THE GLOBAL GOALS
For Sustainable Development

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HCBM ENVIRONMENT, BUSINESS & SDGS LITERATURE REVIEW WITH ANNOTATED BIBLIOGRAPHY

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Background and History

Private sector environmental requirements first came in the form of policy and regulations. As early as the mid-18th century, the Industrial Revolution resulted in the rapid urbanisation \workers moved to settlements around mechanised industrial centres. Economic success also came social and environmental impacts, and UK environmental law is therefore rooted in a response to industrialisation. Epidemics were rife in the early 1800s, primarily due to a lack of sanitation. On a visit through the narrow lanes of Glasgow and Edinburgh, a Dr Arnott encountered disturbing scenes: human waste piled outside the houses, which led to his remark that the inhabitants were "worse off than wild animals"3. Chadwick's horrifying report on public sanitation in 1842 paved the way for the Public Health Act 18484. This created powers for central and local government to take steps to protect public health, marking the start of a proactive approach to public health in the UK[1]

During the late 19th century, people in the United States increased awareness of the environment and how the environment was being treated, how resources were being used and how humans were influencing the environment. John Muir, was one man who help start the environmental movement of the late 19th century. Muir was troubled by the poor treatment and misuse of land as people moved west across the United States. He was a preservationist and believed that the environment should be maintained in its pristine form and its resources should not be harvested for human use. Muir helped establish *The Sierra Club*, to help increase public awareness and preservation of the environment. [2]

Many would say that the current approach to environmental policies, laws and regulations and the national level that were directed at the private sector began in the 1960s', early 1970s' and the national and federal in Europe and North America, then further developed in other countries. During development of Governments increasing environment review on business, there was also development of a much stronger view on the social dimensions of businesses and the increase of the private sector development globally. This has led to a greater acceptance of an integrated approach that includes social, economic human rights, integrity and ethical consideration for how the private sector creates positive and negative impacts for society, and insuring that policy and practice leads to more inclusive, equitable business for the benefit of all.

Europe

The Paris Summit meeting of heads of state and government of the European Economic Community (EEC) in October 1972 is often used to pin point the beginning of the EU's environmental policy. A declaration on environmental and consumer policy was adopted at this summit. This (first) Environmental Action Programme was adopted in July 1973 and represented the EU's first environmental policy. Furthermore, the task force within the Commission that drew up this action programme eventually led to the formation of a Directorate General for the Environment. The primary reason at that time for common environmental policy was the concern that diverse environmental standards could result in trade barriers and competitive distortions in the Common Market. Different national standards for particular products, such as limitations on vehicle emissions for the lead content of petrol, posed significant barriers to the free trade of these products within the Economic Community (EC).

Current EU policy up to 2020 is based on the 7th Environment Action Programme – the dual responsibility of the EU institutions and national governments.[i] Most environmental problems have a transboundary

[1] Andersen, Mikael Skou and Duncan Liefferink, Eds. *European Environmental Policy: The Pioneers*. Manchester: University of Manchester Press, 1997

[2] https://study.com/academy/lesson/us-environmental-history-movements-timeline.html

nature and often a global scope, and they can only be addressed effectively through international co-operation. For this reason, the Lisbon Treaty establishes that one of the key objectives of the EU policy on the environment is to promote measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change. The matters addressed by these agreements are very wide: biodiversity and nature protection, climate change, protection of the ozone layer, desertification, management of chemicals and waste, transboundary water and air pollution, environmental governance (including impact assessments, access to information and public participation), industrial accidents, maritime and river protection, environmental liability.[3]

France

French environmental law is based on seven main Acts, which provides all the applicable principles of critical importance. However, environmental law also includes dispositions of several Acts not directly related to environment but having to deal with some aspects of nature protection. All these parameters put together make French environmental law a complex construction constantly modified by new dispositions. The seven main laws are:

- The law on nature conservation (July 10, 1976) ;
- The Law on Classified Installations (July 19, 1976) ;
- The Waste Law (July 15, 1975) ;
- The Air Law (December 30, 1996) ;
- The Water Law (January 3, 1992);
- The Noise Law (December 31, 1992)
- The Barrier's law (February 2, 1992)

In addition, France, as a Member State of the European Union has to implement the UE's directives, including directives regarding environment. This aspect of the environmental law is new and very important. It is new since it is only with the Maastricht Treaty (December 10, 1991) that the European Union get really competent to regulate environmental issues (section 100-a; 130-r; 130-s; et 130-t). It is important since Member States have an obligation to implement the E.U.'s directives, otherwise, and under specific conditions, directives can be directly applicable as national legislations.

As a consequence, French environmental law is not only composed of French national regulations, but also of European directives either because they are implemented or because they become of a direct application. The review hereinafter is a summary of the most important modifications and innovations in French environmental law. It is not intended to be exhaustive and specific advice should be sought in individual cases. Unless otherwise indicated, the law is as stated on October 15, 1998.

Since 1994, the amount of information available on the environment in France has increased and has become widely accessible to different stakeholders and members of the public. Given the abundance of information, and the fact that this information comes from multiple sources, the challenge is now to help the public to better understand the mechanisms at work in the environment.

France publishes a report of the state of environment every four years. The 2014 report therefore provides a synoptic view of different elements of the environment such as biodiversity, pressures on natural resources, and exposure to hazards and nuisances. It then addresses societal responses to meet environmental challenges such as the decline in biodiversity, depletion of resources, or vulnerability of sub-

[3] https://europa.eu/european-union/topics/environment_en

national territories. These responses include changes in lifestyles and patterns of consumption, the greening of economic activities, and the reduction of environmental inequalities.

From 1990 to 2012, France reduced its greenhouse gas emissions by 13%**.** However, emissions from the transport sector (the sector with the greatest emissions) have not fallen in this time. Pollution from industrial facilities and urban-wastewater treatment plants has been reduced, but pollution from diffuse sources such as agriculture or transport has not fallen**.** Thus, phosphate levels in rivers have fallen by almost half since 1998, due to better urban-wastewater treatment and less use of phosphate-containing fertilisers. However, nitrate levels in rivers remain stable and are increasing in groundwater bodies.

The public authorities are also moving to support the development of new environmentally-friendly businesses. Their actions have led to support for R&D, eco-innovation, and other strategic sectors. The promotion of environmental training is another lever for action that is contributing to more rapid integration of environmental concerns into the economy. Since 2004, the number of environment-related jobs has increased by 36%. In 2012 there were 447 500 such jobs, mainly in the areas of water, waste management and renewable energy. The numbers of students taking environment-related courses is constantly increasing.

The French government is also seeking to reduce environmental inequalities. Remedial measures are being implemented in a variety of sectors (management of contaminated sites and soils, preservation of water resources intended for human consumption, noise abatement, and prevention of air pollution).[ii]

Italy

Italy, like France, has its own National environmental laws and regulations, but also follows EU Directives and policy on environment. The Environmental Code in Italy covers the main regulations for environmental protection in the country and is in line with the European laws and principles regarding pollution or sustainable development. Italian companies that operate in various business fields must pay attention to this Code and obtain the right permits for functioning. The main agencies in charge with environmental control are the Ministry of Economic Development, the Ministry of Environment and other local health authorities.

Environmental Laws and Regulations in Italy:

- Law 16 (2001) - *ratified the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters*
- Law 61 (1994) - *established the Environmental Protection Agency*
- Law 36 (1994) - *restructured regional management of water resources*
- Framework Law on Protected Areas (1991) - *distributed responsibility for protected areas management between national and local governments*
- Law 7 (1990) - *granted right of access to administrative documents and intervention in administrative proceedings to associations for protection of environmental and other interests*
- Industrial Waste Law (1988) - *requires producers to report the quantity of special, toxic, and noxious wastes generated annually*
- Law 349 (1986) - *established the Ministry of the Environment; Article 18 allows claims for purely environmental damages*
- Waste Law (1982) - *controls handling, processing, and disposal of municipal waste*
- Water Pollution Control Law (1976) - *controls discharges into surface waters*
- Clean Air Law (1966) - *air pollution standards, permitting, and monitoring*

Decreto Legislativo:

- Environmental Code (Dlgs 152/06) - *contains substantive permit requirements and rules for environmental impact assessment*

- Administrative Procedure Act (Dlgs 241/90) - *contains procedures for environmental permits*

Policies:

- Piano Decenale per l'Ambiente - *first 10 year environmental plan*

International Environmental Treaties: signatory to 27 treaties, party to 197

The Constitution

- Article 9: republic has the duty to protect 'the landscape, and the historical and artistic heritage of the Nation'
- Article 10: automatically adopts "generally recognized rules of international law"
- Article 32: republic has the duty to safeguard human health as a basic individual right
- Article 117: the state has exclusive legislative power with respect to "protection of the environment, of the ecosystem and of the cultural heritage"

Principal Government Agency for Environmental Protection: Ministry of the Environment; Environmental Protection Agency

It could reasonably be said that Italian environmental law is composed of a general part and a sectional part. The general part deals with general legal principles (as drawn from new interpretations of the Italian Constitution, from case law, from European Community law, and from general underlying principles common to specific legislation), organizational issues (at different levels: Department, regional, and local) and procedural aspects. The sectional part deals with different environmental problems and with the different sectors into which environmental law has been traditionally divided. The general part is not easily located, given that Italian environmental law was born as sum of scattered pieces of emergency legislation enacted in reply to serious environmental problems, and given that there are no environmental provisions in the Italian Constitution.[4]

Sweden

The Swedish Environmental Code was adopted in 1998 and entered into force 1 January 1999. The rules contained within 15 acts have been amalgamated in the Code. As many similar rules in previous statutes have been replaced with common rules, the number of provisions has been reduced. The Environmental Code is nonetheless a major piece of legislation. The Code contains 33 chapters comprising almost 500 sections. However, it is only the fundamental environmental rules that are included in the Environmental Code. More detailed provisions are laid down in ordinances made by the Government.

Objectives and area of application of the Environmental Code Section

The purpose of this Code is to promote sustainable development which will assure a healthy and sound environment for present and future generations. Such development will be based on recognition of the fact that nature is worthy of protection and that our right to modify and exploit nature carries with it a responsibility for wise management of natural resources. The Environmental Code shall be applied in such a way as to ensure that:

- human health and the environment are protected against damage and detriment, whether caused by pollutants or other impacts;
- valuable natural and cultural environments are protected and preserved;
- biological diversity is preserved;

[4] http://www.jurist.org/wayback/world/itcor2.htm

- the use of land, water and the physical environment in general is such as to secure a long term good management in ecological, social, cultural and economic terms; and
- reuse and recycling, as well as other management of materials, raw materials and energy are encouraged with a view to establishing and maintaining natural cycles.

In addition to the provisions of the Environmental Code, the provisions of other Acts shall be applicable to activities that may cause damage or detriment to human health, the environment or other interests that are protected by this Code.[5]

North America

United States

As his first official act bringing in the 1970s', President Richard Nixon enacted the U.S. National Environmental Policy Act (NEPA) into law on New Year Day, 1970. NEPA requires an environmental assessment (EA) for any federal funded project or project on federal land that could have impacts on the environment, natural resources, and the socio-economic impact on humans. Nineteen sevetny began the environmental decade. NEPA created the Council on Environmental Quality which oversaw the environmental impact of federal actions. Next, the Environmental Protection Agency (EPA), which consolidated environmental programs from other agencies into a single entity.

