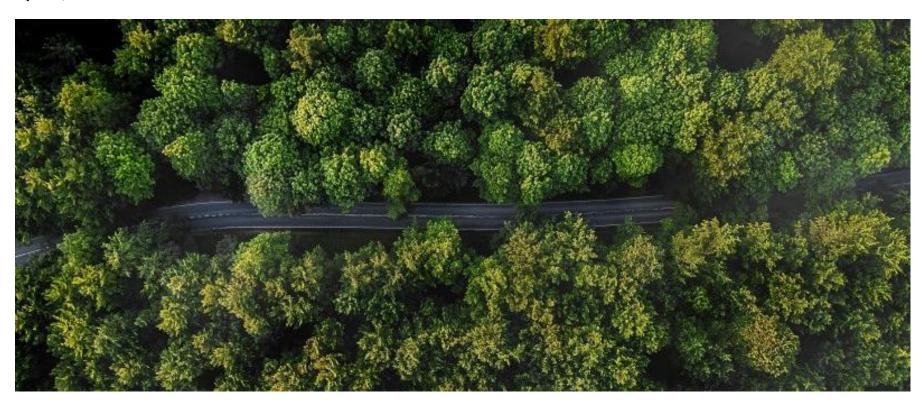
ESG at S&P Global Ratings

Gloria Lu Senior Director Sector Lead (Greater China) Infrastructure Ratings

April 1, 2019





Copyright © 2019 by S&P Global.
All rights reserved.

Agenda

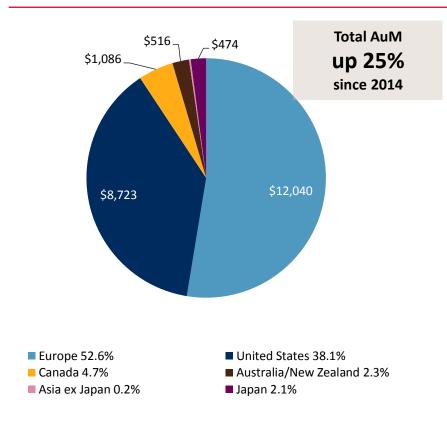
- How does S&P incorporate ESG factors in ratings?
- What are the challenges to integrate ESG factors in investment decision?
- A general analytic framework of S&P ESG Evaluation

ESG in Ratings

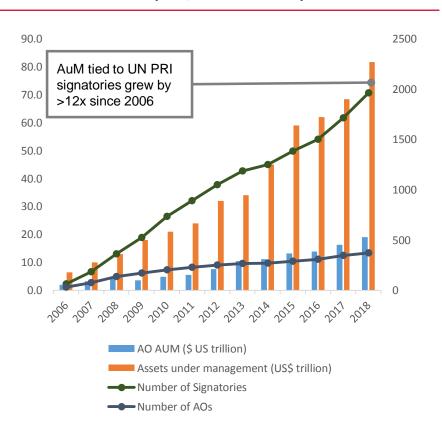


Investor Focus is Driving Growth of ESG Data & Insights

Responsible Investment Strategy Assets by Region; Total AuM \$23 Trillion, 2016



Number of Signatories (RHS) and Associated AuM (LHS, USD \$ Trillion)

