

SECTOR IN-DEPTH

19 September 2017

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Green Bond Assessments - Global

Issuers exhibit strong organizational frameworks but differ on disclosure

Growth in green bonds continues across a diverse mix of issuers from a variety of sectors and regions. Of the 17 transactions we have assessed so far, all have received the highest overall score of GB1 (Excellent) under our Green Bonds Assessment (GBA) methodology.¹ Differences have emerged across our five key criteria, however, with the greatest variation among issuers coming in reporting and disclosure commitments.

- » **Transactions score highly on organization, reflecting the essential nature of management oversight to the green bond issuance process.** All but one of the assessed transactions to date have fully met our organizational assessment criteria on effective structure, policies, management expertise and external evaluations.
- » **100% of green bond proceeds were allocated or will be allocated to projects in eligible green categories.** Among assessed transactions, energy efficiency and renewable energy were the most popular eligible green categories of projects to be funded with green bond proceeds.
- » **Issuers are committing to robust disclosures on the use of proceeds.** The form of green bond disclosures on use of proceeds varies significantly, but issuers have generally committed to reporting on how funds are allocated and, where possible, to disclosing qualitative and quantitative assessments of the environmental effects of their investments.
- » **Issuers of green bonds have comprehensive mechanisms and processes for managing proceeds.** Management of proceeds is a key component of the green bond process because it assures investors that funds will ultimately go to their intended projects. Four of the 17 transactions achieved four of five subfactors for this criterion, while the rest achieved all five subfactors.
- » **Greatest variation among issuers comes in ongoing reporting and disclosure commitments.** Many issuers have committed to disclose how proceeds are spent and what environmental impacts are expected over the life of the bond. Some issuers will report only until proceeds are fully disbursed. For some assessed green securitizations, including Property Assessed Clean Energy (PACE) securitizations, confidential information restricts certain aspects of ongoing reporting. As highlighted in a recent report from the Climate Bonds Initiative, the disparities in ongoing reporting practices among assessed transactions mirror the variety of reporting practices seen in the broader market.²

Transactions score highly on organization, reflecting the essential nature of management oversight to the green bond issuance process

A green bond issuer's management and organization underpin the effectiveness of a green bond transaction, fueling strong project selection, proceeds management and disclosure. All assessed transactions score very highly under the Organization factor of our GBA methodology. In fact, all but one of the assessed transactions to date have achieved all five subfactors of the Organization factor (see Exhibit 1).

Green bond issuers often have a dedicated unit or units within the larger organization that oversee green bond project selection. These units may supplement internal expertise with external experts to augment their scientific expertise, assist with proceeds auditing or other areas. These dedicated units will often also create a green bond framework that summarizes the issuer's project selection criteria and policies on management of and reporting on proceeds.

Exhibit 1

Assessed green bond transactions exhibit very strong organizational characteristics

Issuer	Factor 1 Score	Environmental governance and organization structure appears to be effective	Policies and procedures enable rigorous review and decision making processes	Qualified and experienced personnel and/or reliance on qualified third parties	Explicit and comprehensive criteria for investment selection, including measurable impact results	External evaluations for decision making in line with project characteristics
Bank of Communications	1	Yes	Yes	Yes	Yes	Yes
Cape Town, City of	1	Yes	Yes	Yes	Yes	Yes
District of Columbia Water and Sewer Authority	1	Yes	Yes	Yes	Yes	Yes
GoodGreen 2016-1 (Ygrene)	1	Yes	Yes	Yes	Yes	Yes
GoodGreen 2017-1 (Ygrene)	1	Yes	Yes	Yes	Yes	Yes
Gothenburg, City of	1	Yes	Yes	Yes	Yes	Yes
Green STORM 2016 B.V. (Obvion/Rabobank)	1	Yes	Yes	Yes	Yes	Yes
Green STORM 2017 B.V. (Obvion/Rabobank)	1	Yes	Yes	Yes	Yes	Yes
Hannon Armstrong 2016-2	1	Yes	Yes	Yes	Yes	Yes
HERO Funding 2016-3 A1 and A2 Notes (Renovate America)	1	Yes	Yes	Yes	Yes	Yes
Latvenergo AS	1	Yes	Yes	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2016)	1	Yes	Yes	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2017)	1	Yes	Yes	Yes	Yes	Yes
Monash University	1	Yes	Yes	Yes	Yes	Yes
Renew 2017-1 (Renew Financial)	1	Yes	Yes	Yes	Yes	Yes
TenneT Holding B.V.	1	Yes	Yes	Yes	Yes	Yes
Upper Mohawk Valley Regional Water Finance Authority	2	Yes	Yes	Yes	No	Yes

