

“Utilising Sustainable Development concepts and standards for building a career”



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1. Introduction - Sustainable Development (in the Arctic)

Sustainable Development is a very dynamic concept. Global leaders in politics and large-scale enterprises include sustainability practices into their policies and operations for more than twenty years, while the whole idea exists even much longer. The core principle is that sustainability embraces three dimensions:

- Preservation of the Natural Environment

- Well-being of the Society

- Economic Development

The following document does not follow the basic intention to repeat the conceptual frameworks of sustainability as it has been done in countless publications before, but to underline the ongoing high significance of sustainable development on the global markets and the global societies. In addition, this document integrates a northern perspective, discussing insightful cases from Finland and the Arctic as a region in the thematic context. Eventually these conceptual approaches frame a discussion how sustainability can be a driver for careers for university graduates in diverse perspectives.

To achieve sustainability, it is crucial to keep always in mind the well-being of future generations. When certain practices, for instance the consumption of energy, fresh water and certain amounts of food, the current generation should consider whether “our” consumption levels will compromise the ability for upcoming generations to get access to these resources in the same amounts and quality. The key is to achieve intergenerational justice among the generations. Simplified, our grandchildren and their grandchildren (and so on) should have the same opportunities as “we” have today.

1.1 Sparsely populated areas

In Finnish Lapland, the most northern region of Finland, with its majority of land locating above the Arctic Circle, has diverse communities, but those are mostly not large in numbers. Overall, in entire Finnish Lapland live around 180.000 permanent residents, with around 63.000 in its regional capital Rovaniemi. To compare, the London district “Royal Borough of Kingston upon Thames” (United Kingdom) has quite the same population as Finnish Lapland, and is just one out of 33 districts in London that is home to around 9 Million people. In terms of population density, in each square kilometre in Lapland live around 4,6 people and in the example district of London 4.600 people in each square kilometre.

This means there are only few urban (city-like) areas in Finnish Lapland. Across the wide land, there are many villages and fewer small towns that are mainly connected by roads. This carries specific sustainability challenges in the high North of Finland regarding the mobility of people and goods. For long time, high significance relied and still relies on the utilisation of cars. When it comes to the issue of climate crisis, it will be of interest to what extent infrastructural development can take place to achieve lower consumption of fossil fuels in Arctic transportation. Electro-mobility can be a solution as aspired on many political agendas, but large-scale challenges that remain are the charging capacities for the batteries in the electric cars and for how long they can drive without being required to get access to a refill station. Moreover, the grid of electric refill stations across Lapland is insufficiently developed and the production of lithium-ion batteries carries sustainability questions, as mining those metals leads to environmental problems, too.

As of year 2022, the railway network is just going a bit further North than the Arctic Circle to Kemijärvi in South-East Lapland and Kolari in South-West Lapland. The most parts of Finnish Lapland do not have a railroad network and it is contested whether the further development may not even lead to more ecological difficulties in terms of biodiversity in the high North forests and the provision of grazing lands for the reindeer populations.

1.2 Natural Resources in the high North of Europe

The sustainable consumption of natural resources is very important and simultaneously something that companies and ordinary people on this globe have plenty of difficulties to achieve. The society needs natural resources in abundance in everyday life and in this regard, it is of relevance to distinguish consumption of renewable and on the other hand non-renewable resources. A few common examples are listed in the table below.

Renewable Resources	Non-renewable resources
Timber	Oil
Food (coffee, wheat, coconuts...)	Gas
Cotton	Metals (copper, nickel, gold, silver, iron)
Water	Coal
Milk	Several minerals (e.g. magnesium)

A key term in the context of natural resources is scarcity and this goes along with conceptual frameworks of economics. If resources would be available in indefinite amounts, meaning no

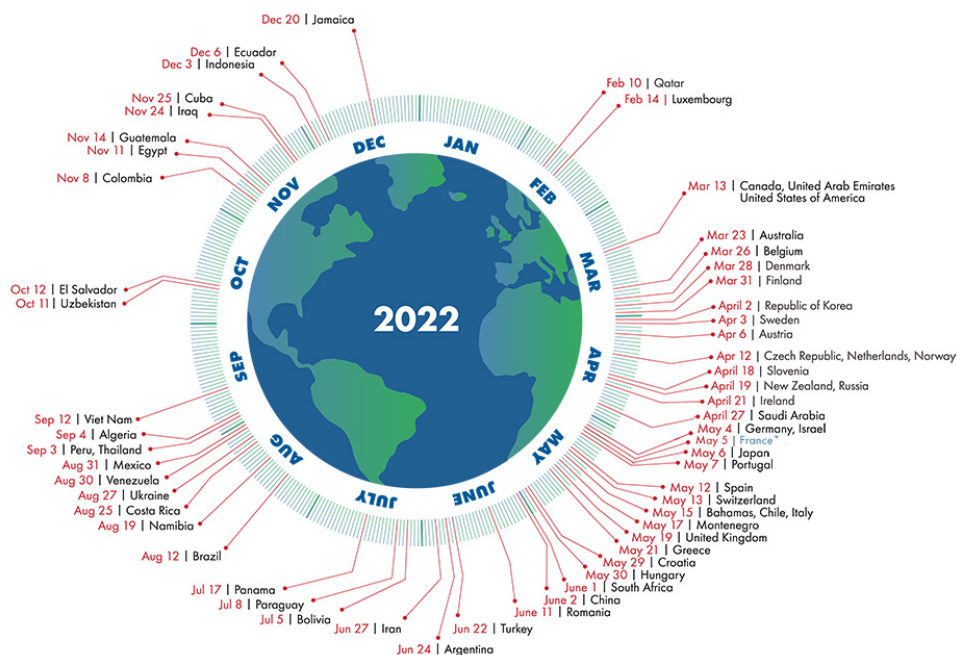
scarcities at all, then people and companies could consume at any desired level. The reality is evidently different. Planet Earth is small and has very limited resources available for its inhabitants. One of the worst inefficiencies that mankind does not manage appropriately is the sufficient supply of food resources across the globe. Many people in developing countries live in desperate living conditions, not being able to achieve the minimum provision of daily food for their families and themselves. A rising global population and negative impacts of climate change just increase this challenge instead of getting closer to necessary solutions.

