NC SUSTAINABLE ENERGY ASSOCIATION

Increased North Carolina County Tax Revenue from Solar Development - 2022 Update

September 2022

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About North Carolina Sustainable Energy Association:
North Carolina Sustainable Energy Association (NCSEA) is the leading 501(c)(3) nonprofit organization that drives public policy and market development for clean energy. Our work enables clean energy jobs, economic opportunities, and affordable energy options for North Carolinians. For over forty years, our mission-driven business model has furthered the transformation of North Carolina energy policy, markets, and systems that create an affordable, resilient, and secure clean energy future.

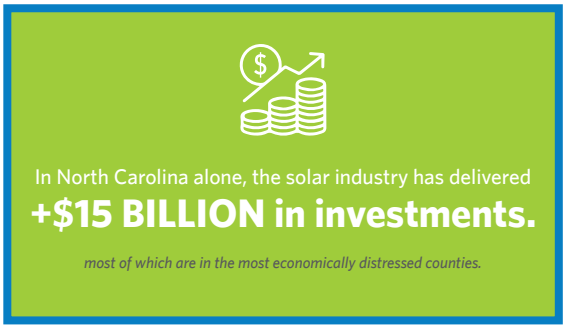
Executive Summary

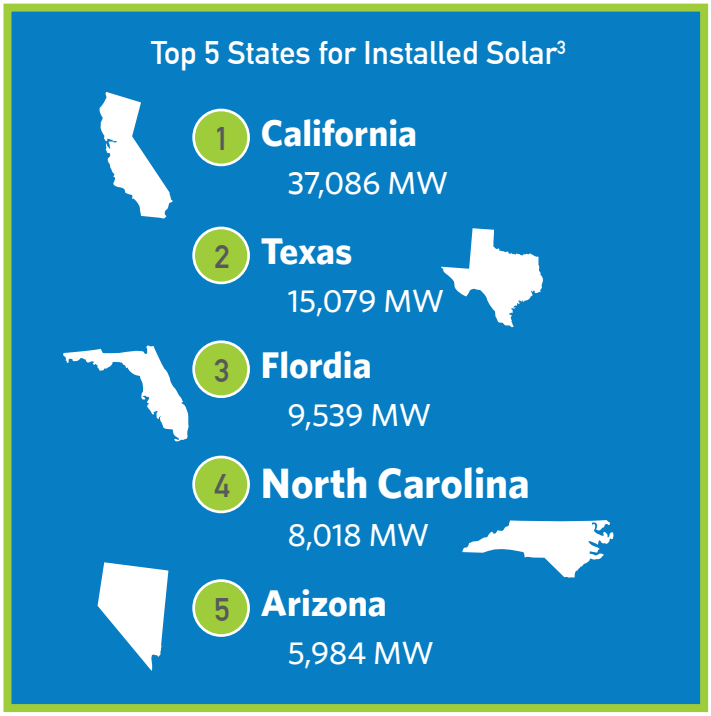
Across North Carolina, the clean energy industry, and more specifically solar, has been a significant economic engine, bringing jobs and investment to nearly all 100 counties. As of the end of June 2022, the Tar Heel state was ranked fourth in the nation in installed solar with 8,018 megawatts (MW)[1]. In total, the solar industry employs nearly 7,000 North Carolinians and has delivered over $15 billion in investments – most of which are in the most economically distressed counties (57% in Tier 1 and 27% in Tier 2)[2]. Additionally, solar photovoltaic (PV) systems generate tax revenue for counties based on the location of installation without creating the need for additional infrastructure or government services, such as schools, police, or water/sewer.

Check out this video to hear more about the economic opportunities solar presents to rural counties in North Carolina.

Featuring NC Rep. Larry Strickland (R-Johnston), Martin County farmer Ken Gurganus, and President of the Clayton Chamber of Commerce Dana Wooten

Using GIS footprints of solar PV systems 1 MW or more in nameplate generating capacity, NCSEA identified the specific parcels on which these systems were located and searched publicly available county property tax sources to track tax payments before and after installation. This report serves as an update to versions that NCSEA has conducted and includes new tax data from systems installed in 2020, 2021, and 2022.





