

Duke Energy Carolinas, LLC
Form 424B5
November 15, 2016

Use these links to rapidly review the document
[TABLE OF CONTENTS Prospectus Supplement](#)
[TABLE OF CONTENTS](#)

Filed pursuant to Rule 424(b)(5)
Registration No. 333-213765-05

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered	Proposed maximum offering price per unit	Proposed maximum aggregate offering price	Amount of registration fee(1)
First and Refunding Mortgage Bonds, 2.95% Series due 2026	\$600,000,000	99.758%	\$598,548,000	\$69,372.00

- (1) The filing fee, calculated in accordance with Rule 457(r) under the Securities Act of 1933, as amended, has been transmitted to the Securities and Exchange Commission in connection with the securities offered by means of this prospectus supplement.
-

Table of Contents

PROSPECTUS SUPPLEMENT

(To Prospectus dated September 23, 2016)

\$600,000,000 FIRST AND REFUNDING MORTGAGE BONDS, 2.95% SERIES DUE 2026

Duke Energy Carolinas, LLC is offering \$600,000,000 aggregate principal amount of First and Refunding Mortgage Bonds (the "Mortgage Bonds"). The per annum interest rate on the Mortgage Bonds will be 2.95%. We will pay interest on the Mortgage Bonds semi-annually in arrears on June 1 and December 1 of each year, beginning on June 1, 2017. The Mortgage Bonds will mature as to principal on December 1, 2026. The Mortgage Bonds are secured by a continuing lien on certain of our properties and franchises and rank equally with all of our other First and Refunding Mortgage Bonds from time to time outstanding. The lien of our mortgage is discussed under "Description of First and Refunding Mortgage Bonds Security" beginning on page 3 of the accompanying prospectus.

We may redeem the Mortgage Bonds at our option at any time and from time to time, in whole or in part, as described in this prospectus supplement under the caption "Description of the Mortgage Bonds Optional Redemption." The Mortgage Bonds will also be redeemable through the operation of the Replacement Fund (as described in the accompanying prospectus under "Description of First and Refunding Mortgage Bonds Replacement Fund") or upon application of moneys arising from a taking of any of the underlying mortgaged property by eminent domain or similar action at any time or from time to time at the special redemption price of 100% of their principal amount, together with accrued and unpaid interest to, but excluding, the redemption date. We have agreed not to apply any cash deposited with the bond trustee pursuant to the Replacement Fund to the redemption of the Mortgage Bonds so long as any of the First and Refunding Mortgage Bonds presently outstanding and entitled to the benefit of the Replacement Fund remain outstanding. See "Description of First and Refunding Mortgage Bonds Replacement Fund" in the accompanying prospectus. The Mortgage Bonds will not be entitled to the benefit of any sinking fund.

The Mortgage Bonds are a new issue of securities with no established trading market. We do not intend to list the Mortgage Bonds on any securities exchange or include them in any automated quotation system. Please read the information provided under the caption "Description of the Mortgage Bonds" in this prospectus supplement and "Description of First and Refunding Mortgage Bonds" in the accompanying prospectus for a more detailed description of the Mortgage Bonds.

Investing in the Mortgage Bonds involves risks. See "Risk Factors" on page S-6 of this prospectus supplement.

	Price to Public(1)	Underwriting Discount(2)	Proceeds to Duke Energy Carolinas, LLC Before Expenses
Per Mortgage Bond	99.758%	0.650%	99.108%
Total Mortgage Bonds	\$ 598,548,000	\$ 3,900,000	\$ 594,648,000

(1) Plus accrued interest from November 17, 2016, if settlement occurs after that date.

(2) The underwriters have agreed to make a payment to us in an amount equal to \$1,200,000, including in respect of expenses incurred by us in connection with this offering. See "Underwriting (Conflicts of Interest)."

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

We expect the Mortgage Bonds to be ready for delivery only in book-entry form through the facilities of The Depository Trust Company for the accounts of its participants, including Clearstream Banking, *société anonyme*, Luxembourg and Euroclear Bank S.A./N.V., on or about November 17, 2016.

Joint Book-Running Managers

BNP PARIBAS

Goldman, Sachs & Co.

Mizuho Securities

RBC Capital Markets

Senior Co-Manager

Loop Capital Markets

Co-Managers

CIBC Capital Markets

Fifth Third Securities

Santander

Junior Co-Managers

Academy Securities

CastleOak Securities, L.P.

The date of this prospectus supplement is November 14, 2016.

Table of Contents

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and any free writing prospectus authorized by us. We have not, and the underwriters have not, authorized anyone to provide you with information that is different. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer is not permitted. You should not assume that the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus or any free writing prospectus authorized by us is accurate as of any date other than the date of the document containing the information or such other date as may be specified therein. Our business, financial condition, liquidity, results of operations and prospects may have changed since those respective dates.

TABLE OF CONTENTS

Prospectus Supplement

	Page
<u>About This Prospectus Supplement</u>	<u>S-1</u>
<u>Prospectus Supplement Summary</u>	<u>S-2</u>
<u>Risk Factors</u>	<u>S-6</u>
<u>Cautionary Statement Regarding Forward-Looking Information</u>	<u>S-6</u>
<u>Ratios of Earnings to Fixed Charges</u>	<u>S-8</u>
<u>Use of Proceeds</u>	<u>S-8</u>
<u>Description of the Mortgage Bonds</u>	<u>S-9</u>
<u>U.S. Federal Income Tax Considerations for Non-U.S. Holders</u>	<u>S-14</u>
<u>Book-Entry System</u>	<u>S-16</u>
<u>Underwriting (Conflicts of Interest)</u>	<u>S-20</u>
<u>Legal Matters</u>	<u>S-25</u>
<u>Where You Can Find More Information</u>	<u>S-26</u>

Prospectus

<u>References to Additional Information</u>	<u>i</u>
<u>About This Prospectus</u>	<u>i</u>
<u>Forward-looking Statements</u>	<u>ii</u>
<u>The Company</u>	<u>1</u>
<u>Risk Factors</u>	<u>1</u>
<u>Use of Proceeds</u>	<u>1</u>
<u>Ratio of Earnings to Fixed Charges</u>	<u>2</u>
<u>Description of First and Refunding Mortgage Bonds</u>	<u>2</u>
<u>Description of Senior Notes</u>	<u>7</u>
<u>Description of Subordinated Notes</u>	<u>14</u>
<u>Global Securities</u>	<u>22</u>
<u>Plan of Distribution</u>	<u>23</u>
<u>Experts</u>	<u>24</u>
<u>Validity of the Securities</u>	<u>24</u>
<u>Where You Can Find More Information</u>	<u>24</u>

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering. The second part, the accompanying prospectus, gives more general information, some of which does not apply to this offering.

If the description of this offering varies between this prospectus supplement and the accompanying prospectus, you should rely on the information contained in or incorporated by reference in this prospectus supplement.

It is important for you to read and consider all information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus in making your investment decision. You should also read and consider the information contained in the documents to which we have referred you in "Where You Can Find More Information" in this prospectus supplement and the accompanying prospectus.

Unless we have indicated otherwise, or the context otherwise requires, references in this prospectus supplement and the accompanying prospectus to "Duke Energy Carolinas," "the Company," "we," "us" and "our" or similar terms are to Duke Energy Carolinas, LLC and its subsidiaries. References in this prospectus supplement to "Bonds" refers to all mortgage bonds from time to time issued under the Mortgage (as defined under "Description of the Mortgage Bonds"), including the Mortgage Bonds.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

The following summary is qualified in its entirety by, and should be read together with, the more detailed information that is included elsewhere in this prospectus supplement and the accompanying prospectus, as well as the information that is incorporated or deemed to be incorporated by reference in this prospectus supplement and the accompanying prospectus. See "Where You Can Find More Information" in this prospectus supplement for information about how you can obtain the information that is incorporated or deemed to be incorporated by reference in this prospectus supplement and the accompanying prospectus. Investing in the Mortgage Bonds involves risks. See "Risk Factors" in this prospectus supplement.

Duke Energy Carolinas, LLC

Duke Energy Carolinas, a North Carolina limited liability company and a wholly-owned subsidiary of Duke Energy Corporation, is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Our service area covers approximately 24,000 square miles and supplies electric service to 2.5 million residential, commercial and industrial customers. As of December 31, 2015, our asset portfolio included approximately 19,645 megawatts of owned generation capacity, 103,100 miles of distribution lines and 13,100 miles of transmission lines.

The address of our principal executive offices is 526 South Church Street, Charlotte, North Carolina 28202. Our telephone number is (704) 382-3853.

The foregoing information about Duke Energy Carolinas is only a general summary and is not intended to be comprehensive. For additional information about Duke Energy Carolinas, you should refer to the information described under the caption "Where You Can Find More Information" in this prospectus supplement.

Table of Contents

The Offering

Issuer	Duke Energy Carolinas, LLC
Securities Offered	We are offering \$600,000,000 aggregate principal amount of the Mortgage Bonds.
Maturity Date	The Mortgage Bonds will mature on December 1, 2026.
Interest Rate	The per year interest rate on the Mortgage Bonds will be 2.95%.
Interest Payment Dates	Interest on the Mortgage Bonds will be payable semi-annually in arrears on June 1 and December 1 of each year, beginning on June 1, 2017.
Ranking	The Mortgage Bonds are a new series of First and Refunding Mortgage Bonds and will rank equally with all our other First and Refunding Mortgage Bonds from time to time outstanding. See "Description of the Mortgage Bonds Security and Ranking." At September 30, 2016, we had outstanding approximately \$7.5 billion in aggregate principal amount of First and Refunding Mortgage Bonds, which will rank equally with the Mortgage Bonds.
Further Issuance	Subject to limits contained in our Mortgage that are described in the accompanying prospectus under "Description of First and Refunding Mortgage Bonds Issuance of Additional Bonds," we may, without the consent of the holders of a series of Bonds, reopen such series of Bonds (including the Mortgage Bonds) and issue additional Bonds of such series under the Mortgage in addition to the Bonds of such series originally authorized. We may issue Bonds having the same ranking, interest rate, maturity and other terms as the Mortgage Bonds being offered hereby; provided, however, that such additional Bonds must be fungible with the Mortgage Bonds offered hereby for U.S. federal income tax purposes, and any such additional Bonds, together with the Mortgage Bonds offered hereby, will be taken to constitute the same series of Bonds under the Mortgage.
Collateral	The Mortgage Bonds will be secured by a lien that covers substantially all of our properties, real, personal and mixed, and our franchises, including properties acquired after the date of the Mortgage, as supplemented, governing the Mortgage Bonds.
Certain Covenants	The Mortgage, which is described in this prospectus supplement under the caption "Description of the Mortgage Bonds," contains certain covenants that, among other things, limit our ability and the ability of certain of our subsidiaries to create liens on our assets. See "Description of the Mortgage Bonds" in this prospectus supplement and "Description of First and Refunding Mortgage Bonds" in the accompanying prospectus.

Table of Contents

Optional Redemption

At any time before September 1, 2026 (which is the date that is three months prior to maturity of the Mortgage Bonds (the "Par Call Date")), we will have the right to redeem the Mortgage Bonds, in whole or in part and from time to time, at a redemption price equal to the greater of (1) 100% of the principal amount of the Mortgage Bonds being redeemed and (2) the sum of the present values of the remaining scheduled payments of principal and interest on the Mortgage Bonds being redeemed that would be due if the Mortgage Bonds matured on the Par Call Date (exclusive of interest accrued to the redemption date), discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 15 basis points, plus, in either case, accrued and unpaid interest on the principal amount of the Mortgage Bonds being redeemed to, but excluding, such redemption date.

At any time on or after the Par Call Date, we will have the right to redeem the Mortgage Bonds, in whole or in part and from time to time, at a redemption price equal to 100% of the principal amount of the Mortgage Bonds being redeemed plus accrued and unpaid interest on the principal amount of the Mortgage Bonds being redeemed to, but excluding, such redemption date. See "Description of the Mortgage Bonds Optional Redemption."

The Mortgage Bonds will also be redeemable through the operation of the Replacement Fund or upon application of moneys arising from a taking of any of the underlying mortgaged property by eminent domain or similar action at any time or from time to time at the special redemption price of 100% of their principal amount, together with accrued and unpaid interest to, but excluding, the redemption date. We have agreed not to apply any cash deposited with the Bond Trustee pursuant to the Replacement Fund to the redemption of the Mortgage Bonds so long as any of the First and Refunding Mortgage Bonds presently outstanding and entitled to the benefit of the Replacement Fund remain outstanding. See "Description of First and Refunding Mortgage Bonds Replacement Fund" in the accompanying prospectus.

No Sinking Fund

The Mortgage Bonds will not be entitled to the benefit of any sinking fund.

Table of Contents

Basis of Issuance of Additional Bonds	We will issue the Mortgage Bonds upon the basis of the net amount of additional property (electric) previously certified to the Bond Trustee. Under the terms of the Mortgage, assuming that the applicable net earnings requirements are satisfied under the Mortgage, as of March 31, 2016, we could issue additional Bonds in amounts equal to approximately (i) \$9.9 billion based upon the net amount of additional property (electric) certified to the Bond Trustee after February 18, 1949 (approximately \$9.3 billion after giving effect to this offering) and (ii) \$0.4 billion based upon the amount of previously authenticated and delivered Bonds that have been retired.
Use of Proceeds	The net proceeds from the sale of the Mortgage Bonds, after deducting the underwriting discount and related offering expenses and giving effect to the underwriters' payment to us, will be approximately \$595.3 million. The net proceeds from the sale of the Mortgage Bonds will be used (i) to repay at maturity \$350 million aggregate principal amount of our First and Refunding Mortgage Bonds, 1.75% due December 15, 2016 (the "1.75% Bonds") and (ii) to fund capital expenditures for ongoing construction, capital maintenance and for general company purposes.
Conflicts of Interest	Some of the underwriters or their affiliates may own some of the 1.75% Bonds which would be repaid with a portion of the net proceeds from the sale of the Mortgage Bonds. See "Underwriting (Conflicts of Interest) Conflicts of Interest."
Book-Entry	The Mortgage Bonds will be represented by one or more global securities registered in the name of and deposited with or on behalf of The Depository Trust Company ("DTC") or its nominee. Beneficial interests in the Mortgage Bonds will be represented through book-entry accounts of financial institutions acting on behalf of beneficial owners as direct and indirect participants in DTC. Investors may elect to hold interests in the global securities through either DTC in the United States or Clearstream Banking, <i>société anonyme</i> , Luxembourg ("Clearstream, Luxembourg") or Euroclear Bank S.A./N.V., as operator of the Euroclear System (the "Euroclear System") in Europe if they are participants in those systems, or indirectly through organizations which are participants in those systems. This means that you will not receive a certificate for your Mortgage Bonds and Mortgage Bonds will not be registered in your name, except under certain limited circumstances described under the caption "Book-Entry System."
Bond Trustee	The Bank of New York Mellon Trust Company, N.A.

