

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. EMP-108, SUB 0

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of the Application of)	APPLICATION FOR A
American Beech Solar LLC for a)	CERTIFICATE OF PUBLIC
Certificate of Public Convenience and)	CONVENIENCE AND
Necessity)	NECESSITY FOR A MERCHANT
)	PLANT
)	

American Beech Solar LLC (“American Beech Solar” or the “Applicant”), by and through counsel, hereby applies to the North Carolina Utilities Commission (the “Commission”) pursuant to G.S. § 62-110.1 and Commission Rule R8-63 for a Certificate of Public Convenience and Necessity authorizing construction of a solar photovoltaic (“PV”) facility with a capacity of 110 megawatts (“MW”) to be located in Halifax County (the “Facility”). In support of its application, Applicant provides the Commission the attached exhibits in compliance with Rule R8-63.

WHEREFORE, Applicant respectfully requests that the Commission issue a Certificate of Public Convenience and Necessity pursuant to G.S. § 62-110.1 and Commission Rule R8-63 for the Facility, as more specifically described herein.

Respectfully submitted this 27th day of January, 2020.

KILPATRICK TOWNSEND & STOCKTON LLP

By: /s/ _____
Benjamin L. Snowden
N.C. Bar No. 51745
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Attorney for American Beech Solar, LLC

American Beech Solar LLC
Application Exhibit 1 [R8-63(b)(1)]

(i) The full and correct name, business address, business telephone number, and electronic mailing address of the Applicant are:

American Beech Solar LLC
17901 Von Karman Avenue, Suite 1050
Irvine, California 92614
(510) 516-6964

Whitney.Rubin@baywa-re.com

(ii) Description of Applicant:

American Beech Solar LLC, formed August 10, 2016, is a North Carolina Limited Liability Company with its principal place of business located in Charlotte, North Carolina. A true and correct copy of American Beech Solar's Limited Liability Company Articles of Organization is attached as **Schedule 1**. The principal participants of this American Beech Solar entity are the two officers of BayWa r.e. Solar Projects, LLC ("BayWa Solar"): Jam Attari, Chief Executive Officer and William Gulley, Chief Financial Officer

BayWa Solar is a Delaware limited liability company with its principal place of business in Irvine, California. BayWa Solar was formed on June 3, 2014. BayWa Solar is a wholly owned subsidiary of BayWa R.E. Development, LLC, a Delaware limited liability company ("BayWa Development").

BayWa Solar is the sole Member of BayWa Development which is the sole member of American Beech Solar. BayWa Development and BayWa Solar are wholly-owned subsidiaries of the same parent company, BayWa AG ("BayWa AG," and together with BayWa Development and BayWa Solar, "BayWa"). An organizational chart depicting the relationship among American Beech Solar, BayWa Development, BayWa Solar, and BayWa AG as well as relevant affiliated companies is attached as **Schedule 2**.

BayWa AG, headquartered in Munich, Germany, is an international conglomerate of energy companies, agricultural trading, and building materials suppliers. BayWa AG is one of Europe's leading trade, services, and logistics companies. In addition to a conventional energy business primarily in Europe, the energy segment of BayWa AG provides a variety of renewable energies, including solar power, wind energy, and bioenergy, to 24 countries, including all major European markets and locations in North America, Southeast Asia, and Australia. BayWa AG is a publicly-traded company with a current market capitalization of approximately 1.15 billion EUR and annual revenues of approximately 16.1 billion EUR.

BayWa Development, the direct owner of American Beech Solar, operates, has developed or sold, or has in its development pipeline 46 solar facilities throughout the United States including projects in Washington state, Utah, New York, Illinois, Kentucky, Virginia, California, Georgia, and North Carolina. With the completion of these additional projects and the Project, BayWa expects to develop approximately 1.2 gigawatts ("GW") of capacity across the United States.

American Beech Solar was initially formed by Geenex Solar, LLC, a Delaware limited liability company ("Geenex"). Geenex is one of BayWa's development partners in North Carolina. Geenex has undertaken the initial development of the Facility, including obtaining site control for the properties on which the Facility shall be built, conducting initial environmental reviews, and securing local land use and other permits. In August 2018, Geenex sold some of its interests in American Beech Solar to BayWa Development. In July 2019 the remainder of American Beech Solar was transferred to BayWa Development.

