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Top Solar Power States Per Capita (Updated) vs Top Solar Policy Leaders (CleanTechnica Exclusive)

June 25th, 2013 by Zachary Shahan

Last year, I put together rankings of the top solar power countries per capita, per GDP, and per TWh of electricity production. In January, I then created rankings of the top solar power states per capita and followed those up with rankings of the top solar power states per capita vs the top solar power countries per capita. Check out those previous rankings and some similar wind power rankings via the links on the bottom of this page.

Recently, I got **end-of-2012 solar state capacity data from GTM Research** — data that's included in GTM Research and **SEIA's** 4th quarter 2013 *US Solar Market Insight* report (the **Q1 2013 report** is out now). So, now, I used the provided data and state population data to put together updated top solar power states (per capita) rankings. Below are the top US solar states for *total solar power capacity per capita* and the top US solar states for *new solar power capacity*.

I've also received end-of-2012 solar capacity country data and will be updating those rankings and the "**top solar countries vs top solar states**" rankings in the coming days. Stay tuned! For now, here are the state solar rankings and some thoughts on how they compare with the top state solar policy rankings:

Top Solar Power States Per Capita (Total Solar Power Capacity)

Again, the **solar power capacity data come from GTM Research** and **SEIA**. The population data come from the **United States Census Bureau**, through **Wikipedia**.

Here's a chart of the leaders:

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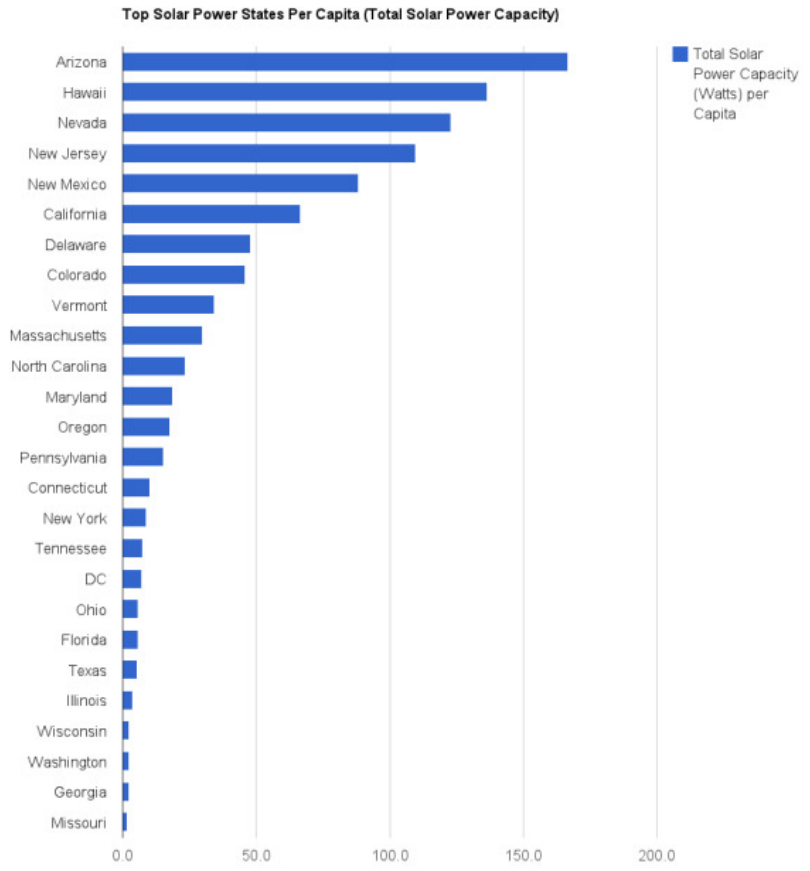

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And here's a table of the leaders:

Solar Energy

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Top Solar Power Countries
Top Solar Power States
Top Solar Countries vs Top Solar States