Table of Contents

RISK FACTORS

You should carefully consider the risk factors in our Annual Report on Form 10-K for the year ended December 31, 2015, which has been filed with the Securities and Exchange Commission (the "SEC") and is incorporated by reference in this prospectus supplement and the accompanying prospectus, as well as all of the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment decision.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This prospectus supplement, the accompanying prospectus, and the information incorporated by reference herein and therein, include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements are based on management's beliefs and assumptions and can often be identified by terms and phrases that include "anticipate," "believe," "intend," "estimate," "expect," "continue," "should," "could," "may," "plan," "project," "predict," "will," "potential," "forecast," "target," "guidance," "outlook," or other similar terminology. Various factors may cause actual results to be materially different than the suggested outcomes within forward-looking statements; accordingly, there is no assurance that such results will be realized. These factors include, but are not limited to:

State and federal legislative and regulatory initiatives, including costs of compliance with existing and future environmental requirements or climate change, as well as rulings that affect cost and investment recovery or have an impact on rate structures or market prices;

The extent and timing of costs and liabilities to comply with federal and state laws, regulations, and legal requirements related to coal ash remediation, including amounts for required closure of certain ash impoundments, are uncertain and difficult to estimate;

The ability to recover eligible costs, including amounts associated with coal ash impoundment retirement obligations and costs related to significant weather events, and to earn an adequate return on investment through the regulatory process;

The costs of decommissioning nuclear facilities could prove to be more extensive than amounts estimated and all costs may not be fully recoverable through the regulatory process;

The risk that the credit ratings of Duke Energy Carolinas or its subsidiaries may be different from what we expect;

Costs and effects of legal and administrative proceedings, settlements, investigations and claims;

Industrial, commercial and residential growth or decline in our service territories or customer bases resulting from variations in customer usage patterns, including energy efficiency efforts and use of alternative energy sources, including self-generation and distributed generation technologies;

Federal and state regulations, laws and other efforts designed to promote and expand the use of energy efficiency measures and distributed generation technologies, such as rooftop solar and battery storage, in Duke Energy Carolinas service territories could result in customers leaving the electric distribution system, excess generation resources as well as stranded costs;

Advancements in technology;

Additional competition in electric markets and continued industry consolidation;

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

The influence of weather and other natural phenomena on our operations, including the economic, operational and other effects of severe storms, hurricanes, droughts, earthquakes and tornadoes;

The ability to successfully operate electric generating facilities and deliver electricity to customers including direct or indirect effects to Duke Energy Carolinas resulting from an incident that affects the U.S. electric grid or generating resources;

The impact on our facilities and business from a terrorist attack, cybersecurity threats, data security breaches, and other catastrophic events such as fires, explosions, pandemic health events or other similar occurrences;

The inherent risks associated with the operation and potential construction of nuclear facilities, including environmental, health, safety, regulatory and financial risks;

The timing and extent of changes in commodity prices, interest rates and foreign currency exchange rates and the ability to recover such costs through the regulatory process, where appropriate, and their impact on liquidity positions and the value of underlying assets;

The results of financing efforts, including our ability to obtain financing on favorable terms, which can be affected by various factors, including our credit ratings, interest rate fluctuations and general economic conditions;

Declines in the market prices of equity and fixed-income securities and resultant cash funding requirements for defined benefit pension plans, other post-retirement benefit plans, and nuclear decommissioning trust funds;

Construction and development risks associated with the completion of our capital investment projects, including risks related to financing, obtaining and complying with terms of permits, meeting construction budgets and schedules, and satisfying operating and environmental performance standards, as well as the ability to recover costs from customers in a timely manner or at all;

Changes in rules for regional transmission organizations, including changes in rate designs and new and evolving capacity markets, and risks related to obligations created by the default of other participants;

The ability to control operation and maintenance costs;

The level of creditworthiness of counterparties to transactions;

Employee workforce factors, including the potential inability to attract and retain key personnel; and

The effect of accounting pronouncements issued periodically by accounting standard-setting bodies.

Additional risks and uncertainties are identified and discussed in our reports filed with the SEC and available at the SEC's website. In light of these risks, uncertainties and assumptions, the events described in the forward-looking statements included or incorporated by reference in this prospectus supplement and the accompanying prospectus might not occur or might occur to a different extent or at a different time than described. Forward-looking statements speak only as of the date they are made and we expressly disclaim an obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Table of Contents

RATIOS OF EARNINGS TO FIXED CHARGES

The ratios of earnings to fixed charges have been calculated using the SEC guidelines.

	Nine Months Ended September 30, 2016		2015	Year Ended December 31, 2014201320122011								
	(dollars in millions)											
Earnings as defined for fixed charges calculation:												
Add:												
Pretax income from continuing operations	\$	1,566	\$	1,709	\$	1,661	\$	1,571	\$	1,322	\$	1,306
Fixed charges		349		456		457		461		467		450
Total earnings	\$	1,915	\$	2,165	\$	2,118	\$	2,032	\$	1,789	\$	1,756
Fixed charges:												
Interest on debt, including capitalized portions	\$	347	\$	453	\$	445	\$	452	\$	455	\$	437
Estimate of interest within rental expense		2		3		12		9		12		13
Total fixed charges	\$	349	\$	456	\$	457	\$	461	\$	467	\$	450
Ratio of earnings to fixed charges		5.5		4.7		4.6		4.4		3.8		3.9

USE OF PROCEEDS

The net proceeds from the sale of the Mortgage Bonds, after deducting the underwriting discount and related offering expenses and giving effect to the underwriters' payment to us, will be approximately \$595.3 million. The net proceeds from the sale of the Mortgage Bonds will be used (i) to repay at maturity \$350 million aggregate principal amount of our First and Refunding Mortgage Bonds, 1.75% due December 15, 2016 (the "1.75% Bonds") and (ii) to fund capital expenditures for ongoing construction, capital maintenance and for general company purposes. Some of the underwriters or their affiliates may own some of the 1.75% Bonds which would be repaid with a portion of the net proceeds from the sale of the Mortgage Bonds. See "Underwriting (Conflicts of Interest) Conflicts of Interest."

Table of Contents

DESCRIPTION OF THE MORTGAGE BONDS

We will issue the Mortgage Bonds as a new series of First and Refunding Mortgage Bonds under our First and Refunding Mortgage, dated as of December 1, 1927 (the "First and Refunding Mortgage") to The Bank of New York Mellon Trust Company, N.A., as Trustee (the "Bond Trustee"). The First and Refunding Mortgage is supplemented by supplemental indentures, including by the Ninety-eighth Supplemental Indenture to be dated as of November 17, 2016 (the "Ninety-eighth Supplemental Indenture"). In the following discussion, we will refer to the First and Refunding Mortgage and all supplemental indentures to the First and Refunding Mortgage together as the "Mortgage." The term "Bonds" refers to all mortgage bonds from time to time issued under the Mortgage, including the Mortgage Bonds.

Please read the following information concerning the Mortgage Bonds in conjunction with the statements under "Description of First and Refunding Mortgage Bonds" in the accompanying prospectus, which the following information supplements and, in the event of any inconsistencies, supersedes. Capitalized terms not defined in this prospectus supplement are used as defined in the Mortgage and the Ninety-eighth Supplemental Indenture or as otherwise provided in the accompanying prospectus.

General

The Mortgage Bonds will be issued as a new series of First and Refunding Mortgage Bonds under the Mortgage. The Mortgage Bonds being offered hereby will be issued in the aggregate principal amount of \$600,000,000 and will mature on December 1, 2026. The amount of Bonds that we may issue under the Mortgage is unlimited, subject to limits contained in the Mortgage that are described below under "Basis for Issuance of the Mortgage Bonds" and described in the accompanying prospectus under "Description of First and Refunding Mortgage Bonds Issuance of Additional Bonds." Subject to limits contained in the Mortgage that are described in the accompanying prospectus under "Description of First and Refunding Mortgage Bonds Issuance of Additional Bonds," we may, without the consent of the holders of a series of Bonds, reopen such series of Bonds (including the Mortgage Bonds) and issue additional Bonds of such series under the Mortgage in addition to the Bonds of such series originally authorized. We may issue Bonds having the same ranking, interest rate, maturity and other terms as the Mortgage Bonds being offered hereby; provided, however, that such additional Bonds must be fungible with the Mortgage Bonds offered hereby for U.S. federal income tax purposes, and any such additional Bonds, together with the Mortgage Bonds offered hereby, will be taken to constitute the same series of Bonds under the Mortgage.

We will issue the Mortgage Bonds only in fully registered form without coupons and there will be no service charge for any transfers and exchanges of the Mortgage Bonds. We may, however, require payment to cover any stamp tax or other governmental charge payable in connection with any transfer or exchange. Transfers and exchanges of the Mortgage Bonds may be made at The Bank of New York Mellon Trust Company, N.A., 101 Barclay Street, New York, New York 10286 or at any other office maintained by us for such purpose.

The Mortgage Bonds will be issuable in denominations of \$2,000 and integral multiples of \$1,000 in excess thereof.

Interest

Interest on the Mortgage Bonds will accrue at the rate of 2.95% per year from November 17, 2016 or from the most recent interest payment date to which interest on the Mortgage Bonds has been paid or provided for. We will make each interest payment on the Mortgage Bonds semi-annually in arrears on June 1 and December 1 of each year, commencing June 1, 2017, to each holder of record at the close of business on the May 15 and November 15 (whether or not a business day) preceding the

Table of Contents

applicable interest payment date until the principal amount has been paid or made available for payment. Interest on the Mortgage Bonds will be computed on the basis of a 360-day year consisting of twelve 30-day months.

Optional Redemption

At any time before September 1, 2026 (which is the date that is three months prior to maturity of the Mortgage Bonds (the "Par Call Date")), we will have the right to redeem the Mortgage Bonds, in whole or in part and from time to time, at a redemption price equal to the greater of (1) 100% of the principal amount of the Mortgage Bonds being redeemed and (2) the sum of the present values of the remaining scheduled payments of principal and interest on the Mortgage Bonds being redeemed that would be due if the Mortgage Bonds matured on the Par Call Date (exclusive of interest accrued to the redemption date), discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 15 basis points, plus, in either case, accrued and unpaid interest on the principal amount of the Mortgage Bonds being redeemed to, but excluding, such redemption date.

At any time on or after the Par Call Date, we will have the right to redeem the Mortgage Bonds, in whole or in part and from time to time, at a redemption price equal to 100% of the principal amount of the Mortgage Bonds being redeemed plus accrued and unpaid interest on the principal amount of the Mortgage Bonds being redeemed to, but excluding, such redemption date.

For purposes of these redemption provisions, the following terms have the following meanings:

"*Comparable Treasury Issue*" means the United States Treasury security selected by the Quotation Agent as having an actual or interpolated maturity comparable to the remaining term of the Mortgage Bonds to be redeemed (assuming, for this purpose, that the Mortgage Bonds matured on the Par Call Date), that would be utilized at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of a comparable maturity to the remaining term of the Mortgage Bonds.

"*Comparable Treasury Price*" means, with respect to any redemption date, (A) the average of the Reference Treasury Dealer Quotations for such redemption date, after excluding the highest and lowest of such Reference Treasury Dealer Quotations, or (B) if the Quotation Agent obtains fewer than four of such Reference Treasury Dealer Quotations, the average of all such Reference Treasury Dealer Quotations as determined by us.

"*Quotation Agent*" means one of the Reference Treasury Dealers appointed by us.

"*Reference Treasury Dealer*" means each of BNP Paribas Securities Corp., Goldman, Sachs & Co., Mizuho Securities USA Inc., and RBC Capital Markets, LLC, plus one other financial institution appointed by us at the time of any redemption, or their respective affiliates or successors, each of which is a primary U.S. Government securities dealer in the United States (a "Primary Treasury Dealer"); provided, however, that if any of the foregoing or their affiliates or successors shall cease to be a Primary Treasury Dealer, we shall substitute therefor another Primary Treasury Dealer.

"*Reference Treasury Dealer Quotations*" means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Quotation Agent, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Quotation Agent by such Reference Treasury Dealer at 5:00 p.m., New York City time, on the third business day preceding such redemption date.

"*Treasury Rate*" means, with respect to any redemption date, the rate per annum equal to the semi-annual equivalent yield to maturity or interpolated maturity (on a day count basis) of the

Table of Contents

Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date.

The Mortgage Bonds will also be redeemable through the operation of the Replacement Fund or upon application of moneys arising from a taking of any of the underlying mortgaged property by eminent domain or similar action at any time or from time to time at the special redemption price of 100% of their principal amount, together with accrued and unpaid interest to, but excluding, the redemption date. We have agreed not to apply any cash deposited with the Bond Trustee pursuant to the Replacement Fund to the redemption of the Mortgage Bonds so long as any of the First and Refunding Mortgage Bonds presently outstanding and entitled to the benefit of the Replacement Fund remain outstanding.

Redemption Procedures

We will provide not less than 30 nor more than 60 days' notice to each registered holder of the Mortgage Bonds to be redeemed, which, as long as the Mortgage Bonds are held in the book-entry only system referred to below, will be DTC, its nominee or a successor depository or a nominee thereof. If the redemption notice is given and funds deposited as required, then interest will cease to accrue on and after the redemption date on the Mortgage Bonds or portions of such Mortgage Bonds called for redemption. In the event that any redemption date is not a business day, we will pay the redemption price on the next business day without any interest or other payment due to the delay. So long as the Mortgage Bonds are registered in the name of DTC or its nominee, if we elect to redeem less than all of the Mortgage Bonds, DTC's practice is to determine by lot the amount of the interest of each direct participant in DTC in the Mortgage Bonds to be redeemed. At all other times, the Bond Trustee shall determine by lot, in such manner as it in its uncontrolled discretion shall determine to be fair, the particular Mortgage Bonds, or portions of them, to be redeemed. For further information on DTC and its practices, see "Book-Entry System The Depository Trust Company" below.

Release Provisions

The Mortgage permits us to dispose of certain property and to take other actions without the Bond Trustee releasing that property. The Mortgage also permits the release of mortgaged property if we deposit cash or other consideration equal to the value of the mortgaged property to be released. In certain events and within certain limitations, the Bond Trustee is required to pay out cash that the Bond Trustee receives other than for the Replacement Fund or as the basis for issuing Bonds upon Duke Energy Carolinas' application.

We may withdraw cash that we deposited with the Bond Trustee as the basis for issuing Bonds in an amount equal to the principal amount of any Bonds that we are entitled to have authenticated and delivered on the basis of additional property (electric), on the basis of Bonds previously authenticated and delivered or on the basis of refundable prior lien bonds.

Security and Ranking

The Mortgage Bonds are a new series of Bonds and will rank equally with all other Bonds from time to time outstanding. At September 30, 2016, we had outstanding approximately \$7.5 billion in aggregate principal amount of outstanding Bonds, which will rank equally with the Mortgage Bonds. The Mortgage creates a continuing lien to secure the payment of principal and interest on the Bonds. All the Bonds are equally and ratably secured without preference, priority or distinction. With some exceptions, the lien of the Mortgage covers substantially all of our properties, real, personal and mixed, and our franchises, including properties acquired after the date of the Mortgage. Those exceptions include cash, accounts receivable, inventories of materials and supplies, merchandise held for sale,

Table of Contents

securities that we hold, after-acquired property not useful in our electric business and after-acquired franchises not useful for the properties subject to the lien of the Mortgage.

We have not made any appraisal of the value of the properties subject to the lien of the Mortgage. The value of the properties in the event of liquidation will depend on market and economic conditions, the availability of buyers and other factors. In the event of liquidation, if the proceeds were not sufficient to repay amounts under all of the Bonds then outstanding, then holders of the Bonds, to the extent not repaid from the proceeds of the sale of the collateral, would only have an unsecured claim against our remaining assets. As of September 30, 2016, we had approximately \$9.4 billion of outstanding indebtedness, consisting of approximately \$8.0 billion of total senior secured indebtedness and approximately \$1.4 billion of total senior unsecured indebtedness.

The lien of the Mortgage is subject to certain permitted liens and to liens that exist upon properties that we acquired after we entered into the Mortgage to the extent of the amounts of prior lien bonds secured by those properties (not, however, exceeding 75% of the cost or value of those properties) and additions to those properties. "Prior lien bonds" are bonds or other indebtedness that are secured at the time of acquisition by a lien upon property that we acquire after the date of the Mortgage that becomes subject to the lien of the Mortgage.

Sinking Fund

The Mortgage Bonds will not be entitled to the benefit of any sinking fund.

Amendments of the Mortgage

Subject to some exceptions, we may amend the Mortgage with the consent of the holders of 66²/₃% in principal amount of the Bonds and we may amend the Mortgage for the benefit of the holders of Mortgage Bonds offered hereby without the consent of the holders of such Mortgage Bonds. No amendment, however, which requires holder consent as aforesaid, may affect the rights under the Mortgage of the holders of less than all of the series of Bonds outstanding unless the holders of 66²/₃% in principal amount of the Bonds of each series affected consent to the amendment. The covenants included in the Ninety-eighth Supplemental Indenture for the Mortgage Bonds offered hereby are solely for the benefit of the holders of such Mortgage Bonds offered pursuant to this prospectus supplement.

Events of Default

The Bond Trustee may, and at the written request of the holders of a majority in principal amount of the outstanding Bonds will, declare the principal of all outstanding Bonds due when any event of default under the Mortgage occurs. The holders of a majority in principal amount of the outstanding Bonds may, however, waive the default and rescind the declaration if we cure the default. We provide a statement from an officer each year to the Bond Trustee stating whether we have complied with the covenants of the Mortgage.

