99 percent indium by mass
Iridium	Must be purified to a minimum purity of 99 percent by mass
Lanthanum	Must be purified to a minimum purity of 99 percent by mass
Lithium	Converted to lithium carbonate or lithium hydroxide, or Purified to a minimum purity of 99.9 percent lithium by mass
Lutetium	Must be purified to a minimum purity of 99 percent by mass
Magnesium	Must be purified to a minimum purity of 99 percent by mass
Manganese	Converted to manganese sulphate, or Purified to a minimum purity of 99.7 percent manganese by mass
Neodymium	Converted to neodymium-praseodymium oxide which is purified to a minimum purity of 99 percent neodymium-praseodymium oxide by mass, Converted to neodymium oxide which is purified to a minimum purity of 99.5 percent neodymium oxide by mass, or Purified to a minimum purity of 99.9 percent neodymium by mass
Nickel	Converted to nickel sulphate, or Purified to a minimum purity of 99 percent nickel by mass
Niobium	Converted to ferronibium, or Purified to a minimum purity of 99 percent niobium by mass
Palladium	Must be purified to a minimum purity of 99 percent by mass
Platinum	Must be purified to a minimum purity of 99 percent by mass
Praseodymium	Must be purified to a minimum purity of 99 percent by mass
Rhodium	Must be purified to a minimum purity of 99 percent by mass
Rubidium	Must be purified to a minimum purity of 99 percent by mass
Ruthenium	Must be purified to a minimum purity of 99 percent by mass
Samarium	Must be purified to a minimum purity of 99 percent by mass
Scandium	Must be purified to a minimum purity of 99 percent by mass
Tantalum	Must be purified to a minimum purity of 99 percent by mass
Tellurium	Converted to cadmium telluride, or Purified to a minimum purity of 99 percent tellurium by mass
Terbium	Must be purified to a minimum purity of 99 percent by mass
Thulium	Must be purified to a minimum purity of 99 percent by mass
Tin	Tin which is purified to low alpha emitting tin which— Has a purity of greater than 99.99 percent by mass, and

	Possesses an alpha emission rate of not greater than 0.01 counts per hour per centimeter square
Titanium	Must be purified to a minimum purity of 99 percent by mass
Tungsten	Tungsten which is converted to ammonium paratungstate or ferrotungsten
Vanadium	Vanadium which is converted to ferrovanadium or vanadium pentoxide
Ytterbium	Must be purified to a minimum purity of 99 percent by mass
Yttrium	Converted to yttrium oxide which is purified to a minimum purity of 99.999 percent yttrium oxide by mass, or Purified to a minimum purity of 99.9 percent yttrium by mass
Zinc	Must be purified to a minimum purity of 99 percent by mass
Zirconium	Must be purified to a minimum purity of 99 percent by mass