WECC

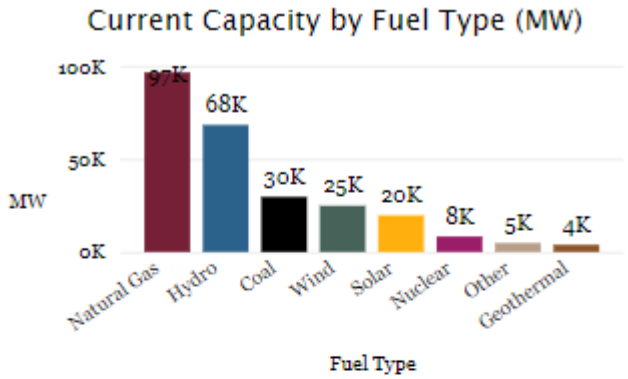
AAPCA 2022 Spring Meeting

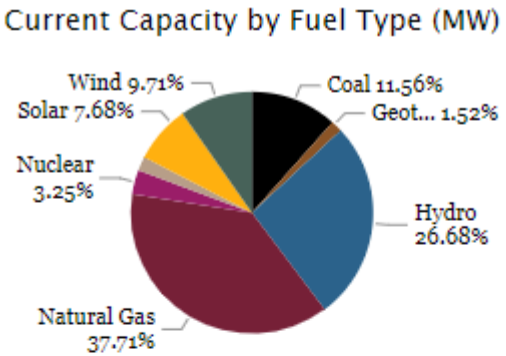
April 27, 2022

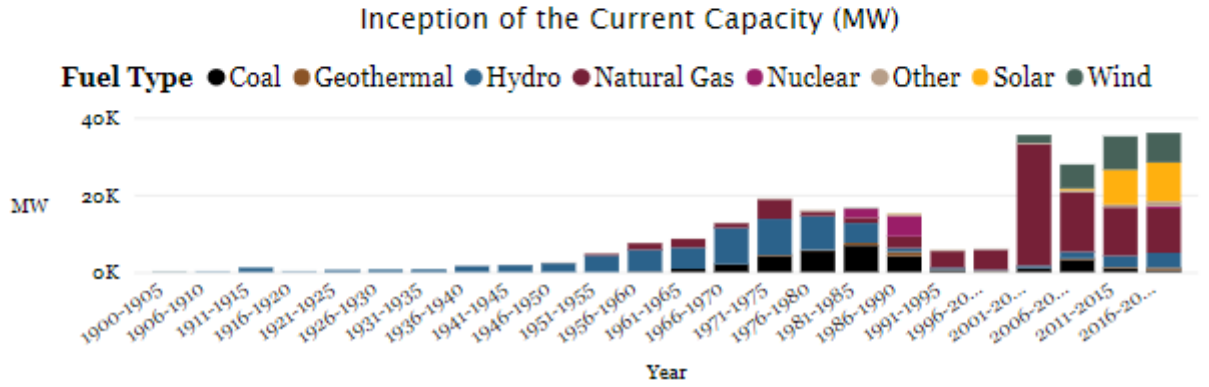
Matthew Elkins

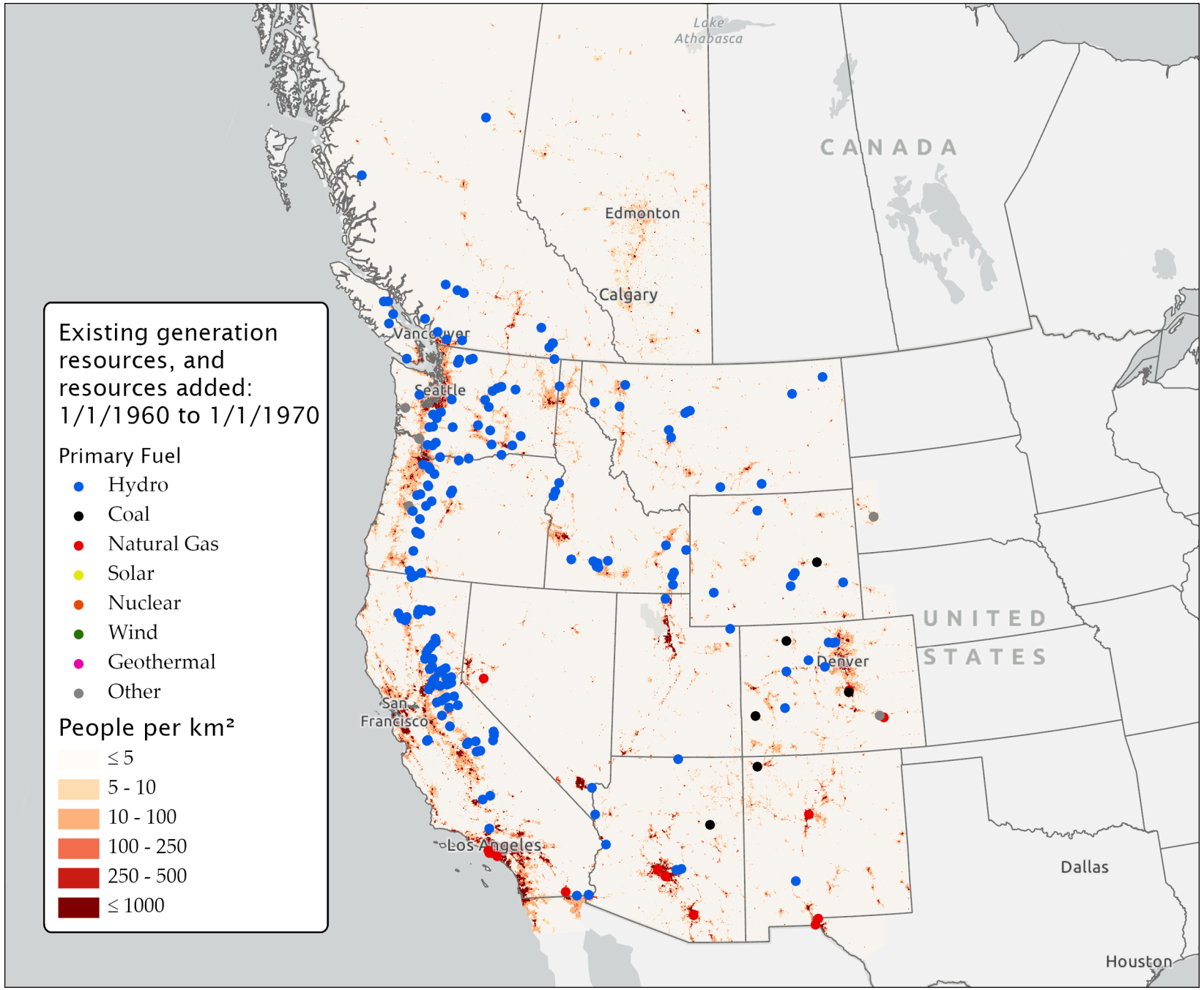
Manager – Resource Adequacy & Performance Analysis