1. Solar Energy Industries Association. https://seia.org/state-solar-policy/north-carolina-solar
2. RTI. "Economic Impact Analysis of Clean Energy Development in North Carolina – 2021 Update." energync.org/wp-content/uploads/2021/06/NCSEA_2021_Final_06222021.pdf
3. Solar Energy Industries Association. "Solar State by State." https://seia.org/states-map

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Property taxes paid on parcels with utility-scale solar PV systems were $12.7 million, compared to $1.4 million before installation. Figure 1 (page 5) shows the taxes paid before and after the systems tax data for all 77 counties included in this report is in Appendix 1.

Table 1. Summary of Annual Property Taxes Paid on Real Estate Parcels with Solar Projects for all Utility-Scale Solar PV Systems in NC

Data represents taxes collected in the year before and after a large solar project was built.
Source: County Tax Offices, North Carolina Utilities Commission and NCSEA Renewable Energy Database

Category	Amount
Total taxes before solar	$1,420,436
Total taxes after solar	$12,688,053
Total increase	$11,267,617
Total % increase	793%
Average increase	$146,333
Average % increase	1682%
Average increase per system	$15,038
Average increase per MW	$1,980

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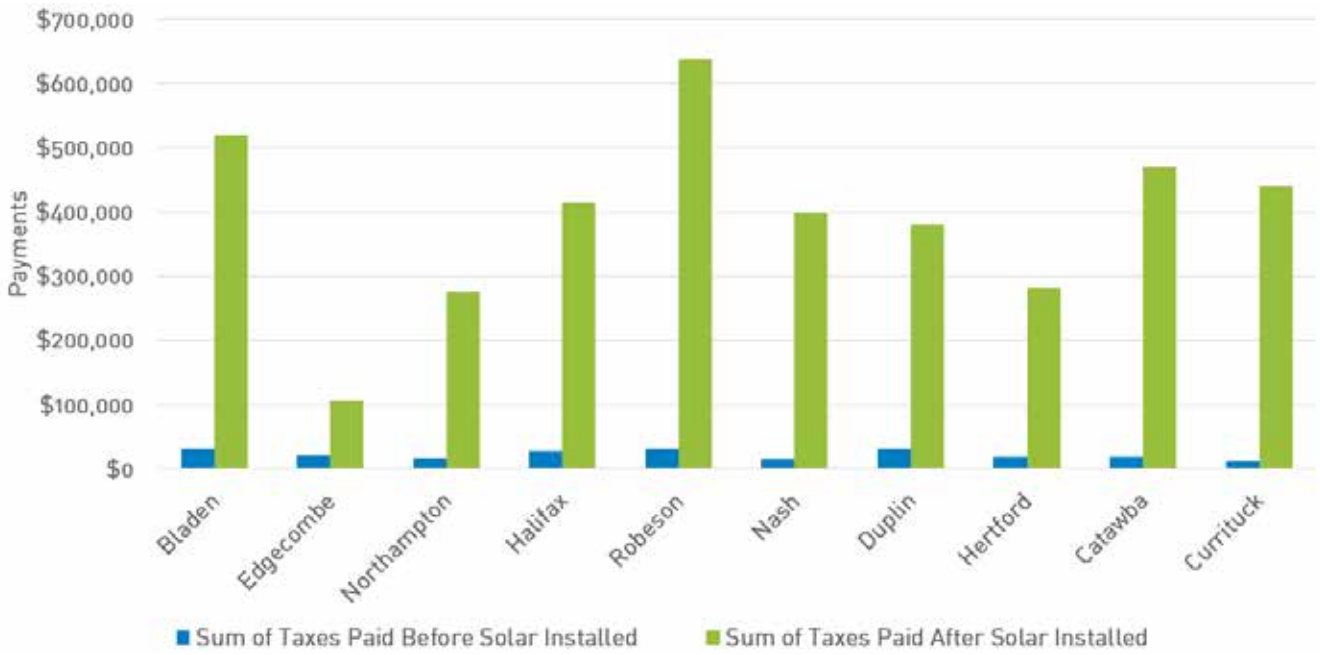
Figure 1. Before and After Property Tax Revenue for 10 Counties with Most Solar PV

