

SUSTAINABLE FINANCE MARKET UPDATE SERIES

FEBRUARY 2021

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GROWN FROM 12 TO

33

MEMBERS IN 2 YEARS

REPRESENTING

\$76.4

TRILLION USD EQUITY MARKET CAPITALISATION

MANAGING

80%

GLOBAL EQUITY MARKET **REGIONAL NODES**

3

AFRICA, ASIA AND EUROPE

CO-CHAIRS

2

TORONTO AND CASABLANCA

MEMBERS ACROSS

5

CONTINENTS



SUSTAINABLE FINANCE MARKET UPDATE SERIES

An output of the UN-convened Financial Centres for Sustainability (FC4S) 33 member Network, this work aims:

- » A review of main market developments to mobilize green and sustainable finance, and
- » Examples of supporting national and international regulatory developments

MOTIVATION

- Sustainable finance is one of the fastest growing development fields in finance and is quickly becoming mainstream.
- Sustainable green factors are increasingly gaining recognition as being materially relevant for financial products' performance.

SCOPE

ANALYZED MARKET SEGMENTS:

- Institutional investors
- Banking
- Capital Markets
- Insurance

AREAS OF RESEARCH:

- Capital mobilization
- Reporting and disclosure
- Risk management

MAIN INPUTS

THIS WORK INCLUDES INSIGHTS FROM:

- Financial Centres for Sustainability (FC4S) analysis
- Experts from international organizations, and
- Group consultations and workshops with relevant stakeholders



SUSTAINABLE FINANCE MARKET UPDATE SERIES

SERIES STRUCTURE



Market
infrastructure
supporting
sustainable
finance

1



Sustainable finance across institutional investors

(2)



Sustainable finance across banking

3



Sustainable finance across capital markets

4



Sustainable finance across insurance providers

5





- 1. Market Highlights
- 2. Disclosure and reporting:

Existing frameworks and market trends

3. Quality of data:

Challenges and opportunities

- 4. ESG service providers:
 - ESG Rating providers and Climate
 Risk Rating Agencies
 - ESG and Climate Index Providers
 - External Reviewers
- 5. <u>Taxonomies</u>
- 6. Tools



CROSS CUTTING ISSUES IN THE SUSTAINABLE FINANCE GLOBAL MARKET

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- Developments of disclosure and reporting of sustainability-related issues are underpinning better risk management practices in financial institutions and supporting mobilization. This has been widely recognized, both by financial industry actors and by authorities.
 - The Financial Stability Board (<u>FSB</u>) in its latest <u>report</u> (2020), highlights the progress at the international level to establish voluntary frameworks for disclosure of climate-related risks and the possible contribution to global financial stability.
- An array of disclosure standards and frameworks are available, targeting different stakeholders. Several initiatives involving key market actors are currently in place to drive convergence and alignment of these standards as well as to reduce costs of multiple reporting and reduce risks of greenwashing.
 - The Institute of International Finance or IIF (2020) while analysing different standards recommends that steps should be taken to

- develop a harmonized cross-sectoral framework for ESG disclosure across jurisdictions.
- Over the last years, the data and analytics industry has grown fast in the sustainability domain. Opimas, a research company, **estimates** that total spending on ESG data will increase from US\$617 million in 2019 to US\$1 billion in 2021.
- ESG service providers include a set of different actors: general data providers, ESG-focused data providers (or specialists), mainstream credit rating agencies and external reviewers. They are all currently growing in quantity and perfecting the quality of their services relying on digital technologies, since the industry has recognized their role in speeding up and guaranteeing decision making.
- Several challenges still exist from the wide and diverse set of ESG indicators, hindering data reliability, consistency and comparability.



BENEFITS FROM DISCLOSURE AND REPORTING ARE INCREASINGLY RECOGNIZED BY MARKET PARTICIPANTS

- Organizations promoting voluntary reporting standards and frameworks are key actors in the development of sustainable markets. Key voluntary reporting standards and frameworks, guiding investors and firms, have been developed by the Task Force on Climate-related Financial Disclosures (TCFD), Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), Carbon Disclosure Project (CDP), Climate Disclosure Standards Board (CDSB), International Integrated Reporting Council (IIRC).
- These standards and frameworks are increasingly recognized by investors. One example of this recognition is the declaration from Mexican institutional investors requesting public debt and equity issuers in the Mexican capital market to adopt the TCFD framework and SASB standards.
- Moreover, some of these voluntary frameworks are becoming mandatory. Examples include the <u>UK</u> and <u>New Zealand</u> moving to establish TCFD as mandatory.

These developments reflect the relevance of these standards and the need to accelerate their implementation

- Multinational authorities are joining efforts to increase ESG-related disclosure and reporting.
 - The International Organization of Securities Commissions (IOSCO) taskforce aimed at identifying ways to improve global sustainability reporting standards and enhance comparability.
 - The European Commission launched a preparatory work to develop recommendations for a common set of non-financial reporting standards for European companies.
 - The Sustainable Stock Exchanges (<u>SSE</u>) initiative reports that as of November 2020, 56 of the 104-member stock exchanges have published ESG reporting guidance for their listed companies.





BENEFITS FROM DISCLOSURE AND REPORTING ARE INCREASINGLY RECOGNIZED BY MARKET PARTICIPANTS

- On September 2020, investment organizations representing over US\$100 trillion of AUM <u>released</u> an Open Letter to the International Accounting Standards Board (IASB) requesting companies and auditors to reflect the effects of climate change in their declared results.
- This letter was followed by the International Financial Reporting Standards' (IFRS) initiative to develop a global set of sustainability reporting standards, beginning with standards for climate-related financial disclosures to promote globally consistent disclosures and avoid fragmentation (see IFRS consultation paper).
- Also, in September 2020, CDP, the Climate Disclosure Standards Board (CDSB), GRI, IIRC and SASB delivered a <u>letter</u> inviting IOSCO and IFRS to join their coordination commitment to achieve a comprehensive sustainability corporate reporting system
- In the same month, by profiting from more than 200 companies' feedback, the International Business Council from the World Economic Forum <u>issued</u> a set of 21 core and 34 expanded metrics and disclosures with the aim that they be reflected in mainstream annual reports in a consistent manner across sectors and countries. These metrics were drawn from existing standards wherever it was possible and are organized in four SDG-aligned pillars: Governance, Planet, People, and Prosperity



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DISCLOSURE AND REPORTING: EXISTING FRAMEWORKS AND MARKET TRENDS



REPORTING FRAMEWORKS

- <u>The TCFD recommendations (2017)</u> are designed to solicit consistent, decision-useful, forward-looking information on the material financial impacts of climate-related risks and opportunities, including those related to the global transition to a lower-carbon economy.
- The recommendations include disclosures are in four pillars.









