Usability of taxonomies and nomenclatures for the Green, Social and Sustainable Bond markets

March 2021

Contents

1.Introduction and aim of the guidance

Green, Social and Sustainability Bonds are any type of bond instrument where the proceeds will be exclusively applied to eligible environmental and social projects or a combination of both:

- **Green Bonds** are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance projects with clear environmental benefits and which are aligned with the four core components of the Green Bond Principles (GBP). Eligible Green Project categories include renewable energy, energy efficiency, pollution prevention and control, eco-efficient and/or circular economy adapted products, production technologies and processes, Green buildings, terrestrial and aquatic biodiversity conservation, clean transportation etc.
- **Social Bonds** finance projects that directly aim to address or mitigate a specific social issue and/or seek to achieve positive social outcomes, especially but not exclusively for a target population(s). Social Project categories include providing and/or promoting affordable basic infrastructure, access to essential services, affordable housing, employment generation, food security, or socioeconomic advancement and empowerment
- **Sustainability Bonds** are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance a combination of Green and Social Projects and which are aligned with the four core components of the GBP and SBP

The GBP, the Social Bond Principles (SBP) and the Sustainability Bond Guidelines (SBG) are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the green, social and sustainability bond market by clarifying the approach for issuance of Green, Social and Sustainability bonds respectively. Whilst this guidance can be utilized for social and sustainability bonds also, the main focus will be on the green bonds.

On a global basis, members of the GBP and other market participants use many different selection criteria to identify economic activities, projects, products and assets, that could become eligible to receive green financing (particularly from green bonds) or that could become part of green (bond) investment funds.

This document aims to provide guidance on various nomenclatures and taxonomies used to assess green eligibility: 1) why different market participants need well-structured sustainability information; 2) what are nomenclatures and taxonomies; and 3) usability considerations of nomenclatures and taxonomies.

Nomenclatures and taxonomies are classifications systems for economic activities and products used by market participants to analyze their activities. However, using a nomenclature or taxonomy by itself may not lead to a conclusion of the suitability of the activities, projects, products to receive green financing.

Given the GBP, SBP and SBG promote a contextual and flexible approach to identifying green projects and environmental benefits, a comprehensive green bond Framework should build on the GBP and take advantage of its open architecture, enabling use of guidance on what is green and social (as appropriate for the issuer's case and context), in order to clearly and credibly communicate the issuer's environmental sustainability objectives and the process by which the issuer determines how the projects fit within the Green Project categories, the related eligibility criteria as well as any other process applied to identify and manage potential material environmental and social risks associated with the projects. Issuers should seek to clarify any related eligibility and exclusion criteria, as well as any other processes by which the issuer identifies, and manages perceived social and environmental risks associated with the relevant project(s).

The Issuer's processes should seek to identify mitigants to any material social and/or environmental risks from the relevant project(s), and should make clear any trade-off analysis undertaken and monitoring required where the issuer assesses the potential risks to be meaningful. The Green Bond Framework should also position the evaluations and selection of green projects within the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability. Any fundamental incoherence between the Bond Framework and issuer's overall strategy should be flagged, as this is likely to be of concern to markets.

2.Why is well-structured sustainability-related information needed?

Green bond market participants are increasingly looking for harmonized or comparable information to identify economic activities that could be eligible to receive green financing. They need this information in order to be able to implement their green policies and ambitions, to develop products that will be eligible to receive green financing or to comply with the local green/sustainable finance policies and regulations.

We've seen an increasing number of countries and regions launch sustainable finance action plans, strategies, policies and standards to mobilize green and sustainable finance as well as to ensure stability and resilience of the financial system. EU and China are two examples, we see similar initiatives across the world from Canada to South Africa and we see global initiatives such as NGFS and TCFD underpinning these efforts.

Institutional investors

Investors need sustainability-related information for the implementation of Responsible Investing (RI) strategies. Key RI strategies are green and social bond and impact investing, Environmental, Social, governance (ESG) integration, including various low carbon and decarbonization risk mitigation strategies, exclusionary screenings, norms-based screenings, engagement and active ownership, best-in-class selection, and thematic investing. Investors also increasingly include ESG considerations into the advice that they offer to individual clients. Investors may want to know what proportion of the activities of an issuer is green, in order to add non-labeled bonds from issuers to their green bond or SRI funds.

Investors also need sustainability-related information and definitions for disclosures (client and public reporting) and other non-financial disclosures, including for regulatory purposes. In the context of Europe, and especially after the publication of the EU Taxonomy as part of the Taxonomy Regulation, and as adopted by the European Parliament and European Council, investors are expected to disclose how they are contributing to the achievement of climate and environmental goals. The EU Taxonomy can and will be used to determine the exposure of portfolios and benchmarks to the green economy. Increasing transparency from investors articulating the "green proportion" of their investment will contribute to further development of the green economy.

Retail investors

Taxonomies may make sustainable finance more accessible to retail investors as the standardized green definitions lower the barrier to entry for retail investor engagement in green, social and sustainability bonds. Retail investment funds and other products may even be officially labeled as (environmentally) sustainable with a sustainability seal or certification, for example when the constituents within these

funds comply with certain green bond indexes, taxonomies, ESG assessments and ratings, or standards. The labeling process will normally be an externally audited or verified process.

Issuers

Sustainability-related information is increasingly key for the business strategy and for the daily operations of companies. Issuers, such as companies and financial institutions, are faced with non-financial disclosure requirements by investors, the official/public sector and of other stakeholders. The information is relevant for issuers who want to issue green bonds and want to assess the suitability of their assets to receive proceeds from green bonds, as well as to make their operations more sustainable. Corporates typically use (audited) Certifications, Environmental Product declarations (EPDs) and Environmental Claims to communicate the sustainability of their products and services to buyers and consumers.

Observers

Non-Governmental Organizations (NGOs), universities, research institutes, auditors, consultants, service providers and need sustainability-related information for advising on sustainability

Underwriters (banks)

Underwriters advise issuers on expectations of investors and third-party reviewers with respect to sustainability-related strategies in the capital markets, including the issuance of sustainable capital market instruments such as green, social and sustainable bonds.

