United States of America • Renewable energy • Marine, Solar, Wind

Gross electricity generation from renewable sources by 2020, TWh (%)

- Bioenergy 60.27 (7.3)
- Hydropower 287.14 (34.7)*
- Solar PV energy 115.90 (14.0)
- CSP energy 3.43 (0.4)
- Wind energy 341.82 (41.3)
- Geothermal energy 18.83 (2.3)

Total: 827.39 (100)

Source: Renewable Energy Statistics 2022 © IRENA
** excluding pumped storage*

Major OTEC plants, kW:

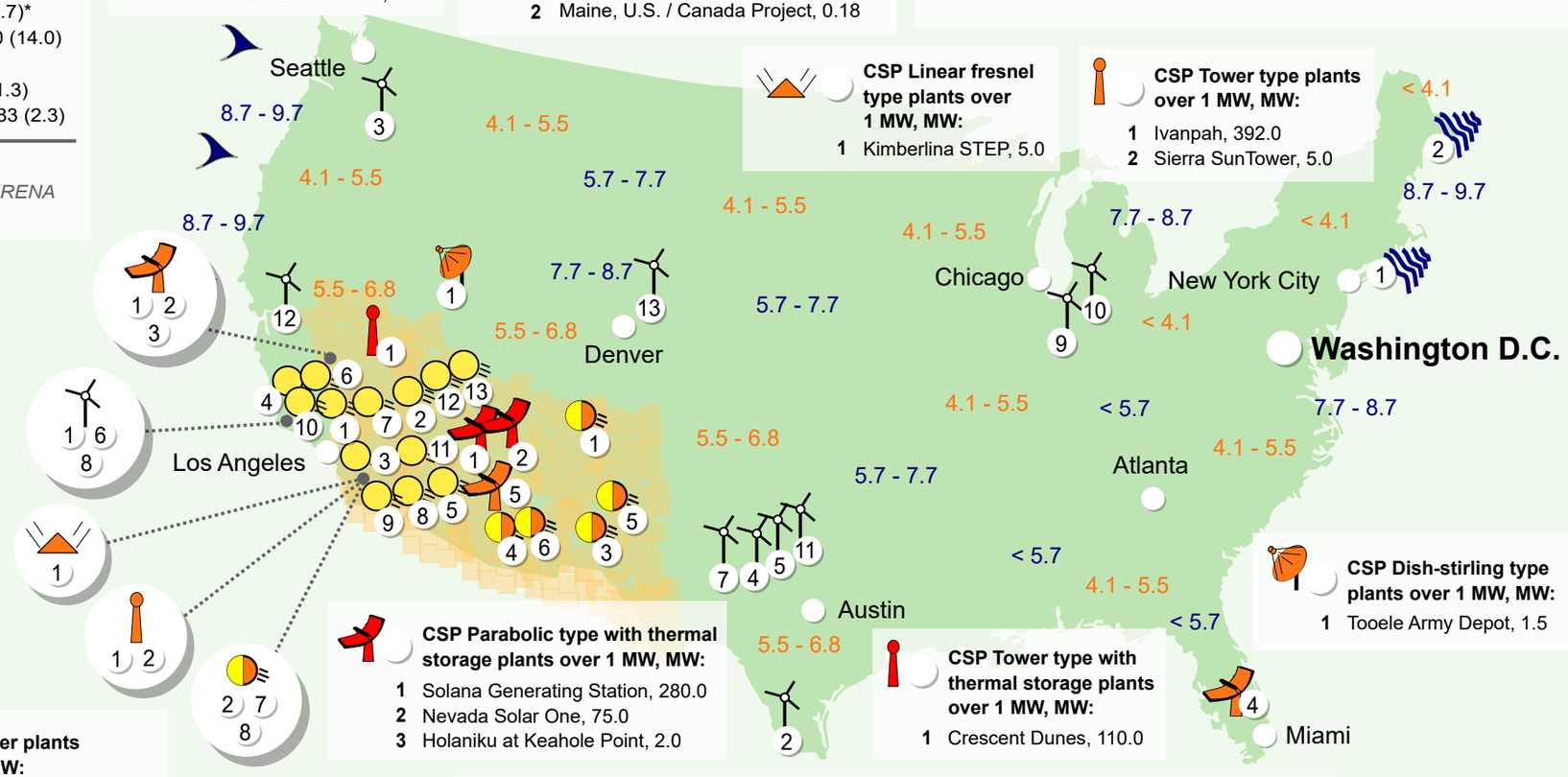
1 MOE/NELHA Hawaii, 100

Tidal power plants, MW:

1 RITE Project, NY Verdant Power, 1.0
2 Maine, U.S. / Canada Project, 0.18

Facts in wind power industry:
The United States of America had about 30 wind turbine manufacturers, but the major U.S. companies are GE Energy, Urban Green Energy, REpower USA Corp., Northern Power Systems (Northwind), Suzlon and Harvistor LLC.

Source: Wikipedia



CSP Linear fresnel type plants over 1 MW, MW:

1 Kimberlina STEP, 5.0

CSP Tower type plants over 1 MW, MW:

1 Ivanpah, 392.0
2 Sierra SunTower, 5.0

Major wind power plants over 550 MW, MW:

1 Alta WEC, 1547.0
2 Los Vientos, 910.0
3 Shepherds Flat, 845.0
4 Roscoe, 781.5
5 Horse Hollow WEC, 735.5
6 Tehachapi Pass, 705.0
7 Capricorn Ridge, 662.5
8 San Gorgonio Pass, 615.4
9 Meadow Lake, 600.8
10 Fowler Ridge, 599.8
11 Sweetwater, 585.3
12 Altamont Pass, 576.0
13 Cedar Creek, 551.3

Solar PV power plants over 250 MWe, MWe:

1 Solar Star, 579.0
2 Copper Mountain, 552.0
3 Desert Sunlight, 550.0
4 Topaz, 550.0
5 Mesquite Solar, 400.0
6 Springbok, 328.0
7 Stateline Solar, 300.0
8 Agua Caliente, 290.0
9 Mount Signal Solar, 266.0
10 California Valley Solar Ranch, 250.0
11 McCoy SEC, California, 250.0
12 Moapa Southern Paiute, 250.0
13 Silver State South SEC, 250.0

CSP Parabolic type plants over 1 MW, MW:

1 SEGS California Complex, 393.8
2 Mojave Solar Project, 280.0
3 Genesis, 250.0
4 Martin Next GSEC, 75.0
5 Saguaro, 1.1

CSP Dish-stirling type plants over 1 MW, MW:

1 Tooele Army Depot, 1.5

CSP Parabolic type with thermal storage plants over 1 MW, MW:

1 Solana Generating Station, 280.0
2 Nevada Solar One, 75.0
3 Holaniku at Keahole Point, 2.0

CSP Tower type with thermal storage plants over 1 MW, MW:

1 Crescent Dunes, 110.0

Wave power plant, kW:

1 Hawaii Azura WEP, 40

Solar CPV power plants over 1.5 MW, MW:

1 Alamosa, Arzon Solar, 35.2
2 Borrego Springs, 9.2
3 Arizona, SunPower, 7.0
4 Hatch, NextEra, 5.0
5 White Sands Missile Range, Solaria (NM), 4.1
6 Tucson, UASTP, 2.0
7 Newberry Springs, Soitec, 1.7
8 Yucaipa, Crafton Hills College, 1.6

0.0 kWh/m²/d	Direct Normal Irradiation (DNI)
0.0 m/s	Wind speed

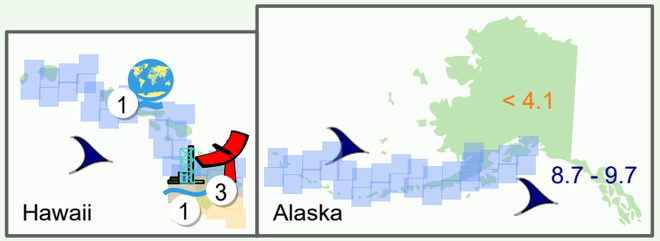
High activity areas:

The most common solar DNI intensity is 6.8 - 8.2 kWh/m² per day, distributed in southwestern part of country, between the states of California, Nevada, Arizona, New Mexico and the Hawaii.

The most common wind speed is over 9.7 m/s at 50 m are distributed in the Aleutian and the Hawaiian islands.

Avg wave power potential is 20 - 40 kW/m per year.

Sources: Energydata.info; Wikipedia.



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