

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
6011	1015637	Hemlock Semiconductor Corp.	\$141,870,000	Solar Components and Materials	Hemlock	MI	Hemlock	MI	Hemlock Semiconductor will expand a manufacturing plant that produces polycrystalline-silicon used in the production of solar panels. The plants, when fully operational, will produce 19,200 metric tons per year.
3669	1083473	Wacker Polysilicon North America LLC	\$128,482,287	Solar Components and Materials	Charleston	TN	Charleston	TN	Wacker Polysilicon's manufacturing plant will produce roughly 10 metric tons of pure polysilicon annually. One hundred percent of the output will be for the photovoltaic solar cell market.
1293	1516819	United Technologies Corporation	\$110,400,000	Industrial	Middletown	CT	East Hartford	CT	United Technologies' Pratt & Whitney will re-equip existing manufacturing facilities for the production of a jet engine, the Pure Power® PW 1000G. The resulting engine will increase and promote greater fuel efficiency.
3485		Miasole	\$91,350,000	Solar PV	Santa Clara	CA	Santa Clara	CA	Miasole will manufacture Solar PV Cells and modules based on an innovative thin-film production technology. These Solar PV Cells will drive lower the costs of renewable clean electricity generation.
3613	1027139	SolarWorld Industries America Inc.	\$82,200,000	Solar Components and Materials	Hillsboro	OR	Hillsboro	OR	SolarWorld Industries America Inc. will expand the existing 100 MW solar PV manufacturing plant to 500 MW. The facility focuses on crystal growing, wafering, cell and module production. The resulting product will aid the domestic solar power industry.
1171	1500872	Alstom Inc.and Subsidiaries	\$63,000,000	Nuclear	Chattanooga	TN	Windsor	CT	Alstom will establish a new turbine manufacturing facility designed to manufacture the world's largest steam turbines, with unit output up to 1700 MW. The new facility will focus on turbines used in advanced nuclear power plants, retrofitting existing turbines in nuclear power plants with higher efficiency technologies, turbines in new hydro power plants, and retrofitting existing turbines in hydro power plants with higher efficiency technologies.
3356		CaliSolar, Inc.	\$51,563,980	Solar CSI	Sunnyvale	CA	Sunnyvale	CA	CaliSolar will build a new manufacturing facility to process silicon feedstock into finished solar cells.
1229	1061309	Texas Instruments Incorporated	\$51,450,000	Buildings	Richardson	TX	Dallas	TX	Texas Instruments will re-equip a facility and purchase equipment to produce 300mm wafers for advanced power management semiconductors.
5566	1014360	E.I. du Pont de Nemours and Co.	\$50,730,000	Solar PV	Circleville	OH	Wilmington	DE	Dupont will expand production of high-performance polyvinyl fluoride films. These films are used to produce the critical protective backsheet component of solar photovoltaic modules.
3491	1069747	Nanosolar	\$43,453,309	Solar PV	San Jose	CA	San Jose	CA	Nanosolar will factory produce tools for the manufacturing of low-cost, low-GHG emission solar cells, using nanotechnology-enabled roll-to-roll processes. Tools enable high throughput production steps including printing of electronic ink, annealing, various deposition steps, cell assembly, and quality control and testing of structural and functional properties of product.
1183	1064159	Cree Inc.	\$39,087,000	Buildings	Durham	NC	Durham	NC	Cree will purchase new equipment to add capacity and capability to lower production costs of LED chips and fixtures. LED lighting technologies represent a new source of high efficiency lighting.
3633		Stion Corporation	\$37,500,000	Solar PV	San Jose	CA	San Jose	CA	Stion Corporation will manufacture high efficiency (11-12%+) CIGS thin-film photovoltaic modules on glass. The resulting technology will aid the domestic solar energy industry.
3675		Xunlight Corporation	\$34,500,000	Solar PV	Toledo	OH	Toledo	OH	Xunlight's first product is a flexible and lightweight photovoltaic solar energy module, which uses thin film silicon-based solar cells and can be rolled for shipping. This product was designed for easy application on rooftops.
4456	1020070, 1066237, 1062747	ZF Steering Systems, LLC	\$28,560,000	Vehicles	Florence	KY	Florence	KY	ZF Steering plans to re-equip its manufacturing facility in order to increase its production of welded and fabricated component kits used in 2MW and 3MW wind turbines.
2440	1078330	Novozymes Blair, Inc.	\$28,401,000	Biomass	Blair	NE	Blair	NE	Novozymes Blair, Inc will install equipment at a new manufacturing facility to produce biocatalysts (enzymes) used in manufacturing cellulosic ethanol from corn stover by the biochemical platform (biomass pretreatment, enzymatic hydrolysis, fermentation, distillation). These biocatalysts will aid the production of biofuels as a renewable energy source.
4580	1028174	Siemens Industry, Inc.	\$28,328,379	Wind Turbines	Elgin	IL	Elgin	IL	Siemens Industry, Inc will manufacture the mechanical drives, gears, pinions, and other components for gear boxes for wind turbines. The resulting product will aid the domestic wind power industry.
6012	1000362	Dow Corning - Solar Silane	\$27,300,000	Solar PV	Hemlock	MI	Hemlock	MI	Dow Corning - Solar Silane will build a new monosilane facility with 60% of production dedicated to the solar PV market. Monosilane is a key component in the production of amorphous thin-film solar panels.
3719	1502244	General Electric Gas Turbines (Greenville) LLC	\$26,862,000	Industrial	Greenville	SC	Greenville	SC	GE will manufacture its 7FA heavy duty gas turbines that will deliver greater output and efficiency. The turbine will help reduce GHG emissions, while maintaining leadership in reliability, availability, and the operational flexibility that power generators need to achieve greater revenues in cyclic and peaking operation.
4511		GEMX Technologies LLC	\$25,500,000	Battery	Schenectady	NY	Schenectady	NY	GEMX will re-equip an existing manufacturing facility. The facility will produce sodium metal halide batteries for various markets, including electricity grid support and regulation services to help support renewable energy penetration levels, enable remote power systems based on renewable energy sources, and help increase efficiency by reduced peak power demands.
