

# U.S. Land Area Occupied by the Fossil Fuel, Nuclear, and Corn Ethanol Industries

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Estimated land areas required for the fossil fuel, nuclear, and corn ethanol infrastructure in the United States circa 2025.

	United States		
	Land area per installation (km <sup>2</sup> )	Number of installations or line lengths	Total Land area (km <sup>2</sup> )
<sup>a</sup> Active oil and fossil gas wells	0.05	918,068	45,903
<sup>b</sup> Abandoned oil wells	0.000176	3,334,252	587
<sup>b</sup> Abandoned fossil gas wells	0.000121	713,556	86
<sup>c</sup> Coal mines	60.7	560	33,994
<sup>d</sup> Oil refineries	7.28	132	962
<sup>e</sup> Length (km) of oil pipelines	0.0152	368,075	5,609
<sup>e</sup> Length (km) of gas gathering pipelines	0.0091	179,541	1,642
<sup>e</sup> Length (km) of gas transmission pipelines	0.0091	483,546	4,422
<sup>e</sup> Length (km) gas distribution pipelines	0.006	2,201,336	13,208
<sup>f</sup> Coal power plants	2.37	206	487
<sup>f</sup> Fossil gas power plants	0.122	2,084	255
<sup>f</sup> Oil power plants	0.014	1,194	17
<sup>f</sup> Nuclear power plants	14.9	54	807
<sup>f</sup> Other power plants	0.014	35	0.49
<sup>g</sup> Vehicle fueling stations	0.00177	196,643	347
<sup>h</sup> Fossil gas storage facilities	12.95	408	5,284
<sup>i</sup> Fossil gas processing facilities	0.162	510	83
<sup>j</sup> Fossil gas compressor stations	0.051	1,700	86
<sup>k</sup> Diesel generators	0.0000225	7,680,000	173
<b>Total Land Occupied by Fossils + Nuclear</b>			<b>113,950</b>
<b>Percent of U.S. Land Area for Fossils + Nuclear</b>			<b>1.16%</b>
<b><sup>l</sup>Land Area Occupied by Corn for Ethanol</b>			<b>122,200</b>
<b>Percent of U.S. Land Area for Corn for Ethanol</b>			<b>1.24%</b>
<b>Percent of U.S. Land for Fossils + Nuclear + Ethanol</b>			<b>2.40%</b>

<sup>a</sup>The number of active oil and gas wells is from EIA (2025a). The area of each is calculated from the 3 million ha of well pads, roads, and storage facilities required for 600,000 new wells from 2000 to 2012 (Allred et al., 2015).

<sup>b</sup>The number of abandoned U.S. oil and gas wells is from Williams et al. (2021). The area of each abandoned oil well is estimated as 50 m<sup>2</sup>, and of each gas well, 25 m<sup>2</sup>, from Jepsen (2018), but with an assumed 3 m on each side surrounding the well that is unusable land.

<sup>c</sup>The number of coal mines is from EIA (2024b). The area per mine is estimated as the total land area disturbed among all mines historically (8.4 million acres, from Global Energy Monitor Wiki, 2011) divided by the current number of mines.

<sup>d</sup>The number of oil refineries is from EIA (2024c). The area of each refinery is based on the area of the Richmond, California refinery.

- <sup>e</sup>Kilometers of oil and gas pipelines for the U.S. were from BTS (2024). The area needed for each 1 km of oil pipelines is estimated to be 15 m (7.5 m on each side of the pipe for easements and infrastructure) multiplied by 1 km length; of gas gathering and transmission lines is estimated to be 9.1 m (4.55 m on each side of the pipe for easements and infrastructure) multiplied by 1 km length; and of gas distribution lines is estimated to be 6 m (3 m on each side of the pipe) multiplied by 1 km.
- <sup>f</sup>The numbers of coal, gas, petroleum, nuclear and other power plants are from EIA (2024d). The areas for each coal and nuclear plant are derived from Strata (2017). For coal, the area is 0.7 acres per megawatt. For nuclear, the area includes the areas required for uranium mining, the plant site itself, and waste disposal. The areas per plant for fossil gas (110 acres per 1,000-MW plant) and petroleum (120 acres per 1,000-MW plant) are from NRC (2020).
- <sup>g</sup>The number of retail fueling stations in the U.S. is from Rafaqat (2024). The area of a fueling station is estimated from the area of a typical gas station.
- <sup>h</sup>The number of gas storage facilities is from EIA (2025). The area of a gas storage facility is estimated as that of the Aliso Canyon storage facility.
- <sup>i</sup>The number of fossil gas processing plants is from EIA (2019). The average land area for a processing facility is assumed to be the same as for a fossil gas power generating plant.
- <sup>j</sup>The number of midstream fossil gas compressor stations is from Brun (2018). The average land area required for a compressor station is assumed to be 12.5 (10-15) acres (Marz, 2015).
- <sup>k</sup>The number of diesel generators is from Wonder (2021). The land area needed per generator is assumed to be that typical for a mid-sized (200-300 kW) generator, 122 inches x 64 inches (Toromont Power Systems, 2025), but with 4 feet of clearance around all sides (Home and Commercial Power Systems, 2025).
- <sup>l</sup>In 2020, 30.2 million acres of U.S. land were used to grow corn for ethanol for transportation fuel (Geiver, 2020). The ethanol produced provided only 4% of U.S. transportation energy.

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