Correspondence, documents, and filings regarding this application should be addressed as follows:

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(iii) A copy of BayWa AG's most recent annual management report, including its consolidated financial statements, is attached as **Schedule 3**.

(iv) Applicant's other affiliated generating facilities: BayWa Solar has developed twelve solar generating facilities in the Southeastern Electric Reliability Council ("SERC") region, with an aggregate system capacity of 215 MW. These projects interconnect with Duke Energy Progress ("DEP"), municipal utilities, and Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina ("Dominion"), as described in the following chart.

BayWa Solar Projects Operating in the SERC Region

Project	Location	System Size (MWac)	Interconnecting Utility	Offtaker	Commercial Operation Date
Grasshopper	NC	80	Dominion	PJM	Sold
Chestnut	NC	74.9	Dominion	PJM	Sold
Northern Cardinal	NC	2.0	Dominion	PJM	Mar. 2018
Gauss	NC	5.0	Dominion	PJM	Feb. 2018
Hemlock	Northampton County, NC	5	Dominion	PJM	Dec. 2016
Cork Oak	Halifax County, NC	20	Dominion	PJM	Dec. 2017
Sunflower	Halifax County, NC	16	Dominion	PJM	Dec. 2017
HXNAIR	Halifax County, NC	5	Dominion	PJM	Dec. 2017
SEV - Nashville	Nash County, NC	2	DEP	DEP	Aug. 2015
SEV - Newton Grove	Sampson County, NC	2	DEP	Town of Newton Grove	Aug. 2015
SEV - Selma	Johnston County, NC	2	The Town of Selma Utility Department	Town of Selma	Sept. 2015
SEV - Smithfield	Johnston County, NC	2	Town of Smithfield Public Utilities Department	Town of Smithfield	Sept. 2015
TOTAL		215.9			

In addition to the completed projects, BayWa Solar has an ownership interest in and is developing the following solar generating facilities in the SERC region, and each of the development projects is expected to interconnect to Dominion.

BayWa Solar Projects Under Development in the SERC Region

Project	Location	System Size (MWac)	Development Status	COD (estimated)
Fern	NC	100	In construction	Q2 2020
Bluebird	Harrison County, Kentucky	80	Local use permit application process ongoing	Q4 2022
North 301	Halifax County, NC	20	CPCN Issued 03/30/2015 (Docket No. SP-5422, Sub 0)	TBD
Five Forks	Warren County, NC	20	CPCN Issued 04/06/2015 (Docket No. SP-5440, Sub 0)	TBD
TOTAL		220		

American Beech Solar LLC
Application Exhibit 2 [R8-63(b)(2)]

(i) Nature of proposed generating facility: American Beech Solar is proposing to construct a 110 MW solar PV facility that will interconnect to Dominion Energy North Carolina's transmission system. American Beech plans to construct the project in two phases. The first phase will include approximately 80 MW of nameplate capacity and the second phase will include approximately 30 MW.¹ Both phases of the Project share the same point of interconnection. Once both phases are complete, the nameplate generating capacity of the facility will be 110 MW, with anticipated gross capacity of approximately 110 MW and anticipated generation of 267 GWh per year. Because solar power is subject to intermittent solar irradiance, American Beech Solar's maximum dependable capacity is projected to be 0 MW during some hours of the day..

Project construction is expected to begin on or about the second quarter of 2021, with an estimated date of commercial operation date in fourth quarter of 2022. An itemized estimate of the construction costs is included as Confidential Schedule 5.² The expected service life of the facility is 20 years, with an additional 15-year service life, assuming equipment updates are made, for a total of 35 years.

(ii) Site plan: A color site plan map ("Site Plan") showing the proposed site boundary and layout with all major equipment, planned and existing roads, and planned and existing electric facilities is attached as Schedule 6.

(iii) Locational information: The American Beech Solar Project is made up of

¹ Should the construction of the second phase not begin within three years after the date of the Commission order granting the certificate, Applicant shall seek renewal of the CPCN for the project, to the extent required by Commission Rule R8-63(e)(3).

² Schedule 5 has been designated as confidential because the construction estimate contains confidential information within the scope of G.S. § 132.1.2.

portions of land owned by 12 different landowners who in total own 3070 acres of privately-owned land outside of Scotland Neck in Halifax County, North Carolina. There are also easements obtained from a 13th landowner that connect parts of the project. The Project will include approximately 1,800 fenced acres of this privately-owned land plus land outside the fence that will be used for screening and other project needs. The GPS coordinates of the approximate center of the facility are latitude 36.148619; longitude -77.497323.

