

## NORTH CAROLINA RETAINS ITS TOP 10 STATUS FOR CLEAN ENERGY EMPLOYMENT

### KEY FINDINGS

## #9

for total clean energy jobs in U.S. with 105K

## 44%

of new jobs in the energy sector were clean energy jobs

## 58K

NC clean energy jobs are in construction and manufacturing industries

## HALF

of all NC energy jobs are in clean energy

## 2,000

new clean energy jobs added last year

## SECTOR SUMMARY HIGHLIGHTS



### CLEAN ENERGY

**OVERALL:** North Carolina's clean energy workforce ranks ninth among all states with 105,370 jobs. The state added 1,898 new clean energy jobs, a 1.8 percent increase in 2022. Clean energy now accounts for over 50 percent of all energy industry jobs in North Carolina and 44 percent of net new energy jobs added in the past year.



### RENEWABLE ENERGY:

North Carolina's renewable energy workforce grew 4.8 percent in 2022, bringing the sector to 12,606 jobs—the second largest clean energy sector workforce in the state behind energy efficiency, and the eighth largest renewable energy workforce in U.S. Solar energy accounted for the majority of jobs in renewable energy, employing 9,091 workers.



### ENERGY EFFICIENCY:

North Carolina's energy efficiency sector accounted for 78,338 total jobs—the largest clean energy sector workforce in the state. Energy efficiency now accounts for over 74 percent of all clean energy jobs in North Carolina and is the seventh largest energy efficiency workforce in the U.S.



### STORAGE AND GRID

**MODERNIZATION:** Jobs in battery, storage, and grid modernization grew 9.2 percent in 2022, bringing the sector's workforce to a total to 3,857 in North Carolina. Storage and grid modernization was the fastest growing clean energy sector in the state, and the eighth fastest growing storage and grid sector among U.S. states.



### CLEAN VEHICLES:

North Carolina's clean vehicle sector accounted for 9,049 total jobs in 2022, growing 7.7 percent in 2022. Hybrid electric vehicles led the sector, employing 4,100 individuals.

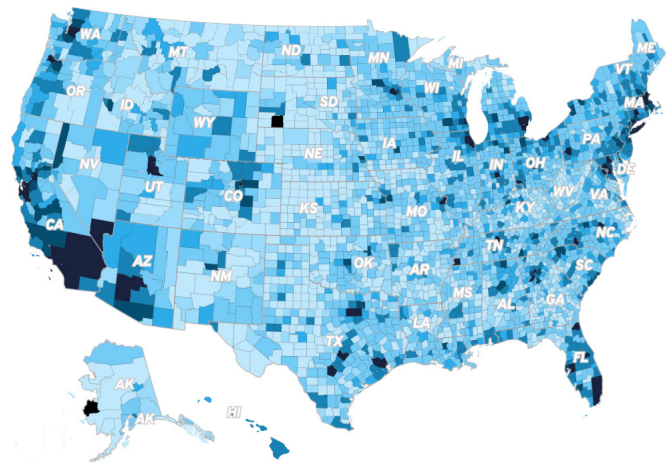


### BIOFUELS:

North Carolina has the sixth largest biofuels workforce in the U.S. with 1,520 jobs. Biofuel jobs increased 2.1 percent in 2022.

## EXPLORE THE DATA FURTHER

Dive deeper into this report further at [www.cleanjobsamerica.e2.org](http://www.cleanjobsamerica.e2.org) to explore the latest state and county clean energy employment data across the entire U.S., including national and statewide rankings by total clean energy jobs, jobs per capita, and employment growth.



For information on methodology and this report's analysis—including what technologies and sectors are counted as clean energy, what jobs are not counted, definitions of clean energy sectors and subsectors, and more—visit [www.cleanjobsamerica.e2.org](http://www.cleanjobsamerica.e2.org).