The legislation during this period concerned primarily first-generation pollutants in the air, surface water, groundwater, and solid waste disposal. Air pollutants such as particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide, and ozone were put under regulation. In surface water, the contaminants of concern were dissolved oxygen, bacteria, suspended and dissolved solids, nutrients, and toxic substances such as metals. For groundwater, the pollutants included biological contaminants, inorganic and organic substances, and radionuclides. Finally, solid waste contaminants from agriculture, industry, mining, municipalities, and others were put under control.

The Clean Air Act amendments of 1970 and the Federal Water Pollution Control Act amendments of 1972 moved environmental concerns in a new direction. The standards that they put in place were unattainable with existing technology — they were technology forcing. The standards that the EPA put into place called mainly for state implementation. In the US, States may enact environmental laws that are more stringent than federal law, but not less. Many states have their own environmental laws and regulations that work in tandem and expand federal environmental law and policy to specific sectors of private sector enterprise, and beyond Federal or State land borders to private entities.

Canada

The Canadian Environmental Protection Act, 1999 (CEPA 1999) is the cornerstone of Canada's environmental legislation and an important part of Canada's broader legislative framework aimed at preventing pollution and protecting the environment and human health

Currently, Environment Canada is party to a wide range of environmental agreements, both voluntary and regulated. The Department enters into agreements with provincial or territorial governments to streamline the administration and management of environmental regulations. It also makes agreements with

[5] http://www.government.se/contentassets/be5e4d4ebdb4499f8d6365720ae68724/the-swedish-environmental-code-ds-200061

individual companies and industry sectors to ensure that they achieve certain levels of environmental performance. Environment Canada's international agreements are negotiated on the basis of positions developed through consultations with provincial, territorial and Aboriginal governments and with Canadian stakeholders. Environment Canada administers over a dozen Acts of Parliament, either in whole or in part, and is responsible for meeting numerous obligations spelled out in legislation. Many of these have implications direct or indirect for business and the private sector. Under its various acts, the Department works to address and report on a wide range of complex environmental issues and environmental liability.

South America

Brazil

Brazil has one of the most complete environmental legislations in the world. However, the laws in this legislation haven't been adequately enforced in the past, compromising their effectiveness towards protecting the natural environment in this nation with a rich biodiversity of fauna and flora.[6] In Brazil public policies regarding the environment are generally advanced, although their implementation and the enforcement of environmental laws have been far from ideal. Laws regarding forests, water, and wildlife have been in effect since the 1930s. Brazil achieved significant institutional advances in environmental policy design and implementation after the Stockholm Conference on the Environment in 1972. Specialized environmental agencies were organized at the federal level and in some states, and many national parks and reserves were established. By 1992 Brazil had established thirty-four national parks and fifty-six biological reserves (see fig. 5). In 1981 the National Environment Policy was defined, and the National System for the Environment (Sistema Nacional do Meio Ambiente--Sisnama) was created, with the National Environmental Council (Conselho Nacional do Meio Ambiente--Conama) at its apex, municipal councils at its base, and state-level councils in between. In addition to government authorities, all of these councils include representatives of civil society.

The 1988 constitution incorporates environmental precepts that are advanced compared with those of most other countries. In 1989 the creation of the Brazilian Institute for the Environment and Renewable Natural Resources (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis--Ibama) joined together the federal environment secretariat and the federal agencies specializing in forestry, rubber, and fisheries. In 1992 Brazil played a key role at the Earth Summit, not only as its host but also as negotiator on sustainable development agreements, including the conventions on climate and biodiversity. The Ministry of Environment was created in late 1992. In 1997, the Commission on Policies for Sustainable Development and Agenda 21 began to function under the aegis of the Civil Household. One of its main tasks was to prepare Agenda 21 (a plan for the twenty-first century) for Brazil and to stimulate preparation of state and local agendas.

Sustainable Development

The modern concept of sustainable development was a topic of discussion at the 1972 United Nations Conference on the Human Environment (Stockholm Conference), and the driving force behind the 1983 World Commission on Environment and Development (WCED, or Bruntland Commission). In 1992, the first UN Earth Summit resulted in the Rio Declaration, Principle 3 of which reads: "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present

[6] http://countrystudies.us/brazil/25.htm

and future generations." Sustainable development has been a core concept of international environmental discussion ever since, including at the World Summit on Sustainable Development (Earth Summit 2002), and the United Nations Conference on Sustainable Development (Earth Summit 2012, or Rio+20).

Multilateral Environmental Agreements

The use of multilateral environment agreements began in 1857, when a German agreement regulated the flow of water from Lake Constance to Austria and Switzerland.[7] International environmental protocols came to feature in environmental governance after trans-boundary environmental problems became widely perceived in the 1960s.

Following the Stockholm Intergovernmental Conference in 1972, creation of international environmental agreements proliferated with more than 747 multilateral environmental agreements have been concluded.[8] MEAs are most associated with the United Nations. The majority of MEAs implemented since the 1972 resulted from the United Nations Conference on the Human Environment (also known as the Stockholm Conference). The Stockholm Declaration was adopted by all 113 countries in attendance at the conference and was the first universal document of importance on an environmental issue.[9]

Multilateral Environmental Agreements (MEAs) aim at changing the collective behaviour of governments, private investors, and other stakeholders in order to achieve certain environmental goals. Environmental and investment policies have the potential to reinforce their respective goals while promoting the broader objective of sustainable development and ultimately support achieving SDGs. The successful implementation of MEAs cannot be achieved by public efforts alone, but also relies on private sector contribution. Therefore, MEAs need to be designed in a way that promotes private sector involvement. Environmentally-friendly investments represent an opportunity for environmental policies and the private sector: while contributing to the goals of MEAs they may lead to enhanced economic returns.[10] About 20 of these MEAs have influence on private sector trade and investment and its implications for environment and sustainable development. A list of all Multilateral Environmental Agreements is found in Annex A.

Standards, Voluntary Standards, Certification, & Ecolabels

Environmental management standards for business management and operation need to be Independent, third-party, and verifiable set of specifications (such as ISO 14001 or Responsible Care) which provide publicly recognized means to an organization to demonstrate its commitment to maintaining and enhancing the quality of environment.

Ecolabelling is a voluntary method of environmental performance certification and labelling that is practised around the world. An ecolabel identifies products or services proven environmentally preferable overall, within a specific product or service category.

The ISO 14020 series of standards provides businesses with a globally recognized and credible set of international benchmarks against which they can prepare their environmental labelling, which is

[7] Kim, R. E. (2013). The emergent network structure of the multilateral environmental agreement system. Global Environmental Change, 23(5), 980-991. doi:10.1016/j.gloenvcha. 2013.07.006
[8] Zürn (1998) The Rise of International Environmental Politics: A Review of Current Research World Politics, Vol. 50, No. 4, pp. 617-649
[9] Environment Canada. (2007). Negotiator's handbook: multilateral environment agreement. Joensuu, Finland: University of Joensuu.
[10] OECD, 2005. "Multilateral Environmental Agreements and Private Investment: Business Contribution to Addressing Global Environmental Problems," OECD Papers, OECD Publishing, vol. 5(2), pages 1-74.

increasingly used on products and in advertising, in response to consumer demand. With a greater focus on climate change and health, consumers are becoming more interested in less tangible product attributes such as the fair labour, ethical and environmental aspects of a product's production and supply. In response to this, manufacturers often voluntarily choose to provide information concerning the environmental and/or social aspects of their products on labelling and in advertising.

The International Organization for Standardisation (ISO) has identified three broad types of voluntary labels, with ecolabelling fitting under the strongest Type 1 designation.

TYPE I:

- A voluntary, multiple-criteria based, *third party* program that awards a license that authorises the use of environmental labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations

TYPE II:

- Informative environmental *self-declaration* claims

TYPE III:

- Voluntary programs that provide quantified environmental data of a product, under pre-set categories of parameters set by a qualified third party and based on life cycle assessment and verified by that or another qualified third party.[11]

Currently, the private sector not only adhere to national, state and multilateral environmental policies, laws and agreements; business also utilize standards, certifications and ecolabels to show consumers there use of environmentally friendly ingredients and processes. These standards and ecolabels have been created by nongovernmental actors, multi-stakeholder partnerships among private sector and civil society as well as initiatives from Multilaterals institution's, and government with private sector and civil society actors. These also part of developing market share among competitors and a growing segment of the market that prefers, and actively use environmentally friendly products and services. These standards and ecolabels often go beyond environment to take a more wholistic approach to sustainable development integrating environment alongside ethics an integrity, human rights, social, economic and gender equity for workers, the community, and globally.

Circular Economy

A circular economy is an industrial system in which the potential use of goods and materials is optimized and their elements returned to the system at the end of their viable life cycles.

Supply chain sustainability and product life cycle sustainability are integral to the circular economy. Materials and products have a closed-loop life cycle and, ideally, all elements that go into the creation of a product are reused, recycled or remanufactured rather than discarded.

The philosophy is based on a holistic perspective of processes and technologies that goes beyond the focus of delivery, inventory and traditional views of cost. The underlying principle is that responsible products and practices are not only good for the environment but are also important for long-term profitability.[12]

This approach looks beyond the current take-make-dispose extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system.

[11] https://www.globalecolabelling.net/what-is-eco-labelling/
[12] http://whatis.techtarget.com/definition/circular-economy

Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

In a circular economy, economic activity builds and rebuilds overall system health. The concept recognises the importance of the economy needing to work effectively at all scales – for large and small businesses, for organisations and individuals, globally and locally.

Transitioning to a circular economy does not only amount to adjustments aimed at reducing the negative impacts of the linear economy. Rather, it represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.[13]

The ecological footprint is a measure of human demand on the Earth's ecosystems. It is a standardized measure of demand for natural capital that may be contrasted with the planet's ecological capacity to regenerate. It represents the amount of biologically productive land and sea area necessary to supply the resources a human population consumes, and to assimilate associated waste. This approach can also be applied to an activity such as the manufacturing of a product or driving of a car.

The more used definition of ***the carbon footprint*** is: "A measure of the total amount of carbon dioxide (CO2) and methane (CH4) emissions of a defined population, system or activity, considering all relevant sources, sinks and storage within the spatial and temporal boundary of the population, system or activity of interest. Calculated as carbon dioxide equivalent (CO2e) using the relevant 100-year global warming potential (GWP100)." Greenhouse gases can be emitted through transport, land clearance, and the production and consumption of food, fuels, manufactured goods, materials, wood, roads, buildings, and services.

The water footprint of an individual, community or business is defined as the total volume of freshwater used to produce the goods and services consumed by the individual or community or produced by the business. Water use is measured in water volume consumed (evaporated) and/or polluted per unit of time. A water footprint can be calculated for any well-defined group of consumers (e.g., an individual, family, village, city, province, state or nation) or producers (e.g., a public organization, private enterprise or economic sector). The water footprint is a geographically explicit indicator, not only showing volumes of water use and pollution, but also the locations.

