accenture

SUSTAINABLE INVESTMENTS

OPPORTUNITIES, CHALLENGES AND DIGITAL SOLUTIONS

AN OUTLOOK FOR SWITZERLAND

DISCUSSION DOCUMENT

INDEX

FOREWORD

In the past few years, client demand for **sustainable investments (SI)** has been on the rise. As investors demand more sustainable products and services, and transparency on the impact of their portfolios, the financial services industry must rethink its offering and way of working. The Swiss financial centre is aiming to play a prominent role in this transition by becoming the sustainability valley of global financial services.

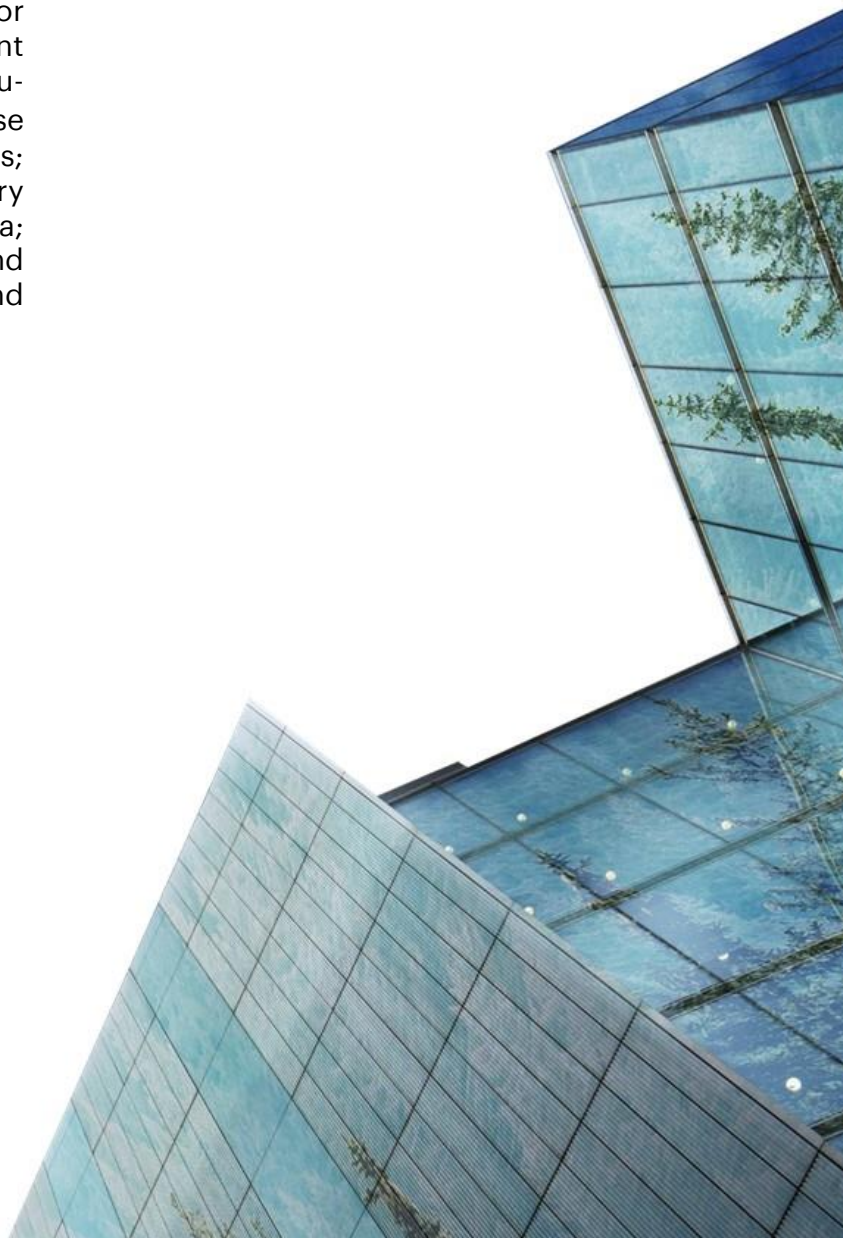
Financial institutions have identified that sustainability can be a true differentiator and an integral part of their growth strategy. Those lagging often face the risk of reputational damage or could become direct targets of activist actions from non-governmental organizations (NGOs). With this in mind, no financial services provider can allow themselves to exclude sustainability considerations from their strategic intention and corresponding product and service offering.

Some of the major drivers of change for sustainability in financial services are client demand, societal pressure and increasing regulatory scrutiny. **Challenges** in addressing these drivers include differing terminologies; diverging guidelines and blurring regulatory requirements; availability and quality of data; variations in standards of impact reporting; and deviating results of financial materiality and performance analyses.

To contribute to the discussion on these challenges and the future of sustainability in financial services, the document at hand pursues the following goals:

- outline the **current status** and **size of the SI market** and **future market potential**
- highlight the **main challenges** the industry is facing
- discuss how **digitization** can help SI to overcome some of these challenges and create **new business opportunities**.

The paper in its initial version does not cover topics such as a full overview of regulatory developments, sustainability risk related challenges (e.g. issues with backward looking risk models, materiality of sustainability risk) and any other conditions or drivers in detail.



1 INTRODUCTION

Environmental issues are becoming more obvious and alarming than ever before, whether the news about wildfires in the Amazon and Australia or record-breaking heatwaves in past summers across Europe. Environmental concerns and climate change are **bringing about social changes** as well. Movements triggered by concerns about our planet have gained traction and media attention, exemplified by the Fridays for Future campaign originating in Sweden, or the global Extinction Rebellion movement. In light of these developments, the topic of **sustainability is gaining importance**, and Environmental, Social and Governance (ESG) factors are becoming increasingly important in assessing the impact of the activities of both society and business and their deriving value for humanity and the planet.

1.1 INITIATIVES, TREATIES AND ACCORDS

Recent years have seen a wide array of new accords and treaties coming into effect, the most prominent ones of which are the **Paris Agreement** and **UN Sustainable Development Goals** (SDGs). The Paris Agreement, ratified by the majority of the global community, sets the measurable goal of limiting the global temperature increase to no more than 2°C above pre-industrial levels[1]. The UN 2030 Agenda for Sustainable Development is a plan ratified by all UN member states in 2015 that has the objective of transforming the global economy to attain goals linked to the prosperity and well-being of people and the planet. At its core, the Agenda contains 17 Sustainable Development Goals (see Figure 1) that provide countries and companies with a shared understanding and action plan to achieve a shift to a more sustainability-oriented economy[2].