Another aspect of the modern society is the desire for advancements of technology and modern living standards in developed countries (e.g., in Central Europe, North America, Japan). People want to live in modern houses with more and more space, more convenience in everyday life and appreciate being up-to-date with novel entertainment technologies. Moreover, people want to travel and explore the world, one of the specific elements when the digital solution alone is not sufficient. All these aspects of life require enormous amounts of resources and large-scale economic footprints. The Global Footprint Network publishes annually a meaningful estimation for many countries

The Earth Overshoot Day 2022 is on July 28, meaning almost the entire second half, the global communities consume resources that the ecosystems cannot handle anymore and result into further depletion of the planet, like it is done for a long time.

Country Overshoot Days 2022

When would Earth Overshoot Day land if the world's population lived like...



For a full list of countries, visit overshootday.org/country-overshoot-days.
 *France Overshoot Day updated April 20, 2022 based on nowcasted data. See overshootday.org/france.
 Source: National Footprint and Biocapacity Accounts, 2022 Edition
data.footprintnetwork.org



In October 2020, Finland issued the guidelines for the application of the “The United Nations Framework Classification for Resources” (UNFC). This is a global sustainable development standard and is designed to allow actors to manage proactively the consumption and utilisation of energy and mineral resources. This UN initiative is aligned to the overall pursuit under the umbrella of the United Nations Sustainable Development Goals (UN SDGs, also known as the Global Goals) and the 2030 agenda. This standard should lead to more efficient use of natural resources by implementing better corporate business processes, financial capital allocation (cross-reference here to the ESG concept; q.v. fourth chapter of the report) and the formulation of sustainability policies for both countries (public sector) and enterprises (private sector). For the particular Finnish implementation of the UNFC, the Geological Survey of Finland (GTK), integrated UNFC categories into the Mineral Deposit Database of Finland. Notably, Finland is rich in natural resources and minerals, including the territories up North above the Arctic Circle in Finnish Lapland. Another beneficiary of the UNFC classification scheme is the Finnish mining industry that cannot only be potentially more efficient, but also can easier operate in line with established EU requirements (UNECE.org).

1.3 The Climate Crisis

There is a rising consciousness in many societies for the threats of a continually warming climate in the years and decades ahead. Many policies from intergovernmental and national political organisations are already in place and also more private enterprises take the challenge on the agenda when it comes to corporate publications. However, despite all these initiatives, a large challenge remains to get the ideas that are written on “paper” in the policies into implementation levels to allow a real impact eventually!

The climate crisis (aka. global warming) is largely connected to the man-made emissions of greenhouse gases (GHGs) as they appear for instance in the burning process for coal, oil and gas to generate power in enormous amounts. These practices increase the overall concentration of greenhouse gases to the atmosphere of the planet. Carbon dioxide and methane are two of the most significant contributors that lead to the warming climate. The individual emissions of GHGs in countries or enterprises are also known as carbon footprints of these actors.

The ecosystems of the planet are very vulnerable and have low adaptation capabilities for fast pace changes, such as, the currently changing climate. In this century average temperatures grow in few years in levels, what has been done previously over periods of thousands of years. The IPCC (Intergovernmental Panel on Climate Change) publishes frequently since the 1990s specific climate scenarios, what happens to the regions on this planet if temperatures increase by certain degrees (e.g., 1,0, 1,5, 2,0 and so on...).

1.3.1 The UNFCCC and Climate Change

The United Nations as intergovernmental organisation with numerous bodies that embrace sustainable development, takes efforts to mitigate and to adapt to negative climate change impacts highly on the agenda. In this respect, the annual climate conferences called COP (conference of the parties) are fundamental platforms to exchange knowledge and to discuss necessary steps to take. An essential event was COP 21 in Paris, France 2015, the specific COP meeting that resulted into the well-known Paris Climate Agreement. In this multinational agreement the world leaders signed on behalf of their countries specific climate commitments, predominantly the reduction of greenhouse gas emissions.

Societies in Europe and other parts of the globe becoming more aware of the seriousness that mankind faces with severe and irreversible changes on the planet that threaten current living conditions, for instance in terms of utilising land for food production, while access to daily food

needs is a challenge in many developing countries in the past until this day. Despite the rising awareness, many critics do not perceive that essential steps had been or will be taken to prevent the worst expected outcomes of the climate crisis.

The Fridays for Future movement, the initiative that gets plenty of attention due to the frequent school strikes from students to protest against harmful actions that accelerate the greenhouse effect, is a good example of societal desperateness towards the planet's future and the perceived own futures of the young generation ahead. The official statements do not find much credibility in climate plans and policies from the ruling governments to enforce meaningful effects on the climate to avoid negative impacts. There are plenty of initiatives in the governmental frameworks, but the required major societal shift may not happen with those. Many environmental protection organisations (many of those are NGOs (Non-governmental organisations)) join this criticism and new movements like Extinction Rebellion appear that show their protest more radically with actions that annoy citizens in every-day life (e.g., blocking roads, railroads) to get attention for their messages and protests.

