

Proposed schedule for procurement for at least 700 MW of new solar generation in North Carolina between now and 2026. 55% of projects will be owned/ operated by Duke Energy. 45% of projects will be owned/ operated by non-utility solar companies. These projects will be awarded through a competitive procurement process selected based on the 20+ year PPAs with the lowest rates.

2022 SP Plan Milestone	Target Date ¹
Onboarding of Independent Evaluator and RFP Development; Post draft RFP documents and pro formas; RFP Stakeholder Mtg 1; Open Comment period on RFP documents for Market Participant feedback	4/1/-4/30/2022
Incorporate comments, RFP Stakeholder Mtg 2, post final RFP documents/pro formas	5/1 - 5/30/2022
Carbon Plan Filing Identifies 2022 SP Target Volume	5/16/2022
2022 SP RFP filed with NCUC;	5/30/2022
IE Pre-Issuance RFP Report filed with NCUC	
2022 SP RFP bid window	5/31/2022 – 7/15/2022
"Step 1" (w/ Phase 1 DISIS estimates)	7/16/2022 – 11/30/2022
NCUC approval of 2022 SP Target Quantity	11/1/2022
Invitation to Step 2 and security due for Step 2	11/27 – 12/22/2022
"Step 2" (w/ DISIS Phase 2 estimates)	12/23/2022 – 5/25/2023
Winners announced	5/25/2023
PPA Resource contracting window	5/25/2023 – 6/24/2023

6,800 MW of solar currently installed in North Carolina. At least 4,500 additional MW (above and beyond the 700 MW described above) need to be brought on-line between 2026 – 2030 to meet planning goals under HB 951. Additional competitive procurement cycles will be issued to secure these additional volumes. Independent Evaluator organization will coordinate the procurement process.

Figure 1: 2020 IRP Portfolios Need for New Solar by 2030

	IRP (Portfolio A2)	IRP (Portfolio B)	IRP (Portfolio C1)	IRP (Portfolio D)	IRP (Portfolio E)
Description	Base w/ No CO2 Policy – SC Modified IRP	Base w/ CO2 Policy	Earliest Practicable Coal Retirement – SC Modified IRP	70% with Wind	70% with SMR
2030 CO ₂ Reduction	57%	59%	66%	70%	71%
2035 CO ₂ Reduction	56%	62%	66%	73%	74%
Total Solar by YE 2030	9,200	9,690	11,790	11,375	11,375
Total Solar by YE 2035	10,350	12,325	15,550	16,240	16,240
Incremental Solar by YE 2030	2,400	2,890	4,990	4,575	4,575

Floating Solar PV development partnership concept

Buncombe County proposes to support development of FPV projects in partnership with the City of Asheville (for the Lake Julian site) and Duke Energy (at the Lake Julian site).

Buncombe County could provide the financial resources to support feasibility studies and development costs (for interconnection engineering studies, environmental analysis and project development consultants). The most expensive initial development expense is usually the interconnection study application fee, which would be around \$40,000 for a Lake Julian sized project and around \$85,000 for a North Fork Reservoir scale project).

Partner organizations contribute their properties to the project but are not required to financially contribute to development or construction costs for projects. They just contribute the site.

RFP process to select an experienced solar energy company who would finance, construct, own and operate the projects.

Buncombe County and partner organizations may be able to negotiate to retain the Renewable Energy Certificates (RECs) from the projects to contribute towards our public renewable energy goals (similar to our arrangement for the solar farm at the county owned landfill). Even if it is not possible for local gov't to retain renewable energy certificates, the projects would make a large contribution to meeting the community renewable goals.

Potential Energy and Environment Recommendation

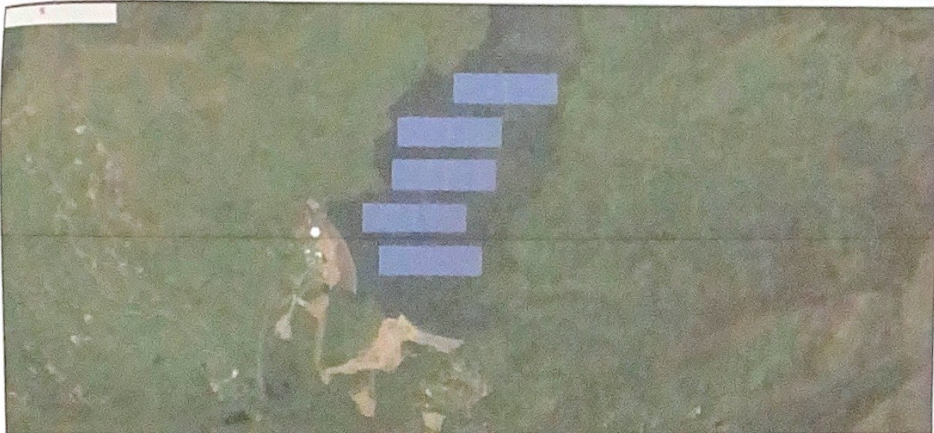
Recommendation for the County Commissioners to endorse goal of developing utility scale floating solar projects as a key strategy to help meet the public and community-wide renewable energy goals and to include funding in the 2022- 2023 budget to advance the feasibility studies and early stage-development of the projects.

Lake Julian interconnection study costs \$40,000

North Fork interconnection study cost \$85,000

Environmental and other feasibility analysis \$ 50,000

Total \$175,000



NORTH FORK RESERVOIR – 50.3 MWp floating PV plant
 1,520 PV modules (550 Wp – Hydrelío I280 Air 12° I-in-a-row)



LAKE JULIAN – 12.0 MWp floating PV plant
 21,902 PV modules (550 Wp – Hydrelío I280 Air 12° I-in-a-row)



Lake Julian Site

Waterbody is under jurisdiction of Duke Energy
 12 MWdc system
 Annual generation 18.8 million kWh
 Equivalent to powering 1,800 homes with 100% solar

North Fork Reservoir Site

Waterbody is under jurisdiction of City of Asheville
 50 MWdc system
 Annual generation 75 million kWh
 Equivalent to powering 7,500 homes with 100% solar

For context, there are approximately 5,000 households in Black Mountain and Swannanoa. There are about 40,000 households in Asheville.