

BLACKROCK **IMPACT**

SCREENS ESG IMPACT

Tech power

The growing role of technology
in sustainable investing

BLACKROCK[®]



John McKinley
Director, BlackRock
Impact



Justin Mayer
Managing Director,
BlackRock Solutions
Portfolio Analytics Group

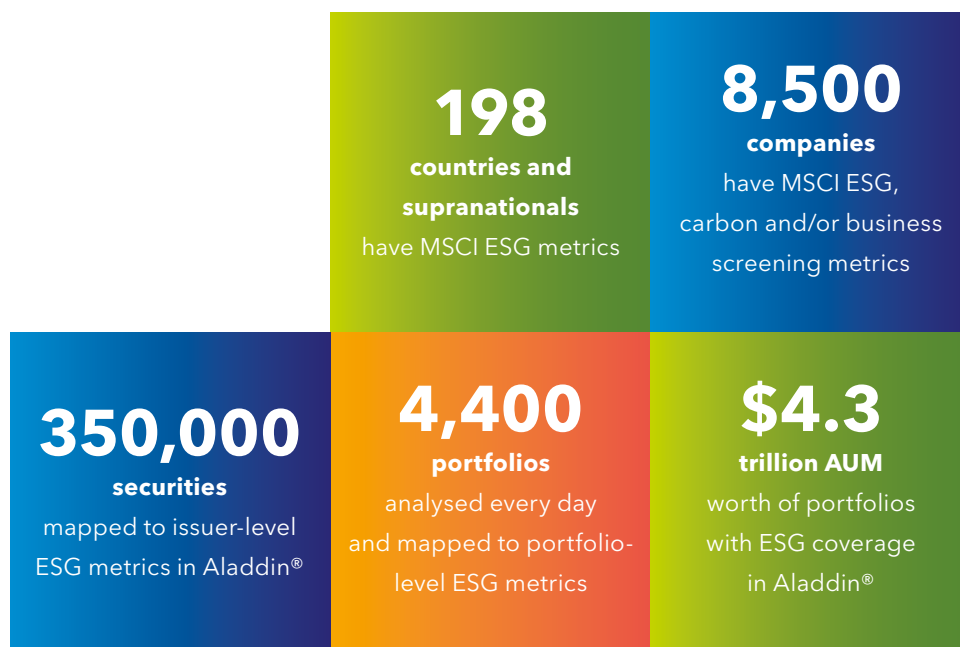
As investors look to integrate environmental, social and governance (ESG) aspects into their investment and decision-making processes, we see a growing demand for reliable data. After all, without consistent and easily comparable data it is not possible to assess investments from a sustainability perspective, nor measure an investor's progress towards meeting their overall sustainable goals. Having the right data, however, is only part of the equation; in order to solve the sustainability challenge, clients also need the right tools and technology.

At present, the investment community is still trying to make sense of a rapidly expanding and evolving data universe, but technology can already make a significant difference in helping investors measure and manage ESG exposures. We explore how by taking a closer look BlackRock's own investment technology platform, *Aladdin*®.

Navigating the ESG data universe

The term ESG has become a catch-all phrase that often means different things to different stakeholders. Policy makers, asset owners and the public at large are focused on ESG factors as a means to promote sustainable business practices and products. Broadly speaking, ESG refers to the integration of environmental, social and governance considerations into the investment process, but how these are interpreted and implemented differs greatly.

Market data providers have entered the space, seeing a competitive opportunity to develop ESG assessments of companies and investment funds. *MSCI ESG Research* and *Sustainalytics* are among the most prominent providers.



Source: BlackRock, MSCI, December 2016.

Last year, MSCI ESG, in partnership with Sustainalytics and Morningstar, published ESG and sustainability scores on over 20,000 mutual funds and ETFs. In addition to differences in data coverage (e.g., by asset class and market capitalisation), they, and other ESG rating providers, measure different aspects of company sustainability, sometimes using conflicting evaluation methodologies and data inputs. Just as there is no single way to predict a company's financial performance, there appears to be no single approach to evaluate the ESG performance of companies or funds. The challenge of interpreting and reconciling this emerging mass of data is further complicated by the fact that many investors do not have the technological capabilities that would facilitate the systematic integration of those ESG criteria into the investment process.