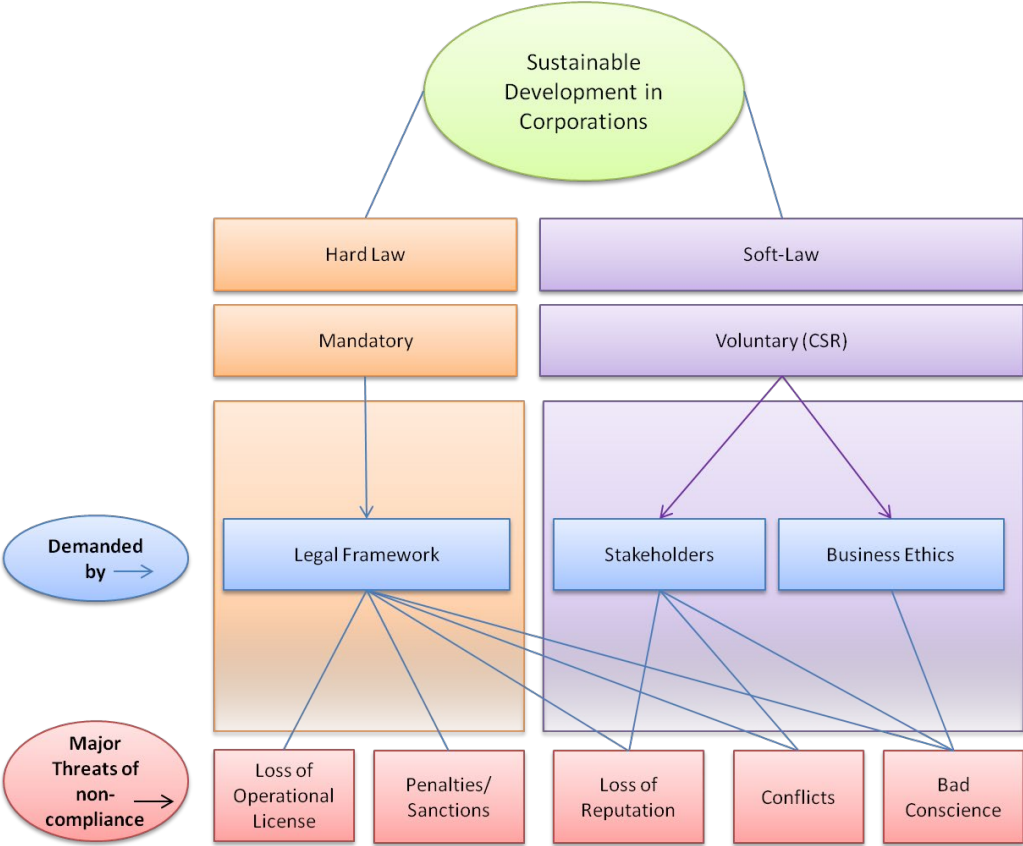
Having this in mind, the question emerges which is the right (possibly best) platform to manage the climate crisis and who should lead the necessary actions. The UNFCCC since its first conference in Berlin, Germany 1993 certainly has the power to generate funds that could allocate capital for climate actions (e.g., research and development for climate-friendly technologies).

2. Sustainability Reporting

An essential tool to understand whether companies work in line towards sustainable development is the aspect of corporate sustainability reporting. This embraces in the widest sense the communication of sustainability efforts and achievements in the enterprise operations in form of official reports as well as posts, blogs, interviews and statements in diverse communication channels (e.g., social media networks). Fundamental in this respect is a sustainability report, usually published once a year. This document highlights the ecological, social and economic challenges of internal and external business operations and it is explained how these challenges can be addressed now and in the future.

Depending on a company's size and its product/service line(s), sustainability reports could differ in length. Traditionally the publication of a sustainability report is voluntary for companies, however in recent years, few market regulations require large-scale companies with many employees and/or

high turnovers to communicate certain sustainability aspects. Finland is actually one of those markets that implemented in 2016 (based on European Union Directive 2014/95/EU) the requirement to publish sustainability information regarding the core business elements, if a company has on average at least 500 employees during the fiscal year, if the company is publicly traded (often stock-listed), or if they carry a high public interest and this embraces usually credit institutions and insurance companies with activity licenses in Finland. Those companies that meet one or more of the above listed criteria can opt to publish the sustainability report as a stand-alone document or to publish it integrated into the annual financial report.



Source: Author’s own

The new legal frameworks that lead to mandatory sustainability communication for the above mentioned companies in Finland (and other countries) make it worth to distinguish certain practices that can be clustered into hard-law and soft-law. The idea is very simple, but nonetheless practical for sustainability management inside an organisation. Hard-law is mandatory and prescribed inside a jurisdiction with laws in a certain market (usually within the physical boundaries of a country). Soft-law on the contrary are all activities that are done voluntary, usually found in sustainability standards/guidelines and frameworks. Both are of relevance as established laws have often their

limits and in order to act sustainably, it is necessary to go beyond the law and having larger efforts! As the chart depicts, non compliance with hard-law as well as soft-law practices both carry negative consequences. Non-compliance with hard-law is simply a breach of the law and consequently a criminal act. Sanctions, penalties, possibly prison terms are the consequence. Although, on the first glance non-compliance with voluntary standards entails less harsh results, unwanted outcomes may be loss of reputation, loss of market shares, protests and demonstrations and those can severely impact the success of an enterprise and could even put the persistence on the market in jeopardy.

3. Sustainability Standards

Sustainability implementation in organisations does hardly work these days without the utilisation of specific standards and frameworks aiming for sustainability metrics and pre-determined goals and desired achievements. In the following, multiple of the most relevant sustainability standards are outlined and the application of those finds rising significance in various corporate cultures across the global markets!

3.1 Environmental Management Systems

Companies cause environmental impacts, there are almost no exceptions and in many sectors these impacts are harmful at large-scale. The global society has seen many developments in diverse sectors, notably the industrialisation in the 19th and 20th century and ongoing rise in mass production of consumer goods. This in addition to a continually rising global population, extending as of year 2022, already more than seven billion people, put enormous stress on a planet with finite resources and vulnerable ecosystems that are fundamental for the preservation of life.

Therefore in the late 1990s emerged the idea that companies have to manage more than just the financial metrics, like sales, revenues, profits..., but also the effects on the natural environment based on their operations. When using the term “management” or the phrase “to manage something” it is crucial to keep in mind that this does not mean to go for spontaneous decisions by feeling what is right or just. Implementing management systems is quite the contrary and a successful manager needs to develop and follow a sophisticated and structured system with utilisation of reliable and relevant data and metrics. A management system comprises in general the management structures that lead enterprises to the fulfilment of their corporate goals by doing certain predetermined actions. It is pivotal to manage resources, policies, people, and the provision

of the operational services and/or products. The aforementioned is accountable for all kind of management systems, including the environmental management systems (EMS).

Standardisation is a core principle for the implementation of management systems, for the reason that those corporate operations and managing those are a very complex matter and plenty of applicable and useful standards for numerous purposes had been developed. A common thought that fits into this is the idea of “no need to invent the wheel all over again and again”. Established and proven knowledge can be used and just modified when specifically needed.

