FitchRatings

RATING ACTION COMMENTARY

# Fitch Rates New York City, NY's $935MM Fiscal 2024 Ser B GO Bonds 'AA'; Outlook Stable

Fri 22 Sep, 2023 - 5:37 PM ET

Fitch Ratings - New York - 22 Sep 2023: Fitch Ratings has assigned a 'AA' rating to New York City, NY's approximately $935 million GO bonds, fiscal 2024 series B, consisting of:

--$700 million taxable social bonds, sub-series B-1

--$235 million taxable bonds, sub-series B-2.

The bonds will be priced on Oct. 3, 2023 and Oct 4, 2023 via negotiation. Proceeds of the sub-series B-1 social bonds will be used to reimburse the city for prior spending for eligible social investments and the sub-series B-2 bond proceeds will support city general capital expenditures.

Fitch has also affirmed the city's Issuer Default Rating (IDR), the rating on approximately $40 billion in outstanding GO bonds, and the rating on various bank bonds associated with the certain outstanding adjustable rate bonds, at 'AA'.

The Rating Outlook is Stable.

## RATING ACTIONS

| ENTITY / DEBT | RATING | PRIOR |
|---|---|---|

| | | | | |
|---|---|---|---|---|
| New York City (NY) [General Government] | LT IDR | AA Rating Outlook Stable | Affirmed | AA Rating Outlook Stable |
| New York City (NY) /General Obligation - Unlimited Tax/1 LT | LT | AA Rating Outlook Stable | Affirmed | AA Rating Outlook Stable |

VIEW ADDITIONAL RATING DETAILS

## SECURITY

The GO bonds carry a pledge of New York City's full faith and credit, supported by a levy by the city of ad valorem taxes (without limit as to rate or amount) on all real property within the city subject to taxation. The city is not subject to New York State's property tax cap.

## ANALYTICAL CONCLUSION

The 'AA' IDR and GO bond rating reflect the city's exceptionally strong budget monitoring and controls, supporting Fitch's high assessment of operating performance. The city experienced record revenue performance and strong recovery coming out of the pandemic, as well as improvement in reserve levels, which will help management navigate through future economic downturns, including near-term challenges due to an expected deceleration of revenue growth, rising labor and asylum seeker costs and other uncertainties associated with a high inflationary environment.

Fitch expects the city's slightly elevated but still moderate long-term liability burden to remain relatively stable based on future debt needs and the status of its net pension liabilities (NPL) over time (assuming actuarial assumptions are met). Other post-employment benefit (OPEB) liabilities are high, equal to roughly half of the combined level of debt and NPLs, but will fluctuate depending on the interest rate environment.

Fitch expects management will continue to achieve general fund operational stability while maintaining reserves at close to or better than current levels. Fitch's expectations for resumption of revenue growth, following near-term interruptions due to elevated interest rates and high inflation, coupled with continued close expense management and use of budgetary tools support these expectations. The combination of prepayments and availability of reserves will additionally mitigate risks of unexpected cost pressures or actual revenue lower than budget.

### Economic Resource Base

Fitch considers the city's unique economic profile as an international center for numerous industries and a major tourism destination, as well as its proven resilience through the recent and prior severe economic disruptions, as credit strengths. Employment recovery had lagged national trends following the pandemic but job growth picked up notably during calendar 2022 and is continuing in 2023 but at a slower pace. The city has recovered close to 100% of the jobs lost during the pandemic.

The local economy and operating budget remain strongly linked to the financial activities sector, which was relatively unaffected by the pandemic and accounts for 25% of earnings compared with 10% for the U.S., according to 2021 data. Professional and business services accounted for 21% of earnings for the same period and this sector, along with the financial activities sector, have higher average wage rates than the other service producing and governmental sectors in the city.