Source: Moody's Investors Service

The one issuer who did not meet all of our Organization factor considerations, [Upper Mohawk Valley Regional Water Finance Authority](#) (A1 no outlook), did not satisfy the subfactor, "Explicit and comprehensive criteria for investment selection, including measurable impact results." This was primarily driven by the fact that the issuer's framework for evaluating eligible projects and allocating proceeds was not specifically crafted for the purpose of issuing green bonds. However, this issuer selects projects on the basis of a formalized rank ordering and all eligible projects will fall into an eligible green category, largely mitigating the lack of a formal green bond selection process. Upper Mohawk Valley is otherwise staffed with individuals with expertise in green projects, contributing to its strong overall Organization score and final GB1 outcome.

Although the issuers of assessed transactions have various levels of internal expertise committed to green bond issuance and project selection, all issuers took significant steps to ensure that project selection was overseen by professionals with requisite experience. US-

based [Hannon Armstrong](#) has internal staff with significant relevant experience given that the firm's primary focus is on providing debt and equity financing to the renewable energy and energy efficiency markets. [Latvenergo AS](#) (Baa2 stable) in Latvia has appointed a cross-functional team to select eligible green projects and has supplemented its internal environmental management capabilities by implying additional requirements regarding eligible project implementation for equipment manufacturers and contractors, cooperating with independent organizations and scientists to conduct environmental research and impact studies. [Mexico City Airport Trust](#) (Baa1 negative) included the project manager for the new airport on its green bond committee.

An issuer's organization around green bonds is critical in ensuring that projects conform with the eligible green project categories. The dedicated units also ensure that the issuer's green bond framework aligns with taxonomies such as the internationally recognized Green Bond Principles (GBP) devised by the International Capital Market Association.³ In addition to the GBP, some issuers may align their green bonds to other taxonomies. For instance, the [City of Cape Town](#) (Baa3 negative) in South Africa aligned its July 2017 issue with the Climate Bonds Initiative (CBI) taxonomy,⁴ and the [Bank of Communications](#) (A3 stable) in China aligned its November 2016 transaction with guidelines from the People's Bank of China.⁵

All green bond proceeds were allocated or will be allocated to projects in eligible categories

Green bonds are similar to traditional fixed-income instruments except for the fact that proceeds are earmarked for various eligible green projects, so use of proceeds is these bonds' defining characteristic. For the 17 transactions we have assessed, all transactions have committed to use 100% of proceeds for eligible projects (see Exhibit 2).

Exhibit 2

Proceeds from assessed green bond transactions are fully allocated to eligible green projects

Issuer	Factor 2 Score	Percent of proceeds allocated to eligible project categories
Bank of Communications	1	95-100%
Cape Town, City of	1	95-100%
District of Columbia Water and Sewer Authority	1	95-100%
GoodGreen 2016-1 (Ygrene)	1	95-100%
GoodGreen 2017-1 (Ygrene)	1	95-100%
Gothenburg, City of	1	95-100%
Green STORM 2016 B.V. (Obvion/Rabobank)	1	95-100%
Green STORM 2017 B.V. (Obvion/Rabobank)	1	95-100%
Hannon Armstrong 2016-2	1	95-100%
HERO Funding 2016-3 A1 and A2 Notes (Renovate America)	1	95-100%
Latvenergo AS	1	95-100%
Mexico City Airport Trust (Sept. 2016)	1	95-100%
Mexico City Airport Trust (Sept. 2017)	1	95-100%
Monash University	1	95-100%
Renew 2017-1 (Renew Financial)	1	95-100%
TenneT Holding B.V.	1	95-100%
Upper Mohawk Valley Regional Water Finance Authority	1	95-100%

Under the GBA methodology, transactions receive a factor score of 1 if 95-100% of proceeds are allocated to eligible green projects.

