**Biggest wind turbines/farms**

* **Largest Onshore Wind Farm:** Gansu Wind Farm (China), planned capacity of **20,000 MW** (20 GW), with 8 GW currently operational.
* **Largest Offshore Wind Farm:** Dogger Bank Wind Farm (UK), once completed will have a capacity of **3,600 MW** (3.6 GW).
* **Largest Wind Turbine:** MySE 18.X-28X, an **18 MW** offshore turbine with a rotor diameter of **280 meters**, developed by MingYang Smart Energy, located **off the coast of China** in the **South China Sea**.
* **Largest Onshore Wind Farm in the US:** Alta Wind Energy Center (California), capacity of **1,548 MW** (1.5 GW).
* **Largest Offshore Wind Farm in the US:** Vineyard Wind 1 (Massachusetts), expected to have a capacity of **806 MW** once fully operational.
* **U.S. Contribution to Wind Power:** The U.S. contributes **10%** of the world’s total wind energy capacity with over **141 GW** installed as of 2022.
* **State Contributing the Most Wind Power in the U.S.:** **Texas** contributes around **28%** of the U.S. wind power, with over **37 GW** of capacity.
* **Country Contributing the Most Wind Power:** **China** leads globally, contributing around **40%** of the world’s wind energy capacity, with over **365 GW** installed.
* **Continent Contributing the Most Wind Power:** **Asia** contributes the most, accounting for around **50%** of global wind capacity.

**Biggest solar panels/farms**

* **Largest Solar Power Plant:** **Bhadla Solar Park (India)**, with a capacity of **2,245 MW** (2.2 GW).
* **Largest Offshore Solar Farm:** Offshore solar farms are still emerging, but the **Huainan Floating Solar Farm (China)** is one of the largest, with a capacity of **150 MW**.
* **Largest Solar Panel (Photovoltaic) Installation:** **Longyangxia Dam Solar Park (China)**, with a capacity of **850 MW** (0.85 GW).
* **Largest Solar Power Plant in the US:** **Solar Star (California)**, with a capacity of **579 MW**.
* **Largest Floating Solar Farm in the US:** **Healdsburg Floating Solar Farm (California)**, relatively small compared to global projects but a leader in floating solar energy in the U.S.
* **U.S. Contribution to Solar Power:** The U.S. contributes around **3.4%** of the world’s total solar energy capacity with approximately **146 GW** installed as of 2023.
* **State Contributing the Most Solar Power in the U.S.:** **California**, producing around **31%** of the U.S. solar energy with over **40 GW** of capacity.
* **Country Contributing the Most Solar Power:** **China** leads globally, contributing around **40%** of the world’s total solar energy capacity with over **400 GW** installed as of 2023.
* **Continent Contributing the Most Solar Power:** **Asia**, with around **50%** of global solar capacity, driven by China, India, and Japan.

**Biggest Nuclear farms**

* **Largest Nuclear Power Plant:** **Kashiwazaki-Kariwa Nuclear Power Plant (Japan)**, with a capacity of **7,965 MW** (7.96 GW).
* **Largest Offshore Nuclear Power Plant:** There are no fully operational **offshore nuclear power plants**; nuclear plants are typically land-based due to safety and infrastructure requirements.
* **Largest Nuclear Reactor:** **Tianwan Nuclear Power Plant (China)**, Unit 3 and Unit 4 have reactors with a capacity of **1,750 MW** each.
* **Largest Nuclear Power Plant in the US:** **Palo Verde Nuclear Generating Station (Arizona)**, with a capacity of **3,937 MW** (3.94 GW).
* **U.S. Contribution to Nuclear Power:** The U.S. contributes around **30%** of the world’s nuclear energy, with **93 reactors** and a total capacity of **95 GW** as of 2022.
* **State Contributing the Most Nuclear Power in the U.S.:** **Illinois**, generating around **12%** of the U.S. nuclear power, with **6 reactors** producing **11.6 GW**.
* **Country Contributing the Most Nuclear Power:** **United States**, contributing around **30%** of the world’s nuclear power, with **95 GW** installed capacity.
* **Continent Contributing the Most Nuclear Power:** **Europe**, with around **25%** of global nuclear capacity, largely from France, Ukraine, and Russia.

