



MOODY'S
INVESTORS SERVICE

Moody's Local Government Ratings

NJ League of Municipalities 2017

November 2017

Agenda

1. What Goes into a Moody's Rating?
2. General Obligation Methodology
3. Bond Anticipation Note Methodology
4. Moody's Green Bonds Assessment (GBA)
5. Annual Issuer Comment Reports

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Moody's Ratings and
Rating Process

Moody's Public Finance Ratings

- » The mission of the US Public Finance Group is to provide **reliable and independent opinions** about the credit risk of states, cities, school districts, governmental authorities, and other US municipal borrowers.
- » We publish our opinions in the form of ratings, which rank debt issuers based on their relative credit quality.
- » We complement our ratings with written research that explains our analysis and makes our rating rationales transparent.
- » We constantly strive to strengthen the quality, transparency, and independence of our credit ratings

Moody's Rating Scale

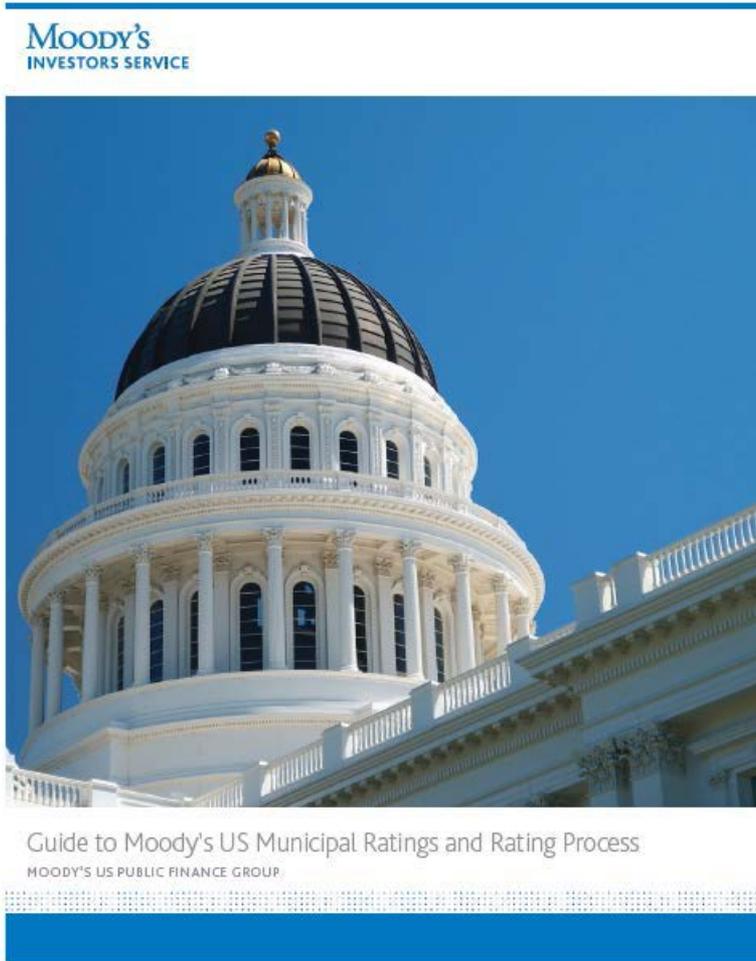
Global Long-Term Rating Scale	
Aaa	Obligations rated Aaa are judged to be of the highest quality, subject to the lowest level of credit risk.
Aa	Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.
A	Obligations rated A are judged to be upper-medium grade and are subject to low credit risk.
Baa	Obligations rated Baa are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics.
Ba	Obligations rated Ba are judged to be speculative and are subject to substantial credit risk.
B	Obligations rated B are considered speculative and are subject to high credit risk.
Caa	Obligations rated Caa are judged to be speculative of poor standing and are subject to very high credit risk.
Ca	Obligations rated Ca are highly speculative and are likely in, or very near, default, with some prospect of recovery of principal and interest.
C	Obligations rated C are the lowest rated and are typically in default, with little prospect for recovery of principal or interest.

Note: Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category. Additionally, a "(hyb)" indicator is appended to all ratings of hybrid securities issued by banks, insurers, finance companies, and securities firms.*

Note: For more information on long-term ratings assigned to obligations in default, please see the definition "Long-Term

Below investment grade (Ba or lower) does not necessarily indicate expected default

Moody's Issuer Guide



Six steps of the rating process:

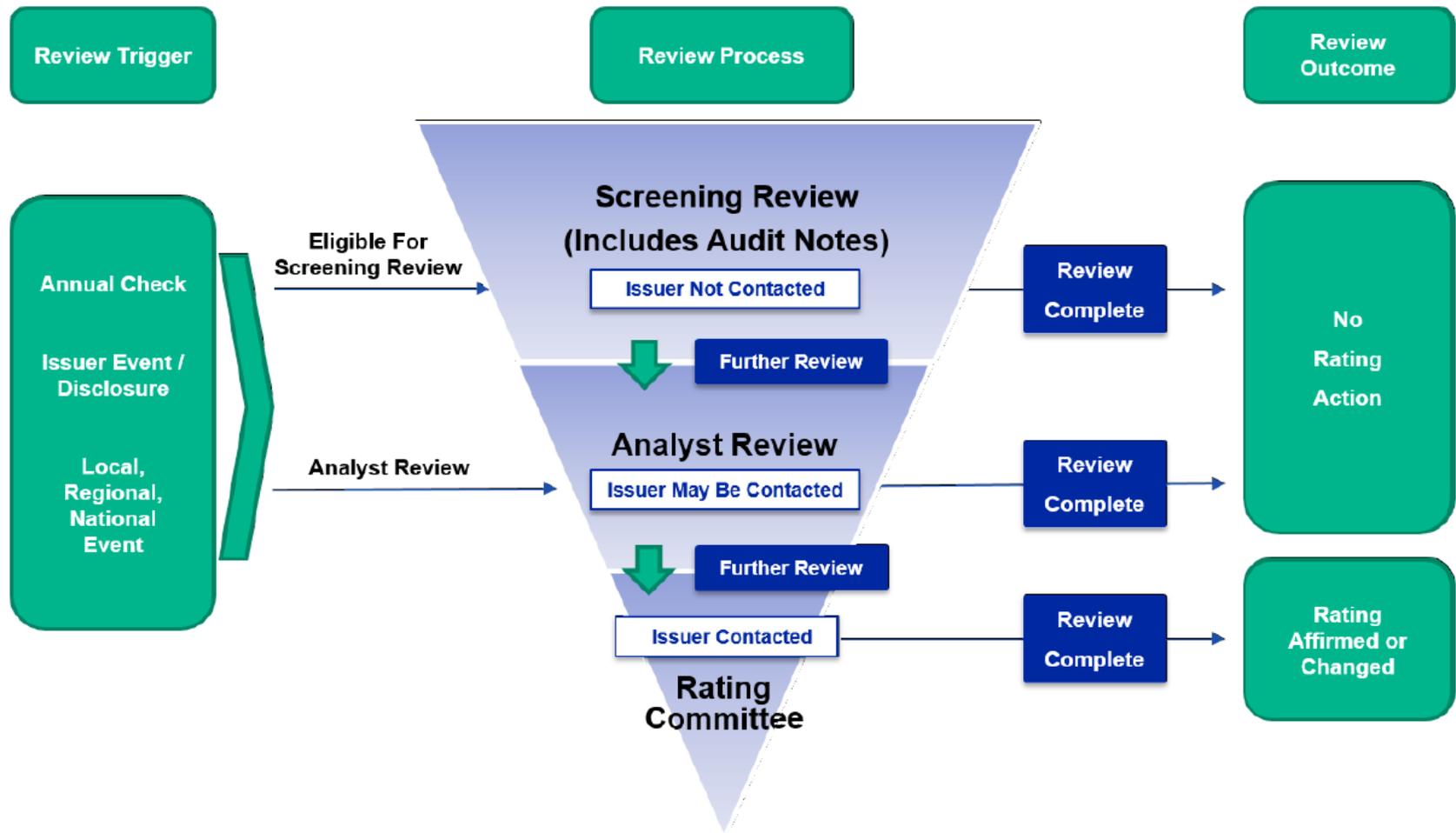
1. Assignment of a lead analyst
2. Methodology
3. Analysis
4. Discussion with Moody's
5. Committee review process
6. Publication of the final rating report