## KEY RATING DRIVERS

### Revenue Framework: 'aa'

New York City has a highly diverse revenue base that supports resilience to changes in economic conditions. Fitch expects revenue growth to range between long-term inflation and U.S. GDP with a return to at least pre-pandemic levels of personal and corporate income tax revenues, and continued strength in residential real estate values offset by pressure on commercial growth in the medium term.

The city has solid independent legal ability to adjust property tax rates and a variety of fees and charges to offset the modest revenue declines expected in a typical economic downturn. Rates for other important revenue sources (mainly income and sales taxes and state aid) are not within management's independent control.

### Expenditure Framework: 'a'

Carrying costs are moderate, typically about 20% of governmental funds spending. Other than education-related employees, most labor contracts are subject to binding arbitration; however, the city has demonstrated adequate expenditure flexibility primarily through its control over employee headcount. Fitch expects long-term spending patterns to be above revenue growth excluding policy actions.

### Long-Term Liability Burden: 'a'

Ongoing and substantial capital needs will be the primary driver of expected growth in the city's long-term liability burden to an elevated but still moderate level as the resource base expands. However, debt policies in place support maintenance of debt issuances within affordability levels. Reported NPLs will incorporate market volatility but the city is required to fully fund its actuarially determined contributions. Net unfunded OPEB liabilities represent close to 13% of personal income but annual costs are a moderate portion of the budget excluding periodic contributions above pay-go.

**Operating Performance: 'aaa'**

The 'aaa' assessment reflects a very strong gap closing ability and the city's close budget monitoring and control, as demonstrated by its ability to maintain consistent balance and manage out-year gaps. A high level of inherent budgetary flexibility provides protection against typical economic and revenue volatility.

## RATING SENSITIVITIES

Factors that could, individually or collectively, lead to a positive rating action/upgrade:

--Sustained long-term liabilities associated with debt and NPLs at a level below 20% of personal income and active management to control growth in OPEB liabilities;

--Improved expenditure flexibility as evidenced by, among other items, reductions in fixed cost spending as a percent of governmental spending;

--Sustained revenue growth above national GDP levels.

Factors that could, individually or collectively, lead to a negative rating action/downgrade:

--An increased gap between the natural pace of revenue and expenditure growth due either to a slowing of economic activity and prospects for revenue growth, or an acceleration of spending growth, or both;

--Sustained erosion of the city's reserve cushion or reduced ability to use related budget management tools such as the annual prepayment of expenditures.

## CURRENT DEVELOPMENTS

Fiscal 2023 Revenue Forecast Stronger than Budget

Forecast net revenues for fiscal YE 2023, as submitted to the New York State Control Board on June 30, 2023 (the financial plan), are projected to increase by $6.0 billion (or 8.2%) over the June 2022 Financial Plan net revenue forecast of $73.3 billion, with non-property tax revenues including sales, hotel and business taxes seeing better than anticipated growth. The growth projection reflects mostly strong local consumption, even with a continued slow return to office recovery, and an active holiday season with an increase in tourists to the city.

Personal income tax revenues, which the city expected to decline 8% yoy, as of the January financial plan, following a record increase in fiscal 2022, are currently projected to improve by a moderate 3% during fiscal 2023 and then decline during fiscal 2024 before resuming growth through fiscal 2027. While tax withholdings are holding up better than expected in fiscal 2023, greater than expected April and June estimated payments and New York City passthrough entity tax (NYC PTET) payments being made have affected results.

The NYC PTET was created in 2022. The pass-through is structured as a workaround to the $10,000 cap on state and local tax deductions that were included in the 2017 Tax Cuts and Jobs Act. It is intended to be revenue-neutral for the city, but the complicated mix of payments, credits and refunds can take multiple years, resulting in unpredictable revenue volatility in any single year.

City spending for fiscal YE 2023 was $0.5 billion higher than budget due to higher labor costs, agency spending and costs associated with asylum seekers. The increases were partially offset by departmental savings associated with management's Program to Eliminate the Gap (PEG) and lower debt service costs and use of $1.5 billion of the general reserve and $0.250 billion capital stabilization reserve. The city estimates that the provision for prepayment in fiscal 2023 of fiscal 2024 expenses will increase by $2.4 billion since the April 2023 financial plan to $5.5 billion (5.1% of fiscal 2024 all funds budget).

