



NC SUSTAINABLE  
ENERGY ASSOCIATION

# Increased North Carolina County Tax Revenue From Utility-Scale Solar – 2025 Update

June 2025





NC SUSTAINABLE  
ENERGY ASSOCIATION

# Increased North Carolina County Tax Revenue From Utility-Scale Solar – 2025 Update

---

## June 2025

### Contributors

Jerry Carey, Shriya Nanugonda, Vansh Gogoi, Daniel Pate

### Designer

Peggy Knaack

### About North Carolina Sustainable Energy Association

For nearly 50 years, the North Carolina Sustainable Energy Association (NCSEA) has worked to enable clean energy jobs, economic opportunities, and affordable energy options for North Carolinians. As a 501(c)(3) nonprofit, NCSEA advances these goals through policy and market solutions in collaboration with nearly 300 members, including clean energy providers, nonprofits, corporations, local governments, and universities.





## EXECUTIVE SUMMARY

Across North Carolina, the solar industry has emerged as a powerful economic driver by creating jobs and attracting investment in nearly all 100 counties. As of Q4 2024, the Tar Heel State ranks fifth in the nation for installed solar capacity with a total of 9,668 megawatts (MW)<sup>1</sup>. The solar industry employs 9,819 North Carolinians<sup>2</sup> and renewable energy project investment in the state was \$1.2 billion in 2022<sup>3</sup>. Installers of utility-scale solar (USS) systems contribute significant tax revenue to counties, and the installations rarely necessitate additional government services such as schools, police, or water infrastructure.

This report spotlights the local tax revenue benefits of USS installations in counties throughout North Carolina, and serves as an update to previous report iterations from NCSEA. USS refers to larger solar installations that generate electricity to be fed into the grid, supplying power to a vast number of homes and businesses. Using Geographic Information Systems (GIS) footprints of solar installations 1 MW or more in nameplate generating capacity, NCSEA identified the specific parcels where these systems are located. We then searched publicly-available county property tax sources to determine tax payments made before and after installation. This report includes new tax data from systems installed in 2022, 2023, and 2024. This report also includes a section spotlighting tax revenue collected in Perquimans County from land that is the location of the Amazon Wind Farm.

In total, property taxes paid statewide on parcels with USS installations were **\$19.6 million**, compared to **\$2.0 million** before installation. Tax data insights for all 78 counties with USS installations included in this report can be found in Appendix 1.

---

1. Solar Energy Industries Association, "North Carolina State Solar Overview," accessed March 4, 2025. <https://seia.org/state-solar-policy/north-carolina-solar/>.

2. E2: North Carolina Home to 110K Clean Energy Jobs, #9 in U.S., as Industry Outpaces Overall Economy. Accessed on March 4, 2025. <https://e2.org/releases/clean-jobs-nc-2024/>.

3. RTI International: Economic Analysis of Clean Energy Development in North Carolina. Accessed May 14, 2025. [https://www.energync.org/wp-content/uploads/2024/04/NCSEA\\_2023\\_UPDATE\\_FINAL.pdf](https://www.energync.org/wp-content/uploads/2024/04/NCSEA_2023_UPDATE_FINAL.pdf).

**Table 1. Summary of Annual Property Taxes Paid on Real Estate Parcels with Solar Projects for all Utility-Scale Solar PV Systems in NC (78 counties)**

Data represents taxes collected in the year before and the year 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	\$2,025,942
Total taxes after solar	\$19,620,725
Total increase	\$17,594,783
Total % increase	868%
Average increase per county	\$225,574
Average % increase per county	1,801%
Average increase per system	\$22,281
Average increase per MW	\$2,864

Figure 1 (below) shows the taxes paid before and after the systems in each of the ten counties with the most total installed solar.