Where do we stand?

As a fiduciary to our clients, we actively participate in a number of coalitions or shareholder groups on both international and market-specific levels to promote market-wide enhancements to current practice. In particular, BlackRock has been a member of the Task Force on Climate Related Financial Disclosures to develop voluntary, consistent climate-related financial risk disclosures for companies.

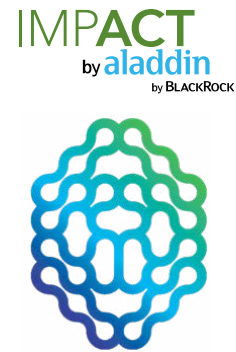
However, we also believe that technology has a key role to play in empowering investors to make the most of the available data. Since 2015 we have been building ESG data into our proprietary system, Aladdin®. The aim: using the significant scale of our investment technology platform to drive the following four key objectives.

- 1 Increase transparency
- 2 Map exposures
- 3 Uncover value
- 4 Align intention and implementation

Powering collective intelligence

Aladdin® is an operating system for investment managers that seeks to connect the information, people and technology needed to manage money in real time. The Aladdin® platform combines sophisticated risk analytics with comprehensive portfolio management, trading and operations tools on a single platform to power informed decision-making, effective risk management, efficient trading and operational scale.

Source: BlackRock, March 2017. For illustrative purposes only.



1 Increase transparency

Proprietary reports provide users of Aladdin® with a daily snapshot of their portfolio's exposure to environmental, social and governance factors across products and asset classes, in order to make more informed decisions. The figure to the right highlights the level of detail provided by such a 'Green Package' report.

Leveraging Aladdin's bottom-up framework, it is possible to drill down into sector and security-level reports. This gives insight into which sectors and securities are adding to or distracting from absolute and active ESG exposure and carbon footprint.