Budget reserves for fiscal 2024, as of the June 2023 plan, are projected to be $8.0 billion, positioning the city well for unexpected declines in revenues or changes in expenses.

Fiscal 2024 Adopted Budget and Current Financial Plan Reflects Conservative Assumptions; Higher Spending

The current financial plan for fiscal years 2024 through 2027 is based on conservative assumptions for revenue growth and higher, but still manageable, increases in expenditures in the outer years. The $107 billion fiscal 2024 budget (up 5.9% yoy) includes new and estimated labor costs of $1.7 billion based on the framework of the two recently settled large labor agreements, and $2.2 billion for costs associated with asylum seekers covered by the city, up $1.2 billion compared to projected costs incurred in fiscal 2023.

Labor- and agency-related expenses will continue to drive expenditure increases through the final three years of the plan and increases in budget gaps compared to the January 2023 financial plan. Savings initiatives including reducing vacancies helped eliminate the fiscal 2024 budget gap and controlled growth in outyear gaps. Additional information on the current financial plan is provided below in the Operating Performance section.

Higher than Anticipated Costs Incurred for Asylum Seekers

The June 2023 financial plan included asylum seeker cost assumptions of $2.9 billion for fiscal 2024 and $1.0 billion in fiscal 2025. The city has indicated that costs are projected to exceed the original budget by $1.8 billion and $5.1 billion for fiscal 2024 and fiscal 2025, respectively, based on activity to date, related costs and the possibility for persistent growth in the system. To mitigate the budget impact, management has acted to reduce its city-funded agency budget costs and control growth in ongoing costs, including those associated with asylum seeker needs.

Beginning with the city's November financial plan, the city will implement a PEG reduction of 5% in fiscal 2024 and each subsequent year. The PEG mandates additional 5% reductions for the January and April plans which would be a cumulative 15% PEG in each fiscal year through the financial plan. Savings initiatives will not include layoffs and strive to avoid service impacts. A hiring freeze will be effective October 1 with exceptions for critical positions supporting public health, public safety, and revenue generation. Additionally, a spending freeze for certain activities will be instituted along with an initiative to reduce year-over-year overtime spending.

The state budget includes $1 billion to be provided during the fiscal period of 2023 through 2024 to help support estimated costs associated with asylum seekers compared to the June 2023 financial plan projection of $1.29 billion over the three fiscal year period of 2023 through 2025. The financial plan reflects $135 million in federal funds for costs related to asylum seekers in fiscal year 2024, all of which has been allocated, with no federal funding included in fiscal years 2025 and beyond.

The city continues to advocate for additional state and federal aid, as well as obtaining work authorizations for migrants. While these measures alone may not necessarily be sufficient to fully cover the projected asylum seeker costs should they be realized, management's quick action steps implemented during the early months of the fiscal year should help control growth in budgeted and unanticipated costs.

Further clarity on the expectations for general operating revenues compared to budget will be known and reported in the city's November plan. Fitch believes these costs will continue to be managed, but could put pressure on future budgets or use of reserves depending on actual activity and level of external support actually received.

## CREDIT PROFILE

Economic Resource Base Details

The economic profile of the city features high wealth levels; per capita personal income is approximately 130% of the U.S. However, the above-average individual poverty rate of 17.0% exceeds the national rate of 12.6% -- indicative of some income disparity and the demand for social service common to large urban U.S. cities.

Estimated census figures for July 2022 report population at 8,335,897, a 2% increase in population from 2010. The city is the most populous city in the U.S. and its population is larger than the combined populations of Los Angeles and Chicago, the next two most populous cities in the nation.