4555	1084367	Nordex USA Inc	\$22,153,500	Wind Turbines	Jonesboro	AR	Jonesboro	AR	Nordex USA, Inc. will build its first facility for wind turbines. This project will use renewable energy and will help build wind turbines to generate renewable energy.
4545		Merrill Technologies Group	\$22,021,500	Wind Towers	Saginaw	MI	Saginaw	MI	Merrill Technologies Group will invest \$73 million in advanced manufacturing equipment to support the production of nacelles for Northern Power's new 2.2 MW utility-scale wind turbine. Project will progress through prototype and pilot phases into serial production.

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
4598	1051055	Vestas Towers America, Inc.	\$21,600,000	Wind Towers	Pueblo	CO	Pueblo	CO	Vestas Towers will produce tubular wind towers that support wind turbines at heights ranging from between 80 and 95 meters above ground.
4596	1079772	Vestas Blades America, Inc	\$21,589,200	Wind Blades	Brighton	CO	Brighton	CO	Vestas Blades produces blades for wind turbines used in the production of wind energy. The utility-scales blades, which convert wind into mechanical motion, are approximately 44 meters in length.
1053	1034091	General Electric Lighting, Inc	\$19,831,680	Buildings	Bucyrus	OH	East Cleveland	OH	GE will re-equip a lamp plant to manufacture energy conserving T8 and T5 linear fluorescent lamps. These lamps will primarily replace less efficient T12 linear fluorescent lamps and HID lamps.
3381	1012148	The Dow Chemical Company	\$17,814,621	Solar PV	Midland	MI	Midland	MI	Dow will produce photovoltaic cells built into residential and commercial roofing and siding products. Dow's technology imbeds solar cells into shingles, sidings, and other materials, enabling lower production and installation costs.
4446		Think North America, Inc.	\$16,970,145	Vehicles	Bristol	IN	Dearborn	MI	Think North America will establish a U.S. manufacturing operation/facility (a vehicle assembly operation as well as facilities for fabricating vehicle components) for the Think City light-weight EV-dedicated vehicle for sale throughout North America.
4589	1090014, 1516829	Tindall Corporation	\$16,750,500	Wind Towers	Newton	SC	Spartanburg	SC	Tindall Corporation will build a facility to manufacture concrete tower bases and concrete towers for wind turbines, which will help provide more efficient wind energy production.
3406	1065774	First Solar, Inc.	\$16,320,000	Solar PV	Perrysberg	OH	Tempe	AZ	First Solar will expand its manufacturing facility to produce fully completed thin-film solar modules. The solar modules are manufactured using a thin film of cadmium telluride (CdTe) as a semi-conductor material, which converts sunlight to electricity more efficiently than traditional crystalline silicon semi-conductor material.
4612		Winergy Drive Systems Corp.	\$12,786,000	Wind Turbines	Elgin	IL	Elgin	IL	Winergy will build a new facility to manufacture power transmission equipment and gearboxes for wind turbines. The facility will enable Winergy to produce 100 percent of its gear units domestically.
4474		Brevini Wind USA, Inc.	\$12,750,000	Wind Turbines	Yorktown	IN	Muncie	IN	Brevini Wind will establish a new manufacturing facility that will produce Main Drive Gear Boxes for wind turbine manufacturers. The product allows servicing of the gear box without the use of heavy lifting equipment to remove the entire gearbox from the wind turbine.
2447		Abound Solar, Inc.	\$12,600,000	Solar PV	Longmont	CO	Longmont	CO	Abound Solar will expand facility capacity with an additional manufacturing line. This facility is solely dedicated to commercial production of PV solar panels using cadmium telluride semiconductor technology.
1237	1516741	Waukesha Electric Systems, Inc.	\$12,450,000	Smart Grid	Waukesha	WI	Waukesha	WI	Waukesha will expand an existing plant to produce very large, high-voltage power transformers. The company anticipates that more than 80 percent of them will be used to help bring renewable energy to distant load centers or to replace aging, less efficient transformers.
1279	1522368	General Electric Company	\$11,860,058	Industrial	Rutland	VT	NA	NA	GE Aviation will purchase machinery and equipment that will be used to manufacture the new GENx aircraft engine. The GENx engine will significantly reduce greenhouse gas emissions and reduce the annual fuel consumption for its operators.
4594		Vela Gear Systems, Inc.	\$11,604,440	Wind Turbines	Indianapolis	MI	Indianapolis	IN	Vela Gear will build a plant to produce advanced wind turbine parts with improved technology. The facility will produce large precision gear sets designed specifically for the wind industry.
1142	1500619	General Electric Company	\$11,304,900	Buildings	Louisville	KY	Louisville	KY	GE will re-equip a facility to manufacture new Energy Star compliant appliances – specifically, Ultra-high Efficient Dishwashers. This new dishwasher line will exceed the future, anticipated ENERGY STAR standards for residential dishwashers and be designed to plug into the 'smart grid' to effectively manage peak electrical demand.
2423		Shaw Modular Solutions, L.L.C.	\$10,800,000	Nuclear	Lake Charles	LA	Lake Charles	LA	Shaw Modular Solutions LLC will fabricate modules used in advanced, passively-safe, nuclear stations which avoid GHG emissions. The resulting product will aid the domestic nuclear energy industry.
3546		Rioglass Solar Inc	\$10,692,000	Solar CSP	Surprise	AZ	Berkeley	CA	Rioglass Solar Inc will manufacture tempered glass parabolic mirrors designated for use in concentrated solar power plants. The placement of the mirrors are specifically integrated to derive maximum electrical production from the sun. The resulting technologies will aid domestic solar panel production.
3484		Miasole	\$10,450,200	Solar PV	Santa Clara	CA	Santa Clara	CA	Miasole will manufacture Solar PV Cells and modules based on an innovative thin-film production technology. These Solar PV Cells will drive lower the costs of renewable clean electricity generation.
3407		Flabeg Solar U.S. Corporation	\$10,187,618	Solar CSP	Clinton	PA	Clinton	PA	Flabeg Solar U.S. Corporation will produce high-temperature solar thermal mirrors for concentrating solar power plants. The facility will produce both bent and flat mirrors for parabolic trough and power tower solar plants.
