MOODY'S

Rating Action: **Moody's affirms Duke Energy and subsidiary ratings; changes outlook of Duke Energy Kentucky to negative**

24 Apr 2023

New York, April 24, 2023 -- Moody's Investors Service (Moody's) affirmed the ratings of Duke Energy Corporation (Duke, Baa2) along with the ratings of its utility subsidiaries: Duke Energy Carolinas, LLC (Duke Energy Carolinas, A2), Duke Energy Progress, LLC (Duke Energy Progress, A2), Duke Energy Florida, LLC. (Duke Energy Florida, A3), Duke Energy Indiana, LLC. (Duke Energy Indiana A2), Duke Energy Ohio, Inc. (Duke Energy Ohio, Baa1), Duke Energy Kentucky, Inc. (Duke Energy Kentucky, Baa1), and Piedmont Natural Gas Company, Inc. (Piedmont, A3). Moody's also affirmed the ratings of Duke's intermediate subsidiary holding company, Progress Energy, Inc. (Progress Energy, Baa1).

At the same time, Moody's changed the rating outlook of Duke Energy Kentucky to negative from stable. The rating outlook for Duke and all of its other subsidiaries is stable.

RATINGS RATIONALE

"The ratings affirmation of Duke and its subsidiaries reflects our expectation that continued credit supportive regulation will help the utilities to maintain their credit quality despite substantial capital investment programs" stated Nana Hamilton, VP- Senior Analyst. "Duke Energy Kentucky's negative outlook reflects the potential that historically weak credit metrics will be sustained going forward should the outcome of the company's pending rate case be unfavorable" added Hamilton.

Over the next two years, we expect Duke's ratio of operating cash flow excluding changes in working capital (CFO pre-WC) to debt ratio to be maintained in the 13%-15% range that we have indicated as appropriate for its current Baa2 rating, albeit at the bottom half of that range, leaving it with little financial flexibility. The company's 2022 credit metrics were materially lower than that range, including a ratio of CFO pre-WC to debt of 11.3% (adjusted for securitization and Duke's proportional ownership of Duke Energy Indiana), primarily due to about $3.9 billion in deferred fuel costs. Adjusting for the cash flow impact of these deferred fuel costs, substantially all which we expect to be recovered by the end of 2024, the CFO pre-WC to debt ratio would have been 12.9%.

With no equity issuances in its financing plan and one of the largest capital expenditure programs in the utilities sector, Duke's credit metrics will remain under pressure. However, we expect continued credit supportive regulation, particularly in Duke's largest service territories in North Carolina, Florida and Indiana, to help the company maintain debt coverage metrics within our expected range for the current rating. Duke is also currently pursuing a sale of its commercial renewables business and proceeds from a successful sale would provide additional funds to supplement debt financing.

The ratings affirmation and stable outlooks at Duke Energy Carolinas and Duke Energy Progress consider what we expect will be credit supportive outcomes of currently pending rate cases at both utilities. Despite generally collaborative regulatory relationships, Duke's Carolina utilities, which combined make up approximately 55% of its earnings base, have historically not benefited from tracking mechanisms that could serve to reduce regulatory lag on investments. However, pursuant to legislation passed in October 2021, both utilities are requesting multi-year performance based rate plans for the first time in North Carolina which we view as a positive development toward mitigating this regulatory lag. Both utilities' 2022 credit metrics were depressed by significant under-recovered fuel costs with Duke Energy Carolinas requesting a 12 month recovery of these costs effective September 2023 and Duke Energy Progress expected to request 12 month recovery effective December 2023. A final commission order is expected for Duke Energy Carolinas in August 2023. Over the next two years, we expect both utilities to produce a ratio of CFO pre-WC to debt in the 20%-22% range, excluding the financial impact of storm cost securitization.

The affirmation of Duke Energy Florida's ratings recognizes credit supportive regulation in Florida that allows for timely recovery of costs and investments. This is especially important for Duke Energy Florida whose service territory is highly exposed to hurricanes. The relatively quick restoration of power to about one million customers within three days after Hurricane Ian exited the state in October 2022 demonstrates the success of its infrastructure hardening investments. As of 31 December 2022, Duke Energy Florida had about $353 million of deferred Hurricane Ian costs and has received regulatory approval to recover costs associated with Ian over 12 months and to replenish its storm reserve. Duke Energy Florida's 2022 credit metrics were negatively impacted by the higher debt incurred to fund storm costs and high fuel costs. Over the next two years, we expect the utility will be able to maintain a ratio of CFO pre-WC to debt of around 20%, excluding the financial impact of securitization bonds associated with the retirement of its Crystal River nuclear plant.