Figure 1: UN 17 Sustainable Development Goals

[1] (United Nations, 2015)

[2] (United Nations, 2015)

1.2 FINANCIAL SERVICES INDUSTRY SPECIFIC INITIATIVES

Beside global scale agreements, numerous **local and industry-focused guidelines** and regulations also exist. The key agenda for financial institutions in the EU is the European Commission's **Action Plan on Sustainable Finance**. This sets the overarching goals of achieving the targets set out in the Paris Agreement, the UN 2030 Agenda and the SDGs by building a financial system that supports sustainable growth and the transition to a low-carbon, resource efficient and more sustainable economy. It aims to do so by **reorienting** investments towards more **sustainable technologies** and **businesses** and by financing growth in a sustainable manner over the long term.[3]

Figure 2 summarizes the **challenges** that the European Commission Action Plan seeks to address.[4]

The mechanisms by which the European Commission intends to address these challenges are:

- introduction of a **unified taxonomy, ecolabels** and **green bond standards**
- **harmonized disclosure requirements with regards to sustainability**
- **integrating sustainability into the investment advisory process**
- establishing new climate transition and Paris-aligned **benchmarks**.[5]

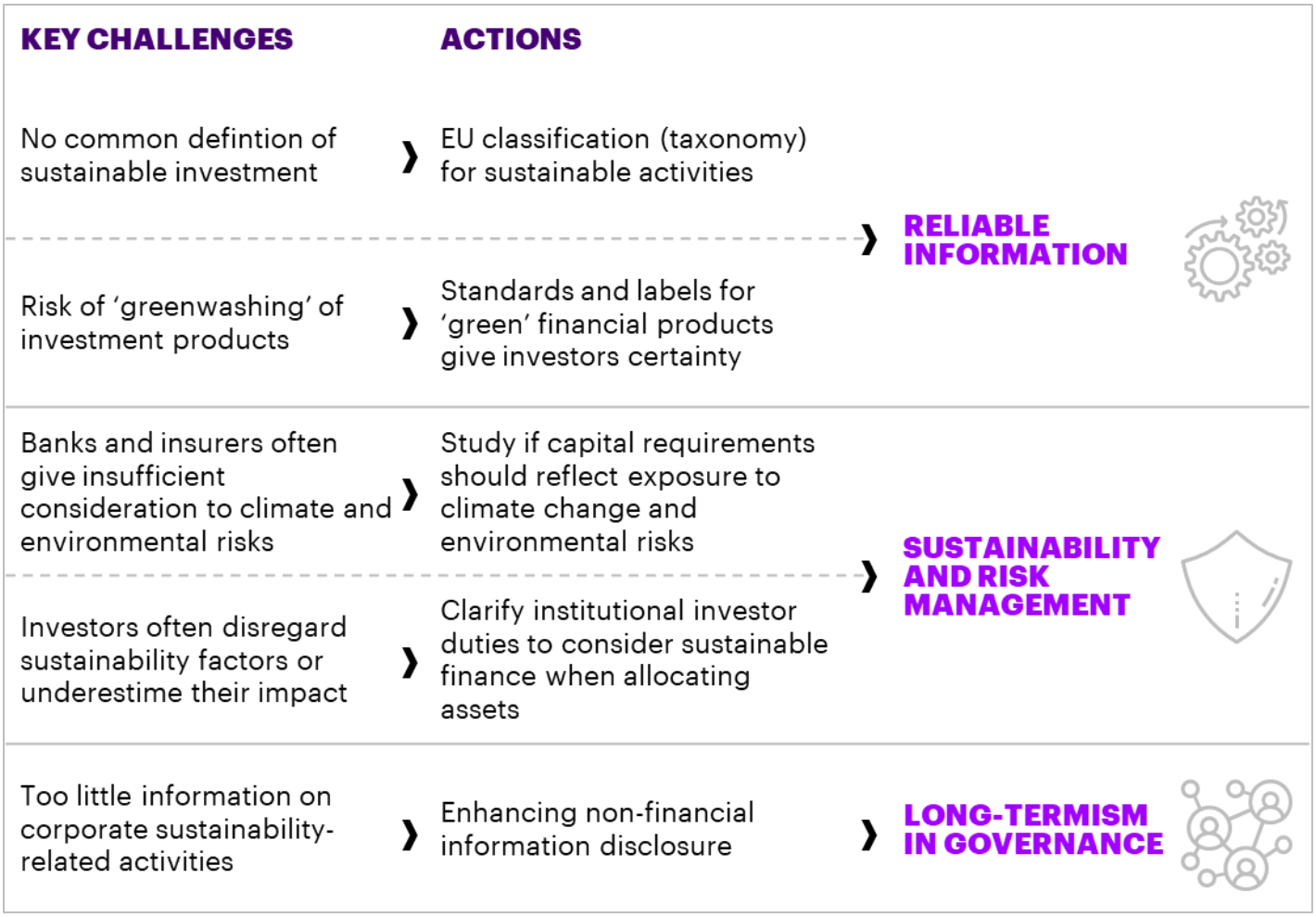


Figure 2: Challenges European Commission Action Plan

[3] (European Comission, 2018a)
[4] (European Commission, 2018b)
[5] (European Commission, 2018a)

1.3 SWISS REGULATORY ENVIRONMENT

Within Switzerland, the **regulatory environment is developing on multiple fronts** in close alignment with the EU. Figure 3 shows the current and upcoming regulations pertaining to financial services. While there are several other regulations related to sustainability, those illustrated below are most closely linked to sustainability in accordance with FOEN[6] and the most recent Swiss Sustainable Finance (SSF) market study.[7] Also, it should be noted that Swiss Financial Institutions are affected by EU sustainability regulations if their cross-border business falls within their scope.

Despite not constituting a regulation, it is worth mentioning **that Switzerland has linked its emissions trading scheme to that of the EU**, allowing for a wider choice of carbon credits in the Swiss market.[8]

There are also several **working groups** internationally dedicated to advancing sustainable finance practices. In Switzerland, in 2019 the Federal Council set up a working group with the Federal Office for the Environment (FOEN) led by the State Secretariat for International Finance (SIF) to agree on how the financial market should be regulated.[9]

	SWISS REGULATIONS AND MEASURES	INTERNATIONAL MEASURES AFFECTING SWITZERLAND
	**IN EFFECT** • War Materials Act • Executive Pay Provisioning Initiative	• Paris Agreement: Provision to make financial flows compatible with climate goals
	**SUBJECT TO RATIFICATION** • Revision of CO2 Act	• CO2 Act would translate Paris Agreement to Swiss Law
	**UPCOMING** • Responsible Business Initiative • War Materials Initiative	
	**CANTONAL (IN EFFECT)** • Integration of ESG factors in pension fund investment decisions (Geneva, Vaud, Fribourg)	

Figure 3: Swiss ESG regulation overview for Financial Services

[6] (BAFU, 2018)
[7] (SSF, 2019)
[8] (SSF, 2019)
[9] (Federal Office for Environment FOEN, 2019)

Furthermore, **FINMA** (Swiss Financial Market Supervisory Authority) and the **SNB** (Swiss National Bank) are both part of the **Network for Greening the Financial System**[10]. This international network consists of central banks and financial supervisors from different countries and aims at "better understanding and managing the financial risks of climate".[11]

The policy landscape in Switzerland with regards to sustainable finance includes several **voluntary initiatives** and best practices. Some of the most prominent examples are:

- Swiss Association of Pension Funds (ASIP) includes sustainability considerations in the Guidelines for Pension Fund Investments[12]
- Swiss Code of Best Practice for Corporate Governance from economiesuisse and the SIX Directive on Information relating to Corporate Governance contain sustainability reporting opt in clause[13]
- FOEN conducts voluntary 2°C scenario alignment tests for Swiss insurance companies, pension funds, banks and asset managers.

1.4 ROLE OF FINANCIAL SERVICES

Financial institutions have a **special role** to play when it comes to realizing the UN SDGs and transitioning to a low-carbon economy, due to their impact across all industries and sectors. Banks, insurance companies, wealth and asset managers provide intermediary services that facilitate investment and capital flow, and act as enablers for all industries and their functioning. As such, the responsibility of finance, as defined by the UN Agenda is **"to steer capital towards economic activities that support the future we want, and away from activities that do not"**[14]. Essentially, financial institutions are being asked to ensure that **capital acts for the long-term and for sustainable practices**. It can do so by **"pricing capital according to the true cost of business activities"**[15] which means taking all risks into consideration, including those related to ESG aspects.