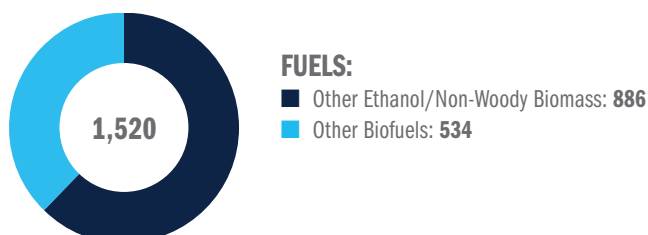
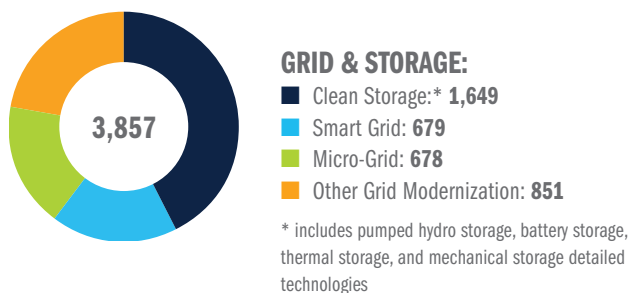
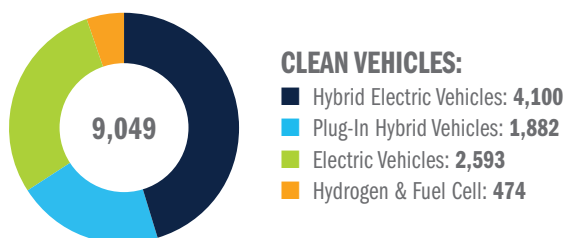
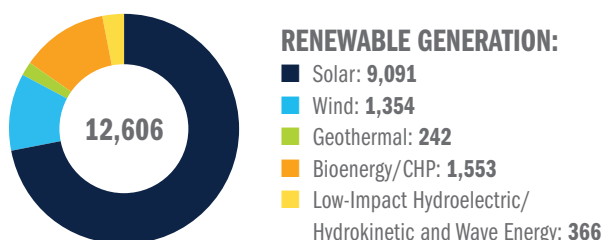
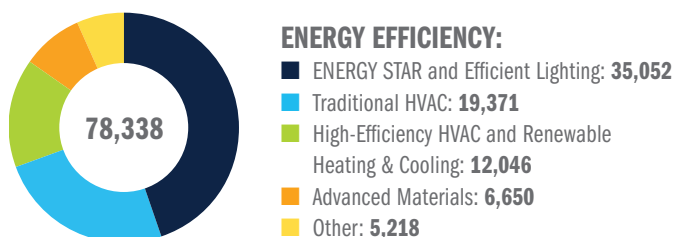


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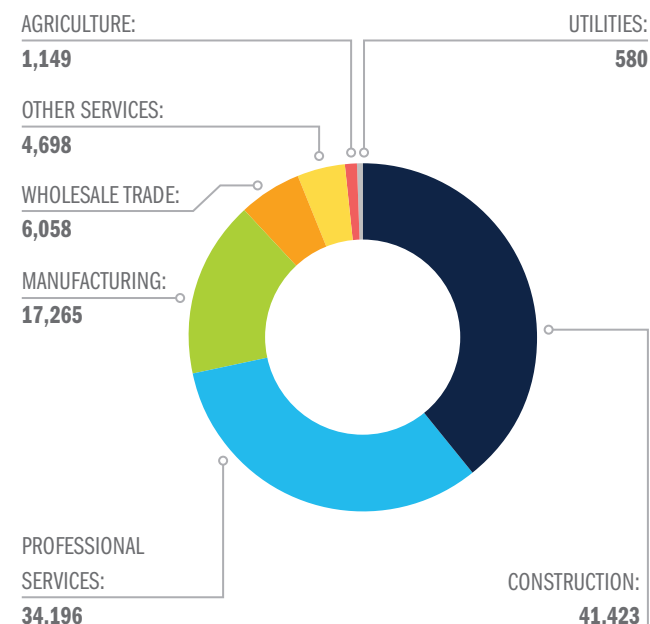
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# NORTH CAROLINA CLEAN ENERGY ECONOMY—AT A GLANCE