One of the most recent indicators, ***a chemical footprint*** gives an indication of potential risk posed by a product based on its chemical composition, the human and ecological hazard properties of the ingredients, and the exposure potential of the ingredients during its life cycle.

The Life Cycle Assessment (LCA) methodology is one of the most widespread and proficient approach as a standard ISO 140405; it allows to perform an environmental impact assessment of a product "from cradle to grave", including the extraction and processing of raw materials, the manufacture, the transport and distribution, the use and re-use, the collection, the storage, the recovery or recycle, the final disposal of wastes. International organisations such as UNEP and SETAC are currently carried out several initiative to widespread the life cycle approach (Life Cycle Initiative) (ref. I) and to support the development of principles and practices for protection, enhancement and management of sustainable environmental quality and ecosystem integrity. In this framework the European Platform on Life Cycle Assessment (EPLCA)

[13] https://www.ellenmacarthurfoundation.org/circular-economy/overview/concept

(ref[14]. J) was sponsored by the European Commission, allowing the development of several useful tools as a dedicated handbook (ILCD Handbook) and the European LCA database (ELCD database). The Life Cycle Thinking approach applied to products and services is envisaged to be the winning one to reach the major abatement of pollution and consumption of the natural resources.

Green Economy

The green economy is defined as an economy that aims at reducing environmental risks and ecological scarcities, and that aims for sustainable development without degrading the environment. It is closely related with ecological economics but has a more politically applied focus. The 2011 UNEP Green Economy Report argues "that to be green, an economy must not only be efficient, but also fair.

> *"A green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive."*[15]

An inclusive green economy is an alternative to today's dominant economic model, which exacerbates inequalities, encourages waste, triggers resource scarcities, and generates widespread threats to the environment and human health. Over the past decade, the concept of the green economy has emerged as a strategic priority for many governments.[16]

Green Growth

Green Growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.[17]

It focuses on the synergies and trade-offs between the environmental and economic pillars of sustainable development. Importantly, green growth does not neglect the social pillar; on the contrary, without good governance, transparency, and equity, no transformative growth strategy can succeed. Moreover, there is no one-size-fits-all strategy for implementing green growth; rather, specific policies and actions need to respond to national priorities and circumstances.[18]

Green growth is not a replacement for sustainable development. Rather, it provides a practical and flexible approach for achieving concrete, measurable progress across its economic and environmental pillars, while taking full account of the social consequences. Importantly, green growth does not neglect the social pillar; on the contrary, without good governance, transparency, and equity, no transformative growth strategy can succeed. Moreover, there is no one-size-fits-all strategy for implementing green growth; rather, specific policies and actions need to respond to national priorities and circumstances.[19] It is closely related with Green Economy.

Green Public Procurement (GPP) is a voluntary instrument defined in the Communication (COM (2008) 400),

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[14] Maria I. Litido & Gaia Righini, TOOLS AND METHODS FOR THE GREEN ECONOMY, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Bologna, Italy (February 2013)
[15] http://whygreeneconomy.org/information/unep-green-economy-report/
[16] https://www.unenvironment.org/explore-topics/green-economy/about-green-economy
[17] http://www.oecd.org/greengrowth/
[18] http://www.greengrowthknowledge.org/about-us
[19] http://www.greengrowthknowledge.org/about-us

> *"Public procurement for a better environment" as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured."*

GPP will be further strengthened by voluntary measures, which will act as a complement to the mandatory measures described above, consistent with the rules of the Internal Market.

Convention on Climate Change

The Paris Agreement is the culmination of a quarter-century of international climate diplomacy launched with the U.N. Framework Convention on Climate Change (UNFCCC) at the Earth Summit in Rio de Janeiro. Below is a brief recap of the evolution of the global climate effort.

COP 1 in 1995, UNFCCC parties decided to accelerate climate efforts by launching negotiations toward a first sub-agreement. They agreed that, consistent with the principle of CBDRRC, the new agreement would establish binding targets and timetables for reduce developed country emissions, but no new commitments for developing countries. The resulting Kyoto Protocol was adopted at COP 3 in 1997. Largely at the insistence of the United States, the agreement incorporated a series of "flexible," or market-based, mechanisms enabling developed countries to use different forms of emissions trading to achieve their targets more cost-effectively. Other countries proceeded to ratify the agreement and it entered into force in 2005. Its initial emission targets, however, extended only through 2012, and when it came time to negotiate a second round through 2020, several other developed countries declined to go along. The Kyoto Protocol technically remains in force, but its targets cover only a small fraction of global emissions, and there is no expectation of future targets. One element of the protocol that may continue is the Clean Development Mechanism, which certifiable emission reductions in developing countries as tradable emission offsets.

The 2007 Bali Action Plan launched talks aimed at a new agreement providing for the UNFCCC's "full, effective and sustained implementation." The agreement was to be adopted at COP 15 in Copenhagen in 2009. More than 100 world leaders converged on Copenhagen for the summit, but negotiators were unable to overcome their differences. The Copenhagen Accord, while only a political agreement, reflected significant progress on several fronts. It set a goal of limiting global temperature increase to 2 degrees Celsius; called on all countries to put forward mitigation pledges; established broad terms for the reporting and verification of countries' actions; set a goal of mobilizing $100 billion a year by 2020 in public and private finance for developing countries; and called for the establishment of a new Green Climate Fund.

At COP 16 the following year in Cancun, parties adopted the Cancun Agreements, effectively formalizing the essential elements of the Copenhagen Accord under the UNFCCC. The Cancun Agreements were regarded as an interim arrangement through 2020, and parties left the door open to further negotiations toward a legally binding successor to the Kyoto Protocol.

At COP 17 in Durban, South Africa, parties adopted the Durban Platform for Enhanced Action, launching talks aimed at achieving a comprehensive new agreement starting in 2020. They left open the legal nature of the agreement and how it would address differentiation between developed and developing countries.

World leaders once again at COP 21 in Paris, and on December 12, 2015, parties adopted the landmark Paris Agreement. The agreement represents a hybrid of the "top-down" Kyoto approach and the "bottom-up" approach of the Copenhagen and Cancun agreements.[20]

[20] https://www.c2es.org/content/history-of-un-climate-talks/

Environmental Finance

Environmental finance is used across multiple sectors including business/corporate, governmental agencies, non-profit organizations and individual households. For example, businesses implement green practices that are economically viable. The growth of comprehensive environmental management systems illustrate the merging of environmental/sustainable and financial practices. Cost benefit analysis is a common method employed to ensure economic feasibility when multiple high priority community projects compete for available funding. Emissions trading (also called carbon trading) have been introduced through regulations and agreements. Even mitigation adopted language from the financial sector by implementing wetland mitigation banks.[21]

Environmental impacts are avoided first before considering other alternatives. Once it has been determined that avoidance is not feasible, the next step is to minimize environmental impacts. Trading and banking are tools used to minimize and mitigate environmental impacts. An example would be changing shipping schedules so it uses less energy. It could also mean reducing inventory and capitalizing just-in-time delivery that may reduce emissions required to fabricate the product.

Public sector agencies across the world, including the United States, rely on environmental finance. The United States Environmental Protection Agency (EPA), Indonesia, Mongolia and multiple European countries have an environmental finance center or an environmental funding center. Most colleges and universities have a designated environmental finance center.[22]

Two of the most common and well-known examples of environmental finance are the use of land trusts. A land trust is when an agency or entity designates the use of the property for a specified time. A conservation easement is an example of a land trust. The land trust does not automatically exempt using the property but it may designate the type of activity encouraged or allowed such as agriculture, public access, wildlife habitat, timber production, etc. Most of the time, the landowner receives a tax incentive or similar form of payment in exchange for the easement.

Carbon Finance, often called Carbon Trading is essentially, a lower emitter of CO2 would be able to sell credits to a higher emitter as long as the total emissions do not exceed the established maximum limits. Water emissions trading is another still in the infancy of discussion, so it may be quite a few years before seeing how well the model works towards reaching the overall goal of pollution reduction in water.[23]

Private Sector and SDGs

The SDGs set goals for environment, social, health and well-being that must bring all entities together to achieve them. Now that the Sustainable Development Goals been agreed, the private sector has an important role in delivery to their outcomes. For many businesses it is a difficult, in large part because the objectives may seem abstract. Supporting a goal to end poverty in all its forms everywhere or to achieve gender equality and empower all women and girls can come off more as moral aspirations than measurable deliverables.[24]

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[21] https://www.environmentalscience.org/environmental-finance
[22] https://www.johnson.cornell.edu/Center-for-Sustainable-Global-Enterprise/Students/Curriculum
[23] http://www.umich.edu/~nppcpub/resources/compendia/FINpdfs/FIN_Environmental_Finance.pdf
[24] Mendoza Naki B. ;5 tools to help businesses tackle the SDGs, Devex.com; *19 October 2015*

Civil society and the private sector have collaborated on various fronts to create practical tools and guidelines that assist businesses in sorting out how to put the SDGs into action. They vary in approach, but all seek to lead an organization through the process of assessing its priorities; identifying which SDGs match its objectives; aligning its core strategy to those SDGs; and providing concrete examples of businesses who are moving along in the process.

Towards Integration of environment into a wholistic approach to SDGs

Throughout the last 50 years the trend has been not only to increase environmental sustainability but to begin integrating environment into business as one of the pillars of sustainable development, building a more wholistic approach that includes social, economic, inclusive business, human rights, integrity and ethical consideration. It has been argued that, the global corporate social responsibility agenda is shaped largely by northern agendas and has been understood to include 'voluntary actions' of large enterprises. As a result, the contributions of smaller businesses and industries, central to the economies of rural areas in developing countries, are frequently overlooked. The constraints smaller businesses and industries operate under, such as limited human and financial resources, restrict their ability to participate in global policy processes.[25]

For the private sector, they are aligning with a variety for business models that address sustainable development, but increasingly the development of an innovative, human-centered, business model based on a combined set of economic, social and environmental, rights-based principles will provide a more sustainable way of doing business than current practice and may be voluntarily adopted by entrepreneurs.

Private sector initiatives on environmental, social and governance

The UN Inter-Agency Task Force on Financing for Development, 2016 has looked at Private sector efforts and initiatives on environmental, social and governance factors and found,

> *"Investor incentives often tend to not be aligned with environmental, social and governance (ESG). Sustainable or green investments should, in theory, be attractive to long-term funds, since the risks associated with climate change are a potential long-run liability. However, the short-term nature of investment horizons sometimes impedes the incorporation of longer-term environmental risks into firms' risk/return analysis."*

This is the case with carbon emissions, making it unlikely that many firms individual firms will value their carbon emissions on their own. Policies to address this include measures to ensure companies internalize externalities (e.g. through taxation) and direct regulations. In addition, sustainable development goal (SDG) 12 encourages companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. The Addis Agenda takes this further and encourages greater accountability by the private sector to embrace business models that have social and environmental impacts, and that operate sustainably. Private sector efforts and initiatives are an integral part of the Addis Agenda, and essential to the achievement of the 2030 Agenda.