In terms of environmental management systems, two standards have prevailed in the recent decades and find recognition in many companies with global orientation.

3.1.1 ISO 14001

The Environmental Management System ISO 14001 is applicable to any company or other organisation (regardless of its size, number of employees/members & annual turnover) that intends to improve their environmental performance and aims for the reduction of the negative environmental impacts caused by its business operations. ISO 14001 sets an implementation plan of procedures and this requires a sophisticated time schedule that includes six phases until an accredited external auditor can issue a certificate. The ISO 14001 standard is supposed to be a useful tool to achieve a continuous improvement process regarding environmental business issues (International Organization of Standardization).

The PDCA approach (Plan-Do-Check-Act) is a notable four-phase model that operates in line with environmental management practices to enable companies in an annual cycle to minimise aspects such as the amounts of waste and consumption of energy and water to the greatest possible extent (ISO 14001; EMAS III). Auditing standards enable corporate actors to receive external certification after successful audits, and this gives them potential to reduce reputational risks and to build good relations with stakeholders, customers and investors (ISO 9001).

3.1.2 EMAS III – Eco-Management and Audit Scheme

The Eco-Management and Audit Scheme (EMAS III) is like the ISO 14001 a standard to implement, evaluate, accomplish and improve the environmental performance of organisations or similar entities. The approaches and requirements are voluntary and in each member state an independent and neutral national competent body is located that is responsible for the registration processes (European Parliament 2009; Sarker 2013). Member states are all countries in the EU and a couple of

further European states (e.g. Norway, Iceland and Liechtenstein – European Parliament 2009). Moreover, there are accreditation bodies that act as accrediting verifiers. These EMAS verifiers are expert organisations or individuals and they can act as auditors or consultants for organisations that wish to attain an EMAS-certification. In 2001, the revision of the management system was implemented in EMAS II, which was updated once again in 2009 to the current version EMAS III (EMAS website). Participating actors have to publish their statements regarding their environmental strategies and performances every year and since the first amendment in 2001, small and medium-sized companies are allowed to publish in every second year (European Parliament 2009). Core elements of EMAS are the proof of legal compliance, an integration of employee participation and comprehension of stakeholder expectations in the framework of a regularly stakeholder-dialogue. A continuous improvement process is aspired by conducting eco-friendly measures (European Commission – EMAS).

3.1.3 Differences between ISO 14001: 2015 and EMAS III

Elements	ISO 14001: 2015	EMAS III
Based on regulation...?	International sustainability standard (private law)	European Regulation (EC) No 1221/2009
Where applicable?	Globally	Globally (predominantly recognised in EU area)
Mandatory or Voluntary?	Voluntary	Voluntary
Core principle?	Continual improvement of the Environmental Management System	Continual improvement of environmental performance of the organisation
Environmental aspects	Initial review is recommended, but not required	Comprehensive initial environmental review of the current status of activities, products and services
Verifier/Auditor	Certification bodies are accredited through a national accreditation body Independence of the auditor is recommended	Environmental verifiers are accredited/licensed and supervised by governmental bodies Independence of the environmental verifier is

		required
Audit procedure	No certification rules in standard (other standards for auditing and certification). Check of Environmental Management System performance, but no frequency specified or required	Inspection of documents and site visits to be carried out according to regulation. Check for improvement of environmental performance. Data from environmental statement needs to be validated
Certification?	Possible	Possible
Suppliers and contractors?	Relevant procedures are communicated to suppliers and contractors	Influence over suppliers and contractors is required
Employees involvement?	Not required (ISO 14001 and EMAS both foresee training for employees)	Active involvement of employees and their representatives
External Communication?	Less strictly determined compared to EMAS, however, receivers of the certificate often communicate achievements in sustainability publications (e.g., sustainability report)	Open dialogue with external stakeholders is required External reporting is required on the basis of a regularly published environmental statement

3.2 ISO 26000

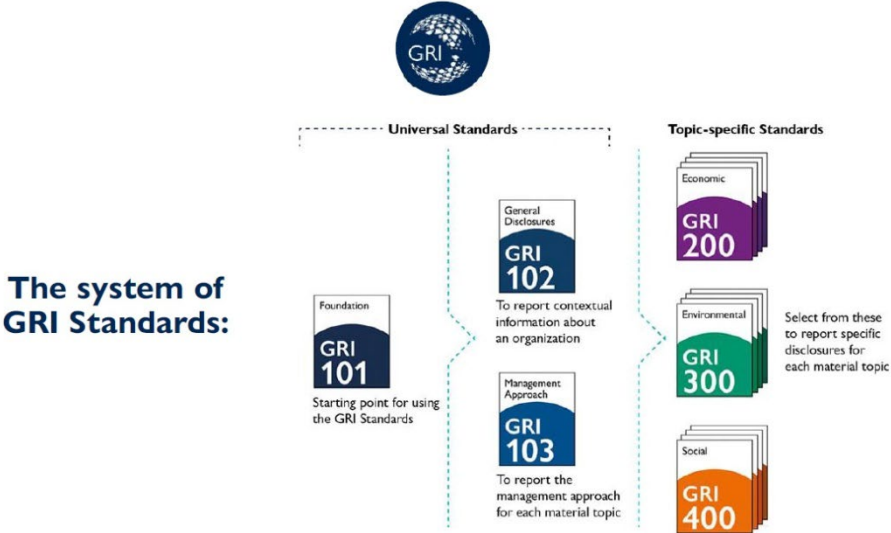
This is another ISO standard, but the ISO 26000 is very different to the ISO 14001 EMS standard. ISO 26000 is a guidebook for Corporate Social Responsibility (CSR), aiming to support corporate decision-makers to implement sustainability practices in standardised schemes and putting emphasis on the most essential aspects to avoid harmful impacts towards the natural environment and the stakeholders (society). This standard is applied voluntary and an external verification of practices (external audit) is not foreseen and therefore it is not possible to receive certification for this standard.