The main project Substation location will be 830 Bynum's Bridge Road, Scotland Neck, NC 27874. There will be seven or eight access points located off the main roads for the Facility.

(iv) The Facility is not a natural gas-fired facility.

(v) Required approvals: The following is a list of all necessary federal, state, and local approvals related to the Facility and the site and the status of such approval or a copy thereof, if obtained.

Federal:

1. American Beech Solar has submitted a wetlands delineation study to the U.S. Army Corps of Engineers ("Corps") to determine whether any of the streams and wetlands on the site are jurisdictional waters and/or Waters of the United States, requiring a permit for construction under Section 404 of the federal Clean Water Act. Presently, American Beech Solar is awaiting a wetland delineation jurisdictional determination from the Corps.
2. Although the Facility is not located on federally obligated airport land, the Federal Aviation Administration ("FAA") may request for American Beech Solar to voluntarily submit a glare study to the FAA to conform to the FAA's

solar policy. If requested by FAA, American Beech Solar will have a glare study performed and then submit the glare study to the FAA.

3. Prior to commencing operation, American Beech Solar may apply for Market-Based Rate Authorization from the Federal Energy Regulatory Commission (“FERC”), pursuant to Sections 205 and 206 of the Federal Power Act.
4. American Beech Solar may seek to self-certify with FERC as an Exempt Wholesale Generator pursuant to the Public Utility Holding Company Act of 2005.

State:

1. American Beech Solar will likely require the approval of an erosion and sedimentation control plan for its construction activities from the North Carolina Department of Environmental Quality.
2. American Beech Solar will require a driveway permit from the North Carolina Department of Transportation.

Local:

1. The Project requires a conditional use permit (“CUP”) from Halifax County. American Beech Solar obtained its CUP approval on November 13, 2018 by a unanimous vote of the Halifax County Board of Adjustment. The official documentation of this CUP approval was issued by Halifax County on November 15, 2018 with an extension of one year issued on October 29, 2019. A copy of the final Order approving the CUP is attached to this application as **Schedule 7.**

2. American Beech Solar will submit an application for a stormwater permit to Halifax County, and will need to confirm that the Facility has satisfied all of the requirements for a stormwater permit application.
3. American Beech Solar will require a Building Permit from Halifax County.
4. American Beech Solar will require an Electrical Permit from Halifax County.

Other:

1. American Beech Solar will register as a Generator-Owner with the North American Electric Reliability Council (“NERC”).

(vi) Description of transmission facilities: The Facility will interconnect with Dominion’s transmission grid via a newly-constructed switch station along the Scotland Neck-South Justice 115 kV transmission line. The Scotland Neck – South Justice was constructed under baseline project B2654. The project POI will connect into that new line. A color map showing the location of the interconnection points and transmission facilities is included as **Schedule 6**. The transmission facilities are further described below.

The Facility will install approximately 110 MW of monocrystalline photovoltaic solar modules on single-axis trackers. The trackers will be installed on a North-South axis tilting in an East-West direction to enable the modules to follow the sun throughout the day. The trackers will consist of galvanized steel and will be anchored on H-shaped steel posts driven approximately six feet into the ground. The trackers do not have a concrete foundation. The total number of modules will be roughly 420,498 depending on exact wattage of the modules.

Forty-six (46) inverters will transform DC power generated by the solar modules into 110 MW of AC capacity. Forty-six (46) transformers will step the voltage of generated

power up from 630V at the inverters to 34.5kV. Power from these step-up transformers will be collected at the main power transformer that will again step up the voltage from 34.5kV to 115kV to align with the voltage at a switching station which will be built for the project. The switching station will connect to the existing 115kV transmission lines crossing the project site.

Because the land for the Facility consists of adjacent and non-adjacent parcels, individual blocks of trackers with solar modules will be connected through medium-voltage cable runs between the parcels. These connections will be using either overhead poles or buried cable, installed in culverts or via directional boring. Where projects parcels are not immediately adjacent, easements with neighboring landowners have been secured to allow for installation of power lines.

American Beech Solar expects to enter into an Interconnection Service Agreement and Interconnection Construction Service Agreement with Dominion and PJM in the first quarter of 2020.