2019

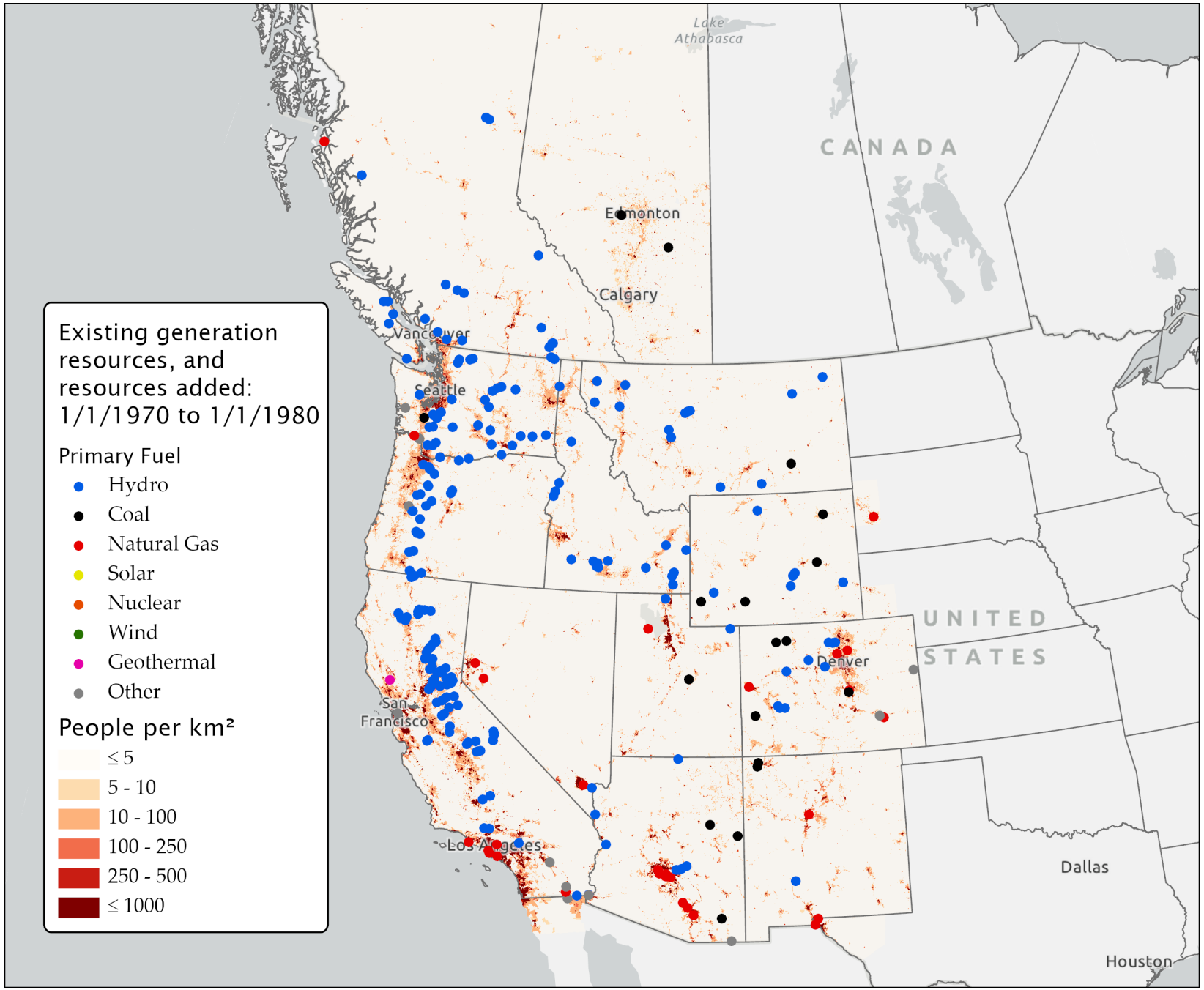

Current Capacity by Fuel Type (MW)
100K
50K
0K
MW
97K
68K
30K
25K
20K
8K
5K
4K
Natural Gas
Hydro
Coal
Wind
Solar
Nuclear
Other
Geothermal
Fuel Type


Current Capacity by Fuel Type (MW)
Wind 9.71%
Coal 11.56%
Solar 7.68%
Geot... 1.52%
Nuclear 3.25%
Hydro 26.68%
Natural Gas 37.71%


Inception of the Current Capacity (MW)
Fuel Type
Coal
Geothermal
Hydro
Natural Gas
Nuclear
Other
Solar
Wind
40K
20K
0K
MW
1900-1905
1906-1910
1911-1915
1916-1920
1921-1925
1926-1930
1931-1935
1936-1940
1941-1945
1946-1950
1951-1955
1956-1960
1961-1965
1966-1970
1971-1975
1976-1980
1981-1985
1986-1990
1991-1995
1996-20...
2001-20...
2006-20...
2011-2015
2016-20...
Year


Existing generation resources, and resources added: 1/1/1960 to 1/1/1970
Primary Fuel
Hydro
Coal
Natural Gas
Solar
Nuclear
Wind
Geothermal
Other
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000
Lake Athabasca
CANADA
Edmonton
Calgary
Vancouver
Seattle
UNITED STATES
Denver
San Francisco
Los Angeles
Dallas
Houston

WECC


Existing generation resources, and resources added: 1/1/1970 to 1/1/1980
Primary Fuel
Hydro
Coal
Natural Gas
Solar
Nuclear
Wind
Geothermal
Other
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000
Lake Athabasca
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Vancouver
Seattle
UNITED STATES
Denver
San Francisco
Los Angeles
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Houston