Corporate Social Responsibility is a well-known concept since the early 2000s and is a term that is utilised largely in today's enterprises and NGOs to balance the significance of financial and non-financial aspects in business operations. The basic idea is that companies are not only responsible for gaining profits, and securing wealth for their employees and shareholders, but to stand upright for any problems and trouble they cause to people and ecosystems. Interestingly, different markets have

different conceptual paradigms for CSR. For instance the European markets stress a lot the significance for ecological parameters, like low pollution and consumption levels and tackling the climate crisis and for social parameters, like fair wages/salaries and health and safety of workforces. On the contrary in North America, higher focus is on non-operational support, meaning companies provide donations and charity for good societal cause. Important to mention is that this is just an overall simplified observation (although outlined in many studies) and cannot just be generalised for each and every company. Companies in the Finnish market follow rather traditional European CSR schemes, considering ecological footprints and looking for societal impacts for communities in the domestic market and across the global supply chains. Evidently, the ISO 26000 standard goes far beyond the charity idea and covers many more aspects that lead companies in addressing their operational sustainability footprints.

3.3 Global Reporting Initiative (GRI)

The Global Reporting Initiative is a set of diverse standards that have prevailed to gain transparency and comparability in the field of sustainable reporting. Those comprise several universal standards with economic, social and environmental performance indicators and additionally multiple sector specific standards to enable sophisticated evaluations that may be unique in certain sectors. Throughout the previous years the modular system of the GRI continually advanced and the GRI also provides Topic Standards. These topics can embrace for example significant aspects, linked to economic (GRI 200), social (GRI 400), and ecological (GRI 300) parameters. The Universal GRI Standards were novelised in 2016 and provide basic hints, schemes and recommendations how to conduct sustainability reporting in general and preparatory to use the sector specific GRI supplements and the Topic-specific standards. The “update” was necessary as corporate responsibility has a partial shift from voluntary to mandatory implementation for simplified large-scale companies in Europe, based on the EU Corporate Sustainability Reporting Directive (q.v., European Union Directive 2014/95/EU chapter 3. Sustainable Reporting).



Source: GlobalReporting.org ((Accessed: 17 July 2022))

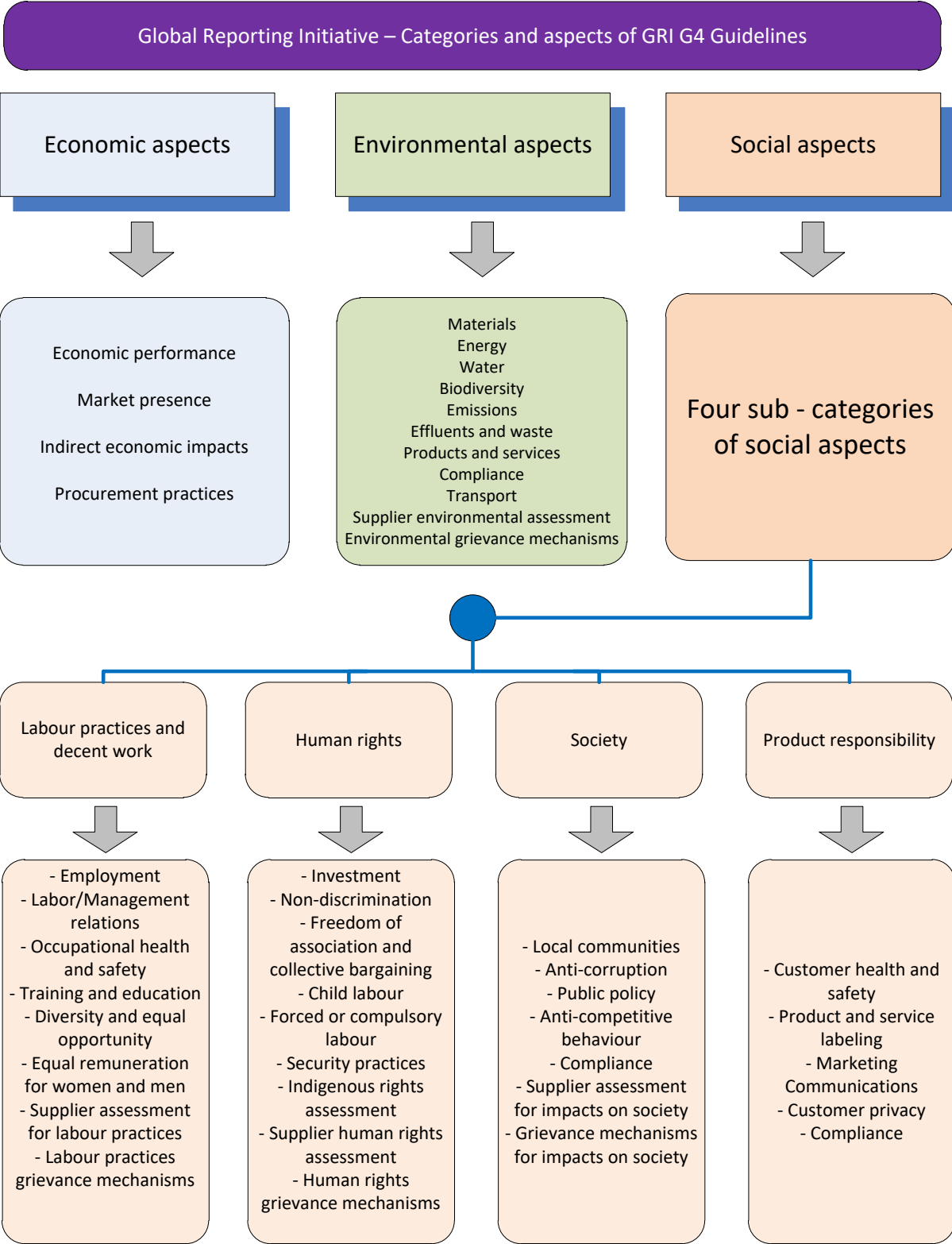
The process of implementation works in an interconnected way, therefore multiple applicable standards can be utilised by the same organisation depending on its operations and particularly its impacts.