5559		Stirling Energy Systems, Inc	\$9,831,000	Solar CSP	Livonia	MI	Livonia	MI	Stirling Energy Systems, Inc will produce Azimuth drives used to track the sun for the SunCatcher, a 25 kW solar dish. The resulting technologies will aid Solar Concentrating Solar Power industry domestically.
1246	1521689	Climate Master Inc.	\$8,941,626	Geo/Buildings	Oklahoma City	OK	Oklahoma City	OK	Climate Master will expand the capacity of existing manufacturing facilities that produce water-source heat pumps (WSHP), the core technology used in geothermal heat pump systems. Geothermal heat pumps allow high efficiency space heating and cooling.
1194	1500619	General Electric Company - Appliances	\$8,700,000	Industrial	Louisville	KY	Louisville	KY	GE will redevelop a manufacturing facility to produce Energy Star compliant heat pump electric water heaters that significantly improve energy efficiency compared to a traditional tank water heater.
4597	1079772	Vestas Blades America, Inc	\$8,580,600	Wind Blades	Brighton	CO	Brighton	CO	Vestas Blades will produce blades for wind turbines used in the production of wind energy. The utility-scales blades, which convert wind into mechanical motion, are approximately 44 meters in length.

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
4523		<i>Hexcel Corporation</i>	\$8,139,510	Wind Blades	Windsor	CO	Windsor	CO	Hexcel Corporation will establish a technologically advanced manufacturing facility to produce high-performance epoxy, glass, and carbon fiber composite materials. The composites will be used in the manufacture of wind turbine blades.
3553		<i>Saint Gobain Solar Glass NA</i>	\$8,100,000	Solar CSP	Scottsdale	AZ	Scottsdale	AZ	Saint Gobain Solar Glass NA will manufacture mirrors used in concentrating solar power (CSP) technology that involves generating electricity by directing the light on to photovoltaic cells or other solar thermal generating technologies. The resulting product will help aid in domestic solar technologies manufacturing.
1212		<i>Monogram Refrigeration, LLC</i>	\$7,257,882	Buildings	Selmer	TN	Selmer	TN	Monogram Refrigeration, LLC will install newly purchased machinery and equipment to produce both Energy Star-qualified and non-Energy Star qualified refrigerators. The creation of these energy efficient appliances will result in a reduction of energy usage.
4578		<i>Schuff Steel Company</i>	\$7,073,316	Wind Towers	Bismark	ND	Phoenix	AZ	Schuff Steel will construct a wind turbine tower manufacturing facility with a planned capacity of 300 wind towers per year.
1196	1519092	<i>General Electric Consumer & Industrial</i>	\$6,491,160	Buildings	Decatur	AL	Decatur	AL	GE will purchase machinery and equipment to produce efficient refrigerators, resulting in greenhouse gas reductions and energy savings.
2465		<i>Amonix, Inc</i>	\$5,889,149	Solar PV	Las Vegas	NV	Las Vegas	NV	Amonix will manufacture low-cost solar electricity systems using inexpensive plastic lenses that concentrate sunlight. The systems generate 500 times more solar electric power from small, high efficiency solar cells.
3639	1079304	<i>Suniva, Inc.</i>	\$5,700,000	Solar CSI	Norcross	GA	Norcross	GA	Suniva Inc will manufacture monocrystalline silicon-based solar cells. The resulting technologies will aid the domestic solar power industry.
4464		<i>American Railcar Industries</i>	\$5,347,464	Wind Towers	Fort Dodge	IA	Fort Dodge	IA	American Railcar Industries will re-equip a rail car manufacturing plant for the production of 500 structural steel towers per year for large-scale commercial wind turbines.
1161	1501439	<i>UTC Power Corp.</i>	\$5,300,100	Fuel Cell	South Windsor	CT	South Windsor	CT	UTC Power will open a new manufacturing facility to produce a clean, efficient and reliable fuel-cell powerplant offering more than twice the efficiency of traditional energy sources, while maintaining a low sound and emissions profile.
2222	1503922	<i>Itron</i>	\$5,151,000	Smart Grid	West Union	SC	West Union	SC	Itron plans to re-equip an existing facility to produce the OpenWay CENTRON meter, a fully inter-operable, solid-state smart meter with a built-in, two-way communications path and integrated remote on/off switch. The CENTRON meter is the first advanced meter for the residential market providing open-standards architecture, modular design for communications flexibility, and extensive functionality to support smart grid infrastructure.
4592		<i>TPI Composites, Inc.</i>	\$5,135,241	Wind Blades	Grand Island	NE	Grand Island	NE	TPI will operate a new manufacturing facility to produce the next generation wind turbine blades made by combining reinforcing fibers from glass or carbon, resin, foam, and balsa wood.
4547	1089053	<i>Mitsubishi Power Systems Americas, Inc.</i>	\$5,100,000	Wind Turbines	Fort Smith	AR	Fort Smith	AR	Mitsubishi Power Systems Americas, Inc. will create a new facility that will manufacture nacelles for 2.4MW wind turbines. These nacelles will be used for the production of wind energy.
4574		<i>S&C Electric Company</i>	\$5,100,000	Smart Grid	Chicago	IL	Chicago	IL	S&C Electric Company will re-equip a facility to produce a fault-interrupting device for overhead distribution system, Smart Grid applications, and switchgear for underground distribution system Smart Grid applications. These technologies will help installation of distributed renewable generation on electric distribution systems, close to the residential, commercial and industrial loads that consume the electric power.
2226	1000335	<i>Metglas, Inc.</i>	\$4,890,000	Smart Grid	Conway	SC	Conway	SC	Metglas, Inc. will purchase equipment for a casting expansion to increase domestic production of amorphous metals that form the core of the most energy efficient transformers. The equipment will reduce the amount of lost electricity due to transformer distribution losses.
1193	1500619	<i>General Electric</i>	\$4,800,000	Industrial	Louisville	KY	Louisville	KY	GE will manufacture a commercially viable Heat Pump Clothes Dryer for residential application.
