Course 2023-2024 in Sustainable Finance
Lecture 1. Introduction

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1The opinions expressed in this presentation are those of the authors and are not meant to represent the opinions or official positions of Amundi Asset Management.
Agenda

• Lecture 1: Introduction
• Lecture 2: ESG Scoring
• Lecture 3: Impact of ESG Investing on Asset Prices and Portfolio Returns
• Lecture 4: Sustainable Financial Products
• Lecture 5: Impact Investing
• Lecture 6: Engagement & Voting Policy
• Lecture 7: Extra-financial Accounting
• Lecture 8: Awareness of Climate Change Impacts
• Lecture 9: The Ecosystem of Climate Change
• Lecture 10: Economic Models & Climate Change
• Lecture 11: Climate Risk Measures
• Lecture 12: Transition Risk Modeling
• Lecture 13: Climate Portfolio Construction
• Lecture 14: Physical Risk Modeling
• Lecture 15: Climate Stress Testing & Risk Management
“Sustainable finance refers to the process of taking environmental, social and governance (ESG) considerations into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects. Environmental considerations might include climate change mitigation and adaptation, as well as the environment more broadly, for instance the preservation of biodiversity, pollution prevention and the circular economy. Social considerations could refer to issues of inequality, inclusiveness, labour relations, investment in human capital and communities, as well as human rights issues. The governance of public and private institutions — including management structures, employee relations and executive remuneration — plays a fundamental role in ensuring the inclusion of social and environmental considerations in the decision-making process.” (European Commission).
Many words, one concept

- ESG Investing
- Green Finance
- Climate Risk
- Responsible Investment
- Socially Responsible Investing
- Sustainable Development
Responsible investment (RI)

Responsible investment is an approach to investing that explicitly recognizes the relevance to the investor of environmental, social and governance factors, as well as the long-term health of the market as a whole.

Sustainable investing (SI)

Sustainable investing is an investment approach that considers environmental, social and governance factors in portfolio selection.

Socially responsible investing (SRI)

SRI is an investment strategy that is considered socially responsible, because it invests in companies that have ethical practices.

Environmental, Social and Governance (ESG)

Environmental, Social, and Corporate Governance (ESG) refers to the factors that measure the sustainability of an investment.
Sustainable Investing

\approx

Socially Responsible Investing (SRI)

\approx

Environmental, Social, and Governance (ESG)

Remark

Blue Finance \subset Green Finance, Climate Finance \subset Sustainable Finance
Historical perspective

- Responsible investment (RI): 2000's
- ESG investing (ESG): 2010's
- Sustainable finance (SF): 2020's

Why?
At the beginning, sustainable finance mainly concerned final investors and asset owners (ethics) ⇒ responsible investment
Then, it gains momentum in asset management ⇒ ESG investing
Finally, it spreads across all financial actors (e.g. issuers, banks, central banks, etc.) ⇒ Sustainable finance
In 1758, the Quaker Philadelphia yearly meeting prohibited its members from participating in the slave trade (buying or selling humans).

The first SRI mutual fund (Pioneer Fund) was created in 1928 by Philip Carret for evangelical Protestants.

During the Vietnam War, shareholders organized resolutions against the production of napalm and Agent Orange (e.g., Dow Chemical).

Creation of the Pax World Fund in 1971 (mixing both financial and social criteria for the stock selection).

Emergence of the concept of “sin stocks”

Faith-based investing = Do no harm
The Friedman-Freeman debate

- 1953: Development of corporate social responsibility (CSR)
- Friedman doctrine & the **shareholder theory**
  
  "There is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud." (Friedman, 1962, 1970).

- Freeman doctrine & the **stakeholder theory** (shareholders vs. customers, suppliers, employees, local communities, government agencies, financiers, etc.)

⇒ Corporate social performance (CSP) & corporate financial performance (CFP).
UN Global Compact (GC, July 2000)

The 10 principles are:

- **Human rights**
  1. Businesses should support and respect the protection of internationally proclaimed human rights;
  2. Ensure that they are not complicit in human rights abuses.

- **Labor**
  3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
  4. The elimination of all forms of forced and compulsory labor;
  5. The effective abolition of child labor;
  6. The elimination of discrimination in respect of employment and occupation.

- **Environment**
  7. Businesses should support a precautionary approach to environmental challenges;
  8. Take initiatives to promote greater environmental responsibility;

- **Anti-corruption**
  10. Businesses should work against corruption in all its forms, including extortion and bribery.

From 2004 to 2008, the UN Global Compact, the IFC & the Swiss government sponsored a series of conferences “Who Cares Wins” for investment professionals ⇒ the term **ESG** was first coined in the 2004 WCW report.
In 1986, the US Congress passed the “Comprehensive Anti-Apartheid Act”, which banned new investments in South Africa.

The Sudan Divestment Task Force (SDTF) was formed in 2005 to coordinate and provide resources for the Sudan divestment campaign in response to the genocide occurring in the Darfur region.