The 6-Step Rating Process



Assignment	Methodology	Analysis	Discussions	Committee	Publication
<ul style="list-style-type: none"> » Documents are sent to Moody's two weeks before the rating is due, longer for more complex or initial transactions. » An analyst is assigned within a business day. 	<ul style="list-style-type: none"> » The Lead Analyst identifies the appropriate methodology and schedules time for a call or visit with the issuer 	<ul style="list-style-type: none"> » The Lead Analyst sends questions to the issuer in advance of the call. 	<ul style="list-style-type: none"> » The Lead Analyst holds a credit discussion with the issuer and include the factors that will be used in the scorecard (if applicable) 	<ul style="list-style-type: none"> » The Lead Analyst coordinates with the issuer for an appropriate time to review the credit outcome and report. 	<ul style="list-style-type: none"> » The Lead Analyst provides a confidential draft report for the issuer's review and possible disclosure of confidential information or material factual inaccuracy

Monitoring Framework for US Municipal Ratings



What to Expect During the Rating Process

Issuers can expect the Lead Analyst to:

- » **Be informed** about the Issuer and prepared to discuss its credit strengths/challenges
- » **Be familiar** with issues specific to the individual state's local governments
- » **Send rating questions/topics** in advance of the rating call
- » **Explain** the rating process and scorecard metrics
- » **Give issuers feedback** prior to committee on key drivers of the rating
- » **Provide complete rationale** for the rating after committee
- » **Give issuers an opportunity to review** the draft report for factual accuracy
- » **Meet issuer's deadline** for release of the rating and report

When In-Person Meetings Are Most Valuable



- » Credit discussions may occur in person or by telephone
- » In-person meetings typically occur when:
 - Moody's is assigning a rating to an Issuer for the ***first time***
 - The issuer's borrowing plans are ***large or complex***
 - The borrowing is for an ***unexpected or unusual project***
 - There have been ***significant positive or negative changes*** in the key rating factors that could result in a rating or outlook change
 - Moody's has not met with the management team or visited the issuer in ***several years***

Monitoring Framework: Annual Review of Rating

- » Many local governments do not issue debt annually, so we review their ratings outside of the sales calendar to ensure that they remain correct
- » *We review all public ratings at least once a year, upon receipt of audited financial statement*
- » Most ratings do not go to committee
- » But for those that do, *committee process for surveillance is same as for new sales*
- » *Financial Advisors are encouraged to participate in the surveillance process; and the Lead Analyst will confirm if Issuer is working with an FA*

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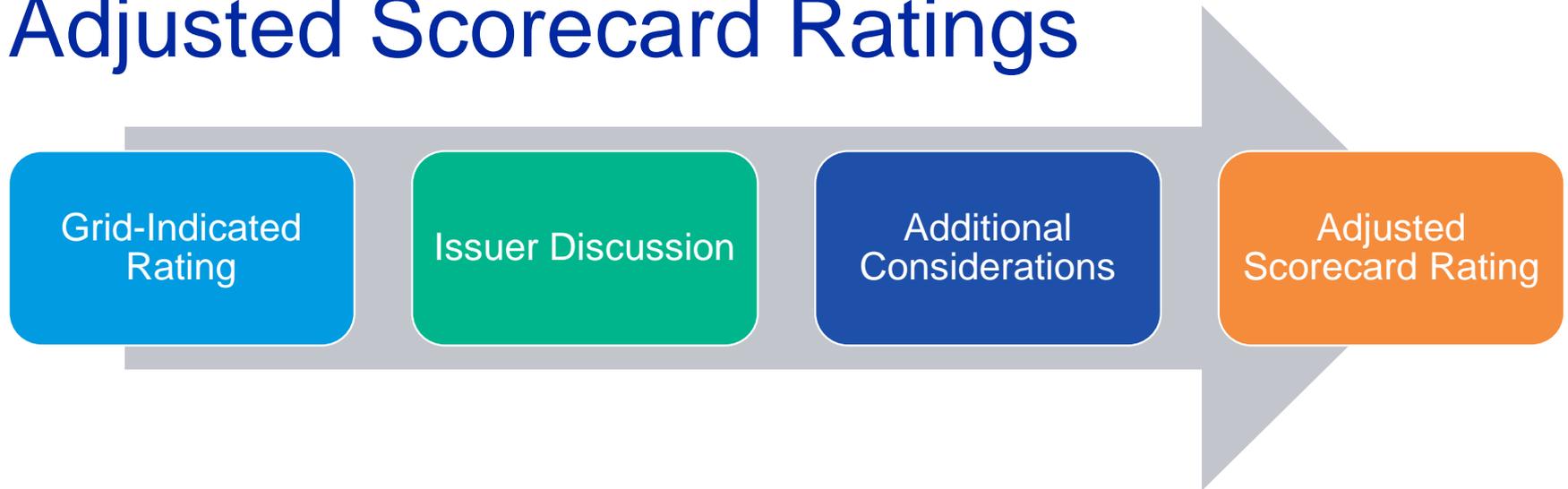
General Obligation Methodology

General Obligation (GO) Scorecard

Purpose and Use of the Scorecard:

- » The scorecard acts as a starting point for a more thorough and individualistic analysis
- » Captures the key considerations that correspond to particular rating categories
- » Not an exhaustive list of factors that we consider in every local government rating
- » Each subfactor is a quantitative metric that are scored an initial grid

Additional Information Can Lead to Adjusted Scorecard Ratings



- » Issuer discussions will inform whether there are any additional considerations → the adjusted scorecard rating
- » Rating committee ultimately determines the adjusted “below-the-line adjustments” based on information provided by the issuer
- » The final rating may differ from the adjusted scorecard rating