Source: Moody's Investors Service

The GBP, which were most recently updated in June 2017, are a widely accepted set of guidelines highlighting best practices for green bond issuers. Among the changes introduced in June 2017 was an update to the various categories for eligible green projects. All assessed transactions to date have complied with the GBP and the list of broad categories for eligible investments. These categories now include:

- » Renewable energy
- » Energy efficiency

- » Pollution prevention and control
- » Environmentally sustainable management of living natural resources and land use
- » Terrestrial and aquatic biodiversity conservation
- » Clean transportation
- » Sustainable water and wastewater management
- » Climate change adaptation
- » Eco-efficient and/or circular-economy-adapted products, production technologies and processes
- » Green buildings that meet regional, national or internationally recognized standards or certifications

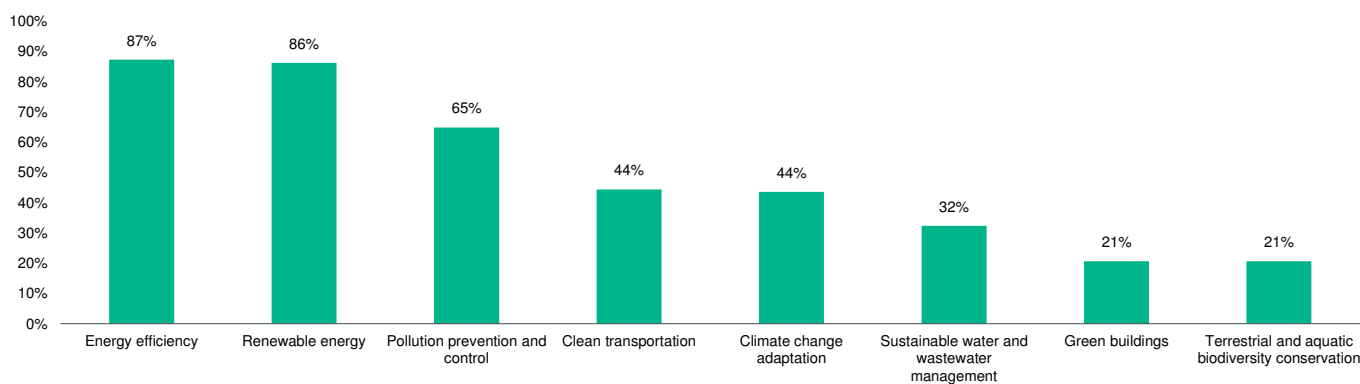
Although all assessed transactions are similar in that proceeds will be fully allocated to projects fitting one or more of the eligible green categories, there is significant variation in the types of projects being financed. Similar to the broader green bond market, projects being financed by proceeds from assessed transactions often fall into multiple eligible green categories. For example, the assessed green bond from the [City of Gothenburg](#) (Aaa stable) in Sweden has seven separate categories of potential uses for green bond proceeds.

Among the various eligible categories, energy efficiency and renewable energy projects are the most popular (see Exhibit 3). By dollar volume, 87% of assessed transaction proceeds may ultimately finance energy efficiency projects, while 86% of assessed transaction proceeds may fund renewable energy projects. This project allocation is similar to the global green bond market where renewable energy and energy efficiency projects have been the leading green eligible categories. For the global green bond market in the second quarter of 2017, a leading 71% of transaction proceeds could ultimately finance renewable energy projects, followed by 54% of transaction proceeds potentially funding energy efficiency projects.

Some assessed green bond transactions finance a single large project, such as Mexico City's new airport, while other transactions fund a number of smaller projects, such as the PACE securitizations backed by a large number of individual home improvement assets.

Exhibit 3

Assessed transaction proceeds are predominantly earmarked for energy efficiency and renewable energy
Percent of total dollar volume of assessed transactions with potential allocation to eligible green project category



Source: Moody's Investors Service

Issuers are committing to robust disclosures on the use of proceeds

Our assessed transactions to date have been quite strong in terms of actual and intended disclosures to the market on use of proceeds (see Exhibit 4). The Bank of Communications missed on one subfactor, "Methods and criteria, both qualitative or quantitative, for calculating performance against targeted environmental results," but all other assessed transactions achieved all subfactors of the Disclosure on the Use of Proceeds factor.

As the green market continues to mature, investor appetite for robust disclosure on use of proceeds remains a top priority. Investors seeking to deploy capital to green bonds are often doing so as part of a green bond fund or a fund focused more broadly on investments meeting certain environment, social or governance (ESG) criteria. These investors want to be assured that their investments are going to projects that meet such criteria. Through disclosure, green bond issuers can highlight the various project or projects being financed by the green bonds, as well as quantitative and qualitative estimates of the environmental benefits of these projects.