Official/public sector

Supervisors, regulators and governments needs sustainability information for climate policy making, to steer public investments and fiscal incentives, for stress testing, for industrial production (monitoring) and for developing international trade in environmental goods and services.

The official/public sector additionally needs sustainability-related data for environmental-economic reporting. Many countries publish Environmental Economic Accounts, which measure and monetize the outcomes of environmental policies. It would be optimal if aggregated disclosures by banks, investors, regulators and companies could be compared with these environmental economic accounts. This is only possible when there is a level of comparability of global sustainable finance disclosures with global disclosures in the UN System of Environmental-Economic Accounts (UN SEEA) by countries.

3.What are Nomenclatures and Taxonomies?

What are Nomenclatures? What are Taxonomies? How are they connected, how can they be compared and why are they important?

Broadly, nomenclatures are coding systems that classify economic activities, products, processes etc. of entities across different industrial sectors to generate economic value. Depending on the purpose, different nomenclatures are designed for different purposes, such as calculating the size of economies, tax accounting, production monitoring, trade flow monitoring and customs tariffs and national statistics. The users of these nomenclatures range from government agencies, investors, private corporations and the public sector.

In order to determine whether economic activities are *sustainable* (whether in terms of "green-ness", or other sustainability-related aspects) or not, the market participants need additional assessment systems. Broadly, sustainability taxonomies define if an industrial activity, product, process, etc. is sustainable, green or social, and, in addition, assess the extent of sustainability/green-ness/social-ness. Taxonomies are coherent sets of sustainability criteria.

Nomenclatures: classifications of economic activities and products

Nomenclatures (or concordance or classification) are sometimes used to systemically classify the economic activities and products, including goods and services (together, Economic Nomenclatures), that may be further screened for green / sustainability-related information, e.g. NACE in the EU, NAICS in the US and CSIC in China. This is a coherent numeric coding system to identify economic activities and products. Specialists have developed over the years an international system of activity classifications with two main levels: industry classifications and product classifications.

For ease of navigation, the Economic Nomenclatures have been further categorized into three broad groups that classify:

1) Economic activities,

2) Products (includes goods and services), and

3) Traded goods nomenclature that are harmonized globally and used in international trade.

A summary description of each of the nomenclatures is found in Section 5.

Industry level codes, for example ISIC or similar (NACE, NAICS, CSIC, etc.) describe the economic activities (or industry) of a company. These industry codes are quite detailed (4-digits or more are normally used to describe approximately 400 to 1200 subsectors). Many financial market participants use such codes from various financial industry data providers, for example BICS, GICS, ICB, SICS, TRBC, etc.[1]. The bit-depth of these nomenclatures are very important: systems that use 4 digits to describe an activity (like motor vehicle manufacturing) will be less granular than systems that use 13 digits to describe an activity (like electric car manufacturing). Not all systems that market participants use are equally granular. While statistics offices and industrial corporates use up to 13 digits, financial institutions may use only 4 digits

[1] BICS – Bloomberg Industry Classification Systems, GICS – Global Industry Classification Standard (by MSCI), ICB – Industry Classification Benchmark (by FTSE Russell), SICS - Sustainable Industry Classification System (by SASB), TRBC – Thomson Reuters Business Classification

or even less. A granular nomenclature with more sub-activities could help market participants to make pre-selection for their sustainability assessments faster and more reliable.

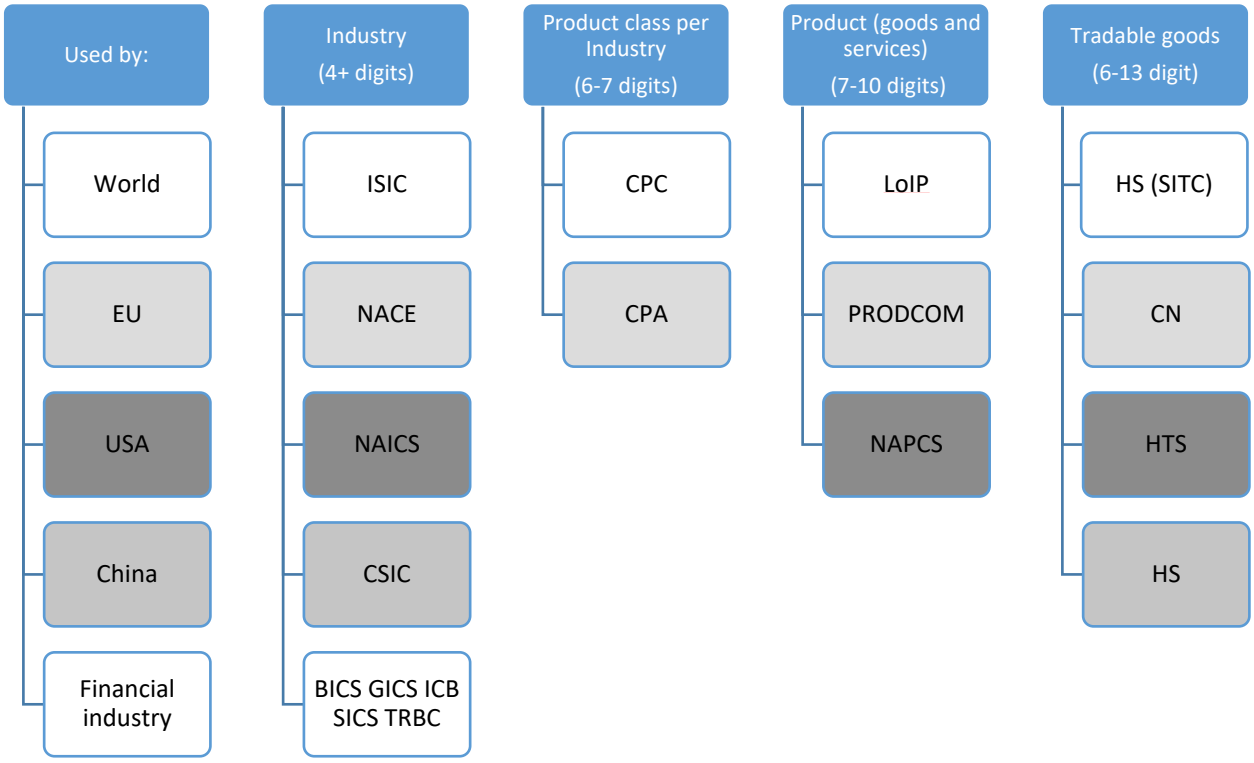

Figure 1: Economic activity and product nomenclatures in selected parts of the world/ user group[2]