Basis for Issuance of the Mortgage Bonds

We will issue the Mortgage Bonds upon the basis of the net amount of additional property (electric) previously certified to the Bond Trustee. Under the terms of the Mortgage, assuming that the applicable net earnings requirements are satisfied under the Mortgage, as of March 31, 2016, we could issue additional Bonds in amounts equal to approximately (i) \$9.9 billion based upon the net amount of additional property (electric) certified to the Bond Trustee after February 18, 1949 (approximately \$9.3 billion after giving effect to this offering) and (ii) \$0.4 billion based upon the amount of previously authenticated and delivered Bonds that have been retired. For more information on our ability to issue

Table of Contents

additional Bonds, see "Description of First and Refunding Mortgage Bonds Issuance of Additional Bonds" in the accompanying prospectus.

Concerning the Bond Trustee

The Bank of New York Mellon Trust Company, N.A. is the Bond Trustee. Duke Energy Carolinas and some of its affiliates have banking relationships with The Bank of New York Mellon, an affiliate of the Bond Trustee. The Bank of New York Mellon Trust Company, N.A. or its affiliate also serves as trustee or agent under other indentures and agreements pursuant to which securities of Duke Energy Carolinas and of some of its affiliates are outstanding.

The Bond Trustee is under no obligation to exercise any of its powers at the request of any of the holders of the Bonds unless the holders thereof have offered to the Bond Trustee security or indemnity satisfactory to it against the costs, expenses and liabilities it might incur as a result. The holders of a majority in principal amount of the Bonds outstanding may direct the time, method and place of conducting any proceeding for any remedy available to the Bond Trustee, or the exercise of any trust or power of the Bond Trustee. The Bond Trustee will not be liable for any action that it takes or omits to take in good faith in accordance with any such direction.

Table of Contents

U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following discussion summarizes certain U.S. federal income tax considerations relevant to the acquisition, ownership and disposition of the Mortgage Bonds, and does not purport to be a complete analysis of all potential U.S. federal income tax considerations. This discussion only applies to Mortgage Bonds that are held as capital assets, within the meaning of section 1221 of the Internal Revenue Code of 1986, as amended (the "Code"), and that are purchased in the initial offering at the initial offering price by Non-U.S. Holders (as defined below). This summary is based on the Code, administrative pronouncements, judicial decisions and regulations of the Treasury Department, changes to any of which subsequent to the date of this prospectus supplement may affect the tax consequences described herein. This discussion does not describe all of the U.S. federal income tax considerations that may be relevant to Non-U.S. Holders in light of their particular circumstances or to Non-U.S. Holders subject to special rules, such as certain financial institutions, tax-exempt organizations, insurance companies, traders or dealers in securities or commodities, persons holding Mortgage Bonds as part of a hedge or other integrated transaction, or certain former citizens or residents of the United States. This discussion does not address any U.S. federal income tax consequences for U.S. taxpayers who purchase Mortgage Bonds. Persons considering the purchase of Mortgage Bonds are urged to consult their tax advisors with regard to the application of the U.S. federal income tax laws to their particular situations as well as any tax consequences arising under the laws of any state, local or foreign taxing jurisdiction. Furthermore, this discussion does not describe the effect of U.S. federal estate and gift tax laws or the effect of any applicable foreign, state or local laws.

We have not and will not seek any rulings or opinions from the Internal Revenue Service (the "IRS") with respect to the matters discussed below. There can be no assurance that the IRS will not take a different position concerning the tax consequences of the acquisition, ownership or disposition of the Mortgage Bonds or that any such position would not be sustained.

Prospective investors should consult their own tax advisors with regard to the application of the U.S. federal income tax considerations discussed below to their particular situations as well as the application of any state, local, foreign or other tax laws, including gift and estate tax laws.

For purposes of this summary, a "Non-U.S. Holder" means a beneficial owner of a Mortgage Bond that, for U.S. federal income tax purposes, is not (i) an individual that is a citizen or resident of the United States; (ii) a corporation or other entity treated as a corporation for U.S. federal income tax purposes that is created or organized under the laws of the United States, any state thereof or the District of Columbia; (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source; or (iv) a trust if (A) a court within the United States is able to exercise primary supervision over its administration and one or more United States persons (as defined in the Code) have the authority to control all substantial decisions of such trust, or (B) the trust has made an election under the applicable Treasury regulations to be treated as a United States person.

If a partnership, or other entity or arrangement treated as a partnership for U.S. federal income tax purposes, holds Mortgage Bonds, the tax treatment of a partner in such a partnership will generally depend upon the status of the partner and the activities of the partnership. Partners in a partnership holding Mortgage Bonds should consult their tax advisor as to the particular U.S. federal income tax considerations relevant to the acquisition, ownership and disposition of the Mortgage Bonds applicable to them.

Interest

It is anticipated, and this discussion assumes, that the Mortgage Bonds will not be issued with more than a de minimis amount of original issue discount. Except if interest on the Mortgage Bonds is effectively connected with the conduct by a Non-U.S. Holder of a trade or business within the United States, and subject to the FATCA discussion below, a Non-U.S. Holder generally will not be subject to

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

U.S. federal income or withholding tax on payments of interest on the Mortgage Bonds provided that such Non-U.S. Holder (A) does not directly or indirectly, actually or constructively, own 10% or more of the total combined voting power of all classes of our stock entitled to vote, (B) is not a controlled foreign corporation that is related to us directly or constructively through stock ownership, (C) is not a bank receiving such interest on an extension of credit made pursuant to a loan agreement entered into in the ordinary course of its trade or business, and (D) satisfies certain certification requirements. Such certification requirements will be met if (x) the Non-U.S. Holder provides its name and address, and certifies on an IRS Form W-8BEN or IRS Form W-8BEN-E (or a substantially similar form), under penalties of perjury, that it is not a United States person or (y) a securities clearing organization or certain other financial institutions holding the Mortgage Bonds on behalf of the Non-U.S. Holder certifies on IRS Form W-8IMY, under penalties of perjury, that such certification has been received by it and furnishes us or our paying agent with a copy thereof. In addition, we or our paying agent must not have actual knowledge or reason to know that the beneficial owner of the Mortgage Bonds is a United States person.

If interest on the Mortgage Bonds is not effectively connected with the conduct by the Non-U.S. Holder of a trade or business within the United States, but such Non-U.S. Holder does not satisfy the other requirements outlined in the preceding paragraph, interest on the Mortgage Bonds generally will be subject to U.S. withholding tax at a 30% rate (or a lower applicable treaty rate).

If interest on the Mortgage Bonds is effectively connected with the conduct by a Non-U.S. Holder of a trade or business within the United States, and, if certain tax treaties apply, is attributable to a permanent establishment or fixed base within the United States, the Non-U.S. Holder generally will be subject to U.S. federal income tax on a net income basis at the rate applicable to United States persons generally (and, with respect to corporate holders, may also be subject to a 30% branch profits tax or a lower applicable treaty branch profits tax rate). If interest is subject to U.S. federal income tax on a net income basis in accordance with these rules, such interest payments will not be subject to U.S. withholding tax so long as the Non-U.S. Holder provides us or our paying agent with the appropriate documentation (generally an IRS Form W-8ECI).

Sale or Other Taxable Disposition of the Mortgage Bonds

Subject to the FATCA discussion below, a Non-U.S. Holder generally will not be subject to U.S. federal withholding tax with respect to gain, if any, recognized on the sale or other taxable disposition of the Mortgage Bonds. A Non-U.S. Holder will also generally not be subject to U.S. federal income tax with respect to such gain, unless (i) the gain is effectively connected with the conduct by such Non-U.S. Holder of a trade or business within the United States, and, if certain tax treaties apply, is attributable to a permanent establishment or fixed base within the United States, or (ii) in the case of a Non-U.S. Holder that is a nonresident alien individual, such Non-U.S. Holder is present in the United States for 183 or more days in the taxable year of the disposition and certain other conditions are satisfied. In the case described in (i) above, gain or loss recognized on the disposition of such Mortgage Bonds generally will be subject to U.S. federal income taxation in the same manner as if such gain or loss were recognized by a United States person, and, in the case of a Non-U.S. Holder that is a foreign corporation, may also be subject to the branch profits tax at a rate of 30% (or a lower applicable treaty branch profits tax rate). In the case described in (ii) above, the Non-U.S. Holder will be subject to a 30% tax on any capital gain recognized on the disposition of the Mortgage Bonds (after being offset by certain U.S. source capital losses).

Information Reporting and Backup Withholding

Information returns will be filed annually with the IRS in connection with payments we make on the Mortgage Bonds. Copies of these information returns may also be made available under the provisions of a specific tax treaty or other agreement to the tax authorities of the country in which the

Table of Contents

Non-U.S. Holder resides. Unless the Non-U.S. Holder complies with certification procedures to establish that it is not a United States person, information returns may be filed with the IRS in connection with the proceeds from a sale or other disposition of the Mortgage Bonds, and the Non-U.S. Holder may be subject to backup withholding tax (currently at a rate of 28%) on payments on the Mortgage Bonds or on the proceeds from a sale or other disposition of the Mortgage Bonds. The certification procedures required to claim the exemption from withholding tax on interest described above will satisfy the certification requirements necessary to avoid the backup withholding tax as well. The amount of any backup withholding from a payment to a Non-U.S. Holder will be allowed as a credit against the Non-U.S. Holder's U.S. federal income tax liability and may entitle the Non-U.S. Holder to a refund, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance Act

Under the Foreign Account Tax Compliance Act and related IRS guidance ("FATCA"), a 30% U.S. withholding tax is imposed on certain payments (which currently includes interest payments on the Mortgage Bonds and will include gross proceeds, including the return of principal, from the sale or other disposition, including redemptions, of the Mortgage Bonds beginning January 1, 2019) made to a non-United States entity that fails to take required steps to provide information regarding its "United States accounts" or its direct or indirect "substantial United States owners," as applicable, or to make a required certification that it has no such accounts or owners. We will not be obligated to make any "gross up" or additional payments in respect of amounts withheld on the Mortgage Bonds if we determine that we must so withhold in order to comply with FATCA in respect of the amounts described above. Prospective investors should consult their own tax advisors regarding FATCA and whether it may be relevant to the ownership and disposition of the Mortgage Bonds.

BOOK-ENTRY SYSTEM

We have obtained the information in this section concerning DTC and its book-entry system and procedures from sources that we believe to be reliable, but we take no responsibility for the accuracy of this information.

The Mortgage Bonds will be represented by one or more fully registered global securities. Any such global security will be deposited with, or on behalf of, DTC or any successor thereto and registered in the name of Cede & Co., DTC's nominee.

Investors may elect to hold interests in a global security through either DTC in the United States or Clearstream, Luxembourg or the Euroclear System in Europe if they are participants of such systems, or indirectly through organizations which are participants in such systems. Clearstream, Luxembourg and the Euroclear System will hold interests on behalf of their participants through customers' securities accounts in Clearstream, Luxembourg's and the Euroclear System's names on the books of their respective depositaries, which in turn will hold such interests in customers' securities accounts in the depositaries' names on the books of DTC. Citibank, N.A. will act as depositary for Clearstream, Luxembourg and JPMorgan Chase Bank, N.A. will act as depositary for the Euroclear System (in such capacities, the "U.S. Depositaries").

You may hold your interests in a global security in the United States through DTC, either as a participant in such system or indirectly through organizations which are participants in such system. So long as DTC or its nominee is the registered owner of the global securities representing the Mortgage Bonds, DTC or such nominee will be considered the sole owner and holder of the Mortgage Bonds for all purposes of the Mortgage Bonds and the Mortgage. Except as provided below, owners of beneficial interests in the Mortgage Bonds will not be entitled to have the Mortgage Bonds registered in their names, will not receive or be entitled to receive physical delivery of the Mortgage Bonds in definitive form and will not be considered the owners or holders of the Mortgage Bonds under the Mortgage,

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

including for purposes of receiving any reports that we or the Bond Trustee deliver pursuant to the Mortgage. Accordingly, each person owning a beneficial interest in a Mortgage Bond must rely on the procedures of DTC or its nominee and, if such person is not a participant, on the procedures of the participant through which such person owns its interest, in order to exercise any rights of a holder of Mortgage Bonds.

Unless and until we issue the Mortgage Bonds in fully certificated form under the limited circumstances described below under the heading "Certificated Mortgage Bonds":

you will not be entitled to receive physical delivery of a certificate representing your interest in the Mortgage Bonds;

all references in this prospectus supplement or in the accompanying prospectus to actions by holders will refer to actions taken by DTC upon instructions from its direct participants; and

all references in this prospectus supplement or the accompanying prospectus to payments and notices to holders will refer to payments and notices to DTC or Cede & Co., as the registered holder of the Mortgage Bonds, for distribution to you in accordance with DTC procedures.

The Depository Trust Company

DTC will act as securities depository for the Mortgage Bonds. The Mortgage Bonds will be issued as fully registered securities registered in the name of Cede & Co. DTC is:

a limited-purpose trust company organized under the New York Banking Law;

a "banking organization" within the meaning of the New York Banking Law;

a member of the Federal Reserve System;

a "clearing corporation" within the meaning of the New York Uniform Commercial Code; and

a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended.

DTC holds securities that its direct participants deposit with DTC. DTC also facilitates the post-trade settlement among direct participants of sales and other securities transactions, in deposited securities through electronic computerized book-entry transfers and pledges between direct participants' accounts, thereby eliminating the need for physical movement of securities certificates.

Direct participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to indirect participants such as securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC. More information about DTC can be found at www.dtcc.com. The contents of such website do not constitute part of this prospectus supplement.

If you are not a direct participant or an indirect participant and you wish to purchase, sell or otherwise transfer ownership of, or other interests in the Mortgage Bonds, you must do so through a direct participant or an indirect participant. DTC agrees with and represents to DTC participants that it will administer its book-entry system in accordance with its rules and by-laws and requirements of law. The SEC has on file a set of the rules applicable to DTC and its direct participants.

Table of Contents

Purchases of the Mortgage Bonds under DTC's system must be made by or through direct participants, which will receive a credit for the Mortgage Bonds on DTC's records. The ownership interest of each beneficial owner is in turn to be recorded on the records of direct participants and indirect participants. Beneficial owners will not receive written confirmation from DTC of their purchase, but beneficial owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the direct or indirect participants through which such beneficial owners entered into the transaction. Transfers of ownership interests in the Mortgage Bonds are to be accomplished by entries made on the books of direct and indirect participants acting on behalf of beneficial owners. Beneficial owners will not receive physical delivery of certificates representing their ownership interests in the Mortgage Bonds, except as provided below in "Certificated Mortgage Bonds."

To facilitate subsequent transfers, all Mortgage Bonds deposited by direct participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Mortgage Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee has no effect on beneficial ownership. DTC has no knowledge of the actual beneficial owners of the Mortgage Bonds. DTC's records reflect only the identity of the direct participants to whose accounts such Mortgage Bonds are credited, which may or may not be the beneficial owners. The direct and indirect participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct and indirect participants to beneficial owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Book-Entry Format

Under the book-entry format, the Bond Trustee will pay interest and principal payments to Cede & Co., as nominee of DTC. DTC will forward the payment to the direct participants, who will then forward the payment to the indirect participants or to the beneficial owners. You may experience some delay in receiving your payments under this system.

DTC is required to make book-entry transfers on behalf of its direct participants and is required to receive and transmit payments of principal, premium, if any, and interest on the Mortgage Bonds. Any direct participant or indirect participant with which you have an account is similarly required to make book-entry transfers and to receive and transmit payments with respect to Mortgage Bonds on your behalf. We and the Bond Trustee have no responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in the Mortgage Bonds or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

The Bond Trustee will not recognize you as a holder of any Mortgage Bonds under the Mortgage and you can only exercise the rights of a holder indirectly through DTC and its direct participants. DTC has advised us that it will only take action regarding a Mortgage Bond if one or more of the direct participants to whom the Mortgage Bond is credited direct DTC to take such action. DTC can only act on behalf of its direct participants. Your ability to pledge Mortgage Bonds to indirect participants, and to take other actions, may be limited because you will not possess a physical certificate that represents your Mortgage Bonds.

Certificated Mortgage Bonds

Unless and until they are exchanged, in whole or in part, for Mortgage Bonds in definitive form in accordance with the terms of the Mortgage Bonds, the Mortgage Bonds may not be transferred except as a whole by DTC to a nominee of DTC; as a whole by a nominee of DTC to DTC or another nominee of DTC; or as a whole by DTC or a nominee of DTC to a successor of DTC or a nominee of such successor.