[10] (NGFS, 2020)
[11] (FINMA, 2019)
[12] (ASIP, 2018)
[13] (SIX Group, 2018)
[14] (United Nations, 2015)
[15] (United Nations, 2015)

2 SUSTAINABLE INVESTMENTS

There is no common **definition** applied in the industry for SI. SSF defines SI as

"any **investment approach integrating environmental, social and governance** factors (ESG) into the selection and management of investments".[16]

The **investment approaches** that SSF defines as SI are the following[17]:

BEST-IN-CLASS

"Approach in which a company`s or issuer`s ESG performance is compared with that of its peers based on a sustainability rating. All companies or issuers with a rating above a defined threshold are considered as investable."

ESG ENGAGEMENT

"Activity performed by shareholders with the goal of convincing management to take account of ESG criteria so as to improve ESG performance and reduce risks."

ESG INTEGRATION

"The explicit inclusion by investors of ESG risks and opportunities into traditional financial analysis and investment decisions based on a systematic process and appropriate research sources."

ESG VOTING

"This refers to investors addressing concerns of ESG issues by actively exercising their voting rights based on ESG principles or an ESG policy."

EXCLUSIONS

"An approach excluding companies, countries or other issuers based on activities considered not investable. Exclusion criteria (based on norms and values) can refer to product categories (e.g. weapons, tobacco), activities (e.g. animal testing), or business practices (e.g. severe violation of human rights, corruption)."

IMPACT INVESTING

"Investments intended to generate a measurable, beneficial social and environmental impact alongside a financial return. Impact investments can be made in both emerging and developed markets and target a range of returns from below-market to above-market rates, depending upon the circumstances."

NORMS-BASED SCREENING

"Screening of investments against minimum standards of business practice based on national or international standards and norms."

SUSTAINABLE THEMATIC INVESTMENTS

"Investment in businesses contributing to sustainable solutions, both in environmental or social topics."

The **investment universe** largely differs for each of these approaches. Whereas ESG engagement and voting do not decrease the investment universe, thematic investments and impact investments do so significantly. Accordingly, for a well-diversified portfolio often a mixture of the various approaches should be used and possibly combined.[18]

[16] (SSF, 2019)
[17] (SSF, 2019)
[18] (SSF, 2019)

3 MARKET SIZE & GROWTH

3.1 SUSTAINABLE INVESTMENTS MARKET SIZE

According to the latest SSF market study, the **volume of SI in Switzerland** totaled at a volume of over CHF 716 billion in 2018. As shown in Figure 4[19], the significant year-over-year growth rates between 2015 and 2018 illustrate the interest and willingness of investors to consider ESG investments in their portfolios. For the purpose of this paper, we take the SSF figures as a reference, however it is important to mention that for 2018 the Forum Nachhaltige Geldanlagen (FNG) report[20] states that approx. CHF 269 billion are invested in SI in Switzerland. The difference between these two reports derives from their definition approaches. SSF's figures cover all reported SI funds, sustainable mandates and sustainable assets of asset owners, whereas FNG includes SI funds and mandates only.

In case of **institutional investors,** the Global Sustainable Investment Alliance (GSIA) market study[21] suggests that the growth in SI can be seen due to increased evidence of ESG financial relevance, favorable regulatory and policy changes and the aim to align financial management and investments with the mission of the firm. Furthermore, social movements, such as fossil fuel divestment movements, are adding to the growing awareness of sustainability issues and SI.[22]

In case of **private investors**, the popularity for SI is mostly driven by younger generations. A Morgan Stanley market study[23] states that millennials are more than twice as likely to invest in SI than the overall investor population. One major reason behind this is the belief that investments in sustainable companies can bring higher returns and better protection from negative financial risks. Furthermore, millennials have a disposition to act as role models and have the ambition to make a positive impact on the world.[24] This trend should not be underestimated, as wealth is being transferred to younger generations in fast speed.

Furthermore, it was found that **women** have a higher appetite for SI than men, and as women hold around 40% of the global wealth today and this is expected to increase, further SI growth can be envisioned.

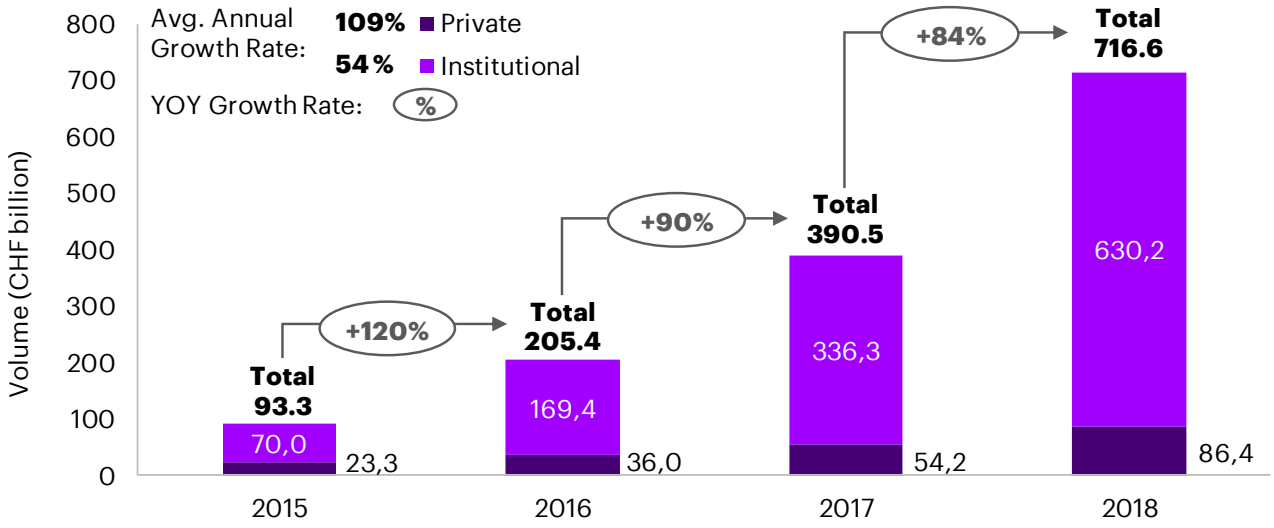


Figure 4: Development of SI for institutional and private investors in Switzerland