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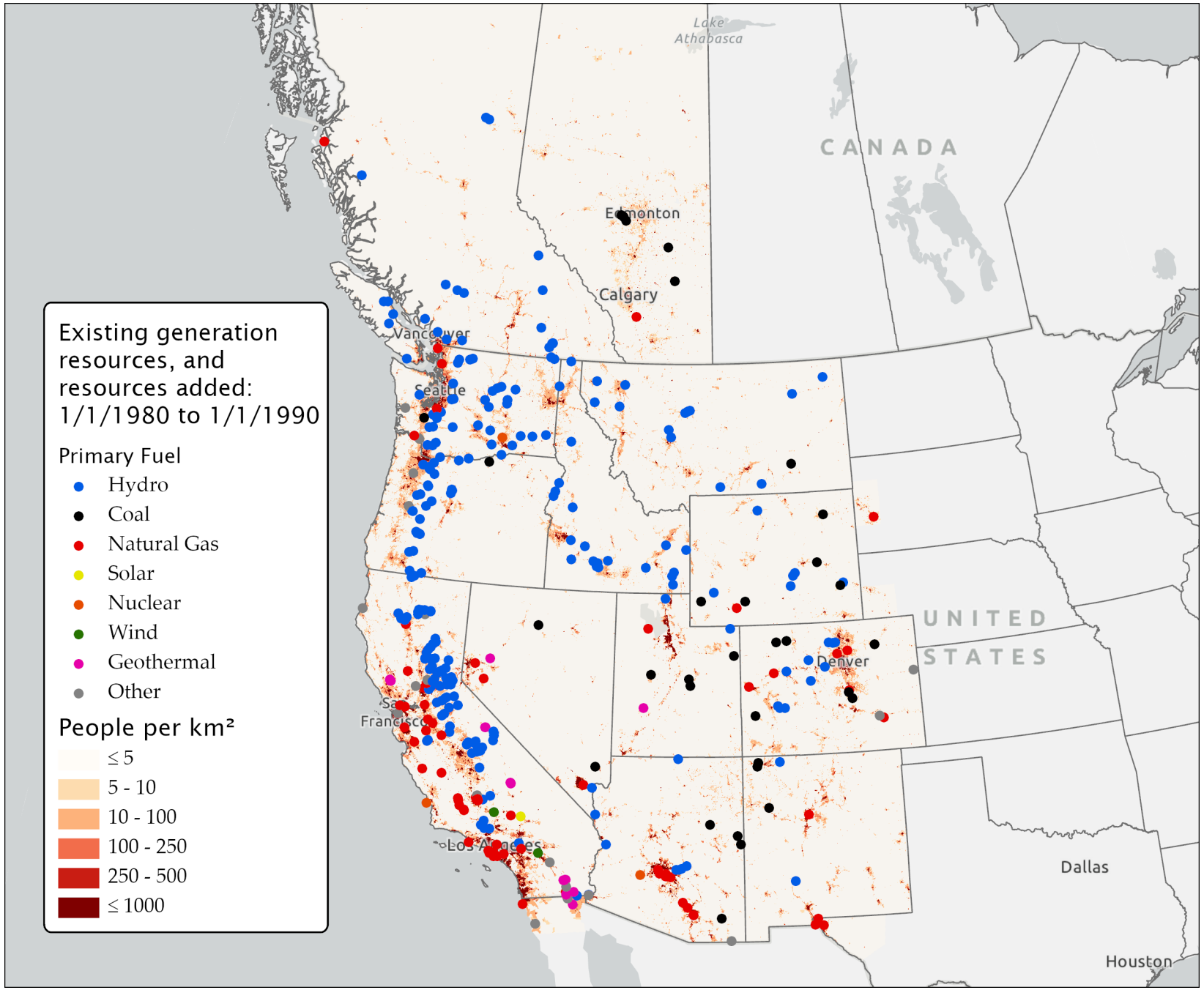
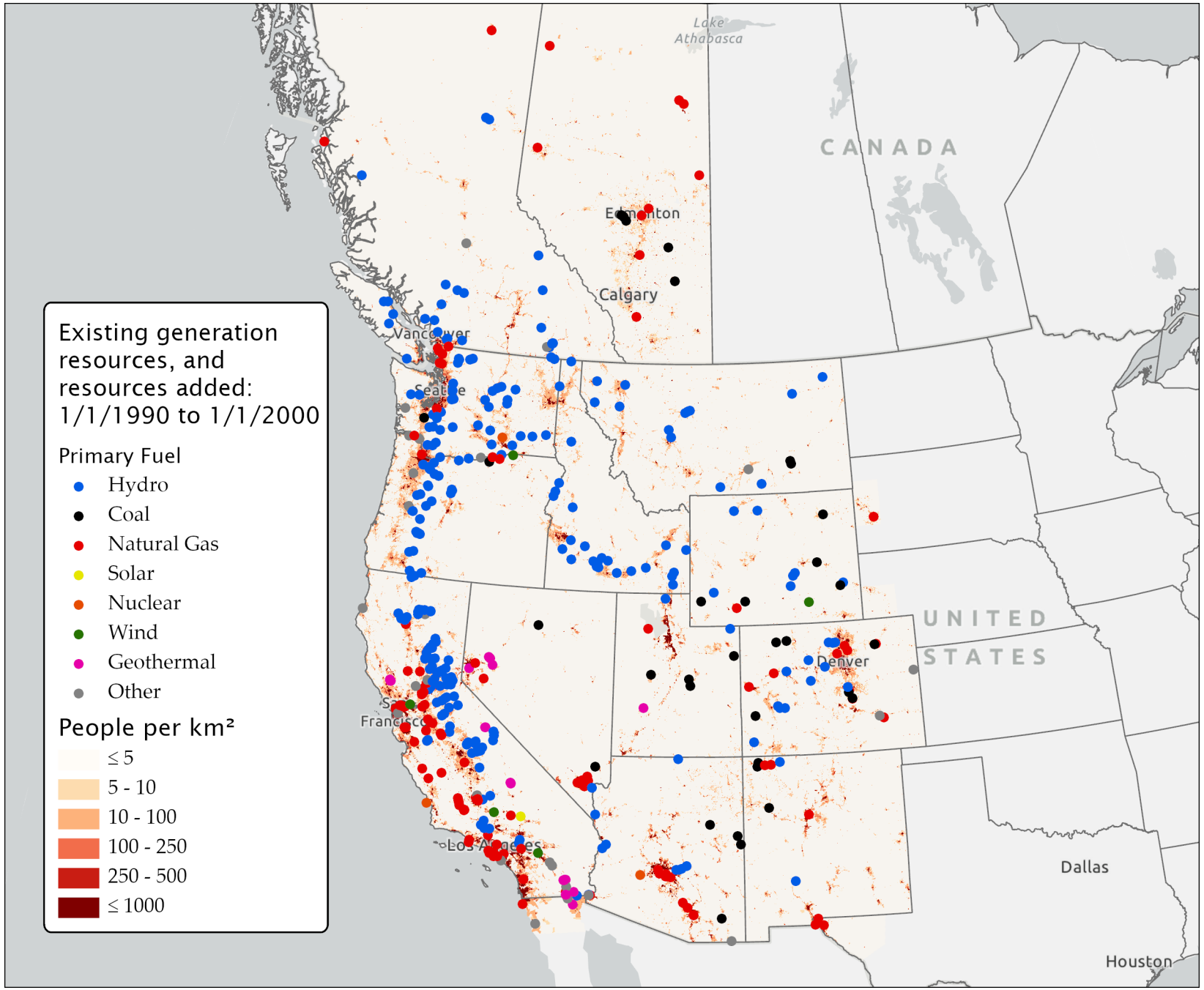