The extent of sustainability (*green and/or other sustainability-related aspects*) of industries depends also on the extent of sustainability of the products and services produced, both during the production and in the usage phase. To classify products and services, The Central Product Classification (CPC) and the Classification of Products by Activity (CPA) systems are examples of classifications that help to identify which products and services an industry produces. The main principle for classifying products in the CPC and CPA is the industrial origin criterion. Each product whether it be a good or a service - is assigned to one - and only one – industry activity code at the most detailed level, namely the sub industry that characteristically produces the product.

In many countries, companies are required to report production, purchasing and trade figures to the official/public sector for statistical purposes and for customs tariffs. An example of the product classifications that are used globally in this context are the Harmonized System codes (HS, 6- to 13-digit), PRODCOM in the EU and NAPCS in the United States. NAPCS is a product classification constructed on the demand-based aggregation principles that emphasize grouping products according to their principal use.

[2] See Appendix I for detailed explanations

As an example, table 1 shows the international codes for various types of passenger cars. The level of detail about the product increases from left (4-digits) to right (8-digits). Only at the 8-digit level the electric vehicles can be distinguished in the classification system.

Table 1: Hybrid, plugin and EV passenger cars can be distinguished via international product codes

NACE 4-digit	Industry	CPA, 6 - digit	Product (class)	PRODCOM, 8-digit	Product	HS, 8-digit
C29.10	Manufacture of motor vehicles	C29.10.24	Passenger cars	C29.10.24.10	**Hybrid** motor vehicle	87.03.40.10 87.03.50.00
C29.10	Manufacture of motor vehicles	C29.10.24	Passenger cars	C29.10.24.30	**Plugin**-hybrid motor vehicle	87.03.60.10 87.03.70.00
C29.10	Manufacture of motor vehicles	C29.10.24	Passenger cars	C29.10.24.50	**Electric** motor Vehicle (100% electric)	87.03.80.10

United Nations Statistics Division and Eurostat's RAMON (Reference And Management Of Nomenclatures), among other statistical offices, provide so-called "correspondence tables"[3] to map one nomenclature to another. Table 2 below is an example of correspondence between ISIC, NACE and GICS for the transportation sector.

Table 2. Economic Activity Nomenclature mapping

ISIC Rev. 4		NACE Classification				4th Level GICS	
Code	description	Macro-sector	Level 2	Level 3	Level 4	Code	Sub-industry name
491	Transport via railways	H - Transporting and storage	H49	H49.1	H49.1.0	20304010	Railroads

The existence of a separate nomenclature code for an electric vehicles helps to pre-screen economic activities that are potentially sustainable. For most economic activities (products and services) there would not be a unique code that distinguishes between potentially sustainable and regular products and services. For example: coffee would have a unique code, but sustainable certified coffee would have the same code. In order to determine the sustainability of economic activities, market participants will always

[3] https://unstats.un.org/unsd/classifications/Econ#Correspondences
https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL

need to combine the Nomenclatures with additional systems to identify their sustainability: the Taxonomies.

Taxonomies: classifications of sustainable/green activities

The second structural element and the determining factor of sustainability-related information are the taxonomies, which typically provide technical criteria, terminologies, thresholds, tools and/or labels to identify sustainable (or the extent of sustainability/greenness) activities, products or processes. Some of these taxonomies focus only on the environmental aspects (i.e. greenness), and many of them cover both green and social elements to different extents to classify the activities as sustainable.

Taxonomies can take the form of tools for broad target groups, for example the EU Taxonomy, which is mainly designed for the financial industry, its regulators and the finance staff of companies or issuers of securities.

Some sustainability/green classifications take the form of ecolabels or standards, and these in turn are used by issuers/companies to highlight and communicate in an easier-to-understand-format the extent of sustainability/greenness of their products/activities. Industry bodies or the official/public sector, and private entities develop the criteria for these standards in collaboration with stakeholders. Companies label products or processes with, for example, audited eco-labels, Environmental Product Declarations (EPDs) or Environmental claims (like "recyclable"). Given the strong prevalence of such sustainability labels/standards, the Green Eligibility Working Group produced a separate document titled **"Sustainability Standards and Labels - Overview for Green Bond Market Participants[4]"**, which seeks to provide market participants with guidance on the types of information to consider when determining their opinion on the relative strengths of a given environmental/green (or sometimes commonly associated with sustainability) standard.

[4] Document is available at this link: https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Guidance-on-Sustainability-StandardsJune-2020-090620.pdf

Sustainability Taxonomies can be further categorized into three broad groups (though this is not by all means an exhaustive categorization): 1) Financial Industry Taxonomies, 2) Standards designed for companies or sectors and 3) Taxonomies designed for broader use. A summary description of each of the below is in section 6.