Source: GlobalReporting.org ((Accessed: 17 July 2022))

The chart above “Topic-specific standards” provides in-depth metrics to evaluate and benchmark specific aspects towards all three dimensions of sustainability. By taking once more natural resource depletion into account, for instance from metal mining, one crucial standard for mining companies is

GRI 306 – Waste, as evidently plenty of waste water and used chemicals threaten the natural environment in extraction and smelting processes in this sector. Another example could be the textiles sector with global supply chains and high challenges in terms of human rights (GRI 412) and Child Labor (GRI 408). Businesses in Finnish Lapland in general should take several of these standards into account as for instance GRI 304 – Biodiversity and GRI 413 – Local Communities.



Source: Author’s own – based on GRI content

4. Sustainable Finance and the ESG Concept

All substantial initiatives around the implementation of sustainable development require the provision of sufficient amounts of capital. Efforts to build green buildings, construct renewable energy grids, alternatives for packaging are cost-intensive and somebody has to cover those costs.

For long periods in the past twenty years, many sustainability ideas from political and corporate actors never went beyond planning phases or concept-paper phases. Though plenty of these ideas that did not go further have arguably high potentials for sustainability impacts, keeping in mind without implementation the impact remains “Zero”.

Therefore what emerges in the past very few years is a more comprehensive approach for sustainable finance and how and particularly also who will pay the bills for sustainability initiatives! In this regard, it is crucial to distinguish between public and private actors and their potentials and also responsibilities. The public sector that handles to the largest extent the tax-payers money is traditionally the major investor for sustainability, for instance in carrying transition from fossil energies to renewable energies (particularly in European Union and partly also in few developed Asian markets).

Public authorities, as for example the governmental bodies in regions and cities develop continuously their own policies and nowadays sustainability aspects are usually included. With the emergence of green financial instruments, it is essential for those public actors to diversify funding sources for sustainability practices to meet the goals that correspond to the numerous global challenges. As the emergence of sustainable finance just occurred in the years around 2015, a natural hesitation can be perceived among public actors, whether novel finance solutions may be applicable for them, and if they are, still what kind of risks go along with those. Naturally, actors involved in investment discourses do their analyses towards opportunities and threats linked to each specific investment instrument. Interestingly, sustainable investments do not see their major growth and impact in the traditional equity markets (when companies issue and trade shares on the stock exchanges (or off-the-counter)).

On the other hand, the role of private financiers is crucial and in this context the investment community in particular. The large-scale investment firms carry the image for long time that their essential goal is a monetary return on each investment (ROI), meaning whatever capital is put into a

venture should desirably get a higher amount in capital in return. With sustainable investments this approach is still fundamentally important, but the idea goes beyond this. Therefore the Triple-Bottom-Line approach (or the three dimensions of sustainability) are in focus again! The Triple-Bottom-Line considers simultaneously high relevance in terms of profits (monetary ROI), people (societal impact) and the planet (environmental impact).

Investors are around with different potentials, considering the capital amounts they are capable to invest! There are small-scale investors, who buy a few shares from one or a few companies and some allocate capital into certain funds, what could decrease certain risks against complete failures. These technical aspects are important, but not core of this particular context. On the other hand there are large-scale investment firms that set up powerful investment funds that small-scale investors could approach to allocate capital. The different financial products that a fund entails are called the portfolio and the responsible officer is called the portfolio manager. The largest funds on the international markets exceed Billions of Dollars in assets and it is no surprise that many of those portfolio managers are physically located in the popular global finance hubs, such as Singapore, Tokio, Frankfurt, London and New York.

What happens now in the past few years these portfolio managers experience a new pressure that probably was hard to foresee still in the early 2000s. A cautious but perceivable societal shift towards sustainability is emerging in the societies of the developed countries (vast majority of investors are from developed countries), and those people are willing to act particularly if the own burden is not too high. The result is if an individual small-scale investor is in anyway willing to allocate some capital into a venture, more and more think why not choosing a fund (or other financial instrument) that follows a sustainable purpose. Portfolio managers perceive now that old formulas of mass production, and investments into profitable markets like oil, gas, mining distract some small-scale investors and they look for new opportunities into sustainable investments, like renewable energies and green infrastructure (green buildings). In addition to decreasing values of stocks and bonds in portfolios the other major risk is withdrawals of capital from the portfolio by the small-scale investors. This not only diminishes the available capital that can be utilised on the markets, but fewer investors also pay fewer administration fees that are meaningful for the portfolio managers, too. Many investment firms therefore, established specific green funds, in addition to their conventional funds to meet the demands of the sub-investors in this segment as well.

Whatever way to look at it, the enormous global challenges, taking the climate crisis alone, require investments to the largest possible extent, and neglecting the potentials of the large-scale banks, insurance companies and other investment firms is most likely misleading, as tax-payers capital alone cannot catch up with all these sustainability demands.

A charming aspect of sustainable finance is the quantifiability in terms of capital allocated, meaning it is clear how much capital is going into green financial instruments with a particular sustainability purpose. The most important instrument to this date are the so-called green bonds (often referred as climate bonds). These are debt securities (by contrast to the equity markets) and function similarly like traditional bank loans. Somebody who needs capital for a sustainability project issues a green bond in the amounts of capital needed. For instance, if a city wants to establish a wind power park, with seventeen windmills and requires 15 Million EURO, they can issue a green bond and investors can subscribe into the amount they desire. This could be large-scale (1 Million EURO, or small-scale e.g., 15.000 EURO).

The main incentive for the bondholder (the creditor) is the reception of the coupon, an annual interest fee (e.g., 2,1 %) that the issuer (debtor) has to pay out to the bondholders. Each bond has a maturity date, a certain point in the future when the life-span of the bond is over and this is determined in the very beginning. Very common time-spans for a bond are 5-8 years, with some very large projects, often from the public sector) could exceed also 20 or 30 years. Once the maturity of a bond arrives, the issuers have to pay out the “debt” back to the bondholders. Therefore, it is important that a project is profitable in the long-run or alternatively the repay is covered by any institution at the maturity date. Meanwhile, bonds may rise and fall in value, based on the situations on the international markets, (changes in currency values, inflation, economic growth or recession), and it is common practice that bonds are traded both on stock exchanges or off-the-counter (simply between individuals). These trading practices are not much of concern for the issuer, they just utilise the “collected” money for their sustainability project as in our example the construction and implementation of the wind park in a region.