Longer Term, Focus on Economic Recovery

Tourism activity has rebounded as evidenced by improved levels of hotel occupancy during fiscal 2023 when compared to pre-pandemic levels and higher average daily room rates and improved number of air travelers as reported by the Port Authority of NY & NJ. Hotel tax revenue collections for fiscal 2023 (0.9% of total tax revenues) are projected to increase 86% yoy.

The current hybrid work-from-home arrangements are very likely to adversely affect commercial property values and tax revenues, and could constrain future growth of tax revenues generated by retail and entertainment activity if the return to office recovery continues to be stalled. Kastle Systems estimates of the rate of occupancy of office workers in the New York metro area has averaged just under 50% for the past several months. The full impact on commercial real estate tax revenues will take longer to become clear as commercial lease terms are typically up to 10 years.

Additionally, depending on the magnitude of decline, a change in a property's market value is typically phased-in over five years. The taxable billable assessed value is the basis for the tax levy and it is based on the lower of the actual value (45% of the current year market value) or transitional assessed value (which is the cumulative value of the phase-ins from the five-year market value changes). This phase-in of changes in value helps mitigate the potential volatility of tax rate changes and impacts to the annual operating budgets.

Management's assumptions for class 4 office market values is for a 10% decline in fiscal 2025, less than 1% decline in fiscal 2026 and about a 2% decline for fiscal 2027. These levels may not prove conservative enough if office vacancy rates remain high. Office buildings account for approximately 18.5% of the total net billed property tax levy in fiscal 2023 of $32.3 billion, and about 5.5% of total projected all city funds revenues. Office buildings accounts for close to half of the total class 4 property tax levy.

Fitch considers class 4 office and retail properties to be currently vulnerable to changes in value downward, as reflected in the budget assumptions, but also recognizes that these associated revenues are a smaller part of the city's overall diverse revenue base and changes in value are potentially mitigated by the phase-in process. Stability of other property class values and growth in non-property tax revenues will be key to offsetting potentially larger declines than anticipated.

**Revenue Framework**

The city has a diverse revenue profile, in part because it serves the functions of a city, county and school district. Property tax revenues are the largest source at roughly 30% of general fund revenues. The tax levy for operations is limited to 2.5% of the average full value of taxable real estate of the current and last four fiscal years.

This phase-in process both stabilizes the maximum tax levy and typically provides good visibility on future-year revenue growth and limitations. The 5% decline in billable assessed values for fiscal 2022 was due to pandemic-induced pressure on property values and followed several years of brisk growth. Fiscal 2023 billable assessed values increased by 7% due to better performance of residential and office properties.

Sales and income taxes are also substantial components of revenues at roughly 10% and 20% of the total, respectively; their rates are controlled by the state. Intergovernmental revenues typically make up another quarter of the general fund total.

Fitch expects the city's prospects for revenue growth to exceed the expectations for long-term rates of inflation over time. A lengthy high interest rate environment and macroeconomic factors might slow economic growth during the near term and the uncertainty around return to office trends could impact future revenue growth, notwithstanding recent robust growth in non-ad valorem revenues.

The city's operating levy is generally below the 2.5% cap even with the inclusion of a portion of GO debt service, affording sound flexibility to offset what Fitch anticipates would be a modest revenue decline in a moderate recession. Components of the sales and income tax rates are subject to periodic state legislative renewal. Fitch considers such approval pro forma, although modest changes to certain components (such as increases in or expansions of exclusions) are expected.

**Expenditure Framework**

New York's responsibilities are very broad. The largest expenditure category is education, typically representing one-third of general fund spending, followed by health and social services at 20%-25%. Public safety's share is normally 10%-15% of spending, a relatively low share for a local government, reflecting the breadth of the city's service demands.

Given these responsibilities, the natural pace of spending, absent policy actions, is expected to remain above revenue growth expectations. Carrying costs are moderately high, typically about 20% of spending, and are expected to remain in this range with changes in debt service and retiree benefit costs. Robust capital planning and debt management should keep debt service beneath the city's policy cap of 15% of tax revenues (about 10% of total spending).