The US “Sudan Accountability and Divestment Act” came into force in December 2007.
The climate factor

- The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP)
- Publication of AR1-AR6
- June 1992: Earth Summit in Rio de Janeiro (Brazil)
  1. Convention on Biological Diversity (CBD)
  2. UN Framework Convention on Climate Change (UNFCCC)
     - COP3: Kyoto Protocol in 1997
     - COP21: Paris Agreement in 2015
ESG motivations

- Financial Performance
- Systemic & Economic Sustainability
- Values and Ethics
- Risk Management
- Fiduciary Duty

Figure 1: The raison d’être of ESG investing
A myriad of acronyms

How many acronyms do you know?
A myriad of acronyms

Many financial actors

**ESG financial ecosystem**

- Asset owners (pension funds, sovereign wealth funds (SWF), insurance and institutional investors, retail investors, etc.)
- Asset managers
- ESG rating agencies
- ESG index sponsors
- Banks
- ESG associations (GSIA, UNPRI, etc.)
- Regulators and international bodies (governments, financial and industry regulators, central banks, etc.)
- **Issuers** (equities, bonds, loans, etc.)
- Society and people

**ESG Investing ⇔ ESG Financing (= Sustainable Finance)**
The issuer point of view of ESG

**Corporate financial performance (CFP)**
- Friedman (1970)
- Shareholder theory
- Corporations have no social responsibility to the public or society
- Their only responsibility is to its shareholders (profit maximization)

**Corporate social responsibility (CSR)**
- Freeman (2010)
- Stakeholder theory
- Corporations create negative externalities
- They must have social and moral responsibilities
- Impact on the cost-of-capital and business risk
Sustainable investment forums

GSIA members

- The European Sustainable Investment Forum (Eurosif), http://www.eurosif.org
- Responsible Investment Association Australasia (RIAA), https://responsibleinvestment.org
- Responsible Investment Association Canada (RIA Canada), https://www.riacanada.ca
- UK Sustainable Investment & Finance Association (UKSIF), https://www.uksif.org
- The Forum for Sustainable & Responsible Investment (US SIF), https://www.ussif.org
- Dutch Association of Investors for Sustainable Development (VBDO), https://www.vbdo.nl/en/
- Japan Sustainable Investment Forum (JSIF), https://japansif.com/english
Sustainable investment forums

Figure 2: 2020 & 2022 GSIA reports
Initiatives

- Principles for responsible investment (PRI)
- Climate Action 100+
- Net zero alliances: (NZAOA, NZAM, PAII, NZBA, NZIA, etc) \(\Rightarrow\) GFANZ
**PRI (or UNPRI)**

*Figure 3: Principles for Responsible Investment (PRI)*

https://www.unpri.org
PRI (or UNPRI)

- Early 2005: UN Secretary-General Kofi Annan invited a group of the world’s largest institutional investors to join a process to develop the Principles for Responsible Investment
- April 2006: The Principles were launched at the New York Stock Exchange
- 6 ESG principles
- The 63 founding signatories are 32 asset owners\(^a\) and 31 asset managers\(^b\) and data providers\(^c\)

\(^a\) AP2, CDC, CDPQ, CalPERS, ERAFP, FRR, IFC, NZSF, NGPF, PGGM, UNJSPF, USS, etc.
\(^b\) Amundi (CAAM), Sumitomo Trust, BNP PAM, Mitsubishi Trust, Threadneedle, Aviva, Candriam, etc.
\(^c\) Trucost, Vigeo, etc.
Signatories’ commitment

“As institutional investors, we have a duty to act in the best long-term interests of our beneficiaries. In this fiduciary role, we believe that environmental, social, and corporate governance (ESG) issues can affect the performance of investment portfolios (to varying degrees across companies, sectors, regions, asset classes and through time). We also recognise that applying these Principles may better align investors with broader objectives of society. Therefore, where consistent with our fiduciary responsibilities, we commit to the following:

- Principle 1: We will incorporate ESG issues into investment analysis and decision-making processes.
- Principle 2: We will be active owners and incorporate ESG issues into our ownership policies and practices.
- Principle 3: We will seek appropriate disclosure on ESG issues by the entities in which we invest.
- Principle 4: We will promote acceptance and implementation of the Principles within the investment industry.
- Principle 5: We will work together to enhance our effectiveness in implementing the Principles.
- Principle 6: We will each report on our activities and progress towards implementing the Principles.

The Principles for Responsible Investment were developed by an international group of institutional investors reflecting the increasing relevance of environmental, social and corporate governance issues to investment practices. The process was convened by the United Nations Secretary-General.

In signing the Principles, we as investors publicly commit to adopt and implement them, where consistent with our fiduciary responsibilities. We also commit to evaluate the effectiveness and improve the content of the Principles over time. We believe this will improve our ability to meet commitments to beneficiaries as well as better align our investment activities with the broader interests of society.

We encourage other investors to adopt the Principles.”