**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 solar project was built.

Source: County Tax Offices, North Carolina Utilities Commission and NCSEA Renewable Energy Database

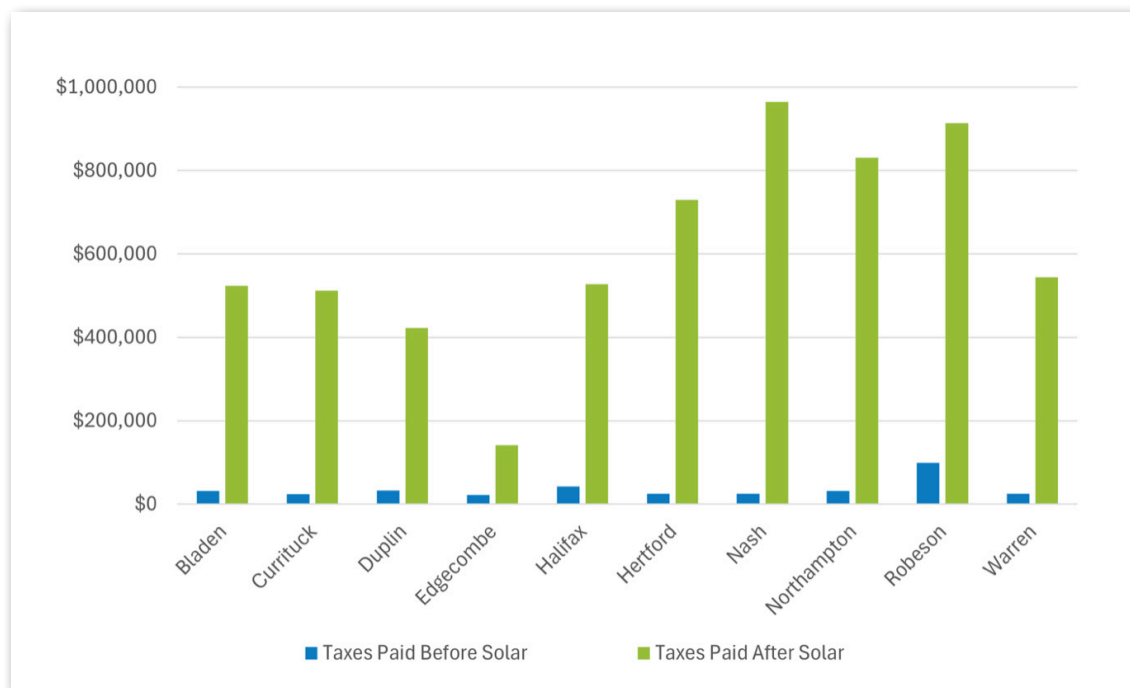




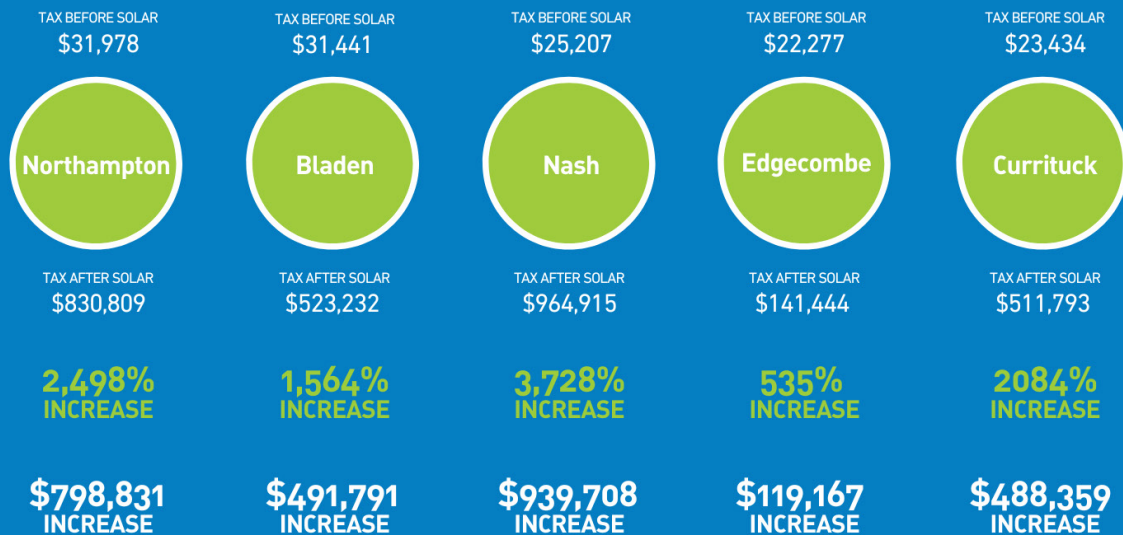
Figure 2: Highlights of 5 NC Counties with Significant Tax Revenue Increases Due to Solar