1242		<i>Ramgen Power Systems, LLC</i>	\$4,767,438	CCS	Orlean	NY	Bellevue	WA	Ramgen Power Systems, LLC will produce a CO2 compressor capable of converting coal plant CO2 into a supercritical fluid that can be sequestered. The result is projected to be more efficient and cost-effective for Carbon Capture and Storage.
3361		<i>Centrosolar Oregon LLC</i>	\$4,740,000	Solar CSI	Gresham	OR	Gresham	OR	Centrosolar Oregon LLC plans to build a manufacturing plant for PV solar modules based on crystalline silicon cells.
3676	1079402	<i>Yingli Green Energy Americas</i>	\$4,534,320	Solar CSI	Phoenix	AZ	Phoenix	AZ	Yingli plans to open a manufacturing facility to produce its solar energy modules in order to better serve its US customer base.
4492		<i>Eagle Claw Fabrication LLC</i>	\$4,372,800	Wind Towers	Muskogee	OK	Muskogee	OK	Eagle Claw will manufacture large wind turbine towers, a component piece of wind turbine systems used to generate electricity from wind energy. Towers are typically 250 to 400 feet tall and are composed of sections approximately 100 feet long that weigh 50 tons.
1054		<i>Siemens Energy Inc.</i>	\$4,331,700	Wind Towers	Hutchinson	TX	Orlando	FL	Siemens Energy Inc. will expand a wind turbine blade manufacturing facility. The expanded facility will be capable of producing both 45 meter and 49 meter blades for the Siemens SWT-2.3mw wind turbine. The resulting product will aid the domestic wind power industry.
4571		<i>Roller Bearing Co. of America, Inc.</i>	\$4,157,400	Wind Turbines	Oxford	CT	Oxford	CT	Roller Bearing Company of America, Inc will produce turbine blade and yaw bearings, both of which will be used in wind turbines. The blades are attached to a hub by large pitch bearings which facilitate movement allowing optimal performance with varying wind conditions. Yaw bearings allow the nacelle to be directed into the wind allowing more efficient conversion of wind into electricity. The resulting technologies will aid domestic production of wind turbines and renewable wind energy.

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
4572		<i>Roller Bearing Co. of America, Inc</i>	\$4,155,000	Wind Turbines	Houston	TX	Oxford	CT	Roller Bearing Company of America, Inc will produce turbine blade and yaw bearings, both of which will be used in wind turbines. The blades are attached to a hub by large pitch bearings which facilitate movement allowing optimal performance with varying wind conditions. Yaw bearings allow the nacelle to be directed into the wind allowing more efficient conversion of wind into electricity. The resulting technologies will aid domestic production of wind turbines and renewable wind energy.
4591	1075061	<i>TPI Composites, Inc.</i>	\$3,902,921	Wind Blades	Newton	IA	Newton	IA	TPI is expanding its manufacturing facility in order to fill the anticipated greater demand for composite wind turbine blades from its customer General Electric and GE's wind farm customers.
3597	1049695	<i>Solar Power Industries, Inc.</i>	\$3,756,000	Solar CSI	Belle Vernon	PA	Belle Vernon	PA	Solar Power Industries will produce multicrystalline cells up to 156mm by 156mm in size, which will then be integrated into solar modules. The resulting products will aid the domestic solar energy industry.
4465	1034363, 1070197	<i>American Railcar Industries</i>	\$3,654,096	Wind Towers	Marmaduke	AR	Fort Dodge	IA	American Railcar Industries will re-equip a manufacturing plant for the production of 500 structural steel towers per year for large-scale commercial wind turbines used to generate wind energy.
2464		<i>Amonix, Inc</i>	\$3,629,998	Solar PV	Phoenix	AZ	Phoenix	AZ	Amonix will manufacture low-cost solar electricity systems using inexpensive plastic lenses that concentrate sunlight. The systems generate 500 times more solar electric power from small, high efficiency solar cells.
4542	1085317	<i>Martifer-Hirschfeld Energy Systems LLC</i>	\$3,474,269	Wind Towers	San Angelo	TX	San Angelo	TX	Martifer-Hirschfeld Energy Systems LLC will develop a factory for the production of steel towers for wind turbine generators. This evolution will allow the wind tower plant to achieve considerable gains in terms of efficiency and in production times.
4581	1070450	<i>Siemens Energy Inc.</i>	\$3,450,900	Wind Blades	Fort Madison	IA	Orlando	FL	Siemens Energy Inc. will build a new manufacturing plant for assembly of wind turbine nacelles and hubs for Siemens wind turbines. The resulting products will aid the domestic wind power industry.
3430	1048253	<i>Guardian Automotive Products Inc.</i>	\$3,375,000	Solar CSP	Auburn	IN	Auburn	IN	Guardian Automotive will re-equip an existing manufacturing facility for the purpose of producing bent solar mirrors. This project will double production capabilities to create 1 million bent solar mirrors annually to support the concentrating solar power industry.
4556	1076665	<i>Nordic Windpower</i>	\$3,000,000	Wind Turbines	Pocatello	ID	Pocatello	ID	Nordic Windpower will establish manufacturing operations for an innovative wind turbine technology that uses two blades and a patented teeter-hub technology that dampens loads. The end product will result in a lightweight turbine that is at least 10% less costly to manufacture, install, operate and maintain than competing systems for renewable wind energy production.
1153		<i>Premium Power</i>	\$3,000,000	Smart Grid	North Reading	MA	North Reading	MA	Premium Power will establish a manufacturing facility to produce its proprietary Zinc Flow® advanced renewable energy storage systems. The technology will deliver high energy storage density, long product life, and deep discharge capability for use in SmartGrid.
1152	1021837	<i>Porocel Industries, LLC</i>	\$2,880,000	Battery	Little Rock	AR	Cincinnati	OH	Porocel Industries, LLC will construct and operate a plant for drying, grinding, calcining, and packaging process steps for the production of intermediate material used in the production of Conoco Phillips' CPreme® Anode. The result will aid in competitive domestic battery manufacturing capability.