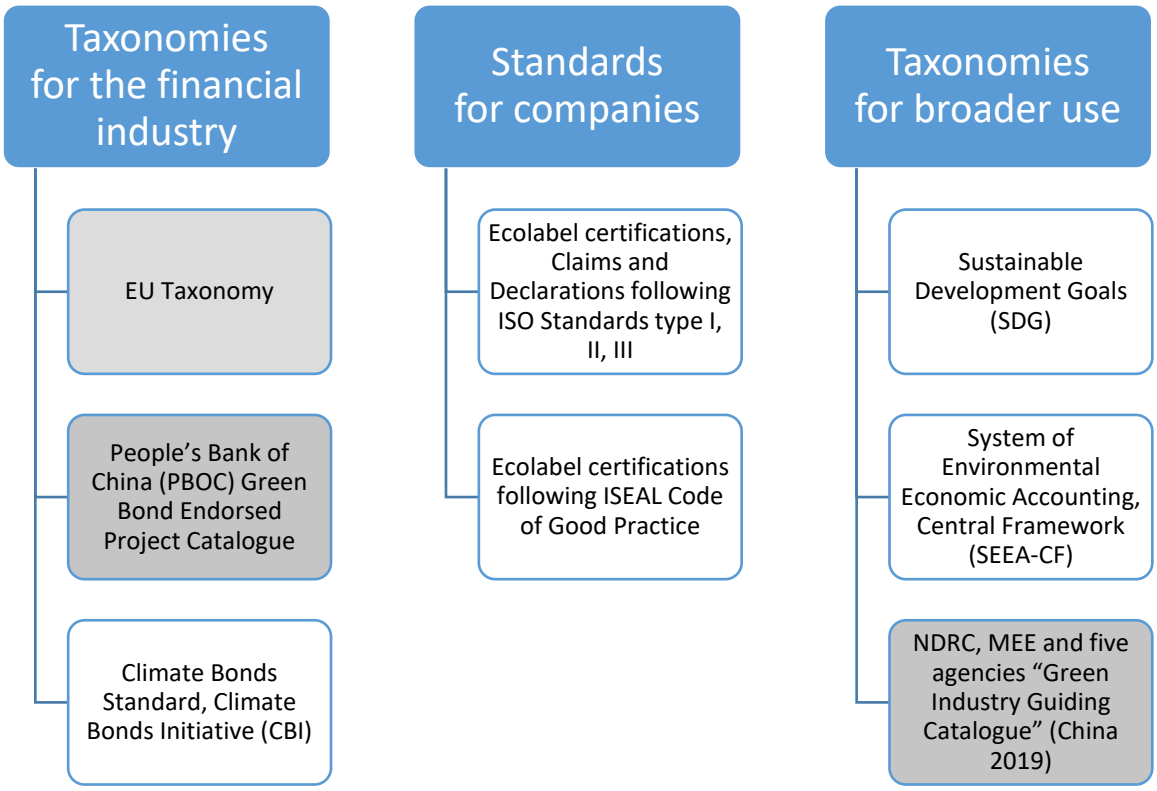

Figure 2: Examples of taxonomies and sustainability standards

4.Usability considerations of Taxonomies and Nomenclatures

We identified two structural elements (nomenclatures, and taxonomies) to codify, identify, compare, and contrast the extent of the sustainability of activities, projects and products that may be financed with green bonds.

Existing taxonomies and nomenclatures are numerous, and especially taxonomies often do not share the same or similar basis. This leads to some friction for the market participants to arrive at conclusions about the suitability of their activities, projects and products eligible to be funded by green financing.

In order to resolve some of this friction, market participants would want to understand if and how the various different nomenclatures and taxonomies can be compared and what their usability considerations are.

In some situations, different stakeholders might not be familiar with the taxonomies and nomenclatures available or might not have the know-how to make use of them effectively for assessing the extent of sustainability/greenness of the underlying activities, projects, products and assets.

Not all information about activities is disclosed to all market participants. For example, while many governments are monitoring industrial production and trade flows at a very granular level, this information may not yet be available to financial institutions.

We have collected a number of potential common queries in the below table to guide the market participants to better understand how taxonomies and nomenclatures could help them in investment decisions.

	Nomenclatures	Taxonomies	Green Bond Principles
What are they?	Coding or classification systems for economic activities and products, including goods and services.	Sets of sustainability criteria or sustainability classifications for economic activities and products, including goods and services.	Voluntary process guidelines that recommend transparency, disclosure and reporting.
What is their purpose?	Widely used by the financial industry, companies and the public sector for production monitoring, trade and statistics.	Developed and used in conjunction with sustainability verification and alignment of national and regional sustainability policies. Some taxonomies (like eco-certification schemes) are mainly used by companies to label products, services, and production processes	To promote integrity in the Green Bond markets and designed to drive the provision of information needed to increase capital allocation to green projects by providing issuers, underwriters and investors with guidance on key components involved in launching a credible Green Bond for which the environmental impacts can be evaluated.
Can they be compared? (nomenclatures to nomenclatures and taxonomies to taxonomies)?	Yes, nomenclatures tend to be easy to compare with other nomenclatures via various correspondence tables. This is very important for automated use in an international context, since different codes are used in different regions.	Work is underway at the International Platform on Sustainable Finance to align taxonomies. Some market participants and service providers have already worked on mapping existing taxonomies. There remain challenges in achieving global mapping. In some	The GBP does not take a position on which green technologies, standards, claims and declarations are optimal for environmentally sustainable benefits.

	Nomenclatures	Taxonomies	Green Bond Principles
		instances, the basis may be similar, but in other instances they require a detailed analysis of connections between the different systems. Entities performing activities under various jurisdictions that uses different nomenclatures and taxonomies may find it difficult to identify connections and links. • Example: "manufacturing of basic iron and steel" could mean slightly different types of iron & steel in different jurisdictions, and the sustainability / green eligibility criteria of this activity can also be defined differently in different jurisdictions. • Example: certification schemes for the same type of food may have a different focus (e.g. either on environmental or on social criteria)	
Can nomenclatures and taxonomies be used to identify eligible green or social activities?	Using a nomenclature by itself does *not* necessarily lead to a conclusion of the suitability of the activities, projects, products to receive green financing. [5] • Example: Some "pure play" environmental economic activities such as "waste	A taxonomy should , if well designed, lead to a clear view on environmental or social performance. This is a separate matter from the level of performance that markets expect. Therefore, a taxonomy-linked qualification of an activity or asset	The GBP promotes a contextual and flexible approach to identifying green activities. , that create positive impact while avoiding negative impact. Issuers should seek to clarify any related eligibility and exclusion