The city consistently pays the pension ADC as required by charter and has made contributions above pay-go to the retiree health benefits trust (RHBT) to support future costs of health and welfare benefits of eligible participants.

The city provides ongoing financial support for New York City Health and Hospitals Corp. (NYCHHC), including the non-federal share of supplemental Medicaid. While the current financial plan projects declining annual appropriations, unexpected increases could widen the pace of expected spending growth and/or reduce the city's flexibility to reduce spending in an economic downturn.

Other notable spending areas include funding for operations, maintenance, and upgrades for the MTA, whose ridership and farebox revenues still remain well below pre-pandemic levels, and for New York City Housing Authority (NYCHA) facilities. Some of the required funding will be for capital projects and will be debt financed. Fitch expects continued pressure on the city to increase contributions to both authorities as they provide vital city services and have widely-reported repair needs. Federal stimulus support has been robust and eased pressure on the city to a degree.

The state's fiscal 2024 budget includes additional funding for the MTA and state legislation provides for congestion tolling for vehicles entering a designated congestion zone below 60th street in Manhattan, the revenues from which will be directed to the MTA. Details of the plan have not yet been determined, but current expected start date is in 2024. In June 2023, the federal government provided final approval to move forward with congestion pricing and in July 2023 the MTA's Traffic Mobility Review Board met for the first time to discuss toll rates. In July 2023 the state of New Jersey filed a lawsuit challenging the federal government's approval of the congestion pricing plan.

Other cost pressures exist, which have not been fully considered in the current financial plan. These include, amongst other items, state mandated increases in the city's share of MTA paratransit operating deficits from 50% to the lower of 80% of the deficit or 50% of the deficit plus $165 million. Although the city has not increased funding to meet the required increase from 33% to 50%, the financial plan includes an additional $165 million in each of fiscal years 2024 and 2025 to meet the requirements of the state of New York's 2024 budget. Additionally, the payroll mobility tax payable by the city was increased and is expected to cost between $65 million and $73 million per fiscal year beginning in fiscal 2024 through 2027.

On May 25, 2023, the City Council passed a series of bills that revise the City's housing rental assistance voucher program for individuals and families who are experiencing or at risk of homelessness. The bills change and expand existing eligibility requirements which would lead to a substantial increase in future budget costs to the city not reflected in the financial plan.

The Mayor vetoed the bills on June 23, 2023, noting operational, policy and legal issues presented in the legislation. The City Council voted to override the vetoes on July 13, 2023. The resulting laws, each take effect on Jan. 9, 2024. The City is currently reviewing such new laws and considering what steps to take in light of the fiscal, operational, policy and legal issues identified in the Mayor's veto messages.

The city has gone further than most coastal communities in its climate change resiliency efforts and in evaluating risks and articulating a resiliency strategy, including estimated costs. While the resiliency efforts represent a substantial investment by the city, and rely on state and federal support, Fitch considers it manageable in the context of the approximately $107 billion annual operating budget and $71 billion four-year capital commitment plan and unlikely to materially shift the assessment of city's expenditure framework or long-term liability burden.

Fitch believes the city retains a reasonable amount of flexibility to contain growth in employee compensation or reduce headcount if needed.

**Long-Term Liability Burden**

Combined debt and Fitch-adjusted NPLs (to reflect a 6% investment return rate) are equal to about 25% of the city's overall personal income, with combined city GO and TFA debt experiencing gradual growth during fiscal 2022 and 2023.

The city's capital plan is extensive and debt service costs are projected to ramp up gradually from current levels based on planned issuances, but remain manageable. Additional GO bond and TFA revenue bond debt issuance of approximately $42 billion (about 40% of outstanding debt) is projected for the remaining period of fiscal 2024 through fiscal 2027. Debt issuances will be managed to ensure compliance with a policy to maintain debt service costs below 15% of tax revenues and project spending can be deferred if economic situations warrant such action.