1262		<i>Alstom Inc.and Subsidiaries</i>	\$2,725,800	Wind Towers	Amarillo	TX	Windsor	CT	The Alstom assembly factory will produce and assemble the complete nacelle for wind turbines including (hub, gearbox, frames, generator, electrical convertor, etc.) for its 60Hz North American product line. This product line is comprised of two wind turbine platforms; the ECO80 (1.67MW) and the larger ECO 100 (3.0MW).
3433	1012198	<i>Guardian Industries Corp</i>	\$2,707,560	Solar CSP	Carleton	MI	Carleton	MI	Guardian Industries will expand production for an existing facility to produce unique low iron pattern glass used in solar applications. Once completed, this facility would be the only US owned manufacturer of solar low iron pattern glass in North America and would enable the production of more than 600MW of crystalline silicon modules
3635	1034520	<i>Sumco Phoenix</i>	\$2,674,236	Solar Components and Materials	Albuquerque	NM	Albuquerque	NM	Sumco Phoenix will be manufacturing and shaping silicon solar blocks. These silicon blocks will then be sent for further processing into solar wafers and sold to solar equipment manufacturers. The resulting technologies will aid the domestic solar technologies manufacturing industry.
1175	1080968	<i>CalStar Products</i>	\$2,443,547	Industrial	Caledonia	WI	Caledonia	WI	CalStar Products will manufacture bricks and pavers from coal power plant fly ash. The process uses 88% less energy than traditional "fired" clay products, while avoiding the CO2 emission associated with concrete, and makes beneficial use of fly ash.
4530	1089726	<i>Johnson Plate & Tower Fabrication, Inc.</i>	\$2,385,494	Wind Towers	Santa Teresa	NM	Santa Teresa	NM	Johnson Plate & Tower Fabrication will establish and design a facility to manufacture commercial wind towers. The facility will produce property that, after further manufacturing, will become Specified Advanced Energy Property used in the production of energy from wind resources.
3382	1506895	<i>The Dow Chemical Company</i>	\$2,220,000	Solar PV	Findlay	OH	Findlay	OH	Dow's plant will produce special coatings for use in solar cell manufacture. The "films" are used to laminate cell components together to form a rigid structure, offering significant benefits to solar cell manufacturers.
2238	1033662, 1515647	<i>Southwire</i>	\$2,211,000	Smart Grid	Carrollton	GA	Carrollton	GA	Southwire will re-equip a facility for new manufacturing lines to produce cables optimized specifically for wind and solar applications that will extend the grid to allow for collection of power within renewable energy systems. The resulting technologies will aid SmartGrid capacity and technology.
3644		<i>Suntech</i>	\$2,105,848	Solar CSI	Tempe	AZ	Tempe	AZ	Suntech will manufacture a line of poly-crystalline solar modules as well as its new "Pluto" modules.

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
3631		<i>Spire Semiconductor, LLC</i>	\$2,044,500	Solar PV	Hudson	NH	Hudson	NH	Spire Semiconductor, LLC will manufacture a very high efficiency concentrator Photovoltaic (CPV) Cell and Receiver Assembly (CRA) to be incorporated into CPV systems. The resulting technology will aid the domestic solar energy industry.
4533		<i>Kaydon</i>	\$1,774,800	Wind Turbines	Milwaukee	WI	Ann Arbor	MI	Kaydon will apply the tax credits to re-equip and expand an existing manufacturing facility to produce "critical pitch and yaw" bearings used in the production and assembly of wind energy turbines.
4528		<i>Ingeteam Inc.</i>	\$1,665,299	Wind Turbines	Milwaukee	WI	Milwaukee	WI	Ingeteam Inc. will manufacture wind turbine generators in various technologies, including PMG, DFM, xDFM. They will also manufacture power converter and control systems for both the wind and solar industry.
3586		<i>Sharp Electronics Corp</i>	\$1,650,000	Solar CSI	Memphis	TN	Memphis	TN	Sharp Electronics Corp will expand current solar manufacturing operations by installing a new crystalline photovoltaic module production line (E-Line) within its current solar facility. The resulting product will be a cost-efficient source of renewable solar energy.
3598	1049695	<i>Solar Power Industries, Inc</i>	\$1,611,083	Solar CSI	Belle Vernon	PA	Belle Vernon	PA	Solar Power Industries, Inc will focus processes on high purity silicon ingot casting, slicing, and cell processing operations to produce silicon bricks, wafers, solar power systems, and solar module components. The resulting product will aid the domestic solar energy industry.
3603		<i>Solar Strategies, Inc.</i>	\$1,572,236	Buildings	Middleburg	PA	Philadelphia	PA	Solar Strategies will re-equip a modular home facility to produce net zero-energy homes. By combining energy conservation techniques, energy producing technologies, smart metering, Energy Star-rated appliances, and energy management systems, the company aims to produce thousands of solar modular homes that generate more power than they consume over the course of a year. The resulting homes will promote energy efficiency in the residential construction industry.
1148		<i>Ice Energy, Inc.</i>	\$1,508,973	Smart Grid	Hammondsport	NY	Windsor	CO	Ice Energy will expand a facility to design and manufacture energy storage modules for use with direct expansion air conditioners commonly found in commercial and small industrial applications. When deployed, the asset enables the storage of electricity from renewable energy resources in the form of ice.
4531	1089726	<i>Johnson Plate & Tower Fabrication, Inc.</i>	\$1,421,852	Wind Towers	Canutillo	TX	Canutillo	TX	Johnson Plate & Tower Fabrication, Inc. will re-equip a facility to manufacture commercial wind towers to be used ultimately with turbines to generate renewable energy.
1166	2014719	<i>AAF-McQuay, Inc.</i>	\$1,374,300	Buildings	Fairbault	MN	Louisville	KY	AAF will re-equip a manufacturing facility for the production of rooftop air-conditioning systems used on Heating, Ventilation, and Air-Conditioning (HVAC) systems.
4500		<i>Flame Metals Processing</i>	\$1,350,000	Wind Turbines	Rogers	MI	Rogers	MN	Flame Metals will purchase equipment used in heat treatment of gears for the gear assembly used in wind turbines.
1200		<i>ilumisys, Inc.</i>	\$1,305,480	Buildings	Troy	MI	Troy	MI	ilumisys will automate manufacture of LED replacements for fluorescent lighting.