The report further found, reporting on environmental, social and governance impacts is a first step in better aligning private investment with sustainable development. More than 92 percent of the world's 250 largest companies report on their sustainability performance in one form or another. In addition, more than 2,000 businesses in 90 countries adhere to the guidelines of the independent standards organization, the Global

[25]Stephens, Anthea, Private sector involvement in implementing multilateral environmental agreements (MEAs): A closer look at the natural products industry, World Conservation Union (IUCN), South Africa

Reporting Initiative (GRI). Over the past 15 years, there has been a sharp increase in the number of companies producing sustainable reports in accordance with GRI guidelines.

At present, there is no effective mechanism for individual investors, civil society and governments to hold companies to account for investing in and promoting good corporate performance on sustainable development. As a result, there has been a proposal is to create a set of publicly available, corporate sustainability benchmarks that rank companies on their performance across a range of indicators such as climate change, gender, access to health care and other key aspects of the SDGs. This would provide transparent information to investors and civil society and investors.

Human-Centered Business Model (HCBM)

Within a Human-Centered Business Model (HCBM), there are ten environmental principles that help to insure a sustainable future for man, the environment and earth:

i. *Use of the Precautionary Principle*

The precautionary principle, a guideline in environmental decision making, has four central components: taking preventive action in the face of uncertainty; shifting the burden of proof to the proponents of an activity; exploring a wide range of alternatives to possibly harmful actions; and increasing public participation in decision making.[26]

ii. *Environmental Compliance with local, state, national and multi-lateral environmental laws and agreements;*

Environmental Compliance means conforming to environmental laws, regulations, standards and other requirements such as site permits to operate. In recent years, environmental concerns have led to a significant increase in the number and scope of compliance imperatives across all global regulatory environments.

iii. *Responsibility and actions to mitigate Environmental Liability;*

Environmental liability is an obligation based on the principle that a polluting party should pay for any and all damage caused to the environment by its activities. In some countries, this is a strict liability if the damage can be attributed to a specific party.[27]

iv. *Efficient Consumption of Resources;*

According to the Department of Agricultural Economics at Michigan State University, efficient resource allocation means that there is efficiency in production, consumption and system. Production efficiency involves producing the best value of goods and services with given resources.[28]

v. *Reduction of Energy Consumption;*

Efficient energy use, sometimes simply called energy efficiency, is the goal to reduce the amount of energy required to provide products and services. Energy consumption refers to the amount of

[26] D Kriebel, J Tickner, P Epstein, J Lemons, R Levins, E L Loechler, M Quinn, R Rudel, T Schettler, and M Stoto, *The precautionary principle in environmental science*, Lowell Center for Sustainable Production, Department of Work Environment, University of Massachusetts-Lowell, Lowell, Massachusetts 01854, USA

[27] www.businessdictionary.com/definition/environmental-liability.html

[28] www.reference.com/world-view/efficient-resource-allocation-ecbb8260eb1181f7

energy consumed by an individual or organization, or to the process or system of such consumption**.** Nearly every modern convenience increases the amount of energy consumed.[29]

vi. *Reduce, reuse and recycle Waste Generation and Disposal;* The waste management hierarchy--reduce, reuse, recycle--actually expresses the order of importance of these ideas:

- Reduce needless consumption and the generation of waste.
- Reuse any item that can be reused or give it to a person or charity that can reuse it.
- Recycle whatever discards remain if you can and only dispose what you must.

Please keep in mind that recycling is your least preferred option. Reducing the generation of waste so there is no waste left to recycle would be the ideal. Make it your goal. Also keep in mind the concept of "cycle" in the term "recycle". For there to be a complete cycle, the things you send to be recycled must come back to you. So, look for recycled content products whenever you buy, otherwise you are not truly recycling.[30]

Eco-efficiency is the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle, to a level at least in line with Earth's estimated carrying capacity. Seven elements or steps companies can make to improve Eco-efficiency:

- Reduce material intensity
- Reduce energy intensity
- Reduce dispersion of toxic substances
- Enhance the ability to recycle
- Maximize use of renewable resources
- Extend product durability
- Increase service intensity[31]

Eco-efficiency and reducing waste and disposal are closely linked in business operations.

vii. *Reduce or eliminate Emissions into Air;*

Emissions is the term used to describe the gases and particles which are put into the air or emitted by various sources. There are many sources of emissions. These have been grouped into four categories: point, mobile, biogenic, and area. Steps to reducing air emissions include: reducing toxic emissions from industrial sources; reducing emissions from vehicles and engines through new stringent emission standards and cleaner burning gasoline; and addressing indoor air pollution though voluntary programs.

viii. *Minimize or eliminate Impact Biodiversity;*

Most biodiversity is threatened by multiple factors, but habitat loss is generally viewed as the largest single cause of biodiversity loss worldwide. When humans convert wild areas for agriculture, forestry, urban development, or water projects (including dams, hydropower, and irrigation), they reduce or eliminate its usefulness as a habitat for the other species that live there.

ix. *Practice Environmentally Responsible Business and;*

Running an environmentally friendly business helps you reduce your impact on the environment and preserves natural resources. Your business can help the environment in many ways. For example, you can:

[29] www.reference.com/science/energy-consumption-a687ac74c2cac2ee
[30] http://www.calrecycle.ca.gov/ReduceWaste/Home/
[31] DeSimone, Livio, and Frank Popoff, 2000, https://sustainabledevelopment.un.org/content/dsd/csd/csd_pdfs/csd..

- use products that reduce your reliance on natural resources (e.g. rainwater tanks, solar hot water systems)
- use products that are made from recycled material (e.g. office supplies made from recycled plastic, furniture made from recycled rubber)
- look at all your business activities to see if you can do anything differently (e.g. reducing air travel by holding conference calls instead of interstate meetings).

Making your business environmentally friendly not only benefits the environment but can also save you money.[32]

x. Participate in a Circular Economy.

A circular economy is an industrial system in which the potential use of goods and materials is optimized and their elements returned to the system at the end of their viable life cycles. Supply chain sustainability and product life cycle sustainability are integral to the circular economy. Materials and products have a closed-loop life cycle and, ideally, all elements that go into the creation of a product are reused, recycled or remanufactured rather than discarded.[33]

A ***Human Centered Business Model (HCBM or Model)*** aims at offering a new and additional form of bringing environmental and social sustainability on a par with profit and make them central to a business's development and self-governance. The HCBM takes a holistic approach that addresses the entire context needed for a sustainable and competitive "business ecosystem", including fiscal, financial, legal and regulatory regimes, procurement conditions, and stakeholders relationship. The concept of the HCBM arises from the conclusion that an entirely new business ecosystem is needed for entrepreneurs sensitive to social, ethical and environmental impacts who wish to run a for-profit business.

The HCBM approach is based on the idea that there no longer needs to be a trade-off between financial and social goals, and that supporting the latter will bolster the former through a practical business model that provides a real choice for entrepreneurs who are looking for an opportunity to conduct their enterprises in a sustainable way.

The Model seeks to create an alternative approach to doing business that potentially combines – on an equal level of importance – profit seeking with the wider integrity dimensions of social and environmental sustainability (including, for example, notions of decent work, respect for territorial and local community integrity, sustainable environmental impact, and attention to inheritance issues for future generations).

The social and environmental impact of an HCBM business will be criteria towards which managers, in compliance with their administrative duties, will strive for measured success. The Model will provide an additional way to bridge the gaps in the spectrum of business forms, from profit-maximizing enterprises on one side to not-for-profit organizations or volunteer associations, passing through the above-mentioned other possible forms.

[32] https://www.business.qld.gov.au/running-business/environment/environment-business/benefits
[33] https://www.ellenmacarthurfoundation.org/circular-economy/overview/concept

HCBM Environment Research Annotated Bibliography

A. Environmental Laws and Regulations

Brazil

The Isosceles Group, *Brazil Environment, Health & Safety Profile and Checklist*, 50 Congress Street Boston, MA 02109, 2014

Bruha, Patrick, *Regulatory Environment for Business in Brazil*, *The Brazil Business*, July 23, 2014

North America

Canada

Denstedt, Shawn Q.C. & King , Richard J Environmental Law in Canada: Doing Business in Canada; Osler's Regulatory, Environmental and Aboriginal Law Group; 2011.
https://www.osler.com/.../**Environmental-Law-in-Canada**.pdf

Environmental. Law in Canada highlights increased environmental awareness, heightened concerns about. health and wellness, and increased activism from Aboriginal communities and environmental groups have contributed to the development of new environmental laws in Canada. The regulatory regime governing environmental protection in Canada is complex. To date, the federal government has pursued a sector-by-sector regulatory approach beginning with the electricity and transportation sectors. It is currently looking at how to regulate GHG emissions from oil sands operations and conventional crude oil and natural gas extraction. Climate change regulation is an emerging issue that companies carrying on business in Canada will have to monitor closely.

United States

US EPA, Regulatory Information by Sector
https://www.epa.gov/regulatory-information-sector
EPA provides compliance assistance on a sector-by-sector basis in order to efficiently reach facilities with similar operations, processes or practices. Most business sectors are affected by a number of major environmental statutes and regulations

US EPA Resources for Small Business https://www.epa.gov/resources-small-businesses
Office of Small and Disadvantaged Business Utilization (OSDBU)
OSDBU advocates and advances the business, regulatory, and environmental compliance concerns of small and socio-economically disadvantaged businesses. OSDBU manages EPA's implementation of governing provisions of the Small Business Act to afford small and socioeconomic businesses the maximum practicable opportunity to participate in the performance of Agency acquisitions. In carrying out its statutory responsibilities, OSDBU performs a number of functions including:

- developing policy, training and procedures to expand small and socioeconomic business utilization in EPA acquisitions,
- monitoring and promoting EPA's small business prime and subcontracting goal achievements,
- reviewing proposed acquisitions, unsolicited proposals and large prime subcontracting plans, and
- providing outreach and technical assistance to small and socioeconomic businesses.

Sweden

Government of Sweden, *The Swedish Environmental Code*, 2000

Per Molander, Mannheimer Swartling, *SWEDISH ENVIRONMENTAL LAW - a brief PRESENTATION*, Published in International Centre for Commercial Law (Legalease), October 1999

Environmental Law

LexisNexis® Environmental, http://www.lexisnexis.co.uk/en-uk/practice-areas/environment.page

LexisNexis Environmental provides online access to Environment Abstracts. Search abstracts from thousands of environmental journals, conference papers, and U.S. federal government reports with links to selected full text. Get environmental news with links to full-text articles from the relevant portions of major daily newspapers and consumer magazines, plus complete coverage of trade magazines, newsletters, and more than 40 law reviews.

Ronald B. Mitchell and the IEA Database Project, *International Environmental Agreements (IEA) Database Project, 2002-2016.*

The IEA website is constantly being revised and updated. A major revision occurred over the course of 2017, with the additon of numerous bilateral agreements and a wholescale updating of membership actions for all MEAs and a large number of BEAs. Current content includes over 1,300 MEAs, over 2,200 BEAs, 250 other environmental agreements, and over 90,000 individual country "membership actions"

Australian Panel of Experts on Environmental Law, *The Private Sector, Business Law and Environmental Performance* (Technical Paper 7, 2017)

This Technical Paper considers the role of the private sector (namely business and industry) in environmental protection and management, and the effect of business law on the private sector's environmental performance.