*Data represents taxes collected in the year before and after a large project was built.
Source: County Tax Offices, North Carolina Utilities Commission and NCSEA Renewable Energy Database



North Carolina Property Taxes and Abatements Primer

In North Carolina, real estate taxes are the responsibility of both counties and cities and are based on a valuation of all property within that county and city. The taxes consist of two parts: 1) Real property taxes, which consist of land and buildings, and 2) Personal property taxes, consisting of equipment, such as trucks, machinery, and solar equipment. Solar PV systems increase both real property and personal property taxes (Map 1).

Large-scale solar PV generally increases the real property taxes paid on a parcel of land by classifying the land as having a "commercial" use, which increases the assessed real property taxes compared to other land uses. Solar PV also increases personal property tax revenue because valuable new solar equipment is installed on the property.

If the solar PV system is located on agricultural land that formerly had a 75 percent reduction in its tax valuation, these systems can owe a roll-back tax that reclaims the difference for the three years before the land use changed. In almost all cases, the private owners of the solar facilities, and not the rural landowners, pay all three of these taxes.

Discussions of eliminating North Carolina's personal property tax abatement for solar energy have claimed that solar costs the counties instead of benefiting them. This study clearly demonstrates that this is not the case because even though the personal property tax on the new solar equipment receives an 80 percent reduction in valuation (N.C. G.S. § 105-275 section 45), the personal property taxes collected after solar PV has been developed is significantly more than what was previously collected. Furthermore, the real property taxes are still assessed at a 100 percent valuation.

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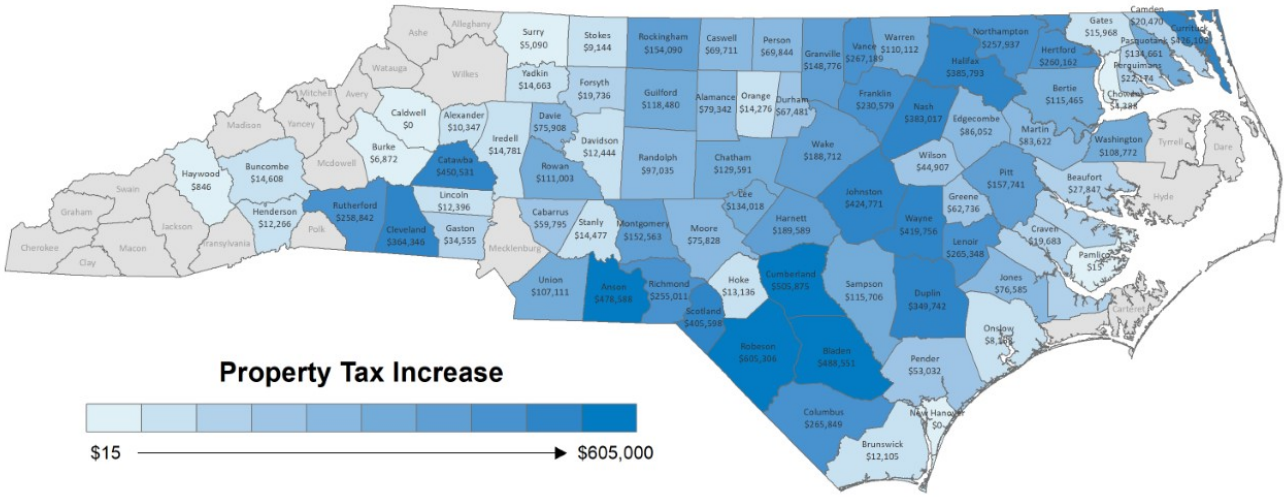
As one of the 35 active property tax exemptions in the state under North Carolina General Statute § 105-275, the personal property tax abatement for solar energy is clearly attracting new development across the state and providing significantly more property tax revenue than counties received prior to solar installation. These new tax dollars can be used on schools and local services and are an effective economic development tool for otherwise struggling rural parts of the state.