NC SUSTAINABLE  
ENERGY ASSOCIATION

2025

## Tax Revenue Increase Before and After Solar



In North Carolina, there is an average  
**\$225,574 INCREASE**  
IN TAX REVENUE PER COUNTY  
after solar is installed.





## **NORTH CAROLINA PROPERTY TAXES AND ABATEMENTS PRIMER**

In North Carolina, real estate taxes are levied by both counties and cities, based on the valuation of all property within their jurisdictions. These taxes are divided into two categories: a) real property taxes, which include land and buildings, and b) personal property taxes, which cover equipment such as trucks, machinery, and solar equipment. Solar PV systems contribute to increases in both real property and personal property taxes.

USS installations typically increase the real property taxes on a parcel of land by reclassifying it as a developed use, which raises the assessed real property taxes compared to other land uses, such as agriculture. Additionally, solar installations boost personal property tax revenue due to the valuable new solar equipment installed on the property.

If solar is installed on land that was previously used for agricultural, because this land type may have a significant tax reduction in its valuation compared to the reclassification land type, local governments may collect a roll-back tax. This tax recovers the difference in taxes for the three years prior to the land use change. Typically, the private owners of the solar facilities, rather than the rural landowners, are responsible for paying these taxes.

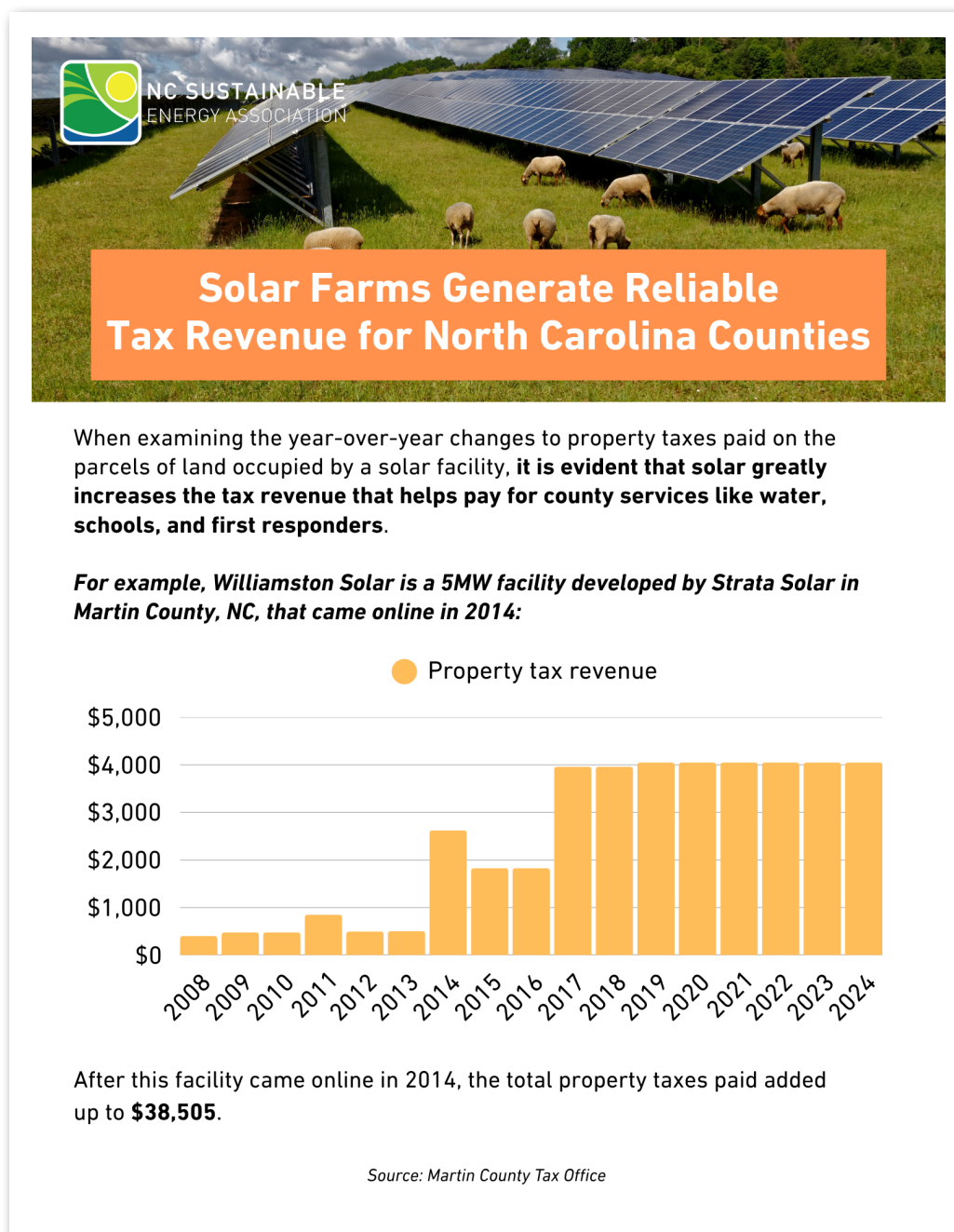
Discussions about eliminating North Carolina's personal property tax abatement for solar energy have suggested that solar has more costs for counties than benefits. However, this study clarifies that this is not the case. Even though the personal property tax on new solar equipment receives an 80% reduction in valuation (N.C. G.S. § 105-275 section 45)<sup>4</sup>, the personal property taxes collected after solar PV development are generally significantly higher than taxes previously collected from the land. Additionally, real property taxes continue to be assessed at 100% valuation.