Source: https://www.unpri.org
**PRI**

**Definition**
- **ESG ecosystem**
- **The Market of ESG Investing**

**Many financial actors**
- Reporting frameworks
- Regulatory framework

**PRI**
- 2005
- 2010
- 2015
- 2020
- 0
- 1000
- 2000
- 3000
- 4000

**Number of signatories**

**Number of asset owners**

**AUM ($ tn)**

**Asset owners’ AUM ($ tn)**

**Figure 4: PRI Signatory growth**

Source: https://www.unpri.org
**Regulators: Who? Why?**

**Table 1:** The supervision institutions in finance

<table>
<thead>
<tr>
<th>Region</th>
<th>Banks</th>
<th>Insurers</th>
<th>Markets</th>
<th>All sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>BCBS</td>
<td>IAIS</td>
<td>IOSCO</td>
<td>FSB</td>
</tr>
<tr>
<td>EU</td>
<td>EBA/ECB</td>
<td>EIOPA</td>
<td>ESMA</td>
<td>ESFS</td>
</tr>
<tr>
<td>US</td>
<td>FDIC/FRB</td>
<td>FIO</td>
<td>SEC</td>
<td>FSOC</td>
</tr>
</tbody>
</table>

- **Greenwashing**
  - Explicit & deliberate greenwashing;
  - Unintentional greenwashing.

- **Fiduciary duties**
Figure 5: Who will regulate ESG? — The regulators viewpoint (MSCI, 2022)

ESG regulations

Figure 6: Who will regulate ESG? — The regulated viewpoint (MSCI, 2022)

ESG regulations

Visit the MSCI website
https://www.msci.com/who-will-regulate-esg
and obtain the detailed list of regulations
by year, country, regulator, regulated investors, etc.
The example of central banks

Figure 7: Network of Central Banks and Supervisors for Greening the Financial System (NGFS)

- Launched at the Paris One Planet Summit (OPS) on December 2017
- 8 founding members: Banco de Mexico, BoE, BdF, Dutch Central Bank, Buba, Swedish FSA, HKMA, MAS and PBOC
- As of March 19th 2021, the NGFS consists of 89 members (CBs, EBA, EIOPA, ESMA) and 13 observers (BCBS, IMF, IAIS, IOSCO)
The example of central banks

Go the NGFS website (https://www.ngfs.net) and download the NGFS climate scenarios: https://www.ngfs.net/en/publications/ngfs-climate-finance-research-portal

See also https://data.ene.iiasa.ac.at/ngfs (NGFS scenario explorer hosted by IIASA²)

²International Institute for Applied Systems Analysis
Rating agencies


- **Consolidation of the industry (2010-2020):** ISS ESG, Moody’s, MSCI, Refinitiv, Reprisk, S&P Global, Sustainalytics.
Rating agencies

Consolidation in the 2010s:

- Vigeo and Eiris merged in October 2015 to form Vigeo-Eiris (V.E), which is acquired by Moody's in April 2019
- In September 2015 and March 2018, ISS acquired Ethix SRI Advisors and Oekom to form ISS ESG solutions (ISS-ethix, ISS-climate and ISS-oekom). In November 2020, ISS is majority owned by Deutsche Börse Group
- In February and November 2009, RiskMetrics acquired Innovest and KLD. RiskMetrics is bought by MSCI in 2010, which creates MSCI ESG Research LLC
- In September 2009, DSR and Jantzi Research merged to form Sustainalytics. In the 2010s, Sustainalytics acquired Responsible Research (Singapore), ESG Analytics (Switzerland), Solaron (India) and GES (Sweden). In April 2020, Sustainalytics becomes a wholly-owned subsidiary of Morningstar.
- S&P Global acquired Trucost in October 2016 and the ESG ratings business of RobecoSAM in November 2019
Rating agencies

- ESG data
- ESG scores and ratings
- ESG indices
### Reporting frameworks

**Table 2:** List of the main reporting frameworks

<table>
<thead>
<tr>
<th>Perimeter</th>
<th>Acronym</th>
<th>Name</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>GC</td>
<td>UN Global Compact Initiative</td>
<td>2000/2000</td>
</tr>
<tr>
<td></td>
<td>GRI</td>
<td>Global Reporting Initiative</td>
<td>1997/2000</td>
</tr>
<tr>
<td></td>
<td>IIRC</td>
<td>International Integrated Reporting Council</td>
<td>2010/2013</td>
</tr>
<tr>
<td></td>
<td>ISSB</td>
<td>International Sustainability Standards Board</td>
<td>2021/2023</td>
</tr>
<tr>
<td></td>
<td>SASB</td>
<td>Sustainability Accounting Standards Board</td>
<td>2011/2016</td>
</tr>
<tr>
<td></td>
<td>SDGs</td>
<td>UN Sustainable Development Goals</td>
<td>2015/2016</td>
</tr>
<tr>
<td>Climate</td>
<td>CDP</td>
<td>Carbon Disclosure Project</td>
<td>2000/2000</td>
</tr>
<tr>
<td></td>
<td>CDSB</td>
<td>Climate Disclosure Standards Board</td>
<td>2007/2015</td>
</tr>
<tr>
<td></td>
<td>PCAF</td>
<td>Partnership for Carbon Accounting Financials</td>
<td>2019/2020</td>
</tr>
<tr>
<td></td>
<td>SBTi</td>
<td>Science Based Targets initiative</td>
<td>2015/2015</td>
</tr>
<tr>
<td></td>
<td>TCFD</td>
<td>Task Force on Climate-Related Financial Disclosures</td>
<td>2015/2017</td>
</tr>
</tbody>
</table>
On 26 June 2023, ISSB published the two IFRS standards that will take effect in January 2024:

- IFRS S1 general requirements for disclosure of sustainability-related financial information
- IFRS S2 climate-related disclosures
Figure 8: The SDGs icons

Source: https://sdgs.un.org/goals#icons.
## Sustainable Development Goals

### Table 3: The 17 SDGs

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Description</th>
<th>E</th>
<th>S</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No poverty</td>
<td>End poverty in all its forms everywhere</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Zero hunger</td>
<td>End hunger, achieve food security and improved nutrition and promote sustainable agriculture</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Good health and well-being</td>
<td>Ensure healthy lives and promote well-being for all at all ages</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Quality education</td>
<td>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Gender equality</td>
<td>Achieve gender equality and empower all women and girls</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Clean water and sanitation</td>
<td>Ensure availability and sustainable management of water and sanitation for all</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Affordable and clean energy</td>
<td>Ensure access to affordable, reliable, sustainable and modern energy for all</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Decent work and economic growth</td>
<td>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Industry, innovation and infrastructure</td>
<td>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Source: https://sdgs.un.org/goals.
### Sustainable Development Goals

#### Table 4: The 17 SDGs

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Description</th>
<th>E</th>
<th>S</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Reduced inequality</td>
<td>Reduce inequality within and among countries</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>11</td>
<td>Sustainable cities and communities</td>
<td>Make cities and human settlements inclusive, safe, resilient and sustainable</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Responsible consumption and production</td>
<td>Ensure sustainable consumption and production patterns</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>13</td>
<td>Climate action</td>
<td>Take urgent action to combat climate change and its impacts</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Life below water</td>
<td>Conserve and sustainably use the oceans, seas and marine resources for sustainable development</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>15</td>
<td>Life on land</td>
<td>Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>16</td>
<td>Peace, justice, and strong institutions</td>
<td>Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Partnerships for the goals</td>
<td>Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

The GHG Protocol corporate standard classifies a company’s greenhouse gas emissions in three scopes\(^3\):

- **Scope 1**: Direct GHG emissions (○)
- **Scope 2**: Consumption of purchased energy (○○)
- **Scope 3**: Other indirect GHG emissions (●●)
  - **Scope 3 upstream**: emissions associated to the supply side
    - 1. First tier direct (●)
    - 2. Tier 2 and 3 suppliers (●●)
  - **Scope 3 downstream**: emissions associated with the product sold by the entity
    - 1. Use of the product (●●●)
    - 2. Waste disposal & recycling (●●●●)

\(^3\)Measurement robustness: from ○○○○ (very high) to ●●●● (very low)
Each year, CDP sends a questionnaire to organizations and collects information on three environmental dimensions:

1. Climate change (based on the GHG Protocol)
2. Forest management
3. Water security
**Carbon Disclosure Project (CDP)**

**Table 5: Examples of 2019 carbon emissions and intensity**

<table>
<thead>
<tr>
<th>Company</th>
<th>Emission (in tCO$_2$e)</th>
<th>Revenue (in $ mn)</th>
<th>Intensity (in tCO$_2$e/$ mn)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$SC_1$ $SC_2$ $SC_3^{up}$ $SC_3^{down}$</td>
<td>$SC_1$ $SC_2$ $SC_3^{up}$ $SC_3^{down}$</td>
<td></td>
</tr>
<tr>
<td>Amazon</td>
<td>5 760 000 5 500 000 20 054 722 10 438 551</td>
<td>280 522</td>
<td>20.5 19.6 71.5 37.2</td>
</tr>
<tr>
<td>Apple</td>
<td>50 549 862 127 27 624 282 5470 771</td>
<td>260 174</td>
<td>0.2 3.3 106.2 21.0</td>
</tr>
<tr>
<td>BNP Paribas</td>
<td>64 829 280 789 1 923 307 1 884</td>
<td>78 244</td>
<td>0.8 3.6 24.6 0.0</td>
</tr>
<tr>
<td>BP</td>
<td>49 199 999 5 200 000 103 840 194 582 639 687</td>
<td>276 850</td>
<td>177.7 18.8 375.1 2 104.5</td>
</tr>
<tr>
<td>Caterpillar</td>
<td>905 000 926 000 15 197 607 401 993 744</td>
<td>53 800</td>
<td>16.8 17.2 282.5 7 472.0</td>
</tr>
<tr>
<td>Danone</td>
<td>722 122 944 877 28 969 780 4 464 773</td>
<td>28 308</td>
<td>25.5 33.4 1 023.4 157.7</td>
</tr>
<tr>
<td>Exxon</td>
<td>111 000 000 9 000 000 107 282 831 594 131 943</td>
<td>255 583</td>
<td>434.3 35.2 419.8 2 324.6</td>
</tr>
<tr>
<td>JPMorgan Chase</td>
<td>81 655 692 299 3 101 582 15 448 469</td>
<td>115 627</td>
<td>0.7 6.0 26.8 133.6</td>
</tr>
<tr>
<td>LVMH</td>
<td>67 613 262 609 11 853 749 942 520</td>
<td>60 083</td>
<td>1.1 4.4 197.3 15.7</td>
</tr>
<tr>
<td>Microsoft</td>
<td>113 414 3 556 553 5 977 488 400 377</td>
<td>125 843</td>
<td>0.9 28.3 47.5 31.8</td>
</tr>
<tr>
<td>Nestle</td>
<td>3 291 303 3 206 495 61 262 078 33 900 606</td>
<td>93 153</td>
<td>35.3 34.4 657.6 363.9</td>
</tr>
<tr>
<td>Pfizer</td>
<td>734 638 762 840 4 667 225 133 468</td>
<td>51 750</td>
<td>14.2 14.7 90.2 2.6</td>
</tr>
<tr>
<td>Samsung Electronics</td>
<td>5 067 000 10 998 000 33 554 245 60 978 947</td>
<td>197 733</td>
<td>25.6 55.6 169.7 308.4</td>
</tr>
<tr>
<td>Volkswagen</td>
<td>4 494 066 5 973 894 65 335 372 354 913 446</td>
<td>282 817</td>
<td>15.9 21.1 231.0 1 254.9</td>
</tr>
<tr>
<td>Walmart</td>
<td>6 101 641 13 057 352 40 651 079 32 346 229</td>
<td>514 405</td>
<td>11.9 25.4 79.0 62.9</td>
</tr>
</tbody>
</table>

Source: Trucost (2022) & Authors’ calculations.
TCFD

- TCFD = Task Force on Climate Related Financial Disclosures
- TCFD is established by the FSB in 2015 and chaired by Michael Bloomberg
- TCFD $\Rightarrow$ ISSB
### Table 6: The 11 recommended disclosures (TCFD, 2017)

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>#</th>
<th>Recommended Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>1</td>
<td>Board oversight</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Management’s role</td>
</tr>
<tr>
<td>Strategy</td>
<td>3</td>
<td>Risks and opportunities</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Impact on organization</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Resilience of strategy</td>
</tr>
<tr>
<td>Risk management</td>
<td>6</td>
<td>Risk ID and assessment processes</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Risk management processes</td>
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<tr>
<td></td>
<td>8</td>
<td>Integration into overall risk management</td>
</tr>
<tr>
<td>Metrics and targets</td>
<td>9</td>
<td>Climate-related metrics</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Scope 1, 2, 3 GHG emissions</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Climate-related targets</td>
</tr>
</tbody>
</table>

Source: [https://www.fsb-tcfd.org](https://www.fsb-tcfd.org).
Examples of recommended metrics

- GHG emissions (absolute scope 1, scope 2, and scope 3 GHG emissions; financed emissions by asset class; weighted average carbon intensity)
- Transition risks (volume of real estate collaterals highly exposed to transition risk; concentration of credit exposure to carbon-related assets; percent of revenue from coal mining)
- Physical risks (number and value of mortgage loans in 100-year flood zones; proportion of real assets exposed to 1:100 or 1:200 climate-related hazards)
- Climate-related opportunities (proportion of green buildings, green revenues)
- Capital deployment (green CAPEX)
- Internal carbon prices (internal carbon price, shadow carbon price)
- Remuneration
The Market of ESG Investing

Many financial actors

Reporting frameworks

Regulatory framework

TCFD

Figure 9: Examples of TCFD reports

Amundi (2021)

BlackRock (2021)

Engie (2022)

Sanofi (2021)
**Figure 10:** Total number of ESG regulations

Figure 11: Number of ESG regulations per region

European Union

- The action plan on sustainable finance (May 2018)
- The European Green Deal (December 2019)
- The Fit-for-55 package (July 2021)
- The REPPOWEREU plan or energy security package (May 2022)
European Union

- EU taxonomy regulation
- Climate benchmarks (PAB)
- Sustainable finance disclosure regulation (SFDR)
- MiFID II & IDD
- Corporate sustainability reporting directive (CSRD)
**Figure 12: Sustainable finance — implementation timeline**

![Implementation Timeline for SFDR, TR, CSRD, MiFID, IDD, UCITS, AIFMD](image-url)
**Figure 13: Sustainable finance — implementation timeline**

- **Legend**
  - Taxonomy Regulation (TR) L1
  - Taxonomy Regulation Article 8 Delegated Act (DA)
  - Sustainable Finance Disclosures Regulation (SFDR) L1
  - SFDR RTS - Joint ESAs draft Regulatory Technical Standards (RTS)
  - MiFID and IDD DAs
  - UCITS and AIFMD DAs
  - Corporate Sustainability Reporting Directive (CSRD) – final text