Existing generation resources, and resources added: 1/1/1980 to 1/1/1990
Primary Fuel
Hydro
Coal
Natural Gas
Solar
Nuclear
Wind
Geothermal
Other
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000
Lake Athabasca
CANADA
Edmonton
Calgary
Vancouver
Seattle
UNITED STATES
Denver
Dallas
Houston

WECC


Existing generation resources, and resources added: 1/1/1990 to 1/1/2000
Primary Fuel
Hydro
Coal
Natural Gas
Solar
Nuclear
Wind
Geothermal
Other
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000
Lake Athabasca
CANADA
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Calgary
Vancouver
Seattle
UNITED STATES
Denver
Dallas
Houston

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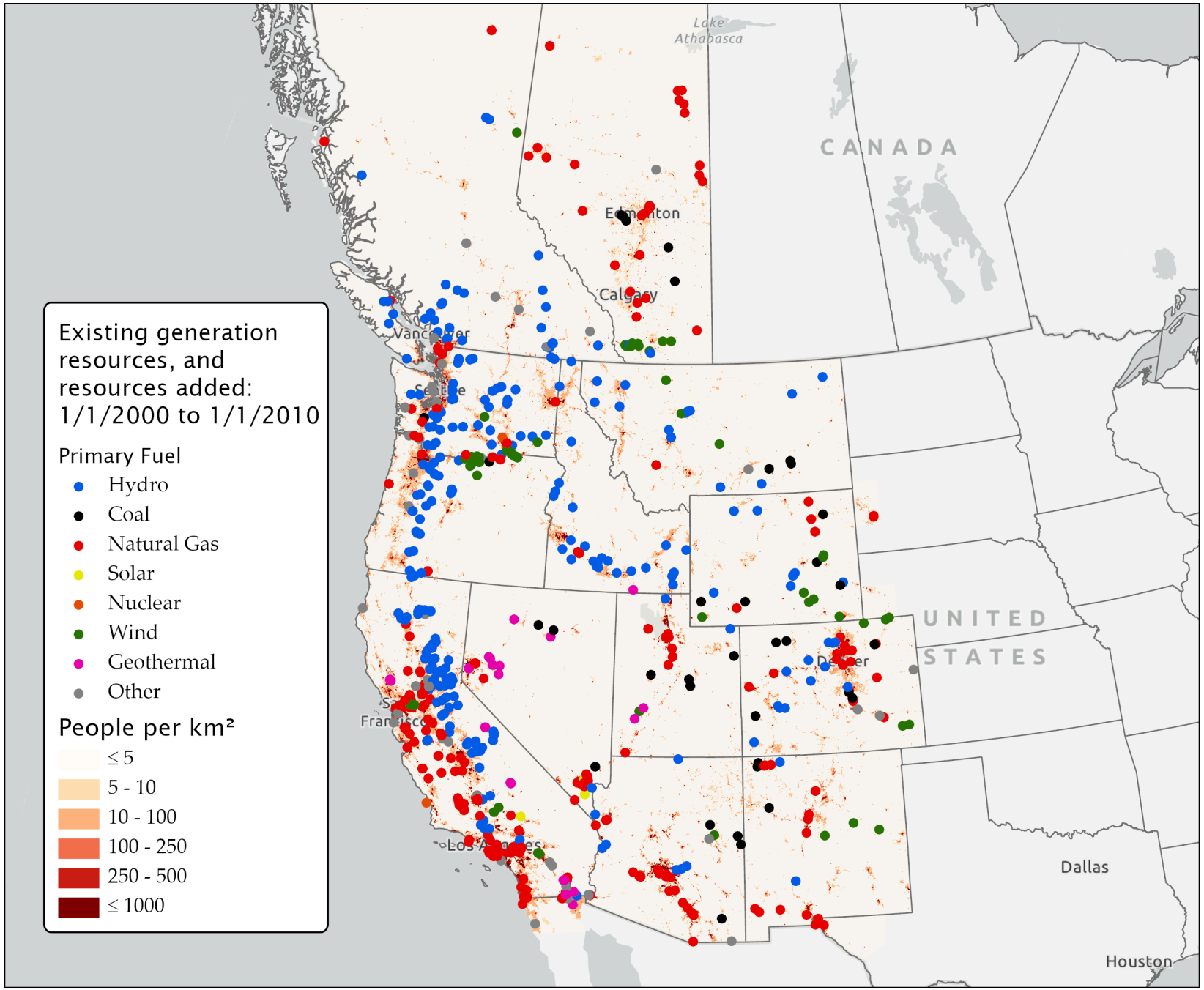
Existing generation resources, and resources added: 1/1/2000 to 1/1/2010
Primary Fuel
Hydro
Coal
Natural Gas
Solar
Nuclear
Wind
Geothermal
Other
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000
Lake Athabasca
CANADA
Calgary
UNITED STATES
Dallas
Houston

