

GREEN NEIGHBOR CHALLENGE BENEFITS



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

\$953 Million

in public health benefits annually at a collective consumer cost of

\$391 Million

So for every

\$1 spent

on green pricing, there's

\$2.44 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 additional \$391 Million will be generated by subscribers supporting generators directly or indirectly through Renewable Energy Credit (REC) Markets.³

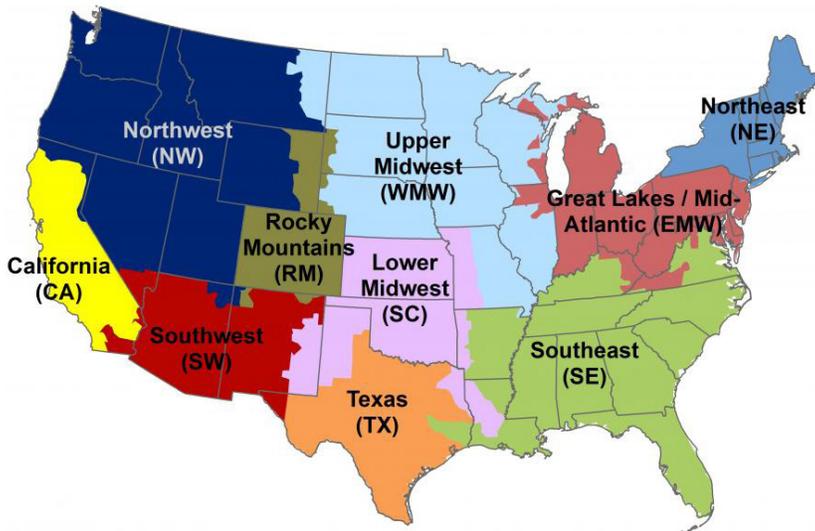
Using EPA figures, this demand would support construction of 2,470 average turbines, or 15,120 football fields of solar panels. This corresponds to 45% of all new wind and solar installations in 2019, significantly accelerating investment and new jobs.⁴

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 GreenNeighborChallenge@gmail.com or read more about us at GreenNeighborChallenge.com.

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	463,125	\$18,826,044
AR	269,629	\$11,287,945
AZ	485,244	\$8,176,364
CA	1,247,400	\$13,992,021
CO	270,017	\$6,291,404
CT	182,859	\$7,259,511
DE	70,982	\$5,636,007
FL	1,757,393	\$71,438,012
GA	835,647	\$33,969,070
IA	207,765	\$14,294,224
ID	117,986	\$3,061,739
IL	661,163	\$48,207,232
IN	484,045	\$38,433,197
KS	198,621	\$10,209,103
KY	387,978	\$17,184,520
LA	448,918	\$19,401,879
MA	283,985	\$11,274,222
MD	393,939	\$31,278,728
ME	68,208	\$2,707,858
MI	491,840	\$39,031,235
MN	319,720	\$21,996,733
MO	524,487	\$29,899,614
MS	270,347	\$11,073,334
MT	72,768	\$1,960,035
NC	862,714	\$35,069,339
ND	71,864	\$4,944,270
NE	145,768	\$10,028,846
NH	64,974	\$2,579,475
NJ	413,430	\$28,985,635
NM	95,570	\$1,706,114
NV	188,296	\$4,406,512
NY	730,145	\$28,986,774
OH	762,324	\$60,504,283
OK	337,635	\$16,844,018
OR	265,028	\$6,877,481
PA	782,550	\$62,134,497
RI	43,738	\$1,736,413
SC	445,934	\$18,127,212
SD	70,257	\$4,824,094
TN	621,347	\$25,257,772
TX	2,201,751	\$80,944,175
UT	136,003	\$2,829,170
VA	671,476	\$28,622,524
VT	29,625	\$1,176,098
WA	494,746	\$12,838,651
WI	314,226	\$23,124,288
WV	163,512	\$12,203,541
WY	38,477	\$959,426
Total	20,465,461	\$952,600,638

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