GO Scorecard

GO Scorecard and Methodology incorporate 4 fundamental rating factors

Economy/Tax Base	Finances	Management	Debt/Pensions
30%	30%	20%	20%

GO Scorecard Grid – Factors, Sub-factors and Weights

Factors & Sub-Factors	Weights
Factor 1: Economy/Tax Base	30%
Full Value (market value of taxable property)	10%
Full Value per Capita	10%
Median Family Income	10%
Factor 2: Finances	30%
Fund Balance as % of Operating Revenue	10%
5-Year Dollar Change in Fund Balance as % of Revenues	5%
Cash Balance as % of Revenues	10%
5-Year Dollar Change in Cash Balance as % of Revenues	5%
Factor 3: Management	20%
Institutional Framework	10%
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures	10%
Factor 4: Debt/Pensions	20%
Net Direct Debt / Full Value	5%
Net Direct Debt / Operating Revenue	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues	5%

Grid-Indicated Rating

- » The weighted average of quantitative scores will determine a raw score that maps to Moody's rating scale

Scorecard Factor 1: Economy/Tax Base – 30%

	<i>Very Strong</i>	<i>Strong</i>	<i>Moderate</i>	<i>Weak</i>	<i>Poor</i>	<i>Very Poor</i>	
	Aaa	Aa	A	Baa	Ba	B & Below	Weight
ECONOMY/TAX BASE (30%)							
Tax Base Size: Full Value	> \$12B	\$12B ≥ n > \$1.4B	\$1.4B ≥ n > \$240M	\$240M ≥ n > \$120M	\$120M ≥ n > \$60M	≤ \$60M	10%
Full Value Per Capita	> \$150,000	\$150,000 ≥ n > \$65,000	\$65,000 ≥ n > \$35,000	\$35,000 ≥ n > \$20,000	\$20,000 ≥ n > \$10,000	≤ \$10,000	10%
Socioeconomic Indices: MFI	> 150% of US median	150% to 90% of US median	90% to 75% of US median	75% to 50% of US median	50% to 40% of US median	≤ 40% of US median	10%

Possible Adjustments

- » Up – Presence of university, state capital,
- » Up – Exceptionally high wealth levels
- » Up – Expected future development with specific construction completion dates and projected increases in property taxes.
- » Up – Community a regional economic center
- » Down – Expected decline in assessed valuation due to corporate closure or tax appeals

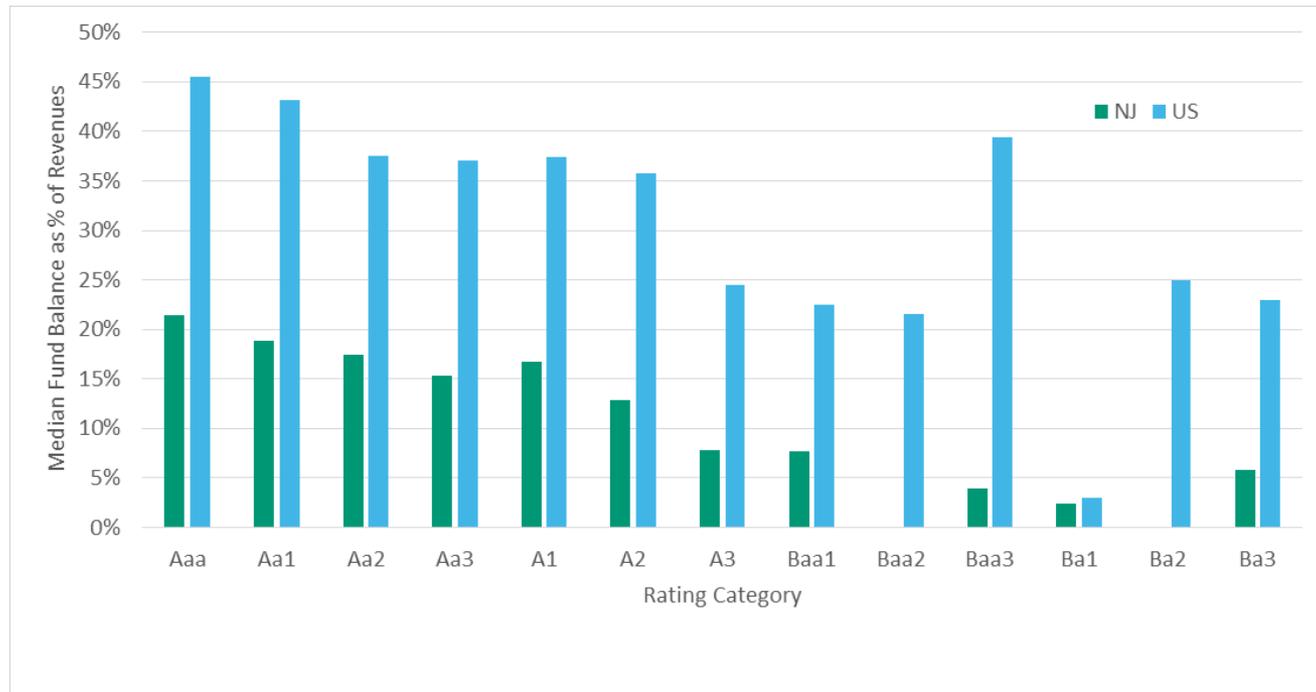
Scorecard Factor 2: Finances – 30%

	<i>Very Strong</i>	<i>Strong</i>	<i>Moderate</i>	<i>Weak</i>	<i>Poor</i>	<i>Very Poor</i>	
	Aaa	Aa	A	Baa	Ba	B & Below	Weight
FINANCES (30%)							
Fund Balance as % of Revenues	> 30.0% > 25.0% for School Districts	30.0% ≥ n > 15.0%25.0% ≥ n > 10.0% for SD	15.0% ≥ n > 5.0%10.0% ≥ n > 2.5% for SD	5.0% ≥ n > 0.0%2.5% ≥ n > 0.0% for SD	0.0% ≥ n > - 2.5%0.0% ≥ n > - 2.5% for SD	≤ -2.5%≤ - 2.5% for SD	10%
5-Year Dollar Change in Fund Balance as % of Revenues	> 25.0%	25.0% ≥ n > 10.0%	10.0% ≥ n > 0.0%	0.0% ≥ n > - 10.0%	-10.0% ≥ n > - 18.0%	≤ -18.0%	5%
Cash Balance as % of Revenues	> 25.0% > 10.0% for School Districts	25.0% ≥ n > 10.0%10.0% ≥ n > 5.0% for SD	10.0% ≥ n > 5.0%5.0% ≥ n > 2.5% for SD	5.0% ≥ n > 0.0%2.5% ≥ n > 0.0% for SD	0.0% ≥ n > - 2.5%0.0% ≥ n > - 2.5% for SD	≤ -2.5%≤ - 2.5% for SD	10%
5-Year Dollar Change in Cash Balance as % of Revenues	> 25.0%	25.0% ≥ n > 10.0%	10.0% ≥ n > 0.0%	0.0% ≥ n > - 10.0%	-10.0% ≥ n > - 18.0%	≤ -18.0%	5%

