

Department of Energy
Jobs Data Collection Screener Definitions

Pursuant to OMB Control Number 1910-New, the United States Department of Energy is conducting a national Energy and Jobs Survey about the energy, energy-related, and advanced manufacturing industries. This important survey addresses businesses that research, develop, manufacture, install or work with products that generate, distribute or save energy. This includes organizations involved in fossil and renewable energy production, energy efficiency products and services, motor vehicles, solar, wind, fossil and other energy sources, and other energy related products and services.

Individual responses will **not** be published; only aggregated information will be used in reporting the survey results. Participation in the survey is voluntary.

This data collection uses terms that describe a broad range of technologies and activities related to the energy industry, as well as energy efficiency and motor vehicles. This document provides general definitions for terms used in the data collection.

For the web version, these definitions will be available to respondents who click on a question next to the term. For phone, definitions will be provided to the interviewers to read as needed.

SC & SD - Which of the following industries best describes your organization's work? [ALLOW MULTIPLE RESPONSES] [IF NEEDED: If your organization is involved in energy research or professional services for the industry, please select the options that are most relevant to your organization.]

1. Electric Power Generation - the process of generating electric power from other sources of primary energy whether connected to a distribution grid or not
2. Electric Power Transmission, Distribution, and Storage – stores electricity or carries electricity from suppliers to demand sites
3. Energy Efficiency, Including Heating, Cooling and Building Envelope (IF NEEDED THIS INCLUDES THERMAL OR HOT WATER SOLAR) - Goods and services that reduce electricity demand pursuant to EPA's Energy Star Standards or Department of Energy Efficiency Standards or refers to establishments that are involved with heating, ventilation and air conditioning (HVAC) from Renewable Energy sources or work that increases the Energy Efficiency of HVAC systems
4. Fuel Production, including Fossil, Nuclear, and Renewable - substances that produces useful energy when they undergo a chemical or nuclear reaction
5. Transportation Vehicles, including Motor Vehicles - includes fossil and non-fossil fuel related rail, aircraft, vessels, and vehicles
6. Component Parts for Transportation Vehicles – parts for fossil and non-fossil fuel related rail, aircraft, vessels, and vehicles
7. Other (Specify _____) TERMINATE
8. DK/NA TERMINATE

SE - [ASK FOR EACH SCREENER C RESPONSE, EXCEPT SCREENER C = 7]
Which of the following [INSERT SCREENER C RESPONSE] technologies is your organization directly engaged with?? [READ LIST, ALLOW MULTIPLE RESPONSES]

A. Electric Power Generation

1. Solar Photovoltaic Electric Generation - generating electrical power by converting solar radiation into direct current electricity using semiconductors that exhibit the photovoltaic effect.
2. Concentrated Solar Electric Generation - generating solar power by using mirrors or lenses to concentrate a large area of sunlight, or solar thermal energy, onto a small area.
3. Wind Generation - converting the wind's kinetic energy into electrical power.
4. Geothermal Generation - using steam produced from reservoirs of hot water found a few miles or more below the Earth's surface to produce electricity.
5. Bioenergy/Biomass Generation - generating electricity from materials derived from biological sources or any organic material which has stored sunlight in the form of chemical energy.
6. Low-Impact Hydroelectric Generation including Wave/Kinetic Generation – similar to traditional, but certification criteria are aimed at ensuring that the certified dam adequately protects or mitigates its impacts in eight key resource areas: river flows, water quality, fish passage and protection, watersheds, threatened and endangered species, cultural resources, and public access and recreation opportunities. The eighth criterion requires that the dam not have been recommended for removal (LIHI – Low Impact Hydropower Institute).
7. Traditional Hydroelectric Generation - electricity generated by hydropower; the production of electrical power through the use of the gravitational force of falling or flowing water.
8. Advanced/Low Emission Natural Gas – efficient, low emission, leak free natural gas, including systems that use any of the following technologies High Efficiency Compressor, Advanced Low NOx Combustion Technology, First Application of Closed Loop Steam Cooling in an Industrial Gas Turbine, Advanced Turbine Blade and Vane Materials, High Temperature TBC and Abradable Coatings, Advanced Row 4 Turbine Blades, 3-D Aero Technology, Advanced Brush Seal.
9. Nuclear Generation - converting atomic energy into usable power.
10. Coal Generation – the burning of thermal coal to create electricity.
11. Oil and other Petroleum Generation - the burning of oil or other petroleum to create electricity.
12. Natural Gas Generation, other than Advanced Natural Gas Generation - the burning of natural gas to create electricity.
13. Combined Heat and Power - generating electricity and useful thermal energy in a single, integrated system. Heat that is normally wasted in conventional power generation is recovered as useful energy

B. Electric Power Transmission, Distribution, and Storage

1. Traditional Transmission and Distribution - allow electricity to move across the country through infrastructure commonly referred to as “poles and wires.”
2. Pumped Hydro Storage - hydroelectric energy storage used by electric power systems for load balancing. The method stores energy in the form of gravitational potential energy of water, pumped from a lower elevation reservoir to a higher elevation.
3. Battery Storage – using a cell or connected group of cells to convert chemical energy into electrical energy by reversible chemical reactions and that may be recharged by passing a current through it in the direction opposite to that of its discharge
4. Other Storage
5. Smart Grid - an electricity supply network that uses digital communications technology to detect and react to local changes in usage.
6. Micro Grids - a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid.
7. Other Grid Modernization – other modernization of the Nation's electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth.
8. Other (Specify)