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State	Total Solar Power Capacity (Watts) per Capita	Total Solar Power Capacity (MW)	Population (2012)
Arizona	166.9	1,093.5	6,553,255
Hawaii	136.5	190.0	1,392,313
Nevada	122.9	339.1	2,758,931
New Jersey	109.6	971.4	8,864,590
New Mexico	88.4	184.4	2,085,538
California	66.7	2,537.4	38,041,430
Delaware	47.8	43.8	917,092
Colorado	46.0	238.5	5,187,582
Vermont	34.2	21.4	626,011
Massachusetts	29.7	197.6	6,646,144
North Carolina	23.5	229.1	9,752,073
Maryland	18.6	109.2	5,884,563
Oregon	17.7	69.1	3,899,353
Pennsylvania	15.4	196.3	12,763,536
Connecticut	10.2	36.6	3,590,347
New York	8.9	174.8	19,570,261
Tennessee	7.6	49.1	6,456,243
DC	7.3	4.6	632,323
Ohio	5.8	67.0	11,544,225
Florida	5.8	111.3	19,317,568
Texas	5.3	138.7	26,059,203
Illinois	3.6	46.2	12,875,255
Wisconsin	2.5	14.2	5,726,398
Washington	2.3	16.1	6,897,012
Georgia	2.3	22.5	9,919,945
Missouri	1.7	10.3	6,021,988

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Top Solar Power States Per Capita (New Solar Power Capacity)

Here are the leaders in new solar power per capita, for solar power installed in 2012 (again, **solar power capacity data come from GTM Research** and **SEIA**, while population data come from the **United States Census Bureau**).

Why German Solar Is ½ Cost of US Solar

10 Solar Lessons From Germany

Shell: Solar To Be #1 Source Of Energy

Solar Energy Facts & Solar Power Facts

Wind Energy

About Wind Energy

Top Wind Power Countries Per Capita

Top Wind Power Countries Per GDP

Wind Power Is #1 Source of New Power in US

Wind Generation Is #1 in Spain

Wind = Over 30% of Electricity in Denmark

Wind Energy Facts

Clean Energy

What Is Clean Energy?

100% Renewable Energy Possible?

How Much Renewable Energy Will Be Installed In 2030? 2040? 2050?

Renewable Energy Big Pic

Clean Energy Needed Now!

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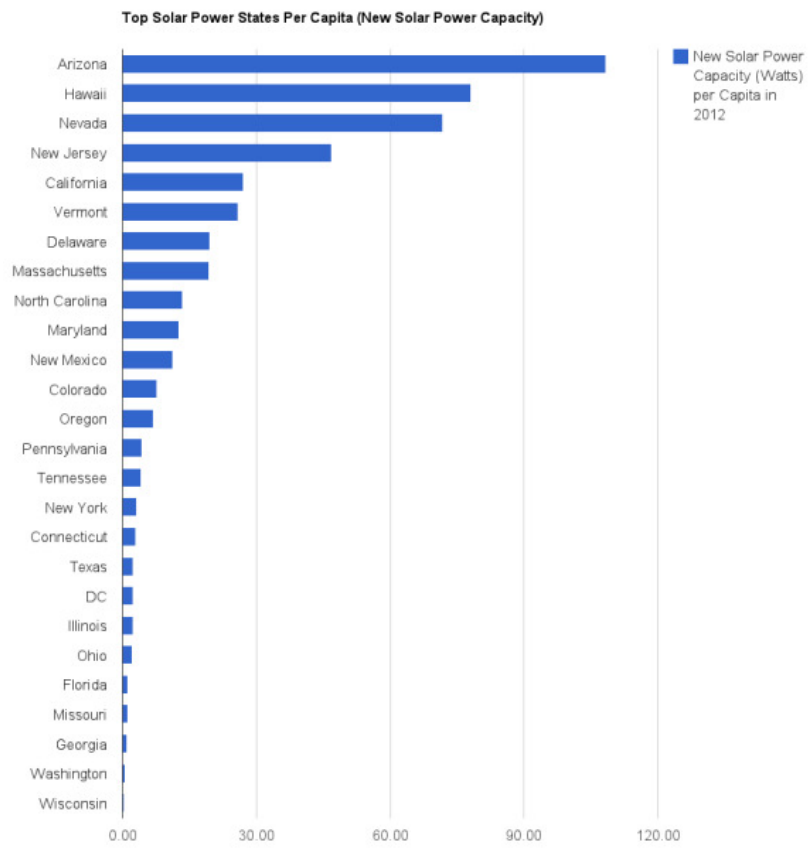

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Image Credit: Zachary Shahan / CleanTechnica

And the table:

State	New Solar Power Capacity (Watts) per Capita in 2012	New Solar Power Capacity in 2012 (MW)	Population (2012)
Arizona	108.39	710.3	6,553,255
Hawaii	78.07	108.7	1,392,313
Nevada	71.77	198.0	2,758,931
New Jersey	46.80	414.9	8,864,590
California	27.15	1,032.7	38,041,430
Vermont	25.88	16.2	626,011
Delaware	19.52	17.9	917,092
Massachusetts	19.39	128.9	6,646,144
North Carolina	13.53	131.9	9,752,073
Maryland	12.63	74.3	5,884,563
New Mexico	11.27	23.5	2,085,538
Colorado	7.69	39.9	5,187,582
Oregon	6.87	26.8	3,899,353
Pennsylvania	4.26	54.4	12,763,536
Tennessee	4.17	26.9	6,456,243
New York	3.09	60.5	19,570,261
Connecticut	3.04	10.9	3,590,347
Texas	2.46	64.1	26,059,203
DC	2.37	1.5	632,323
Illinois	2.36	30.4	12,875,255
Ohio	2.17	25.0	11,544,225
Florida	1.25	24.2	19,317,568
Missouri	1.13	6.8	6,021,988
Georgia	1.06	10.5	9,919,945
Washington	0.55	3.8	6,897,012
Wisconsin	0.24	1.4	5,726,398

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Thoughts?

Some of the things that stand out to me are that the top 4 states for solar power capacity (total and new) per capita — Arizona, Hawaii, Nevada, and New Jersey — don't top Solar Power Rocks' list of the **top solar power policy states**. Arizona is #7 on that list, Hawaii is #18, Nevada is #19, and New Jersey is #9. Naturally, Arizona, Nevada, and Hawaii all have good solar radiation levels (which is not a factor in Solar Power Rocks' ranking). Additionally, **Hawaii has very expensive electricity** — electricity prices are taken into account in that ranking, but they are not a huge factor in the total score. None of that explains New Jersey's solar power per capita leadership, which I think is partly driven by relatively high electricity prices but is largely driven by some very strong solar policies the state has had.

The solar policy leaders, according to Solar Power Rocks, and their rankings according to new solar power per capita (in parentheses) are as follows:

1. Massachusetts (#8)
2. Maryland (#10)
3. New York (#16)
4. Delaware (#7)
5. Colorado (#12)
6. DC (#19)

7. Arizona (#1)
8. New Mexico (#11)
9. New Jersey (#3)
10. Illinois (#20)

So, they're all within the top 20 per capita, at least. However, they certainly aren't a close match.

Doing the same comparison but reversed — the total solar power per capita leaders listed below and their solar policy ranking in parentheses — here's the result:

1. Arizona (#7)
2. Hawaii (#18)
3. Nevada (#19)
4. New Jersey (#9)
5. New Mexico (#8)
6. California (#12)
7. Delaware (#4)
8. Colorado (#5)
9. Vermont (#15)
10. Massachusetts (#1)

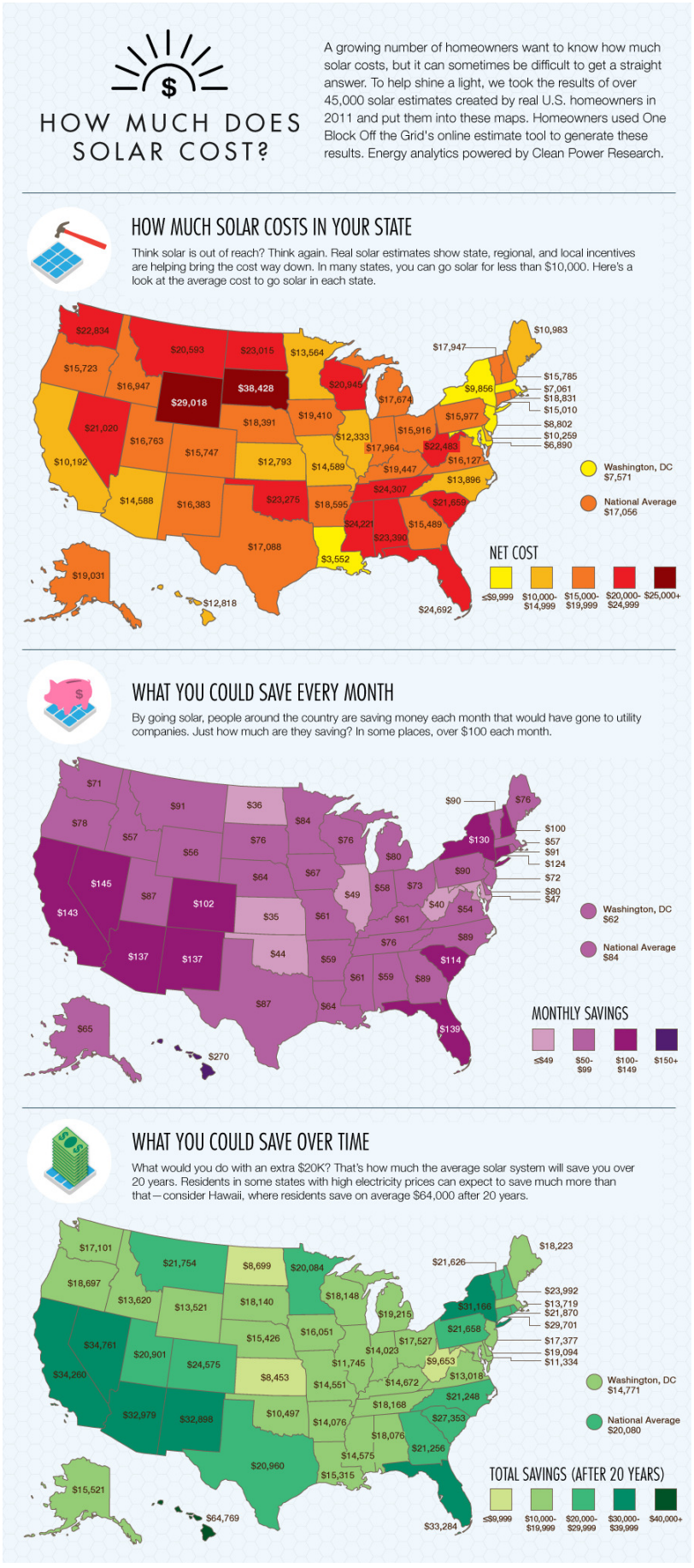
And, just to be comprehensive, here's a comparison of the *new solar power per capita* leaders and their solar policy rankings (almost the same as the list above):