GOVERNANCE

Disclose the organization's governance around climate-related risks and opportunities.

STRATEGY

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

RISK Management

Disclose how the organization identifies, assesses, and manages climate-related risks.

METRICS & TARGETS

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.



- According to the TCFD 2020 status report there are more than 1,500 supporting organizations (+85% from 2019) representing a market cap of over US\$12.6 trillion and institutions responsible for assets of US\$150 trillion.
- Investor demand for companies to report in line with the TCFD recommendations has also grown, and over 110 regulators and governmental entities, including the Central Banks and Supervisors Network for Greening the Financial System (NGFS) support TCFD.
- However, voluntary adoption is perceived to be not fast enough. TCFD reviewed the reports of 1,100 companies and found again that of the 11 recommended disclosures, only an average of 3.6 were adopted at the end of 2018.





REPORTING FRAMEWORKS











- The GRI Standards (2000) were the first global standard for sustainability reporting. Their purpose s to create a common language for organizations of any size, type, sector, or geographic location to report on their sustainability impacts. They feature a modular, interrelated structure, and represent the global best practice for reporting on a range of impacts. Of the world's largest 250 corporations, 93% report on their sustainability performance and 82% of these use GRI's Standards to do so.
- <u>CDP</u> (2003) provides questionnaires to organizations that gather information about their areas of focus (climate, water, and forests), which can be used for reporting. CDP provides scoring to these organizations to measure progress and promote further action. In 2019, over 8,400 companies disclosed through CDP worldwide.
- The SASB Standard (2011) focuses on communicating financially material sustainability information of companies to investors. SASB

created the Sustainable Industry Classification System (**SICS**), and has developed standards focused on material information for 77 industries.

- <u>The International <IR> Framework</u> (2013) established a set of Guiding Principles that govern the overall content of an integrated report. The <IR> draws on different reporting strands and communicates the full range of material factors that affect the ability of an organization to create value over time in a single framework.
- <u>The CDSB Framework</u> (2015) is composed of seven guiding principles and 12 reporting requirements. These set out the how and the what, respectively, for reporting relevant and material environmental and climate-related information in mainstream annual reports. 374 companies across 32 countries (with a market cap of US\$5.2 trillion) are currently using the CDSB Framework (CDP, CDSB).



SIGNIFICANT EFFORTS TO ALIGN THE DIFFERENT STANDARDS AND REPORTING FRAMEWORKS ARE ONGOING

- The report from the <u>Corporate Reporting Dialogue</u> (CRD) <u>report</u> in September 2019 concluded that CDP, CDSB, GRI, IR and SASB are well aligned with the TCFD's eleven recommended disclosures, which are comprehensively covered by the frameworks and standards. Specifically, 80% of the TCFD's 50 illustrative metrics are fully or reasonably covered by CDP, GRI and SASB indicators.
- In July 2020, a <u>Collaboration Agreement</u> between GRI and SASB with the purpose of providing clarity to data users on how the standards can be used together was announced. This accord includes specific collaboration materials and examples based on real-world reports. It is expected that this effort leads to further collaborations.
- In September 2020, CDP, CDSB, GRI, IIRC and SASB issued a **Statement** of Intent to Work Together Towards Comprehensive Corporate Reporting, to provide both joint market guidance and a joint vision of a coherent and comprehensive corporate reporting system, and to demonstrate a joint commitment to drive toward these goals.

- In November 2020, SASB and IIRC <u>announced</u> that they plan to merge into one organization, the Value Reporting Foundation, to work towards a comprehensive reporting framework. Other initiatives could potentially join efforts under this organization. The unified group will give investors and corporations a comprehensive corporate reporting framework across the enterprise with standards aimed at improving global sustainability performance
- CDSB, CDP and global experts have developed a digital version of the CDSB Reporting Framework and the CDP information request as the new standard for climate change reporting aimed at investors. The eXtensible Business Reporting Language (XBRL) is an open market-driven global standard for exchanging and communicating business information. These communications are defined by standardized definitions (metadata) set out in XBRL taxonomies (libraries of metadata), which capture the definition of individual reporting concepts as well as the relationships between concepts and semantics.





APART FROM VOLUNTARY REPORTING FRAMEWORKS, SOME JURISDICTIONS HAVE ESTABLISHED THEIR OWN REGULATIONS AND GUIDANCE

- The <u>Green Finance Measures Database</u> (developed by the UNEP Inquiry and the Green Growth Knowledge Partnership) shows that in total, disclosure regulations and guidance related to green finance rose by 29% from 2016 to 2019 to a total of 98. Some examples are:
 - the EU Disclosure Regulation for financial services sector,

The EC rules require large companies to publish regular reports on the E&S impacts of their activities. The Non-financial Reporting Directive (NFRD) lays down the rules on disclosure of non-financial and diversity information by large companies, covering more than 7,000 companies in the EU, including listed companies, banks, insurance companies, etc. On February 2020 the EC launched a public consultation on the review of the NFRD.

The NFRD has pioneered in the use of the "double **materiality**" concept, which understands materiality as a continuum along which different issues, impacts, and information may evolve. In other words, issues or information that are material to environmental and social objectives may develop to have financial consequences over time.

• the Australian Securities and Investments Commission (ASIC)'s updated regulatory guidance to formally include climate risk as one that issuers should consider disclosing,

- China's mandatory ESG disclosures for listed companies and bond issuers,
- Hong Kong's Securities and Futures Commission (SFC)'s guidance on enhanced disclosures for green or ESG funds,
- the Canadian Securities Administrators (CSA)'s issuance of Staff Notice 51-358 on Reporting of Climate Change-Related Risks,
- Brazil's Central Bank's guidance on environmental and social risks disclosures for financial institutions, and
- Mexico's pension fund regulator (CONSAR)'s recently published changes to the investment process of the Afores (pension funds) that require the incorporation of ESG considerations.