It is worth to mention that bonds are not a new instrument (being around for more than a century), but the specific niche of green bonds emerged just in the 2010s. Originally coined in the United States in year 2005, it was just in the “desk drawers” of the investment firms mainly without receiving much recognition by the investment community. The deterioration of global challenges, warming climate, loss of glaciers, polar ice, thawing permafrost, forest fires, but also rising global

population and plastic waste challenges reflect to the global community more and more the need to address those challenges with proactive financing. International corresponding treaties like the Paris Climate Agreement from 2015 and the aforementioned United Nations Sustainable Development Goals UN SDGs show large-scale policy initiatives from global actors. What these treaties often lack is the clear understanding how to pay for those efforts to gain real impact, such as, the reduction of greenhouse gas emissions.

The emergence of sustainable finance was back in 2015 not yet fully on the agenda of intergovernmental actors, like the EU and UN, but this changed in 2018, when the EU began to work on the EU taxonomy for sustainable finance that was eventually launched in 2022. In a controversy, against scientific advice, political actors were forcing contested energies like nuclear power and gas into the green finance taxonomy and hindering the initiative to be a clarifying tool for investors to segment what is actually a green investment. However, there are other mechanisms for investors to evaluate whether a sustainable investment has a real impact. With the issuance of a green bond, it is common practice that an accredited, independent actor (e.g., consulting firm) is providing a second opinion and assessing whether the allocation of the capital is valid to gain sustainability impact and also whether the investment may allow an return on investment and what kind of risk it carries for the bondholder. In order to be transparent, it is common to publish those second opinions on a website or make it otherwise available to the public and interested parties. The Climate Bonds Initiative is a good platform in this respect and has prevailed as a forum to share information regarding issued bonds, its second opinions and the overall developments on the green bond market.

4.1 Sustainable Development Goals (UN SDGs)

The United Nations launched in 2015 the seventeen UN SDGs, also known as the Global Goals in order to build an international agenda until year 2030 to pursue a sustainable global society. Significantly, the global goals should cover economic, societal and environmental demands in developed as well as developing countries. SDG #1 and SDG #2 approach to of the major challenges Zero Hunger and No Poverty, considering overpopulation in large parts of Africa and South East Asia for example and insufficient supply of food and fresh water in many regions. UN SDGs that have higher relevance in developed countries are sustainable infrastructure and green buildings that correspond the conceptual framework of circular economy. SDG #13 Climate Action arguably is of relevance on all continents as the reduction of carbon footprints is essential in all sectors in all countries. In this regard a major concern is if few countries set up costly and ambitious initiatives to burn less fossil fuels and decrease carbon dioxide emissions, but other countries disregard

necessities for climate action, steadily enlarge carbon footprints for short-term gains on their markets, the net effect is marginal or non-existent.

The UN SDGs are a good tool to learn and familiarise diverse audiences from public and private sector towards the need to enforce sustainability actions. Prior to the UN SDGs the international communities could utilise a framework that was called the Millennium Goals with a very similar mandate. Obviously the UN SDGs receive a higher recognition

SUSTAINABLE DEVELOPMENT GOALS



Source: Global Goals – UN SDGs

5. Sustainability as a driver for early career development

Sustainability is not just a fancy concept everybody talks about, without any substance. Despite the often lacking implementation of sustainability practices and some companies that claim to be sustainable, but are in fact not, sustainability has an ongoing rising value on the international markets and many capital flows in labour and action are based on sustainability practices!

We discussed in this report the appearance of sustainability standards and frameworks, the relevance (sometimes requirements) for companies to publish sustainability performance contents

frequently and the emergence of sustainable finance and the ESG concept. All the aligned actions are not happen coincidentally, but require the involvement of qualified experts to support, document, communicate and of course implement sustainability into organisations. As the field is very dynamic and complex and offers also numerous specific niche markets, great opportunities may emerge for freshly graduated academics. In the following is a short discussion of different pathways to utilise sustainability potentially in the future career, both before and after graduation.

5.1 Internship/Traineeship with sustainability focus

An often underestimated and even more often lately taken into account aspect of studying is the internship. Neglecting the opportunity and relevance of internships can be very costly for a student. Evidently, internship positions are very different, some could provide great insights into corporate life and possibly function as door-openers for the job after graduation, while others are just exploitation of cheap labour for cumbersome office duties or similar activities (carrying coffee around the offices possibly one of the worst tasks). The latter is not only very un-motivating, but also an enormous waste of time. One more aspect is the compensation for being an intern. Not all internships are paid and it is not fully possible to cluster good internships as paid ones and bad ones as unpaid. Arguably, students should aim for a position that should be at least somewhat compensated as in fact effort and work is provided. In some rather exceptional cases it could be possible that also unpaid work could be experience-wise a great benefit and that the organisation may have reasons for not paying. This could be accountable for some NGOs that are not-for-profit organisations, too. Eventually, it depends very much on what the individual student is interested in and what kind of experiences she or he aspires to add to their portfolio.

Therefore, it becomes more and more crucial to make decisions during the studies what to do in life and not waiting until graduation. If a student aims for sustainability focus in their studies, this report and its content could function already as inspiration in what kind of directions to look at. Interns could potentially, support text developments or statistics for sustainability reports in organisations, could support audit teams (q.v., ISO 14001/EMAS) in company visits or work in communication departments to highlight sustainability efforts.

5.2 Joining a sustainability department in a company

The private sector offers likely the largest variety of jobs available and being simultaneously a provider for stable income in short time periods. However, joining a company is not easy and becomes harder all the time, difficult even for highly talented graduates with excellent study results. In the European Union, the ongoing phenomenon continues that more individuals each year decide

to aim for an academic degree, as there is a rising common belief that this enhances the opportunities on the job markets significantly. The barriers to get particularly a permanent contract are high. What students (and future job-seekers) should target is the provision of an own experience and capability portfolio that distinguishes from other candidates for the same job(s). Having a degree in business administration is nothing special today anymore, but just the basic standard. There needs to be something on the top and different sustainability themes could be the answer here. Many companies need experts, who are familiar with certain sustainability standards and it could pay off to be capable to know how for example the Global Reporting Initiative Standards set works, how it can be implemented and once in the position also able to follow the developments around the standard(s), like revision, modifications, workshops and so on. In the past 10 years, many new positions, like sustainability officer, sustainability communications and similar have emerged due to the significance of the concept considering the global challenges as outlined earlier in this report.