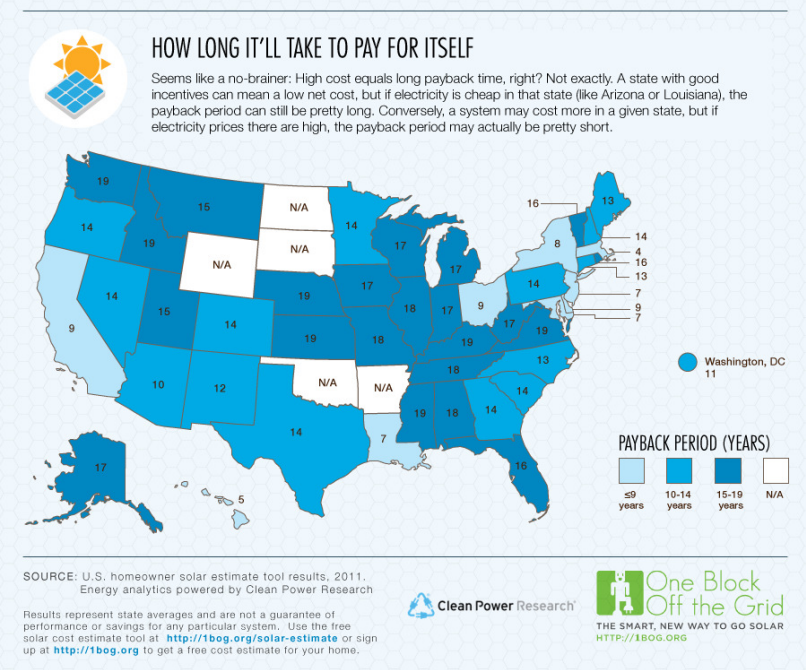
1. Arizona (#7)
2. Hawaii (#18)
3. Nevada (#19)
4. New Jersey (#9)
5. California (#12)
6. Vermont (#15)
7. Delaware (#4)
8. Massachusetts (#1)
9. North Carolina (#14)
10. Maryland (#2)

So, clearly, the top solar power capacity lists don't differ ***too*** much from the top solar policy list, but they do differ quite a bit.

One last interesting point I'll note is that 5 of the 7 states with the best payback over 20 years (all surpassing $30,000 in savings) **based on this 2011 research** (see infographic below) are also in the top 6 for total solar power capacity per capita. Now that's some correlation!

Those states are Hawaii, Arizona, Nevada, New Mexico, and California. The two states that didn't make it very high in the solar power per capita ranking despite high savings over 20 years are Florida and New York. Notably, **New York has great solar policies**,… but it includes New York City, which has millions and millions of people living in apartments. Meanwhile, Florida's solar policies are quite lame. It ranked **#23 on Solar Power Rocks' list**. That is likely holding residents back from going solar in The Sunshine State. I also wonder if Florida's high number of retirees has anything to do with the low solar power per capita ranking — they might see a **solar power investment** as less attractive than younger homeowners.