DEMAND FOR ESG QUALITY DATA IS INCREASING RAPIDLY IN RESPONSE TO REGULATION AND MARKET PRESSURES



- According to the <u>IIF (2020)</u>, "Recent years have seen increased stakeholder demand for more consistent, granular, and comprehensive disclosure of information relevant to ESG factors across various industries, including the financial industry". Also, <u>Charting Course: Mapping ESG data providers</u> shows that "Amid rampant investor demand, the market for ESG data is set to top US\$750 million in 2020—over triple 2015 sales."
- The G20 has been considering this topic specifically in the sustainable finance market: first, the Green Finance Study Group worked on publicly available environmental data, and its successor, the Sustainable Finance Study Group, analysed the role of digital technologies for mobilizing sustainable finance in 2018.
- The COVID-19 pandemic and lockdowns all over the world have pushed, with an unprecedented speed, the digital technologies industry further, including both the financial industry and sustainability-centered actors. The International Data Corporation (<u>IDC</u>) believes that the pace of IT spending in the global banking industry will accelerate in 2021, bringing spending growth to 5.9% annually, and will be led by a focus on resiliency as a founding principle of digital transformation.
- However, significant data challenges for ESG adoption remain.



QUALITY OF ESG DATA IS BOTH A CHALLENGE AND AN OPPORTUNITY FOR MOBILIZING SUSTAINABLE FINANCE



- historic, present and forward-looking data
- company and sector data framed at a national, regional and global level.
- ESG data related to different variables and gathered by different organizations. For instance,
 - **E**: Existing and expected carbon emissions, water consumption, energy intensity, biodiversity conservation metrics (to be defined by the **TNFD** be **launched** in 2021), among others
 - **S:** Workforce diversity, gender equality, human rights, number of incidents of discrimination, general workforce health (including mental health), relationships with communities and stakeholders, among others;
 - **G**: Ethical conduct principles, board's nominating criteria, board of directors diversity, board members expertise, overall strategy awareness, strategy execution performance, financial reporting, compensation-performance link, among others.

- It constitutes a challenge since better availability, consistency and comparability are required.
- It is also an opportunity for mobilizing sustainable finance. For instance, the World Economic Forum has recently <u>noted</u> that 15 priority transitions in three major sectors of the economy (food, land and ocean use; extractives and energy; and infrastructure and the built environment) onto "nature-positive" paths could create US\$10.1 trillion of economic growth and 395 million jobs by 2030.
- Moreover, Big data, Machine Learning and Artificial Intelligence have proven valuable in climate and social finance, and have allowed for the development of **spatial finance**, creating a significant opportunity including but not limited to effective ESG integration.



3 QUALITY OF DATA: CHALLENGES AND OPPORTUNITIES



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DATA CHALLENGES

We have classified data challenges in five clusters:

- 1. ACCESSIBILITY
- 2. COMPREHENSION
- 3. INCOMPLETENESS
- 4. NON-COMPARABILITY
- 5. LACK OF IN-HOUSE CAPACITY
 TO PROCESS AND ANALYZE DATA

ACCESSIBILITY / RELIABILITY

- Non-publicly available data, or spread data in different public reports, hinders data collection.
- Lack of data (66%) and costs of technology associated with data collection (32%) are identified as the main barriers to ESG integration by the respondents to the 2019 BNP Paribas Securities Services **survey**.
- In addition, ESG data are often not audited or lack assurance.

COMPREHENSION (non-ready-to-use format)

• Publicly available environmental data (PAED) are often presented in unfamiliar ways to financial market users: data presented using different units hinders comparability and general use of it by financial institutions (G20 <u>input document</u>).



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DATA CHALLENGES

INCOMPLETENESS

- Despite overall progress, there is still poor coverage across holdings, as well as poor quality, immaterial and dichotomic data, rather than robust quantitative performance indicators (WRI, 2019).
- Social impact data is challenging to get and compare, since social indicators are not universally defined across sectors and countries.
- The BNP Paribas Securities Services <u>survey</u> (2019) highlighted that there are <u>data gaps</u> since not enough companies report the information investors require, particularly in certain regions or sectors of the economy.

NON-COMPARABILITY

• Granular portfolio information is largely not comparable between different institutions and economic sectors.

- According to the <u>IIF (2020)</u> "While a proliferation of reporting frameworks in past decades has stimulated innovation in disclosure practices, the rapid mainstreaming of ESG issues in financial markets creates a pressing imperative for consolidation. The lack of a recognized and uniform framework makes it difficult to achieve comparability, leading to confusion and a risk of greenwashing".
- The ESG scores, ratings and rankings from data firms also lack comparability. "The methodologies for normalizing the reported data carry different assumptions about what is material. As a result, there is low correlation between company evaluations across providers" (WRI, 2019).por parte de los proveedores de datos". (WRI, 2019).

LACK OF IN-HOUSE CAPACITY TO PROCESS AND ANALYSE DATA

• The G20 <u>Sustainable Finance Study Group</u> (2018) identified "Insufficient sustainability-related analytical capabilities" as a persistent challenge to sustainable finance mobilization, since it could lead to an underestimation of existing risks or an overestimation of required returns.



MODELING COMPLEXITIES AND DIFFERENT ASSUMPTIONS STILL HINDER INTEGRATION OF SUSTAINABILITY FACTORS ON FINANCE

- Despite recent efforts to provide benchmark scenario analysis (NGFS, 2020), different assumptions for risk analysis (e.g. future scenarios) and uncertainty about many macro parameters and future policy responses, result in a lack of confidence in the assumptions for analysis, as the G20 highlighted.
- The NGFS <u>recognized</u> in its first comprehensive report (2019) that "Scenario analysis requires assumptions about whether emissions targets are met and when and how policymakers choose to act. These decisions may of course not be uniform in every region."