Figure 2. Increase in Annual Property Tax Revenue for Tax Year After Solar System Developed



"I've seen firsthand the economic benefits of solar projects in and around Harnett County. In addition to producing 'home-grown' energy, solar projects generate reliable revenue for farmers who lease their land for solar. They're a much needed, property tax generating asset for our local governments and help pay for the services that our citizens need. Solar projects have been vitally important to rural communities across North Carolina over the last decade."

- Brooks Matthews
Harnett County Commissioner
R-Buies Creek

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Methodology

NC Sustainable Energy Association collected data from February to May 2022 from county property tax offices based on solar PV system information filed with the NC Utilities Commission to supplement tax information collected in previous iterations of this study.

For each solar PV system 1 MW or more in nameplate capacity listed in NCSEA's Renewable Energy Database, NCSEA drew a GIS footprint and overlaid that footprint on top of county parcel GIS maps to identify the individual parcels on which the systems are located. Then, NCSEA researched the county websites and recorded the real property taxes paid before and after the solar PV systems were installed, including the rollback taxes when applicable. When necessary, NCSEA contacted the county tax offices directly when tax information was not available online.

To clarify, "before" tax data does not all come from one single year, instead, it comes from the year before an individual solar PV system was installed. Similarly, "after" tax data is not all from the same year either – it is from the year after an individual solar PV was installed. For example, if a system was installed in 2017, its "before" real property tax data comes from 2016 and its "after" tax data is from 2018. Systems in this report were installed between the years 2008-2022, so the data is from 2007-2022.

5 MW solar farm in Anson county, NCSEA member O2 emc

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Appendix 1. Tax Revenue Increase Before and After Solar in 77 Counties

Rank by Solar MWs	County	Capacity (MW)	# of Solar Projects	Total Property Tax Paid on Participating Parcels Before Solar	Total Property Tax Paid on Participating Parcels After Solar	Increase	Percent Increase
1	Bladen	331	16	$31,441	$519,992	$488,551	1554%
2	Edgecombe	281	8	$21,059	$107,112	$86,052	409%
3	Northampton	225	15	$18,196	$276,133	$257,937	1418%
4	Halifax	217	12	$28,674	$414,468	$385,793	1345%
5	Robeson	206	41	$32,264	$637,570	$605,306	1876%
6	Nash	190	27	$14,792	$397,809	$383,017	2589%
7	Duplin	178	32	$31,181	$380,923	$349,742	1122%
8	Hertford	175	14	$19,809	$279,971	$260,162	1313%
9	Catawba	175	14	$19,371	$469,902	$450,531	2326%
10	Currituck	160	4	$12,808	$438,913	$426,105	3327%
11	Beaufort	142	10	$2,275	$30,122	$27,847	1224%
12	Scotland	141	15	$195,054	$600,652	$405,598	208%
13	Cumberland	137	14	$3,700	$509,576	$505,875	13671%
14	Cleveland	137	23	$51,837	$416,183	$364,346	703%
15	Pender	134	7	$6,778	$59,810	$53,032	782%
16	Anson	130	7	$14,627	$493,215	$478,588	3272%
17	Wilson	128	13	$14,200	$59,107	$44,907	316%
18	Rutherford	127	11	$10,746	$269,589	$258,842	2409%
19	Wayne	124	29	$23,557	$443,313	$419,756	1782%
20	Warren	120	10	$7,051	$117,164	$110,112	1562%
21	Cabarrus	110	4	$1,967	$61,762	$59,795	3040%
22	Vance	108	13	$14,967	$282,156	$267,189	1785%
23	Jones	105	6	$3,403	$79,988	$76,585	2251%
24	Martin	102	15	$14,939	$98,561	$83,622	560%
25	Washington	99	3	$16,411	$125,183	$108,772	663%
26	Lenoir	98	12	$10,478	$275,826	$265,348	2532%
27	Johnston	97	26	$25,462	$450,233	$424,771	1668%
28	Pitt	89	9	$9,193	$166,934	$157,741	1716%
29	Franklin	86	10	$9,742	$240,322	$230,579	2367%
30	Union	80	5	$2,993	$110,104	$107,111	3579%
31	Richmond	75	7	$5,909	$260,920	$255,011	4316%
32	Columbus	69	15	$15,628	$281,478	$265,849	1701%
33	Montgomery	57	9	$4,879	$157,442	$152,563	3127%
34	Harnett	55	13	$7,295	$196,885	$189,589	2599%
35	Randolph	54	15	$20,295	$117,330	$97,035	478%
36	Perquimans	51	8	$2,809	$24,983	$22,174	789%
37	Rowan	47	11	$38,133	$149,136	$111,003	291%
38	Moore	46	10	$3,614	$79,442	$75,828	2098%
39	Chatham	45	11	$14,261	$143,852	$129,591	909%
40	Sampson	45	12	$10,730	$126,436	$115,706	1078%
41	Pasquotank	43	3	$3,597	$138,257	$134,661	3744%