The affirmation of intermediate parent company Progress Energy's rating is driven by the affirmation of the ratings of subsidiaries Duke Energy Progress and Duke Energy Florida. The Baa1 rating reflects the structurally subordinate position of its debt vis-à-vis the debt at these two subsidiaries. The percentage of intermediate parent level debt as compared to total consolidated Progress Energy debt has decreased significantly over time and at year-end 2022 was approximately 7%, down from 20% in 2021. This is due to a $450 million maturity in 2022 and higher debt at its subsidiaries to fund higher fuel costs and storm costs. Excluding securitization bonds and associated cash flow impacts, we expect Progress Energy to generate a ratio of CFO pre-WC to debt in the high teens over the next two years.

The affirmation of Duke Energy Indiana's rating acknowledges credit supportive regulation in Indiana including forward looking test years for rate cases and several authorized rider/tracker provisions that permit timely recovery of expenditures. Duke closed the second phase of its minority sale of Duke Energy Indiana to GIC in December 2022, with Duke Energy Indiana issuing an additional 8.85% of its membership interests in exchange for approximately $1 billion, following a sale of 11.05% of its membership interests in September 2021. Our assessment of Duke's credit quality proportionally consolidates the 80.1% of Duke Energy Indiana that it now owns.

We expect Duke Energy Indiana to produce credit metrics in line with our expectations for its rating over the next two years, including a ratio of CFO pre-WC to debt in the low 20% range. However, credit metrics will be pressured beyond 2025 when capital expenditures are forecast to significantly increase to about $1.5 billion annually, up from an already high annual average of around $900 million. The utility's transition away from coal, which represents about 70% of its generation portfolio, is the primary driver of the increase in capital spending. Despite timely cost recovery mechanisms, the sheer size of its capital expenditure program will increase regulatory lag and require more frequent rate case activity.

Duke Energy Ohio's Baa1 rating affirmation reflects a credit supportive regulatory environment that includes a large number of riders and trackers for investments in the company's transmission and distribution system. Credit metrics have been at the weak end of our expectation for the rating over the last three years, including a ratio of CFO pre-WC to debt averaging 15.1%, as the utility has continued to make significant investments in transmission and distribution. With a recently approved electric rate increase effective January 2023 and a pending natural gas rate case, we expect Duke Energy Ohio to maintain a ratio of CFO pre-WC to debt in the 15% - 17% range over the next two years. Longer-term, Duke Energy Ohio's next electric security plan (ESP), which will be effective in 2026, will be important to its future credit quality.

The negative outlook on Duke Energy Kentucky reflects a history of weak credit metrics, including a CFO pre-WC to debt averaging 15.2% in recent years, consistently below our minimum expectation of 17% for its Baa1 rating. These weak metrics may persist depending on the outcome of its currently pending electric rate case. Although Duke Energy Kentucky benefits from several cost recovery mechanisms, including recovery of fuel, purchased power, and environmental compliance costs and the use of a forward test year in rate cases, the company's cash flow has been flat since 2018 relative to a compound annual growth rate in debt of about 10%. In its electric rate case, Duke Energy Kentucky has requested a revenue increase of $75 million based on a 10.35% return on equity and a 52.51% equity layer. A final decision is expected by the end of the second quarter of 2023 and will be important to our assessment of the company's Baa1 credit rating.

The affirmation of Piedmont's A3 rating reflects its low business risk as a regulated natural gas local distribution company operating in supportive regulatory jurisdictions in North Carolina, South Carolina and Tennessee. Substantial capital expenditures, averaging about $870 million annually over the last three years, have kept pressure on debt coverage metrics, with an average CFO pre-WC to debt ratio of 14.3%. Piedmont has not paid a dividend to Duke since 2016, which has helped to support the utility's credit profile through a period of high capital expenditures. The company forecasts annual capital expenditures to be in the $900 million to $950 million range over the next two years as it continues to invest in infrastructure to support customer growth and system integrity. We expect credit metrics to remain pressured over the next two years, with a ratio of CFO pre-WC to debt in the 15%-16% range but see improving debt coverage metrics beyond 2024 when the utility's capital spending is forecast to moderate to a range of $600 million to $700 million annually.

Rating Outlook

The stable outlook for Duke and its subsidiaries, with the exception of Duke Energy Kentucky, reflects our expectation that the companies will maintain supportive regulatory relationships in all of their jurisdictions. The outlook also assumes management will manage its operating, capital and financing plans in a manner that supports credit quality and enables the maintenance of credit metrics that are consistent with our expectations.