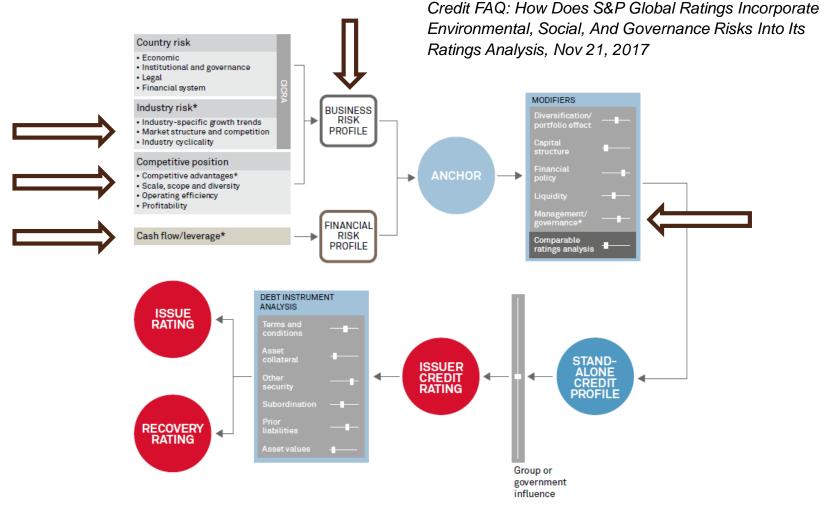


Source: Global Sustainable Investment Alliance (GSIA) Global Sustainability Investment Review 2016; UN Principles for Responsible Investment 2018



ESG in Credit Ratings

There around **100 references** to ESG factors **across 40 sectors** in the sector level Key Credit Factors.





ESG & Credit - Look Back Study Series

Corporate Ratings Impacted By ESG Factors

June 2015 - June 2017

	Environmental	Social	Governance	ESG
ESG reference	717	346	262	1325
Rating driver	106	42	77	225

ESG & Credit - The Trend and Impact Seem to be Changing

Relatively balanced impact (compared with 79% negative last review) indicating potential increased awareness and mitigation actions

Positive rating actions		Negative rating actions	
CreditWatch Positive placement	5	CreditWatch Negative placement	4
Outlook Revised to positive	11	Outlook revised to negative	9
Outlook revised to stable from negative	11	Outlook revised to stable from positive	3
Upgrade	20	Downgrade	43
Total	47	Total	59
Percentage of total actions in the positive direction	44%	Percentage of total actions in the negative direction	56%

ESG & Credit - Transparency in Rating Reports

- We are planning to add an ESG section to about 2,000 corporate credit reports.
- We are making it easier for those who use our opinion to see how ESG figures in the credit equation.
- We've been analyzing E, S, and G factors in credit for a long time. We're not asking for anything in addition to what issuers already disclose to us.
- We will be highlighting ESG exposure that might affect cash flow, profitability, debt levels, or business risk and how severe that exposure is and the likelihood of a problem occurring from it:
 - We will state if a company has no notable material credit exposure to ESG factors

S&P Launches E&G Sections in Corp. Credit Rating Reports

Continental AG: Global Auto Supplier

Environmental, Social, and Governance Factors

"Environmental factors are important to our analysis on Continental and could have negative credit implications over the medium term. The global auto industry will be subject to **tightening government regulations** in Europe that address **environmental risks**, **vehicle safety**, **and energy independence**. The profitability of Continental and the industry in general is further constrained by **high-cost new technologies to improve fuel economy** and make future vehicles more environmentally sustainable, as well as the available resources needed to deploy these technologies on a large scale. As a tier one supplier, Continental sells lightweight components, **green tires**, and powertrain components that help to **reduce CO2 emissions**. These accounted for about 40% of the company's €44 billion sales in 2017.

Although the transition from internal-combustion-engine (ICE) vehicles to pure EVs is still in the early stages, traditional suppliers like Continental need to participate in this emerging market to secure their future market position. We expect margin pressure through high R&D spending (about 10% of sales in the auto group) in the next few years given the extensive upfront development costs that Continental will need to absorb until EVs achieve sufficient scale. However, we do not see negative credit implications at the moment as the company has a track record of high R&D spending in recent years (see chart 1).

Social factors do not play a major role in our credit assessment, however we monitor the risk related to product liability issues linked to road and vehicle safety. This is particularly relevant for the company's auto and tire divisions because Continental was forced to recall steer tires for commercial vehicles in 2018. However, these recalls have not significantly affected the company's operating results, **reputation**, or creditworthiness.

We do not view governance factors as a credit concern because Continental's public disclosure and governance framework is consistent with accepted standards and there are no other governance related issues."

Challenges In ESG Investing



What Are Investors Asking For?

"Which of the following factors limit your firm's ability to use ESG information in your investment decisions?"