• An **FSB** report (2020) details the methodological complexities regarding climate risk measurements:

"Estimates of the impact of **physical risks** on financial assets vary considerably. All are based on a number of assumptions and subject to numerous sources of uncertainty. First, estimates depend on the assumed future path of global emissions (...) Second, the impact of such physical risks on the global macroeconomy and financial assets is also highly uncertain and subject to numerous modelling assumptions. Third, the resulting estimated reductions in the value of financial assets depend on the rate at which assets' future cash flows are discounted. Estimated impacts are much larger if they are discounted at a lower rate, which might reflect the view of a government that has a longer time horizon than some individual investors."

"Estimates of the impact of **transition risks** vary significantly, due to differences in the estimation of exposures to carbon-intensive production, and in the assumed path of transition to a low carbon economy. They also differ in terms of the scope of losses they consider. Some studies, for example, consider losses stemming only from reductions in the value of firms' existing capital (sometimes referred to as 'stranded capital'). Others consider broader losses that might result from reductions in expected future cash flows."

3 QUALITY OF DATA: CHALLENGES AND OPPORTUNITIES

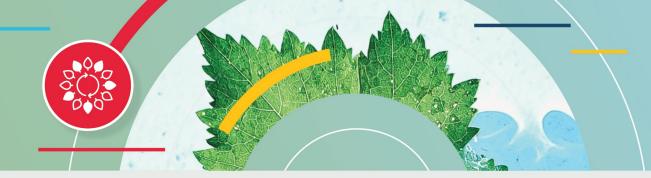


THE DATA AND ANALYTICS INDUSTRY IS GROWING CONSIDERABLY IN THE SUSTAINABILITY DOMAIN BECAUSE OF THE INCREASING INTEREST FROM INVESTORS IN ESG AND CLIMATE-RELATED RISKS AND OPPORTUNITIES

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- Other market infrastructure that supports sustainable finance market are firms that provide data, ratings, indices, and other type of products.
- According to <u>SustainAbility</u>, there are some 150 ESG data providers worldwide and, as of 2018, more than 600 ESG ratings methodologies and rankings. Another <u>catalogue</u> from UN PRI, allows filtering ESG datasets by category, focus and cost.
- In January 2020, several data providers launched the Future of Sustainable Data Alliance (FoSDA) to identify and accelerate the availability of reliable, high-quality and actionable data for improved investor decision-making on activities contributing towards sustainable development.
- In another example, recently, the Luxembourg Stock Exchange **launched** the LGX datahub, a unique and centralized database gathering and structuring sustainable bonds data. It covers both pre-issuance and post-issuance information and offers a high level of granularity.

4 ESG SERVICE PROVIDERS





THE MAJOR MARKET INFRASTRUCTURE SERVICES RELATED TO ESG CAN BE GROUPED UNDER THE FOLLOWING THEMES:

I.

ESG RATING PROVIDERS AND CLIMATE RISK RATING AGENCIES

II.

ESG AND CLIMATE INDEX PROVIDERS

III.

EXTERNAL REVIEWERS

- The broad adoption of these external service providers is due to the increasing value added provided by them. It is likely that investors will continue to rely on external providers since collecting and interpreting such data is costly and requires significant expertise and time.
- In parallel to the growth of ESG services, there has been a significant growth of ESG teams in global asset managers in the last years. One **estimate** shows that ESG teams in the top 30 global asset managers have grown on average by 230% between 2017 and 2020.



I. ESG RATING PROVIDERS AND CLIMATE RISK RATING AGENCIES

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- Global ESG data service providers include **generalists** that provide raw data in a systematic way, with or without creating a rating methodology, and ESG scores (e.g. Bloomberg, ISS, MSCI, Refinitiv); those that specialize in ESG ratings and scores (e.g. CDP, Carbone 4, Sustainalytics, RepRisk.); and those that cater to a **specific ESG strategy or investor type** (e.g. Robeco SAM and Arabesque S-Ray).
- Furthermore, the three mainstream credit rating agencies have started to integrate ESG factors in their credit ratings.
- There are also country-or region-specific ESG data providers, such as the Sustainable Investment Research Institute (**SIRIS**) which is focused on Asia-Pacific..

- There is a trend for rating providers to use only publicly available information (from filings, annual sustainability reports, and other company publications), with an increasing trend of leveraging Artificial Intelligence and alternative data to increase company accountability. The use of publicly available information gives greater **transparency** to ESG ratings and limits their subjectivity.
- Also, many of these rating providers do not cover non-listed companies and SMEs. Nevertheless, both types of companies mentioned can rely on voluntary reporting standards to disclose their information on ESG risks.

4 ESG SERVICE PROVIDERS



I. ESG RATING PROVIDERS AND CLIMATE RISK RATING AGENCIES



MARKET DEVELOPMENTS

• One of the most notable market developments is the **growing mergers** and acquisitions of data and ratings providers.

In 2017, **ISS** <u>bought</u> IW Financial, and South Pole Group's Investment Climate Data Division. In 2018, ISS acquired Oekom Research.

Morningstar bought 40% of Sustainalytics (2017) and acquired the remaining 60% in 2020.

Sustainalytics bought certain assets from Solaron Sustainability Services in 2018 and acquired GES International (in 2019).

In 2019, **Thomson Reuters** acquired FC Business Intelligence, the parent company of Ethical Corporation.

Also, in 2019 **MSCI** acquired Carbon Delta, an environmental and climate change risk analytics firm.

• Responding to the growing demand for ESG and climate-specific ratings, **credit rating agencies** have started offering these services, most notably by acquiring ESG and climate-focused data vendors.

Moody's acquired a majority stake in European ESG ratings firm Vigeo Eiris (2019) and climate data firm Four Twenty Seven in 2019. It also acquired a minority stake in SynTao Green Finance.

RobecoSAM <u>transferred</u> SAM ESG ratings and Benchmarking to S&P Global (2019). S&P also <u>bought</u> Trucost (2016) and <u>launched</u> several green bond and ESG evaluation tools.

• Despite the wider adoption of ESG data for risk analysis, many rating agencies do not transparently declare the weights they give to ESG factors in their credit ratings. Moreover, ESG risk analysis usually applies to listed companies only, while its extension to other firms and SMEs remains pending.