B. Environmental Standards

Many businesses need to comply with National and/or State or Provincial environmental standards. Such policies and regulations such as water and air quality standards. Environmental management standards for business management and operation need to be Independent, third-party, and verifiable set of specifications (such as ISO 14001 or Responsible Care) which provide publicly recognized means to an organization to demonstrate its commitment to maintaining and enhancing the quality of environment.

International Standards Organisation (ISO)

International Standards Organisation (ISO) is an independent, non-governmental international organization with a membership of 161 national standards bodies.[iii] Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges. ISO has published 22040 International Standards and related documents, covering almost every industry, from technology, to food safety, to agriculture and healthcare. ISO International Standards impact everyone, everywhere.[34]

The ISO 14000 family of standards provides practical tools for companies and organizations of all kinds looking to manage their environmental responsibilities. ISO 14001:2015 and its supporting standards such

[34] International Standards Organisation https://www.iso.org/about-us.html

as ISO 14006:2011 focus on environmental systems to achieve this. The other standards in the family focus on specific approaches such as audits, communications, labelling and life cycle analysis, as well as environmental challenges such as climate change. This International Standard helps an organization achieve the intended outcomes of its environmental management system, which provides value for the environment, the organization itself and interested parties. Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include:

- enhancement of environmental performance;
- fulfilment of compliance obligations;
- achievement of environmental objectives.

In addition to ISO 14000, there is specific guidance for Small to Medium Enterprise (SME) in 14001:2015 and ISO 14046 for water footprint. ISO 20400 is a standard for sustainable procurement; ISO 20121 for sustainable Events and ISO 37101 for Sustainable Development in Communities. ISO Guidance documents related to ISO 14000, and other mentioned, range from free to those for sale. All documents are found below:

- Environmental labels and declarations
- Environmental management - The ISO 14000 family of International Standards
- GHG schemes addressing climate change
- Introduction to ISO 14001:2015
- ISO 14001 - Key benefits
- ISO 14001:2015 - Environmental management systems - A practical guide for SMEs
- ISO 14046 - Environmental management - Water footprint - A practical guide for SMEs
- ISO 20400 - Sustainable Procurement
- ISO 37101 - Sustainable development in communities
- ISO and agriculture
- ISO and water
- Practical tools for addressing climate change
- Sustainable events with ISO 20121

The guidance in these International Standards can help an organization to enhance its environmental performance and enables the elements of the environmental management system to be integrated into its core business process.

Environmental labels and declarations How ISO standards help, ISO, ISO Central Secretariat 1, chemin de la Voie-Creuse Case postale 56 CH - 1211 Genève 20 Switzerland, SBN 978-92-67-10586 ISO, 2012.

Any businesses involved in improving the environmental aspects of their products and services should consider using the appropriate standard from the above suite of standards.

C. Green House Gas Emissions/Carbon Management

ISO 14064, International Standard for GHG Emissions Inventories and Verification. In March 2006, the international organization for standardization (ISO) completed its four-year development of ISO 14064, a three-part international standard for GHG management activities, including the development of entity emission inventories. The development process included the involvement of over 175 experts representing 45 countries. The standards include minimum requirements for GHG inventories which provide a basic structure against which credible and consistent independent auditing can be performed. The ISO 14064 standard offers policy makers a ready foundation of best practices upon which to build a GHG reduction program. ISO 14064 offers organizational users opportunities for improved consistency, increased flexibility and decreased effort associated with voluntary GHG inventories.

The Green House Gas Protocol, GHG Protocol establishes comprehensive global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions. A 20-year partnership between World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), GHG Protocol works with governments, industry associations, NGOs, businesses and other organizations. GHG Protocol supplies the world's most widely used greenhouse gas accounting standards. The Corporate Accounting and Reporting Standard provides the accounting platform for virtually every corporate GHG reporting program in the world. In 2016, 92% of Fortune 500 companies responding to the CDP used GHG Protocol directly or indirectly through a program based on GHG Protocol.

The Greenhouse Gas Management Institute is a 501(c)(3) non-profit organization dedicated to training tomorrow's experts on the principles, concepts and techniques to manage and credibly account for GHG emissions. Work involves educating on the basics of GHG accounting, auditing and management, training professionals to meet the highest standards of expertise and ethical conduct, and conducting forward-looking research into critical GHG measurement, reporting, and verification (MRV) issues. Particularly in regard to the GHG Protocol,

D. Multilateral Institutions

OECD

The DAC Network on Environment and Development Co-operation (ENVIRONET) promotes and facilitates the integration of environment and climate change into all aspects of development co-operation.

ENVIRONET is a network of development co-operation practitioners committed to working together to promote good practice in the fields of environment and development. The Network brings together representatives of development co-operation agencies from DAC member countries and from multilateral agencies including the World Bank and the United Nations Development Programme. Representatives from civil society and developing countries also participate as observers and help to support the Networks' objectives. ENVIRONET meets once or twice a year.

ENVIRONET builds on the knowledge, experience and practice of its members and participants. ENVIRONET supports developing countries' policies and efforts to promote environmentally-sustainable, resource-efficient livelihoods, and economies that are resilient to climate change. ENVIRONET makes policies and approaches more consistent with the priorities of developing countries and more coherent, transparent and harmonised across donors. It seeks to enhance the impact of DAC policy advice and guidance on environment, green growth and climate change by promoting its dissemination and take-up, including by leveraging the capacities of members and specialised institutions. In all of these activities, the DAC ENVIRONET works in close partnership with other OECD bodies: the DAC Working Party on Statistics (WP-STAT), the Environment Policy Committee (EPOC) and the Development Centre, in line with the OECD Strategy on Development. This strengthens the coherence and impact of our work.

The key areas of the Programme of Work and Budget are:

- Improve the quality, use and communication of DAC statistics on green development finance
- Improve the effectiveness of climate finance in development co-operation contexts
- Explore development co-operation practice and the nexus between biodiversity and development policies in developing countries
- Explore the nexus between green growth and development co-operation at the country and regional level

OECD, *Investing in Climate, Investing in Growth*, May 2017

This report provides an assessment of how governments can generate inclusive economic growth in the short term, while making progress towards climate goals to secure sustainable long-term growth. It

describes the development pathways required to meet the Paris Agreement objectives and underlines the value of well-aligned policy packages in mobilising investment and social support for the transition while enhancing growth. The report also sets out the structural, financial and political changes needed to enable the transition.

OECD Green Growth Studies, *Green Growth Indicators*, June 20, 2017

Green growth policies need to be founded on a good understanding of the determinants of green growth and need to be supported with appropriate indicators to monitor progress. This book presents a selection of updated and new indicators that illustrate the progress that OECD and G20 countries have made since the 1990s. It updates the 2014 edition.

OECD, *OECD Indicators: Environment at a Glance 2015*, October 26, 2015

Environment at a Glance 2015 updates key environmental indicators and relevant socio-economic and sectoral indicators to track OECD country progress on major environmental issues and inform policy development and evaluation. This year's edition includes increased coverage of environmentally related taxation, ODA and R&D expenditure.

OECD, *Environmental policy tools and evaluation*, Ensuring policies are economically efficient and environmentally effective.

KEY AREAS OF WORK

- Behavioural Economics for Environmental Policy (BEEP)
- Carbon pricing
- Cost-benefit analysis
- Emission trading systems
- Environmental taxation
- Mortality impacts
- Morbidity impacts
- Policy reform
- Spatial Planning Instrument and the Environment (SPINE)

OECD, *Resource productivity and waste*

OECD is promoting the sustainable use of materials in order to reduce their negative environmental impacts, encouraging resource efficiency and the transition towards a circular economy.

KEY AREAS OF WORK

- Circular economy (RE-CIRCLE)
- Cost of inaction and resource scarcity (CIRCLE)
- Extended Producer Responsibility
- Resource efficiency
- Sustainable material management
- Transboundary movements of waste
- Waste and nanomaterials
- Waste prevention and minimisation

International Finance Corporation (IFC)

IFC's Environmental and Social Performance Standards define IFC clients' responsibilities for managing their environmental and social risks.

The 2012 edition of IFC's Sustainability Framework, which includes the Performance Standards, applies to all investment and advisory clients whose projects go through IFC's initial credit review process after January 1, 2012.

- ***2012 Performance Standards***
- ***2012 Guidance Notes***

IFC, *HOW IFC MEASURES DEVELOPMENT RESULTS*, Investment Services Unit Development Impact Department, 2015.

IFC uses its Development Outcome Tracking System (DOTS) to measure the development effectiveness of its investment and advisory services. DOTS have been recognized as the leading system for development-results measurement among international financial institutions focused on private sector development.

IFC Sustainability Framework,Policy and Performance Standards on environmental and Social Sustainability, 2012.

This Performance Standard applies to business activities with environmental and/or social risks and/ or impacts. For the purposes of this Performance Standard, the term "project" refers to a defined set of business activities, including those where specific physical elements, aspects, and facilities likely to generate risks and impacts, have yet to be identified.6 where applicable, this could include aspects from the early developmental stages through the entire life cycle (design, construction, commissioning, operation, decommissioning, closure or, where applicable, post-closure) of a physical asset.

World Bank

World Bank, *The Environmental and Social Framework* (starting in 2018)

The Environmental and Social Framework (ESF) will apply to all new Bank investment projects when it launches in 2018 (exact date to be determined). The Bank's current safeguards will run in parallel to the ESF for about seven years to govern projects approved before the effectiveness date of the ESF.

World Bank, *Environmental and Social Policies for Projects*, August 2016.

The new Environmental and Social Framework (ESF) that expands protections for people and the environment in Bank-financed investment projects. The safeguards review included the most extensive consultation ever conducted by the World Bank. The framework brings the World Bank's environmental and social protections into closer harmony with those of other development institutions, and makes important advances in areas such as transparency, non-discrimination, social inclusion, public participation, and accountability – including expanded roles for grievance redress mechanisms. The framework brings the World Bank's environmental and social protections into closer harmony with those of other development institutions, and makes important advances in areas such as transparency, non-discrimination, social inclusion, public participation, and accountability – including expanded roles for grievance redress mechanisms.

World Bank Group, *Toward a Green, Clean, and Resilient World for All A World Bank Group Environment Strategy 2012 – 2022*, World Bank Group 2012.

The new Environment Strategy for the World Bank Group lays out an ambitious action agenda that seeks to respond to calls from our client countries for a new kind of development path—one that supports growth while focusing more on sustainability and ensuring that the environment is a key enabler for green, more-inclusive growth. Based on extensive consultations with more than 2,300 Bank Group stakeholders throughout the world, this Strategy articulates a new vision for A GREEN, CLEAN, AND RESILIENT WORLD FOR ALL.

E. **Voluntary Standards, Certification, Ecolabels for Private Sector**

Global Reporting Initiative (GRI) GRI helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being. This enables real action to create social, environmental and economic benefits for everyone. The GRI Sustainability Reporting Standards are developed with true multi-stakeholder contributions and rooted in the public interest.

GRI Secretariat, *CONSOLIDATED SET OF GRI STANDARDS*, This Standard is issued by the Global Sustainability Standards Board (GSSB). October, 2016.
The consolidated GRI Standards includes the three Universal Standards – *GRI 101*, *102* and *103* – and the three series of topic-specific Standards: 200 (Economic topics), 300 (Environmental topics) and 400 (Social topics).