	It is all about data!	AII (N = 368)	A	UM Size			Region	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
_	Response		Large	Small	Diff.	US	Europe	Diff.
1	Lack of comparability across firms	44.8%	49.2%	42.7%		45.8%	49.3%	
2	2 Lack of standards in reporting ESG information		51.6	39.0	*	42.1	48.6	
3	3 The cost of gathering and analyzing ESG information		41.8	39.8		40.2	45.0	
4	4 ESG information disclosed by firms is too general to be useful		45.1	36.6		42.1	42.1	
5	5 Lack of quantifiable ESG information		43.4	35.0		40.2	40.0	
6	6 Lack of comparability over time		38.5	32.9		38.3	35.7	
7	7 The disclosure of ESG information by firms is too infrequent to be useful		27.9	28.5		31.8	28.6	
8	B Lack of reliability of data/lack of audit and assurance		46.7	16.3	**	31.8	27.1	
9	There is too much disclosure, making it difficult to filter out what is material		16.4	16.7		14.0	20.0	
10	10 Our clients' mandates prevent us from using ESG information		0.8	1.6		1.9	1.4	

Source: Amel-Zadeh & Serafeim, "Why and How Investors Use ESG Information: Evidence from a Global Survey," 2017



What Are The Challenges?

- Entities do not report ESG data in a standardized manner.
- E&S data often does not cover all the company's operations.
- Entities tend to change their ESG reporting indicators over time, which may limit analysis of historical performance.
- Some entities don't require independent assurance of their ESG data.
- Some sustainability reports are used more as a communication tool than a reporting tool.

Current State of ESG Reporting

Total days of work missed due to occupational accidents¹

→ T 4.21

Number

20,000

10,000

9,542

8,711

11,073

10,813

8,164

2014

2015

2016

2017



-			
			2017
	Fatal accidents ^[s]	Accidents with at least one day of medical absence [a]	Frequency Rate 1 (FR1) (a)
By Business			
	1	207	2.4
	1	99	1.1
	-	54	1.1
	-	49	3.4
Total	2	409	1.7

Safety indicators	2017
TRIR ^(a) : number of recorded injuries per million hours worked	0.88
Group company employees	0.89
Employees of external contractors ^(b)	0.88
LTIR ^(o) : number of lost time injuries per million hours worked	0.58
SIR ^(d) : average number of days lost per lost time injury	27.57 ^(e)
Number of occupational fatalities	1

(a) TRIR: Total Recordable Injury Rate.

2013

- (b) As defined in point 5.4.4.1 of this chapter.
- (c) LTIR: Lost Time Injury Rate.
- (d) SIR: Severity Injury Rate.
- e) Excluding Saft Groupe.



S&P Global

ESG Evaluation



ESG Evaluation





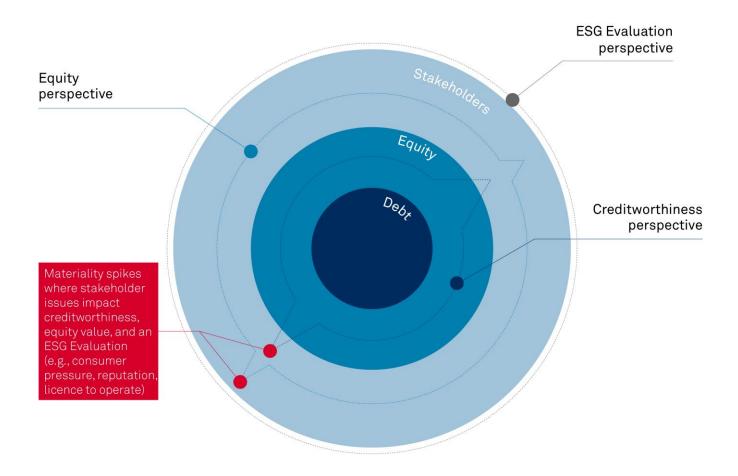


ESG Evaluation is a **cross sector relative analysis** of an entity's capacity to operate successfully in the **future** and optimize long-term **stakeholder** value in light of its natural and social environment and quality of its governance.

Our analysis is **grounded in financial materiality** by assessing the potential of **ESG risks and opportunities** to effect stakeholders that can have a financial impact, either directly or indirectly, on an entity.

ESG Evaluation - A Broader Perspective

ESG Evaluation Perspective, Creditworthiness Perspective and Equity Perspective.