Possible Adjustments

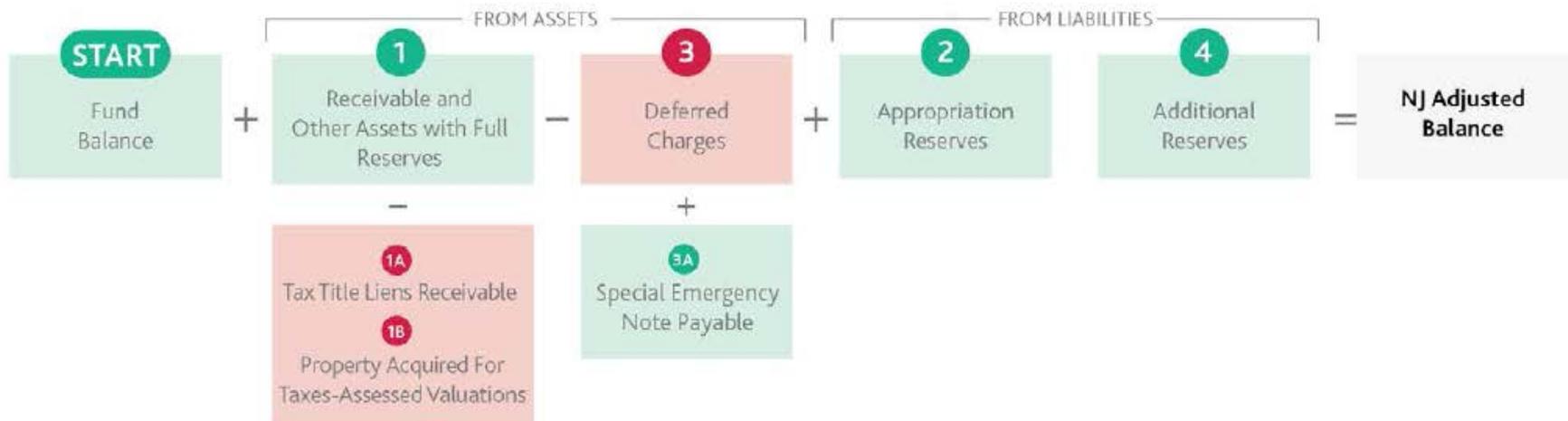
- » Up – Additional, borrowable liquidity outside of the current fund
- » Down – Reliance on uncertain state aid

Scorecard Factor 2: Finances – Fund Balance (10%)



- » NJ Statutory Accounting usually results in smaller FB than under GAAP
- » We adjust NJ statutory fund balance to be more comparable with GAAP

Adjusted New Jersey Fund Balance



» Steps to Moody's Adjusted NJ Fund balance

- Begin with reported fund balance
- Add back certain receivables with full reserves
- Minus deferred charges, net of special emergency notes payable
- Add back appropriation reserves
- Add additional operating reserves

Scorecard Factor 3: Management – 20%

	<i>Very Strong</i>	<i>Strong</i>	<i>Moderate</i>	<i>Weak</i>	<i>Poor</i>	<i>Very Poor</i>	
	Aaa	Aa	A	Baa	Ba	B & Below	Weight
MANAGEMENT (20%)							
Institutional Framework	Very strong legal ability to match resources with spending	Strong legal ability to match resources with spending	Moderate legal ability to match resources with spending	Limited legal ability to match resources with spending	Poor legal ability to match resources with spending	Very poor or no legal ability to match resources with spending	10%
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures	> 1.05x	1.05x ≥ n > 1.02x	1.02x ≥ n > 0.98x	0.98x ≥ n > 0.95x	0.95x ≥ n > 0.92x	≤ 0.92x	10%

Possible Adjustments

- » Up – Ability and willingness to make adjustments beyond what is captured in grid
- » Up – Thoughtful plan for restoring structural operating balance and/or replenishing reserves
- » Up – Active monitoring of budget performance
- » Up – Formal financial policies
- » Up – History of conservative budgeting
- » Down – Reliance on cash flow borrowing

Plans and Policies to Ensure Financial Flexibility is Maintained

» Formal policies

- Fund balance target policy
 - › (fund balance will be X% of budget)
- Surplus appropriation policy
 - › (will only appropriate what can be replenished)
- Budgeting policies
 - › (timeline for budget process)
- Debt affordability policies
 - › (debt as % of tax base)

» Multi-year planning

- Multi-year forecast revenues and expenditures
- Early budgeting process
- Planning for a range of scenarios
- Framing current and future capital and operating decisions
- Practiced more frequently by counties

Policies and plans provide assurance that current financial position will be maintained or even improved

Conservative Budgeting

» Property Taxes

- Willingness to raise property tax levy
- Conservative reserve for uncollected taxes
- Reserve for tax appeals
- Use of revaluations to prevent future tax appeals
- Using general economic factors to project revenues
 - › Building permit activity, vacancy rates

» Conservative estimates for vulnerable revenues

- Hotel tax, new PILOTs, real estate transfer fees
- Building permit fees, interest income

» State Aid

- Less dependence on state aid
- Flexibility to make midyear adjustments

» Expenditures

- Strong understanding of budget assumptions
- Fluency with expenditure flexibility
- Predictability of contractual agreements helps

» Red flags of aggressive budgeting:

- History of deferred charges
- Increased cash-flow borrowing

Scorecard Factor 4: Debt/Pensions – 20%

	<i>Very Strong</i>	<i>Strong</i>	<i>Moderate</i>	<i>Weak</i>	<i>Poor</i>	<i>Very Poor</i>	
	Aaa	Aa	A	Baa	Ba	B & Below	Weight
DEBT/PENSIONS (20%)							
Net Direct Debt / Full Value	< 0.75%	0.75% ≤ n < 1.75%	1.75% ≤ n < 4%	4% ≤ n < 10%	10% ≤ n < 15%	> 15%	5%
Net Direct Debt / Operating Revenues	< 0.33x	0.33x ≤ n < 0.67x	0.67x ≤ n < 3x	3x ≤ n < 5x	5x ≤ n < 7x	> 7x	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value	< 0.9%	0.9% ≤ n < 2.1%	2.1% ≤ n < 4.8%	4.8% ≤ n < 12%	12% ≤ n < 18%	> 18%	5%
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues	< 0.4x	0.4x ≤ n < 0.8x	0.8x ≤ n < 3.6x	3.6x ≤ n < 6x	6x ≤ n < 8.4x	> 8.4x	5%

Possible Adjustments

- » Up – pension or OPEB reserve
- » Down – contingent liability with limited plans for budgeting payment if guarantee invoked