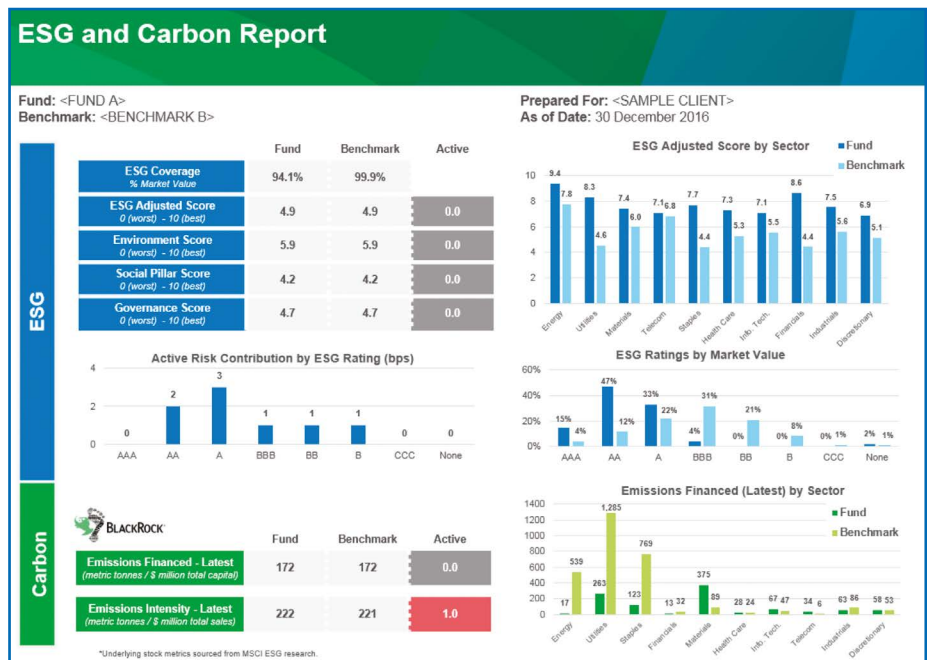
ESG Metrics																	
ESG Score (Adjusted)			ESG Score (Weighted Avg.)			Environment Score			Social Score			Governance Score			Controversy Score		
Port	Bench	Active	Port	Bench	Active	Port	Bench	Active	Port	Bench	Active	Port	Bench	Active	Port	Bench	Active
6.18	-6.18	5.07	-5.07	6.24	-6.24	4.52	-4.52	5.91	-5.91	3.75	-3.75	5.97	-5.97	5.00	-5.00	6.17	-6.17
6.04	5.72	0.32	5.07	4.93	0.14	6.21	5.91	0.30	4.68	4.54	0.15	5.23	5.16	0.07	4.57	4.93	-0.36
6.81	6.86	-0.05	5.36	5.39	-0.03	6.63	6.62	0.01	4.69	4.76	-0.07	5.82	5.82	0.00	3.99	3.99	0.00
4.90	4.87	0.03	4.64	4.60	0.03	6.02	5.97	0.04	4.24	4.20	0.04	4.68	4.68	0.00	3.73	3.70	0.03
5.73	5.28	0.45	5.20	4.76	0.44	5.94	5.94	0.00	4.98	4.37	0.61	5.43	4.93	0.49	4.89	4.23	0.66
4.87	4.54	0.33	4.41	4.39	0.02	5.51	5.36	0.15	4.48	4.41	0.06	3.66	3.91	-0.24	5.07	5.46	-0.40
4.80	4.78	0.02	4.65	4.57	0.08	5.99	5.84	0.15	4.36	4.17	0.19	4.68	4.70	-0.02	4.39	4.13	0.26
4.15	4.15	0.00	4.44	4.44	0.00	5.95	5.95	0.00	4.17	4.17	0.00	4.56	4.56	0.00	4.09	4.09	0.00
4.63	4.92	-0.29	4.57	4.68	-0.11	6.34	6.28	0.06	4.13	4.21	-0.07	4.56	4.65	-0.10	3.16	3.32	-0.16
5.92	5.92	0.00	5.39	5.39	0.00	6.95	6.95	0.00	5.37	5.37	0.00	4.59	4.59	0.00	3.29	3.29	0.00
4.17	5.05	-0.88	4.49	4.87	-0.38	6.67	6.28	0.39	4.06	4.58	-0.50	4.35	4.88	-0.44	2.99	3.49	-0.49
5.16	5.42	-0.26	4.81	4.97	-0.16	5.37	5.53	-0.16	5.06	5.12	-0.06	4.24	5.05	-0.81	4.42	4.87	-0.40
8.28	8.28	0.00	7.13	7.13	0.00	4.96	5.16	-0.20	4.78	4.96	-0.18						

ESG Rating	ESG Score (Adjusted)	ESG Score (Weighted Avg.)	Environment Score	Social Score	Governance Score	Controversy Score
A	5.80	5.00	7.60	2.90	4.40	1.00
AA	6.40	5.10	5.50	4.70	5.80	2.00
AAA	7.50	5.20	8.00	4.20	4.10	4.00
BB	3.80	4.00	6.30	2.90	1.20	4.00
AAA	9.20	6.00	5.60	7.00	4.20	7.00
A	6.80	6.50	6.90	7.10	5.50	8.00
AAA	8.90	7.40	6.60	9.50	6.10	5.00
A	5.80	5.00	4.60	5.90	3.50	10.00
AA	8.40	5.80	5.80	6.10	5.20	8.00
A	5.90	4.80	10.00	4.30	2.80	2.00

Source: BlackRock, March 2017. For illustrative purposes only.