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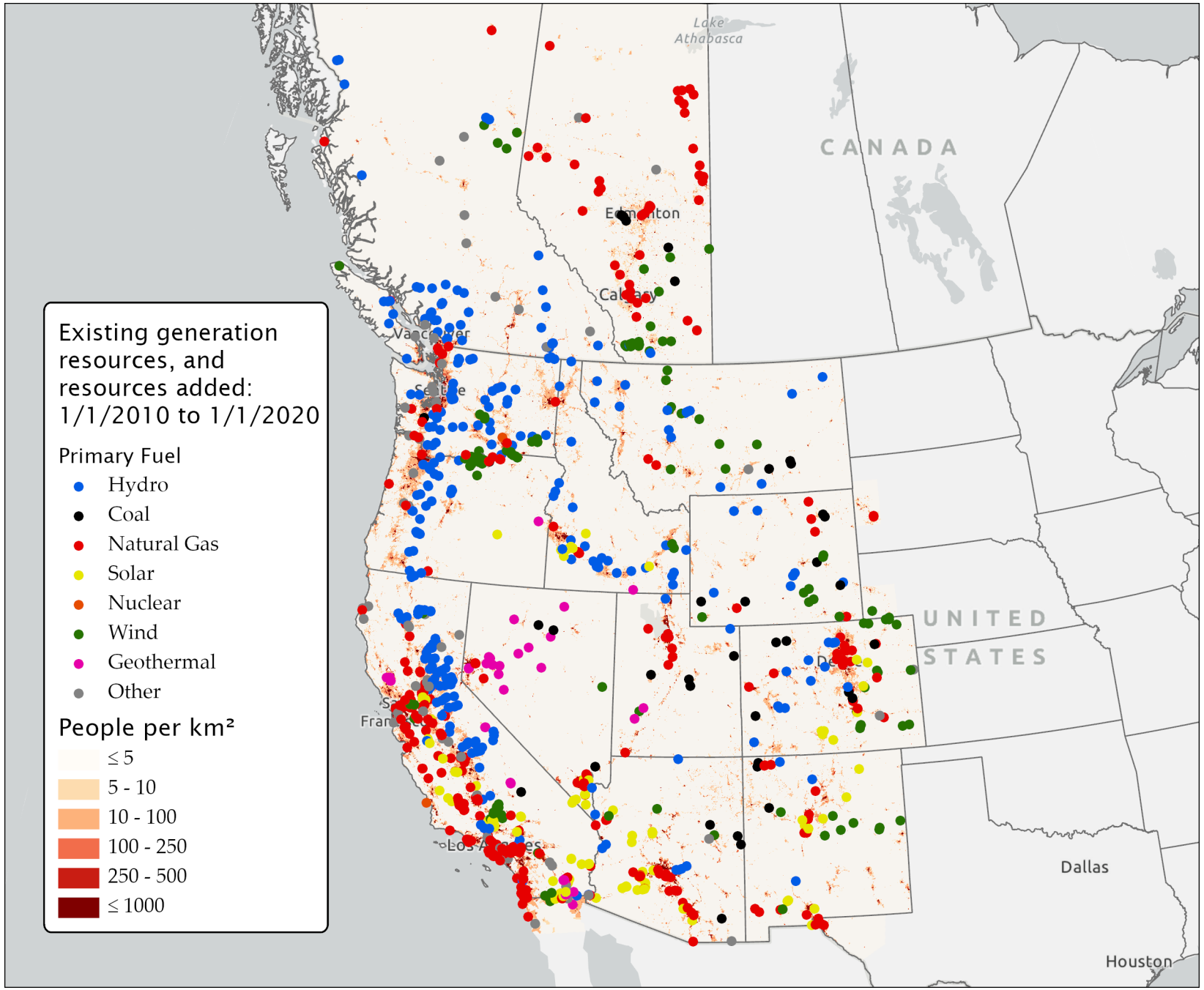
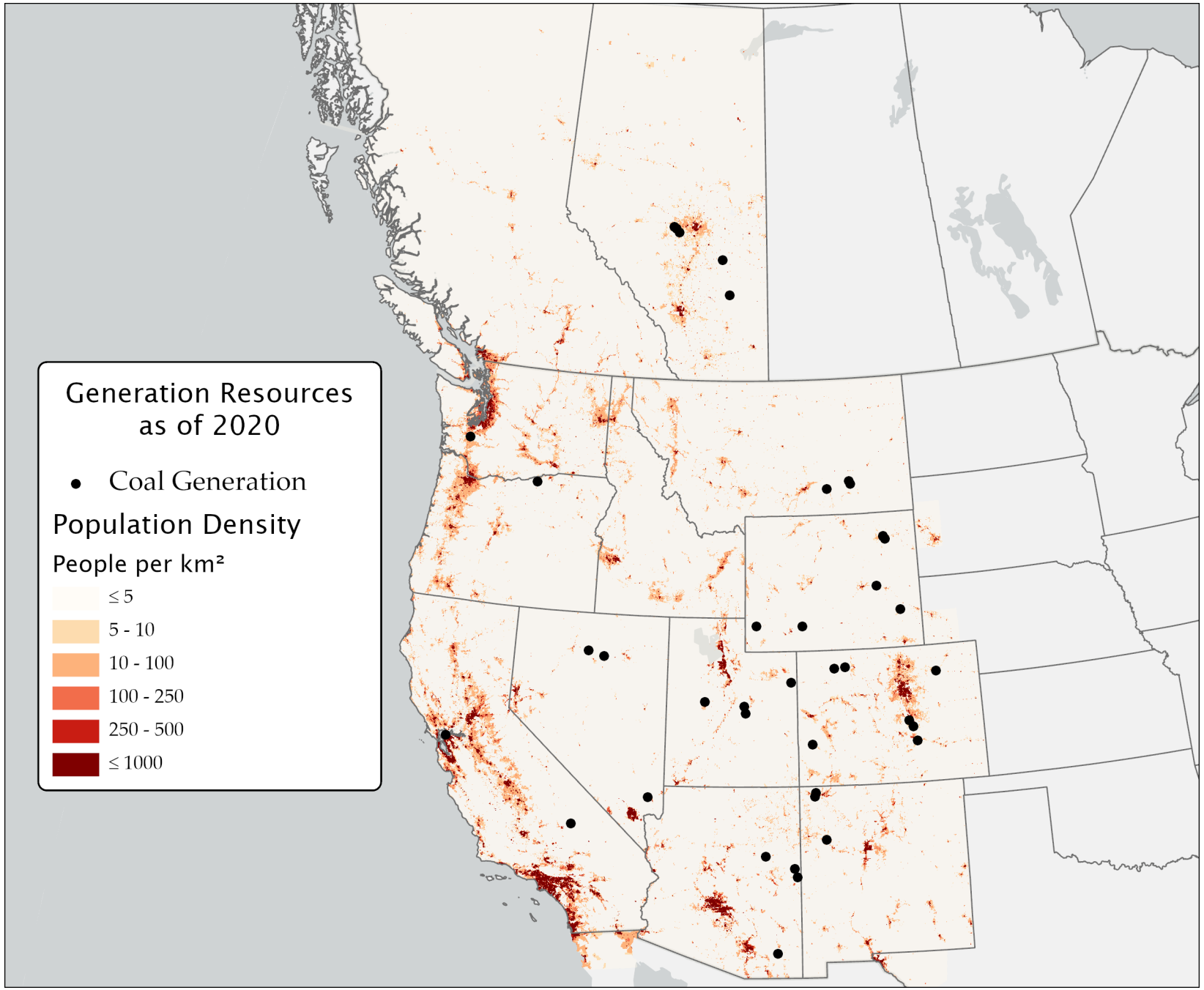
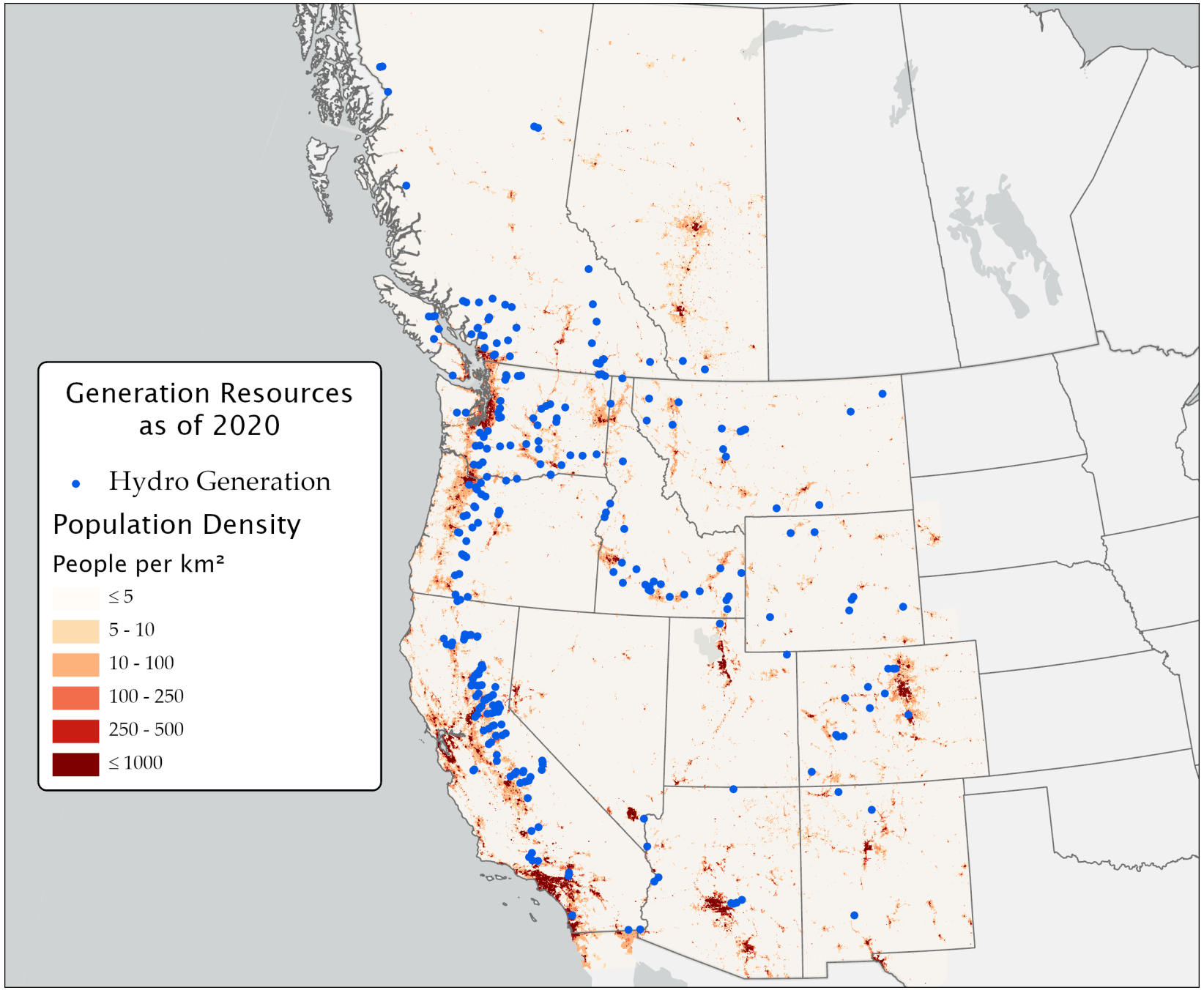