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	Nomenclatures	Taxonomies	Green Bond Principles
	management" and "sewerage" can be identified via economic activity codes, but very often need to undergo further contextual assessment for 'green' definitions • Also a wind turbine, a blade of a windmill, a PV panel, an electric train, insulation material, a smart meter, various biofuels or a battery, would have their own codes. • Some clear limitations include "green cement production" which does not have its own economic activity code that would separate it from "regular cement production" • Electric vehicles, on the other hand, can be identified via unique, harmonized product codes and thus distinguished from diesel cars in international trade flows, but these product codes do not guarantee that the raw materials used for the EV battery are responsibly sourced • Social sector activity codes do identify social sectors, but cannot identify target groups, unless these coincide	should be coupled with an assessment of market expectations. • Example: a taxonomy defines positive green or social assets, but does not include social or environmental safeguards, leaving room for abuse of E&S criteria	criteria, as well as any other processes by which the issuer identifies, and manages perceived social and environmental risks associated with the relevant project(s). The Issuer's processes should seek to identify mitigants to any material social and/or environmental risks from the relevant project(s), and should make clear any trade-off analysis undertaken and monitoring required where the issuer assesses the potential risks to be meaningful. Green bond eligibility assessments may need to consider other factors, such as analysis of specific (social and green) science-based thresholds or criteria, the (monitoring of) positive impact created, the operational context of the participant, norms based controversy screenings, etc. Next to that green bond participants do also look at the overall strategy of the participant, which could usefully be publicly disclosed to demonstrate a coherent approach and minimize risks and reputational downside for market participants.

	Nomenclatures	Taxonomies	Green Bond Principles
What are the limitations?	The codes reflect technological developments and structured classifications of the broader economy but may not provide: • Qualitative descriptions of (sustainable) economic activities • Distinctions according to the kind of ownership, legal organization or mode of operation • Whether activity is formal or informal, legal or illegal, profit or non-profit • Whether an activity is socially responsible or meets societal norms	Not all taxonomies are procedures or principles that lay out the requirements or governance for a sustainability (assessment) process. • Many taxonomies used by corporates to label products or services are based on accredited, externally verified schemes and standards. Assets and activities that meet these standards are audited (such as certified buildings). This provides a high level of certainty that the criteria are met but this does not mean that individual financial market participants are satisfied by the criteria of the standard • Taxonomies may be specialized or incomplete / in development, meaning that they may focus on either certain environmental or social criteria	The GBP does not take a position on which green technologies, standards, claims and declarations are optimal for environmentally sustainable benefits. • Issuers should seek to clarify any related eligibility and exclusion criteria, as well as any other policies or processes by which the issuer identifies and manages perceived social and environmental risks associated with the relevant project(s). • Issuers should communicate any mitigation measures enacted and the monitoring to be undertaken where the issuer assesses the potential risks to be meaningful.
How do the classifications support/help in selecting projects and activities for the green bond portfolios?	In some cases, market participants are pure play companies and investors may use nomenclatures to identify investments in these companies as pure play environmental or social activities (green bond funds may be	Green bond market participants often use existing sustainability taxonomies and standards as a primary tool for selecting eligible activities, because: • it is convenient to rely during asset selection on existing standards and certifications (for	While the GBP's purpose is not to take a position on which green technologies, standards, claims and declarations are optimal for environmentally sustainable benefits, it is noteworthy that there are several current international and national initiatives to produce

	Nomenclatures	Taxonomies	Green Bond Principles
	combined with so called thematic funds) • Example environmental: water funds, pollution prevention / waste management funds, clean mobility funds, etc. • Example social: "healthy living" funds which typically include health care and pharmaceutical companies, health-tech companies, sports companies, etc.	example an EPC label for green building) • market participants want to be seen as independent/neutral: it helps that the eligibility criteria for a green asset are then set by an independent, external accredited party not being an issuer or investor, and accepted by a wider audience. • investors may also use external ESG assessments or data services to support internal assessments, and thus perform complementary ESG screening	taxonomies, as well as to provide mapping between them to ensure comparability. This may give further guidance to Green Bond issuers as to what may be considered green and eligible by investors. These taxonomies are currently at various stages of development. Issuers and other stakeholders can refer to examples through links listed on the GBP SBP webpages on ICMA's Website.
Are company specific data for nomenclatures and taxonomies available?	Data are not widely and easily available at the 12-digit level of these activity codes. Most investors use up to 3 to 4 digits of the nomenclature codes, which can affect the level of pre-screening possible. Some nomenclatures offer relatively "deep" classifications with many "sub industry" levels. The public sector uses up to 12-digit product "activity" codes in industrial production and trade monitoring and in environmental-economic statistics. These data were not well-known by the financial sector until now and 12-digit activity codes (that would indicate what products and	• Taxonomies as used in the financial sector normally only provide criteria but not the corresponding lists of companies that comply or company specific data. Some taxonomies may be linked to other disclosure requirements which require corresponding disclosures, such as NFRD and SFDR in the EU. • Various other taxonomies, such as standards and certifications disclose which companies are certified • Pending the emergence of better levels of disclosure, data may not be in a handy format,	• The Green Bond Principles do not disclose company specific data other than issuance database on green, social and sustainability bonds in the resource center on the GBP website.