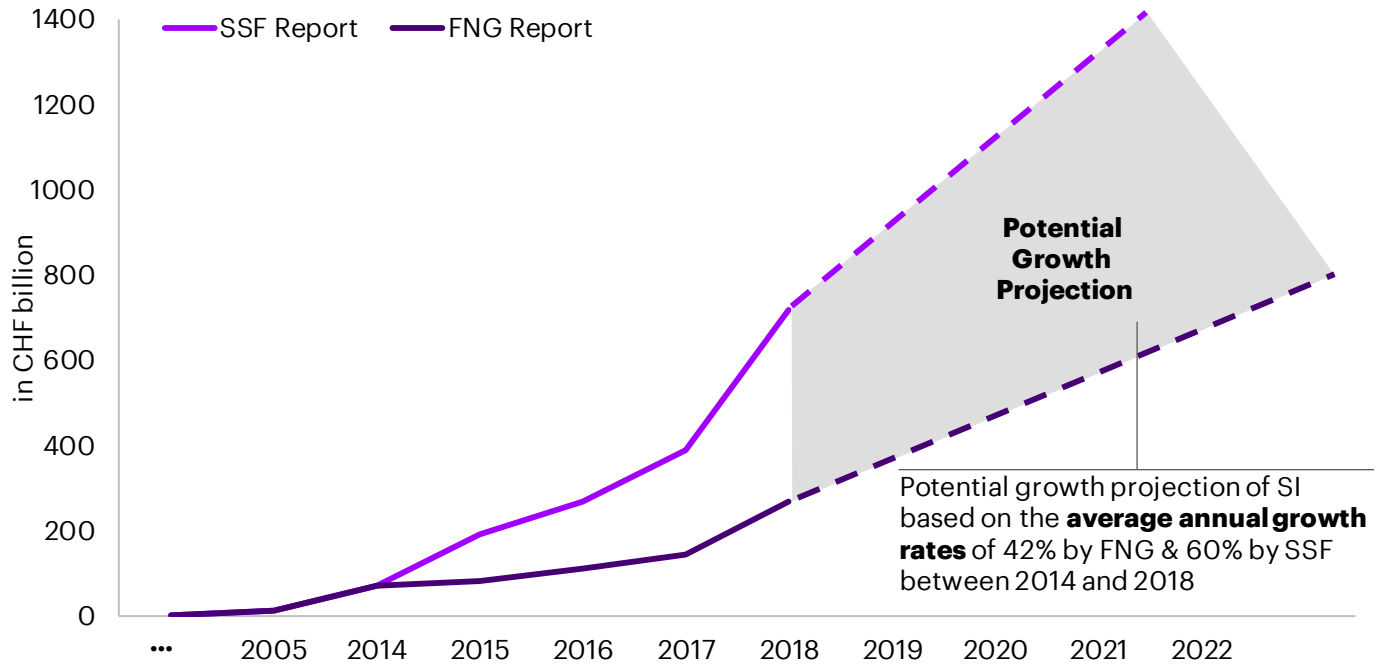
[19] (SSF, 2017); (SSF, 2019)
[20] (FNG, 2019)
[21] (GSIA, 2016), (GSIA, 2018)
[22] (US-SIF, 2018)
[23] (Morgan Stanley, 2017)
[24] (MSCI, 2020)

3.2 OUTLOOK & GROWTH

The significant growth in SI is confirmed by all three market studies reviewed for this paper (SSF, FNG, GSIA on a global scale). We also see more and more statements from market participants taking their stand next to SI and its potential for the future:

- **Barclays** recently launched their Sustainable and Impact Banking group as they "believe that sustainability and social impact will be a significant area of growth in the years to come".[25]
- **Larry Fink** announced in his 2020 CEO letter that BlackRock will place sustainability at the center of their investment approach and ensure that sustainability becomes an integral part of their portfolio construction and risk management.[26]
- **UBS** predicts significant growth of environmental impact in the next decade[27] and focuses on "delivering concrete long-term finance and investment solutions, including through its USD 5 billion commitment to SDG-related impact investing".[28]

Figure 5 illustrates SI growth in Switzerland between 2014 and 2018 based on the SSF[29] and FNG[30] reports and as already explained in Chapter 3.1, the market size assessments differ due to variations in SI definitions. Whereas the market expects a further significant increase in SI, it is unclear **how general market conditions and other factors such as COVID-19 will impact this trend**.



Note: EUR – CHF exchange rate converted with average rates of each year

Figure 5: SI growth projection for Switzerland

[25] (Barclays, 2019)
[26] (Fink, 2020)
[27] (UBS AG, 2020)
[28] (UBS AG, 2019)
[29] (SSF, 2016), (SSF, 2017), (SSF, 2019)
[30] (FNG, 2019)

4 MARKET CHALLENGES

While many, including institutional investors, have a strong belief that SI is going to increase in importance over the next 5 years, over 80% of the respondents of a Schroders market study find sustainable investing challenging.[31]

These valid concerns derive especially from the following challenges, which will be discussed in this chapter:

- **no clear definition** on what is considered "sustainable"
- lack of transparency regarding the **data** and **impact reporting**
- missing proof for a positive **relationship between SIs and financial returns**
- missing standard **guidelines and regulations.**

4.1 TERMINOLOGY

Over half of institutional investors who are already implementing some form of ESG strategy in their portfolios, were struggling with the **ambiguities** and **lack** of **clarity** around **standards** and **terminology**.[32]

The recently published Technical Expert Group (TEG) final report on **Taxonomy** intends to contribute to solving the terminology dilemma. The report provides a tool to define if an economic activity is sustainable by setting performance thresholds for making a significant contribution to one of the six environmental objectives: [33]

- climate change mitigation
- climate change adaptation
- sustainable use and protection of water and marine resources
- transition to a circular economy
- pollution prevention and control
- protection and restoration of biodiversity and ecosystems.

Economic activities must also do no significant harm to any of the other objectives and meet the minimum safeguard requirements (e.g. the UN Guiding Principles on Business and Human Rights) in order to be considered sustainable.[34] The Taxonomy framework is depicted in Figure 6.[35]

Figure 6: Taxonomy Framework

The Taxonomy sets a basis for a common understanding on which activities can be considered sustainable and thus to what extent companies engaging in these activities are sustainable. Although this will enable investment firms to calculate the portion of their investments that are sustainable, still no unified SI definition is available. Thus, significant differences, such as that between the FNG and the SSF market studies may persist for the next few years.

[31] (Schroders, 2018)
[32] (State Street Global Advisors, 2018)
[33] (EU Technical Expert Group, 2020)
[34] (EU Technical Expert Group, 2020)
[35] (EU Technical Expert Group, 2020)

4.2 DATA & REPORTING

Some of the biggest challenges financial institutions face in the field of SI is how to

- source the right data
- integrate data into investment analyses
- understand and compare data between different industries, asset classes and ESG criteria
- prioritize between different ESG topics
- analyze backward looking data to create portfolios for long term investment horizons in the future.

There are many **data providers** and solutions available on the market. However, methodologies differ and so do results as data providers use different data sets covering between 2'000 – over 10'000 companies and apply different measurement methodologies and weights for their metrics. Whereas some data providers offer pure **raw data** (e.g. Bloomberg), others **integrate primary and secondary data into sustainability ratings** (e.g. MSCI, Arabesque). Certain providers offer both solutions (e.g. Refinitiv). **Niche providers** also exist focusing on specific ESG issues (e.g. Equileap – gender equality data).[36] The differing results between various data providers (e.g. different rating for the same company) create dispersion and make it difficult to interpret ESG data. Financial institutions solve this inconsistency by integrating more than one data set into their analyses or developing their own impact measurement methodologies.

Often the availability and quality of data is another concern. There are different **reporting standards** based on which corporations can report on their sustainability performance (e.g. Global Reporting Initiative, Sustainability Accounting Standards Board); however, currently no common standards exist, making comparability even more challenging not just for financial institutions but for data providers as well.