Existing generation resources, and resources added: 1/1/2010 to 1/1/2020
Primary Fuel
Hydro
Coal
Natural Gas
Solar
Nuclear
Wind
Geothermal
Other
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000
Lake Athabasca
CANADA
Edmonton
Calgary
Vancouver
Seattle
UNITED STATES
Dallas
Houston

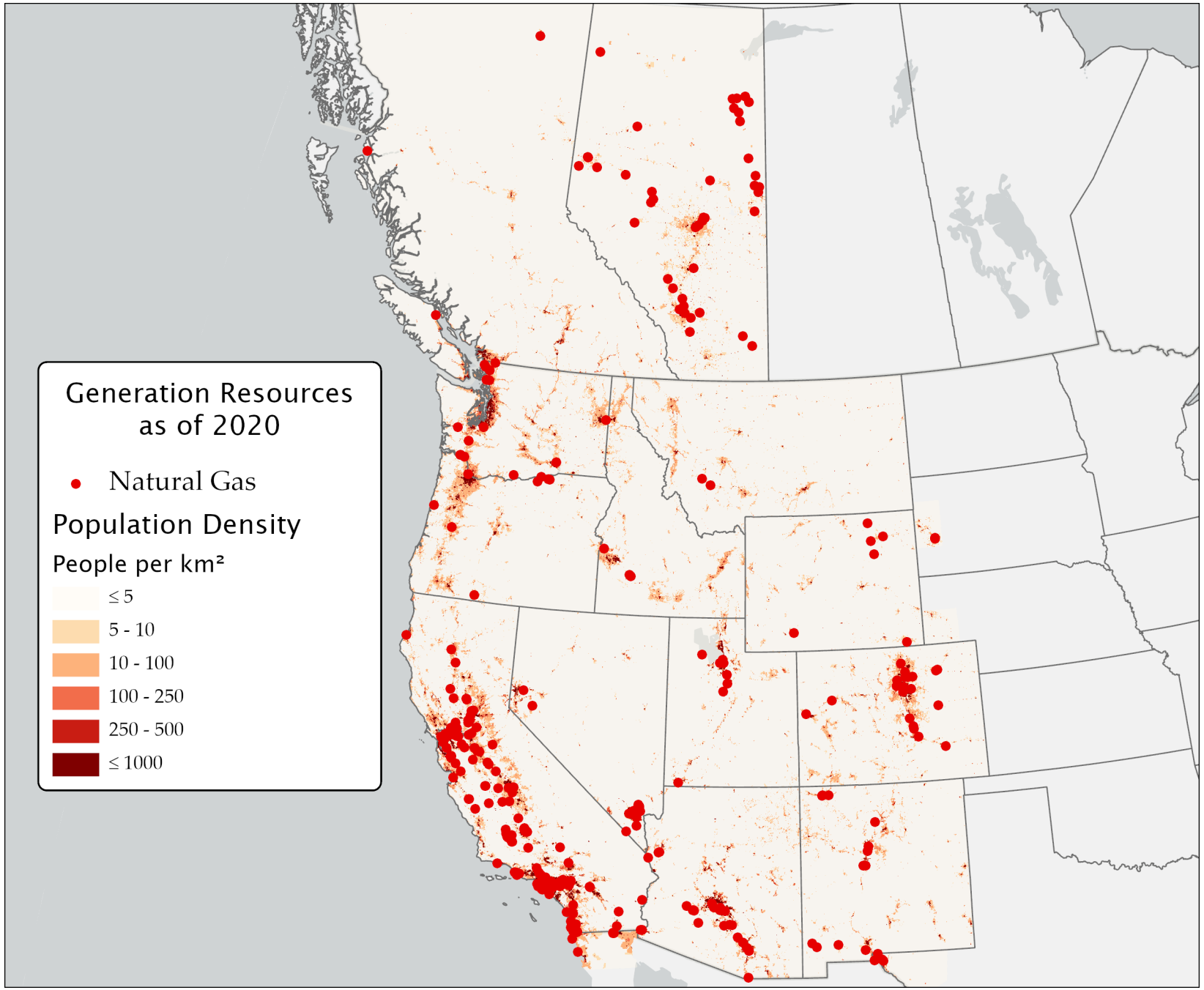
WECC


Generation Resources as of 2020
Coal Generation
Population Density
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000