GO Scorecard – Adjustment/Notching Factors

Adjustments/Notching Factors

Description	Direction
Economy/Tax Base	
Institutional presence	up
Regional economic center	up
Economic concentration	down
Oversized unemployment or poverty levels	down
Other analyst adjustment to Economy/Tax Base factor (specify)	up/down
Finances	
Oversized contingent liability risk	down
Unusually volatile revenue structure	down
Other analyst adjustment to Finances factor (specify)	up/down
Management	
State oversight or support	up/down
Unusually strong or weak budgetary management and planning	up/down
Other analyst adjustment to Management factor (specify)	up/down
Debt/Pensions	
Unusually strong or weak security features	up/down
Unusual risk posed by debt/pension structure	down
History of missed debt service payments	down
Other analyst adjustment to Debt/Pensions factor (specify)	up/down
Other	
Credit event/trend not yet reflected in existing data sets	up/down

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Bond Anticipation Note Methodology

BAN Scorecard

OBLIGOR:		MIG 1	MIG 2	MIG 3	SG	Input	Weight	Score
LT Rating Min Threshold	A2	Baa1	Baa3	Ba1 and below				
LONG-TERM CREDIT QUALITY								
Long-Term Rating	Aaa-Aa3	A1-A3	Baa1-Baa3	Below investment grade	Aa2	40%		1.50
REFINANCING RISK								
Takeout management (15%)	Very strong management planning includes fully developed alternatives, including identification of process and expected cooperation of necessary parties, such as local banks and underwriters	Moderate management planning includes specific plans for alternatives, but does not include identification of process and necessary parties to implement	Limited management planning includes consideration of alternatives, but without specifics regarding implementation	No realistic alternative plans identified or considered	MIG 1	15%		1.50
Timing of takeout - historical track record and/or plan (15%)	Plan to price/sell 30 days or more prior to maturity	Plan to price/sell 15 to 29 days prior to maturity	Plan to price/sell five to 14 days prior to maturity	Plan to price/sell less than five days prior to maturity	MIG 1	15%		1.50
LIQUIDITY ANALYSIS								
Liquidity coverage for debt service on and prior to BAN maturity date	Projected liquidity provides at least 80% coverage for all BANs, cash-flow notes and bullet maturities and self-liquidity supported putable debt maturing on and sixty days prior to maturity date	Projected liquidity provides between 80% and 50% coverage for all BANs, cash-flow notes and bullet maturities and self-liquidity supported putable debt maturing on and sixty days prior to maturity date	Projected liquidity provides between 50% and 10% coverage for all BANs, cash-flow notes and bullet maturities and self-liquidity supported putable debt maturing on and sixty days prior to maturity date	Projected liquidity provides less than 10% coverage for all BANs, cash-flow notes and bullet maturities and self-liquidity supported putable debt maturing on and sixty days prior to maturity date	100%	30%		1.00
LIQUIDITY RANGES:	100-80	80-50	50-10	10 to 0				