We see significant progress on the topic of data challenges driven by the previously mentioned Taxonomy and the EU Non-Financial Reporting Directive (NFRD). Additionally, initiatives such as the UK Green Finance Strategy are setting expectations for "all listed companies and large asset owners" to provide disclosures according to the Task Force on Climate-related Financial Disclosures (TCFD).[37]

4.3 PERFORMANCE

Sustainable investors often claim that doing good can also generate higher risk-adjusted returns. Several research papers and analyses have reviewed the correlation between SI and financial returns, yet no consensus has been reached. As an example, the following three papers draw different conclusions:

- Galema, Plantinga, and Scholtens (2008) supporting a **negative correlation**[38]
- Mollet and Ziegler (2014) concluding a **neutral correlation**[39]
- Khan, Serafeim and Yoon (2016) identifying a **positive correlation**[40].

The difference of results among these papers arose from different methodologies and datasets that were available at the time of the analysis. Thus, this ambiguity should not discourage investors.

Furthermore, many suggest that SI over long-term investment horizons should deliver higher results due to better risk coverage. A study in 2015 found that over the past 40 years, out of **2000 academic studies** analyzing the consequences of sustainable practices, **55% concluded a positive correlation** between financial performance and sustainability whereas **only 7.5% found a negative correlation**[41]. These results can be different in crisis environment as detailed out in the "Sustainable investments in crises" box below.

[36] (Li & Polychronopoulos, 2020)
[37] (Clark & Hammond, 2019)
[38] (Rients, Plantinga, & Scholtens, 2008)
[39] (Mollet & Ziegler, 2014)
[40] (Serafeim, Yoon, & Mozaffar, 2016)
[41] (Friede, Busch, & Bassen, 2015)

SUSTAINABLE INVESTMENTS IN CRISES

SI boomed since the last financial crisis thus many SI products have been on the market for less than 10 years and have not gone through a stock market crash before. At the time of writing, **stock market volatility** is extremely high. During March 2020, Wall Street lived through its best and worst week since the 2008-2009 financial crisis. Hence, many eyes turn towards SI to see how they perform. Could they be a safe haven in times of crises? Could they outperform the market due to better risk management?

Whereas challenges exist for clearly identifying how much of a fund`s **return** can be attributed to its ESG performance, sustainable investing experts have praised SI for better risk management, lower volatility and higher returns over long-term investment horizons. We see some proof for these statements as some sustainable investment products have experienced less performance decline during the current market turmoil caused by **COVID-19**. An analysis by HSBC suggests that climate-focused stocks outperformed others by 7.6% between December 2019 and March 2020 and by 3% between end of February 2020 and end of March 2020. They also analyzed 140 stocks with the highest ESG scores which outperformed the market in the same periods by approximately 7%[42]. Similar results are found by Bloomberg and by Morningstar. Bloomberg found that ESG funds fell about half as much as the S&P 500 Index did[43] and Morningstar found that 42% of ESG funds had returns ranking in their category's top quartile[44], both analyzing the timeframe YTD mid-March.

These results show that there is an **opportunity** not just for investors but for financial institutions as well, as further growth in SI is expected. Crisis-safer investment products could be established following ESG-approaches. In the current COVID-19 situation, investing in preventive solutions (e.g. biopharma industry) could bring extraordinary results, not just in terms of financial returns, but in terms of social impact as well.

With insufficient action on SDGs (only 21% of CEOs believe business is currently playing a critical role in contributing to the SDGs[45]), the question arises if the next crisis will be of sustainability-related nature (e.g. climate change). Therefore, SDGs, global initiatives and SI are more relevant than ever in times when solidarity, equality and access to healthcare are key for coping with crises that our society and global economy are facing or might face in the future.

4.4 REGULATORY IMPLEMENTATION

Many challenges could be addressed by **regulations**, some of which we have mentioned in this paper. However, regulatory implementation on its own is challenging as well due to:

- lack of clarity around implementation requirements
- differences in regulatory requirements and implementation timelines between countries
- availability of necessary data and measurement methodologies (e.g. in case of benchmarks, no standard framework available for measuring the alignment with the Paris Agreement)
- necessary investments and time commitment for implementation efforts and employee training.

For **Swiss financial institutions**, the report planned for spring 2020 from the expert group lead by SIF will shed more light on the exact implementation requirements and suggestions. Additionally, the Federal Council plans to hold debates on the necessity of regulating the sustainable finance market, which is expected to bring further clarity to the Swiss market.[46]

[42] (Paun, 2020)
[43] (Kishan, S. & Chasan, E, 2020)
[44] (Hale, J., 2020)
[45] (United Nations & Accenture Strategy, 2019)
[46] (Der Bundesrat, 2019)

5 DIGITAL SUSTAINABLE FINANCE

As mentioned in the previous chapter, navigating SI involves several challenges, many of which are linked to data availability and data quality. At present, the lack of environmental and social data released by companies leads to information asymmetries between companies and investors. For investors, this translates into higher search costs when attempting to find appropriate SI opportunities. Furthermore, investment managers face difficulties in correctly pricing investments. Due to these **information asymmetries**, as well as the complex interlinkages of today's globalized supply chains, it is no easy task to accurately measure the positive or negative impact an investment may have from a sustainability standpoint.[47] The financial industry has been quick to adopt emerging technologies in recent years that can be utilized to address the above-mentioned challenges.

Figure 7 provides an overview of the technologies being adopted in the financial industry and how they can contribute to the challenges facing SI.

The **focus in this chapter lies with Blockchain,** the technology **enabling the emergence of smart contracts and digital assets**. Blockchain and digital assets could have the farthest-reaching application to alleviate the mentioned pain points of sustainable investing, as they address the data related challenges giving rise to those pain points.

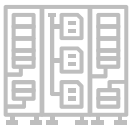
The information box below provides an overview of the most common terms related to digital assets[48]. In the following sections we will provide an overview of the most prominent applications of blockchain and digital assets in the sustainable finance space.

MACHINE LEARNING / AI
Behaviour of companies with regards to sustainability can be analysed using AI

BIG DATA & ANALYTICS
Data points on sustainability metrics and their analysis makes it easier to check for compliance

MOBILE FINANCIAL APPLICATIONS
Easier access to SI creates a larger investor base and more overall investment volume

IoT
IoT in sensors might be used to track supply chains, CO2 emissions and other real-life data points



BLOCKCHAIN
Blockchain can be used to increase impact measurability of SI through higher transparency

Figure 7: Technologies in Financial Services and their applications for SI

[47] (Sustainable Digital Finance Alliance, 2018)

[48] (Kobler & Dulay-Winkler, 2019)

DIGITAL ASSETS -RELATED TERMS

Digital Assets are virtual, digital tokens and represent a form of economic resource with attached tangible or intangible value (cryptocurrency, utility or underlying security) and can be produced and transferred as defined in its underlying distributed ledger network.

Tokenization is the enabling process of taking an asset (such as a security or another specific form of information) and creating its digital representation on the Blockchain including information on its ownership. This guarantees the immutability of information and allows for increased accessibility, liquidity and tradability via the Blockchain's protocol.

Ownership of digital assets is represented by a set of two cryptographic keys: A public key and a private key.

The **public key** (and its representative address on the blockchain) can be thought of as the bank account (and the account number). The **private key** on the other hand, stands in this analogy for the secret PIN to access the bank account and is used to prove ownership of an address and to authorize transactions with digital signatures.

Wallets are software or hardware solutions to store and manage private keys.

Benefits are, among others, fractional ownership, instant settlement of a trade or transfer and instant valuation. Further, Tokenization enhances flexibility and fungibility of assets.