Exhibit 4

Green bond issuers' disclosure practices are generally very strong

Issuer	Factor 3 Score	Description of green projects, including portfolio level descriptions, actual and/or intended	Adequacy of funding and/or strategies to complete projects	Quantitative and/or qualitative descriptions for targeted environmental results	Methods and criteria, both qualitative or quantitative, for calculating performance against targeted environmental results	Issuer relies on external assurances: Second party reviews, audits and/or third party certifications
Cape Town, City of	1	Yes	Yes	Yes	Yes	Yes
District of Columbia Water and Sewer Authority	1	Yes	Yes	Yes	Yes	Yes
GoodGreen 2016-1 (Ygrene)	1	Yes	Yes	Yes	Yes	Yes
GoodGreen 2017-1 (Ygrene)	1	Yes	Yes	Yes	Yes	Yes
Gothenburg, City of	1	Yes	Yes	Yes	Yes	Yes
Green STORM 2016 B.V. (Obvion/Rabobank)	1	Yes	Yes	Yes	Yes	Yes
Green STORM 2017 B.V. (Obvion/Rabobank)	1	Yes	Yes	Yes	Yes	Yes
Hannon Armstrong 2016-2	1	Yes	Yes	Yes	Yes	Yes
HERO Funding 2016-3 A1 and A2 Notes (Renovate America)	1	Yes	Yes	Yes	Yes	Yes
Latvenergo AS	1	Yes	Yes	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2016)	1	Yes	Yes	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2017)	1	Yes	Yes	Yes	Yes	Yes
Monash University	1	Yes	Yes	Yes	Yes	Yes
Renew 2017-1 (Renew Financial)	1	Yes	Yes	Yes	Yes	Yes
TenneT Holding B.V.	1	Yes	Yes	Yes	Yes	Yes
Upper Mohawk Valley Regional Water Finance Authority	1	Yes	Yes	Yes	Yes	Yes
Bank of Communications	2	Yes	Yes	Yes	No	Yes

Source: Moody's Investors Service

Despite the lower factor score of the Bank of Communications transaction, the bank disclosed information about the types of projects to be financed and quantitative estimates for positive environmental impacts from these projects. For instance, broad guidelines were provided on how the projects would reduce standard coal use, carbon dioxide emissions, chemically manufactured oxygen emissions, ammonium nitrate, sulphur dioxide, nitrogen oxide and water usage.

Green bond disclosures contain a combination of quantitative and qualitative criteria, depending on the type of information available to the issuer and the type and timeframe of the project or projects being financed. At this point, the form of disclosures varies greatly by issuer, but steps are being taken to begin standardizing reporting. For instance, there are now standard templates for some reporting on the GBP section of the International Capital Market Association (ICMA) website.⁶

Issuers have comprehensive mechanisms and processes for managing green bond proceeds

Among assessed transactions to date, four of the 17 achieved four of five subfactors for the Management of Proceeds factor, while the remaining transactions achieved all five subfactors (see Exhibit 5). Of the four transactions to miss on one subfactor, three (City of Gothenburg and the two transactions from Mexico City Airport Trust) did not have an audit by external organization or independent

internal audit unit of the proceeds and one, Hannon Armstrong, did not have bond proceeds segregated and separately tracked on an accounting basis or via a method by which proceeds are earmarked.

A green bond issuer's management of green bond proceeds is a key component of a green bond transaction that contributes to ensuring that proceeds will ultimately be allocated to projects as originally intended. Issuers that segregate and separately track green bond proceeds, have a clear mechanism for short-term investment of proceeds waiting to be deployed, and secure a third-party audit of the tracking mechanism for green bond proceeds will be more likely to invest proceeds in green projects as outlined before issuance.

Exhibit 5

Strong proceeds management supports assessed transactions

Issuer	Factor 4 Score	Bond proceeds are segregated and separately tracked on an accounting basis or via a method by which proceeds are earmarked	Application of proceeds is tracked by environmental category and project type	Robust process for reconciling planned investments against actual allocations	Clear eligibility rules for investment of cash balances	Audit by external organization or independent internal audit unit
Bank of Communications	1	Yes	Yes	Yes	Yes	Yes
Cape Town, City of	1	Yes	Yes	Yes	Yes	Yes
District of Columbia Water and Sewer Authority	1	Yes	Yes	Yes	Yes	Yes
GoodGreen 2016-1 (Ygrene)	1	Yes	Yes	Yes	Yes	Yes
GoodGreen 2017-1 (Ygrene)	1	Yes	Yes	Yes	Yes	Yes
Green STORM 2016 B.V. (Obvion/Rabobank)	1	Yes	Yes	Yes	Yes	Yes
Green STORM 2017 B.V. (Obvion/Rabobank)	1	Yes	Yes	Yes	Yes	Yes
HERO Funding 2016-3 A1 and A2 Notes (Renovate America)	1	Yes	Yes	Yes	Yes	Yes
Latvenergo AS	1	Yes	Yes	Yes	Yes	Yes
Monash University	1	Yes	Yes	Yes	Yes	Yes
Renew 2017-1 (Renew Financial)	1	Yes	Yes	Yes	Yes	Yes
TenneT Holding B.V.	1	Yes	Yes	Yes	Yes	Yes
Upper Mohawk Valley Regional Water Finance Authority	1	Yes	Yes	Yes	Yes	Yes
Gothenburg, City of	2	Yes	Yes	Yes	Yes	No
Hannon Armstrong 2016-2	2	No	Yes	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2016)	2	Yes	Yes	Yes	Yes	No
Mexico City Airport Trust (Sept. 2017)	2	Yes	Yes	Yes	Yes	No