Total Score 1.35
Unadjusted Rating MIG 1

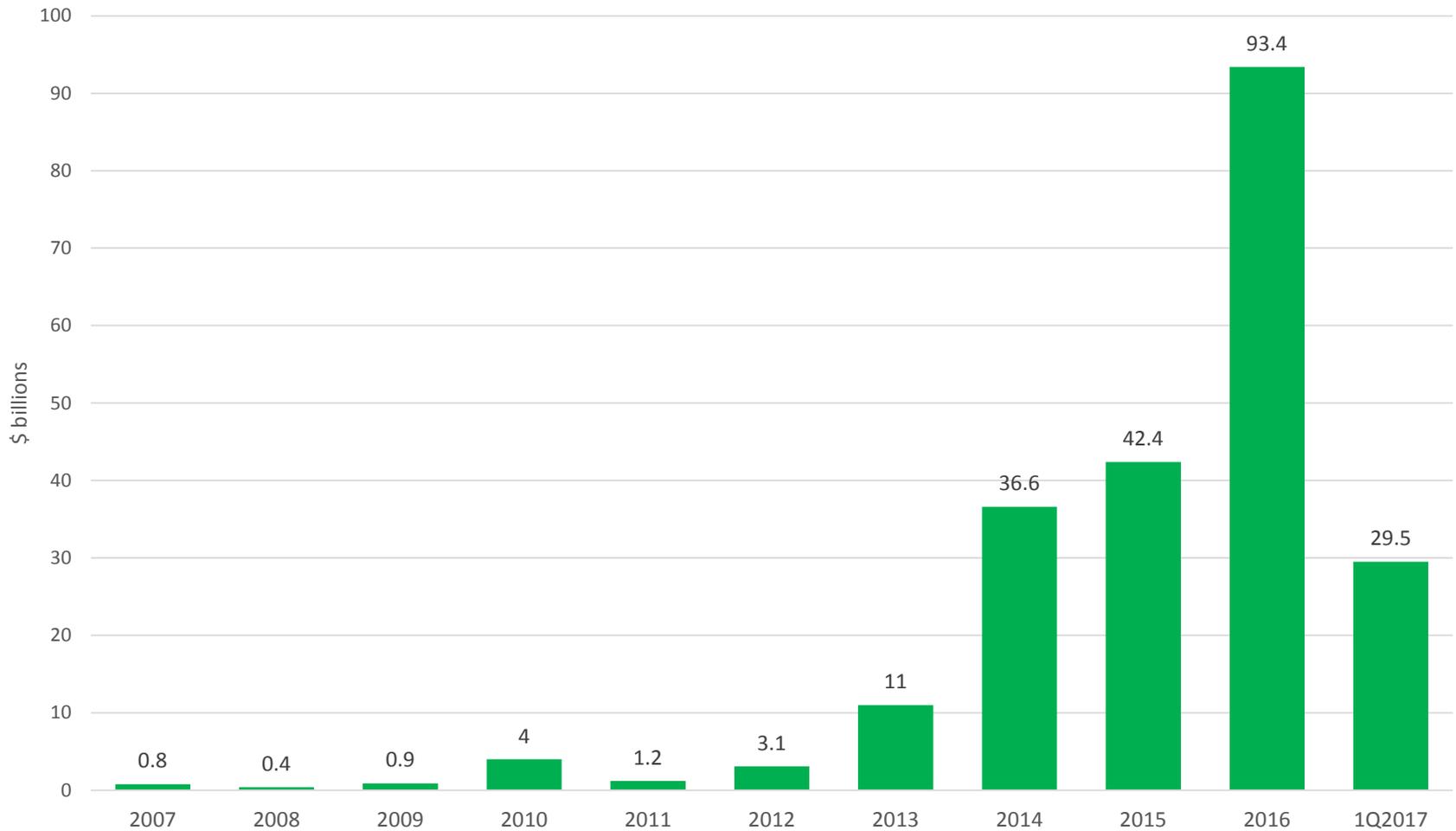
Scorecard Notching

OBLIGOR:		0
Rating Grid		
<i>Factor</i>	<i>Score</i>	
Long-Term Credit Quality	0.60	
Refinancing Risk	0.45	
Liquidity Analysis	0.30	
Grid Score	1.35	
Grid Rating	MIG 1	
Other Considerations		
<i>Factor</i>	<i>adjustment</i>	<u>picklist options</u>
Market Presence (-):		
High (State or state-related agency and other major cities; eg LA, NYC, Chicago)	0.00	up to 1
Moderate (Larger municipalities with diverse economics; eg state capitals)	0.00	up to .5
Benefits from external 3rd party support rated A3 or higher	0.00	up to .5
FREQUENT ISSUER		
more than 1 sale in each of last 5 years	0.00	up to 1
1 or more sales in 3 of the last 5 years	0.00	up to .5
MARKET ACCESS DIFFICULTIES		
One time event	0.00	down to -.5
Multiple events over last 5 years	0.00	down to -1
LIMITATIONS/CONTINGENCIES TO ISSUING TAKEOUT FINANCING		
Notes are expected to be refinanced with notes that do not benefit from a security pledge (one indication of this is that the notes being rated do not benefit from a security)	0.00	down to -.5
Requires additional third party authorization	0.00	down to -1
Takeout financing + planned parity debt issuance prior to maturity exceeds debt limit	0.00	down to -1
Non-essential project with potential for cost overruns or loss of political support	0.00	down to -3
Revenue growth required for takeout financing to meet rate covenant or additional bonds test	0.00	down to -3
Essential project with completion risk	0.00	down to -1
Total Adjustments	0.00	
Adjusted Score	1.35	
Adjusted Rating	MIG 1	
Comments		

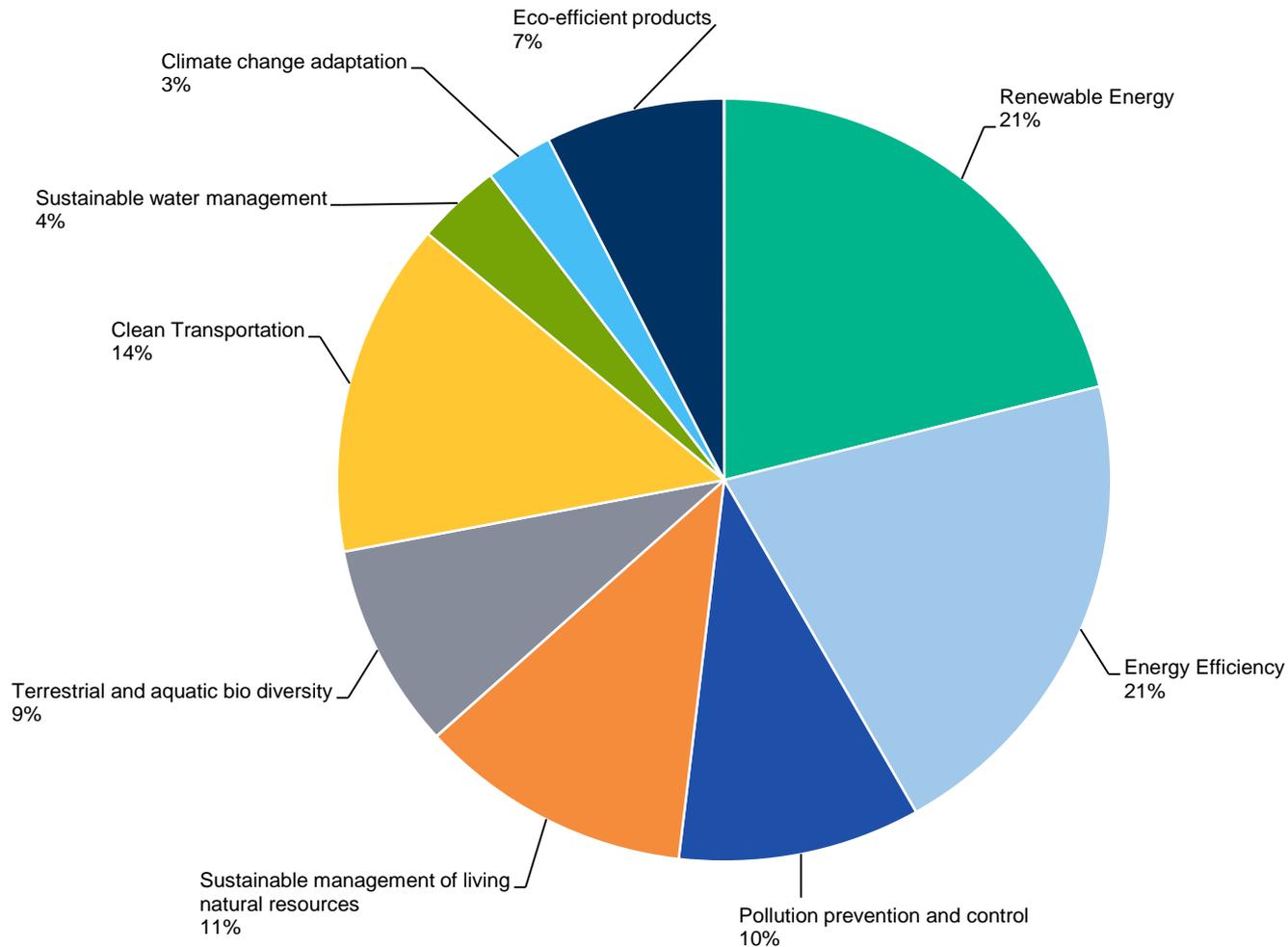
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Moody's Green Bonds Assessment (GBA)

Green Bonds Market: 2007 – 1Q 2017

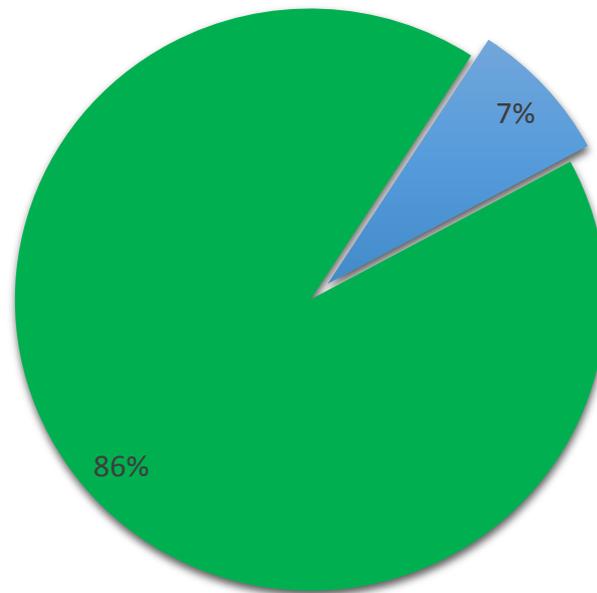


Green Bonds 1Q 2017 Issuance: Use of Proceeds



Green Bonds Issuance in the US Public Finance Sector

Green bonds in the US public finance sector reached about \$7 billion in 2016 and accounted for almost 9% of global issuance.



■ PF ■ Global

Green Bonds Assessment (GBA): Key Features

GBA Assessment

- Forward looking opinion of the relative effectiveness of an issuer's approach to managing, administering, allocating proceeds to and reporting on environmental projects financed with green bond proceeds.
- Rigorous and transparent methodology: Five key factors analyzed, using scorecard.
- Consulting services not offered.