2 Map exposures

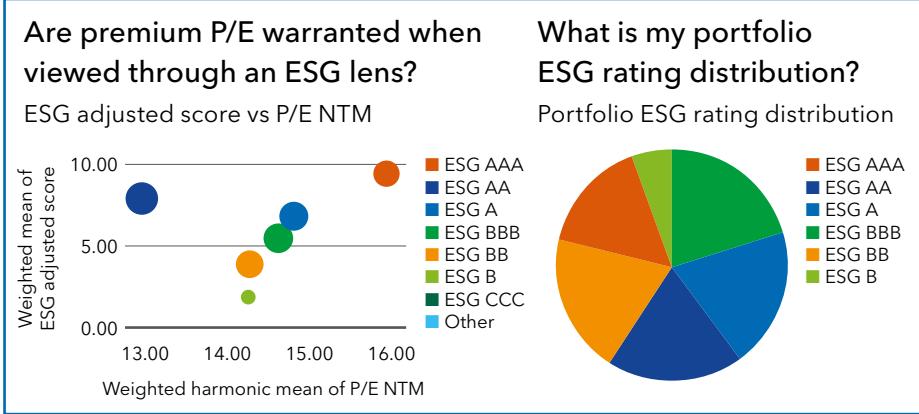
In addition to the Green Package snapshots, investment teams and clients receive detailed attribution reports to help map the environmental, social and governance (ESG) characteristics of portfolios and indices. These include ESG and emission scores by sector, ESG ratings by market value and the decomposition of active risk in relation to the corresponding ESG rating.



Source: BlackRock, March 2017. For illustrative purposes only.

3 Uncover value

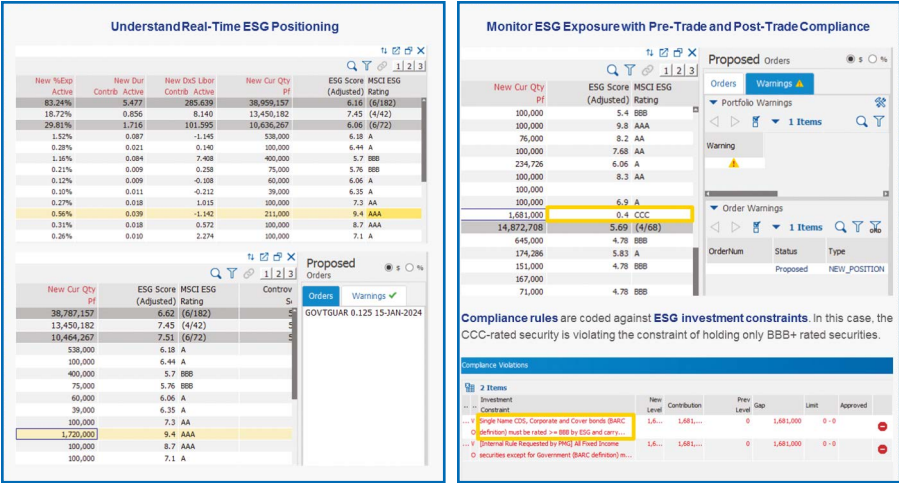
BlackRock has also introduced tools that visualize ESG & carbon metrics data in an interactive manner as highlighted to the right. It gives investors the ability to analyse their portfolio's positioning and risk and returns from an ESG angle, as well as run custom analyses to identify ESG-related risks and opportunities.



Source: BlackRock, March 2017. For illustrative purposes only.

4 Align intention and implementation

ESG metrics have been integrated in the investment process tools, enabling investment teams to monitor their ESG exposure from idea generation, to order raising, to pre-trade compliance, to trade execution.



Source: BlackRock, March 2017. For illustrative purposes only.



Looking ahead

In our view, effective data integration is a crucial building block in creating truly sustainable investment processes alongside more consistent data standards, scalable investment solutions and a sustained dialogue with company boards. However, without effective technology it remains hard to get the most out of these data and this is where a platform such as Aladdin® can play an important role by allowing clients to identify and analyse ESG risk exposures in real time and throughout the investment process. In doing so, we believe Aladdin® can help build portfolios that are more aligned to both financial and sustainability goals.

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