4518		<i>Great Lakes Industry, Inc</i>	\$1,301,190	Wind Turbines	Jackson	MI	Jackson	MI	Great Lakes Industry will manufacture component precision gears for multi-megawatt wind turbine gearboxes. Nearly all multi-megawatt wind turbines use highly efficient gearboxes to drive electrical generator(s) inside the turbine nacelle.
1217	1018109	<i>PPG Industries, Inc.</i>	\$1,260,000	Vehicles	Lake Charles	LA	Lake Charles	LA	PPG Industries will manufacture Hi Sil 190 G and Hi Sil HDP 320 G, highly dispersible silica and to sell to tire manufacturers. The product, when incorporated into the tire rubber, will create a tire with reduced rolling resistance. The resulting product will increase vehicle fuel efficiency.
3431	1048253	<i>Guardian Automotive Products, Inc.</i>	\$1,249,800	Solar CSP	Auburn	IN	Auburn	IN	Guardian Automotive will re-equip existing manufacturing facilities to produce solar bent mirrors. Guardian is extending its technological capabilities from advanced radical bent windshields into the solar industry.
2450	1047805	<i>Advanced Energy Industries, Inc.</i>	\$1,230,000	Solar Components and Materials	Ft. Collins	CO	Ft. Collins	CO	Advanced Energy Industries plans to establish a manufacturing facility for the production of commercial and utility-scale solar inverters. Inverters are used to integrate solar PV installations.
3334		<i>Applied Photovoltaics, LLC</i>	\$1,068,986	Solar PV	Ewing	NJ	Titusville	NJ	Applied Photovoltaics will manufacture solar energy modules for use in building integrated photovoltaics.
1179		<i>CertainTeed Corporation</i>	\$1,012,500	Buildings	Norwood	MA	Norwood	MA	CertainTeed will manufacture residential cool shingles that meet or exceed Energy Star criteria and are LEED qualified. The high-solar reflecting shingles will reduce electricity for cooling, reduce GHG, and smog formation while maintaining aesthetically pleasing colors.
4600	1070112	<i>Wausaukee Composites, Inc.</i>	\$930,810	Wind Turbines	Wausaukee	WI	Wausaukee	WI	Wausaukee Electric Systems will manufacture fiberglass wind turbine components.
1170		<i>Airxchange Inc.</i>	\$920,870	Buildings	Rockland	MA	Rockland	MA	Airxchange will expand a facility to produce Enthalpy/Energy Recovery Wheels (ERWs) that recycle up to 80% of previously expended energy in building exhaust air. The products allow preconditioning of incoming outdoor air 5-7 times more efficiently than conventional heating and air conditioning systems reducing design heating, cooling, humidification and dehumidification loads and conserving energy summer and winter.
2441		<i>RE-Gen LLC</i>	\$903,480	Biomass	Millinocket	ME	Rockport	ME	RE-Gen will build a factory to produce Biomass Gasification Furnaces with a capacity of 250 systems/year. The result will aid the domestic biofuels industry while promoting energy efficiency.
1185		<i>AcuTemp</i>	\$900,000	Buildings	Dayton	OH	Dayton	OH	AcuTemp will purchase equipment for a six-fold increase in manufacturing of high performance Vacuum Insulation Panels for residential refrigerators. The panels are used in high efficiency Energy Star appliances.

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
3436		<i>Guardian Industries Corp</i>	\$900,000	Solar CSP	DeWitt	IA	DeWitt	IA	Guardian Industries will re-equip an existing manufacturing facility to produce bent solar mirrors. The project will modify and enhance the existing mirror line to enable the facility to mirror glass in a single throughput on the production line, while at the same time achieving a multi-layer specialized paint coating to protect and preserve the reflective layers of copper and silver. Preservation of these reflective layers is critical to the achievement of long service lives of highly reflective solar mirrors.
6006		<i>Bassett, Inc. (dba Bassett Mechanical)</i>	\$868,500	Wind Turbines	Kaukauna	WI	Kaukauna	WI	Bassett Inc. will manufacture wind turbine towers (for 100-1,000 KW turbines) and foundation components for all sizes of turbines.
3706	1501672	<i>Cooper Power Systems, LLC</i>	\$846,180	Smart Grid	Waukesha	WI	Waukesha	WI	Cooper Power Systems' new facility will be producing high efficiency transformers. The basis of Cooper's high efficiency technology lies with the higher grade of steel used to produce the core and coil of the transformer. Cooper utilizes the proper grade and quantity of silicon grain oriented steel in their manufacturing process to create a higher efficiency product.
1247		<i>Ener-G-Rotors, Inc.</i>	\$834,000	Industrial	Schenectady	NY	Schenectady	NY	Ener-G-Rotors will install manufacturing capacity to build systems that turn low temperature heat from industrial processes, from 180F to 240F, into 50kW of electricity.
3627		<i>STR, Inc.</i>	\$829,020	Solar PV	Somers	CT	Somers	CT	STR, Inc. will manufacture encapsulants that are specialty extruded sheets and film that hold a solar module together and protect the embedded semiconductor circuit. The resulting technologies will aid the domestic solar PV panel manufacturing industry.
3693		<i>AAF-McQuay, Inc.</i>	\$774,937	Buildings	Verona	VA	Verona	VA	AAF plans to re-equip a manufacturing facility to produce Next-Generation Centrifugal Chiller Rooftop Air Conditioning systems. The chillers are significantly more energy-efficient than those currently on the market.
1181		<i>Coolerado Corporation</i>	\$750,000	Buildings	Denver	CO	Denver	CO	Coolerado will manufacture commercial and residential air conditioning units that use a heat exchanger incorporating an innovative thermodynamic cycle to cool the air. The patented process creates a healthier, more comfortable living environment while significantly reducing energy costs.
3542		<i>ReflecTech, Inc.</i>	\$750,000	Solar CSP	Arvada	CO	Arvada	CO	ReflecTech, Inc will manufacture Mirror Facets made with ReflecTech® Mirror Film which will reflect sunlight onto the receivers of Parabolic Trough Concentrating Solar Power (CSP) collector systems. Facets will match or exceed the optical and structural characteristics of the existing glass mirrors, but will aim to be more cost-efficient and durable. The end product will aid domestic solar power production.