GBA Opinion

- Opinion in the form of a grade that ranges from GB1 (Excellent) to GB5 (Poor).
- Transaction rather than issuer focused.
- Periodic refreshes (updates) may shift GBA over time.
- Applicable to life of bond.

GBA Methodology

- Reliance on existing market-based and widely accepted taxonomies for purposes of evaluating use of proceeds.
 - Issuer's framework
 - Green Bond Principles
 - Climate Bond Initiative, IFC, LEED, etc.
 - Local rules and regulations, if applicable.
- Five key factors and 21 sub-factors considered.
- Reliance on documentation reviews and issuer interactions.

Periodic Refresh/Update

- **GBA revisited based on issuer's annual or periodic disclosures post issuance regarding the use of proceeds.**
- Review relative to representations at time of issuance.
- Issuer-in-depth report updated.

Moody's Green Bonds Assessment (GBA)

Green Bonds Overview

Green bonds are fixed-income securities that raise capital for use in projects or activities with specific climate or environmental sustainability purposes. They are issued across all sectors and any issuer can self-designate their bond as a green bond.

Moody's Green Bonds Assessment

The Green Bonds Assessment (GBA) is an instrument level assessment that provides a forward looking opinion of the relative effectiveness of an issuer's approach for:

- » Organization/green bond transaction governance
- » Use of proceeds
- » Allocation of proceeds; and
- » Reporting on environmental projects financed by green bonds, pre and post issuance.

GBA Scale

The GBA is assigned on our GBA scale, ranging from GB1 (Excellent) to GB5 (Poor)



Example

GB1 = Green bond issuer has adopted an **excellent** approach to manage, administer, allocate proceeds to and report on environmental projects financed with proceeds derived from green bond offerings. Prospects for achieving stated environmental objectives are **excellent**.

GBA Evaluation Factors

<p>40% Use of proceeds**</p>	<ul style="list-style-type: none"> » Clean water » Sustainable land use » Sustainable waste mgmt » Sustainable water mgmt » Clean transportation » Biodiversity conservation » Renewable energy » Climate change adaptation » Energy efficiency
<p>20% Ongoing reporting</p>	<ul style="list-style-type: none"> » Monitoring » Frequency and quality of reporting » Environmental impacts
<p>15% Organization</p>	<ul style="list-style-type: none"> » Governance » Mission » Framework for deployment of proceeds » Project evaluation
<p>15% Management of proceeds</p>	<ul style="list-style-type: none"> » Allocation and tracking of proceeds » Temporary investment practices » Audit
<p>10% Disclosure on use of proceeds</p>	<ul style="list-style-type: none"> » Project disclosure practices » Funding practices » Reliance on external assurances

**% of proceeds allocated to eligible project categories also forms an important part of the evaluation.

Public Finance Green Bond Issuers: 1Q 2017

Issuer	Rating	\$ Amount	Use of Proceeds
New Jersey Environmental Infrastructure Trust	Aaa	73,875,000	Wastewater treatment systems and drinking water supply systems
New Jersey Environmental Infrastructure Trust	Aaa	33,945,000	Wastewater treatment systems and drinking water supply systems
New York State Housing Finance Agency	Aa2	53,995,000	Energy efficiency
District of Columbia Water and Sewer Authority	Aa1	100,000,000	DC Clean Rivers Project
Metropolitan Transportation Authority	NR	312,825,000	Clean transportation
California Infrastructure and Economic Development Bank	Aaa	450,000,000	Wastewater infrastructure projects
Martha's Vineyard Land Bank	NR	20,105,000	Sustainable management of living natural resources and terrestrial and aquatic biodiversity conservation
Metropolitan Transportation Authority	A1	188,950,000	Clean transportation
Metropolitan Transportation Authority	A1	136,635,000	Clean transportation
New York State Housing Finance Agency	Aa2	56,285,000	Energy efficiency (including clean buildings)
Vermont Municipal Bond Bank	Aa1	6,115,000	Sustainable buildings and energy efficiency

GBA Assessments To-Date (Alphabetical Order)

Issuer	Domicile	US\$	Use of Proceeds	GBA
Bank of Communications (BoCom)	China	2903	Portfolio of projects financing energy saving, clean transportation, clean energy, ecological protection and climate change adaptation, pollution prevention and control, resources conservation and recycling.	GB1
City of Gothenburg	Sweden	118	Various environmental projects. Examples: GoBigGas, The Bicycle City and sustainable housing.	GB1
DC Water & Sewer Authority	U.S.	100	Sustainable water management	GB1
GoodGreen 2016-1 Trust	U.S.	185	Residential and commercial property improvements: Energy efficiency, renewable energy, water conservation and climate resiliency projects.	GB1
GoodGreen 2017-1 Trust	U.S.	176	Residential and commercial property improvements: Energy efficiency, renewable energy, water conservation and climate resiliency projects.	GB1
Hannon Armstrong	U.S.	84	Installation of 7 energy efficiency and solar photovoltaic projects at municipal school districts and country government properties	GB1
Hero Funding 2016-3 Class A1 and A2 Notes	U.S.	320	Residential property improvements: Energy efficiency, renewable energy and water conservation.	GB1
Latvenergo AS	Latvia	112	Generation projects, transmission-oriented projects and distribution projects.	GB1
Mexico City Airport Trust Senior Secured Notes	Mexico	2000	Sustainable buildings, renewable energy, energy efficiency, water and wastewater management, pollution prevention and control as well as conservation and biodiversity.	GB1
Monash University	Australia	162	Energy efficiency projects, solar energy generation, and various LEED campus building upgrade projects.	GB1
Obvion GREEN STORM 2016 B.V.	Netherlands	554	Energy efficient residential mortgage backed securities.	GB1
Renew 2017-1	U.S.	217	Residential property improvements: Energy efficiency, renewable energy, water conservation and climate resiliency projects.	GB1
TenneT Holdings	Netherlands	1100	Transmission of renewable energy from offshore power plants to the onshore electricity grid in Germany.	GB1
Upper Mohawk Valley Regional Water Finance Authority, NY	U.S.	9	Sustainable water management.	GB1

The Benefits of a Moody's Green Bonds Assessment



Transparency and global benchmarking

GBA scorecard is available to issuers and investors. It allows practitioners to “score” transactions. The scorecard’s consistent application across sectors and geographies provides a foundation for benchmarking transactions over time.



Rigorous methodology

GBA methodology, consisting of 5 factors and 21 sub-factors, extends analysis beyond Green Bond Principles while retaining flexibility to evolve over time.



Widespread distribution/visibility

Moody’s research distribution and broad coverage/reach means that green bonds commentary receives significant visibility worldwide.



Local/global analyst support

In addition to a local Paris-based analyst, Moody’s draws upon its worldwide organization to provide necessary support and timely execution.



Periodic refreshes

Once assigned, the GBA is refreshed in line with the issuer’s periodic disclosure commitments with respect to the use of proceeds.



Ongoing research and analysis

Moody’s produces a regular stream of research on the green bonds market. This includes quarterly green bonds trends and developments as well as thematic research that has been referenced extensively.