Table of Contents

We will issue Mortgage Bonds to you or your nominees, in fully certificated registered form, rather than to DTC or its nominees, only if:

DTC notifies us that it is unwilling or unable to continue as securities depository or DTC is no longer a registered clearing agency under the Securities Exchange Act of 1934, as amended, and we are unable to appoint a qualified successor within 90 days;

an event of default has occurred and is continuing with respect to the Mortgage Bonds; or

we, at our option, and subject to DTC's procedures, elect to effect an exchange of global securities for Mortgage Bonds issued to you or your nominees.

If any of the above events occurs, DTC is required to notify all direct participants that Mortgage Bonds in fully certificated registered form are available through DTC. DTC will then surrender each global security representing the Mortgage Bonds along with instructions for re-registration. The Bond Trustee will re-issue the Mortgage Bonds in fully certificated registered form and will recognize the registered holders of the certificated Mortgage Bonds as holders under the Mortgage.

Global Clearance and Settlement Procedures

Initial settlement for the Mortgage Bonds will be made in immediately available funds. Secondary market trading between DTC participants will occur in the ordinary way in accordance with DTC rules and will be settled in immediately available funds using DTC's Same-Day Funds Settlement System. Secondary market trading between Clearstream, Luxembourg participants and/or Euroclear System participants will occur in the ordinary way in accordance with the applicable rules and operating procedures of Clearstream, Luxembourg and the Euroclear System, as applicable.

Cross-market transfers between persons holding directly or indirectly through DTC on the one hand, and directly or indirectly through Clearstream, Luxembourg participants or Euroclear System participants on the other, will be effected through DTC in accordance with DTC rules on behalf of the relevant European international clearing system by its U.S. Depository; however, such cross-market transactions will require delivery of instructions to the relevant European international clearing system by the counterparty in such system in accordance with its rules and procedures and within its established deadlines (European time). The relevant European international clearing system will, if the transaction meets its settlement requirements, deliver instructions to its U.S. Depository to take action to effect final settlement on its behalf by delivering or receiving securities in DTC, and making or receiving payment in accordance with normal procedures for same-day funds settlement applicable to DTC. Clearstream, Luxembourg participants and Euroclear System participants may not deliver instructions directly to their respective U.S. Depositories.

Because of time-zone differences, credits of Mortgage Bonds received in Clearstream, Luxembourg or the Euroclear System as a result of a transaction with a DTC participant will be made during subsequent securities settlement processing and dated the business day following the DTC settlement date. Such credits or any transactions in such Mortgage Bonds settled during such processing will be reported to the relevant Euroclear System Participant or Clearstream, Luxembourg participant on such business day. Cash received in Clearstream, Luxembourg or the Euroclear System as a result of sales of the Mortgage Bonds by or through a Clearstream, Luxembourg participant or a Euroclear System participant to a DTC participant will be received with value on the DTC settlement date but will be available in the relevant Clearstream, Luxembourg or the Euroclear System cash account only as of the business day following settlement in DTC.

Although DTC, Clearstream, Luxembourg and the Euroclear System have agreed to the foregoing procedures in order to facilitate transfers of Mortgage Bonds among participants of DTC, Clearstream, Luxembourg and the Euroclear System, they are under no obligation to perform or continue to perform such procedures and such procedures may be discontinued or changed at any time.

Table of Contents**UNDERWRITING (CONFLICTS OF INTEREST)**

We have entered into an underwriting agreement with respect to the Mortgage Bonds with the underwriters listed below for whom BNP Paribas Securities Corp., Goldman, Sachs & Co., Mizuho Securities USA Inc., and RBC Capital Markets, LLC are acting as representatives. Subject to certain conditions, each of the underwriters has severally agreed to purchase the principal amount of Mortgage Bonds indicated in the following table:

Name	Principal Amount of Mortgage Bonds
BNP Paribas Securities Corp.	\$ 112,125,000
Goldman, Sachs & Co.	112,125,000
Mizuho Securities USA Inc.	112,125,000
RBC Capital Markets, LLC	112,125,000
Loop Capital Markets LLC	60,000,000
CIBC World Markets Corp.	28,500,000
Fifth Third Securities, Inc.	28,500,000
Santander Investment Securities Inc.	28,500,000
Academy Securities, Inc.	3,000,000
CastleOak Securities, L.P.	3,000,000
Total	\$ 600,000,000

The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the Mortgage Bonds are subject to certain conditions, including the receipt of legal opinions relating to certain matters. The underwriters must purchase all of the Mortgage Bonds if they purchase any of the Mortgage Bonds. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended, or to contribute to payments the underwriters may be required to make in respect of any of these liabilities.

The underwriters are offering the Mortgage Bonds subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the Mortgage Bonds, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The Mortgage Bonds sold by the underwriters to the public will initially be offered at the price to public set forth on the cover of this prospectus supplement and may be offered to certain dealers at this price less a concession not in excess of 0.390% of the principal amount of the Mortgage Bonds. The underwriters may allow, and those dealers may reallow, a discount not in excess of 0.250% of the principal amount of the Mortgage Bonds to certain other dealers. If all the Mortgage Bonds are not sold at the price to public, the underwriters may change the price to public and the other selling terms.

The expenses of this offering, not including the underwriting discount, are estimated to be approximately \$550,000. The underwriters have agreed to make a payment to us in an amount equal to \$1,200,000, including in respect of expenses incurred by us in connection with this offering.

Table of Contents

New Issue of Mortgage Bonds

The Mortgage Bonds are a new issue of securities with no established trading market. The Mortgage Bonds will not be listed on any securities exchange or included in any automated quotation system. We have been advised by the underwriters that the underwriters intend to make a market in the Mortgage Bonds, but they are not obligated to do so and may discontinue market-making at any time without notice. No assurance can be given as to the liquidity of any trading market for the Mortgage Bonds.

Price Stabilization and Short Positions

In connection with this offering, the underwriters may engage in transactions that stabilize, maintain, or otherwise affect the price of the Mortgage Bonds. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater aggregate principal amount of Mortgage Bonds than they are required to purchase in the offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the Mortgage Bonds while this offering is in process.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the Mortgage Bonds. As a result, the price of the Mortgage Bonds may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected in the over-the-counter market or otherwise.

Other Relationships

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include, among other activities, securities trading and underwriting, commercial and investment banking, financial advisory, corporate trust, investment management, investment research, principal investment, hedging, financing and brokerage activities. In the ordinary course of their respective businesses, some of the underwriters and/or their affiliates have in the past and may in the future provide us and our subsidiaries and affiliates with commercial banking, investment banking, financial advisory and other services for which they have received and in the future will receive customary fees.

In addition, in the ordinary course of their business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates.

Certain of the underwriters or their affiliates have a lending relationship with us and our affiliates. Certain of those underwriters or their affiliates routinely hedge, and certain other of those underwriters or their affiliates may hedge, their credit exposure to us and our affiliates consistent with their customary risk management policies. Typically, such underwriters and their affiliates would hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities, including potentially the Mortgage Bonds offered hereby. Any such credit default swaps or short positions could adversely affect future trading price of the Mortgage Bonds offered hereby. The underwriters and their respective affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Table of Contents

EEA Selling Restrictions

Neither this prospectus supplement nor the accompanying prospectus is a prospectus for the purposes of the European Union's Directive 2003/71/EC (and any amendments thereto, including by Directive 2010/73/EU) as implemented in member states of the European Economic Area (the "EEA") (the "Prospectus Directive"). Neither Duke Energy Carolinas nor the underwriters have authorized, nor does it or they authorize, the making of any offer of the Mortgage Bonds through any financial intermediary, other than offers made by underwriters which constitute the final placement of the Mortgage Bonds contemplated in this prospectus supplement and the accompanying prospectus.

In relation to each Member State of the EEA which has implemented the Prospectus Directive (each, a "Relevant Member State"), each underwriter has represented and agreed that, with the effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, it has not made and will not make an offer of Mortgage Bonds which are the subject of the offering contemplated by this prospectus supplement and the accompanying prospectus to the public in that Relevant Member State other than:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the underwriters for any such offer; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of Mortgage Bonds shall require Duke Energy Carolinas or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer of Mortgage Bonds to the public" in relation to any Mortgage Bonds in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the Mortgage Bonds to be offered so as to enable an investor to decide to purchase or subscribe to the Mortgage Bonds, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State.

UK Selling Restrictions

Each underwriter has represented and agreed that:

- (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the United Kingdom Financial Services and Markets Act 2000 ("FSMA")) received by it in connection with the issue or sale of the Mortgage Bonds in circumstances in which Section 21(1) of the FSMA does not apply to Duke Energy Carolinas; and
- (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Mortgage Bonds in, from or otherwise involving the United Kingdom.

Canada Selling Restrictions

The Mortgage Bonds may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any

Table of Contents

resale of the Mortgage Bonds must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Hong Kong Selling Restrictions

The Mortgage Bonds have not been offered and will not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32, Laws of Hong Kong), (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the Mortgage Bonds may be issued or has been or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Mortgage Bonds which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Japan Selling Restrictions

The Mortgage Bonds have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) (the "Financial Instruments and Exchange Law"), and the Mortgage Bonds have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and guidelines promulgated by the relevant Japanese governmental and regulatory authorities and in effect at the relevant time.

Korea Selling Restrictions

The Mortgage Bonds may not be offered, sold and delivered directly or indirectly, or offered or sold to any person for reoffering or resale, directly or indirectly, in Korea or to any resident of Korea except pursuant to the applicable laws and regulations of Korea, including the Korea Securities and Exchange Act and the Foreign Exchange Transaction Law and the decrees and regulations thereunder. The Mortgage Bonds have not been and will not be registered with the Financial Services Commission of Korea for public offering in Korea. Furthermore, the Mortgage Bonds may not be resold to Korean residents unless the purchaser of the Mortgage Bonds complies with all applicable regulatory

Table of Contents

requirements (including but not limited to government approval requirements under the Foreign Exchange Transaction Law and its subordinate decrees and regulations) in connection with the purchase of the Mortgage Bonds.

Singapore Selling Restrictions

This prospectus supplement and the accompanying prospectus have not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement and the accompanying prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Mortgage Bonds may not be circulated or distributed, nor may the Mortgage Bonds be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA")) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA or any person pursuant to an offer referred to in Section 275(1A) of the SFA and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Mortgage Bonds are subscribed or purchased under Section 275 of the SFA by a "relevant person," which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, shares, debentures and units of shares and debentures of that corporation and the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the Mortgage Bonds pursuant to an offer made under Section 275 of the SFA except:
 - (i) to an institutional investor, a relevant person (as defined in Section 275(2) of the SFA), or any person pursuant to an offer referred to in Section 275(1A) of the SFA (in the case of that corporation) or Section 276(4)(i)(B) of the SFA (in the case of that trust);
 - (ii) where no consideration is or will be given for the transfer; or
 - (iii) where the transfer is by operation of law.

Taiwan Selling Restrictions

The Mortgage Bonds have not been and will not be registered with the Financial Supervisory Commission of Taiwan, the Republic of China ("Taiwan"), pursuant to relevant securities laws and regulations and may not be offered or sold in Taiwan through a public offering or in any manner which would constitute an offer within the meaning of the Securities and Exchange Act of Taiwan or would otherwise require registration with or the approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering or sale of the Mortgage Bonds in Taiwan.

Table of Contents

LEGAL MATTERS

The validity of the Mortgage Bonds will be passed upon for Duke Energy Carolinas by Robert T. Lucas III, Esq., who is Deputy General Counsel of Duke Energy Business Services LLC, the service company affiliate of Duke Energy Carolinas. In rendering his opinion, Mr. Lucas will rely upon in-house and/or outside South Carolina counsel to Duke Energy Carolinas on all matters of South Carolina law. Certain legal matters with respect to the offering of the Mortgage Bonds will be passed upon for Duke Energy Carolinas by Hunton & Williams LLP, New York, New York. Sidley Austin LLP, New York, New York, has acted as counsel to the underwriters. Sidley Austin LLP acts and, in the past has acted, as counsel to affiliates of Duke Energy Carolinas in connection with various matters.

S-25

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, and, in accordance therewith, file annual, quarterly and current reports and other information with the SEC. Such reports and other information can be inspected and copied at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates from the Public Reference Section of the SEC at its Washington, D.C. address. Please call the SEC at 1-800-SEC-0330 for further information. Our filings with the SEC, as well as additional information about us, are also available to the public through Duke Energy Corporation's website at <http://www.duke-energy.com> and are made available as soon as reasonably practicable after such material is filed with or furnished to the SEC. The information on Duke Energy Corporation's website is not a part of this prospectus supplement or the accompanying prospectus. Our filings are also available to the public through the SEC's website at <http://www.sec.gov>.

The SEC allows us to "incorporate by reference" into this prospectus supplement the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement, and information that we file later with the SEC will automatically update and supersede this information. This prospectus supplement incorporates by reference the documents incorporated in the accompanying prospectus at the time the registration statement became effective and all later documents filed with the SEC, in all cases as updated and superseded by later filings with the SEC. We incorporate by reference the documents listed below and any future documents filed by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until this offering is completed:

Annual Report on Form 10-K for the year ended December 31, 2015.

Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2016, June 30, 2016 and September 30, 2016;
and

Current Reports on Form 8-K filed on March 11, 2016 and June 10, 2016.

We, our parent company, Duke Energy Corporation, and certain of its other subsidiaries separately filed the combined Annual Report on Form 10-K and Quarterly Reports on Form 10-Q listed above. We do not intend to incorporate by reference into this prospectus supplement the information relating to Duke Energy Corporation and its subsidiaries (other than Duke Energy Carolinas, LLC and its consolidated subsidiaries), and we make no representation as to the information relating to Duke Energy Corporation and its subsidiaries (other than Duke Energy Carolinas, LLC and its consolidated subsidiaries) contained in such combined reports.

We will provide you without charge a copy of these filings, other than any exhibits unless the exhibits are specifically incorporated by reference into this prospectus supplement. You may request a copy by writing us at the following address or telephoning one of the following numbers:

Investor Relations Department
Duke Energy Carolinas, LLC
P.O. Box 1005
Charlotte, North Carolina 28201
(704) 382-3853 or (800) 488-3853 (toll-free)

Table of Contents

Prospectus

Duke Energy Carolinas, LLC

First and Refunding Mortgage Bonds Senior Notes Subordinated Notes

From time to time, we may offer the securities described in the prospectus separately or together in any combination, in one or more classes or series, in amounts, at prices and on terms that we will determine at the time of the offering.

We will provide specific terms of these offerings and securities in supplements to this prospectus. You should read carefully this prospectus, the information incorporated by reference in this prospectus and any prospectus supplement before you invest. This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

Investing in our securities involves risks. You should carefully consider the information in the section entitled "Risk Factors" contained in our periodic reports filed with the Securities and Exchange Commission and incorporated by reference into this prospectus before you invest in any of our securities.

We may offer and sell the securities directly, through agents we select from time to time or to or through underwriters or dealers we select. If we use any agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement. The price to the public of those securities and the net proceeds we expect to receive from that sale will also be set forth in a prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is September 23, 2016.

Table of Contents

TABLE OF CONTENTS

Prospectus

	Page
<u>References to Additional Information</u>	<u>i</u>
<u>About this Prospectus</u>	<u>i</u>
<u>Forward-looking Statements</u>	<u>ii</u>
<u>The Company</u>	<u>1</u>
<u>Risk Factors</u>	<u>1</u>
<u>Use of Proceeds</u>	<u>1</u>
<u>Ratio of Earnings to Fixed Charges</u>	<u>2</u>
<u>Description of First and Refunding Mortgage Bonds</u>	<u>2</u>
<u>Description of Senior Notes</u>	<u>7</u>
<u>Description of Subordinated Notes</u>	<u>14</u>
<u>Global Securities</u>	<u>22</u>
<u>Plan of Distribution</u>	<u>23</u>
<u>Experts</u>	<u>24</u>
<u>Validity of the Securities</u>	<u>24</u>
<u>Where You Can Find More Information</u>	<u>24</u>

REFERENCES TO ADDITIONAL INFORMATION

This prospectus incorporates important business and financial information about us from other documents that are not included in or delivered with this prospectus. This information is available for you to review at the Securities and Exchange Commission's, or SEC's, public reference room located at 100 F Street, N.E., Room 1580, Washington, DC 20549, and through the SEC's website, www.sec.gov. You can also obtain those documents incorporated by reference in this prospectus by requesting them in writing or by telephone from the company at the following address and telephone number:

Investor Relations Department
Duke Energy Carolinas, LLC
P.O. Box 1005
Charlotte, North Carolina 28201
(704) 382-3853 or (800) 488-3853 (toll free)

See "Where You Can Find More Information" in this prospectus.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that Duke Energy Carolinas filed with the SEC utilizing a "shelf" registration process. Under the shelf registration process, we are registering an unspecified amount of First and Refunding Mortgage Bonds, Senior Notes, and Subordinated Notes, and may issue any of such securities in one or more offerings.