Appendix 1. Tax Revenue Increase Before and After Solar in 77 Counties (continued)

Rank by Solar MWs	County	Capacity (MW)	# of Solar Projects	Total Property Tax Paid on Participating Parcels Before Solar	Total Property Tax Paid on Participating Parcels After Solar	Increase	Percent Increase
42	Davie	40	6	$7,233	$83,141	$75,908	1049%
43	Bertie	40	5	$2,629	$118,093	$115,465	4392%
44	Gaston	39	4	$4,988	$39,544	$34,555	693%
45	Alamance	39	8	$7,152	$86,494	$79,342	1109%
46	Craven	39	8	$2,500	$22,183	$19,683	787%
47	Onslow	38	6	$5,720	$13,887	$8,168	143%
48	Granville	37	8	$7,559	$156,335	$148,776	1968%
49	Lee	37	8	$32,780	$166,799	$134,018	409%
50	Camden	35	4	$1,826	$22,296	$20,470	1121%
51	Wake	31	11	$58,913	$247,624	$188,712	320%
52	Person	30	8	$8,805	$78,649	$69,844	793%
53	Surry	30	4	$25,358	$30,448	$5,090	20%
54	Rockingham	30	6	$15,328	$169,418	$154,090	1005%
55	Yadkin	28	8	$3,552	$18,215	$14,663	413%
56	Guilford	26	7	$5,697	$124,177	$118,480	2080%
57	Orange	20	5	$165	$14,441	$14,276	8626%
58	Caswell	18	4	$1,366	$71,077	$69,711	5103%
59	Davidson	17	2	$1,195	$13,639	$12,444	1041%
60	Durham	17	5	$107,248	$174,729	$67,481	63%
61	Chowan	15	3	$277	$4,664	$4,388	1587%
61	Gates	15	3	$2,547	$18,515	$15,968	627%
63	Hoke	15	3	$4,074	$17,209	$13,136	322%
64	Greene	14	4	$2,258	$64,994	$62,736	2778%
65	Burke	12	3	$4,148	$11,020	$6,872	166%
66	Brunswick	11	3	$3,508	$15,612	$12,105	345%
67	Alexander	11	3	$4,143	$14,490	$10,347	250%
68	Lincoln	10	2	$1,906	$14,302	$12,396	650%
69	Stanly	10	2	$3,074	$17,550	$14,477	471%
70	Iredell	10	2	$385	$15,165	$14,781	3843%
71	Stokes	9	2	$5,608	$14,752	$9,144	163%
72	Henderson	8	4	$17,320	$29,586	$12,266	71%
73	Forsyth	6	2	$777	$20,513	$19,736	2540%
74	Pamlico	5	1	$344	$360	$15	4%
75	Buncombe	5	3	$267,514	$282,122	$14,608	5%
76	New Hanover	3	2	$5,137	$5,137	$0	0%
77	Haywood	3	2	$1,273	$2,120	$846	66%

The following counties were not included in study because they did not have utility-scale solar PV systems: Alleghany, Ashe, Avery, Carteret, Cherokee, Clay, Dare, Graham, Hyde, Jackson, Macon, Madison, McDowell, Mecklenburg, Mitchell, Polk, Swain, Transylvania, Tyrrell, Watauga, Wilkes, and Yancey. Caldwell County was not included because its single system was installed in 2022 and did not have post-installation tax data available yet.