Moody's Environmental Risks and Developments Topic Page

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Environmental Risks and Developments



Concern over environmental change is leading to significant government policy initiatives globally and rising corporate innovation and investment. This heightened attention will lead to disruptive industry change, shifting investor capital allocation strategies and rising input costs related to increased pricing on carbon emissions and water usage. At the same time, severe environmental events, whether natural (earthquakes, hurricanes, droughts and floods) or man-made (oil spills and nuclear accidents), are of growing concern to many market participants who are concerned natural events are increasing in frequency and severity. This page highlights Moody's research on the credit implications of these developing environmental trends.

Highlights

20 Sep 2016
Auto sector faces credit risks on its path to carbon transition
Policymakers' increased focus on emission reducing regulation will likely create credit risks for the auto sector worldwide, as it will put pressure on margins and cash flows. Auto companies must also deal with rapidly changing consumer preferences that will force them to invest in R&D and increase capital spending to comply with new standards and ward off new competitors... [Full Report](#)

20 Jul 2016
Paris Agreement: Just the First Step on the Long Road
Almost universal agreement coming out of Paris on the need to reduce greenhouse gases has prompted many public, private, and public-private initiatives. This is an excellent start on the transition path to the eventual carbon free economy. However, to overcome the long term investment hurdles to achieving ambitious goals, and due to uncertainty around the carbon transition pathways, significant work will be needed to create a fully functional financial market place that is able to meet the funding needs for the transition... [Full Report](#)

28 Jun 2016

RELATED INFORMATION

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UPCOMING EVENTS

27 Sep 2016
Moody's Webcast (APAC): Auto Sector Faces Rising Credit Risks Due to Carbon Transition
(10:00 Hong Kong / 11:00 Tokyo / 12:00 Sydney), 27 September 2016
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KEY CONTACTS

Praveen Varma
Senior Vice President
Credit Strategy & Research
Praveen.Varma@moodys.com

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Annual Issuer
Comment Reports

Annual Issuer Comment Reports (AICR)

What Are Moody's Annual Issuer Comment Reports?

The Annual Issuer Comment Report provides recent information related to credit factors for **US cities** (including townships and villages), **counties** and **school districts** with outstanding Moody's **general obligation** (and related) ratings.

- » The reports present a summary and assessment of key **economic, demographic, financial** and **operating information** considered for each issuer drawn from Moody's databases in the context of Moody's ratings methodology. The reports do not announce rating actions.
- » The Annual Issuer Comment report **will fill a market gap** for thousands of cities, counties and school districts with outstanding Moody's rated GO debt and **provide a research update in the context of our key factors** considered in our rating methodology.

MOODY'S
INVESTORS SERVICE

ISSUER COMMENT
3 June 2016

RATING
General Obligation (or GO Related)¹
Aa2 Stable

Contacts

Joseph Manoleas Associate Analyst joseph.manoleas@moody.com	212-553-7106
Cera M. McGuire VP-Sr Credit Officer/ Mgr cera.mcguire@moody.com	214-979-6850

Mansfield Independent School District, TX
Annual Comment on Mansfield ISD

Issuer Profile
Mansfield Independent School District is located primarily in Tarrant County in north central Texas, approximately 25 miles southwest of Dallas. Tarrant County has a population of 1,945,360 and a population density of 2,253 people per square mile. The county's per capita personal income is \$46,169 (1st quartile) and the February 2016 unemployment rate was 3.8% (1st quartile).² The largest private industry sectors that drive the local economy include manufacturing, health services, and finance/insurance.

Credit Overview
Mansfield ISD has a very strong credit position, and its Aa2 rating is slightly above the median rating of Aa3 for school districts nationwide. Notable credit factors include a robust financial position, and a strong socioeconomic profile and tax base. The rating also incorporates a manageable pension liability with an outsized debt burden.

Finances: The district has a very healthy financial position, which is relatively favorable when compared to the assigned rating of Aa2. The cash balance as a percent of revenues (31.8%) is slightly stronger than the US median. That said, this percentage fell materially between 2012 and 2015. Furthermore, Mansfield ISD's fund balance as a percent of operating revenues (29.3%) is above other Moody's-rated school districts nationwide.

Economy and Tax Base: The economy and tax base of the district are very healthy and are consistent with its Aa2 rating. The total full value (\$10.3 billion) is much stronger than the US median and grew from 2012 to 2015. Moreover, the full value per capita (\$76,981) is roughly equivalent to the US median. Lastly, the median family income equals a significant 135.5% of the US level.

Debt and Pensions: The district has moderate debt and pension burdens. However, they are a weakness when compared to its Aa2 rating position. Mansfield ISD's Moody's-adjusted net pension liability to operating revenues (0.52x) is materially lower than the US median. That said, this metric rose modestly from 2012 to 2015. Also, the net direct debt to full value (6.6%) is significantly above the US median.

Management and Governance: The ability to generate balanced financial operations is typically a sign of good financial management. From 2012 to 2015, Mansfield ISD's operations were approximately break-even while the tax base generally grew.

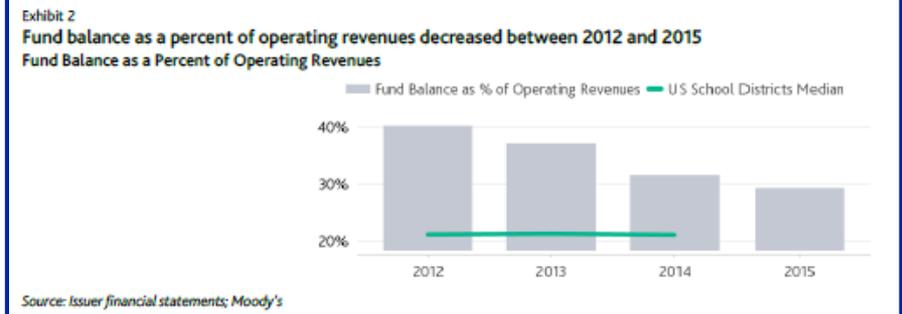
Annual Issuer Comment Reports

How Does the Process Work?

We notify each issuer **at least two weeks in advance** that we plan to publish an Annual Issuer Comment report.

- » A draft of the report is provided to each issuer for review and comment to check for factual accuracy and any inadvertent inclusion of non-public information prior to publication.
- » We ask issuers for their review and feedback within **three business days**.
- » Each report contains information for the **appropriate contact people at Moody's**. All questions related to the content of the reports can be addressed to the contact provided.
- » Since we are filling a market gap for updated Moody's research on rated issuers, we will not omit issuers from publication due to an issuer request.

If you have any questions, please contact Chandra Ghosal at 212-553-1095.





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INVESTORS SERVICE

Leonard Jones
Managing Director
Leonard.Jones@moodys.com
212.553.3806

Orlie Prince
Vice President, Senior Credit
Officer/Manager
Orlie.Prince@moodys.com
212.553.7738

Douglas Goldmacher
Analyst
Douglas.Goldmacher@moodys.com
212.553.1477

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