This prospectus provides general descriptions of the securities Duke Energy Carolinas may offer. Each time securities are sold, a prospectus supplement will provide specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. The registration statement filed with the SEC includes exhibits that provide more details about the matters discussed in this prospectus. You should read this prospectus, the related exhibits filed with the SEC and any prospectus supplement, together with the additional information described under the caption "Where You Can Find More Information."

Unless we have indicated otherwise, or the context otherwise requires, references in this prospectus to "Duke Energy Carolinas," "we," "us" and "our" or similar terms are to Duke Energy Carolinas, LLC and its subsidiaries.

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements are based on our management's beliefs and assumptions and can often be identified by terms and phrases that include "anticipate," "believe," "intend," "estimate," "expect," "continue," "should," "could," "may," "plan," "project," "predict," "will," "potential," "forecast," "target," "guidance," "outlook," or other similar terminology. Various factors may cause actual results to be materially different than the suggested outcomes within forward-looking statements; accordingly, there is no assurance that such results will be realized.

In light of these risks, uncertainties and assumptions, the events described in the forward-looking statements included or incorporated by reference in this prospectus might not occur or might occur to a different extent or at a different time than described. Forward-looking statements speak only as of the date they are made and we expressly disclaim an obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Table of Contents

THE COMPANY

Duke Energy Carolinas, a wholly owned subsidiary of Duke Energy Corporation, generates, transmits, distributes, and sells electricity in portions of North Carolina and South Carolina. Its service area covers approximately 24,000 square miles. Duke Energy Carolinas supplies electric service to approximately 2.5 million residential, commercial and industrial customers. As of December 31, 2015, our asset portfolio included approximately 19,645 megawatts of generation capacity, 103,100 miles of distribution lines, and 13,100 miles of transmission lines.

We are a North Carolina limited liability company. The address of our principal executive offices is 526 South Church Street, Charlotte, North Carolina 28202-1803. Our telephone number is (704) 382-3853.

The foregoing information about Duke Energy Carolinas is only a general summary and is not intended to be comprehensive. For additional information about Duke Energy Carolinas, you should refer to the information described under the caption "Where You Can Find More Information."

RISK FACTORS

Investing in our securities involves risks. Before purchasing any securities we offer, you should carefully consider the risk factors in our Annual Report on Form 10-K for the year ended December 31, 2015, which has been filed with the SEC and is incorporated by reference in this prospectus, together with all of the other information included in this prospectus and any prospectus supplement and any other information that we have incorporated by reference, including filings made with the SEC subsequent to the date hereof. Any of these risks, as well as other risks and uncertainties, could harm our financial condition, results of operations or cash flows.

USE OF PROCEEDS

Unless stated otherwise in the applicable prospectus supplement, we intend to use the net proceeds from the sale of any offered securities:

to redeem or purchase from time to time presently outstanding securities when we anticipate those transactions will result in an overall cost savings;

to repay maturing securities;

to finance our ongoing construction program; or

for general company purposes.

Table of Contents
RATIO OF EARNINGS TO FIXED CHARGES

The ratios of earnings to fixed charges have been calculated using the Securities and Exchange Commission guidelines.

	Six Months Ended June 30, 2016		2015	Years Ended December 31,								
				2014	2013	2012	2011					
	(dollars in millions)											
Earnings as defined for fixed charges calculation												
Add:												
Pretax income from continuing operations	\$	813	\$	1,709	\$	1,661	\$	1,571	\$	1,322	\$	1,306
Fixed charges		235		456		457		461		467		450
Total earnings	\$	1,048	\$	2,165	\$	2,118	\$	2,032	\$	1,789	\$	1,756
Fixed charges:												
Interest on debt, including capitalized portions	\$	233	\$	453	\$	445	\$	452	\$	455	\$	437
Estimate of interest within rental expense		2		3		12		9		12		13
Total fixed charges	\$	235	\$	456	\$	457	\$	461	\$	467	\$	450
Ratio of earnings to fixed charges		4.5		4.7		4.6		4.4		3.8		3.9

DESCRIPTION OF FIRST AND REFUNDING MORTGAGE BONDS

Duke Energy Carolinas will issue the First and Refunding Mortgage Bonds in one or more series under its First and Refunding Mortgage, dated as of December 1, 1927, to The Bank of New York Mellon Trust Company, N.A., as Trustee, as supplemented and amended from time to time. The First and Refunding Mortgage is sometimes called the "Mortgage" and the First and Refunding Mortgage Bonds are sometimes called the "Bonds" in this prospectus. The trustee under the Mortgage is sometimes called the "Bond Trustee" in this prospectus. The Mortgage, including material supplements and amendments thereto, is an exhibit to the registration statement, of which this prospectus is a part.

The following description of the Bonds is only a summary and is not intended to be comprehensive. For additional information you should refer to the Mortgage.

General

The amount of Bonds that Duke Energy Carolinas may issue under the Mortgage is unlimited. Duke Energy Carolinas' Board of Directors will determine the terms of each series of Bonds, including denominations, maturity, interest rate and payment terms and whether the series will have redemption or sinking fund provisions or will be convertible into other securities of Duke Energy Carolinas. The Bonds may also be issued as part of the medium term note series established under the Mortgage. Duke Energy Carolinas may at any time deliver executed Bonds to the Bond Trustee for authentication, and the Bond Trustee shall authenticate such Bonds upon the written order of Duke Energy Carolinas and satisfaction of certain other conditions set forth in the Mortgage.

Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, Duke Energy Carolinas will issue the Bonds only in fully registered form without coupons and there will be no service charge for any transfers and exchanges of the Bonds. Duke Energy Carolinas may, however, require payment to cover any stamp tax or other governmental charge payable in connection with any transfer or exchange. Transfers and exchanges of the Bonds may be made at The Bank of New York Mellon Trust Company, N.A., 101 Barclay Street, New York, New York 10286 or at any other office maintained by Duke Energy Carolinas for such purpose.

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

The Bonds will be issuable in denominations of \$1,000 and multiples of \$1,000, unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement. The Bonds may be exchangeable for an equivalent principal amount of Bonds of other authorized denominations of the same series.

The prospectus supplement for a particular series of Bonds will describe the maturity, interest rate and payment terms of those Bonds and any relevant redemption or sinking fund provisions.

Security

The Mortgage creates a continuing lien to secure the payment of principal and interest on the Bonds. All the Bonds are equally and ratably secured without preference, priority or distinction. With some exceptions, the lien of the Mortgage covers substantially all of Duke Energy Carolinas' properties, real, personal and mixed, and Duke Energy Carolinas' franchises, including properties acquired after the date of the Mortgage and the date hereof. Those exceptions include cash, accounts receivable, inventories of materials and supplies, merchandise held for sale, securities that Duke Energy Carolinas holds, after-acquired property not useful in Duke Energy Carolinas' electric business and after-acquired franchises not useful for the properties subject to the lien of the Mortgage.

We have not made any appraisal of the value of the properties subject to the lien of the Mortgage. The value of the properties in the event of liquidation will depend on market and economic conditions, the availability of buyers and other factors. In the event of liquidation, if the proceeds were not sufficient to repay amounts under all of the Bonds then outstanding, then holders of the Bonds, to the extent not repaid from the proceeds of the sale of the collateral, would only have an unsecured claim against our remaining assets.

The lien of the Mortgage is subject to certain permitted liens and to liens that exist upon properties that Duke Energy Carolinas acquired after it entered into the Mortgage to the extent of the amounts of prior lien bonds secured by those properties (not, however, exceeding 75% of the cost or value of those properties) and additions to those properties. "Prior lien bonds" are bonds or other indebtedness that are secured at the time of acquisition by a lien upon property that Duke Energy Carolinas acquires after the date of the Mortgage that becomes subject to the lien of the Mortgage.

Issuance of Additional Bonds

If Duke Energy Carolinas satisfies the conditions in the Mortgage, the Bond Trustee may authenticate and deliver additional Bonds in an aggregate principal amount not exceeding:

the amount of cash that Duke Energy Carolinas has deposited with the Bond Trustee for that purpose (not to exceed \$5,000,000 at any one time);

the amount of previously authenticated and delivered Bonds or refundable prior lien bonds that have been or are to be retired which, with some exceptions, Duke Energy Carolinas has deposited with the Bond Trustee for that purpose; or

66²/₃% of the aggregate of the net amounts of additional property (electric) certified to the Bond Trustee after February 18, 1949.

The Bond Trustee may not authenticate and deliver any additional Bonds under the Mortgage, other than some types of refunding Bonds, unless Duke Energy Carolinas' available net earnings for twelve consecutive calendar months within the immediately preceding fifteen calendar months have been at least twice the amount of the annual interest charges on all Bonds outstanding under the Mortgage, including the Bonds proposed to be issued, and on all outstanding prior lien bonds that the Bond Trustee does not hold under the Mortgage.

Table of Contents

Duke Energy Carolinas may not apply to the Bond Trustee to authenticate and deliver any Bonds (1) in an aggregate principal amount exceeding \$26,000,000 on the basis of additional property (electric) that Duke Energy Carolinas acquired or constructed prior to January 1, 1949 or (2) on the basis of Bonds or prior lien bonds paid, purchased or redeemed prior to February 1, 1949. Duke Energy Carolinas may not certify any additional property (electric) which is subject to the lien of any prior lien bonds for the purpose of establishing those prior lien bonds as refundable if the aggregate principal amount of those prior lien bonds exceeds 66²/₃% of the net amount of the additional property that is subject to the lien of such prior lien bonds.

Release Provisions

The Mortgage permits Duke Energy Carolinas to dispose of certain property and to take other actions without the Bond Trustee releasing that property. The Mortgage also permits the release of mortgaged property if Duke Energy Carolinas deposits cash or other consideration equal to the value of the mortgaged property to be released. In certain events and within certain limitations, the Bond Trustee is required to pay out cash that the Bond Trustee receives other than for the Replacement Fund or as the basis for issuing Bonds upon Duke Energy Carolinas' application.

Duke Energy Carolinas may withdraw cash that it deposited with the Bond Trustee as the basis for issuing Bonds in an amount equal to the principal amount of any Bonds that it is entitled to have authenticated and delivered on the basis of additional property (electric), on the basis of Bonds previously authenticated and delivered or on the basis of refundable prior lien bonds.

Replacement Fund

The Mortgage requires Duke Energy Carolinas to deposit with the Bond Trustee annually, for the Replacement Fund established under the Mortgage, the sum of the "replacement requirements" for all years beginning with 1949 and ending with the last calendar year preceding the deposit date, less certain deductions. Those deductions are (1) the aggregate original cost of all fixed property (electric) retired during that time period, not exceeding the aggregate of the gross amounts of additional property (electric) that Duke Energy Carolinas acquired or constructed during the same period, and (2) the aggregate amount of cash that Duke Energy Carolinas deposited with the Bond Trustee up to that time, or that Duke Energy Carolinas would have been required to deposit except for permitted reductions, under the Replacement Fund.

The "replacement requirement" for any year is 2¹/₂% of the average "amount of depreciable fixed property" (electric) owned by Duke Energy Carolinas at the beginning and end of that year, not exceeding, however, the amount Duke Energy Carolinas is permitted to charge as an operating expense for depreciation or retirement by any governmental authority, or the amount deductible as depreciation or similar expense for federal income tax purposes. The "amount of depreciable fixed property" (electric) is the amount by which the sum of \$192,913,385 plus the aggregate gross amount of all depreciable additional property (electric) that Duke Energy Carolinas acquired or constructed from January 1, 1949 to the date as of which such amount is determined exceeds the original cost of all of Duke Energy Carolinas' depreciable fixed property (electric) retired during that period or released from the lien of the Mortgage.

Duke Energy Carolinas may reduce the amount of cash at any time required to be deposited in the Replacement Fund and may withdraw any cash that it previously deposited that is held in the Replacement Fund:

in an amount equal to 150% of the principal amount of Bonds previously authenticated and delivered under the Mortgage, or refundable prior lien bonds, deposited with the Bond Trustee and on the basis of which Duke Energy Carolinas would otherwise have been entitled to have additional Bonds authenticated and delivered; and

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

in an amount equal to 150% of the principal amount of Bonds which Duke Energy Carolinas would otherwise be entitled to have authenticated and delivered on the basis of additional property (electric).

Upon Duke Energy Carolinas' application, the Bond Trustee will apply cash that Duke Energy Carolinas deposited in the Replacement Fund and has not previously withdrawn to the payment, purchase or redemption of Bonds issued under the Mortgage or to the purchase of refundable prior lien bonds.

Duke Energy Carolinas has never deposited any cash with the Bond Trustee for the Replacement Fund. If Duke Energy Carolinas deposits any cash in the future, it has agreed not to apply that cash to the redemption of the Bonds as long as any Bonds then outstanding remain outstanding.

Amendments of the Mortgage

Duke Energy Carolinas may amend the Mortgage with the consent of the holders of $66\frac{2}{3}\%$ in principal amount of the Bonds, except that no such amendment may:

affect the terms of payment of principal at maturity or of interest or premium on any Bond;

affect the rights of Bondholders to sue to enforce any such payment at maturity; or

reduce the percentage of Bonds required to consent to an amendment.

No amendment may affect the rights under the Mortgage of the holders of less than all of the series of Bonds outstanding unless the holders of $66\frac{2}{3}\%$ in principal amount of the Bonds of each series affected consent to the amendment.

The covenants included in the supplemental indenture for any series of Bonds to be issued will be solely for the benefit of the holders of those Bonds. Duke Energy Carolinas may modify any such covenant only with the consent of the holders of $66\frac{2}{3}\%$ in principal amount of those Bonds outstanding, without the consent of Bondholders of any other series.

Events of Default

The Bond Trustee may, and at the written request of the holders of a majority in principal amount of the outstanding Bonds will, declare the principal of all outstanding Bonds due when any event of default under the Mortgage occurs. The holders of a majority in principal amount of the outstanding Bonds may, however, waive the default and rescind the declaration if Duke Energy Carolinas cures the default. The Bond Trustee may, and upon the written request of the holders of more than 75% in principal amount of the Bonds then outstanding (including, if more than one series of Bonds is outstanding, the holders of at least a majority in principal amount of the Bonds of each such series) shall, waive any default under the Mortgage, except a default in the payment of the principal of or interest on any of the Bonds or of any sinking fund payment when due and payable.

Events of default under the Mortgage include:

default in the payment of principal;

default for 60 days in the payment of interest;

default in the payment of principal of any prior lien bond not pledged with the Trustee;

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

default in the performance of any other covenant in the Mortgage continuing for 60 days after the Bond Trustee or the holders of not less than 10% in principal amount of the Bonds then outstanding give notice of the default;

Table of Contents

Duke Energy Carolinas is adjudicated insolvent or bankrupt by decree of a court or a receiver is appointed of all or any substantial part of the mortgaged property in an insolvency or bankruptcy proceeding and the order or decree remains unstayed and in effect for 60 days; and

Duke Energy Carolinas files a petition in voluntary bankruptcy, makes an assignment for the benefit of creditors or consents to the appointment of a receiver of all or any substantial part of the mortgaged property or to any adjudication of insolvency or bankruptcy.

Duke Energy Carolinas provides a statement by its officers each year to the Bond Trustee stating whether it has complied with the covenants of the Mortgage. The Bond Trustee is generally required to provide notice to holders of the Bonds of events of default under the Mortgage known to the Bond Trustee (within certain timetables), but except in the case of default in the payment of the principal or interest on any of the Bonds, or in the payment or satisfaction of any sinking, purchase or replacement fund obligations, the Bond Trustee shall be protected in withholding such notice if the board of directors, the executive committee or a trust committee of directors and/or responsible officers of the Bond Trustee in good faith determine that the withholding of such notice is in the interests of the bondholders.