3636	1027433	<i>Sumco Phoenix</i>	\$731,207	Solar Components and Materials	Phoenix	AZ	Phoenix	AZ	Sumco Phoenix will slice, clean, and inspect and inspecting silicon wafers. These silicon wafers will then be sold for integration into solar power modules. The resulting technologies will aid the domestic solar power industry.
3634		<i>Stirling Energy Systems, Inc</i>	\$642,000	Solar CSP	Ashville	NY	Springville	NY	Stirling Energy Systems, Inc will produce pedestals, hubs, facet support structures, booms and mirror facets that combine to serve as the radial solar concentrator dish structure of the SunCatcher, a 25 kW solar dish. The resulting technologies will aid Solar Concentrating Solar Power industry domestically.
4452	1517840	<i>W.L. Gore & Associates, Inc.</i>	\$604,350	Industrial	Elkton	MD	Newark	DE	W.L. Gore will retool a manufacturing facility with next-generation equipment used to produce a key component of fuel cell systems that will be used to improve fuel efficiency in vehicles and other applications.
1165		<i>AAF-McQuay, Inc.</i>	\$570,000	Buildings	Columbia	MO	Louisville	KY	AAF will re-equip its manufacturing facility to establish a versatile mini-pleating and assembly process that is capable of making polytetrafluoroethylene (PTFE) and other synthetic media air filters for the ASHRAE (American Association of Heating, Refrigeration, and Air-Conditioning Engineers) and HEPA (high efficiency particulate air) markets. The end result will be a new product family of air filtration products to achieve lowest air pressure drop.
1224		<i>Serious Materials Inc</i>	\$548,100	Buildings	Chicago	IL	Sunnyvale	CA	Serious Materials Inc is manufacturing highly insulating, high performance fiberglass windows. The resulting product will be cost-efficient and will promote energy efficiency.
3696		<i>Acuity Brands, Inc.</i>	\$547,097	Buildings	Crawfordsville	IN	Crawfordsville	IN	Acuity plans to manufacture three energy-efficient LED luminaire outdoor products in its production facility. Lighting fixtures that include light-emitting diode ("LED") technologies can dramatically reduce energy consumption while reducing maintenance costs associated with the luminaire due to longer product lifetimes.
3432	1048253	<i>Guardian Automotive Products Inc.</i>	\$525,000	Solar CSP	Auburn	IN	Auburn	IN	Guardian Automotive wil re-equip an existing manufacturing facility to produce solar bent mirrors. The company will use new equipment to add the reflective coating to flat glass prior to bending to achieve the optimal reflective performance demanded by solar field developers.
1182	1020447	<i>Cooper Power Systems, LLC</i>	\$495,510	Smart Grid	Nacogdoches	TX	Nacogdoches	TX	Cooper Power Systems' new facility will produce electrical transformers with amorphous steel cores. Amorphous steel core transformers provide 70% lower no-load losses than normal steel transformers.
4479		<i>Cardinal Fastener & Specialty Co</i>	\$480,000	Wind Turbines	Bedford	OH	Bedford Hts.	OH	Cardinal Fastener & Specialty will manufacture hot forged, critical fasteners used in wind turbines - transportation bolts, tower bolts, nacelle bolts, and blade studs
1221		<i>Ringdale, Inc.</i>	\$450,000	Buildings	Georgetown	TX	Georgetown	TX	Ringdale will purchase equipment to expand production capacity of commercial LED lighting and advanced lighting controls technology. The results will address outdoor street, area lights, and indoor recessed down-lights, and will promote greater energy efficiency.
5567	1072975	<i>Aeroenvironment, Inc</i>	\$369,600	Battery	Monrovia	CA	Monrovia	CA	Aeroenvironment plans to purchase equipment for manufacturing 25kWh LITiO advanced battery packs and battery management systems.

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
3698	1072975	<i>Aerovironment, Inc</i>	\$310,800	Battery	Monrovia	CA	Monrovia	CA	Aeroenvironment plans to manufacture a patent pending Mobile Charger that combines a battery pack with a Level 3 DC connector. It is designed for on-road service trucks to provide a quick charge to stranded battery electric vehicles similar to an "out-of-gas" situation.
3502		<i>Pacific Metal Fab, LLC</i>	\$303,801	Solar Hot Water - This panel May move with timing	Eugene	OR	Eugene	OR	Pacific Metal Fab, LLC will re-equip and expand its manufacturing facility to produce components for passive solar water heaters, specifically tanks, plumbing modules, and the frames that hold them. These components will promote greater energy efficiency in appliances.
1157		<i>Rogers Foam Automotive Corporation</i>	\$300,000	Battery	Flint	MI	Flint	MI	Rogers Foam Automotive Corporation will manufacture a component to be used in the thermal management system of Lithium Ion Battery assemblies for electrical vehicles. This sub-component consists of an outer gasket, which locates the component in the assembly, a multi-layer pressure conformable membrane, which provides the constant pressure and a bonding agent, which attaches the outer gasket and membrane. The resulting product will aid domestic battery manufacturing for electric vehicles.
3638		<i>SunEarth, Inc.</i>	\$288,600	Solar Hot Water - This panel May move with timing	Fontana	CA	Fontana	CA	SunEarth, Inc will manufacture liquid flat plate solar thermal collectors for medium temperature domestic water heating and industrial processes and will manufacture standard and custom rolled and ultrasonically welded absorber plates and fin-tubes. The resulting technologies will be used in energy efficient solar hot water heaters.
3518		<i>PPG Industries, Inc.</i>	\$267,476	Solar PV	Mt. Zion	PA	Mt. Zion	PA	PPG Industries will manufacture a Transparent Conductive Oxide (TCO) coating for glass to be used as a substrate to construct photovoltaic solar cells. The result will aid in competitive domestic solar PV panel manufacturing.