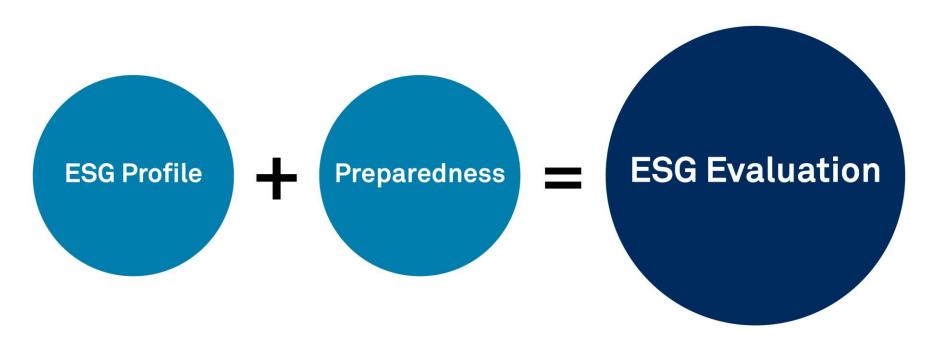


ESG Factors

ESG Factors

Environmental	Social	Governance
∞		
Biodiversity	Customers	Reporting
Carbon	Human capital	Structure
٥٥	1MM	Q
Waste	Human rights	Transparency
₩ater	✓= ✓= Safety	Values
	异	
	Social cohesion	

ESG Evaluation - Proposed Analytical Approach



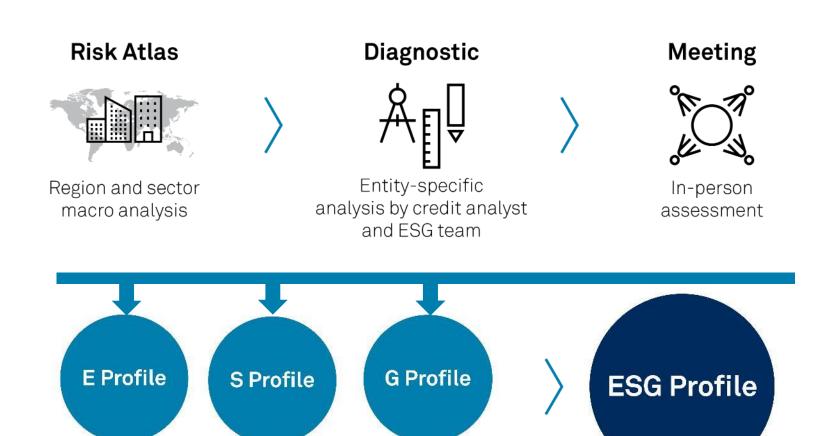
Focus on

- Financial Materiality
- Stakeholder Value

Differentiators

- Analyst knowledge of companies
- Meeting with management
- Forward looking
- Preparedness assessment