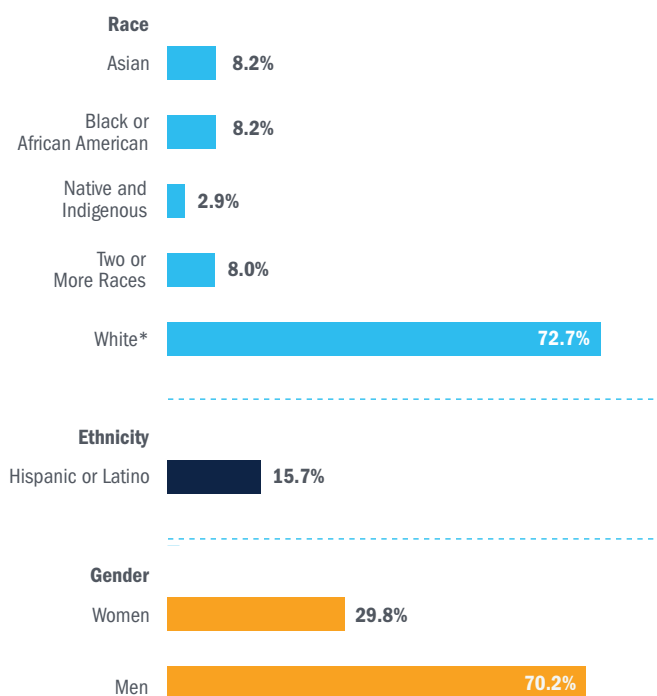
**FIG 1 // NORTH CAROLINA CLEAN ENERGY EMPLOYMENT by sectors**



**FIG 2 // NORTH CAROLINA CLEAN ENERGY EMPLOYMENT by value chain**

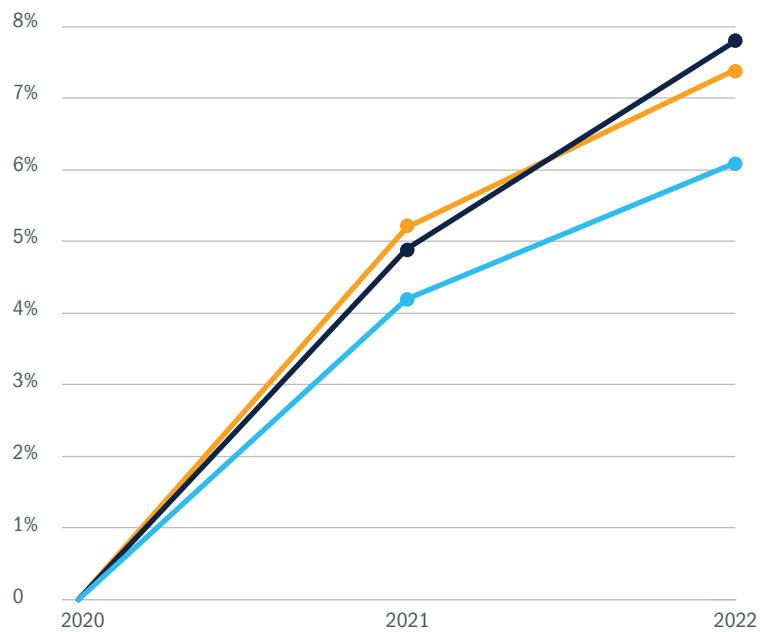


**FIG 3 // NORTH CAROLINA CLEAN ENERGY EMPLOYMENT by demographics<sup>2</sup>**



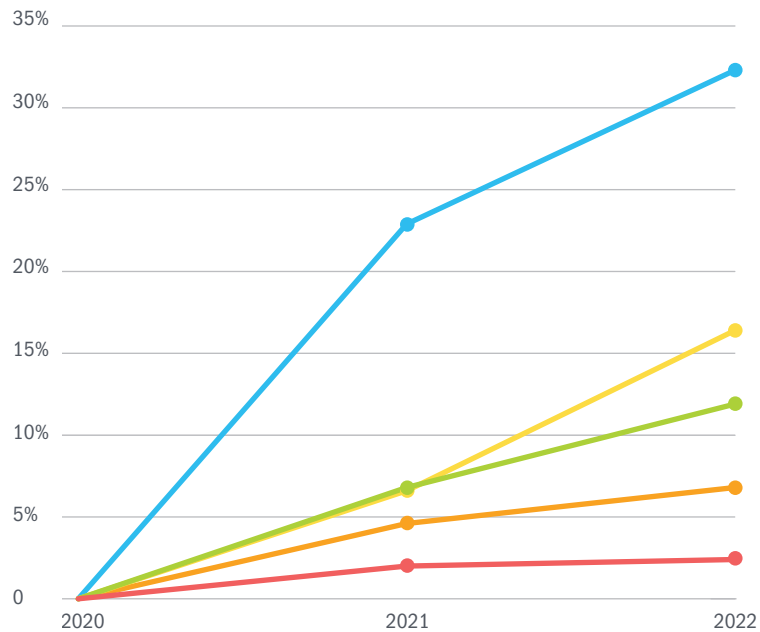
\* Includes non-Hispanic and Hispanic whites