Satisfaction and Discharge

Upon the request of Duke Energy Carolinas, all mortgaged property shall revert to Duke Energy Carolinas, the Mortgage shall be satisfied, and the lien of the Mortgage cancelled and discharged when Duke Energy Carolinas shall:

pay, or provide for the payment by depositing sufficient cash with the Bond Trustee for, the principal of and interest on all outstanding Bonds and coupons therefor to maturity or upon redemption (with evidence of the notice of redemption provided to the Bond Trustee); and/or

surrender to the Bond Trustee for cancellation all the Bonds and coupons for which payment is not provided; and

Duke Energy Carolinas has paid or caused to be paid all other sums payable under the Mortgage by Duke Energy Carolinas and performed all covenants and conditions under the Mortgage.

Concerning the Bond Trustee

The Bank of New York Mellon Trust Company, N.A., is the Bond Trustee and is the Senior Indenture Trustee and the Subordinated Indenture Trustee. Duke Energy Carolinas and some of its affiliates have banking relationships with The Bank of New York Mellon Trust Company. The Bank of New York Mellon Trust Company, N.A. or its affiliate also serve as trustee or agent under other indentures and agreements pursuant to which securities of Duke Energy Carolinas and of some of its affiliates are outstanding.

The Bond Trustee is under no obligation to exercise any of its powers at the request of any of the holders of the Bonds unless those Bondholders have offered to the Bond Trustee security or indemnity satisfactory to it against the cost, expenses and liabilities it might incur as a result. The holders of a majority in principal amount of the Bonds outstanding may direct the time, method and place of conducting any proceeding for any remedy available to the Bond Trustee, or the exercise of any trust or power of the Bond Trustee. The Bond Trustee will not be liable for any action that it takes or omits to take in good faith in accordance with any such direction.

Upon application by Duke Energy Carolinas to the Bond Trustee to take action under the Mortgage, Duke Energy is required to furnish to the Bond Trustee evidence of compliance with conditions precedent to such actions, including an officers' certificate and an opinion of counsel. In connection with the authentication and delivery of Bonds that require, as a condition precedent, a showing as to Duke Energy Carolinas' net earnings, accountant certificates or opinions may be required, and in connection with the release of certain property or securities from the lien of the Mortgage, certificates of engineers, appraisers or other experts may be required.

Table of Contents

DESCRIPTION OF SENIOR NOTES

Duke Energy Carolinas will issue the Senior Notes in one or more series under its Senior Indenture dated as of September 1, 1998 (the "Senior Indenture"), as supplemented from time to time. Unless otherwise specified, the trustee under the Senior Indenture (the "Senior Indenture Trustee") will be The Bank of New York Mellon Trust Company, N.A. The Senior Indenture is an exhibit to the registration statement, of which this prospectus is a part.

The Senior Notes are unsecured and unsubordinated obligations and will rank equally with all of Duke Energy Carolinas' other unsecured and unsubordinated indebtedness. The First and Refunding Mortgage Bonds are effectively senior to the Senior Notes to the extent of the value of the properties securing them.

The following description of the Senior Notes is only a summary and is not intended to be comprehensive. For additional information you should refer to the Senior Indenture.

General

The Senior Indenture does not limit the amount of Senior Notes that Duke Energy Carolinas may issue under it. Duke Energy Carolinas may issue Senior Notes from time to time under the Senior Indenture in one or more series by entering into supplemental indentures or by its Board of Directors or a duly authorized committee authorizing the issuance. Duke Energy Carolinas may at any time deliver executed Senior Notes to the Senior Indenture Trustee for authentication, and the Senior Indenture Trustee shall authenticate such Senior Notes upon the written request of Duke Energy Carolinas and satisfaction of certain other conditions set forth in the Senior Indenture.

The Senior Notes of a series need not be issued at the same time, bear interest at the same rate or mature on the same date.

The Senior Indenture does not protect the holders of Senior Notes if Duke Energy Carolinas engages in a highly leveraged transaction.

Provisions Applicable to Particular Series

The prospectus supplement for a particular series of Senior Notes being offered will disclose the specific terms related to the offering, including the price or prices at which the Senior Notes to be offered will be issued. Those terms may include some or all of the following:

the title of the series;

the total principal amount of the Senior Notes of the series;

the date or dates on which principal is payable or the method for determining the date or dates, and any right that Duke Energy Carolinas has to change the date on which principal is payable;

the interest rate or rates, if any, or the method for determining the rate or rates, and the date or dates from which interest will accrue;

any interest payment dates and the regular record date for the interest payable on each interest payment date, if any;

whether Duke Energy Carolinas may extend the interest payment periods and, if so, the terms of the extension;

the place or places where payments will be made;

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

whether Duke Energy Carolinas has the option to redeem the Senior Notes and, if so, the terms of its redemption option;

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

any obligation that Duke Energy Carolinas has to redeem the Senior Notes through a sinking fund or to purchase the Senior Notes through a purchase fund or at the option of the holder;

whether the defeasance and covenant defeasance provisions described under "Satisfaction and Discharge; Defeasance and Covenant Defeasance" will not apply to the Senior Notes;

the currency in which payments will be made if other than U.S. dollars, and the manner of determining the equivalent of those amounts in U.S. dollars;

if payments may be made, at Duke Energy Carolinas' election or at the holder's election, in a currency other than that in which the Senior Notes are stated to be payable, then the currency in which those payments may be made, the terms and conditions of the election and the manner of determining those amounts;

the portion of the principal payable upon acceleration of maturity, if other than the entire principal;

whether the Senior Notes will be issuable as global securities and, if so, the securities depository;

any changes in the events of default or covenants with respect to the Senior Notes;

any index or formula used for determining principal, premium or interest;

if the principal payable on the maturity date will not be determinable on one or more dates prior to the maturity date, the amount which will be deemed to be such principal amount or the manner of determining it;

any date or dates after which the holder may convert the Senior Notes into other securities of Duke Energy Carolinas and the terms for that conversion;

any date or dates upon which the Senior Notes will be mandatorily converted into other securities of Duke Energy Carolinas and the terms for that conversion;

any terms for the attachment to Senior Notes of rights to purchase or sell other securities of Duke Energy Carolinas; and

any other terms.

Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, Duke Energy Carolinas will issue the Senior Notes only in fully registered form without coupons, and there will be no service charge for any registration of transfer or exchange of the Senior Notes. Duke Energy Carolinas may, however, require payment to cover any tax or other governmental charge payable in connection with any transfer or exchange. Subject to the terms of the Senior Indenture and the limitations applicable to global securities, transfers and exchanges of the Senior Notes may be made at The Bank of New York Mellon Trust Company, N.A., 101 Barclay Street, New York, New York 10286 or at any other office or agency maintained by Duke Energy Carolinas for such purpose.

The Senior Notes will be issuable in denominations of \$1,000 and any integral multiples of \$1,000, unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement.

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Duke Energy Carolinas may offer and sell the Senior Notes, including original issue discount Senior Notes, at a substantial discount below their principal amount. The applicable prospectus supplement will describe special United States federal income tax and any other considerations applicable to those securities. In addition, the applicable prospectus supplement may describe certain special United States federal income tax or other considerations, if any, applicable to any Senior Notes that are denominated in a currency other than U.S. dollars.

Table of Contents

Redemption

Provisions relating to the redemption of Senior Notes will be set forth in the applicable prospectus supplement. Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, Duke Energy Carolinas may redeem Senior Notes only upon notice mailed at least 30 but not more than 60 days before the date fixed for redemption. Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, that notice may state that the redemption will be conditional upon the Senior Indenture Trustee, or the applicable paying agent, receiving sufficient funds to pay the principal, premium and interest on those Senior Notes on the date fixed for redemption and that if the Senior Indenture Trustee or the applicable paying agent does not receive those funds, the redemption notice will not apply, and Duke Energy Carolinas will not be required to redeem those Senior Notes.

Duke Energy Carolinas will not be required to:

issue, register the transfer of, or exchange any Senior Notes of a series during the period beginning 15 days before the date the notice is mailed identifying the Senior Notes of that series that have been selected for redemption; or

register the transfer of or exchange any Senior Note of that series selected for redemption except the unredeemed portion of a Senior Note being partially redeemed.

Consolidation, Merger, Conveyance or Transfer

The Senior Indenture provides that Duke Energy Carolinas may consolidate or merge with or into, or convey or transfer all or substantially all of its properties and assets to, another corporation or other entity. Any successor must, however, assume Duke Energy Carolinas' obligations under the Senior Indenture and the Senior Notes issued under it, and Duke Energy Carolinas must deliver to the Senior Indenture Trustee a statement by certain of its officers and an opinion of counsel that affirm compliance with all conditions in the Senior Indenture relating to the transaction. When those conditions are satisfied, the successor will succeed to and be substituted for Duke Energy Carolinas under the Senior Indenture, and Duke Energy Carolinas will be relieved of its obligations under the Senior Indenture and the Senior Notes.

Modification; Waiver

Duke Energy Carolinas may modify the Senior Indenture with the consent of the holders of a majority in principal amount of the outstanding Senior Notes of all series of Senior Notes that are affected by the modification, voting as one class. The consent of the holder of each outstanding Senior Note affected is, however, required to:

change the maturity date of the principal or any installment of principal or interest on that Senior Note;

reduce the principal amount, the interest rate or any premium payable upon redemption of that Senior Note;

reduce the amount of principal due and payable upon acceleration of maturity;

change the currency of payment of principal, premium or interest on that Senior Note;

impair the right to institute suit to enforce any such payment on or after the maturity date or redemption date;

reduce the percentage in principal amount of Senior Notes of any series required to modify the Senior Indenture, waive compliance with certain restrictive provisions of the Senior Indenture or waive certain defaults; or

Table of Contents

with certain exceptions, modify the provisions of the Senior Indenture governing modifications of the Senior Indenture or governing waiver of covenants or past defaults.

In addition, Duke Energy Carolinas may modify the Senior Indenture for certain other purposes, without the consent of any holders of Senior Notes.

The holders of a majority in principal amount of the outstanding Senior Notes of any series may waive, for that series, Duke Energy Carolinas' compliance with certain restrictive provisions of the Senior Indenture, including the covenant described under "Negative Pledge." The holders of a majority in principal amount of the outstanding Senior Notes of all series under the Senior Indenture with respect to which a default has occurred and is continuing, voting as one class, may waive that default for all those series, except a default in the payment of principal or any premium or interest on any Senior Note or a default with respect to a covenant or provision which cannot be modified without the consent of the holder of each outstanding Senior Note of the series affected.

Events of Default

The following are events of default under the Senior Indenture with respect to any series of Senior Notes, unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement:

failure to pay principal of or any premium on any Senior Note of that series when due;

failure to pay when due any interest on any Senior Note of that series that continues for 60 days; for this purpose, the date on which interest is due is the date on which Duke Energy Carolinas is required to make payment following any deferral of interest payments by it under the terms of Senior Notes that permit such deferrals;

failure to make any sinking fund payment when required for any Senior Note of that series that continues for 60 days;

failure to perform any covenant in the Senior Indenture (other than a covenant expressly included solely for the benefit of other series) that continues for 90 days after the Senior Indenture Trustee or the holders of at least 33% of the outstanding Senior Notes of that series give Duke Energy Carolinas written notice of the default; and

certain bankruptcy, insolvency or reorganization events with respect to Duke Energy Carolinas.

In the case of the fourth event of default listed above, the Senior Indenture Trustee may extend the grace period. In addition, if holders of a particular series have given a notice of default, then holders of at least the same percentage of Senior Notes of that series, together with the Senior Indenture Trustee, may also extend the grace period. The grace period will be automatically extended if Duke Energy Carolinas has initiated and is diligently pursuing corrective action.

Duke Energy Carolinas may establish additional events of default for a particular series and, if established, any such events of default will be described in the applicable prospectus supplement.

If an event of default with respect to Senior Notes of a series occurs and is continuing, then the Senior Indenture Trustee or the holders of at least 33% in principal amount of the outstanding Senior Notes of that series may declare the principal amount of all Senior Notes of that series to be immediately due and payable. However, that event of default will be considered waived at any time after the declaration, but before a judgment for payment of the money due has been obtained if:

Duke Energy Carolinas has paid or deposited with the Senior Indenture Trustee all overdue interest, the principal and any premium due otherwise than by the declaration and any interest on such amounts, and any interest on overdue interest, to the extent legally permitted, in each case with respect to that series, and all amounts due to the Senior Indenture Trustee; and

Table of Contents

all events of default with respect to that series, other than the nonpayment of the principal that became due solely by virtue of the declaration, have been cured or waived.

The Senior Indenture Trustee is under no obligation to exercise any of its rights or powers at the request or direction of any holders of Senior Notes unless those holders have offered the Senior Indenture Trustee security or indemnity against the costs, expenses and liabilities which it might incur as a result. The holders of a majority in principal amount of the outstanding Senior Notes of any series have, with certain exceptions, the right to direct the time, method and place of conducting any proceedings for any remedy available to the Senior Indenture Trustee or the exercise of any power of the Senior Indenture Trustee with respect to those Senior Notes. The Senior Indenture Trustee may withhold notice of any default, except a default in the payment of principal or interest, from the holders of any series if the Senior Indenture Trustee in good faith considers it in the interest of the holders to do so.

The holder of any Senior Note will have an absolute and unconditional right to receive payment of the principal, any premium and, within certain limitations, any interest on that Senior Note on its maturity date or redemption date and to enforce those payments.

Duke Energy Carolinas is required to furnish each year to the Senior Indenture Trustee a statement by certain of its officers to the effect that it is not in default under the Senior Indenture or, if there has been a default, specifying the default and its status.

Payments; Paying Agent

The paying agent will pay the principal of any Senior Notes only if those Senior Notes are surrendered to it. The paying agent will pay interest on Senior Notes issued as global securities by wire transfer to the holder of those global securities. Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, the paying agent will pay interest on Senior Notes that are not in global form at its office or, at Duke Energy Carolinas' option:

by wire transfer to an account at a banking institution in the United States that is designated in writing to the Senior Indenture Trustee at least 16 days prior to the date of payment by the person entitled to that interest; or

by check mailed to the address of the person entitled to that interest as that address appears in the security register for those Senior Notes.

Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, the Senior Indenture Trustee will act as paying agent for that series of Senior Notes, and the principal corporate trust office of the Senior Indenture Trustee will be the office through which the paying agent acts. Duke Energy Carolinas may, however, change or add paying agents or approve a change in the office through which a paying agent acts.

Any money that Duke Energy Carolinas has paid to a paying agent for principal or interest on any Senior Notes which remains unclaimed at the end of two years after that principal or interest has become due will be repaid to Duke Energy Carolinas at its request. After repayment to Duke Energy Carolinas, holders should look only to Duke Energy Carolinas for those payments.

Negative Pledge

While any of the Senior Notes remain outstanding, Duke Energy Carolinas will not create, or permit to be created or to exist, any mortgage, lien, pledge, security interest or other encumbrance upon any of its property, whether owned on or acquired after the date of the Senior Indenture, to secure any indebtedness for borrowed money of Duke Energy Carolinas, unless the Senior Notes then outstanding are equally and ratably secured for so long as any such indebtedness is so secured.