	Nomenclatures	Taxonomies	Green Bond Principles
	services issuers provide) are not yet publicly available.	for example lacking identifiers that investors could use for mapping to their own codes such as a chamber of commerce code	
What are the relevant nomenclatures and taxonomies that classify a specific company's activities, projects, products, etc.?	Relevancy can be based on operational jurisdictions, tax jurisdictions, economic activity etc. See Section 5.	The Green Eligibility Working Group produced a separate document titled **"Sustainability Standards and Labels - Overview for Green Bond Market Participants"**, which seeks to provide market participants with guidance on the types of information to consider when determining their opinion on the relative strengths of a given environmental/green (or sometimes commonly associated with sustainability) standard[6].	
Where can I find information on taxonomies and nomenclatures?	See Section 5.	See Section 6. There are various online providers such as Ecolabel Index and Standards Map that map and compare taxonomies	

[6] https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Guidance-on-Sustainability-StandardsJune-2020-090620.pdf

5.Examples of nomenclatures (non-exhaustive)

For ease of navigation, the Economic Nomenclatures have been further categorized into three broad groups: 1) Economic activities, 2) Products (includes goods and services, and 3) goods nomenclature that are harmonized globally and used in international trade.

Table 3: Nomenclature of economic activities (industry)

Nomenclature system	Description
International Standard Industrial Classification (ISIC) https://unstats.un.org/unsd/classifications/Econ/Download/In%20Text/ISIC_Rev_4_publication_English.pdf	• Classification Structure: Provides a comprehensive framework within which economic data can be collected and reported in a format that is designed for purposes of economic analysis, decision-taking and policy-making. 4 levels, 21 Sections, 88 Divisions, 238 Groups, 419 Classes, and each class covers multiple activities which is not coded individually • Usage: In economic, social, health and demographic statistics for data compilation and presentation by kinds-of-activity; national accounts. ISIC has a central position among existing classifications of economic activities, as well as other economic classifications, such as those for products • Coverage: Worldwide • Maintenance: United Nations
Statistical classification of economic activities in the European Community (NACE) https://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=NACE_REV2&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC	• Nomenclature statistique des Activités économiques dans la Communauté Européenne (NACE) • Classification Structure: Four levels (referenced ISIC rev. 4). 21 sections, 88 divisions, 272 groups, 615 classes, each class covers multiple activities which is not coded individually • Usage: NACE is the "statistical classification of economic activities in the European Community" and is the subject of legislation at the European Union level. This classification provides the framework for collecting and presenting a large range of statistical data according to economic activity • Regulation Link: (EC) 1893/2006 • Coverage: Member states of European Union • Maintenance: Eurostat

Nomenclature system	Description
China Industrial Classification for National Economic Activities (CSIC) http://www.stats.gov.cn/tjsj/tjbz/hyflbz/201905/P020190716349644060705.pdf	• Usage: Used for national management of census, planning, budgeting, tax reporting, industrial and commercial purposes, as well as information processing and exchange • Classification Structure: Four levels (referenced ISIC rev. 4). 20 industries, 97 principle activities, 473 Secondary activities, 1,380 ancillary activities • Coverage: People's Republic of China • Maintenance: National Bureau of Statistics of China
North American Industry Classification System (NAICS) https://www.census.gov/eos/www/naics/2017NAICS/2017_NAICS_Manual.pdf	• Classification Structure: Defines a total of 1,170 industries in the United States, 565 are service-based. These industries are grouped in 20 industrial sectors that are progressively subdivided into three-digit subsectors, four-digit industry groups, and five-digit industries. The first two digits of the code designate the sector, the third digit designates the subsector, the fourth digit designates the industry group, the fifth digit designates the NAICS industry, and the sixth digit designates the national industry. A zero as the sixth digit generally indicates that the NAICS industry and the U.S. industry are the same • Usage: NAICS is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy • Coverage: USA, Canada, Mexico • Maintenance: The National Institute of Statistics and Geography (INEGI), Statistics Canada, and U.S. statistical agencies
Global Industry Classification Standard (GICS) https://www.spglobal.com/marketintelligence/en/documents/112727-gics-mapbook_2018_v3_letter_digitalspreads.pdf	• Classification Structure: 11 Sectors, 24 Industry groups, 69 Industries and 158 sub-industries. • Usage: GICS is a common global classification standard used by thousands of market participants across all major groups involved in the investment process: asset managers, brokers (institutional and retail), custodians, consultants, research teams and stock exchanges • Coverage: Global financial community

Nomenclature system	Description
	• Maintenance: MSCI and Standard & Poor's (S&P)
Bloomberg Industry Classification Standard (BICS) https://data.bloomberglp.com/professional/sites/10/Classification-Data-Fact-Sheet.pdf	• Classification Structure: 7 hierarchical levels. The whole classification system counts up to 2294 unique sectors • Usage: Bloomberg's classification content includes more than 5 million public and private instruments across multiple asset classes and more than 2.5 million legal entities, including other industry classifications from official institutions and national statistics agencies such as NAICs, NACE and UK SIC • Coverage: Global financial community • Maintenance: Bloomberg
Industry Classification Benchmark (ICB) https://www.ftserussell.com/data/industry-classification-benchmark-icb	• Classification Structure: Four-tier structure, 11 Industries, 20 Super-sectors, 45 Sectors, 173 Subsectors • Coverage and usage: Global financial community. It is the official/public sector classification used across FTSE Russell indices for analysis, attribution and performance measurement • Maintenance: FTSE International
Thomson Reuters Business Classification (TRBC) https://www.refinitiv.com/en/financial-data/indices/trbc-business-classification	• Classification Structure: A five level hierarchical structure. 10 Economic Sectors, 28 Business Sectors, 54 Industry Groups, 136 Industries, 837 Activities • Usage: Tool for benchmarking, peer comparison and navigation, and building custom sector and thematic indices • Coverage: Global investment community • Maintenance: Refinitiv / Thomson Reuters Sector and industry classification provided by Refinitiv, (TRBC)
Sustainable Industry Classification System (SICS)	• Classification Structure: Each of the following 77 industries (across 11 sectors) has its own unique set of sustainability accounting standards in the SASB system

Nomenclature system	Description
https://www.sasb.org/find-your-industry/	• Usage: A company considering use of SASB standards self-determines which standard(s) is relevant, which disclosure topics are financially material to its business, and which associated metrics to report, taking relevant legal requirements into account • Coverage: Companies in selected industries • The differences between SICS and traditional industry classification systems can be categorized in three types: (1) new thematic sectors; (2) new industries with unique sustainability profiles; and (3) industries classified in different sectors • SASB determines a company's SICS classification by overlaying its sustainability framework to other industry taxonomies • Maintenance: Sustainability Accounting Standard Board (SASB)