- **European Commission evaluation Reports**
  - COM adopted DA bundling SFDR and TR RTSs

- **ESAs Report on voluntary disclosures under SFDR**

  - **‘First FMP PAI statement’**: First reference period for the Financial MarketParticipant (FMP) first Principal Adverse Impact (PAI) statement on 30 June 2023 must be 1 Jan – 31 Dec 2022
  - **‘First two environmental objectives’**: Point (a) (climate change mitigation) and point (b) (climate change adaptation) of environmental objectives under Art 9 TR
  - **‘All environmental objectives’**: In addition to point (a) and (b) above, point (c) (the sustainable use and protection of water and marine resources), point (d) (the transition to a circular economy), point (e) (pollution prevention and control) and point (f) (the protection and restoration of biodiversity and ecosystems) of environmental objectives under Article 9 TR
  - **‘Art 5 and Art 6 TR’**: Transparency of environmentally sustainable investments (Article 5) and of financial products that promote environmental characteristics (Article 6) in pre-contractual disclosures and in periodic reports
  - **‘Art 8 TR DA’**: Transparency of undertakings in non-financial statements
  - **‘COM adopted DA bundling SFDR and TR RTSs’**: COM bundled all 13 RTS of the SFDR, including the new empowerments for RTS introduced by the TR in one single DA (Commission Delegated Regulation EU 2022/1288)
  - **‘Companies currently subject to NFRD (Non-Financial Reporting Directive) requirements apply to financial years (FYs) starting on / after 1 January 2024, first reporting in 2025’**
  - **‘Large companies not currently subject to NFRD requirements apply to FYs starting on / after 1 January 2025, first reporting in 2026’**
  - **‘Listed SMEs requirements apply to FYs starting on / after 1 January 2026, first reporting in 2027 (opt-out possible until 2029)’**
  - **‘3rd country companies requirements apply to FYs starting on / after 1 January 2028, first reporting in 2029’**
EU taxonomy regulation

1. Climate change mitigation
2. Climate change adaptation
3. Sustainable use and protection of water and marine resources
4. Transition to a circular economy
5. Pollution prevention and control
6. Protection and restoration of biodiversity and ecosystem
Figure 14: EU taxonomy for sustainable activities

1a. SC: Substantially contribute to at least one of the six objectives

1b. TSC: Comply with Technical Screening Criteria

2. DNSH: Do No Significant Harm to any other five objectives

3. MS: Comply with Minimum (Social) Safeguards
EU taxonomy regulation

EU taxonomy KPIs

- Green turnover (sales/revenues)
- Green CapEx (capital expenditure)
- Green OpEx (operating expenses)
EU taxonomy regulation

- Large public-interest companies already subject to the NFRD
- Large companies that are not presently subject to the NFRD, meeting two out of three CSRD criteria (250+ employees, balance sheet of €25+ mn, net turnover of €50+ mn)
- Listed SMEs and other undertakings
- Financial market participants
Climate benchmarks

The common principles are:

- A year-on-year self-decarbonization of 7% on average per annum, based on scope 1, 2 and 3 emissions
- A minimum carbon intensity reduction $\mathcal{R}^-$ compared to the investable universe
- A minimum exposure to sectors highly exposed to climate change

Two labels:

1. CTB: (climate transition benchmark) $\Rightarrow \mathcal{R}^- = 30$
2. PAB: (Paris aligned benchmark) $\Rightarrow \mathcal{R}^- = 50\%$
- Article 6 (or non-ESG products)
  It covers standard financial products that cannot be Article 8 or Article 9
- Article 8 (or ESG products)
  It corresponds to financial products which “promote, among other characteristics, environmental or social characteristics, or a combination of those characteristics, provided that the companies in which the investments are made follow good governance practices”
- Article 9 (or sustainable products)
  In addition to the points covered by Article 8, these financial products have a sustainable investment objective
  + SI (sustainable investment): S or/and E objectives
  + PAI (principal adverse impact): 64 PAIs (18 mandatory, 22 E, 24 S)
### The 18 mandatory principal adverse indicators