5.1 DIGITAL GREEN BONDS

Digitization of assets can be utilized for fixed income products aimed at providing funding to sustainable projects and companies. Such an investment vehicle is commonly referred to as a green bond which can be defined as **"a debt security that is issued to raise capital specifically for climate related or environmental projects"**.[49]

Digitizing green bonds can potentially have profound effects on the market for such investments. Tokenization of bonds has several advantages from which sustainable investing and green bonds benefit: more **transparency** and security, improved **traceability** as well as **reduced cost of issuance**, distribution, trade and maintenance.

The World Bank in association with the Common-Wealth Bank of Australia has already issued AUD 110 million of debt on the blockchain with its Bond-i product. This is the "first bond created, allocated, transferred and managed through its life-cycle using distributed (blockchain) technology".[50]

Having the entire lifecycle of a green bond on the blockchain, as with the above example, will likely lead to many more bonds of this kind being issued, as the costs associated with the issuance process decline. This will **open the green bond space up to a larger issuer as well as investor base**, thereby increasing the number of sustainable projects that can be funded using this investment vehicle.

5.2 TOKENIZED SUSTAINABLE EQUITIES

As in the case of bonds, having equities tokenized on a blockchain, reduces the cost and effort associated with registration, emission, trading and clearing as well.

From a data perspective, tokenized equity could then, enabled by **smart contracts**, already incorporate **a sustainability data layer**. Taxonomy alignment and other sustainability relevant data would be **reported directly on the Blockchain**, as additional attributes to the assets themselves.

This would allow to leave aside expensive and extensive data reconciliations as the reporting and the resulting valuation or rating would be instant, ultimately, enabling the necessary **transparency**.

Challenges remain in this context in the form of outstanding necessary digital assets **regulations.** Those should address standards and prerequisites for the proposed non-financial sustainability data layer as well as respective reporting standards.

[49] (The World Bank, 2015)

[50] (The World Bank, 2019)

5.3 OUTLOOK: DIGITAL ASSET ENABLED SUSTAINABLE FINANCE

Blockchains not only allow for tokenization of equity and other financial instruments but they could also represent SDG-related impact, in the form of a quantified, unit-based measurement metric, such as a so called "impact token".

In the near future, blockchains' **consensus mechanisms could be used to verify sustainability data.** For example, regulatory or state authorities, sensors within a factory or a supply chain and other stakeholders can confirm a company's claim to sustainability related metrics such as CO2 emissions. Once consensus is reached, the respective information is recorded and fed into the digital assets data layer.

Further down the road, it could become possible to have **several interconnected blockchains** exchange data, ultimately leading to **immediate transparency** about firms' activities. This will allow for more accurate and reliable impact measurement of sustainable finance instruments, and as such alleviate one of the current major challenges.

Moreover, **new ventures and startups with high sustainable impact could seek to incorporate on a digital platform**, allowing their equity to be emitted in the form of digital assets. For the **investors,** this enables **transparent access to investments** in sustainable new ventures, with the above-mentioned transparency in terms of impact. For the **founders,** this could mean easier and cheaper **access to capital for their venture**. And for **society,** this could translate to **more socially desirable ventures being funded** as they can access capital that they may not have received via traditional means.

With regards to **Switzerland**, this concept could present an **opportunity for the local finance industry to be at the forefront of innovation**. Switzerland has already established itself as an innovation leader in terms of digital assets with developments such as the crypto valley in Zug[51] and SIX's Swiss Digital Exchange in Zurich.[52] Furthermore, the country has strong capabilities in Research and Development and science-based spin-offs coming from institutions such as ETH university (e.g. Climeworks).[53] Both these factors place Switzerland in an ideal position to serve as the breeding ground for an innovative way of funding sustainability-oriented ventures with digital assets.

[51] (Neue Zürcher Zeitung, 2019)
[52] (SIX Group, 2019)
[53] (ETH, 2019)

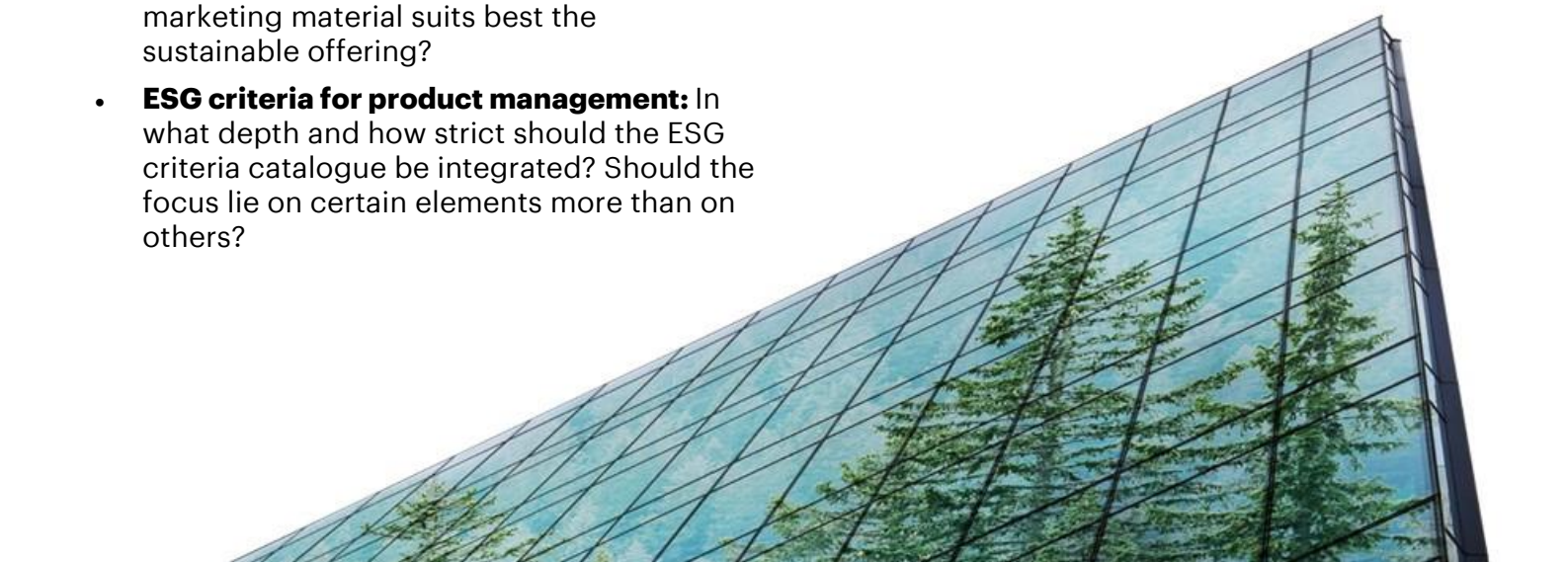
6 LEADING IN THE NEW

As highlighted in this paper, one of the reasons for the significant rise in SI is the increasing recognition of environmental and social issues. As the effects of these issues become more serious (e.g. fires in Australia, COVID-19), awareness continues to grow and a desire to act is taking hold. Due to this, investors are increasingly motivated to invest in SI, expecting that their portfolio can make a difference in the world. However, for secondary market investments, as long as there is someone to pick up investors` non-sustainable assets, the impact on the real economy disappears quickly as investments are simply regrouped. In the future, investors will want to make a real impact by contributing to a more sustainable world and financial institutions will have to react accordingly. This could mean, making impact investments available for a wider investor base, more engagement with non-sustainable companies or implementing innovative technologies like some of the solutions mentioned in the Digital Sustainable Finance chapter to ensure that SI can bring about tangible and much needed change in the world.