4 ESG SERVICE PROVIDERS



I. ESG RATING PROVIDERS AND CLIMATE RISK RATING AGENCIES

France

Italy

03/06/17

06/12/19

12/09/19



Buyer (ticker)	Target (percent acquired, if not 100%)	Target country	Announce date
	CAER	Australia	02/19/19
Institutional Shareholder Services Inc.	Oekom Research AG	Germany	03/15/18
Institutional Snareholder Services Inc.	IW Financial Inc.	US	01/05/17
	Ethix SRI Advisors AB	Sweden	09/15/15
	SynTao Green Finance Co. Ltd. (minority stake)	China	10/28/19
	Four Twenty Seven Inc.	US	07/22/19
Moody's Corp. (MCO)	Vigeo Eiris	France	04/11/19
	Vigeo SAS ¹	France	10/12/15
	Conflict Risk Network ¹	US	05/15/13
	Sustainalytics BV (60)	Netherlands	04/21/20
Management In a (MODN)	Sustainalytics BV (40)	Netherlands	07/24/17
Morningstar Inc. (MORN)	Responsible Research Pte Ltd. ²	Singapore	09/15/15
	ESG Analytics AG ²	Switzerland	09/08/15
MSCLIPS (MSCI)	Carbon Delta AG	Switzerland	09/09/19
MSCI Inc. (MSCI)	GMI Ratings Inc.	US	06/27/14
SO D Clobal Inc. (SDCI)	RobecoSAM AG's ESG ratings business	Switzerland	11/21/19
S&P Global Inc. (SPGI)	Trucost PLC	UK	08/12/16

Data compiled April 27, 2020

Spread Research SAS

Techedge SpA (EDGE)

StatPro Group PLC

Data acquired on a best-efforts basis and by not be comprehensive.

Continued consolidation among ESG data providers

Ticker based on home country stock exchange

EthiFinance

ESGeo Srl

Source: S&P Global Market Intelligence

Following **Blackrock** (2020), since all these providers use different reporting frameworks and methodologies, harmonizing such frameworks around "common and comparable data sets could help narrow the multiplicity of survey requests and data provision required of companies".

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ECPI Group Srl's ESG research and index business

^{&#}x27;Acquired by Ethical Investment Research Services before resultant combined company (Vigeo Eiris) was acquired by Moody's.

²Acquired by Sustainalytics, currently a merger target of Morningstar.



II. ESG AND CLIMATE INDEX PROVIDERS

THE MAIN INDEX PROVIDERS HAVE STARTED LAUNCHING CLIMATE INDICES

- Equity and fixed income ESG indices, fueled by investor demand, grew globally by 14% in <u>2019</u> and a remarkable 40% in <u>2020</u> as per the Index Industry Association. Last years' growth was the highest year-on-year increase in any major index class. Some of the leading ESG index providers are S&P, MSCI, FTSE Russell, Bloomberg and Barclays.
- According to S&P Dow Jones Indices, investments in ETFs tracking ESG indices grew from US\$22.1 billion in 2018 to US\$56.8 billion in 2019.
- The number of ESG indices has increased particularly more in the fixed income category, a late comer. Blackrock <u>demonstrated</u> that ESG indices can be used to make a global multi-asset portfolio sustainable, through substitutions which have little impact on the portfolio's diversification or risk/return properties.

• The main index providers have started launching climate indices.

S&P Eurozone LargeMidCap Paris-Aligned Climate Index and its Eurozone LargeMidCap Climate Transition Index.

MSCI ACWI Climate Change Index, its Provisional Climate Change EU Climate Transition index and its Provisional Climate Change EU Paris-Aligned index.

FTSE Rusell is examining the creation of an "All-World-Paris-Aligned Benchmark (PAB) index", which consistently achieves the climate transition objectives from the TEG report, and incorporates forward-looking assessments using the Transition Pathway Initiative's (TPI) data.

Solactive ISS ESG Provisional Paris-Aligned Benchmark indices (PAB) and its ISS ESG Provisional Climate Transition Benchmark indices (CTB).

• Looking into future trends, an estimate by Blackrock shows that sustainable ETFs and index funds could grow to US\$550 billion by 2024 and US\$1.2 trillion by 2029, driven by some of the largest investment firms switching from traditional to ESG-compliant indices. Appetite for ESG-aligned and Parisaligned benchmarks is expected to grow considerably in the next years.



4 ESG SERVICE PROVIDERS



III. EXTERNAL REVIEWERS FOR GREEN & SUSTAINABLE BONDS

- External reviews by third parties aim to provide a layer of assurance regarding the greenness or sustainability of the underlying security.

 They include second-party opinions and third-party assurance, certifications and verifications.
- External reviews have a cost which can limit the demand by bond issuers.
- **Second-party opinions** are the most common type of external review. They review the asset's alignment with standards, including national and regional ones. These typically include the review of the issuer's green or sustainable bond framework alignment with international principles, the independent verification of the underlying assets, and the validation of the allocation and use of proceeds.

• Third-party auditing and certification. Auditing provides assurance to sustainability reporting. Certification allows issuers and underwriters to assess compliance with the corresponding standards. Third party auditing and certification usually imply a pre-issuance and a post-issuance verification (done by a registered professional or certifier institution) as well as annual reports to confirm that the funds are allocated properly. Total certified debt by CBI only, to November 2020, across 308 instruments is US\$154 billion..





TAXONOMIES ADDRESS THE MARKET NEED FOR CLARITY AND TRANSPARENCY IN "SUSTAINABILITY" DEFINITIONS

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- A green taxonomy is a classification tool that is used to differentiate 'green' activities from non-green ones, either in a binary way or in a scale of different shades of 'green' or 'brown'.
- While there are various themes of sustainable investments such as 'SDG' or 'ESG' or 'responsible' or 'impact' or 'ethical', a green taxonomy specifically relates to how the investments and financing primarily contribute to environmental objectives (as the Paris Climate Agreement, or the Nationally Determined Contributions–NDCs), although they may also meet social or governance objectives secondarily.