**FIG 4 // NORTH CAROLINA ENERGY EMPLOYMENT by industry growth**



2020	2021	2022
North Carolina Clean Energy Employment		
99,314	103,472	105,370
Overall North Carolina Employment		
4,430,986	4,646,589	4,776,568
Overall North Carolina Energy Employment		
194,709	204,813	209,127

**FIG 5 // NORTH CAROLINA ENERGY EMPLOYMENT by clean energy sector employment growth**



2020	2021	2022
Energy Efficiency		
76,473	78,018	78,338
Renewable Generation		
11,264	12,030	12,606
Storage/Grid		
3,313	3,531	3,857
Biofuels		
1,423	1,488	1,520
Clean Vehicles		
6,841	8,405	9,049

# NORTH CAROLINA CLEAN ENERGY ECONOMY—APPENDIX

**Table 1 // NORTH CAROLINA CLEAN ENERGY EMPLOYMENT by county<sup>3</sup>**

County	Total Clean Energy	Renewable Gen.	Storage/ Grid	Biofuels	Energy Efficiency	Clean Vehicles	Job Growth	Workers Per 1K Jobs
Alamance	920	48	<10	<10	706	152	0.4%	14.3
Alexander	110	<10	<10	<10	88	16	0.7%	11.7
Alleghany	60	<10	<10	<10	39	<10	-10.5%	18.0
Anson	125	10	<10	<10	96	15	4.8%	18.6
Ashe	255	<10	<10	<10	183	51	-16.3%	35.1
Avery	130	<10	<10	<10	105	13	4.5%	18.9
Beaufort	397	30	<10	<10	319	33	0.0%	25.3
Bertie	32	<10	<10	<10	20	<10	-6.0%	6.0
Bladen	117	12	<10	13	77	14	-0.3%	9.4
Brunswick	876	45	<10	205	583	36	28.9%	23.7
Buncombe	3,803	865	42	25	2,628	243	2.7%	27.6
Burke	379	<10	<10	<10	220	143	2.6%	12.7
Cabarrus	1,687	227	12	13	1,241	194	2.3%	20.0
Caldwell	255	12	<10	<10	183	53	0.3%	10.0
Camden	40	10	<10	<10	24	<10	-2.4%	31.9
Carteret	444	26	<10	<10	388	22	0.2%	18.6
Caswell	31	<10	<10	<10	23	<10	1.7%	10.9
Catawba	1,331	86	33	12	939	260	0.1%	14.6
Chatham	401	100	<10	<10	264	28	1.8%	23.5
Cherokee	260	39	<10	<10	208	<10	3.7%	31.9
Chowan	66	<10	<10	<10	50	<10	-6.4%	12.8
Clay	51	<10	<10	<10	40	<10	-0.8%	24.1
Cleveland	1,044	122	33	<10	776	104	-1.2%	29.0
Columbus	184	15	<10	11	139	18	-2.9%	10.7
Craven	855	59	10	<10	731	48	1.0%	21.1
Cumberland	2,065	72	81	14	1,648	251	-1.2%	17.0
Currituck	138	11	<10	<10	113	12	0.1%	19.1
Dare	405	23	<10	<10	363	13	0.3%	22.8
Davidson	955	54	27	25	704	145	0.2%	20.8
Davie	217	12	<10	<10	177	25	1.1%	15.8
Duplin	228	22	<10	31	153	20	-3.5%	12.1
Durham	4,982	1,296	66	16	3,264	341	2.6%	21.7
Edgecombe	262	12	<10	15	220	14	-0.7%	16.8
Forsyth	3,790	156	920	29	2,477	209	10.2%	19.6
Franklin	339	21	<10	<10	275	30	-1.7%	25.8
Gaston	2,834	331	17	13	1,728	745	2.5%	36.7
Gates	15	<10	<10	<10	<10	<10	5.5%	10.3
Graham	102	<10	<10	<10	94	<10	2.9%	56.8
Granville	293	13	<10	<10	226	39	-0.5%	14.1