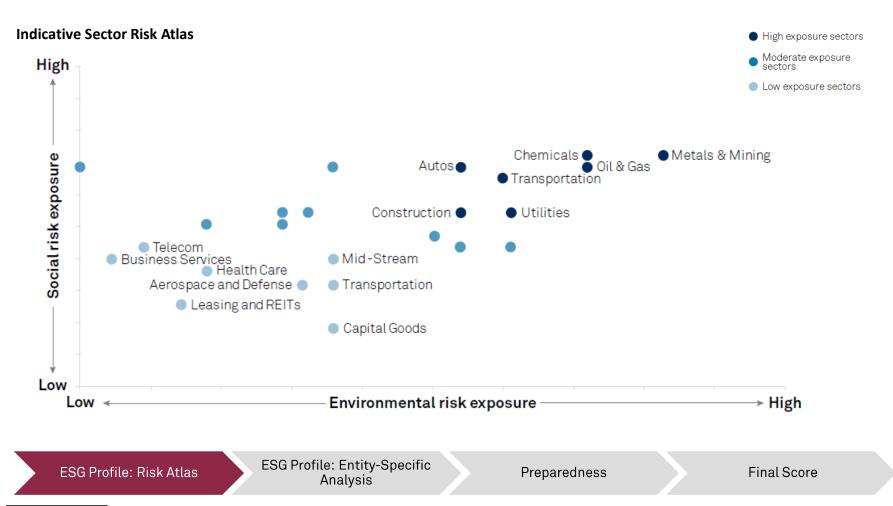
ESG Evaluation - Profile





Risk Atlas - Sector

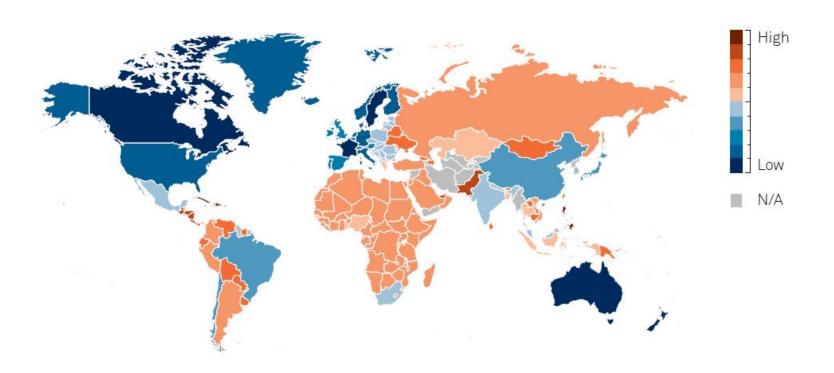
Sector Exposure Score evaluates the our assessment of the relative potential environmental & social risk exposures for a sector.



Risk Atlas - Geography

Regional Exposure Score considers **regulatory**, **institutional and physical risks** inherent in a region and draws on our analytical opinions of institutional strength of a jurisdiction and relevant external data.

Indicative Country Risk Atlas



ESG Profile: Risk Atlas

ESG Profile: Entity-Specific Analysis

Preparedness

Final Score



ESG Diagnostic

The ESG Diagnostic is our main tool to collect comparable environmental, social and governance data on companies.



Focuses on collecting comparable and consistent data across sectors and geographies to inform our ESG Evaluation score



Draws on, but is not limited to, existing sustainability reporting frameworks such as the Global Reporting Initiative (GRI)



Leverages S&P internal data on the business, environmental and governance profiles of companies



Includes a "Not applicable" option to take into account sector and company specificities



May inform our credit rating analysis, if relevant

ESG Profile: Risk Atlas

ESG Profile: Entity-Specific Analysis

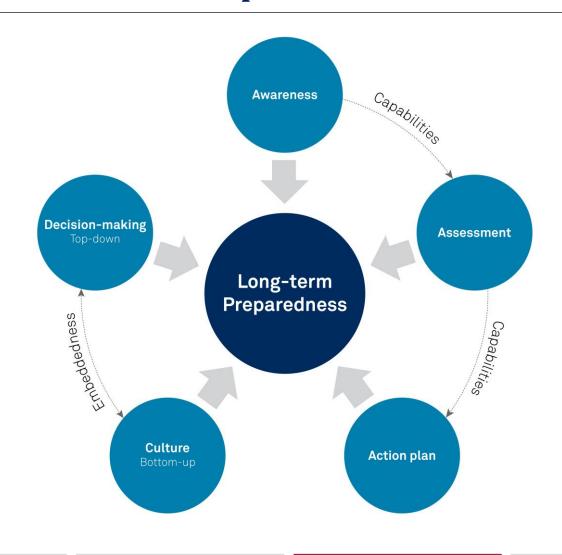
Preparedness

Final Score

Preparedness - Emerging & Strategic Risks

Wealth Climate Water **Energy & Fuel** Distribution Change Scarcity Material **Ecosystem** Urbanization Deforestation Resource Decline Scarcity Childhood Cyber Ageing & **Food Security** Security Obesity Wellbeing ESG Profile: Entity-Specific ESG Profile: Risk Atlas Preparedness Final Score Analysis