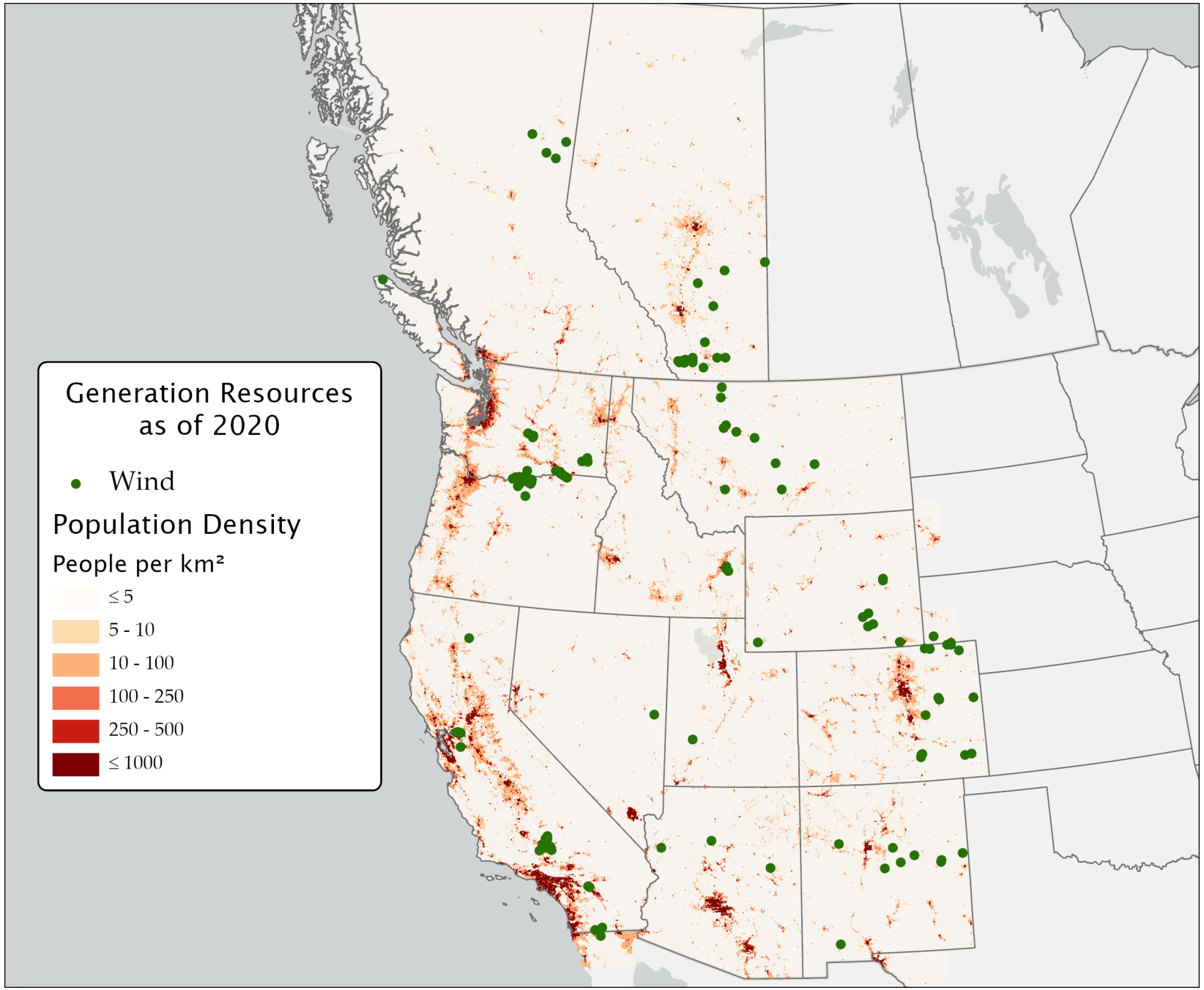
WECC


Generation Resources as of 2020
Hydro Generation
Population Density
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000