County	Total Clean Energy	Renewable Gen.	Storage/Grid	Biofuels	Energy Efficiency	Clean Vehicles	Job Growth	Workers Per 1K Jobs
Greene	76	<10	<10	<10	56	<10	-0.7%	16.6
Guilford	5,953	264	90	32	4,534	1,032	0.8%	20.6
Halifax	161	11	<10	<10	117	21	-1.8%	10.6
Harnett	685	38	19	13	545	71	-1.3%	25.1
Haywood	278	21	<10	<10	220	25	-0.2%	15.4
Henderson	1,187	31	<10	16	950	185	-2.4%	28.6
Hertford	168	10	<10	<10	141	<10	-1.5%	19.0
Hoke	277	<10	11	186	68	<10	195.3%	30.8
Hyde	33	<10	<10	<10	26	<10	-4.2%	21.9
Iredell	3,124	1,161	38	13	1,660	252	0.2%	38.8
Jackson	225	35	<10	<10	178	<10	-1.7%	15.6
Johnston	1,205	64	27	23	994	96	0.9%	20.8
Jones	40	<10	<10	<10	27	<10	-0.4%	24.0
Lee	573	93	<10	<10	386	86	0.1%	21.6
Lenoir	681	28	51	14	550	38	-2.5%	23.7
Lincoln	695	29	14	<10	544	103	0.8%	25.9
McDowell	181	11	<10	<10	149	17	-1.4%	11.8
Macon	331	11	<10	<10	291	22	0.3%	27.7
Madison	314	254	<10	<10	55	<10	-1.3%	80.4
Martin	107	36	<10	<10	59	<10	-2.2%	17.2
Mecklenburg	18,935	2,711	585	184	14,454	1,001	0.0%	24.6
Mitchell	116	<10	<10	<10	95	12	0.6%	24.0
Montgomery	330	197	<10	<10	104	26	-0.2%	36.3
Moore	489	34	50	<10	362	39	-3.0%	12.9
Nash	807	40	12	45	670	40	-0.8%	20.4
New Hanover	2,843	318	80	<10	2,253	184	3.5%	22.5
Northampton	65	<10	<10	<10	48	10	-8.8%	12.9
Onslow	817	57	<10	<10	663	81	0.0%	15.4
Orange	1,403	506	27	13	814	43	-0.2%	18.5
Pamlico	45	<10	<10	<10	34	<10	-2.1%	12.1
Pasquotank	217	14	<10	<10	170	21	-0.1%	13.8
Pender	385	20	25	12	305	24	-2.2%	27.6
Perquimans	37	<10	<10	<10	29	<10	-0.1%	15.4
Person	310	20	16	<10	178	94	-3.1%	32.5
Pitt	1,334	146	14	16	1,059	98	-1.7%	16.6
Polk	121	21	<10	<10	93	<10	-0.4%	22.5
Randolph	696	37	<10	35	525	89	-0.8%	16.2
Richmond	289	55	<10	<10	211	16	1.6%	20.0
Robeson	437	33	13	<10	353	31	0.4%	11.5
Rockingham	450	34	<10	<10	379	24	-0.4%	18.3
Rowan	1,275	66	10	12	783	404	5.3%	25.2
Rutherford	333	24	<10	<10	268	30	-0.6%	18.0
Sampson	579	354	20	27	150	28	-3.1%	33.3
Scotland	280	<10	<10	<10	149	120	23.5%	23.7