Preparedness - Two Concepts; Five Factors



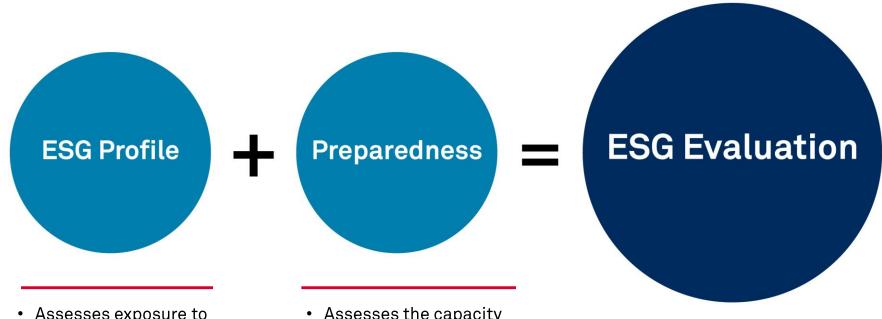
ESG Profile: Risk Atlas

ESG Profile: Entity-Specific
Analysis

Preparedness

Final Score

ESG Evaluation - Final Score



- Assesses exposure to observable ESG risks
 & opportunities
- Considers governance structure in mitigating risks & capitalizing on opportunities

- Assesses the capacity to anticipate and adapt to a variety of long-term plausible disruptions
- Disruptions not limited to environmental or social scenarios

ESG Profile: Risk Atlas

ESG Profile: Entity-Specific Analysis

Preparedness

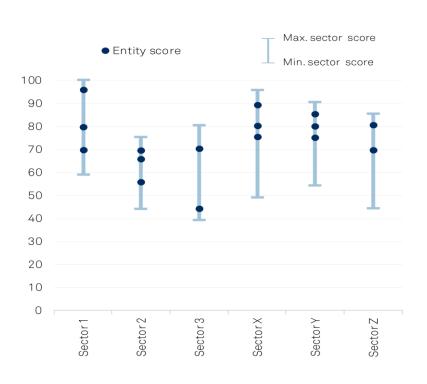
Final Score



ESG Evaluation – How Can We Respond To Data Limitation?

- Collect standardized ESG data that allows us to perform cross-sector and peers comparison.
- Leverage existing S&P ESG databases.
- Leverage existing knowledge in our analytical base on ESG.
- Create a quality experience for issuers by pre-populating the ESG diagnostic.
- Create a centralized ESG database to inform our credit ratings, ESG Evaluations and other research.
- Rely on analytical judgment rather than quantitative analysis while we develop a consistent and comprehensive ESG database.

ESG Evaluation - Comparability & Alignment











Thank you

If you would like more information please visit www.spglobal.com/sustainable-finance





Copyright © 2019 by Standard & Poor's Financial Services LLC. All rights reserved.

No content (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of Standard & Poor's Financial Services LLC or its affiliates (collectively, S&P). The Content shall not be used for any unlawful or unauthorized purposes. S&P and any third-party providers, as well as their directors, officers, shareholders, employees or agents (collectively S&P Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for the results obtained from the use of the Content, or for the security or maintenance of any data input by the user. The Content is provided on an "as is" basis. S&P PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Parties be liable to any party for any direct, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. S&P's opinions, analyses and rating acknowledgment decisions (described below) are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P does not act as a fiduciary or an investment advisor except where registered as such. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P reserves the right to assign, withdraw or suspend such acknowledgement at any time and in its sole discretion. S&P Parties disclaim any duty whatsoever arising out of the assignment, withdrawal or suspension of an acknowledgment as well as any liability for any damage alleged to have been suffered on account thereof.

S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

S&P may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P reserves the right to disseminate its opinions and analyses. S&P's public ratings and analyses are made available on its Web sites, www.standardandpoors.com (free of charge), and www.ratingsdirect.com and www.globalcreditportal.com (subscription), and may be distributed through other means, including via S&P publications and third-party redistributors. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.

Australia

Standard & Poor's (Australia) Pty. Ltd. holds Australian financial services license number 337565 under the Corporations Act 2001. Standard & Poor's credit ratings and related research are not intended for and must not be distributed to any person in Australia other than a wholesale client (as defined in Chapter 7 of the Corporations Act).

STANDARD & POOR'S, S&P and RATINGSDIRECT are registered trademarks of Standard & Poor's Financial Services LLC.