GRI Secretariat, *Linking GRI Standards and the EU Directive on non-financial and diversity disclosure*, GRI, Global Sustainability Board, February, 2017.
This linkage document shows how the GRI Standards can be used to comply with all aspects of the European Directive on the disclosure of non-financial and diversity information.

SDG Compass, GRI, WBCSD, *Linking the SDGs and GRI*, January 2017.
The following table links the Sustainable Development Goals (SDGs) to the relevant indicators and disclosures in the GRI Standards and Sector Disclosures. These linkages are based on a more detailed analysis available on the SDG Compass website: www.sdgcompass.org.

GRI, *Linking GRI and CDP How are the GRI Sustainability Reporting Standards and CDP's 2017 water questions aligned?*, December, 2016.
This linkage document shows how the GRI Standards and CDP's water questions (2017) are aligned, improving the consistency and comparability of environmental data, and making corporate reporting more efficient and effective

GRI, *Linking GRI and CDP How are the GRI Sustainability Reporting Standards and CDP's 2017 climate change questions aligned?*, *December, 2016.*
This linkage document shows how the GRI Standards and CDP's climate change questions (2017) are aligned, improving the consistency and comparability of environmental data, and making corporate reporting more efficient and effective.

GRI Environmental Standards - The 300 series of the GRI Standards include topic-specific Standards used to report information on an organization's material impacts related to environmental topics.

GRI 301: Materials 2016 (PDF 0.1MB)

GRI 302: Energy 2016 (PDF 0.2MB)

GRI 303: Water 2016 (PDF 0.1MB)

GRI 304: Biodiversity 2016 (PDF 0.2MB)

GRI 305: Emissions 2016 (PDF 0.3MB)

GRI 306: Effluents and Waste 2016 (PDF 0.2MB)

GRI 307: Environmental Compliance 2016 (PDF 0.2MB)

GRI 308: Supplier Environmental Assessment 2016 (PDF 0.2MB)

The Global Ecolabelling Network (GEN) is a non-profit association of leading ecolabelling organisations worldwide. GEN was founded in 1994 to help protect the environment by improving, promoting, and developing the ecolabelling of green products and sustainable services.

- Fosters co-operation, information exchange and standards harmonisation among members, associates, and other ecolabelling programs
- Participates in international organisations in order to promote ecolabelling
- Encourages demand for, and supply of, more environmentally responsible goods and services
- Members have attained the status of "Type 1" specified in the ISO 14024 standard. This means:
- their ecolabelling programmes are voluntary
- their standards address multiple environmental criteria over the life cycle of a product or service
- standards are published and transparent
- ecolabels are awarded using independent third-party verification

With 27 members from countries across the globe, the collective expertise of the Global Ecolabelling Network is unparalleled. GEN itself does not develop criteria or certify products, but supports members' development of environmental leadership standards, and ecolabelling of products and services. To this end, GEN tracks its members' active standards, and compiles and updates the information annually. View ecolabelling standards by country, or by product category.

ISEAL Alliance

ISEAL represents the global movement of sustainability standards. Businesses and governments increasingly recognise that sustainability standards deliver better social and environmental outcomes and long-term commercial results. Credible sustainability standards, exemplified by ISEAL members, continue to be the leading tools for driving sustainability at scale.

ISEAL developed the Credibility Principles through a year-long global consultation with a diverse group of more than 400 stakeholders. Our goal was to pinpoint the fundamental qualities that make standards most likely to achieve positive impacts. The principles provide a guide for any standard that assesses sustainability. Companies, governments and NGOs can also use them as a reference point for benchmarking or internal audits.

Karen Ellis and Jodie Keane, *A review of ethical standards and labels: Is there a gap in the market for a new 'Good for Development' label?*, Working Paper 297 Results of ODI research presented in preliminary form for discussion and critical comment, Overseas Development Institute,2008

This study reviews a number of the existing ethical standards and labels in terms of their objectives, the scale and scope of their coverage, their impact on participating farmers, compliance costs and broader development impacts.

BSR™ (Business for Social Responsibility) is a global nonprofit organization that works with its network of more than 250-member companies and other partners to build a just and sustainable world. From its offices in Asia, Europe, and North America, BSR™ develops sustainable business strategies and solutions through consulting, research, and cross-sector collaboration. The offer reports and primers on a range of environment and social topics for business:

- Circular Economy
- Climate Change
- Collaboration
- Conflict Minerals
- Consumer Products
- Energy and Extractives
- Environment
- Ethics and Governance
- Financial Services
- Food Beverage and Agriculture
- Healthcare
- Human Rights
- Inclusive Economy
- Industrials and Utilities
- Information and Communications Technology
- Media and Entertainment
- Reporting and Communications
- Resilience
- Stakeholder Engagement
- Strategy and Integration
- Supply Chain
- Sustainability Management
- Sustainable Communities
- Sustainable Futures Lab
- Transport and Logistics
- Women's Empowerment

BSR also has case studies and offer consulting and conferences for business . Ther focus on six core areas, climate change, human rights, inclusive business, sustainable amanagement, sustainable supply chains and women's empowerment.

F. UN Initiatives and Resources for Private Sector

UN Environment, *THE ENVIRONMENTAL RIGHTS INITIATIVE*,

UN Environment has been undertaking work on human rights and the environment for almost two decades. In a series of resolutions, the former UN Commission on Human Rights and the UN Human Rights Council have drawn attention to the relationship between a safe and healthy environment and the enjoyment of human rights, and invited UN Environment and other agencies and organizations, to coordinate activities relating to human rights and the environment.

UN Global Compact, *Making Global Goals Local Business: A New Era for Responsible Business*, 2017

Provides an inspirational overview of the UN Global Compact's multi-year journey to "Make Global Goals Local Business" by driving awareness and responsible business action to support the achievement of the Sustainable Development Goals by 2030.

In September 2015, all 193 Member States of the United Nations adopted a plan for achieving a better future for all — laying out a path over the next 15 years to end extreme poverty, fight inequality and injustice, and protect our planet. At the heart of "Agenda 2030" are the 17 Sustainable Development Goals (SDGs) which clearly define the world we want — applying to all nations and leaving no one behind.

Sustainable Development Knowledge Platform
A/RES/70/1 - Transforming our world: the 2030 Agenda for Sustainable Development, Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Fiduciary responsibility Legal and practical aspects of integrating environmental, social and governance issues into institutional investment, report by the Asset Management Working Group of the United Nations Environment Programme Finance Initiative A follow up to the AMWG's 2005 'Freshfields Report', July 2009

The single most effective document for promoting the integration of environmental, social and governance (ESG) issues into institutional investment has arguably been the 'Freshfields Report'5 published in 2005, which the UNEP FI Asset Management Working Group (AMWG) commissioned to Freshfields Bruckhaus Deringer, a leading international law firm. Freshfields covered nine jurisdictions (i.e. Australia, Canada, France, Germany, Italy, Japan, Spain, the UK and the US) and concluded that:…integrating ESG considerations into an investment analysis so as to more reliably predict financial performance6 is clearly permissible and is arguably required in all jurisdictions.' For this reason, this latest AMWG report, termed 'Fiduciary II', serves as a sequel to the Freshfields Report by providing a legal roadmap for fiduciaries looking for concrete steps to operationalise their commitment to responsible investment.

UN Global Compact, Business for Social Responsibility, *A Guide to Traceability: A Practical Approach to Advance Sustainability in Global Supply Chains*, 2014.

The purpose of this guide is to provide an overview of the importance of traceability for sustainability purposes, outline the global opportunities and challenges it represents and summarize practical steps for implementing traceability programmes within companies.

UNEP Finance Initiative, *Fiduciary responsibility Legal and practical aspects of integrating environmental, social and governance issues into institutional investment*, Asset Management Working Group of the United Nations Environment Programme Finance Initiative, 2009

The first part is an exploration of the legal perspective on how best to operationalise the integration of ESG issues into the investment process, particularly with respect to investment mandates and investment management contracts. n The second part is an analysis of responses to a pioneering survey questionnaire sent by the AMWG to investment management consulting firms, covering ESG issues as they relate to various aspects of the investment management process, including legal language. The questionnaire can be found in its entirety in Appendix C. n The third part is a literature review that focuses on practical developments on the integration of ESG issues into the investment process, providing insights into the extent to which institutional investors have adopted, and can adopt, longer-term and more sustainable investment approaches. In addition, the literature review covers legal developments on fiduciary duty and ESG issues since, and including, the Freshfields Report.

G. Private sector efforts and initiatives on environment

Many companies and corporations have developed their own approach to integrating environment, social, standards and reporting into a cohesive internal strategy, for Example PUMA has developed their an Environmental Profit and Loss Account (E P&L) in 2009 to measure and account for environmental externalities. The company now incorporates this into its overall sustainability strategy which includes standards, supply chains, stakeholders and reporting. An environmental profit and loss account (E P&L) is a company's monetary valuation and analysis of its environmental impacts including its business operations and its supply chain from cradle-to-gate. The E P&L analysis provides a metric to measure and monitor the footprint of the company's operations and suppliers all the way to the initial raw materials. Kering, A luxury goods brand, has also adopted the Environmental Profit & Loss (EP&L), which makes the invisible impacts of business visible, quantifiable and comparable. As has Vodaphone, among others.

World Business Council for Sustainable Development, *CEO Guide to a Circular Economy*, Guide has been produced by WBCSD in collaboration with Accenture Strategy. 2015.

The concept of the circular economy isn't widely understood by business. Mobilizing this opportunity will remain a challenge until many more business leaders adopt a "circular mindset." The circular economy is a new way of looking at the relationships between markets, customers and natural resources.

The U.S. Chamber of Commerce Foundation, *ACHIEVING A CIRCULAR ECONOMY: How the Private Sector Is Reimagining the Future of Business*, The U.S. Chamber of Commerce Foundation, 2015.

A shift toward the circular economy could generate, by 2025, an estimated $1 trillion annually in economic value, create more than 100,000 new jobs, and prevent 100 million tons of waste within the next five years, while restoring the natural capital and ecosystem services that are the foundation of healthy societies and economies globally. The examples in this report illustrate how it can be done.

The Principles for Responsible Investment (PRI) are six voluntary and aspirational investment principles that offer a menu of possible actions for incorporating environmental, social and governance (ESG) issues into investment practice. PRI currently has nearly 1600 signatories, from over 50 countries, representing USD 60 trillion of assets under management. Its 6 principles include pledges by signatories to:

- incorporate ESG issues into investment analysis and decision-making processes;
- be active owners and incorporate ESG issues into their ownership policies and practices;
- seek appropriate disclosure on ESG issues by the entities in which they invest;
- promote acceptance and implementation of the Principles within the investment industry; v) work together to enhance their effectiveness in implementing the Principles; and
- report on their activities and progress towards implementing the Principles.

The Principles do not have minimum entry requirements or absolute performance standards for responsible investment. PRI signatories are not necessary engaged in impact investing. However, signatories have an obligation to report on the extent to which they implement the Principles through the annual Reporting and Assessment process.