American Beech Solar, LLC**Exhibit 3 [R8-63(b)(3)]*****Description of the need for the facility in the state and/or region***

American Beech Solar and its collaborators on this Project, BayWa and Geenex, expect North Carolina and its surrounding region to benefit from the Project by satisfying a growing demand for renewable power in the region, and by providing economic development and other benefits in Halifax County.

The American Beech Solar Project will interconnect with the Dominion Energy transmission grid, affording it access to the PJM Interconnection (“PJM”), a Regional Transmission Organization (“RTO”) in which Dominion participates. BayWa has substantial experience with offtake in the PJM market and the expectations for power purchase from the PJM market in the southeast United States are strong. BayWa has previously secured and is actively negotiating for over 300 MW of offtake within the PJM market, and is using this experience to secure offtake for BayWa Solar. BayWa Solar is actively negotiating power purchase agreements with a group of investment-grade offtakers for approximately 110 MW of the Project’s output, and is expecting final power purchase agreements with these parties in the first quarter of 2020.

As demonstrated by the chart produced by the Business Renewables Center and attached as **Schedule 4**, projections for corporate purchase of energy and renewable energy credits (“RECs”) from solar facilities in the southeast market of PJM is expected to increase over the next few years. The Applicant believes that healthy market conditions will create sustainable offtake for its production.

Demand for renewable power is expected to increase in the Southeast over the expected lifetime of the Project. Dominion Energy has committed to increasing its use of

renewable power to generate 5,000 MW of electricity by 2028. As noted on **Schedule 4**, the Business Renewables Center, a non-profit initiative that is the leading industry convener between corporate renewable energy buyers and renewable energy developers, predicts that the demand for renewable energy in the PJM market, described below, will increase over the next year as shared in a chart with its members in April 2018. Projections from PJM indicate that the demand for power, particularly in the Southeast, will increase as described below.

Dominion's commitment is consistent with state-level policy set by the Virginia General Assembly, which affirmed the growing importance of renewable energy generation in passing the Grid Transformation and Security Act of 2018 (the "GTSA"), signed into law by Governor Ralph Northam on March 9, 2018. The GTSA finds that up to an additional 5,000 MW of utility-scale electric generating facilities powered by solar and wind energy is in the public interest, along with up to an additional 500 MW of non-utility scale solar or wind generating facilities, including rooftop solar installations.

The Applicant anticipates contracting the sale of energy, capacity, and Renewable Energy Credits ("RECs") through PJM. PJM is an RTO that coordinates the movement of electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. Load growth for the PJM RTO as a whole, and more specifically for the Dominion Virginia power zone, which serves parts of Eastern North Carolina and Virginia (as shown on **Schedule 8** attached hereto), is expected to increase over the next ten to fifteen years as described below for both winter and summer months.

Summer peak load in PJM is expected to grow by 0.3% per year over the next ten years, and by 0.3% over the next 15 years.³ For the Dominion Virginia Power zone, summer peak load growth is expected to grow by 0.9% per year over the next ten years, and 0.8% per year over the next fifteen years.⁴ The anticipated ten-year summer peak load growth in the Dominion Virginia Power zone represents 1.4% growth over the January 2018 load forecast report.⁵

Winter peak load growth in PJM is projected to average 0.4% per year over the next 10-year period, and 0.4% over the next 15-years.⁶ Winter peak load growth for the Dominion Virginia Power zone is expected to grow by 0.9% per year over the ten years, and 0.9% per year over the next nine to fifteen years.⁷ The anticipated ten-year winter peak load growth in the Dominion Virginia Power zone represents 1.4% growth over the January 2018 load forecast report.⁸

The PJM service area of North Carolina has slightly higher projected load growth than Virginia. North Carolina is expected to average between 0.9 and 1.1% per year over the next 10 years versus the PJM RTO load growth projections to average between 0.3% and 0.4% over the next ten years.⁹

³ 2019 PJM Load Forecast Report (Mar. 2019 – RPM Update), available at <https://www.pjm.com/-/media/library/reports-notices/load-forecast/2019-rpm-load-forecast.ashx?la=en>, at 43-44.

⁴ *Id.*

⁵ *Id.* at 40.

⁶ *Id.* at 47-48.