Source: Moody's Investors Service

For the City of Gothenburg, green bond proceeds will be tracked and deducted from a special account at the end of each quarter and added to the city's lending pool in an amount equal to all disbursements from that pool made during such quarter to cover eligible green projects. Although there is no explicit independent internal or external audit of the books and records of this special account, we note other organizational strengths lead to a very high likelihood that funds will be tracked properly and applied to green bond projects as intended.

Similarly the Mexico City Airport Trust is subject to audits by two separate independent bodies, but there is no explicit audit of the allocation of bond proceeds to eligible green projects. However, the issuer is planning to engage Sustainalytics to review the allocation of net proceeds and provide a report on its conformity with the green bond framework. The review will be conducted annually until the net proceeds are fully allocated to eligible green projects.

In the case of Hannon Armstrong, which does not have a separate account tracking green bond proceeds, we note a strong mitigating consideration in that the firm's corporate mandate is to exclusively invest in projects with neutral to positive environmental impact.

The firm tracks the fund disbursement of all investments as part of its standard operating procedure, and given that it only funds projects that meet sustainability screening guidelines, proceeds are only directed to green project expenses.

Significant disparity among assessed transactions in ongoing reporting and disclosure commitments

Similar to the growing desire for robust disclosure on projects being financed and their intended effects at time of issuance, investors and other market participants are increasingly advocating for comparable and comprehensive reporting on an ongoing basis. As the green bond market matures and more issuers provide some form of post-issuance disclosure, the timeliness and quality of the reporting will be a distinguishing factor among green bond transactions.

Ongoing reporting is a key differentiator among our assessed transactions. More than half of the transactions (10 of 17) did not achieve all five subfactors in the Ongoing Reporting and Disclosure factor (see Exhibit 6). All issuers committed to some form of reporting and disclosure post-issuance that includes detailed and timely status updates on projects, but at least one issuer failed to meet each of the four remaining subfactors.

Exhibit 6

Ongoing disclosure practices vary significantly among assessed transactions

Issuer	Factor 5 Score	Reporting and disclosure post issuance provide detailed and timely status update on projects	Ongoing annual reporting is expected over the life of the bond	Disclosures provide granular detail on the nature of the investments and their expected environmental impacts	Reporting provides a quantitative and/or qualitative assessment of the environmental impacts actually realized to-date	Reporting includes quantitative and/or qualitative explanation of how the realized environmental impacts compare to projections at the time the bonds were sold
Cape Town, City of	1	Yes	Yes	Yes	Yes	Yes
Gothenburg, City of	1	Yes	Yes	Yes	Yes	Yes
Hannon Armstrong 2016-2	1	Yes	Yes	Yes	Yes	Yes
Latvenergo AS	1	Yes	Yes	Yes	Yes	Yes
Monash University	1	Yes	Yes	Yes	Yes	Yes
TenneT Holding B.V.	1	Yes	Yes	Yes	Yes	Yes
Upper Mohawk Valley Regional Water Finance Authority	1	Yes	Yes	Yes	Yes	Yes
District of Columbia Water and Sewer Authority	2	Yes	No	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2016)	2	Yes	No	Yes	Yes	Yes
Mexico City Airport Trust (Sept. 2017)	2	Yes	No	Yes	Yes	Yes
Bank of Communications	3	Yes	Yes	No	Yes	No
GoodGreen 2016-1 (Ygrene)	3	Yes	Yes	Yes	No	No
GoodGreen 2017-1 (Ygrene)	3	Yes	Yes	Yes	No	No
Green STORM 2016 B.V. (Obvion/Rabobank)	3	Yes	Yes	Yes	No	No
Green STORM 2017 B.V. (Obvion/Rabobank)	3	Yes	Yes	Yes	No	No
HERO Funding 2016-3 A1 and A2 Notes (Renovate America)	3	Yes	Yes	Yes	No	No
Renew 2017-1 (Renew Financial)	3	Yes	Yes	Yes	No	No