---

4. N.C. General Assembly. Property classified and excluded from the tax base. Accessed March 5, 2025. [https://www.ncleg.gov/enactedlegislation/statutes/pdf/bysection/chapter\\_105/gs\\_105-275.pdf](https://www.ncleg.gov/enactedlegislation/statutes/pdf/bysection/chapter_105/gs_105-275.pdf)

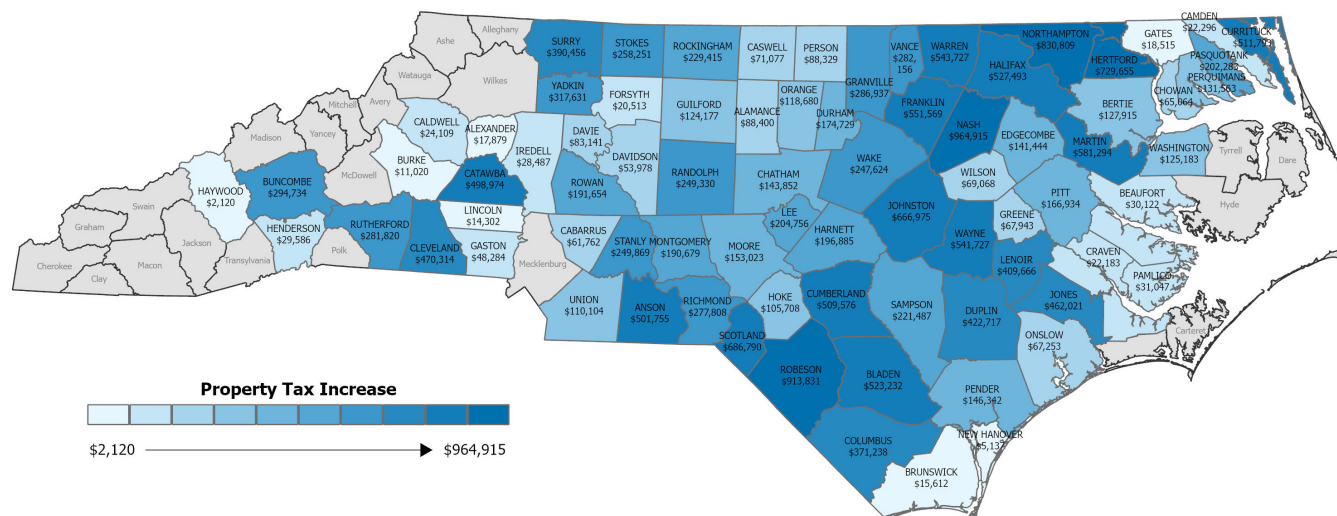


Figure 3: Case study of tax revenue collected from land hosting a 5MW facility in Martin County that came online in 2014.



A personal property tax abatement is a temporary reduction or elimination of taxes on personal property, such as equipment, to encourage investment and development. In this context, the abatement reduces the taxable value of solar equipment, making it more affordable for developers to invest in solar projects. This tax abatement for solar energy is critical to attracting investment across the state, while the increased property tax revenue for local governments can be used for much-needed services for residents, including schools, health care facilities, and public safety.

**Figure 4. Increase in Annual Property Tax Revenue by county for Tax Year After Solar System Installed**



## METHODOLOGY

The methodology for this project centered around two key approaches: identifying land parcels in the state containing a USS installation, and then collecting and analyzing property tax data on those parcels. NCSEA collected data from February to May 2025 from county property tax offices based on the locations of USS systems, which were retrieved from NCSEA's Renewable Energy Database (REDB). REDB data originates from filings at the NC Utilities Commission. The new tax data collected was added to property tax and solar data that had been collected in earlier iterations of this study.

For each USS system 1 MW or more in nameplate capacity, NCSEA generated a footprint via Geographic Information Systems (GIS) software to overlay on top of county parcel maps to identify the parcels on which the systems are located. Then, NCSEA took these parcels and researched each county's website to collect real property and personal taxes paid before and after the solar installations. NCSEA also collected information on rollback taxes when applicable. When necessary, NCSEA contacted the county tax offices directly when tax information was not available online.