The Equator Principles (EPs) is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects. It is primarily intended to provide a minimum standard for due diligence and monitoring to support responsible risk decision-making. EPs apply globally, to all industry sectors and to four financial products: 1) Project Finance Advisory Services, 2) Project Finance, 3) Project-Related Corporate Loans, and 4) Bridge Loans. The relevant thresholds and criteria for application is described in detail in the Scope section of the EPs.

Impact investments are investments with the intention to generate social and environmental impact alongside a financial return. The growing impact investment market provides capital in sectors such as sustainable agriculture, clean technology, microfinance, and affordable and accessible basic services including housing, healthcare, and education. Impact investments are undertaken by a range of organisations including institutional investors (fund manager, pension funds, and insurance companies), development finance institutions, banks and foundations. Given that impact investing is a relatively new approach, the market size for it has not yet been fully quantified. However, figures supplied by the Global Impact Investing Network (GIIN) indicate that the market is expanding. In total, 156 organizations (including fund managers, foundations, banks, development finance institutions, family offices, pension funds, and insurance companies) committed more than USD 15 billion to impact investments in 2015, and planned to commit 16 per cent more capital in 2016

H. Circular Economy

Nußholz, Julia L. K., Circular Business Models: *Defining a Concept and Framing an Emerging Research Field*, International Institute for Industrial Environmental Economics (IIIEE), Lund University, Tegnérsplatsen 4, 22350 Lund, Sweden, Published: 10 October 2017.

This study aims to help frame the field of circular business model research, by clarifying the fundamentals of the concept from the perspectives of resource efficiency and business model innovation. Expanding on these findings, a review of how the concept is used in recent academic literature is provided. It shows that a coherent view is lacking on which resource efficiency strategies classify a business model as circular. This study clarifies which resource efficiency strategies can be deemed as relevant key strategies for circular business models, and suggests a new definition of the concept.

Richard Gower and Patrick Schröder, *VIRTUOUS CIRCLE, How the circular economy can create jobs and save lives in low and middle-income countries*, Tearfund, 2016.

This short paper – primarily for development policy-makers and practitioners – highlights a significant opportunity to accelerate progress towards the Sustainable Development Goals. Case studies from Brazil, Ghana, Kenya and India demonstrate how supporting (and removing obstacles to) circular economy business models can provide a triple win: in increasing productivity and economic growth; in improving the quality and quantity of employment n saving lives, by reducing environmental impacts such as water pollution, air pollution and climate change (approximately 9 million people die of diseases linked to mismanagement of waste and pollutants each year). The concept of the circular economy is almost entirely absent from the development discourse at present. And yet, the circular economy holds out the promise of an alternative growth model that reduces the tension between lifting people out of poverty and protecting the planet, dramatically increasing the scope for meeting the SDGs.

EPEA Brasil, Tearfund and NuReS, *Closing the loop-The benefits of the circular economy for developing countries and emerging economies*, Tearfund 2016.

This report presents evidence to the effect that emerging economies can leapfrog development stages and implement an economic model that is better both for society and for the environment. The circular Cradle to Cradle® paradigm is a production model aimed at leveraging steady economic development for the future, without causing environmental damage. If implemented correctly, it is capable of promoting the maintenance of natural ecosystems while at the same time offering benefits to the poorest groups in society.

Ellen MacArthur Foundation, *TOWARDS THE CIRCULAR ECONOMY: Economic and business rationale for an accelerated transition*, Ellen MacArthur Foundation,2013.

In the face of sharp volatility increases across the global economy and proliferating signs of resource depletion, the call for a new economic model is getting louder. In the quest for a substantial improvement in resource performance across the economy, businesses have started to explore ways to reuse products or their components and restore more of their precious material, energy and labour inputs. The time is right, many argue, to take this concept of a 'circular economy' one step further, to analyse its promise for businesses and economies, and to prepare the ground for its adoption.

I. Green Economy

Green economy: Sustainable Development Knowledge Platform

Recent publications on green economy or green growth by the United Nations Environment Program (UNEP), the UN Department of Economic and Social Affairs. United Nations Department of Economic and Social Affairs (UN-DESA) recently became a knowledge partner of the Green Growth Knowledge Platform (GGKP). The GGKP is a dynamic global network of researchers, development practitioners, and policy makers that identifies and addresses major knowledge gaps in green growth theory and practice.

Dialogue Support for a Green Economy – Environment Integration in Employment, Market Development and Trade, SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY Address: SE-105 25 Stockholm, Sweden. Office: Valhallavägen 199, Stockholm, 2017

This paper provides ideas for questions that can be used in dialogue with partners about integration of the environment and climate change perspective in contributions within employment, market development and trade. It can also be used as a support in assessments and complements Sida's general guidelines for integration of environment and climate change and the Information Brief on Green Economy.

Green Industrial Policy - Concept, Policies, Country Experiences, ISBN No: 978-92-807-3685-4, UN ENVIRONMENT, 2017

Green industrial policies offer a practical way to shape inclusive, sustainable economies right around the world. Many of the findings of this report are already being put into practice around the world. Through the United Nations Industrial Development Organization, the Partnership for Action on Green Economy is helping governments to develop action plans that include green industrial policy recommendations. For example, in Burkina Faso, Ghana, Peru, Senegal and China green industry assessments have been conducted or are under way. The report is published as part of the Partnership for Action on Green Economy (PAGE)—an initiative by the United Nations Environment Programme (UN Environment), the International Labour Organization (ILO), the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO) and the United Nations Institute for Training and Research (UNITAR) in partnership with the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE).

A Guidebook to the Green Economy

Allen, Cammeron and Stuart Clouth, *Issue 1: Green Economy, Green Growth, and Low-Carbon Development – history, definitions and a guide to recent publications*, Division for Sustainable Development, UNDESA, August 2012.

This document provides an overview of recent literature on 'Green Economy' and the concepts of 'Green Growth' and 'Low-Carbon Development' (and other variations such as low emissions development or lowcarbon growth). The overview provides a history of these concepts and

brings together recent publications from international organisations, thinktanks, experts, political groups, governments, nongovernment organisations and others, most of which are freely available on the Internet. Recent national green economy, green growth and lowcarbon development strategies are also provided. In most cases, a web link and citation have been provided so that the reader can find out more information or reference the document as necessary.

Using Models for Green Economy Policymaking, United Nations Environment Ptogramme, 2014.

The report aims to provide 1) a framework to review and select of methodologies and models, and 2) information on what tools are available for government and are being used to support analysis of green economic strategies at the national and sectoral levels.

Maria I. Litido & Gaia Righini, TOOLS AND METHODS FOR THE GREEN ECONOMY, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Bologna, Italy (February 2013)

The European Commission is promoting an integrated approach for environmental policies in order to support prevention and decreasing of impacts by means of the coordination of existing tools and regulation (e.g. taxes, subsidies, procurements) and their implementation in products and services. This approach is evident in the "Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan.

8th European Forum on Eco-Innovation, *Case studies Making Eco-Innovation happen in Small and Medium-sized Enterprises*, Palacio Euskalduna, Avenida Abandoibarra, 4, 48011, Bilbao, Spain 20-21 April 2010

Concrete examples are presented of best experiences and best practices of how SMEs can respond to develop their niche in the economy. The intention is to elaborate recommendations for more effective government policies at the regional, national and European level.

Private Sector tools for contribution to SDGs

SDG Compass is a collaboration between the United Nations Global Compact, international sustainability consultancy GRI and the World Business Council for Sustainable Development.

The SDG Compass provides guidance for companies on how they can align their strategies as well as measure and manage their contribution to achieving the SDGs. The guide presents five steps that assist companies of all sizes in maximizing their contribution to the SDGs.

The SDG Compass functions as a user guide that is intended to lead an organization through a self-assessment process by asking evaluative questions and focusing on systems and processes it has in place. The SDG Compass is developed with a focus on large multinational companies. However, small and medium-size enterprises are also encouraged to use it as a source of inspiration and adapt as necessary. It

is also designed for use at the entity level, but may be applied at product, site, divisional or regional level as required.[35]

SDG Industry Matrix a joint initiative between the U.N. Global Compact and international consultancy KPMG

The SDG Industry Matrix, also created as part of a U.N. Global Compact partnership is a resource that is designed to inform by example. The project will showcase brief industry-specific examples and ideas for corporate action that are related to each of the SDGs. The findings will be presented in a series of publications that will highlight bold pursuits and decisions made by a diversity of companies for every SDG. The publications, "or matrices" that demonstrate the confluence between business and the SDGs, are clustered around the following industries: transportation; financial services; industrial manufacturing; healthcare and life sciences; food, beverage and consumer goods; energy, natural resources and chemicals; and infrastructure. For every matrix, KPMG will convene a roundtable discussion with issue area experts and industry associations to review the content, agree on the most compelling opportunities for shared value, identify the most pertinent examples and ultimately present the publications. The roundtable dialogues are being held various international locations through December.[36]

The Poverty Footprint is a collaboration between the U.N. Global Compact and international advocacy group Oxfam.

The Poverty Footprint is an assessment tool that enables companies and civil society partners to understand corporate impacts on multidimensional poverty. As a tool to help implement the SDGs, the Poverty Footprint provides a comprehensive overview of the factors that influence poverty. It emphasizes stakeholder engagement and partnership between companies and civil society as a means for establishing pro-poor business strategies.

Similar to the SDG Compass, the Poverty Footprint provides an impact assessment of where a company and its value chain are functioning to alleviate poverty and where its actions are exacerbating poverty. It provides data that enables an organization to manage the positive and negative impacts of its value chain more effectively and to find opportunities to advance pro-poor business strategies. It also gives companies a tool for producing a public report to share its findings and identify next steps for commitments and provides recommendations that shape a plan of action.

Business for 2030 an initiative of the U.S. Council for International Business

Business for 2030 is a visually-driven, interactive site that provides private sector actors with a useful understanding of companies who are adopting strategies that align with the SDGs. Similar to the SDG Industry Matrix, Business for 2030 informs through examples. The site showcases past and continuing business contributions to sustainable development through the SDGs.

The site is structured as a three-tiered approach: 1)providing a comprehensive explanation of the SDGs and making the business case for achieving them; 2) providing examples of businesses that are currently working towards each of the 169 individual indicators for the 17 total goals; and 3), through an open-source invitation that gives businesses the opportunity to submit their contributions and efforts to be showcased on the site.

Business Charter for Sustainable Development a project by the International Chamber of Commerce.

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[35] https://sdgcompass.org/

[36] https://home.kpmg.com/xx/en/home/about/citizenship/global-goals-sustainable-development/sdgindustrymatrix.html

The Business Charter for Sustainable Development has been designed to help companies contribute to the SDG implementation through a practical framework that includes tools for businesses of all sectors and geographies to help shape their own sustainability strategy.

The tool is less self-assessing than the SDG Compass and the Poverty Footprint and without the case study examples of Business for 2030 and the SDG Industry Matrix. The Business Charter for Sustainable Development is unique as being a practical resource for any and all businesses. It is intended to be relevant for small and medium-sized companies and businesses in emerging markets as a common and accessible starting point for aligning with the SDGs.