FACTORS THAT COULD LEAD TO AN UPGRADE OR DOWNGRADE OF THE RATINGS

Factors that ould Lead to an Upgrade

While unlikely in the near term, upward pressure on the ratings could develop if regulatory environments were to become more supportive, resulting in increased cash flow, or if there were to be reductions in leverage leading to materially stronger credit metrics.

For example, at Duke, an upgrade could be considered if it exhibits a consolidated ratio of CFO pre-WC to debt above 15% on a sustainable basis; at Duke Energy Carolinas, Duke Energy Progress and Duke Energy Indiana, a ratio above 25%; at Duke Energy Florida, a ratio above 22%; at Duke Energy Ohio, a ratio at or above 19% (down from 20% previously); and at Duke Energy Kentucky a ratio above 21% (down from 22% previously). An upgrade of Duke Energy Progress or Duke Energy Florida could put upward pressure on the rating of Progress Energy. At Piedmont, a ratio of CFO pre-

WC to debt above 19% (up from 18% previously) could put upward pressure on the rating.

Factors that Could Lead to a Downgrade

Downward rating action could be considered if there were to be a deterioration in the credit supportiveness of the regulatory relationships at Duke's subsidiaries, that could result in a reduction in cash flow. A material increase in operating or capital expenditures that is not able to be recovered on a timely basis, or an increase in leverage leading to weaker credit metrics could also put downward pressure on the ratings.

For example, at Duke, a downgrade could be considered if the consolidated ratio of CFO pre-WC to debt sustained below 13%; at Duke Energy Carolinas and Duke Energy Progress a ratio maintained below 21% (up from 20% previously); at Duke Energy Indiana a ratio maintained below 22%; at Duke Energy Florida a ratio below 19%; at Duke Energy Ohio a ratio below 15%; and at Duke Energy Kentucky a ratio below 17%. A downgrade of Duke Energy Progress or Duke Energy Florida could put downward pressure on the rating of Progress Energy. At Piedmont, a ratio of CFO pre-WC to debt below 15% (up from 14% previously) could put downward pressure on the rating.

Headquartered in Charlotte, North Carolina, Duke is a large energy holding company with mostly regulated utility operations. Its main business consists of its electric utilities and infrastructure business segment, which serves approximately 8.2 million retail electric customers in six US states and made up about 90% of Duke's 2021 earnings base. Duke's gas utilities and infrastructure businesses provide natural gas to approximately 1.6 million customers located in five states.

Affirmations:

..Issuer: Duke Energy Corporation

.... Issuer Rating, Affirmed Baa2

....Senior Unsecured Conv./Exch. Bond/Debenture, Affirmed Baa2

....Senior Unsecured Regular Bond/Debenture, Affirmed Baa2

....Senior Unsecured Shelf, Affirmed (P)Baa2

....Junior Subordinated Regular Bond/Debenture, Affirmed Baa3

....Pref. Stock Preferred Stock, Affirmed Ba1

....Pref. Shelf, Affirmed (P)Ba1

....Senior Unsecured Bank Credit Facility, Affirmed Baa2

....Senior Unsecured Commercial Paper, Affirmed P-2

..Issuer: Duke Energy Indiana, LLC.

.... Issuer Rating, Affirmed A2

....Senior Unsecured Regular Bond/Debenture, Affirmed A2

....Senior Unsecured Shelf, Affirmed (P)A2

....Senior Secured First Mortgage Bonds, Affirmed Aa3

....Underlying Senior Secured First Mortgage Bonds, Affirmed Aa3

....Backed Senior Secured First Mortgage Bonds, Affirmed Aa3

....Senior Secured Regular Bond/Debenture, Affirmed Aa3

....Senior Secured Shelf, Affirmed (P)Aa3

..Issuer: Duke Energy Ohio, Inc.

.... Issuer Rating, Affirmed Baa1

....Senior Unsecured Regular Bond/Debenture, Affirmed Baa1

....Senior Unsecured Shelf, Affirmed (P)Baa1

....Senior Secured First Mortgage Bonds, Affirmed A2

....Senior Secured Shelf, Affirmed (P)A2

..Issuer: Duke Energy Kentucky, Inc.