Fitch looks through year-to-year market volatility impacting pension asset performance and focuses its assessment on expectations for the long-term trend of the liability burden, which Fitch anticipates will remain slightly elevated. Debt issuance plans are robust and Fitch expects the long-term liability burden will remain close to or above 25% of personal income levels over time. City policy caps debt service at 15% of tax revenues and state restrictions on debt amortization rates help control growth in debt levels.

The city maintains five pension systems, of which two (for police and fire) are single-employer plans. Although the other three are cost-sharing plans, the city bears the responsibility for the majority of the liabilities and virtually all for the two education-related plans. On a combined basis, the ratio of assets to liabilities is 81% on a reported basis as of fiscal 2022, or approximately 73% using Fitch's 6% investment return assumption.

Fitch recognizes that the age and size of the city's infrastructure make capital investment a constant need. New York City conducts an extensive city charter-mandated annual study of its major infrastructure assets (Asset Information Management System, or AIMS), which serves as a guide in developing its operating expenditures for maintenance and its five-year capital commitment plan and 10-year capital strategy.

Key agencies, including MTA and NYCHA, are not included in the AIMS report. The recent capital funding increases for those agencies reflect the broad scope of the city's asset maintenance and investment needs. The long-term liability burden assessment anticipates the city will continue to keep a close eye on affordability and would alter its capital spending plans if conditions made debt more of a burden on resources.

The unfunded OPEB liability is approximately 13% of personal income and management established an irrevocable trust in 2006, the RHBT, to help manage these costs. Actual annual benefit costs have trended at reasonable levels when compared to the city's operating budget and represent a manageable percentage of fixed cost spending when excluding RHBT contributions above pay-go. Efforts to control growth in these costs are ongoing.

### Operating Performance

The combination of strong revenue control, adequate spending flexibility and available financial cushion and other tools leaves the city well positioned to address the effect of a moderate economic downturn. Fitch does not believe unrestricted general fund reserves as reported in the audited financial statements provide a complete picture of financial resilience, primarily because they do not incorporate the city's budget stabilization reserve, or annual surplus roll.

Due to prior state law and city charter constraints on using a traditional reserve fund, the city utilized alternative budget tools. Following a city charter amendment in 2021, a state law was passed to allow for a revenue stabilization fund (RSF) using annual operating surpluses. The balance in the fund at the end of fiscal 2022 was $1.95 billion, or 1.9% of spending. Including $5.4 billion in the RHBT, available reserves equaled 7% of spending at fiscal end 2022.

In addition to the RHBT and now the RSF, the city uses generated general fund surpluses in one year to prepay certain expenses for upcoming fiscal years (the surplus roll) including debt service, retiree health care costs, and subsidies to entities like NYCHH. In recent years, prepayments have been in the range of 5% of spending but increased in fiscal years 2021 and 2022 with unexpectedly strong personal income tax revenue performance. The surplus roll for fiscal 2022 to prepay fiscal 2023 expenses was $6.1 billion (6% of the fiscal 2023 budget).

Fitch expects the city to maintain the practice of prepayments, with the amounts varying somewhat depending on the city's budgetary results. Higher roll-outs into the next fiscal year versus roll-ins from the prior fiscal year represent operating surpluses, and vice versa. A consistent trend of lower net rolls once the city's economy regains strength would be cause for concern.

Fitch considers budget monitoring and control a key strength of the city's operating performance assessment. Fitch expects that officials would address any potential erosion in revenues in a reasonably timely and thorough manner.

The June 2023 financial plan reflects conservative estimates for fiscal 2024 total tax revenues when compared to improved expectations for fiscal 2023. Total tax revenues for fiscal 2024 are projected to decline 2.5% compared with fiscal 2023, but are expected to increase around 2.4% in fiscal year 2025, 2.2% in fiscal 2026, and 3.3% in fiscal 2027. Lower growth assumptions for property taxes in fiscal 2025 are offset by improved sales and income taxes although these projected increases are lower than the tax revenue increases experienced in recent years. Property tax revenues are 46% of fiscal 2024 forecast tax revenues and 30% of total revenues.