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

The foregoing restriction does not apply with respect to, among other things:

purchase money mortgages, or other purchase money liens, pledges, security interests or encumbrances upon property that Duke Energy Carolinas acquired after the date of the Senior Indenture;

mortgages, liens, pledges, security interests or other encumbrances existing on any property at the time Duke Energy Carolinas acquired it, including those which exist on any property of an entity with which Duke Energy Carolinas is consolidated or merged or which transfers or leases all or substantially all of its properties to Duke Energy Carolinas;

mortgages, liens, pledges, security interests or other encumbrances upon any property of Duke Energy Carolinas that existed on the date of the initial issuance of the Senior Notes;

pledges or deposits to secure performance in connection with bids, tenders, contracts (other than contracts for the payment of money) or leases to which Duke Energy Carolinas is a party;

liens created by or resulting from any litigation or proceeding which at the time is being contested in good faith by appropriate proceedings;

liens incurred in connection with the issuance of bankers' acceptances and lines of credit, bankers' liens or rights of offset and any security given in the ordinary course of business to banks or others to secure any indebtedness payable on demand or maturing within 12 months of the date that such indebtedness is originally incurred;

liens incurred in connection with repurchase, swap or other similar agreements (including commodity price, currency exchange and interest rate protection agreements);

liens securing industrial revenue or pollution control bonds;

liens, pledges, security interests or other encumbrances on any property arising in connection with any defeasance, covenant defeasance or in-substance defeasance of indebtedness of Duke Energy Carolinas;

liens created in connection with, and created to secure, a non-recourse obligation;

Bonds issued or to be issued from time to time under Duke Energy Carolinas' First and Refunding Mortgage, and the "permitted liens" specified in Duke Energy Carolinas' First and Refunding Mortgage;

indebtedness which Duke Energy Carolinas may issue in connection with its consolidation or merger with or into any other entity, which may be its affiliate, in exchange for or otherwise in substitution for secured indebtedness of that entity, or Third Party Debt, which by its terms (1) is secured by a mortgage on all or a portion of the property of that entity, (2) prohibits that entity from incurring secured indebtedness, unless the Third Party Debt is secured equally and ratably with such secured indebtedness or (3) prohibits that entity from incurring secured indebtedness;

indebtedness of any entity which Duke Energy Carolinas is required to assume in connection with a consolidation or merger of that entity, with respect to which any property of Duke Energy Carolinas is subjected to a mortgage, lien, pledge, security interest or other encumbrance;

mortgages, liens, pledges, security interests or other encumbrances upon any property that Duke Energy Carolinas acquired, constructed, developed or improved after the date of the Senior Indenture which are created before, at the time of, or within 18 months after such acquisition or in the case of property constructed, developed or improved, after the completion of the construction, development or improvement and commencement of full commercial operation of that property, whichever is later to secure or provide for the payment of any part of its

Table of Contents

purchase price or cost; provided that, in the case of such construction, development or improvement, the mortgages, liens, pledges, security interests or other encumbrances shall not apply to any property that Duke Energy Carolinas owns other than real property that is unimproved up to that time; and

the replacement, extension or renewal of any mortgage, lien, pledge, security interest or other encumbrance described above; or the replacement, extension or renewal (not exceeding the principal amount of indebtedness so secured together with any premium, interest, fee or expense payable in connection with any such replacement, extension or renewal) of the indebtedness so secured; provided that such replacement, extension or renewal is limited to all or a part of the same property that secured the mortgage, lien, pledge, security interest or other encumbrance replaced, extended or renewed, plus improvements on it or additions or accessions to it.

In addition, Duke Energy Carolinas may create or assume any other mortgage, lien, pledge, security interest or other encumbrance not excepted in the Senior Indenture without Duke Energy Carolinas equally and ratably securing the Senior Notes, if immediately after that creation or assumption, the principal amount of indebtedness for borrowed money of Duke Energy Carolinas that all such other mortgages, liens, pledges, security interests and other encumbrances secure does not exceed an amount equal to 10% of Duke Energy Carolinas' common stockholders' equity as shown on its consolidated balance sheet for the accounting period occurring immediately before the creation or assumption of that mortgage, lien, pledge, security interest or other encumbrance.

Satisfaction and Discharge; Defeasance and Covenant Defeasance

Upon the written request of Duke Energy Carolinas, the Senior Indenture shall be satisfied and discharged (except as to certain surviving rights and obligations specified in the Senior Indenture) when:

either all Senior Notes have been delivered to the Senior Indenture Trustee for cancellation or all Senior Notes not delivered to the Senior Indenture Trustee for cancellation are due and payable within one year (at maturity or due to redemption) and Duke Energy Carolinas has deposited with the Senior Indenture Trustee money or government obligations sufficient to pay and discharge such Senior Notes to the applicable maturity or redemption date (including principal, any premium and interest thereon);

Duke Energy Carolinas has paid or caused to be paid all other sums payable under the Senior Indenture by Duke Energy Carolinas; and

Duke Energy Carolinas has delivered to the Senior Indenture Trustee an officers' certificate and an opinion of counsel stating that all conditions precedent relating to the satisfaction and discharge of the Senior Indenture have been complied with.

The Senior Indenture provides that Duke Energy Carolinas may be:

discharged from its obligations, with certain limited exceptions, with respect to any series of Senior Notes, as described in the Senior Indenture, such a discharge being called a "defeasance" in this prospectus; and

released from its obligations under certain restrictive covenants especially established with respect to any series of Senior Notes, including the covenant described under "Negative Pledge," as described in the Senior Indenture, such a release being called a "covenant defeasance" in this prospectus.

Duke Energy Carolinas must satisfy certain conditions to effect a defeasance or covenant defeasance. Those conditions include the irrevocable deposit with the Senior Indenture Trustee, in trust, of money or government obligations which through their scheduled payments of principal and interest would provide sufficient money to pay the principal and any premium and interest on those Senior Notes on the maturity dates of those payments or upon redemption.

Table of Contents

Following a defeasance, payment of the Senior Notes defeased may not be accelerated because of an event of default under the Senior Indenture. Following a covenant defeasance, the payment of Senior Notes may not be accelerated by reference to the covenants from which Duke Energy Carolinas has been released. A defeasance may occur after a covenant defeasance.

Under current United States federal income tax laws, a defeasance would be treated as an exchange of the relevant Senior Notes in which holders of those Senior Notes might recognize gain or loss. In addition, the amount, timing and character of amounts that holders would thereafter be required to include in income might be different from that which would be includible in the absence of that defeasance. Duke Energy Carolinas urges investors to consult their own tax advisors as to the specific consequences of a defeasance, including the applicability and effect of tax laws other than United States federal income tax laws.

Under current United States federal income tax law, unless accompanied by other changes in the terms of the Senior Notes, a covenant defeasance should not be treated as a taxable exchange.

Concerning the Senior Indenture Trustee

The Bank of New York Mellon Trust Company, N.A. is the Senior Indenture Trustee and is also the trustee under Duke Energy Carolinas' Subordinated Indenture and is the trustee under Duke Energy Carolinas' First and Refunding Mortgage. Duke Energy Carolinas and certain of its affiliates have banking relationships with The Bank of New York Mellon Trust Company, N.A. The Bank of New York Mellon Trust Company, N.A. or its affiliate also serve as trustee or agent under other indentures and agreements pursuant to which securities of Duke Energy Carolinas and of certain of its affiliates are outstanding.

The Senior Indenture Trustee will perform only those duties that are specifically set forth in the Senior Indenture unless an event of default under the Senior Indenture occurs and is continuing. In case an event of default occurs and is continuing, the Senior Indenture Trustee will exercise the same degree of care as a prudent individual would exercise in the conduct of his or her own affairs. Upon any application by Duke Energy Carolinas to the Senior Indenture Trustee to take any action under any provision of the Indenture, Duke Energy Carolinas is required to furnish to the Senior Indenture Trustee such certificates and opinions as may be required under the Trust Indenture Act of 1939, as amended.

DESCRIPTION OF SUBORDINATED NOTES

Duke Energy Carolinas will issue the Subordinated Notes in one or more series under its Subordinated Indenture dated as of December 1, 1997, as supplemented from time to time (the "Subordinated Indenture"). Unless otherwise specified, the trustee under the Subordinated Indenture (the "Subordinated Indenture Trustee") will be The Bank of New York Mellon Trust Company, N.A. The Subordinated Indenture is an exhibit to the registration statement, of which this prospectus is a part.

The Subordinated Notes are unsecured obligations of Duke Energy Carolinas and are junior in right of payment to "Senior Indebtedness" of Duke Energy Carolinas. You will find a description of the subordination provisions of the Subordinated Notes, including a description of Senior Indebtedness of Duke Energy Carolinas, under "Subordination."

The following description of the Subordinated Notes is only a summary and is not intended to be comprehensive. For additional information you should refer to the Subordinated Indenture.

Table of Contents

General

The Subordinated Indenture does not limit the amount of Subordinated Notes that Duke Energy Carolinas may issue under it. Duke Energy Carolinas may issue Subordinated Notes from time to time under the Subordinated Indenture in one or more series by entering into supplemental indentures or by its Board of Directors or a duly authorized committee authorizing the issuance. Duke Energy Carolinas may at any time deliver executed Subordinated Notes to the Subordinated Indenture Trustee for authentication, and the Subordinated Indenture Trustee shall authenticate such Subordinated Notes upon the written request of Duke Energy Carolinas and satisfaction of certain other conditions set forth in the Subordinated Indenture.

The Subordinated Notes of a series need not be issued at the same time, bear interest at the same rate or mature on the same date.

The Subordinated Indenture does not protect the holders of Subordinated Notes if Duke Energy Carolinas engages in a highly leveraged transaction.

Provisions Applicable to Particular Series

The prospectus supplement for a particular series of Subordinated Notes being offered will disclose the specific terms related to the offering, including the price or prices at which the Subordinated Notes to be offered will be issued. Those terms may include some or all of the following:

the title of the series;

the total principal amount of the Subordinated Notes of the series;

the date or dates on which principal is payable or the method for determining the date or dates, and any right that Duke Energy Carolinas has to change the date on which principal is payable;

the interest rate or rates, if any, or the method for determining the rate or rates, and the date or dates from which interest will accrue;

any interest payment dates and the regular record date for the interest payable on each interest payment date, if any;

whether Duke Energy Carolinas may extend the interest payment periods and, if so, the terms of the extension;

the place or places where payments will be made;

whether Duke Energy Carolinas has the option to redeem the Subordinated Notes and, if so, the terms of its redemption option;

any obligation that Duke Energy Carolinas has to redeem the Subordinated Notes through a sinking fund or to purchase the Subordinated Notes through a purchase fund or at the option of the holder;

whether the defeasance and covenant defeasance provisions described under "Satisfaction and Discharge; Defeasance and Covenant Defeasance" will not apply to the Subordinated Notes;

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

the currency in which payments will be made if other than U.S. dollars, and the manner of determining the equivalent of those amounts in U.S. dollars;

if payments may be made, at Duke Energy Carolinas' election or at the holder's election, in a currency other than that in which the Subordinated Notes are stated to be payable, then the currency in which those payments may be made, the terms and conditions of the election and the manner of determining those amounts;

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

the portion of the principal payable upon acceleration of maturity, if other than the entire principal;

whether the Subordinated Notes will be issuable as global securities and, if so, the securities depositary;

any changes in the events of default or covenants with respect to the Subordinated Notes;

any index or formula used for determining principal, premium or interest;

if the principal payable on the maturity date will not be determinable on one or more dates prior to the maturity date, the amount which will be deemed to be such principal amount or the manner of determining it;

the subordination of the Subordinated Notes to any other of Duke Energy Carolinas' indebtedness, including other series of Subordinated Notes;

any date or dates after which the holder may convert the Subordinated Notes into other securities of Duke Energy Carolinas and the terms for that conversion;

any date or dates upon which the Subordinated Notes will be mandatorily converted into other securities of Duke Energy Carolinas and the terms for that conversion;

any terms for the attachment to Subordinated Notes of rights to purchase or sell other securities of Duke Energy Carolinas; and

any other terms.

Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, Duke Energy Carolinas will issue the Subordinated Notes only in fully registered form without coupons, and there will be no service charge for any registration of transfer or exchange of the Subordinated Notes. Duke Energy Carolinas may, however, require payment to cover any tax or other governmental charge payable in connection with any transfer or exchange. Subject to the terms of the Subordinated Indenture and the limitations applicable to global securities, transfers and exchanges of the Subordinated Notes may be made at The Bank of New York Mellon Trust Company, N.A., 101 Barclay Street, New York, New York 10286 or at any other office maintained by Duke Energy Carolinas for such purpose.

The Subordinated Notes will be issuable in denominations of \$1,000 and any integral multiples of \$1,000, unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement.

Duke Energy Carolinas may offer and sell the Subordinated Notes, including original issue discount Subordinated Notes, at a substantial discount below their principal amount. The applicable prospectus supplement will describe special United States federal income tax and any other considerations applicable to those securities. In addition, the applicable prospectus supplement may describe certain special United States federal income tax or other considerations, if any, applicable to any Subordinated Notes that are denominated in a currency other than U.S. dollars.

Redemption

Provisions relating to the redemption of Subordinated Notes will be set forth in the applicable prospectus supplement. Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, Duke Energy Carolinas may redeem Subordinated Notes only upon notice mailed at least 30, but not more than 60 days before the date fixed for redemption.

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

Duke Energy Carolinas will not be required to:

issue, register the transfer of, or exchange any Subordinated Notes of a series during the period beginning 15 days before the date the notice is mailed identifying the Subordinated Notes of that series that have been selected for redemption; or

register the transfer of or exchange any Subordinated Note of that series selected for redemption except the unredeemed portion of a Subordinated Note being partially redeemed.

Consolidation, Merger, Conveyance or Transfer

The Subordinated Indenture provides that Duke Energy Carolinas may consolidate or merge with or into, or convey or transfer all or substantially all of its properties and assets to, another corporation or other entity. Any successor must, however, assume Duke Energy Carolinas' obligations under the Subordinated Indenture and the Subordinated Notes and Duke Energy Carolinas must deliver to the Subordinated Indenture Trustee a statement by certain of its officers and an opinion of counsel that affirm compliance with all conditions in the Subordinated Indenture relating to the transaction. When those conditions are satisfied, the successor will succeed to and be substituted for Duke Energy Carolinas under the Subordinated Indenture, and Duke Energy Carolinas will be relieved of its obligations under the Subordinated Indenture and any Subordinated Notes.

Modification; Waiver

Duke Energy Carolinas may modify the Subordinated Indenture with the consent of the holders of a majority in principal amount of the outstanding Subordinated Notes of all series that are affected by the modification, voting as one class. The consent of the holder of each outstanding Subordinated Note affected is, however, required to:

change the maturity date of the principal or any installment of principal or interest on that Subordinated Note;

reduce the principal amount, the interest rate or any premium payable upon redemption of that Subordinated Note;

reduce the amount of principal due and payable upon acceleration of maturity;

change the currency of payment of principal, premium or interest on that Subordinated Note;

impair the right to institute suit to enforce any such payment on or after the maturity date or redemption date;

reduce the percentage in principal amount of Subordinated Notes of any series required to modify the Subordinated Indenture, waive compliance with certain restrictive provisions of the Subordinated Indenture or waive certain defaults; or

with certain exceptions, modify the provisions of the Subordinated Indenture governing modifications of the Subordinated Indenture or governing waiver of covenants or past defaults.

In addition, Duke Energy Carolinas may modify the Subordinated Indenture for certain other purposes, without the consent of any holders of Subordinated Notes.

The holders of a majority in principal amount of the outstanding Subordinated Notes of any series may waive, for that series, Duke Energy Carolinas' compliance with certain restrictive provisions of the Subordinated Indenture. The holders of a majority in principal amount of the outstanding Subordinated Notes of all series under the Subordinated Indenture with respect to which a default has occurred and is continuing, voting as one class, may waive that default for all those series, except a default in the payment of principal or any premium or interest on any Subordinated Note or a default with respect to

Table of Contents

a covenant or provision which cannot be modified without the consent of the holder of each outstanding Subordinated Note of the series affected.

Duke Energy Carolinas may not amend the Subordinated Indenture to change the subordination of any outstanding Subordinated Notes without the consent of each holder of Senior Indebtedness that the amendment would adversely affect.

Events of Default

The following are events of default under the Subordinated Indenture with respect to any series of Subordinated Notes, unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement:

failure to pay principal of or any premium on any Subordinated Note of that series when due;

failure to pay when due any interest on any Subordinated Note of that series that continues for 60 days; for this purpose, the date on which interest is due is the date on which Duke Energy Carolinas is required to make payment following any deferral of interest payments by it under the terms of Subordinated Notes that permit such deferrals;

failure to make any sinking fund payment when required for any Subordinated Note of that series that continues for 60 days;

failure to perform any covenant in the Subordinated Indenture (other than a covenant expressly included solely for the benefit of other series) that continues for 90 days after the Subordinated Indenture Trustee or the holders of at least 33% of the outstanding Subordinated Notes of that series give Duke Energy Carolinas written notice of the default; and

certain bankruptcy, insolvency or reorganization events with respect to Duke Energy Carolinas.

In the case of the fourth event of default listed above, the Subordinated Indenture Trustee may extend the grace period. In addition, if holders of a particular series have given a notice of default, then holders of at least the same percentage of Subordinated Notes of that series, together with the Subordinated Indenture Trustee, may also extend the grace period. The grace period will be automatically extended if Duke Energy Carolinas has initiated and is diligently pursuing corrective action.