Source: Moody's Investors Service

Six transactions, all green securitizations, failed to achieve the same two subfactors of the Ongoing Reporting and Disclosure factor: whether ongoing reporting provides qualitative and quantitative assessments of environmental impacts realized to date, and how these environmental impacts compare with projections at time of issuance. The transactions in this group include US-based PACE securitizations from Renew Financial ([Renew 2017-1](#)), Renovate America ([HERO Funding Trust 2016-3](#)) and Ygrene Energy Fund ([GoodGreen 2016-1 Trust](#) and [GoodGreen 2017-1 Trust](#)), as well as two residential mortgage backed security transactions from Obvion, a subsidiary of Dutch bank Rabobank ([Green STORM 2016 B.V.](#) and [Green STORM 2017 B.V.](#)).

For the PACE securitizations, restricted access to actual residential usage data following installation of green improvements places limitations on the ability of the firms to validate energy and water conservation results over time, thus limiting their ability to update environmental impacts over time. These firms do, however, commit to annual disclosure over the life of the bonds in the form of program-level reports. For the two Green STORM securitizations, a CO₂ reduction impact study will only be offered at the time of closing with respect to the provisional pool of financed assets and will not be updated on an ongoing basis.

While the issuers of nearly all assessed transactions to date have committed to disclosures over the life of the bonds, some transactions will feature reporting only until proceeds are deployed. Although the transactions from Mexico City Airport Trust and [District of Columbia Water & Sewer Authority](#) (DC Water, Aa1 stable) fall into this group, both of these issuers have displayed robust reporting on their green bonds to date. In the case of DC Water, the green bond was issued as a "Century Bond" with a 100-year maturity, and the issuer did not want to commit to providing such disclosures to the market for that period.

DC Water has published green bond reports in each of the past three fiscal years (FYs 2014-2016), and the reports have featured descriptions of the projects, the amount of green bond proceeds disbursed, environmental impacts and other information.⁷ Mexico City Airport Trust has published three quarterly green bond reports since the issuance of its first green bond, all with similarly robust reporting. Information in these quarterly reports includes: a project overview, a summary of the green bond framework, a list of eligible green project categories with category overviews, a summary of proceeds allocation to date listed by eligible green category, and a summary of broad performance indicators.⁸

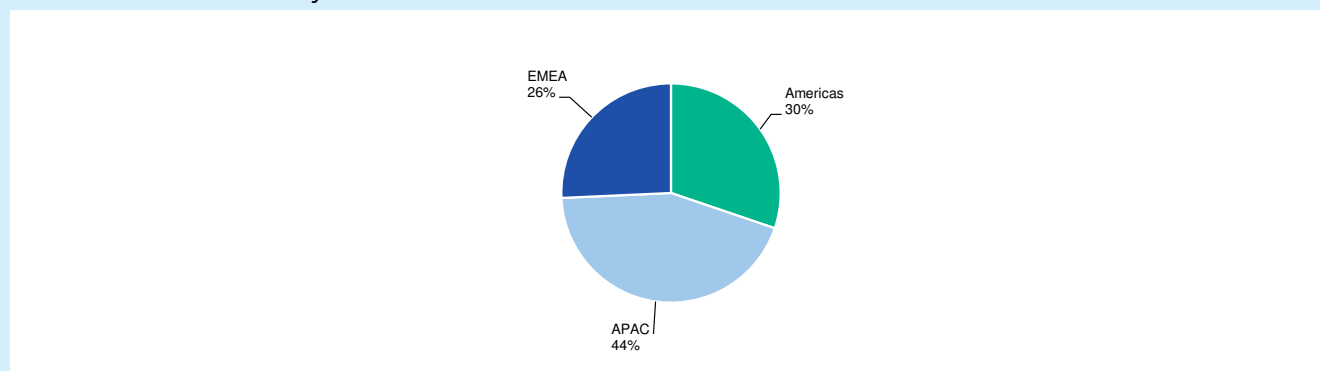
The disparity in actual and intended ongoing reporting practices of assessed transactions mirrors the variety of reporting practices seen in the broader market. In a June 2017 report entitled, "Post Issuance Reporting in the Green Bond Market," the Climate Bonds Initiative found that although post-issuance reporting is improving, there remains little consistency across the market, making comparison difficult.⁹ Only 74% of issuers with green bonds issued prior to April 1, 2016 provided some form of public post-issuance green bond disclosure. Among those with public disclosure, the content and quality of the reporting was generally stronger for the larger and more frequent green bond issuers.