It is organized by identifying eight principles for sustainable development and the underlying indicators in support of each one. For each principle, the charter offers concrete recommendations of intra-industry and collaborative actions that could be taken to meet those principles. And importantly, it links those courses of actions to an individual SDG, providing a tactical guide for how any business can work towards fulfilling a global goal.[37]

Poverty FootPrint- A People-centred Approach to Assessing business Impacts on sustainable Development, UN Global Compact & Oxfam International, Published September 2015
The Poverty Footprint is part of a collaborative initiative between the united nations global compact (un global compact) and oxfam international (oxfam) to help companies – working in collaboration with a civil society organization (cso) partner – to understand the impacts of their operations and value chain on people and poverty, and to turn this learning into action. the tool also takes a multidimensional view of poverty – which when suitably measured – presents a more complete picture of poverty than the income indicator alone. The value of the Poverty Footprint is its ability to provide business and csos with the framework to partner and learn where and how a company impacts poverty, leading to recommendations for action.

Bertelsmann Stiftung and Sustainable Development Solutions Network, *SDG Index and Dashboards Report 2017, International spillovers in achieving the goals Global Responsibilities*, July 2017

To complement the official SDG Indicators and voluntary country-led follow-up and review processes, the Sustainable Development Solutions Network (SDSN) and Bertelsmann Stiftung issued a first global unofficial SDG Index and Dashboards in 2016 (Sachs et al., 2016). That report synthesized metrics with available data – based whenever possible on the official SDG indicators – to enable countries to take stock of where they stood in 2016 with regards to fulfilling the SDGs and to help countries set priorities for early action.

Leadership Council of the Sustainable Development Solutions Network, *Indicators and a Monitoring Framework for the Sustainable Development Goals: Launching a data revolution for the SDGs*, July 12, 2015.

This report is the result of over 18 months of consultative work led by the SDSN with the contributions of nearly 500 organizations and thousands of individuals – draft versions of the report have so far been downloaded over 80,000 times. The SDSN Thematic Groups, a large number of UN agencies and other international institutions, national statistical offices, civil society organizations, academia, and businesses have provided expert input that has helped us improve the indicator framework.

Eurostat, *Sustainable development in the European Union MONITORING REPORT ON PROGRESS TOWARDS THE SDGS IN AN EU CONTEXT*, ISBN 978-92-79-72287-5 doi:10.2785/237722 KS-04-17-780-EN-N, European Union, 2017.

[37] Mendoza Naki B. ;*5 tools to help businesses tackle the SDGs*, Devex.com; *19 October 2015*

The Communication provides for regular monitoring of progress towards the SDGs in an EU context. This publication entitled 'Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context (2017 edition)' is the first of these regular monitoring exercises. It builds on the EU SDG indicator set that was developed for the purpose of monitoring progress towards the SDGs in an EU context and adopted in May 2017

United Nations Development Programme and GRI, *MEASURING IMPACT: How Business Accelerates the Sustainable Development Goals*, United Nations Development Programme, Istanbul International Center for Private Sector in Development, 2016.

This report explores two complementary trends: (1) businesses are increasingly engaged in impact measurement and sustainability reporting to capture their sustainability impact and (2) there is growing public sector interest in capturing the business contribution to the sustainable Development Goals (sDGs). Drawing on consultations with a range of companies and governments, the report offers recommendations to enable both sectors – business and governments - to work together to support the world's sustainable development agenda.

GRI, United Nations Global Compact, World Business Council on Sustainable Development, *SDG Compass: Linking the SDGs and GRI*, Updated 2017.

The following table links the Sustainable Development Goals (SDGs) to the relevant indicators and disclosures in the GRI Standards and Sector Disclosures. These linkages are based on a more detailed analysis available on the SDG Compass website: www.sdgcompass.org.

O'Neill, Rebecca and McElroy, Sarah, *Targeting Value Setting, Tracking & Integrating High-Impact Sustainability Goals*, SustainAbility, December 2017

Targeting Value provides clear insights on the value to business of setting, pursuing, achieving and reporting on sustainability goals. The report also presents current best practices for ensuring goals deliver maximum business value and broader societal impact.

J. Investment

PRI Association, *ALIGNING RESPONSIBLE INVESTMENT WITH THE UN SUSTAINABLE DEVELOPMENT GOALS*, UNEP Finance Initiative, 2017.

The PRI's Blueprint, published in 2017, sets out the PRI's high-level agenda for the next ten years, which focuses on real-world influence and sustainable outcomes. This Blueprint is the outcome of the consultation process that the PRI went through as part of its 10 year anniversary, including more than 25 meetings around the world. The Blueprint clearly makes the case for aligning responsible investment with the broader objectives of society and the SDGs. If this work is successful, by 2030 PRI signatories will have allocated 25% (cumulative, in total) of their AUM to investments with a direct link to positive SDG contributions.

Ivy So & Alina Staskevicius MBA,*Measuring the "impact" in impact investing,* Harvard Business School, 2015.

The aim of this study was to deepen the understanding of the specific practices and methodologies that established impact investors are using to measure the social impact generated by their investments, and to analyze the conditions under which each measurement method is most relevant. The intended audience for our analysis is impact investors themselves, as well as social sector organizations, traditional funders, and evaluators.

Investment Leaders Group, *THE VALUE OF RESPONSIBLE INVESTMENT The moral, financial and economic case for action*, University of Cambridge, Institute for Sustainable Leadership, 2014.

In order to clarify the various motivations, opportunities and risks associated with responsible investment, the ILG set itself the task of developing an intellectual modelof how responsible investment creates value in the real economy, with a view to strengthening its adoption by investors. The word 'model' was interpreted broadly: a framework for thinking about (and acting on) the opportunities and challenges presented by responsible investment. The resulting report explores the moral, financial and economic justification for responsible investment, and the academic evidence underpinning future action. As one would expect, it concentrates on how environmental, social and governance (ESG) factors1 materially impact investment risk and returns, clarifying the agency of investors over non-financial value creation.

Sjöström ,Emma (PhD), NUWA AB, *The Performance of Socially Responsible Investment*, Sjunde AP-fonden (AP7, March 2015.

The purpose of the present report is to compile studies that compare the performance of SRI funds or indices with those of conventional funds or indices. This report includes 21 studies that were published in the three-year period (2011-2013) that follows upon the aforementioned AP7 report. When the two reports are taken together, we have a compilation of 42 academic papers published over a period of six years.

Miyamoto, K. and Chiofalo, E., *Development Co-operation for Private Sector Development: Analytical Framework and Measuring Official Development Finance*, OECD Development Co-operation Working Papers, No.32, OECD Publishing, Paris, 2017.

This Working Paper provides an analytical framework of development co-operation for private sector development (PSD) and a measurement to capture relevant Official Development Finance (ODF). PSD is defined as development co-operation which addresses relevant policies and institutions, market functioning and enterprise resources. It aims to improve the investment climate and productive capacity of the local private sector—particularly of small- and medium-sized enterprises—including through developing physical infrastructure.

Burckart, William and Butterworth, Jamie, *INVESTING IN THE NEW INDUSTRIAL (R)EVOLUTION Insights for asset owners and managers financing the circular economy*, The Investment Integration Project (TIIP), 2017.

In Investing in the New Industrial (R)evolution, the authors describe a systems-level approach and key investment strategies designed to activate circular economy principles. We can see such principles increasingly expressed through our community's investment and eco-system activities.

World Bank Group, *BLUE ECONOMY DEVELOPMENT FRAMEWORK: Growing the Blue Economy to Combat Poverty and Accelerate Prosperity*, April 2016.

Diversifying countries' economies beyond land-based activities and along their coasts is critical to achieving the Sustainable Development Goals and delivering smart, sustainable and inclusive growth globally. In Europe for example, the blue economy represents roughly 5.4 million jobs and generates a gross added value of almost €500 billion a year.

Davis, Adam, *Environment as an Asset Class: Scaling Up Private Solutions to Environmental Problems*, Conservation Leadership Council White Paper, May 2014.

This paper examines the current 'state of play' in restoration markets that use private capital and initiative to address strategic corporate and development goals and discusses the implications for balancing economic growth and environmental protection.

Annex A: List of Multilateral Environmental Agreements

A detailed table has been drawn listing the international environmental agreements to which the Union is already a Party or a Signatory.
In addition, for ease of reference, the main agreements have also been grouped below according to the general environmental themes, in line with the structure of the Site Map.

Air:

- Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP)(1979) and its protocols

Biotechnology:

- Cartagena Biosafety Protocol (2000) to the Rio Convention on Biological Diversity (1992) and its Supplementary Protocol on Liability and Redress (2010)

Chemicals:

- PIC Rotterdam Convention on Prior Informed Consent (1998)
- POP Stockholm Convention on Persistent Organic Pollutants (2001)
- Minamata Convention on Mercury (2013)

Civil Protection and Environmental Accidents:

- Helsinki Convention on Industrial Accidents (1992)
- Barcelona Convention (1976) as amended and its protocols
- Helsinki Convention on the Baltic Sea (1992)
- OSPAR Convention (1992)
- Bonn Agreement (1983)
- Lisbon Agreement (1990)
- Bucharest Convention on the Protection of the Black Sea Against Pollution (1992)

Climate Change and Ozone Depletion:

- UNFCCC Framework Convention on Climate Change (1992)
- Kyoto Protocol (1997)
- Paris Agreement (2015)
- Vienna Convention for the Protection of the Ozone Layer (1985)
- Montreal Protocol (1987) as amended

Governance:

- Aarhus Convention (1998) on access to information, public participation in decision-making and access to justice in environmental matters and its Protocol on Pollutant Release and Transfer Registers (2009)
- Espoo Convention on Environmental Impact Assessment (1991)

Industry:

- Helsinki Convention on Industrial Accidents (1992)

Land use:

- Alpine Convention (1991) and its protocols

Nature and biodiversity:

- CBD Convention on Biological Diversity (1992)
- Cartagena Protocol on Biosafety (2003)
- Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits arising from their Utilization (2010)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES Convention) (1973)
- Bonn CMS Convention on the Conservation of Migratory Species (1979)
- Agreement on the conservation of African-Eurasian Migratory Waterbirds (AEWA-CMS) (1995)
- Bern Convention on European Wildlife and Habitats (1979)
- Convention for the protection of Vertebrate Animals used for Experimental and other Scientific Purposes (1986)
- International Tropical Timber Agreement (ITTA) (1994)
- Alpine Convention (1991) and its protocols
- Ramsar Convention on Wetlands of International Importance (1971)
- Agreement on the Protection and Sustainable Development of the Prespa Park Area (2010)
- CAMLR Convention for the Conservation of Antarctic Marine Living Resources (1980)

Soil:

- UNCCD Convention to Combat Desertification in Africa (1994)

Waste:

- Basel Convention on hazardous wastes (1989)

Water:

- Helsinki Convention on Watercourses and International Lakes (1992)
- Danube river basin convention (1987)
- Rhine river basin convention (1999)
- Barcelona Convention (1976) as amended and its protocols
- OSPAR Convention (1992)
- Bonn Agreement (1983)
- Helsinki Convention on the Baltic Sea (1992)
- Bucharest Convention on the Protection of the Black Sea Against Pollution (1992)