Table 4: Nomenclature of products

Nomenclature system	Description
Central Product Classification (CPC) https://unstats.un.org/unsd/classifications/unsdclassifications/cpcv21.pdf	• Classification structure: 10 sections, 71 divisions, 329 groups, 1,299 classes and 2,887 subclasses. The overall set of products (goods and services) is subdivided into a hierarchical, five-level structure. The categories at the highest level are called sections, which are numerically coded categories. The sections subdivide the entire spectrum of products into broad groupings. The classification is then organized into successively more detailed categories, which are numerically coded: two-digit divisions; three-digit groups; four-digit classes; and, at the greatest level of detail, five-digit subclasses • Usage: Serves as an international standard for assembling and tabulating all kinds of data requiring product detail, including statistics on industrial production, domestic and foreign commodity trade, international trade in services, balance of payments, consumption and price statistics and other data used within the national accounts • Coverage: Worldwide • Maintenance: United Nations

Nomenclature system	Description
The Classification of Products by Activity (CPA) https://ec.europa.eu/eurostat/documents/1995700/1995914/CPA2008introductoryguidelinesEN.pdf/df1e8d19-1156-4a1c-b384-4f95a12515e5	• Classification Structure: The coding principles for the first four digits of the CPA are the same as those for NACE Rev. 2. 21 sections, 88 divisions, 261 groups, 575 classes, 1342 categories, 3142 subcategories • The Statistical Classification of Products by Activity (CPA v. 2.1. 2014) is a complete product classification covering goods and services. Each type of product distinguished in the CPA is defined in such a way that it is normally produced by only one activity as defined in the NACE classification. • Usage: Classifications of economic activities are designed to categorize data that can be related only to the unit of activity (for instance, an individual plant or group of plants comprising an economic entity such as an enterprise). They provide the basis for preparing statistics of output, the various inputs to the production process (labor, materials, energy etc.), capital formation and the financial transactions of such units • Coverage: Member states of European Union • Regulation Link: (EU) 1209/2014 • Maintenance: European Commission
North American Product Classification System (NAPCS) https://www.census.gov/eos/www/napcs/structure.html	• Classification Structure: A six-level hierarchical structure consisting of 24 sections, 61 subsections, 172 divisions, 276 groups, 497 subgroups, and 1,167 trilateral products • The North American Product Classification System (NAPCS) is a comprehensive, market- or demand-based, hierarchical classification system for products (goods and services) that (a) is not industry-of-origin based but can be linked to the NAICS industry structure, (b) is consistent across the three North American countries, and (c) promotes improvements in the identification and classification of service products across international classification systems, such as the Central Product Classification System of the United Nations • Maintenance: The National Institute of Statistics and Geography (INEGI), Statistics Canada, and U.S. statistical agencies • Coverage: USA, Canada, Mexico

Nomenclature system	Description
Production Communautaire (PRODCOM) https://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=PRD_2019&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC	• Classification Structure: Each heading has an eight-digit code based on the first four digits of NACE sections B and C in which the producing enterprise is normally classified, and the first six digits of the CPA supplemented by additional two digits. The list is updated every year and currently contains ca. 3900 items • Usage: The lists of products for statistics on the production of manufactured goods (the PRODCOM list) and its codes are used to classify products from mining and quarrying (NACE section B) and manufacturing (NACE section C) • Regulation Link: (EEC) 3924/91 • Maintenance: European Commission • Coverage: Member states of European Union
UN List of Industrial Products (LoIP) https://unstats.un.org/unsd/industry/Standards/LoIP.cshtml	• Classification Structure: The coding of this List is based on the CPC Version 1.1. The first five digits of the codes used in the List correspond to the CPC Version 1.1 subclass that includes the commodity in question. A dash ("-") and sixth digit have been added to indicate whether the product corresponds to the complete CPC subclass (in which case this digit is "0") or whether the product represents only a portion of the CPC subclass (in which case this digit is a running number "1", "2" etc.) • Usage: The List of Industrial Products is comprised of a selected set of products intended for data collection on industrial production • Maintenance: United Nations • Coverage: Worldwide

Table 5: Nomenclature of goods (harmonized globally and used in international trade)

Nomenclature system	Description
Harmonized System (HS)	• Classification structure: Approximately 5000 items, each identified by a six-digit code. Arranged in 99 chapters, grouped in 21 sections.

Nomenclature system	Description
https://unstats.un.org/unsd/tradekb/Knowledgebase/50018/Harmonized-Commodity-Description-and-Coding-Systems-HS Harmonized Tariff Schedule (HTS)	• Usage: A systematic list of commodities applied by most trading nations and used for international trade negotiations • Maintenance: World Customs Organization • Coverage: Worldwide • Standard International Trade Classification (SITC) Rev. 4 is based on HS: Product classification to facilitate international comparison of commodity trade data. Covers all goods classifiable except for monetary gold, gold coin, and current coin. Includes correspondence tables to the HS codes. https://unstats.un.org/unsd/tradekb/Knowledgebase/Trade-Statistics-Coding-Systems?Keywords=Coding+system • The China Customs Commodity HS Code has been changed from the original 10-digit HS code to the new 13-digit HS code; the first 8-digit is the Commodity HS code of "Import and Export Tariff of the People's Republic of China" ; 9, 10 digit are customs supervisory additional numbers, and 11-13 are additional numbers for inspection and quarantine, http://english.customs.gov.cn/ • The United States International Trade Commission (ITC) has adopted HS as the Harmonized Tariff Schedule of the United States, for Use in Classification of Imported Merchandise for Rate of Duty and Statistical Purposes., https://hts.usitc.gov/current
Combined Nomenclature (CN) http://publications.europa.eu/resource/cellar/4fdaf64e-fc25-11e9-8c1f-01aa75ed71a1.0006.01/DOC_1	• Classification Structure: Each subdivision of the nomenclature is known as a 'CN code'. It has an 8-digit code number followed by a description and a duty rate, and as the case may be, a supplementary unit • Usage: Based on HS, a tool for classifying goods, set up to meet the requirements both of the Common Customs Tariff and of the EU's external trade statistics. The CN integrates the HS Nomenclature and comprises additional (8-digit) subdivisions and legal notes specifically created to address the needs of the EU • Regulation Link: (EEC) 2658/87 • Coverage: Member states of European Union • Maintenance: European Commission

6.Examples of taxonomies (non-exhaustive)

Sustainability Taxonomies have been further categorized into three broad groups: 1) Financial Industry Taxonomies, 2) Standards designed for companies and 3) Standards designed for broader use.