For clarity, "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 solar was installed. For example, if a system was installed in 2023, its "before" real property tax data comes from 2022 and its "after" tax data is from 2024. Systems in this report were installed in the window of 2008-24, so the data is from 2007-24.

NCSEA followed the same data collection methods for this report as previous report iterations. It should be noted that establishing a uniform data collection process was not possible due to variations in county record-keeping practices, data accessibility, and tax assessment processes. In some instances, only partial or no tax data was available; therefore, the tax figures presented in this report should be viewed as conservative estimates. This inherent variability in data collection means that the reported numbers may not fully capture the extent of tax revenue generated by solar installations across all counties.



**SPOTLIGHT: LOCAL TAX REVENUE FROM ONSHORE WIND**  
**Perquimans County**

The Amazon Wind Farm US East, also known as the Desert Wind Farm, is located in Perquimans and Pasquotank counties in the northeast area of the state. The farm was developed by Avangrid Renewables and was the first large-scale wind farm in the southeastern U.S. when it became operational in 2016. The farm consists of 104 turbines, each with a capacity of 2 megawatts, generating a total of 208 megawatts of power. This is enough to power approximately 61,000 homes annually.<sup>5</sup>



Fifty-four of the 104 turbines are located in Perquimans County. Similar to the case of USS, the turbines have resulted in significant increases in tax revenue from this land. The farm not only contributes significant amounts of power to the grid but also brings substantial economic benefits to the local community, including job creation and annual lease payments to landowners. Furthermore, farmers can continue their agricultural operations of harvesting corn, soybeans, and wheat in cohesion with wind operations.<sup>6</sup>

**Figure 5. Wind Tax Revenue Stats: Perquimans County**

Capacity (MW)	# of Turbines	Total Property Tax Paid on Participating Parcels Before Wind	Total Property Tax Paid on Participating Parcels After Wind	Difference	Percent Difference
100	54	36,426	106,580	70,154	193%

5. Avangrid. Amazon Wind Farm US East, powered by Avangrid Renewables, North Carolina’s First Wind Farm, Now Fully Operational. Accessed March 5, 2025. <https://www.avangrid.com/w/amazon-wind-farm-us-east-powered-by-avangrid-renewables-north-carolina-s-first-wind-farm-now-fully-operational-1>.