**Biggest Hydroelectric powerplants**

* **Largest Hydroelectric Power Plant:** **Three Gorges Dam (China)**, with a capacity of **22,500 MW** (22.5 GW).
* **Largest Run-of-River Hydroelectric Power Plant:** **Tucuruí Dam (Brazil)**, with a capacity of **8,370 MW** (8.37 GW).
* **Largest Hydroelectric Power Plant in the US:** **Grand Coulee Dam (Washington)**, with a capacity of **6,809 MW** (6.8 GW).
* **U.S. Contribution to Hydroelectric Power:** The U.S. contributes around **16%** of the world’s total hydroelectric capacity, with approximately **102 GW** installed as of 2023.
* **State Contributing the Most Hydroelectric Power in the U.S.:** **Washington**, generating about **29%** of the U.S. hydroelectric power, with over **31 GW** of capacity.
* **Country Contributing the Most Hydroelectric Power:** **China**, leading globally, contributing around **40%** of the world’s hydroelectric power, with over **370 GW** installed.
* **Continent Contributing the Most Hydroelectric Power:** **South America**, with around **27%** of global hydro capacity, primarily due to major rivers and dams in Brazil and Peru.

**Biggest Geothermal powerplants**

* **Largest Geothermal Power Plant:** **The Geysers (California, USA)**, with a capacity of approximately **1,517 MW** (1.5 GW).
* **Largest Geothermal Power Plant in the World:** **Nesjavallavirkjun (Iceland)**, with a capacity of **120 MW** from its various units.
* **Largest Geothermal Power Plant in the U.S.:** **The Geysers (California)**, which remains the largest geothermal facility in the world.
* **U.S. Contribution to Geothermal Power:** The U.S. contributes around **30%** of the world’s geothermal power capacity, with approximately **3.7 GW** installed as of 2022.
* **State Contributing the Most Geothermal Power in the U.S.:** **California**, generating about **90%** of the U.S. geothermal power, with the Geysers being the largest contributor.
* **Country Contributing the Most Geothermal Power:** **United States**, leading globally with approximately **3.7 GW** of installed geothermal capacity.
* **Continent Contributing the Most Geothermal Power:** **North America**, primarily due to the United States, which is the largest producer of geothermal energy.

**Biggest Coal powerplants**

* L**argest Coal Power Plant:** **Kusile Power Station (South Africa)**, with a capacity of **4,800 MW** (4.8 GW).
* **Largest Coal Power Plant in the U.S.:** **Kemper County Energy Facility (Mississippi)**, with a capacity of **582 MW** (0.582 GW) in its gasification plant, but the largest traditional coal plant is **Monroe Power Plant (Michigan)**, with a capacity of **3,280 MW** (3.28 GW).
* **U.S. Contribution to Coal Power:** The U.S. contributes approximately **10%** of the world's coal power capacity, with around **232 GW** of installed capacity as of 2022.
* **State Contributing the Most Coal Power in the U.S.:** **Wyoming**, producing about **40%** of the U.S. coal energy, with the largest coal production in the nation.
* **Country Contributing the Most Coal Power:** **China**, leading globally, contributing around **50%** of the world’s coal power capacity, with over **1,000 GW** installed.
* **Continent Contributing the Most Coal Power:** **Asia**, particularly due to China and India, which account for about **75%** of the world’s coal-generated electricity.

**Biggest Bioenergy power plant**

* **Largest Bioenergy Power Plant:** **Drax Power Station (UK)**, with a capacity of approximately **4,000 MW** (4 GW), primarily using biomass.
* **Largest Bioenergy Power Plant in the U.S.:** **Nextera Energy's biomass facility (Florida)**, with a capacity of **75 MW**.
* **U.S. Contribution to Bioenergy:** The U.S. contributes around **20%** of the world’s bioenergy capacity, with approximately **17 GW** of installed capacity as of 2022.
* **State Contributing the Most Bioenergy in the U.S.:** **California**, generating about **12%** of the U.S. bioenergy, with a strong focus on biomass and biogas.
* **Country Contributing the Most Bioenergy:** **United States**, leading globally with around **17 GW** of installed bioenergy capacity.
* **Continent Contributing the Most Bioenergy:** **North America**, driven primarily by the U.S. and Canada, which account for a significant share of global bioenergy production.