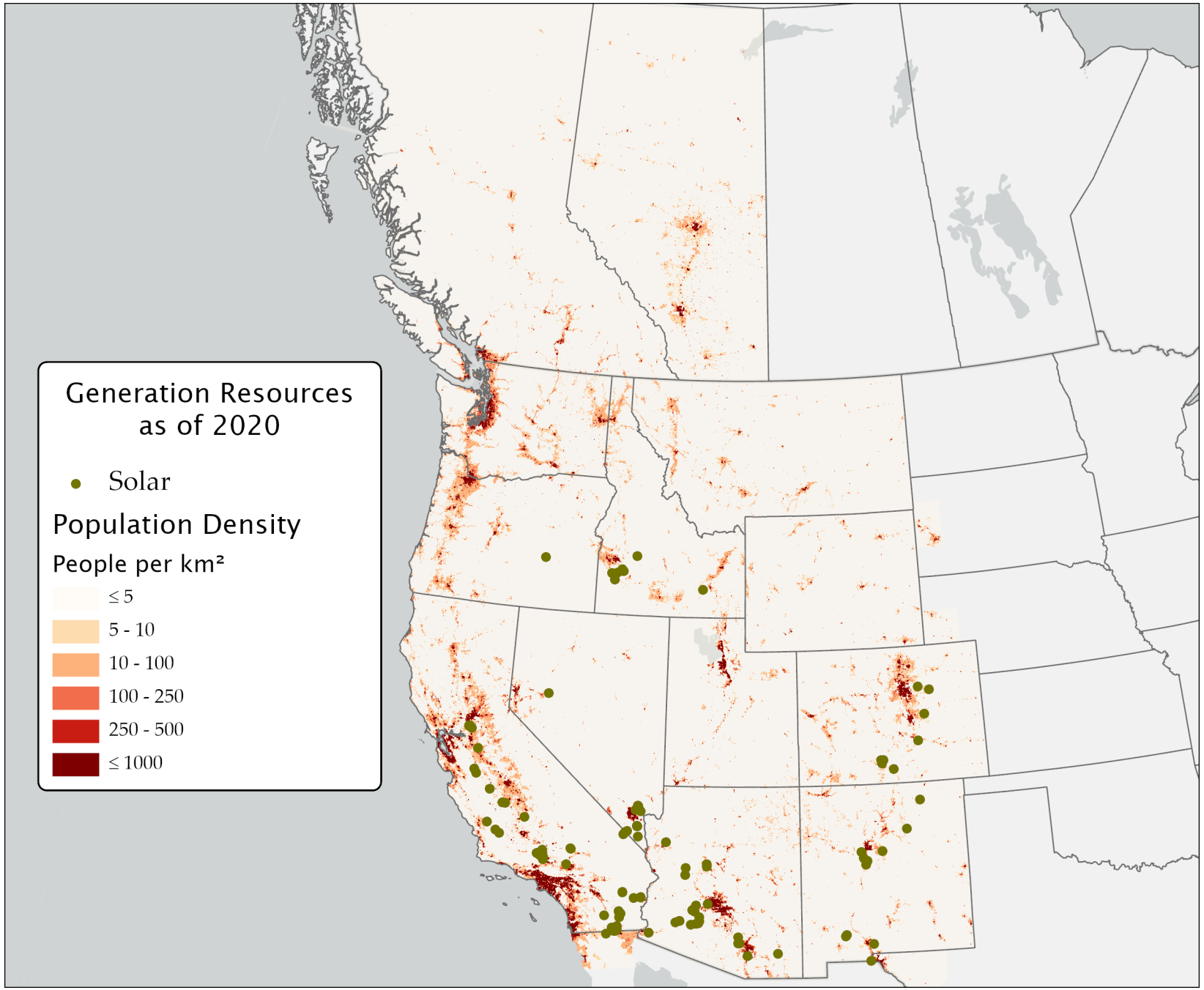
WECC


Generation Resources as of 2020
Natural Gas
Population Density
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000

WECC

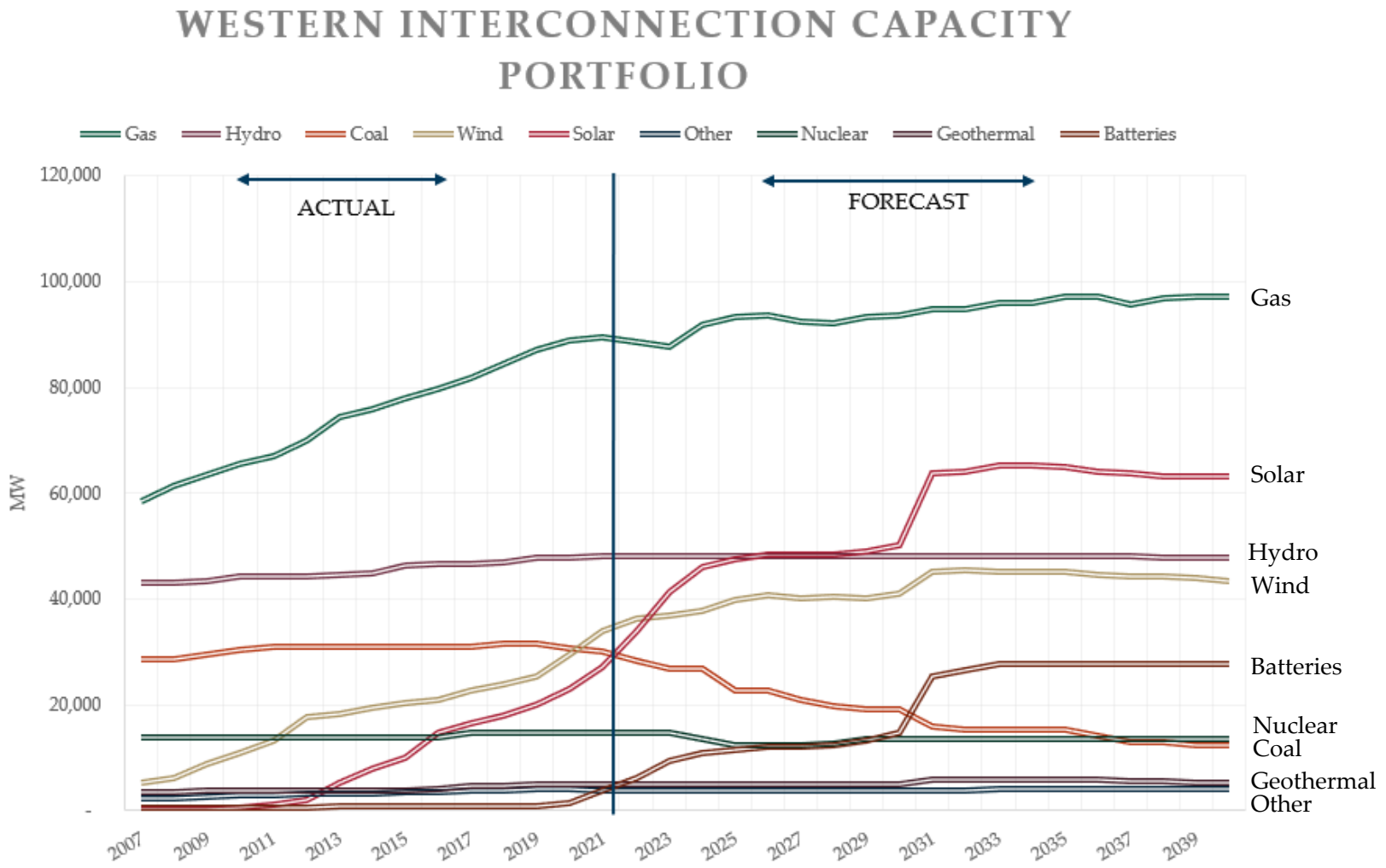

Generation Resources as of 2020
Wind
Population Density
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000

WECC


Generation Resources as of 2020
Solar
Population Density
People per km²
≤ 5
5 - 10
10 - 100
100 - 250
250 - 500
≤ 1000

WECC

The Future


WESTERN INTERCONNECTION CAPACITY PORTFOLIO
Gas
Hydro
Coal
Wind
Solar
Other
Nuclear
Geothermal
Batteries
ACTUAL
FORECAST
MW
120,000
100,000
80,000
60,000
40,000
20,000
-
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031
2033
2035
2037
2039
Gas
Solar
Hydro
Wind
Batteries
Nuclear
Coal
Geothermal
Other

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Electric Reliability and Security for the West

Contact:

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