According to <u>ICMA (2020)</u>, "Taxonomy, in the context of sustainable finance, is a classification system identifying activities, assets, and/or project categories that deliver on key climate, green, social or sustainable objectives with reference to identified thresholds and/or targets".

• While these developments are certainly praiseworthy and signal a stronger regulatory and market movement towards defining what is green, the emergence of multiple taxonomies and standards risks incompatibility, non-comparability and investor confusion.

Emphasis should therefore not be on promoting uniform definitions, thresholds or screening criteria, but more on the need to establish due process considerations and acceptable methodologies to define green/sustainable activities in each jurisdiction.



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DIFFERENT MARKET ACTORS ARE DEVELOPING TAXONOMIES TO HELP THIS MARKET GROW

• Multilateral Development Banks and private financial institutions have issued specific definitions for green investments.

The <u>Common Principles for Climate Change Adaptation Finance</u>

<u>Tracking</u> and the <u>Common Principles for Climate Mitigation Finance</u>

<u>Tracking</u>, developed by the joint climate finance group of multilateral development banks and the International Development Finance Club.

The World Bank's **guide** is intended to help financial regulators in emerging countries to develop green taxonomies.

• Certifiers have also defined taxonomies and standards for eligible activities under green bond issuances, providing a common ground for investors tapping these investments.

The <u>Climate Bonds Taxonomy</u> is a guide to climate-aligned assets and projects, for issuers, investors, and governments to help them understand what are the key investments that will deliver a low carbon economy.

TAXONOMIES ARE USED

- by **investors**, to understand which financial products and financial activities align to the criteria define, and to what degree,
- by **corporates**, to align their businesses with sustainability goals which investors require, and
- to inform the **market**, investors, and **supervisors** about sustainable finance activities that have been developed.





MANY AUTHORITIES ARE DEVELOPING TAXONOMIES



- In the last couple of years, various forms of green and sustainable taxonomies have been developed at the national and regional levels. These contribute positively to the greening of the financial sector by creating a more transparent investment environment, thereby facilitating the identification of eligible opportunities.
 - The most notable is the <u>European Union's Sustainable Finance</u> <u>Taxonomy</u> (2020) that provides a classification of environmentally sustainable economic activities.
 - China has a <u>Green Industry Guidance Catalogue</u> (2019) that defines and classifies green industries and projects, a draft <u>Green Bond Endorsed Project Catalogue</u> (2020), which will serve as a reference basis for green bond approval and registration, and an <u>SDG Finance Taxonomy</u> (2020).
 - Mongolia has developed its **Green Taxonomy**.

- Many jurisdictions are considering developing a taxonomy.
 The following examples are illustrative, and do not intend to be exhaustive.
 - Canada is working towards a framework for sustainable finance and a taxonomy that could help redirect financing towards green or low carbon transition activities.
 - India has also <u>identified</u> the <u>need</u> to develop a Sustainable Finance Taxonomy.
 - The G20 summit in Osaka (2019) opened the doors for proactive regulatory action in Japan, notably the <u>pursuit</u> of a Japanese equivalent of the EU sustainable finance taxonomy.

Under the leadership of the National Treasury of South Africa, the IFC, the National Business Initiative (NBI) and Carbon Trust are working to <u>develop</u> a first national <u>Green Finance Taxonomy</u> for the country.



COORDINATION EFFORTS ARE BEING DEVELOPED BY MANY INTERNATIONAL ORGANIZATIONS

- The **EU** has recommended four minimum design principles for international taxonomy harmonization (specific environmental goals aligning with international agreements wherever relevant; a list of economic activities based on a certain classification system; environmental performance metrics; and performance thresholds for each economic activity)
- The <u>Statement</u> of the <u>International Network of Financial Centers for Sustainability</u> (FC4S) released at the 2018 G7 Sustainable Finance Roundtable proposed 10 principles (e.g. clear end objectives, close coordination with existing market frameworks) to guide the development of definitions, taxonomies and classifications of green and sustainable finance.
- The International Platform on Sustainable Finance (IPSF) is working towards "deepening international cooperation and, where appropriate, coordination on approaches and initiatives for the capital markets such as taxonomies, disclosures, standards and labels". The IPSF initiated a working group, co-led by the EU and China, that will work toward a "Common Ground Taxonomy," highlighting the commonalities between existing taxonomies. This Common Ground Taxonomy will enhance transparency about what is commonly green in member jurisdictions and contribute to scale up cross-border green investments significantly.





TOOLS ARE DESIGNED TO QUANTIFY AND MEASURE SOME ASPECT(S) OF COMPANIES' ESG IMPACT(S), ALLOWING THEM TO ASSESS THEIR ESG PERFORMANCE AND MONITOR PROGRESS

- There is a broad range of quantifying techniques to assess sustainability impacts. These tools include methodologies that adjust financial returns to incorporate sustainability factors, that assess the impacts of climate risks on the value of assets, that provide Parisalignment forecasts based on scenario analysis, and that enable the measurement of sustainability impacts, among others.
- Sustainable finance tools are methodologies that support the operationalization of commitments or initiatives' targets, by providing insights into where an institution stands in terms of sustainability, impact or alignment with its goals.

- Tools also help assess whether portfolios are aligned with international climate agreements, regulations and targets, and better understand risk exposure.
- The tools we describe in this update are the ones which have gained more relevance due to their flexibility among sectors, asset classes and users.





EXAMPLES OF AVAILABLE TOOLS AND METHODOLOGIES IN THE MARKET

PARIS AGREEMENT CAPITAL TRANSITION ASSESSMENT



- <u>PACTA</u>, developed by the independent non-for-profit think tank 2° Investing Initiative (2DII), was launched in 2018.
- It has been used by central banks and over 1,800 financial institutions with **US\$106 + trillion** in AUM to date.
- It is available for listed equity, corporate bonds and corporate lending.
- It includes a bottom-up calculation of the current and forward-looking climate performance of each company (based on physical asset level data), which is combined with a climate scenario analysis to produce temperature alignment benchmarks and a temperature alignment assessment with respect to the Paris Agreement (in the form of a customized confidential report).
- It does not produce temperature scores.