C. Energy Efficiency, Including Heating, Cooling and Building Envelope

1. Energy Star Appliances – appliances that meet the international Energy Star standard for energy efficient consumer products originated in the United States.
2. LED, CFL and Other Efficient Lighting – energy efficient lighting sources.
3. Traditional HVAC goods, control systems, and services - heating, ventilation, and air conditioning systems (HVAC), including building retro-commissioning and retrofits connected to heating and cooling.
4. Energy Star/ High AFUE HVAC - HVAC that meets the international Energy Star standard for energy efficient consumer products originated in the United States or has high Average Fuel Utilization Efficiency (AFUE) rating of 90 or greater or 15 SEER or greater.
5. Renewable Heating and Cooling (including Solar Thermal) - refers to establishments that are involved with heating, ventilation and air conditioning (HVAC) from Renewable Energy sources or work that increases the Energy Efficiency of HVAC systems (solar thermal - uses the sun’s energy to generate thermal energy).
6. Advanced Building Materials/Insulation - all materials that represent advances in efficiency over the traditional materials.
7. Recycled building materials
8. Reduced water consumption products and appliances high efficiency (HE) washing machines, faucet aerators, low flow shower heads, etc.
9. Other (Specify)

D. Fuels

1. Coal - a combustible black or dark brown rock consisting mainly of carbonized plant matter, found mainly in underground deposits and widely used as fuel.
2. Petroleum - a liquid mixture of hydrocarbons that is present in certain rock strata and can be extracted and refined to produce fuels including gasoline, kerosene, and diesel oil; oil.
3. Natural Gas - flammable gas, consisting largely of methane and other hydrocarbons, occurring naturally underground (often in association with petroleum) and used as fuel.
4. Other Fossil Fuel - a natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
5. Corn Ethanol - ethanol produced from corn that is used as a biomass.
6. Other Ethanol/Non-Woody Biomass Fuel, including Biodiesel – fuel made from other materials such as straw, manure, vegetable oil, animal fats, etc.
7. Woody Biomass/Cellulosic Biofuel – fuel developed from the by-product of management, restoration, and hazardous fuel reduction treatments, as well as the product of natural disasters, including trees and woody plants (limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment)
8. Other Biofuels – other fuel derived directly from living matter.
9. Nuclear Fuel - a substance that will sustain a fission chain reaction so that it can be used as a source of nuclear energy.
10. Other (Specify)

E. Transportation Vehicles, Including Motor Vehicles

1. Gasoline and Diesel Motor Vehicles (excluding freight transport) – vehicles that run on gasoline and diesel internal combustion engines.
2. Hybrid Electric Vehicles - use two or more distinct types of power, such as internal combustion engine + electric motor.
3. Plug-In Hybrid Vehicles - a hybrid electric vehicle that uses two or more distinct types of power, such as internal combustion engine and an electric motor that is powered by rechargeable batteries, or another energy storage device, that can be recharged by plugging it in to an external source of electric power.
4. Electric Vehicles - a vehicle which uses one or more electric motors for propulsion with no onboard generator or non-electric motor.
5. Natural Gas Vehicles - an alternative fuel vehicle that uses compressed natural gas (CNG) or liquefied natural gas (LNG) as a cleaner alternative to other fossil fuels.
6. Hydrogen Vehicles - uses hydrogen as its onboard fuel for motive power.
7. Fuel Cell Vehicles - a type of hybrid vehicle which uses a fuel cell, instead of an engine, in combination with a storage device, such as a battery, to power its on-board electric motor.
8. Other (Specify _____)

F. Component Parts for Transportation Vehicles

1. Transportation Vehicle Engine & Drive Parts
2. Transportation Vehicle Exhaust System Parts
3. Transportation Vehicle Body Parts
4. Other Transportation Vehicle Parts (Specify _____)

SH.

Widely Commercially Available: Products that are sold in the regular course of business through developed sales channels.

Development Stage: Products are either not yet commercially available or are available to customers in a pilot stage.

SI.

Concept: Products that have been designed and sketched but are not available in physical form.

Product Development: Products are in the early test phase with some engineering and early stage manufacturing but not yet in pilot stage.

Pilot: Prototypes have been produced and are in test phase.

Q38/39:

Automobile: a passenger vehicle designed for operation on ordinary roads and typically having four wheels and a gasoline or diesel internal-combustion engine.

Light Duty Vehicle: Trucks or truck-based vehicles with a payload capacity of less than 4,000 pounds.

Heavy Duty Vehicle: Trucks or truck-based vehicles with a payload capacity of 4,000 pounds or greater.

Industrial Vehicle: Any mobile power-propelled truck used to carry, push, pull, lift, stack or tier materials. Powered industrial trucks can be ridden or controlled by a walking operator.

Recreational Vehicles: a vehicle designed for recreational use, including golf carts and camping vehicles.

Q40: See SE above.