There is much untapped value in financing the transformation towards a low-carbon economy and a more sustainable world where financial institutions that do not integrate this new mindset might miss out on a tremendous opportunity. Financial market participants providing sustainable investment solutions should focus on the following impact areas and ask themselves the following questions:

- **Product offering and pricing:** What kind of product offering is required for the client base, what is the demand? Is the existing investment philosophy still adequate for the SI offering?
- **Marketing and product matrix:** What marketing material suits best the sustainable offering?
- **ESG criteria for product management:** In what depth and how strict should the ESG criteria catalogue be integrated? Should the focus lie on certain elements more than on others?
- **Data feed to enhance master data on each security:** How can master data be enhanced to support the overall investment process? Which provider suits best the firm`s needs?
- **Pre-trade check functions:** How can pre-trade checks be applied to limit the number of false positive? Are there any measures to limit the portfolio manager`s additional workload?
- **Sustainability reporting:** What are client needs in regards to ESG reporting? Which options exist to improve the effectiveness and acceptance of ESG reporting?
- **Training on SI:** Which employees need to be trained on SI? How can it be ensured that relationship managers feel comfortable to discuss sustainability and its impact? How can clients be steered towards the sustainability offering?

As social and regulatory pressures are mounting, firms including financial institutions **can no longer afford delaying shifts in their business models** to include more sustainable practices. In order to stay competitive, integrating new technologies and enhanced data solutions are key. The rise of digital assets and the appearance of enhanced technology solutions will enable organizations to scale sustainability and transform current business practices into sustainable ones. In the next decade, we will see a transformation of the financial industry with sustainability becoming the new norm. Financial market participants who will be at the forefront of this change will be able to unlock new business opportunities and remain competitive over the long term.



AUTHORS & ACKNOWLEDGEMENTS

DR. DANIEL KOBLER

Dr. Daniel Kobler is Managing Director of Accenture's Capital Markets Practice in Switzerland. His key topics are digital & innovation driven business model transformation in Financial Centres in Europe.

daniel.kobler@accenture.com

ALEXANDRA MOLNÁR

Alexandra Molnar leads the Capital Markets Sustainability Team in Switzerland. Her key expertise lies in the areas of Sustainable Finance, Sustainability Strategy, Wealth Management and Regulatory Implementation.

alexandra.molnar@accenture.com

LEONARD DULAY-WINKLER

Leonard Dulay-Winkler is a member of Accenture's Financial Services industry group and aligned to the Capital Markets practice. His key topics are DLT / Blockchain, Digital Assets, Innovation and Sustainability.

l.dulay-winkler@accenture.com

CHRISTINA DONAU

Christina Donau is a member of Accenture's Capital Markets practice in Switzerland. Her focus is Wealth Management, Renewable Energies, Investment and Trading Products.

christina.donau@accenture.com

RACHED ZIMMERMANN

Rached Zimmermann is part of Accenture's Capital Markets practice in Switzerland. His focus topics are Sustainable Finance, Treasury and Asset Management.

rached.zimmermann@accenture.com

We would like to thank the following colleagues for their valued contributions – in alphabetical order:

CHRISTIAN BUCKSON

Accenture Capital Markets UK

FELIX HAUBER

Accenture Capital Markets Switzerland

ESTHER NASS-FETZMANN

Accenture Capital Markets Germany

DR. TORSTEN SCHAPER

Accenture Capital Markets Germany

ABBREVIATIONS

ABBREVIATION	DEFINITION
AI	Artificial Intelligence
ASIP	Swiss Association of Pension Funds
ESG	Environmental, Social and Governance
ETH	Eidgenössische Technische Hochschule
EU	European Union
FINMA	Financial Market Supervisory Authority
FNG	Forum Nachhaltige Geldanlagen
FOEN	Federal Office for the Environment
GSIA	Global Sustainable Investment Alliance
IoT	Internet of Things
NFRD	Non-Financial Reporting Directive
NGO	Non-Governmental Organizations
SDGs	Sustainable Development Goals
SI	Sustainable Investments
SIF	State Secretariat for International Finance
SIX Group	Swiss Infrastructure and Exchange
SNB	Swiss National Bank
SSF	Swiss Sustainable Finance
TCFD	Task Force on Climate-related Financial Disclosures
TEG	Technical Expert Group
UN	United Nations
YOY	Year-Over-Year

REFERENCES

1. ASIP. (2018). *Swiss Pension Funds Association ASIP*. Retrieved from http://www.asip.ch/wissen/fachmitteilungen/
2. Barclays. (2019). *Barclays creates new Sustainable and Impact Banking Group*. Retrieved from https://home.barclays/news/press-releases/2019/10/barclays-creates-new-sustainable-and-impact-banking-group/
3. BAFU. (2018). *Das Übereinkommen von Paris*. Retrieved from https://www.bafu.admin.ch/bafu/de/home/themen/klima/fachinformationen/klima--internationales/das-uebereinkommen-von-paris.html
4. Credit Suisse. (2018). *Global Wealth Report 2018: Women hold 40% of global wealth*. Retrieved from https://www.credit-suisse.com/about-us-news/en/articles/news-and-expertise/global-wealth-report-2018-women-hold-40-percent-of-global-wealth-201810.html
5. Clark, G., & Hammond, P. (2019). *Green Finance Strategy - Transforming Finance for a Greener Future*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/820284/190716_BEIS_Green_Finance_Strategy_Accessible_Final.pdf
6. Der Bundesrat. (2019). *Bundesrat diskutiert über "Sustainable Finance" und legt das weitere Vorgehen fest*. Retrieved from https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-75599.html
7. ETH. (2019). *ETH-Spin-off-Maschine läuft auf Hochtouren*. Retrieved from https://ethz.ch/de/news-und-veranstaltungen/eth-news/news/2019/01/mm-spin-off-bilanz-2019.html
8. EU Technical Expert Group. (2020). *Taxonomy: Final report of the Technical Expert*. Retrieved from https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf
9. European Commission. (2018a). *Sustainable Finance*. Retrieved from https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_de
10. European Commission. (2018b). *Financing Sustainable Growth*. Retrieved from https://ec.europa.eu/info/sites/info/files/180308-action-plan-sustainable-growth-factsheet_en.pdf
11. Federal Office for Environment FOEN. (2019). *Climate and financial markets*. Retrieved from https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/climate-and-financial-markets.html
12. Fink, L. (2020). *A Fundamental Reshaping of Finance*. Retrieved from https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter
13. FINMA. (2019). *FINMA joins the NGFS*. Retrieved from https://www.finma.ch/en/news/2019/04/20190417-mm-beitritt-ngfs/
14. FNG. (2019). *FNG-Marktbericht Nachhaltige Geldanlagen*. Retrieved from https://www.forum-ng.org/de/fng-marktbericht/fng-marktbericht-2019.html
15. Friede, G.; Busch, T.; Bassen, A.. (2015). ESG and Financial Performance: Aggregated Evidence from More than 2000 Empirical Studies. *Journal of Sustainable Finance & Investment*, 210-233.
16. GSIA. (2016). *Global Sustainable Investment Review*. Retrieved from http://www.gsi-alliance.org/members-resources/trends-report-2016/
17. GSIA. (2018). *Global Sustainable Investment Review*. Retrieved from http://www.gsi-alliance.org/trends-report-2018/
18. Hale, J., (2020). *Sustainable Equity Funds Are Outperforming in Bear Market*. Morningstar. Retrieved from https://www.morningstar.com/articles/972475/sustainable-equity-funds-are-outperforming-in-bear-market
19. Kishan, S., & Chasan, E. (2020). *Older ESG Funds Outperform Their Newer Rivals in Market Tumult*. Bloomberg. Retrieved from https://www.bloomberg.com/news/articles/2020-03-13/older-esg-funds-outperform-their-newer-rivals-in-market-tumult?sref=wINQCNXe
20. Kobler, D., & Dulay-Winkler, L. (2019). *Digital Assets - Tokenized revolution in financial services*. Retrieved from https://www.linkedin.com/feed/update/urn:li:activity:6573183537451683840/
21. Li, F., & Polychronopoulos, A. (2020). *What a Difference an ESG Ratings Provider Makes!* Retrieved from https://www.researchaffiliates.com/en_us/publications/articles/what-a-difference-an-esg-ratings-provider-makes.html
22. Mollet, J. C., & Ziegler, A. (2014). Socially responsible investing and stock performance: New empirical evidence for the US and European stock markets. *Review of Financial Economics*, 23, 208–216.

