

GREEN NEIGHBOR CHALLENGE BENEFITS



Switching 2% of home electricity to wind or solar would generate

\$983 Million

in public health benefits annually at a collective consumer cost of

\$408 Million

So for every

\$1 spent

on green pricing, there's

\$2.41 saved

in avoided public health harms

On a Five-Year budget of

\$5 Million

we expect to turn every

\$1 donated

into

\$112 saved

plus the economic and ecological benefits!

THREE PRIMARY TYPES OF BENEFITS

1. Economic Benefits - Green Investment and Green Jobs
2. Public Health Benefits - From Avoided Emissions
3. Ecological Benefits - Climate, Wildlife, Land, and Water

ECONOMIC BENEFITS

Starting from our intended goal to help 2% of homes (with access) switch to green electricity, we identified for each state, the quantity and value of residential energy use through the Energy Information Agency's, EIA-861 2018 sales data.

The total revenue from this energy was \$2.5 Billion,¹ so excluding the ~17% that is already tied to renewable generation, we estimate the Green Neighbor Challenge will shift \$2.1 Billion in utility payments towards green generation and distribution.²

Using the National Renewable Energy Lab's (NREL) 2017 average cost of green pricing, we estimate an extra \$408 million will be generated by subscribers supporting generators directly or indirectly through Renewable Energy Credit (REC) Markets.³

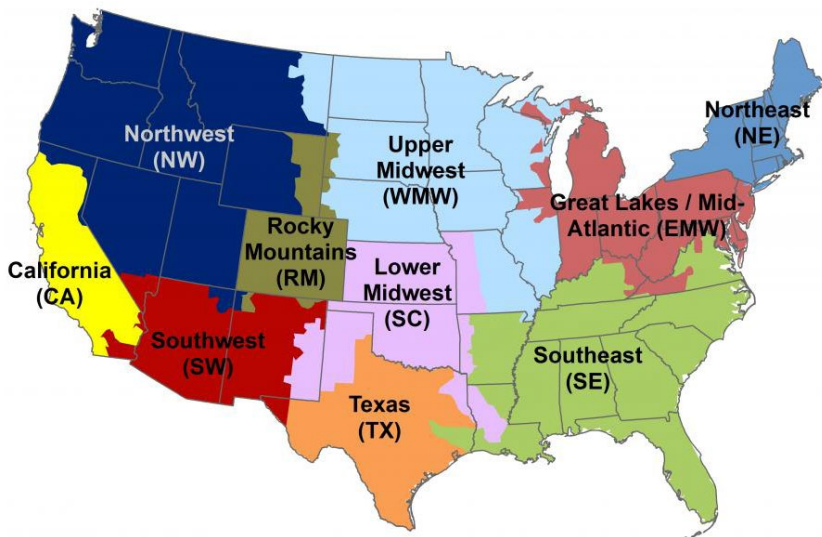
Using EPA figures, this demand would support construction of 2,470 average turbines, or 15,120 football fields of solar panels. This corresponds to 45% of all new wind and solar installations in 2019, significantly accelerating investment and new jobs.⁴

PUBLIC HEALTH BENEFITS

Taking state energy values further, a recent EPA study, "Estimating the Health Benefits per-Kilowatt Hour of... Renewable Energy" calculated outdoor air-quality benefits for ten US regions while accounting for exposure and existing energy mix.

Using a 50/50 wind and solar mix, high particulate matter (PM 2.5) sensitivity, and state apportionments, a 2% switch in eligible homes would produce upwards of \$953 million in public health benefits each year, even as tariffs fall.⁵

Estimating the Health Benefits per-Kilowatt Hour of Energy Efficiency and Renewable Energy, EPA 2019



Above is the EPA provided map of the energy regions. On the right we include a table of our calculated benefits by state.

NOTE: We opted for the high PM 2.5 sensitivity figures because they're based on a more recent scientific study and [emerging research](#) in public health is consistently connecting a widening range of health impacts to particulate matter pollution.⁹

ECOLOGICAL BENEFITS

Assuming additional renewables on the grid largely displace coal (80%) and to a lesser extent natural gas (20%), every kWh of green electricity would save just under 2 lbs of CO2.⁶ With 2% of homes switching, it would be equivalent to taking 3.3 million cars off the road or planting a new forest the size of Maine.⁷

Coal plants are also the largest human source of mercury pollution (42%). Our efforts could reduce mercury emissions by about 646 lbs, or enough mercury to poison a years worth of home water usage for 1.6 million average Americans.^{8a}

We could also avoid 18,500 tons of sulfur-dioxide (acid rain),^{8b} 15,750 tons of nitrogen oxides (smog),^{8c} and 1,838,000 tons of coal ash (soot) to the benefit of soils, water, air, and wildlife.^{8d}

CONTACT US

To learn more, email us at Team@GreenNeighborChallenge.org or read more about us at GreenNeighborChallenge.org.

SOURCES

- 1,2,3,4,5,6,7,8a-d: [In-Depth Calculations and Citations](#)
- 9: [User's Manual for the COBRA Health Impacts Tool](#), Pg 43 (2018)

State	2% Residential Change (MWh)	Estimated Health Benefit
AL	602,063	\$23,935,971
AR	88,592	\$3,708,896
AZ	596,157	\$9,227,611
CA	1,300,860	\$10,593,959
CO	320,163	\$6,920,544
CT	248,166	\$9,748,486
DE	56,786	\$4,508,805
FL	903,802	\$8,164,344
GA	1,146,031	\$46,100,881
IA	248,272	\$15,927,850
ID	149,706	\$3,761,565
IL	944,518	\$55,782,654
IN	479,533	\$34,040,831
KS	130,468	\$3,791,953
KY	443,862	\$18,657,479
LA	117,360	\$5,072,206
MA	347,405	\$13,045,885
MD	557,364	\$44,237,058
ME	97,440	\$3,713,634
MI	638,295	\$48,510,249
MN	375,745	\$24,196,407
MO	455,780	\$19,648,318
MS	153,955	\$3,796,572
MT	84,819	\$2,100,038
NC	926,935	\$34,067,357
ND	40,980	\$1,836,443
NE	105,180	\$5,444,231
NH	92,820	\$3,648,115
NJ	590,614	\$40,579,889
NM	132,946	\$2,339,814
NV	218,289	\$4,784,213
NY	1,043,065	\$30,643,161
OH	894,383	\$70,985,593
OK	422,741	\$20,191,859
OR	378,612	\$8,744,226
PA	1,063,443	\$83,437,753
RI	61,918	\$2,455,783
SC	416,446	\$14,760,729
SD	29,608	\$2,033,011
TN	865,729	\$35,000,055
TX	3,145,358	\$115,634,536
UT	171,393	\$3,395,005
VA	790,021	\$33,675,614
VT	42,321	\$1,260,105
WA	706,780	\$15,956,609
WI	411,263	\$29,070,533
WV	40,411	\$3,016,018
WY	33,868	\$767,540
Total	23,112,265	\$982,920,386

Green Neighbor Challenge is a Fiscally Sponsored Project of the Power Shift Network, 501(c)(3).