PARTNERSHIP FOR CARBON ACCOUNTING FINANCIALS



- The Partnership for Carbon Accounting Financials (<u>PCAF</u>) is an industry-led initiative with over 120 participating financial institutions spread among 40 countries, which enables financial institutions to consistently measure and disclose the absolute greenhouse gas (GHG) emissions associated with their loan and investment portfolios through GHG accounting.
- PCAF developed the <u>Global GHG Accounting and Reporting</u> <u>Standard for the Financial Industry</u> as a response to industry demand for a global, standardized approach to measure and report financed emissions. This Standard has been reviewed by the GHG protocol.
- The Standard covers six asset classes, including listed equity and corporate bonds, business loans and unlisted equity, project finance, commercial real estate, mortgages and motor vehicle loans.





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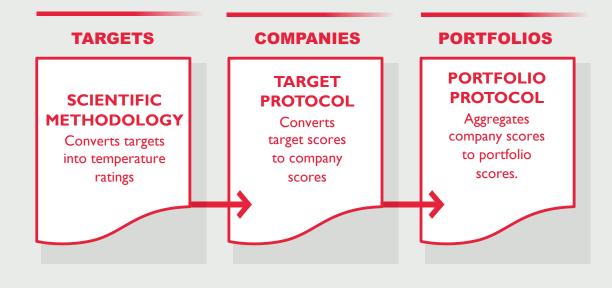
EXAMPLES OF AVAILABLE TOOLS AND METHODOLOGIES IN THE MARKET

SCIENCE BASED TARGETS INITIATIVE



- <u>SBTi</u> develops tools and technical assistance to facilitate the adoption of science-based and meaningful targets. It assesses and approves companies' targets.
- SBTi helps financial institutions translate the level of GHG emissions and targets of their investee companies to a <u>Temperature Score</u> and <u>assess their status of emission reduction</u> and build Paris-aligned portfolios.
- Temperature ratings aim to translate targets into a single common and intuitive metric linked to the long-term temperature outcomes associated with the ambition of the target. The temperature scoring standard enables all actors to use a simple and consistent metric to rate ambition at various levels.

TEMPERATURE SCORING METHODOLOGY: PROTOCOLS TO TRANSLATE PUBLIC TARGETS TO SCORES



Open source, public methodology

Data agnostic



EXAMPLES OF TRANSITION RISKS-FOCUSED TOOLS

THE MARKET HAS ALSO SEEN A PROLIFERATION OF TOOLS THAT FOCUS ON RISKS ASSOCIATED WITH TRANSITION TO A PARIS-ALIGNED PATHWAY.

- 2DII is currently **developing** a complementary tool on stress testing that will allow its users to estimate the potential financial loss associated with a sudden and disorderly transition
- The Transition Pathway Initiative (<u>TPI</u>) tool assesses companies' preparedness for the transition to a low-carbon economy and is supported by over 90 investors as of November 2020 with more than US\$22.8 trillion combined AUM and Advice. Investors build TPI's data into their portfolio construction or risk-management process, using it for ESG integration. They also use TPI's data for active ownership, for voting, for exclusion, for due diligence, and even for product creation.
- Launched in June 2017 by Carbon Tracker, PRI, and five institutional investors, **2 Degrees of Separation** is another framework that estimates

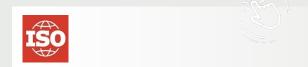
relative transition risks to a universe of major oil and gas producers. It follows the IEA's climate scenarios and was updated in July 2018.

• GeoAsset works to improve the quality and availability of asset-level datasets, mainstreaming geospatial analysis into finance. This tool will apply machine learning techniques to earth observation data in conjunction with existing asset-level datasets to conduct climate risk analysis on assets and the portfolios in which they are held. It enables the assessment of asset, company, asset manager, asset owner, and system-wide exposure to a wide range of environmental factors in a granular and comparable way. In the absence of perfect reporting by companies, asset-level data is critically important for integrating the environment into decision-making across the financial system.





ISO STANDARD FOCUSED ON IMPACT MEASUREMENT



The ISO 14097 Framework goal is to create a standard for measuring and reporting financing and investment activities related to climate change, including principles and requirements for assessing and reporting, both applicable to investors and lenders. It was proposed by the French Standardization body AFNOR and approved by ballot in January 2017, has undergone different rounds of comments, and its publication is expected to be soon.

It assesses the risks to owners of different financial assets arising from the achievement of climate goals and implementation of climate policies; the compatibility (or lack thereof) of investment and financing decisions taken by the financier with low-carbon transition pathways and adaptation pathways; and the impacts of actions towards the achievement of climate goals in the real economy: mitigation (GHG emissions) and adaptation (resilience). It also provides guidance for the financier on how to determine benchmarks for low-carbon transition; sets targets and determines metrics to be used for tracking progress related to low-carbon transition pathways of investees; and documents the causality or linkage between their climate action, its outputs, outcomes and impact.



TRACKING AND MEASURING CLIMATE RISK / OPEN CLIMATE ACCESS TOOLS

NAME	LEADER	DESCRIPTION
Climate Analytics	Non profit	It provides a wide range of open access tools that make climate projections available to policymakers and researchers.
Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI)	SPC/SOPAC, WB, ADB, GNS Science, etc.	Disaster risk management and climate change adaptation in the Pacific region. Aims to provide the Pacific Island Countries (PICs) with disaster risk modelling and assessment tools.
Global Carbon Atlas / Global Carbon Project	BNP Paribas	Displays the most up-to-date data on carbon fluxes on an online platform to explore, visualize and interpret global and regional carbon data arising from both human activities and natural processes.





NAME	LEADER	DESCRIPTION
<u>Finance Map</u>	Independent	It applies the PACTA methodology to 70,000 listed funds and 4,400 fund managers using publicly disclosed data. Then, it aggregates results to produce both sector and portfolio-level metrics, called a 'Paris Alignment' (PA) score. This allows a clear top-level comparison between different funds, fund managers, and financial groups. It integrates additional climate-relevant data and an analysis of the climate stewardship behavior of fund managers.
Carbon Risk Management (CARIMA)	BMBF, VfU, University of Ausburg	It quantifies carbon risk with a Carbon Risk Factor "Brown-Minus-Green" (BMG), considering CO2 emissions, awareness for climate change, targets for emissions reduction and measures to increase energy efficiency. This factor should support all financial market actors in quantifying, managing, and reporting of carbon risks.
Assessing Low Carbon Transition (ACT) Initiative	ADEME, CDP, UNFCCC	The initiative assesses how ready an organization is to transition to the lowcarbon economy using a future-oriented, sector-specific methodology. An ACT assessment provides companies with a feedback report outlining best practice and opportunities for improvement and a rating to track progress.