<table>
<thead>
<tr>
<th>Table 7: The 18 mandatory principal adverse indicators</th>
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</thead>
<tbody>
<tr>
<td><strong>Corporates</strong></td>
</tr>
<tr>
<td>Climate and other environment-related indicators</td>
</tr>
<tr>
<td>1. GHG emissions</td>
</tr>
<tr>
<td>2. Carbon footprint</td>
</tr>
<tr>
<td>3. GHG intensity of investee companies</td>
</tr>
<tr>
<td>4. Exposure to companies active in the fossil fuel sector</td>
</tr>
<tr>
<td>5. Share of non renewable energy consumption and production</td>
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<tr>
<td>6. Energy consumption intensity per high impact climate sector</td>
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<tr>
<td>7. Activities negatively affecting biodiversity sensitive areas</td>
</tr>
<tr>
<td>8. Emissions to water</td>
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<tr>
<td>9. Hazardous waste ratio</td>
</tr>
<tr>
<td><strong>Social and employee, respect for human rights, anti-corruption and anti-bribery matters</strong></td>
</tr>
<tr>
<td>10. Violations of UN Global Compact principles and OECD Guidelines for Multinational Enterprises</td>
</tr>
<tr>
<td>11. Lack of processes and compliance mechanisms to monitor compliance with UN Global Compact principles and OECD Guidelines for MNEs</td>
</tr>
<tr>
<td>12. Unadjusted gender pay gap</td>
</tr>
<tr>
<td>13. Board gender diversity</td>
</tr>
<tr>
<td>14. Exposure to controversial weapons (anti personnel mines, cluster munitions, chemical and biological weapons)</td>
</tr>
<tr>
<td><strong>Sovereigns and supranationals</strong></td>
</tr>
<tr>
<td>15. GHG intensity (Climate indicator)</td>
</tr>
<tr>
<td>16. Investee countries subject to social violations (social indicator)</td>
</tr>
<tr>
<td><strong>Real estate assets</strong></td>
</tr>
<tr>
<td>Climate and other environment-related indicators</td>
</tr>
<tr>
<td>17. Exposure to fossil fuels through real estate assets</td>
</tr>
<tr>
<td>18. Exposure to energy-inefficient real estate assets</td>
</tr>
</tbody>
</table>
MiFID II & IDD

- MiFID II Suitability Test
- Integration of sustainability preferences to define the suitable product
- Integration of ESG criteria in the product governance

If the client has any sustainability preferences (yes/no), it has to choose one or a combination of the criteria below:

1. Minimum percentage in environmentally sustainable investments aligned to the EU Taxonomy
2. Minimum percentage invested in sustainable investments as defined in the SFDR (Articles 8 and 9)
3. Quantitative/qualitative elements of principal adverse impacts defined by the client
- **E**nvironmental factors: (1) climate change mitigation; (2) climate change adaptation; (3) water and marine resources; (4) resource use and circular economy; (5) pollution; (6) biodiversity and ecosystems.

- **S**ocial factors: (1) equal opportunities for all; (2) working conditions; (3) respect for human rights.

- **G**overnance factors: (1) role and composition of administrative, management and supervisory bodies; (2) business ethics and corporate culture, including anti-corruption and anti-bribery; (3) political engagements of the undertaking, including its lobbying activities; (4) management and quality of relationships with business partners.

**single materiality ≠ double materiality**
• CSRD will replace progressively NFRD (Non-Financial Reporting Directive)

• Under the NFRD, large companies have to publish information related to environmental matters, social matters and treatment of employees, respect for human rights, anti-corruption and bribery, and diversity on company boards (in terms of age, gender, educational and professional background)

• The NFRD reporting rules apply to large public-interest companies with more than 500 employees (approximately 11,700 companies across the EU)
CSRD

Who need to comply?

- EU companies (two of the following three conditions)
  - 250+ employees
  - Balance sheet of €25+ mn
  - Net turnover of €50+ mn

- Non-EU based companies with a net turnover of €150+ mn in the European Union
ESG strategies

1. Exclusion
   - Exclusion policy & negative (or worst-in-class) screening

2. Values
   - Norms-based screening

3. Selection
   - Positive (or best-in-class) screening

4. Thematic
   - Sustainability themed investing (e.g., green bonds)

5. Integration
   - ESG scoring is fully integrated in portfolio management

6. Engagement
   - Voting policy & shareholder activism

7. Impact
   - Impact investing

**Figure 15**: Categorisation of ESG strategies (Eurosif, 2019)
Exclusion/Negative Screening

The exclusion from a fund or portfolio of certain sectors, companies or practices based on specific ESG criteria (worst-in-class)

Examples:

- Systematic exclusion of issuers rated CCC
- Exclusion of issuers rated BB, B and CCC
- Sector exclusion (e.g., Energy)
- Sub-industry exclusion (e.g., Coal & Consumable Fuels)
- Exclusion list of individual issuers

Source: Global Sustainable Investment Alliance (2019)
Values/Norms-based Screening (and Red Flags)

Screening of investments against minimum standards of business practice based on international norms, such as those issued by the OECD, ILO, UN (Global Compact) and UNICEF

In Europe, the top exclusion criteria are (1) controversial weapons (Ottawa and Oslo treaties), (2) tobacco, (3) all weapons, (4) gambling, (5) pornography, (6) nuclear energy, (7) alcohol, (8) GMO and (9) animal testing (Eurosif, 2019)

Examples:

- Controversial sectors: controversial weapons, conventional weapons, civilian firearms, nuclear weapons, nuclear power, thermal coal, tobacco, alcohol, gambling, adult entertainment, genetically modified, fossil fuels production & reserves
- Many ETF funds

Source: Global Sustainable Investment Alliance (2019)
Selection/Positive Screening