⁷ *Id.*

⁸ *Id.*

⁹ PJM, 2018 North Carolina State Infrastructure Report (January 1, 2018 – December 31, 2018), May 2019, 21, available at <https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2018/2018-north-carolina-state-data.ashx?la=en>.

Generation retirement also demonstrates the need for new sources of electricity in the region, and in North Carolina in particular. Approximately 209 MW of capacity in North Carolina was retired in 2017. This represents more than 10 percent of the 2,084 MW that retired RTO-wide in 2017.¹⁰

In addition to satisfying in part the growing demand for renewable energy, BayWa Solar also anticipates bringing economic benefits to Halifax County. While the operation of the Facility will allow many of the landowners to live and farm nearby, the landowners will gain income that will allow them to continue agricultural activities on their remaining properties.

The American Beech Solar Project will create significant benefits for the local community, including a substantial increase in tax revenues. The current tax revenue is estimated at \$20,812 per year at the current land designation as agricultural. The Halifax County taxes solar projects at \$5,000 per acre for Primary land and \$1,000 per acre for Secondary or Marginal land. The project contains 1578.56 acres of Primary land and 1492.03 acres of Secondary/Marginal land. To provide a conservative estimate of the total yearly taxes, it is estimated that the project used half of the Primary land and half of the Marginal land. The resulting yearly tax created by the solar project would be \$4,692,420 for Halifax County annually.

Solar also will bring employment opportunity and development for the local Halifax County workforce. The Applicant anticipates that the proposed Project will require the hiring of somewhere between 150 and 250 local positions during construction as this is consistent with similar projects of this type and size. Construction materials will need to be

¹⁰ *Id.* at 21

purchased, delivered and installed during construction as well. In addition, there will be a demand for locally-sourced contractors during facility operation (landscaping, grounds keepers, maintenance etc.). Contractors and employees traveling from outside Halifax County to assist with the Project will require the services of local accommodation providers and local restaurants/grocery stores. For a project of this size, the cumulative spending in the area from the development and construction process is anticipated to be in the millions of dollars.

With these efforts, BayWa Solar anticipates bringing positive community benefits to Halifax County while also generating renewable power to meet the region's increasing demand.

**American Beech Solar LLC
Application for a Certificate of Public Convenience and Necessity
for a Merchant Plant
Docket No. EMP-108, Sub 0**

Schedules

Schedule 1 – Limited Liability Articles of Organization

Schedule 2 – Organizational Chart

Schedule 3 – Management Report and Consolidated Financial Statements of BayWa AG

Schedule 4 – Chart of Renewables Offtake Projections

Schedule 5 – Estimated Construction Costs ***CONFIDENTIAL***

Schedule 6 – Site Plan

Schedule 7 – Conditional Use Permit

Schedule 8 – Map of Dominion Virginia Power Territory

VERIFICATION

STATE OF CALIFORNIA COUNTY OF ALAMEDA

Whitney Rubin 1/22/20 Development Manager
Signature of Owner's Representative or Agent Title of Representative or Agent

Whitney Rubin
Typed or Printed Name of Representative or Agent

The above-named person personally appeared before me this day and, being first duly sworn, says that the facts stated in the foregoing application and any exhibits, documents, and statements thereto attached are true as he or she believes.

WITNESS my hand and notarial seal, this _____ day of _____, 20____.

My Commission Expires: _____

Signature of Notary Public

PLEASE SEE ATTACHED
NOTARY CERTIFICATE

Name of Notary Public – Typed or Printed

This original verification must be affixed to the original application, and a copy of this verification must be affixed to each of the copies that are also submitted to the Commission.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)

County of ALAMEDA)

On 01-22-2020 before me, MANDEEP KAUR, NOTARY PUBLIC
Date Here Insert Name and Title of the Officer

personally appeared WHITNEY RUBIN
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Mandeep Kaur
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Application for Merchant Plant CPCN
Document Date: 01/22/2020 Number of Pages: _____
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

CERTIFICATE OF SERVICE

This is to certify that the undersigned has this day served the foregoing **APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR A MERCHANT PLANT** upon the following by electronic mail as follows:

Christopher Ayers, Esq.
Executive Director - NC Public Staff
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Megan Jost
NC Public Staff - Legal Division
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NC Public Staff - Legal Division
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Raleigh, NC 27599

This the 27th day of January, 2020.

/s/ _____

Benjamin L. Snowden