TRACKING AND MEASURING CLIMATE RISK / CLIMATE TOOLS WITH RESTRICTED ACCESS

NAME	LEADER	DESCRIPTION
Climate-Value-at-Risk	MSCI Carbon-Delta	Develops a forward-looking and return-based valuation assessment to measure climate related-risks and opportunities in an investment portfolio.
Four Twenty Seven	Moody's	It provides on-demand climate risk scoring application for a wide range of listed instruments in equities and fixed income markets, leveraging best-in-class climate data at the most granular level and scores assets based on their precise geographic location.





TRACKING AND MEASURING CLIMATE RISK / CLIMATE TOOLS WITH RESTRICTED ACCESS

NAME	LEADER	DESCRIPTION
The Green Weighting Factor	Natixis	Offers a sector-based methodology whereby each transaction is assigned an environmental rating on a seven-level color scale (green to brown), which is used to assess its expected profitability. This rating is derived from an assessment of the deal's environmental impact and applies to either the asset or project being financed, or to the borrower.
Arabesque's Temperature Score	Arabesque	By translating public GHG emissions from each company to a temperature, based on sector-specific emissions pathways, the Temperature Score recognizes the companies that are leaders in climate action.





ESG IMPACT MEASUREMENT AND MANAGEMENT / ESG OPEN ACCESS TOOLS

NAME	LEADER	DESCRIPTION
IRIS +	GIIN	This tool helps measuring, managing, and optimizing impact.
The Sustainable Banking Assessment (SUSBA)	WWF	The interactive toolkit enables assessment and benchmarking of critical Environmental & Social integration performance for banks across the globe.
IMP+ACT Classification System (ICS)	The IMP+ACT Alliance	The ICS guides asset managers through a digital process that highlights existing standards and best practices and provides a consistent self-reporting format that can create an initial degree of comparability about impact performances
ESG tracker		It provides 150 question ESG survey and develops an assessment.





ESG IMPACT MEASUREMENT AND MANAGEMENT / ESG TOOLS WITH RESTRICTED ACCESS

NAME	LEADER	DESCRIPTION
London Benchmarking Group <u>Model</u>	Corporate Citizenship	It is a framework that enables companies to measure and report new and sustainable ways of driving strong social impact while also delivering significant business returns.
<u>Masimpact</u>		Helps track socially responsible initiatives throughout the different regions and business units of clients' organization, to better manage, measure and communicate the result and efficiency of their corporate social responsibility (CSR) projects and initiatives related to sustainability. It is based on the SDGs and London Benchmarking Group (LBG) frameworks.





ESG IMPACT MEASUREMENT AND MANAGEMENT / ESG TOOLS WITH RESTRICTED ACCESS

NAME	LEADER	DESCRIPTION
S&P trucost	S&P Global M.I.	Assesses climate change risk, natural resource constraints and other ESG impacts.
Beyond Ratings	Independent	Provides ESG-augmented financial metrics to gain a 360° view of the company and country ESG performance, and better integrate new risk parameters embedded in energy, climate change, natural capital, environment, social and governance factors. The organization has developed ESG indices (available in its platform).
GIST Impact	Independent	Develops Integrated profit and loss (IP&L) analysis, Impact Assessments, green accounting using big data analytics and intelligent computing.

6 TOOLS EXAMPLES OF AVAILABLE TOOLS:



SDGS MEASUREMENT AND OTHER SPECIFIC TOOLS / SDG OPEN ACCESS TOOLS

NAME	LEADER	TOPIC	DESCRIPTION
SDGs Today Data Hub	UN SDSN	SDGs	It is a platform that makes quality and timely data for sustainable development measures accessible to all, improves knowledge of geospatial tools and geographic information systems (GIS), and builds capacity to use these tools to support global agendas and policymaking.
The Data4SDGs Toolbox	Global Partnership for Sustainable Development Data	SDGs	It is a set of tools, methods, and resources to help countries create and implement their own holistic data roadmaps for sustainable development, addressing institutional, policy, technical, resource, and capacity issues, among other things.
Footprint calculator	Global Footprint Network	Footprint calculator	The Ecological Footprint calculates how much biologically productive area is required to produce the resources required by the human population and to absorb humanity's carbon dioxide emissions.





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SDGS MEASUREMENT AND OTHER SPECIFIC TOOLS / SDG OPEN ACCESS TOOLS

NAME	LEADER	TOPIC	DESCRIPTION
<u>Data2X</u>	United Nations Foundation .	Gender	The tool aims to improve the quality, availability, and use of gender data.
Biodiversity Guidance Navigation Tool	Natural Capital Coalition	Biodiversity, Natural capital	The Navigation Tool will guide its users through the frame, scope, measure and value, and apply stages of the Protocol and biodiversity Guidance in order to carry out a biodiversity-inclusive natural capital assessment.
Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE)	Natural Capital Finance Alliance, UNEP- WCMC	Natural Capital	This initiative helps financial institutions better understand, assess and integrate natural capital risks in their activities. This project looked at how financial institutions can apply this information to screen their portfolios for natural capital risk and integrate the insights into their existing risk management processes.



SDGS MEASUREMENT AND OTHER SPECIFIC TOOLS / SDG TOOLS WITH RESTRICTED ACCESS

NAME	LEADER	TOPIC	DESCRIPTION
Sustainable Development Investments Asset Owner Platform (SDI-AOP)	·	ODS	This tools aims towards standardization and greater efficiency in carrying out Sustainable Development Investments.
Responsible Returns	RIAA	Gathers & screens sustainable products	This tool allows users to find, compare and choose responsible and ethical superannuation, banking and investment products that best match their interests.



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