6. Iberdrola. Amazon Wind US East Onshore Wind Farm. Accessed May 15, 2025. <https://www.iberdrola.com/about-us/what-we-do/onshore-wind-energy/-amazon-wind-us-east-onshore-wind-farm>.

## Appendix 1. Tax Revenue Increase Before and After Solar in 78 Counties

Rank by Solar MWs	County	Capacity (MW)	# of Systems	Total Property Tax Paid on Participating Parcels Before Solar	Total Property Tax Paid on Participating Parcels After Solar	Difference	Percent Difference
1	Northampton	365	17	\$31,978	\$830,809	\$798,831	2,498%
2	Bladen	331	16	\$31,441	\$523,232	\$491,791	1,564%
3	Nash	296	31	\$25,207	\$964,915	\$939,708	3,728%
4	Edgecombe	281	8	\$22,277	\$141,444	\$119,167	535%
5	Currituck	260	5	\$23,434	\$511,793	\$488,359	2,084%
6	Halifax	222	13	\$41,897	\$527,493	\$485,596	1,159%
7	Robeson	216	43	\$98,580	\$913,831	\$815,251	827%
8	Hertford	203	16	\$25,212	\$729,655	\$704,443	2,794%
9	Duplin	190	35	\$32,378	\$422,717	\$390,339	1,206%
10	Warren	175	11	\$24,719	\$543,727	\$519,008	2,100%
11	Catawba	175	14	\$19,371	\$498,974	\$479,603	2,476%
12	Scotland	156	19	\$197,792	\$686,790	\$488,998	247%
13	Beaufort	142	10	\$2,275	\$30,122	\$27,847	1,224%
14	Franklin	140	12	\$14,991	\$551,569	\$536,578	3,579%
15	Cleveland	139	24	\$58,493	\$470,314	\$411,821	704%
16	Pender	138	8	\$15,528	\$146,342	\$130,814	842%
17	Cumberland	137	14	\$3,700	\$509,576	\$505,876	13,672%
18	Stanly	137	5	\$12,148	\$249,869	\$237,721	1,957%
19	Wayne	137	33	\$29,390	\$541,727	\$512,337	1,743%
20	Anson	135	8	\$14,890	\$501,755	\$486,865	3,270%
21	Wilson	128	13	\$14,828	\$69,068	\$54,240	366%
22	Montgomery	127	10	\$6,171	\$190,679	\$184,508	2,990%
23	Rutherford	127	11	\$16,130	\$281,820	\$265,690	1,647%
24	Cabarrus	110	4	\$1,967	\$61,762	\$59,795	3,040%
25	Vance	108	13	\$14,967	\$282,156	\$267,189	1,785%
26	Jones	107	7	\$146,544	\$462,021	\$315,477	215%
27	Johnston	104	28	\$29,035	\$666,975	\$637,940	2,197%
28	Lenoir	103	13	\$11,152	\$409,666	\$398,514	3,573%
29	Martin	102	15	\$16,542	\$581,294	\$564,752	3,414%
30	Washington	99	3	\$16,411	\$125,183	\$108,772	663%
31	Pitt	89	9	\$9,193	\$166,934	\$157,741	1,716%
32	Surry	88	6	\$44,844	\$390,456	\$345,612	771%
33	Yadkin	87	8	\$39,819	\$317,631	\$277,812	698%
34	Richmond	85	9	\$6,869	\$277,808	\$270,939	3,944%
35	Columbus	81	18	\$16,141	\$371,238	\$355,097	2,200%
36	Union	80	5	\$2,993	\$110,104	\$107,111	3,579%
37	Randolph	63	18	\$33,269	\$249,330	\$216,061	649%
38	Stokes	59	3	\$6,991	\$258,251	\$251,260	3,594%
39	Gaston	55	5	\$9,920	\$48,284	\$38,364	387%