23. Morgan Stanley. (2017). *Millennials Drive Growth in Sustainable Investing*. Retrieved from https://www.morganstanley.com/ideas/sustainable-socially-responsible-investing-millennials-drive-growth
24. MSCI. (2020). *Swipe to invest: the story behind millennials and ESG investing*. Retrieved from https://www.msci.com/documents/10199/07e7a7d3-59c3-4d0b-b0b5-029e8fd3974b
25. Neue Zürcher Zeitung. (2019). *Die führenden Unternehmen im «Crypto Valley» haben ihren Wert verdoppelt*. Retrieved from https://www.nzz.ch/finanzen/die-fuehrenden-unternehmen-im-crypto-valley-haben-ihren-wert-verdoppelt-ld.1504478
26. NGFS. (2020). *About Us - Membership*. Retrieved from https://www.ngfs.net/en/about-us/membership
27. Paun, A. (2020). *ESG stocks did best in COVID-19 slump*. HSBC. Retrieved from https://www.gbm.hsbc.com/insights/global-research/esg-stocks-did-best-in-corona-slump?_lrsc=0f7fe4f7-2d76-4315-991d-e0aaf8c70116
28. Rients, G., Plantinga, A., & Scholtens, B. (2008). The stocks at stake: Return and risk in socially responsible investment. *Journal of Banking and Finance*, 32, 2646–2654.
29. Schroders. (2018). *Institutional perspectives on sustainable investing*. Retrieved from https://www.schroders.com/en/sysglobalassets/schroders_institutional_investor_study_sustainability_report_2018.pdf
30. Serafeim, G., Yoon, A., & Mozaffar, K. (2016). Corporate Sustainability: First Evidence on Materiality. *The Accounting Review 91 (6)*, 1697-1724.
31. SIX Group. (2018). *Directive on Information relating to Corporate Governance*. Retrieved from https://www.six-exchange-regulation.com/dam/downloads/regulation/admission-manual/directives/06_16-DCG_en.pdf
32. SIX Group. (2019). *SIX Digital Exchange (SDX) lanciert Prototyp für Handel und Abwicklung auf DLT-Basis*. Retrieved from https://www.six-group.com/de/newsroom/media-releases/2019/20190923-six-sdx-update.html
33. SSF. (2016). *Swiss Sustainable Investment Market Study*. Retrieved from https://www.sustainable-finance.ch/en/swiss-sustainable-investment-market-report-_content---1--3037--15979.html
34. SSF. (2017). *Swiss Sustainable Investment Market Study*. Retrieved from https://www.sustainable-finance.ch/en/swiss-sustainable-investment-market-report-2017-_content---1--3037--15976.html
35. SSF. (2019). *Swiss Sustainable Investment Market Study*. Retrieved from https://www.sustainable-finance.ch/upload/cms/user/2019_06_03_SSF_Swiss_Sustainable_Investment_Market_Study_2019_E_final_Screen.pdf
36. State Street Global Advisors. (2018). *Performance For the Future*. Retrieved from https://www.ssga.com/investment-topics/environmental-social-governance/2018/04/esg-institutional-investor-survey.pdf
37. Sustainable Digital Finance Alliance. (2018). *Digital Technologies for Mobilizing Sustainable Finance*. Retrieved from https://90bf1b73-3763-483f-abf5-1e464e9f1319.filesusr.com/ugd/3d4f2c_6767ef5b999c4e3fa42c0e05e6ea2ac3.pdf
38. The World Bank. (2015). *What are Green Bonds*. Retrieved from https://www.worldbank.org/en/topic/climatechange/brief/what-are-green-bonds
39. The World Bank. (2019). *World Bank Issues Second Tranche of Blockchain Via Bond-i*. Retrieved from https://www.worldbank.org/en/news/press-release/2019/08/16/world-bank-issues-second-tranche-of-blockchain-bond-via-bond-i
40. United Nations. (2015). *Sustainable Development Goals*. Retrieved from https://sustainabledevelopment.un.org/?menu=1300
41. United Nations; Accenture Strategy. (2019). The decade to deliver – A call to business action. Retrieved from https://www.accenture.com/_acnmedia/PDF-109/Accenture-UNGC-CEO-Study.pdf#zoom=40
42. UBS AG. (2019). *UBS joins the United Nations' Global Investors for Sustainable Development Alliance*. Retrieved from https://www.ubs.com/global/en/media/display-page-ndp//en-20191016-ubs-joins-un-global-investors.html
43. UBS AG. (2020). *UBS Chief Investment Office's ("CIO") investment views*. Retrieved from https://www.ubs.com/content/dam/static/wm/CIO/monthly-base/CIO-monthly-base-en.pdf
44. US-SIF. (2018). *Fossil Fuel Divestment & Reinvestment*. Retrieved from https://www.ussif.org/trends

LIST OF FIGURES

ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services in strategy and consulting, interactive, technology and operations, with digital capabilities across all of these services. We combine unmatched experience and specialized capabilities across more than 40 industries — powered by the world's largest network of Advanced Technology and Intelligent Operations centers. With 509,000 people serving clients in more than 120 countries, Accenture brings continuous innovation to help clients improve their performance and create lasting value across their enterprises.

Visit us at www.accenture.com.

LEGAL DISCLAIMER

The scope of Accenture's AG services shall not include the provision of services involving legal or tax advice, which are reserved under statute for the relevant professional groups. The reader of this document shall be responsible for clarifying and stipulating the legal and regulatory requirements applicable to it, the services, materials created, and any use by the reader thereof. Such requirements may involve, in particular, adjustments due to statutory and business requirements. Accenture assumes no responsibility for, and does not warrant, any review and establishment of criteria for satisfaction of legal requirements, including the activities to be performed by the reader in conjunction with its regulatory obligations. The reader, either on its own accord, or with the assistance of its legal advisors shall establish legal requirements with respect to the services and their outcomes and perform the legal evaluation of the identified alternatives and scenarios.

The Client is solely responsible to examine, whether he/she may use the information presented herein under the law applicable to it. Accenture shall not be liable for any legal claims or damages which may result from the unauthorized use of information presented herein.

Any trademarks and other service marks contained in this study including the Accenture name and logos, are the property of respective owners and may not be used without their prior written permission.