Duke Energy Carolinas may establish additional events of default for a particular series and, if established, any such events of default will be described in the applicable prospectus supplement.

If an event of default with respect to Subordinated Notes of a series occurs and is continuing, then the Subordinated Indenture Trustee or the holders of at least 33% in principal amount of the outstanding Subordinated Notes of that series may declare the principal amount of all Subordinated Notes of that series to be immediately due and payable. However, that event of default will be considered waived at any time after the declaration but before a judgment for payment of the money due has been obtained if:

Duke Energy Carolinas has paid or deposited with the Subordinated Indenture Trustee all overdue interest, the principal and any premium due otherwise than by the declaration and any interest on such amounts, and any interest on overdue interest, to the extent legally permitted, in each case with respect to that series, and all amounts due to the Subordinated Indenture Trustee; and

all events of default with respect to that series, other than the nonpayment of the principal that became due solely by virtue of the declaration, have been cured or waived.

Table of Contents

The Subordinated Indenture Trustee is under no obligation to exercise any of its rights or powers at the request or direction of any holders of Subordinated Notes unless those holders have offered the Subordinated Indenture Trustee security or indemnity against the costs, expenses and liabilities that it might incur as a result. The holders of a majority in principal amount of the outstanding Subordinated Notes of any series have, with certain exceptions, the right to direct the time, method and place of conducting any proceedings for any remedy available to the Subordinated Indenture Trustee or the exercise of any power of the Subordinated Indenture Trustee with respect to those Subordinated Notes. The Subordinated Indenture Trustee may withhold notice of any default, except a default in the payment of principal or interest, from the holders of any series if the Subordinated Indenture Trustee in good faith considers it in the interest of the holders to do so.

The holder of any Subordinated Note will have an absolute and unconditional right to receive payment of the principal, any premium and, within certain limitations, any interest on that Subordinated Note on its maturity date or redemption date and to enforce those payments.

Duke Energy Carolinas is required to furnish each year to the Subordinated Indenture Trustee a statement by certain of its officers to the effect that it is not in default under the Subordinated Indenture or, if there has been a default, specifying the default and its status.

Payments; Paying Agent

The paying agent will pay the principal of any Subordinated Notes only if those Subordinated Notes are surrendered to it. The paying agent will pay interest on Subordinated Notes issued as global securities by wire transfer to the holder of those global securities. Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, the paying agent will pay interest on Subordinated Notes that are not in global form at its office or, at Duke Energy Carolinas' option:

by wire transfer to an account at a banking institution in the United States that is designated in writing to the Subordinated Indenture Trustee at least 16 days prior to the date of payment by the person entitled to that interest; or

by check mailed to the address of the person entitled to that interest as that address appears in the security register for those Subordinated Notes.

Unless Duke Energy Carolinas states otherwise in the applicable prospectus supplement, the Subordinated Indenture Trustee will act as paying agent for that series of Subordinated Notes, and the principal corporate trust office of the Subordinated Indenture Trustee will be the office through which the paying agent acts. Duke Energy Carolinas may, however, change or add paying agents or approve a change in the office through which a paying agent acts.

Any money that Duke Energy Carolinas has paid to a paying agent for principal or interest on any Subordinated Notes that remains unclaimed at the end of two years after that principal or interest has become due will be repaid to Duke Energy Carolinas at its request. After repayment to Duke Energy Carolinas, holders should look only to Duke Energy Carolinas for those payments.

Satisfaction and Discharge; Defeasance and Covenant Defeasance

Upon the written request of Duke Energy Carolinas, the Subordinated Indenture shall be satisfied and discharged (except as to certain surviving rights and obligations specified in the Subordinated Indenture) when:

either all Subordinated Notes have been delivered to the Subordinated Indenture Trustee for cancellation or all Subordinated Notes not delivered to the Subordinated Indenture Trustee for cancellation are due and payable within one year (at maturity or due to redemption) and Duke Energy Carolinas has deposited with the Subordinated Indenture Trustee money or government

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

obligations sufficient to pay and discharge such Subordinated Notes to the applicable maturity or redemption date (including principal, any premium and interest thereon);

Duke Energy Carolinas has paid or caused to be paid all other sums payable under the Subordinated Indenture by Duke Energy Carolinas; and

Duke Energy Carolinas has delivered to the Subordinated Indenture Trustee an officers' certificate and an opinion of counsel stating that all conditions precedent relating to the satisfaction and discharge of the Subordinated Indenture have been complied with.

The Subordinated Indenture provides that Duke Energy Carolinas may be:

discharged from its obligations, with certain limited exceptions, with respect to any series of Subordinated Notes, as described in the Subordinated Indenture, such a discharge being called a "defeasance" in this prospectus; and

released from its obligations under certain restrictive covenants especially established with respect to a series of Subordinated Notes, as described in the Subordinated Indenture, such a release being called a "covenant defeasance" in this prospectus.

Duke Energy Carolinas must satisfy certain conditions to effect a defeasance or covenant defeasance. Those conditions include the irrevocable deposit with the Subordinated Indenture Trustee, in trust, of money or government obligations which through their scheduled payments of principal and interest would provide sufficient money to pay the principal and any premium and interest on those Subordinated Notes on the maturity dates of those payments or upon redemption. Following a defeasance, payment of the Subordinated Notes defeased may not be accelerated because of an event of default under the Subordinated Indenture.

Under current United States federal income tax laws, a defeasance would be treated as an exchange of the relevant Subordinated Notes in which holders of those Subordinated Notes might recognize gain or loss. In addition, the amount, timing and character of amounts that holders would thereafter be required to include in income might be different from that which would be includible in the absence of that defeasance. Duke Energy Carolinas urges investors to consult their own tax advisors as to the specific consequences of a defeasance, including the applicability and effect of tax laws other than United States federal income tax laws.

Under current United States federal income tax law, unless accompanied by other changes in terms of the Subordinated Notes, a covenant defeasance should not be treated as a taxable exchange.

Subordination

Each series of Subordinated Notes will be subordinate and junior in right of payment, to the extent set forth in the Subordinated Indenture, to all Senior Indebtedness as defined below. If:

Duke Energy Carolinas makes a payment or distribution of any of its assets to creditors upon its dissolution, winding-up, liquidation or reorganization, whether in bankruptcy, insolvency or otherwise;

a default beyond any grace period has occurred and is continuing with respect to the payment of principal, interest or any other monetary amounts due and payable on any Senior Indebtedness; or

the maturity of any Senior Indebtedness has been accelerated because of a default on that Senior Indebtedness,

then the holders of Senior Indebtedness generally will have the right to receive payment, in the case of the first instance, of all amounts due or to become due upon that Senior Indebtedness, and, in the case

Table of Contents

of the second and third instances, of all amounts due on the Senior Indebtedness, or Duke Energy Carolinas will make provision for those payments, before the holders of any Subordinated Notes have the right to receive any payments of principal or interest on their Subordinated Notes.

"Senior Indebtedness" means, with respect to any series of Subordinated Notes, the principal, premium, interest and any other payment in respect of any of the following:

all of Duke Energy Carolinas' indebtedness that is evidenced by notes, debentures, bonds or other securities Duke Energy Carolinas sells for money or other obligations for money borrowed;

all indebtedness of others of the kinds described in the preceding category which Duke Energy Carolinas has assumed or guaranteed or which Duke Energy Carolinas has in effect guaranteed through an agreement to purchase, contingent or otherwise; and

all renewals, extensions or refundings of indebtedness of the kinds described in either of the preceding two categories.

Any such indebtedness, renewal, extension or refunding, however, will not be Senior Indebtedness if the instrument creating or evidencing it or the assumption or guarantee of it provides that it is not superior in right of payment to or is equal in right of payment with those Subordinated Notes. Senior Indebtedness will be entitled to the benefits of the subordination provisions in the Subordinated Indenture irrespective of the amendment, modification or waiver of any term of the Senior Indebtedness.

Future series of Subordinated Notes that are not Subordinated Notes may rank senior to outstanding series of Subordinated Notes and would constitute Senior Indebtedness with respect to those series.

The Subordinated Indenture does not limit the amount of Senior Indebtedness that Duke Energy Carolinas may issue.

Concerning the Subordinated Indenture Trustee

The Bank of New York Mellon Trust Company, N.A. is the Subordinated Indenture Trustee and is also the Senior Indenture Trustee, and is the trustee under Duke Energy Carolinas' First and Refunding Mortgage. Duke Energy Carolinas and certain of its affiliates have banking relationships with The Bank of New York Mellon Trust Company, N.A. The Bank of New York Mellon Trust Company, N.A. or its affiliate also serve as trustee or agent under other indentures and agreements pursuant to which securities of Duke Energy Carolinas and of certain of its affiliates are outstanding.

The Subordinated Indenture Trustee will perform only those duties that are specifically set forth in the Subordinated Indenture unless an event of default under the Subordinated Indenture occurs and is continuing. In case an event of default occurs and is continuing, the Subordinated Indenture Trustee will exercise the same degree of care as a prudent individual would exercise in the conduct of his or her own affairs. Upon any application by Duke Energy Carolinas to the Subordinated Indenture Trustee to take any action under any provision of the Indenture, Duke Energy Carolinas is required to furnish to the Subordinated Indenture Trustee such certificates and opinions as may be required under the Trust Indenture Act of 1939, as amended.

Table of Contents

GLOBAL SECURITIES

Duke Energy Carolinas may issue some or all of the First and Refunding Mortgage Bonds, Senior Notes and Subordinated Notes as book-entry securities. Any such book-entry securities will be represented by one or more fully registered global securities. Duke Energy Carolinas will register each global security with or on behalf of a securities depositary identified in the applicable prospectus supplement. Each global security will be deposited with the securities depositary or its nominee or a custodian for the securities depositary.

As long as the securities depositary or its nominee is the registered holder of a global security representing securities described in this prospectus, that person will be considered the sole owner and holder of the global security and the securities it represents for all purposes. Except in limited circumstances, owners of beneficial interests in a global security:

may not have the global security or any securities it represents registered in their names;

may not receive or be entitled to receive physical delivery of certificated securities in exchange for the global security; and

will not be considered the owners or holders of the global security or any securities it represents for any purposes under the applicable securities or the related mortgage or indenture.

Duke Energy Carolinas will make all payments of principal and any premium and interest on a global security to the securities depositary or its nominee as the holder of the global security. The laws of some jurisdictions require that certain purchasers of securities take physical delivery of securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Ownership of beneficial interests in a global security will be limited to institutions having accounts with the securities depositary or its nominee, which are called "participants" in this discussion, and to persons that hold beneficial interests through participants. When a global security representing securities described in this prospectus is issued, the securities depositary will credit on its book entry, registration and transfer system the principal amounts of securities the global security represents to the accounts of its participants. Ownership of beneficial interests in a global security will be shown only on, and the transfer of those ownership interests will be effected only through, records maintained by:

the securities depositary, with respect to participants' interests; and

any participant, with respect to interests the participant holds on behalf of other persons.

Payments participants make to owners of beneficial interests held through those participants will be the responsibility of those participants. The securities depositary may from time to time adopt various policies and procedures governing payments, transfers, exchanges and other matters relating to beneficial interests in a global security. None of the following will have any responsibility or liability for any aspect of the securities depositary's or any participant's records relating to beneficial interests in a global security representing securities described in this prospectus, for payments made on account of those beneficial interests or for maintaining, supervising or reviewing any records relating to those beneficial interests:

Duke Energy Carolinas;

the applicable trustee; or

an agent of either of them.

Table of Contents

PLAN OF DISTRIBUTION

We may sell securities to one or more underwriters or dealers for public offering and sale by them, or we may sell the securities to investors directly or through agents. The prospectus supplement relating to the securities being offered will set forth the terms of the offering and the method of distribution and will identify any firms acting as underwriters, dealers or agents in connection with the offering, including:

the name or names of any underwriters;

the purchase price of the securities and the proceeds to us from the sale;

any underwriting discounts and other items constituting underwriters' compensation;

any public offering price;

any discounts or concessions allowed or reallocated or paid to dealers; and

any securities exchange or market on which the securities may be listed.

Only those underwriters identified in the prospectus supplement are deemed to be underwriters in connection with the securities offered in the prospectus supplement.

We may distribute the securities from time to time in one or more transactions at a fixed price or prices, which may be changed, or at prices determined as the prospectus supplement specifies. We may sell securities through forward contracts or similar arrangements. In connection with the sale of securities, underwriters, dealers or agents may be deemed to have received compensation from us in the form of underwriting discounts or commissions and also may receive commissions from securities purchasers for whom they may act as agent. Underwriters may sell the securities to or through dealers, and such dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

We may sell the securities directly or through agents we designate from time to time. Any agent involved in the offer or sale of the securities covered by this prospectus will be named in a prospectus supplement relating to such securities. Commissions payable by us to agents will be set forth in a prospectus supplement relating to the securities being offered. Unless otherwise indicated in a prospectus supplement, any such agents will be acting on a best-efforts basis for the period of their appointment.

Some of the underwriters, dealers or agents and some of their affiliates who participate in the securities distribution may engage in other transactions with, and perform other services for, us and our subsidiaries or affiliates in the ordinary course of business.

Any underwriting or other compensation which we pay to underwriters or agents in connection with the securities offering, and any discounts, concessions or commissions which underwriters allow to dealers, will be set forth in the applicable prospectus supplement. Underwriters, dealers and agents participating in the securities distribution may be deemed to be underwriters, and any discounts and commissions they receive and any profit they realize on the resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act of 1933, as amended. Underwriters, and their controlling persons, and agents may be entitled, under agreements we enter into with them, to indemnification against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended.

Table of Contents

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference from Duke Energy Carolinas, LLC's Annual Report on Form 10-K have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

VALIDITY OF THE SECURITIES

Robert T. Lucas III, Esq., who is Deputy General Counsel of Duke Energy Business Services, LLC, the service company affiliate of Duke Energy Carolinas, and/or counsel named in the applicable prospectus supplement, will issue an opinion about the validity of the securities we are offering in the applicable prospectus supplement. Counsel named in the applicable prospectus supplement will pass upon certain legal matters on behalf of any underwriters.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, and, in accordance therewith, file annual, quarterly and current reports and other information with the Securities and Exchange Commission, or the SEC. Such reports and other information can be inspected and copied at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates from the Public Reference Section of the SEC at its Washington, D.C. address. Please call the SEC at 1-800-SEC-0330 for further information. Our filings with the SEC, as well as additional information about us, are also available to the public through Duke Energy's website at <http://www.duke-energy.com> and are made available as soon as reasonably practicable after such material is filed with or furnished to the SEC. The information on our website is not a part of this prospectus. Our filings are also available to the public through the SEC website at <http://www.sec.gov>.

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. This prospectus incorporates by reference the documents incorporated in the prospectus at the time the registration statement became effective and all later documents filed with the SEC, in all cases as updated and superseded by later filings with the SEC. We incorporate by reference the documents listed below and any future documents filed by Duke Energy Carolinas, LLC made with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until the offering is completed.

Annual Report on Form 10-K for the year ended December 31, 2015;

Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2016, and June 30, 2016; and

Current Reports on Form 8-K filed on March 11, 2016, and June 10, 2016.

We, our parent company, Duke Energy Corporation, and certain of its other subsidiaries separately filed the combined Annual Report on Form 10-K and Quarterly Reports on Form 10-Q listed above. We do not intend to incorporate by reference into this prospectus the information relating to Duke Energy Corporation and its subsidiaries (other than Duke Energy Carolinas, LLC and its consolidated subsidiaries), and we make no representation as to the information relating to Duke Energy Corporation and its subsidiaries (other than Duke Energy Carolinas, LLC and its consolidated subsidiaries) contained in such combined reports.

Edgar Filing: Duke Energy Carolinas, LLC - Form 424B5

Table of Contents

We will provide you without charge a copy of these filings, other than any exhibits unless the exhibits are specifically incorporated by reference into this prospectus. You may request a copy by writing us at the following address or telephoning one of the following numbers:

Investor Relations Department
Duke Energy Carolinas, LLC
P.O. Box 1005
Charlotte, North Carolina 28201
(704) 382-3853 or (800) 488-3853 (toll-free)

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell the securities described in this prospectus in any state where the offer or sale is not permitted. You should assume that the information contained in the prospectus is accurate only as of its date. Our business, financial condition, results of operations and prospects may have changed since that date.

Table of Contents