5.3 Joining an NGO with social and/or ecological mandates

In times of crises, the role and relevance of NGOs become naturally more obvious and visible and the early 2020s do not provide a lack of crises. NGOs are often referred as watchdogs scrutinising behaviours and decision-making of political and powerful corporate actors and criticise and protest when needed in diverse formats. Many NGOs have mandates that should enable the global society to remain on a path of sustainable development and these organisations often need young talented personnel to write reports, blogs, social media content and to speak at conferences and to the media. Climate crisis, protection of biodiversity, human rights, gender equality, plastic pollution and corruption are very common examples with crucial roles for NGOs to point the fingers at misconduct and demand better practices. Though many NGOs are eligible for great experiences in early careers and many positions are comparatively easy to get, the downside is the compensation. NGOs usually rely on donations and certain funds and therefore usually the budgets are tight. Hardly any NGO can match salaries that private sector companies offer with similar workloads and qualifications that are required in this field. It is not a rare case that young sustainability professionals start their career in an NGO covering their ideas and beliefs, gaining experiences and then move on to positions with higher compensations, for instance joining intergovernmental organisations in the public sector. “This leads us to the next subchapter...”

5.4 Joining an international organisation with sustainability focus

Certain international bodies are very powerful, some of them are often in the media and well known, such as several United Nations bodies (e.g. UNEP – United Nations Environmental Programme), other might be now much less powerful, but do not get that much public attention (e.g. DG Grow (attached

to the European Commission)). However, sustainability concepts are highly on the agenda for international organisations, just to mention mitigation and adaptation to climate change again and a transition from a linear economy to circular economy. These positions usually embrace high competition as they allow very good career potentials and comparatively high salaries also in early career stages. The downside to the good salary perspectives is the often heavy workload and the limited work-life balance. This should be clarified beforehand and each individual has to ask her/himself what kind of free-time sacrifices might be acceptable and for how long.

5.5 Becoming a sustainability entrepreneur (possibly social entrepreneur)

A continuously rising approach is to found the own business and determining oneself the business mission ahead and like with the other discussed career entries, sustainable development and affiliated subjects provide a myriad of options for developing an entrepreneurial business. Inside the European Union, it is very common in the member states that public actors, (regions, cities) provide assistance for young entrepreneurs when it comes to registration and all the administrative practicalities. If we take Finland and the City of Rovaniemi in particular as an example, there is plenty of support available. Students of the Lapland University of Applied Sciences get already plenty of advice by internal experts among the teacher's network, and in general for all residents, it is possible to receive free consultations with Business Rovaniemi, the business development organisation of the City of Rovaniemi. This is also very helpful for non-Finnish speakers to get through the registration process with the business and tax registers. One more essential consideration is, whether the own business idea is eligible to get start-up funding. In Finland's regions there is common practice to be able to apply for start-up funding for 6-12 months and if there is a societal or economic need for this business, it is usually granted. However, applicants should be aware that a comprehensive and logic business plan must be submitted and that a local consultant will interview the applicant and issue afterwards a recommendation whether the grant should be given or not. In Finland, this grant is usually 600-700 Euros per month (before tax).

Being an entrepreneur and being the "own boss" can be very appealing, it is however also often aligned to tough commitments towards the work-life balance and founders should do an in-depth market analysis. A good idea does not always automatically mean that there is a sufficient market potential as well. The tough reality is that many start-ups or other young entrepreneurial businesses disappear within the first 24-36 months after founding, due to the inability to gain profits in the long-run. It is okay, to be unprofitable in the very beginning as the market position needs to be established, but at some point the revenues must outweigh the costs and this permanently to persist on the market.

5.6 Staying in Academia

A possible idea after graduation is not to leave academia at all, but to continue either with just adding up a higher degree (e.g., Master, PhD) or just joining freely research projects according to the own interests and expertise. A major challenge similar to NGOs is the financing of this kind of work, as research enormously relies on external funding (e.g., grants from foundations) and those are very competitive, too. In fact many financing bodies grant only marginal amounts of applications. A positive aspect in this regard, foundations aim highly for sustainability projects and if there is capital available in certain fields, sustainability is currently one of the very best.

6. Conclusion

This report outlined from diverse angles the relevance and significance to continue to strive for sustainable development in corporate but also societal frameworks. The concept of sustainable development is not particularly new anymore to many actors, as the term floats across many discourses, but the challenge remains how to be sustainable and especially how to implement sustainability in corporate processes and everyday life. The sustainability standards and reporting schemes are a beneficial approach to get many actors on the same page and to allow comparability in terms of achievements or remaining negative impacts. A novel aligned concept ESG (Environmental, Social and Governance) was introduced in the second half of this report and highlighted the importance of capital flows from global investors to allocate “green” capital into initiatives that address the global major challenges of population growth, loss of biodiversity, pandemic impacts, and of course the kind of overarching climate crisis. With the latter, the report showed more in-depth needs to adapt to climate impacts, like forest fires, loss of glaciers and in the Arctic context particularly thawing permafrost and retreating sea-ice. The global community has to act now and corporate decision-makers and leaders in intergovernmental organisations require plenty of young motivated talents that join sustainability projects in local, regional and international scales and to find urgently new life-styles and new technologies in a good balance to allow future generations a decent life on this planet in the decades to come!

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List of Abbreviations

- COP	- Communication on progress
- CSR	- Corporate social responsibility
- EMAS	- Eco-Management and Audit Scheme
- EMS	- Environmental management system
- e.g.	- for example
- ESG	- Environmental, social and governance
- et al.	- et alii
- EU	- European Union
- Fig.	- Figure
- GRI	- Global Reporting Initiative
- ISO	- International Organization for Standardization
- iss.	- issue
- NGO	- Non-governmental organization
- ref.	- Reference
- q.v.	- quod vide
- UN	- United Nations
- UNEP	- United Nations Environment Programme
- UNGC	- United Nations Global Compact
- UNO	- United Nations Organization
- Vol.	- Volume