3695		<i>Acuity Brands, Inc.</i>	\$225,000	Buildings	Wallingford	CT	Wallingford	CT	Acuity Brands will re-equip an existing facility with equipment used in the production of energy-saving lighting sensors. Sensors are used in lighting applications to control light levels based on occupancy and are used in daylighting systems.
3404		<i>FAFCO, INC.</i>	\$214,500	Solar Hot Water	Chico	CA	Chico	CA	FAFCO will develop a next generation low cost, polymer based solar hot water heating system for homes. The complete system in a box will be low cost and easy to install.
2261	1517840	<i>W.L. Gore & Associates, Inc.</i>	\$210,000	Fuel Cell	Elkton	MD	Elkton	MD	W.L. Gore will re-equip two manufacturing facilities in New York and Maryland to produce the Gore Turbine Filter, a technology for gas turbines that delivers higher fuel efficiency and lower greenhouse gas emissions.
1190		<i>Ductmate Industries, Inc.</i>	\$192,000	Buildings	Tulsa	OK	Tulsa	OK	Ductmate will expand manufacturing and tooling capabilities for the production of energy efficient HVAC ductwork featuring self-sealing fixtures.
3426		<i>GreenRay, Inc.</i>	\$180,000	Solar Components and Materials	Westford	MA	Westford	MA	GreenRay will manufacture a simplified "plug and play" AC solar electricity system for residential rooftops.
4495		<i>Enertech, Inc.</i>	\$157,500	Wind Turbines	Newton	KS	Newton	KS	Enertech will expand its manufacturing plant to accommodate development, fabrication, and assembly of two new small-scale wind turbine models using innovate blade design and fabrication processes.
3517	1028618	<i>PPG Industries, Inc.</i>	\$149,100	Solar PV	Carlisle	PA	Carlisle	PA	PPG Industries will produce a double anti-reflective coating for glass that will permit increased light transmittance in solar modules. The result will aid in competitive domestic solar PV panel manufacturing.
1189		<i>Ductmate Industries, Inc.</i>	\$82,500	Buildings	Monongahela	PA	Monongahela	PA	Ductmate will expand manufacturing and tooling capabilities for the production of energy efficient HVAC ductwork featuring self-sealing fixtures.
4470		<i>Bassett, Inc. (dba Bassett Mechanical)</i>	\$75,000	CCS	Kaukauna	WI	Kaukauna	WI	Bassett Inc. will manufacture Carbon Capture and Sequestration systems to extract/trap carbon from waste streams from coal fired power plants.
total tax credit awards			\$1,646,785,629						

SELECTIONS FOR SECTION 48C MANUFACTURING TAX CREDIT

#	Plant Id	Applicant Name	Tax Credit Requested	Technology Area	Facility City	Facility State	HQ City	HQ State	Updated Descriptions
---	----------	----------------	----------------------	-----------------	---------------	----------------	---------	----------	----------------------

Additional Projects		
#	Applicant Name	Tax Credit Requested
1130	<i>REC Silicon</i>	\$154,800,000
7827	<i>Volkswagen Group of America Chattanooga Operations LLC</i>	\$150,000,000
4493	<i>AE Polysilicon</i>	\$44,850,000
3348	<i>SCHOTT Solar, Inc.</i>	\$33,000,000
3592	<i>SAGE Electrochromics, Inc.</i>	\$31,500,000
1233	<i>GAMESA FIBRAMATIC LLC</i>	\$25,824,044
4506	<i>Jabil Circuit Inc.</i>	\$20,400,000
3461	<i>Rotek Incorporated</i>	\$19,724,719
4587	<i>Solaicx</i>	\$18,240,000
3640	<i>ZBB Energy, Inc.</i>	\$14,865,000
1180	<i>United Solar Ovonic, LLC</i>	\$13,275,000
3455	<i>ABB Inc.</i>	\$12,301,200
4481	<i>BP Solar International Inc.</i>	\$11,670,754
3359	<i>E.I. du Pont de Nemours and Co.</i>	\$11,085,000
3393	<i>Viracon, Inc</i>	\$9,900,000
3677	<i>Cardinal ST</i>	\$7,762,793
3385	<i>Wind Energy Castings III, Inc.</i>	\$6,960,900
6561	<i>Fuhrlaender USA - Blade LLC</i>	\$6,813,000
4504	<i>Moventas, Inc.</i>	\$4,108,800
4573	<i>Konarka</i>	\$4,000,500
3483	<i>E.I. du Pont de Nemours and Co.</i>	\$3,450,000
1163	<i>DMI Equipment LLC</i>	\$3,339,000
2452	<i>Voith Hydro</i>	\$3,083,263
4536	<i>The Horsburgh & Scott Co.</i>	\$2,856,000
4507	<i>GAMESA G10X NACELLES, LLC</i>	\$2,764,584
4503	<i>Fuhrlaender USA - West LLC</i>	\$2,719,500
3641	<i>SunPower Corporation</i>	\$2,700,000
3642	<i>SunPower Corporation</i>	\$2,700,000
3643	<i>SunPower Corporation</i>	\$2,700,000
4451	<i>SunPower Corporation</i>	\$2,700,000
4527	<i>Ventower Industries</i>	\$2,553,300
4519	<i>GAMESA G90, LLC</i>	\$2,357,954
3577	<i>MetoKote Corporation</i>	\$2,157,293
6580	<i>American Honda - Test Cell</i>	\$2,151,630
4552	<i>JF Machines</i>	\$2,136,933
4502	<i>Energetx Composites, Inc</i>	\$1,975,200
4490	<i>Columbia Gear Corporation</i>	\$1,860,000
1234	<i>Viracon, Inc</i>	\$1,800,000
4601	<i>The Timken Company</i>	\$1,329,935
2243	<i>Andritz Hydro Corp. & Affiliates</i>	\$1,270,320
2247	<i>Andritz Hydro & Affiliates</i>	\$970,470
4483	<i>Cleveland Gear Company, Inc.</i>	\$810,000
1187	<i>ClimaCool Corp.</i>	\$692,100
2242	<i>Dresser-Rand Co</i>	\$462,924
4604	<i>Webber Metal Products, Inc.</i>	\$383,327
1222	<i>LoneStar</i>	\$112,500
Total tax credits awarded		\$653,117,943