## Appendix 1. Tax Revenue Increase Before and After Solar in 78 Counties (continued)

Rank by Solar MWs	County	Capacity (MW)	# of Systems	Total Property Tax Paid on Participating Parcels Before Solar	Total Property Tax Paid on Participating Parcels After Solar	Difference	Percent Difference
40	Harnett	55	13	\$7,295	\$196,885	\$189,590	2,599%
41	Rowan	52	12	\$38,283	\$191,654	\$153,371	401%
42	Perquimans	51	8	\$39,235	\$131,563	\$92,328	235%
43	Moore	51	11	\$7,925	\$153,023	\$145,098	1,831%
44	Sampson	50	13	\$13,119	\$221,487	\$208,368	1,588%
45	Granville	47	10	\$13,406	\$286,937	\$273,531	2,040%
46	Rockingham	47	10	\$20,689	\$229,415	\$208,726	1,009%
47	Bertie	45	6	\$3,610	\$127,915	\$124,305	3,443%
48	Chatham	45	11	\$14,261	\$143,852	\$129,591	909%
49	Alamance	43	9	\$7,365	\$88,400	\$81,035	1,100%
50	Pasquotank	43	3	\$70,562	\$202,283	\$131,721	187%
51	Lee	42	9	\$35,780	\$204,756	\$168,976	472%
52	Davie	40	6	\$7,233	\$83,141	\$75,908	1,049%
53	Onslow	39	7	\$8,376	\$67,253	\$58,877	703%
54	Craven	39	8	\$2,500	\$22,183	\$19,683	787%
55	Camden	35	4	\$1,826	\$22,296	\$20,470	1,121%
56	Wake	31	11	\$58,913	\$247,624	\$188,711	320%
57	Person	30	8	\$8,805	\$88,329	\$79,524	903%
58	Guilford	26	7	\$5,697	\$124,177	\$118,480	2,080%
59	Greene	24	6	\$4,767	\$67,943	\$63,176	1,325%
60	Davidson	22	3	\$14,505	\$53,978	\$39,473	272%
61	Chowan	20	5	\$39,554	\$65,064	\$25,510	64%
62	Hoke	20	4	\$5,378	\$105,708	\$100,330	1,866%
63	Orange	20	5	\$7,894	\$118,680	\$110,786	1,403%
64	Caswell	18	4	\$1,366	\$71,077	\$69,711	5,103%
65	Durham	17	5	\$107,248	\$174,729	\$67,481	63%
66	Gates	15	3	\$2,547	\$18,515	\$15,968	627%
67	Burke	12	3	\$4,148	\$11,020	\$6,872	166%
68	Brunswick	11	3	\$3,508	\$15,612	\$12,104	345%
69	Alexander	11	3	\$4,904	\$17,879	\$12,975	265%
70	Caldwell	11	1	\$280	\$24,109	\$23,829	8,508%
71	Pamlico	10	2	\$502	\$31,047	\$30,545	6,085%
72	Lincoln	10	2	\$1,906	\$14,302	\$12,396	650%
73	Iredell	10	2	\$1,047	\$28,487	\$27,440	2,621%
74	Buncombe	10	4	\$267,514	\$294,734	\$27,220	10%
75	Henderson	8	4	\$17,320	\$29,586	\$12,266	71%
76	Forsyth	6	2	\$777	\$20,513	\$19,736	2,540%
77	New Hanover	3	2	\$5,137	\$5,137	\$0	0%
78	Haywood	3	2	\$1,273	\$2,120	\$847	67%

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.

*Note: The tax figures presented in this report should be viewed as conservative estimates. In some instances, only partial or no tax data was available from county sources. This inherent variability in data collection means that the reported numbers may not fully capture the extent of tax revenue generated by solar installations across all counties. See the Methodology section for more information.*