County	Total Clean Energy	Renewable Gen.	Storage/Grid	Biofuels	Energy Efficiency	Clean Vehicles	Job Growth	Workers Per 1K Jobs
Stanly	324	24	<10	<10	262	34	2.0%	14.7
Stokes	140	<10	<10	<10	113	17	0.8%	18.1
Surry	726	39	184	<10	458	43	-6.7%	26.3
Swain	70	<10	<10	<10	54	<10	-12.8%	6.3
Transylvania	182	29	<10	<10	143	<10	-0.3%	19.7
Tyrrell	19	<10	<10	<10	13	<10	-6.8%	20.4
Union	2,125	306	29	19	1,626	145	-0.1%	30.6
Vance	207	11	<10	<10	167	23	1.4%	14.5
Wake	16,336	1,258	860	79	13,470	670	3.2%	26.0
Warren	30	<10	<10	<10	24	<10	-2.3%	10.5
Washington	26	<10	<10	<10	13	<10	-6.2%	8.3
Watauga	379	26	10	<10	318	24	1.0%	15.0
Wayne	859	24	10	25	688	113	0.8%	21.0
Wilkes	273	<10	<10	<10	227	26	-1.5%	13.6
Wilson	970	66	11	29	793	72	-0.3%	27.2
Yadkin	186	11	<10	<10	156	13	-0.6%	18.5
Yancey	129	19	<10	<10	101	<10	-3.8%	29.3
<b>NC State</b>	<b>105,370</b>	<b>12,606</b>	<b>3,857</b>	<b>1,520</b>	<b>78,338</b>	<b>9,049</b>	<b>1.8%</b>	<b>22.1</b>

Note: 3,000 clean energy jobs are in an unknown or undefined county

**Table 2 // NORTH CAROLINA CLEAN ENERGY EMPLOYMENT by metro**

Metro Area	Total Clean Energy	Renewable Gen.	Storage/Grid	Biofuels	Energy Efficiency	Clean Vehicles
Charlotte-Concord-Gastonia	30,674	4,831	704	260	22,035	2,843
Raleigh	17,880	1,343	893	110	14,740	796
Greensboro-High Point	7,099	335	108	73	5,439	1,145
Durham-Chapel Hill	7,097	1,922	113	36	4,520	506
Asheville	5,583	1,172	51	50	3,853	456
Winston-Salem	5,288	240	954	58	3,628	408
Wilmington	3,228	338	106	20	2,558	207
Fayetteville	2,342	79	92	199	1,715	257
Hickory-Lenoir-Morganton	2,075	109	42	21	1,430	473
Greenville	1,334	146	14	16	1,059	98
Rocky Mount	1,069	51	14	60	890	54
Burlington	920	48	<10	<10	706	152
Goldsboro	859	24	10	25	688	113
Jacksonville	817	57	<10	<10	663	81
Virginia Beach-Norfolk-Newport News	153	14	<10	<10	121	14

Note: An additional 18,900 clean energy jobs are found in rural or nonmetropolitan areas<sup>4</sup>

- 1 Unless otherwise stated, all data is based on 2022 Q4 employment data and surveys collected and analyzed by the BW Research Partnership for the 2023 U.S. Energy and Employment Report (USEER), June 2023, Department of Energy (DOE). Employment data used in this analysis comes from the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) and a nationwide employer survey of 34,200 business establishments administered in Q1 2023. See Pages 201-206 for methodology questions.
- 2 Information on the representation of people with disabilities, lesbian, gay, bisexual, transgender, intersex, and queer people, migrants, religious minorities, and different age demographics in clean energy is limited. Based on the available data from the Bureau of Labor Statistics (BLS) and the supplemental employer survey used by the USEER, this analysis was unable to produce any findings regarding those groups.
- 3 United States Bureau of Labor Statistics (BLS) 2022 Q4 employment, all ownerships (accessed June 2023).
- 4 Rural clean energy jobs are calculated based on the Bureau of Labor Statistics' (BLS) nonmetropolitan area for every state, which is any area not designated as a metropolitan area by BLS. This is the most commonly used definition to analyze rural and small-town trends, and is available at <https://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/what-is-rural>. New Jersey, Rhode Island, and the District of Columbia contain no nonmetropolitan statistical areas.



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