The fiscal 2024 billable assessed values of $287.7 billion reflect an increase of $12.1 billion over the fiscal 2023 final assessment roll, or 4.4% growth. The final roll includes certain division of finance adjustments, including tax commission actions and exemption processing. Market values improved, particularly in class 1 (residential) and class 4 properties (office, retail and hotels).

Non-property tax revenues, including sales tax (typically comprising slightly under 10% of total revenues), are conservatively projected to see moderate aggregate growth as spending activity slows, due to the higher interest rate environment and reduced personal savings account levels following record spending during fiscal 2022. Job growth is helping support personal income tax levels, but bonus income declined, as was projected, following a record 2022 year for the financial sector. Personal and corporation income tax revenues (20% of total revenues) are projected to decline in fiscal 2024, by 13.1% and 10.4%, respectively, due to the influence of the PTET and less robust financial services activity.

The fiscal 2024 budget includes savings projected to be derived from management's existing PEG, including the elimination of approximately 4,300 vacant positions, to provide for annual savings across all fiscal years of the June 2023 financial plan. Notably, about 23,000 vacancies still remain citywide, providing for expenditure flexibility if revenues underperform expectations. With inclusion of the estimated savings from the PEG, the city eliminated the fiscal 2024 budget gap of $4.2 billion that was projected in June 2022. Pension contribution costs have risen from lower fiscal 2021 levels due to weaker pension asset performance, for which losses are smoothed over five years.

Fiscal discipline instilled following the city's financial crisis in the 1970s is long institutionalized. The city is required to present a balanced budget on a GAAP basis, publish a four-year financial plan, which is updated three times per year, and present a biennial 10-year capital strategy, based partly on the AIMS report noted above. Plans are thorough and highly detailed and tend to be based on realistic assumptions, in Fitch's view.

Outside monitors who regularly report on the city's budget and financial plan include the Financial Control Board, the state comptroller, the city's charter-required Independent Budget Office and the privately funded Citizen's Budget Commission.

In addition to the sources of information identified in Fitch's applicable criteria specified below, this action was informed by information from Lumesis.

## REFERENCES FOR SUBSTANTIALLY MATERIAL SOURCE CITED AS KEY DRIVER OF RATING

The principal sources of information used in the analysis are described in the Applicable Criteria.

## ESG CONSIDERATIONS

The highest level of ESG credit relevance is a score of '3', unless otherwise disclosed in this section. A score of '3' means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. Fitch's ESG Relevance Scores are not inputs in the rating process; they are an observation on the relevance and materiality of ESG factors in the rating decision. For more information on Fitch's ESG Relevance Scores, visit https://www.fitchratings.com/topics/esg/products#esg-relevance-scores.

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## PARTICIPATION STATUS

The rated entity (and/or its agents) or, in the case of structured finance, one or more of the transaction parties participated in the rating process except that the following issuer(s), if any, did not participate in the rating process, or provide additional information, beyond the issuer's available public disclosure.

## APPLICABLE CRITERIA

U.S. Public Finance Tax-Supported Rating Criteria (pub. 04 May 2021) (including rating assumption sensitivity)

## APPLICABLE MODELS

Numbers in parentheses accompanying applicable model(s) contain hyperlinks to criteria providing description of model(s).

FAST Econometric API - Fitch Analytical Stress Test Model, v3.0.0 (1)

## ADDITIONAL DISCLOSURES

Dodd-Frank Rating Information Disclosure Form

Solicitation Status

Endorsement Policy

## ENDORSEMENT STATUS

| | |
|---|---|
| New York City (NY) | EU Endorsed, UK Endorsed |

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