....Senior Unsecured Regular Bond/Debenture, Affirmed Baa1

..Issuer: Duke Energy Carolinas, LLC

.... Issuer Rating, Affirmed A2

....Senior Unsecured Regular Bond/Debenture, Affirmed A2

....Senior Unsecured Shelf, Affirmed (P)A2

....Senior Secured First Mortgage Bonds, Affirmed Aa3

....Senior Secured Shelf, Affirmed (P)Aa3

..Issuer: Piedmont Natural Gas Company, Inc.

....Senior Unsecured Regular Bond/Debenture, Affirmed A3

..Issuer: Progress Energy, Inc.

....Senior Unsecured Regular Bond/Debenture, Affirmed Baa1

..Issuer: Duke Energy Progress, LLC

.... Issuer Rating, Affirmed A2

....Senior Unsecured Shelf, Affirmed (P)A2

....Senior Secured First Mortgage Bonds, Affirmed Aa3

....Senior Secured Shelf, Affirmed (P)Aa3

..Issuer: Duke Energy Florida, LLC.

.... Issuer Rating, Affirmed A3

....Senior Unsecured Regular Bond/Debenture, Affirmed A3

....Underlying Senior Unsecured Regular Bond/Debenture, Affirmed A3

....Backed Senior Unsecured Regular Bond/Debenture, Affirmed A3

....Senior Unsecured Shelf, Affirmed (P)A3

....Senior Secured First Mortgage Bonds, Affirmed A1

....Underlying Senior Secured First Mortgage Bonds, Affirmed A1

....Backed Senior Secured First Mortgage Bonds, Affirmed A1

....Senior Secured Shelf, Affirmed (P)A1

..Issuer: Boone (County of) KY

....Senior Unsecured Revenue Bonds, Affirmed Baa1

....Underlying Senior Unsecured Revenue Bonds, Affirmed Baa1

....Backed Senior Unsecured Revenue Bonds, Affirmed Baa1

..Issuer: CITRUS (COUNTY OF) FL

....Underlying Senior Secured Revenue Bonds, Affirmed A1

....Backed Senior Secured Revenue Bonds, Affirmed A1

..Issuer: Indiana Finance Authority

....Senior Secured Revenue Bonds, Affirmed Aa3

....Senior Unsecured Revenue Bonds, Affirmed A2

....Underlying Senior Unsecured Revenue Bonds, Affirmed A2

....Backed Senior Unsecured Revenue Bonds, Affirmed A2

....Senior Unsecured Revenue Bonds, Affirmed VMIG 1

..Issuer: North Carolina Capital Facilities Fin. Agy.

....Backed Senior Secured Revenue Bonds, Affirmed Aa3

....Underlying Senior Unsecured Revenue Bonds, Affirmed A2

....Backed Senior Unsecured Revenue Bonds, Affirmed A2

..Issuer: Ohio Air Quality Development Authority

....Senior Unsecured Revenue Bonds, Affirmed Baa1

....Underlying Senior Unsecured Revenue Bonds, Affirmed Baa1

....Backed Unsecured Revenue Bonds, Affirmed Baa1

..Issuer: Ohio Water Development Authority

....Underlying Unsecured Revenue Bonds, Affirmed Baa1

....Backed Senior Unsecured Revenue Bonds, Affirmed Baa1

..Issuer: Public Finance Authority

....Backed Senior Secured Revenue Bonds, Affirmed Aa3

..Issuer: Wake County I.F. & P.C.F.A., NC (The)

....Underlying Senior Secured Revenue Bonds, Affirmed Aa3

....Backed Senior Secured Revenue Bonds, Affirmed Aa3

Outlook Actions:

..Issuer: Duke Energy Corporation

....Outlook, Remains Stable

..Issuer: Duke Energy Indiana, LLC.

....Outlook, Remains Stable

..Issuer: Duke Energy Ohio, Inc.

....Outlook, Remains Stable

..Issuer: Duke Energy Kentucky, Inc.

....Outlook, Changed To Negative From Stable

..Issuer: Duke Energy Carolinas, LLC

....Outlook, Remains Stable

..Issuer: Piedmont Natural Gas Company, Inc.

....Outlook, Remains Stable

..Issuer: Progress Energy, Inc.

....Outlook, Remains Stable

..Issuer: Duke Energy Progress, LLC

....Outlook, Remains Stable

..Issuer: Duke Energy Florida, LLC.

....Outlook, Remains Stable

The principal methodology used in these ratings was Regulated Electric and Gas Utilities published in June 2017 and available at https://ratings.moodys.com/api/rmc-documents/68547. Alternatively, please see the Rating Methodologies page on https://ratings.moodys.com for a copy of this methodology.

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