Investment in sectors, companies or projects selected for positive ESG performance relative to industry peers (best-in-class)

Examples:

- Selection of issuers rated AAA, AA and A
- Selection of issuers that have improved their rating (Momentum ESG strategy)

Source: Global Sustainable Investment Alliance (2019)
Thematic/Sustainability Themed Investing

Investment in themes or assets specifically related to sustainability (for example clean energy, green technology or sustainable agriculture)

Examples:
- Funds invested in Green Bonds
- Funds invested in Social Bonds
- Funds invested in Sustainable Infrastructure
- Funds invested in Natural Resources

Source: Global Sustainable Investment Alliance (2019)
ESG strategies

ESG Integration

The systematic and explicit inclusion by investment managers of environmental, social and governance factors into financial analysis

Source: Global Sustainable Investment Alliance (2019)

Examples:

- The stock picking score is a mix (50/50) of a fundamental score and an ESG score
- The fund must have an ESG score greater than the score of its benchmark
Corporate Engagement/Shareholder Action

The use of shareholder power to influence corporate behavior, including through direct corporate engagement (i.e., communicating with senior management and/or boards of companies), filing or co-filing shareholder proposals, and proxy voting that is guided by comprehensive ESG guidelines.

Source: Global Sustainable Investment Alliance (2019)

Examples:

- Voting policy
- Public divestment
- Biodiversity and deforestation financing
- Engagement with target companies on a specific subject (e.g., pay ratio or living wage)
- Escalated engagement: concerns public, proposing shareholder resolutions & litigation
Impact Investing

Targeted investments aimed at solving social or environmental problems, and including community investing, where capital is specifically directed to traditionally underserved individuals or communities, as well as financing that is provided to businesses with a clear social or environmental purpose.

Source: Global Sustainable Investment Alliance (2019)

Examples:
- Funds with a Social Impact objective
- Funds invested in Green Bonds
- PAB and CTB ETFs
Impact Investing/Community Investing

- **Impact Investing**
  Investing to achieve positive, social and environmental impacts – requires measuring and reporting against these impacts, demonstrating the intentionality of investor and underlying asset/investee, and demonstrating the investor contribution.

- **Community Investing**
  Where capital is specifically directed to traditionally underserved individuals or communities, as well as financing that is provided to businesses with a clear social or environmental purpose. Some community investing is impact investing, but community investing is broader and considers other forms of investing and targeted lending activities.

Source: Global Sustainable Investment Alliance (2021)
The market of ESG investing

**Figure 16:** Sustainable investment assets at the start of 2016

- **$23 tn**
  - Global Responsible Investment market in 2016

- **~ 1/4**
  - of global assets under management

- **+25%**
  - Growth in 2 years

- **CANADA**
  - $1.1 tn
  - 49% growth in 2 years

- **USA**
  - $8.7 tn
  - 33% growth in 2 years

- **EUROPE**
  - $12.04 tn
  - 12% growth in 2 years

- **JAPAN**
  - $480 bn
  - (vs $7 bn in 2014)

- **AUSTRALIA / NZ**
  - $500 bn
  - 247% growth in 2 years

Source: GSIA (2016).
Figure 17: Sustainable investment assets at the start of 2018

$ 30.7 tn
Global Responsible Investment
major markets in 2018

~ 2/5
of global assets under
management

+34%
growth in 2 years

The market of ESG investing

Figure 18: Sustainable investment assets at the start of 2020

- **$35.3tn**
  - Global RI market in 2020

- **35.9%**
  - Of total global AUM

- **+15%**
  - Growth in 2 years

Source: GSIA (2020).
The market of ESG investing

Figure 19: Asset values of ESG strategies between 2014 and 2018

# The market of ESG investing

## Table 8: ESG asset growth

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<thead>
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<tbody>
<tr>
<td>1</td>
<td>Exclusion</td>
<td>11.7%</td>
<td>14.6%</td>
<td>−24.0%</td>
<td>15 030</td>
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<tr>
<td>2</td>
<td>Values/Norms-based</td>
<td>19.0%</td>
<td>−13.1%</td>
<td>−11.5%</td>
<td>4 140</td>
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<tr>
<td>3</td>
<td>Selection</td>
<td>7.6%</td>
<td>50.1%</td>
<td>−24.9%</td>
<td>1 384</td>
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<tr>
<td>4</td>
<td>Thematic Investing</td>
<td>55.1%</td>
<td>92.0%</td>
<td>91.4%</td>
<td>1 948</td>
</tr>
<tr>
<td>5</td>
<td>Integration</td>
<td>17.4%</td>
<td>30.2%</td>
<td>43.6%</td>
<td>25 195</td>
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<tr>
<td>6</td>
<td>Engagement</td>
<td>18.9%</td>
<td>8.3%</td>
<td>6.8%</td>
<td>10 504</td>
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<tr>
<td>7</td>
<td>Impact Investing</td>
<td>56.8%</td>
<td>33.7%</td>
<td>−20.8%</td>
<td>352</td>
</tr>
</tbody>
</table>