Overview of the GBA portfolio

Moody's Green Bond Assessments (GBAs) to date have come from issuers domiciled in a number of different countries and representing a number of different sectors. By dollar volume, issuers from the APAC region lead the way so far with 44% of assessed issuance, driven by the large RMB30 billion transaction from the Bank of Communications across two tranches (see Exhibit 7). This mirrors the global green bond market in recent years where the growth of issuance from China has contributed to the increasing importance of emerging-market green bond issuers. Similarly, the large issuance from the Bank of Communications has driven financial institutions to lead the way in terms of assessed issuance dollar volume (see Exhibit 8), mirroring the trend of financial institutions leading in the global green bond market in recent years.¹⁰

Exhibit 7

Assessed green bond transactions generated by issuers from across the globe Percent of assessed transactions by dollar volume

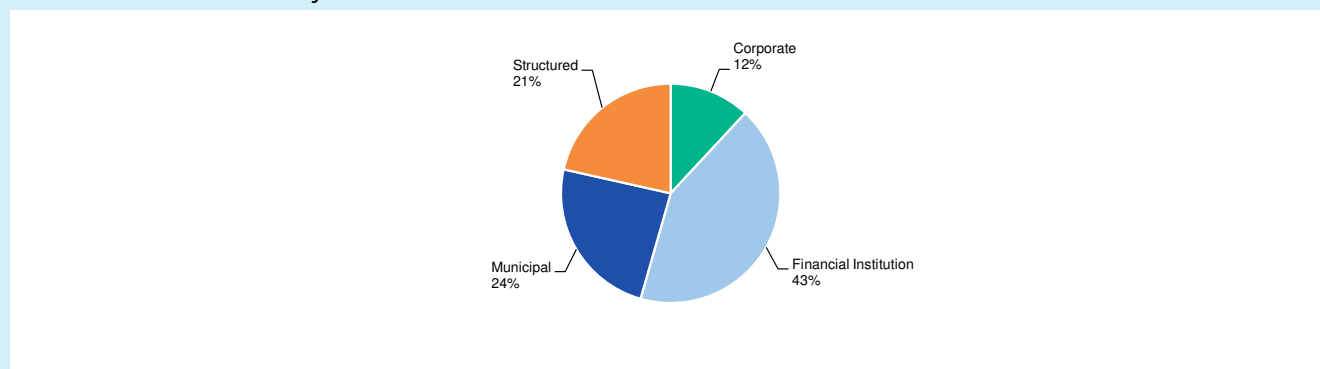


Statistics exclude the September 2017 issue from Mexico City Airport Trust, given that the transaction amount has not yet been finalized.

Source: Moody's Investors Service

Exhibit 8

Assessed green bond transactions generated by issuers from multiple sectors Percent of assessed transactions by dollar volume



Statistics exclude the September 2017 issue from Mexico City Airport Trust given that the transaction amount has not yet been finalized.

Municipal includes issuers from around the globe.

Source: Moody's Investors Service

Appendix: Summary of GBAs completed to date

Issuer	Region	Country	Month Assigned	Overall Assessment	Overall Weighted Score	Factor 1: Organization (15%)	Factor 2: Use of Proceeds (40%)	Factor 3: Disclosure on the Use of Proceeds (10%)	Factor 4: Management of Proceeds (15%)	Factor 5: Ongoing Reporting and Disclosure (20%)
Cape Town, City of	EMEA	South Africa	Jun-17	GB1	1.00	1	1	1	1	1
Latvenergo AS	EMEA	Latvia	Oct-16	GB1	1.00	1	1	1	1	1
Monash University	APAC	Australia	Dec-16	GB1	1.00	1	1	1	1	1
TenneT Holding B.V.	EMEA	Netherlands	May-16	GB1	1.00	1	1	1	1	1
Gothenburg, City of	EMEA	Sweden	May-16	GB1	1.15	1	1	1	2	1
Hannon Armstrong 2016-2	Americas	United States	Mar-17	GB1	1.15	1	1	1	2	1
Upper Mohawk Valley Regional Water Finance Authority	Americas	United States	Aug-16	GB1	1.15	2	1	1	1	1
District of Columbia Water and Sewer Authority	Americas	United States	Jan-17	GB1	1.20	1	1	1	1	2
Mexico City Airport Trust	Americas	Mexico	Sep-16	GB1	1.35	1	1	1	2	2
Mexico City Airport Trust	Americas	Mexico	Sep-17	GB1	1.35	1	1	1	2	2
GoodGreen 2016-1 (Ygrene)	Americas	United States	Oct-16	GB1	1.40	1	1	1	1	3
GoodGreen 2017-1 (Ygrene)	Americas	United States	Apr-17	GB1	1.40	1	1	1	1	3
Green STORM 2016 B.V. (Obvion/Rabobank)	EMEA	Netherlands	May-16	GB1	1.40	1	1	1	1	3
Green STORM 2017 B.V. (Obvion/Rabobank)	EMEA	Netherlands	May-17	GB1	1.40	1	1	1	1	3
HERO Funding 2016-3 A1 and A2 Notes (Renovate America)	Americas	United States	Sep-16	GB1	1.40	1	1	1	1	3
Renew 2017-1 (Renew Financial)	Americas	United States	Apr-17	GB1	1.40	1	1	1	1	3
Bank of Communications	APAC	China	Nov-16	GB1	1.50	1	1	2	1	3