HOW MUCH DOES SOLAR COST?
A growing number of homeowners want to know how much solar costs, but it can sometimes be difficult to get a straight answer. To help shine a light, we took the results of over 45,000 solar estimates created by real U.S. homeowners in 2011 and put them into these maps. Homeowners used One Block Off the Grid's online estimate tool to generate these results. Energy analytics powered by Clean Power Research.
HOW MUCH SOLAR COSTS IN YOUR STATE
Think solar is out of reach? Think again. Real solar estimates show state, regional, and local incentives are helping bring the cost way down. In many states, you can go solar for less than $10,000. Here's a look at the average cost to go solar in each state.
$22,834
$20,593
$23,015
$13,564
$17,947
$10,983
$15,723
$16,947
$38,428
$20,945
$9,856
$15,785
$29,018
$17,674
$7,061
$18,831
$18,391
$19,410
$15,977
$15,010
$21,020
$16,763
$15,747
$12,333
$15,916
$8,802
$17,964
$22,483
$10,259
$10,192
$12,793
$14,589
$19,447
$16,127
$6,890
$24,307
$13,896
$14,588
$16,383
$23,276
$18,595
$21,659
$24,221
$15,489
$23,390
$17,088
$3,552
$19,031
$12,818
$24,692
Washington, DC $7,571
National Average $17,056
NET COST
≤$9,999
$10,000-$14,999
$15,000-$19,999
$20,000-$24,999
$25,000+
WHAT YOU COULD SAVE EVERY MONTH
By going solar, people around the country are saving money each month that would have gone to utility companies. Just how much are they saving? In some places, over $100 each month.
$71
$91
$36
$84
$90
$76
$78
$57
$76
$76
$130
$100
$56
$80
$57
$64
$67
$90
$91
$145
$87
$102
$49
$58
$73
$72
$124
$40
$80
$143
$35
$61
$61
$54
$47
$137
$137
$44
$59
$76
$89
$114
$61
$59
$89
$87
$64
$65
$270
$139
Washington, DC $62
National Average $84
MONTHLY SAVINGS
≤$49
$50-$99
$100-$149
$150+
WHAT YOU COULD SAVE OVER TIME
What would you do with an extra $20K? That's how much the average solar system will save you over 20 years. Residents in some states with high electricity prices can expect to save much more than that—consider Hawaii, where residents save on average $64,000 after 20 years.
$17,101
$21,754
$8,699
$20,084
$21,626
$18,223
$18,697
$13,620
$13,521
$18,140
$18,148
$19,215
$31,186
$23,992
$13,719
$21,870
$34,761
$20,901
$24,575
$15,426
$16,051
$21,658
$29,701
$14,023
$17,527
$17,377
$34,260
$8,453
$11,745
$9,653
$19,094
$14,551
$14,672
$13,018
$11,334
$32,979
$32,898
$10,497
$14,076
$18,168
$21,248
$27,353
$18,076
$21,256
$20,960
$14,575
$15,315
$15,521
$64,769
$33,284
Washington, DC $14,771
National Average $20,080
TOTAL SAVINGS (AFTER 20 YEARS)
≤$9,999
$10,000-$19,999
$20,000-$29,999
$30,000-$39,999
$40,000+



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Anyway, those are my initial thoughts. Yours?

And while you're thinking, here are those links to previous *CleanTechnica* rankings that I mentioned at the top of the post:

1. Top Solar Power States Per Capita
2. Top Solar Power Countries (Per Capita, Per GDP, Per TWh of Electricity Produced, & in Total)
3. Top Solar Power States vs Top Solar Power Countries
4. Most Solar-Friendly States — 2013 State Solar Policy Rankings (Infographic)
5. Top Wind Power Countries Per Capita
6. Top Wind Power Countries Per GDP

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About the Author

Zachary Shahan is the director of CleanTechnica, the most popular cleantech-focused website in the world, and Planetsave, a world-leading green and science news site. He has been covering green news of various sorts since 2008, and he has been especially focused on solar energy, electric vehicles, and wind energy since 2009. Aside from his work on CleanTechnica and Planetsave, he's the founder and director of Solar Love, EV Obsession, and Bikocity. To connect with Zach on some of your favorite social networks, go to ZacharyShahan.com and click on the relevant buttons.

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The last one could be labeled "Could you use an extra $20k, $30k when you retire?"

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