Moody's Green Bond Assessment (GBA)

Moody's GBA represents a forward-looking, transaction-oriented opinion on the relative effectiveness of the issuer's approach to manage, administer and allocate assets to, and report on, environmental projects financed by proceeds from green bond offerings. GBAs are expressed using a five-point relative scale, ranging from GB1 (Excellent) to GB5 (Poor). A GBA does not constitute a credit rating.

Moody's Related Research

Methodology:

- » [Green Bonds Assessment \(GBA\)](#), March 30, 2016

Issuer In-Depth:

- » [Mexico City Airport Trust NAFIN F/80460: Green Bond Assessment](#), September 1, 2017
- » [Renew 2017-1: Green Bond Assessment](#), August 4, 2017
- » [Hannon Armstrong : Green Bond Assessment](#), July 18, 2017
- » [Monash University: Green Bond Assessment](#), July 12, 2017
- » [Mexico City Airport Trust NAFIN F/80460: Green Bond Assessment](#), July 11, 2017
- » [GoodGreen 2017-1 Trust: Green Bond Assessment](#), July 6, 2017
- » [Cape Town, City of: Green Bond Assessment](#), June 30, 2017
- » [Upper Mohawk Valley Regional Water Finance Authority - New York: Green Bond Assessment](#), June 30, 2017
- » [Latvenergo AS: Green Bond Assessment](#), June 26, 2017
- » [GoodGreen 2016-1 Class A and B Notes: Green Bond Assessment](#), June 16, 2017
- » [Green STORM 2017 B.V.: Green Bond Assessment](#), May 15, 2017
- » [District of Columbia Water and Sewer Authority \(DC Water\): Green Bond Assessment](#), January 27, 2017
- » [HERO Funding 2016-3 A1 and A2 Notes: Green Bond Assessment](#), October 23, 2016
- » [Gothenburg, City of: Green Bond Assessment](#), September 13, 2016
- » [TenneT Holding B.V.: Green Bond Assessment](#), July 13, 2016
- » [GREEN STORM 2016 B.V.: Green Bond Assessment](#), June 6, 2016

Sector In-Depth:

- » [Green Bonds - Global: Record volume achieved in second quarter 2017 despite slower growth](#), July 27, 2017
- » [Regional and Local Governments - EMEA: Sub-sovereign green bond issuance has growth potential](#), September 21, 2016
- » [Green Bonds - US: Survey of Municipal Issuers: Disclosure Practices Differ Widely](#), April 26, 2016

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

- 1 See [Green Bonds Assessment \(GBA\) Methodology](#)
- 2 See "[Post Issuance Reporting in the Green Bond Market](#)," Climate Bonds Initiative, June 2017
- 3 See [The Green Bond Principles 2017](#), International Capital Market Association, June 2017
- 4 See "[Climate Bonds Standard and Certification](#)," Climate Bonds Initiative
- 5 See "[Guidelines for Establishing the Green Financial System](#)," People's Bank of China
- 6 For more information, see the [Resource Centre](#) on the GBP section of the International Capital Market Association (ICMA) website
- 7 See "[Green Bonds](#)" section of the DC Water's investor relations website
- 8 See the green bonds section of the new Mexico City Airport's [Investor Relations website](#)
- 9 See "[Post Issuance Reporting in the Green Bond Market](#)," Climate Bonds Initiative, June 2017
- 10 For more information on issuance trends in the global green bond market, see "[Green Bonds - Global: Record volume achieved in second quarter 2017 despite slower growth](#)"

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