Table 6: Taxonomies for the financial industry

Taxonomy system	Description
EU Taxonomy for sustainable activities https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en	• Basis and structure: EU regulations on taxonomy have been passed, and detailed criteria recommended pending official adoption. Organised per NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) classification codes • The EU Taxonomy covers six environmental objectives - Climate change mitigation, Climate change adaption, Sustainable and protection of water and marine resources, Transition to circular economy, Pollution prevention and control, Protection and restoration of biodiversity and ecosystems. For climate mitigation, it includes low-carbon activities (contributing to net zero carbon economy already), and transitional activities (contribute to a transition to a net-zero carbon emissions economy in 2050, but are not currently close to a net-zero carbon emissions level). Enabling activities may be included under any of the six objectives where they (enable improvement of environment performance in other economic sectors) activities. The taxonomy's technical criteria are in some cases linked to standards or regulations (e.g. ISO certification, EU-ETS benchmarks, etc.) • Thresholds: Aligned to Paris Agreement climate target of well below 2-degrees and commitments under the EU Green Deal 1. Make a substantial contribution to one of six environmental objectives 2. Do no significant harm to the other five environmental objectives, where relevant 3. Meet minimum safeguards (e.g. OECD Guidelines on Multinational Enterprises and UN Guiding Principles on Business and Human Rights, etc.) • Sectors/categories: Around 70 economic activities in Agriculture, Forestry, Manufacturing, Electricity, gas, steam and air conditioning supply, Water, sewerage, waste and remediation,

Taxonomy system	Description
	Transport and storage, Information and communications and Construction and real estate activities. • The Taxonomy Regulation lays out the overarching framework and requirements. Specific taxonomies with technical screening criteria will be implemented through delegated acts. • Current use: Voluntary for issuers until it enters into application by the end of 2021, whereas entity level disclosure by investors enters into force in [March 2021]. Used by investors and companies operating in the EU, potentially beyond • Maintenance: European Commission and the EU Platform on Sustainable Finance
Green Bond Endorsed Project Catalogue (China) 2020[7] http://www.pbc.gov.cn/tiaofasi/144941/144979/3941920/4052500/index.html Unofficial English version by CBI: https://www.climatebonds.net/china/catalogue-2020 Green Bond Endorsed Project Catalogue (China) 2015 http://www.gov.cn/xinwen/2015-12/22/content_5026636.htm	• 2020 version was out for public consultation, which is planned to supersede 2015 version • Basis and structure: Own taxonomy, based on China Industrial Classification for National Economic Activities (CSIC) capturing economic activities. The classification system in the 2020 version is updated to be based upon NDRC's Green Industry Guiding Catalogue 2019 • Thresholds: Based on various standards (e.g. National Standards, Industry specific standards, etc.) as defined by People's Bank of China (PBoC) • Sectors/categories: 6 key industries such as industries that enable 1. Energy Saving and Environmental Protection Industry, 2. Clean production and manufacturing, 3. Clean energy, 4. Ecology and Environment-related sector, 5. The Green Upgrade of Infrastructure, 6. Green Services • Use: Voluntary standards for Chinese green bond market, geared towards corporate and state-owned issuers • Maintenance: By People's Bank of China (PBoC), National Development and Reform Commission (NDRC) and the China Securities Regulatory Commission (CSRC)

[7] The 2020 version has been released for public consultation and it ended on 6 Aug 2020

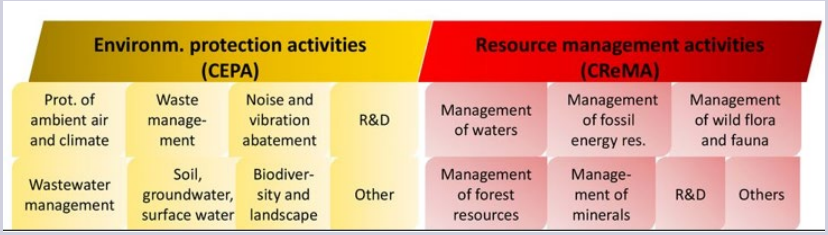
Taxonomy system	Description
Climate Bonds Taxonomy www.climatebonds.net/standard/taxonomy	• Basis and structure: Own taxonomy, based broadly on assets and projects aligned with 2-degree decarbonisation trajectory • Thresholds: 2-degree compliance and screening thresholds/indicators defined by Climate Bonds Initiative (CBI) • Sectors/categories: 8 key industries such as Energy, Transport, Water, Buildings, Land use and marine resources, Industry, Waste and ICT • Current use: Voluntary standards for green bond market • Maintenance: By Climate Bonds Initiative

Table 7: Taxonomies for companies

Taxonomy system	Description
Ecolabels ISO Type I ecolabel ISO 14024 https://www.iso.org/standard/72458.html	• Basis and structure: Voluntary, multiple criteria based, third party program authorizing the use of environmental labels on products indicating overall environmental preference of a product within a particular product category based on life cycle considerations • Example: Blue Angel, Nordic Swan, Rainforest Alliance, FSC, MSC, RSPO, BREEAM, LEED • Sectors/categories: Multiple industries • Current use: Voluntary certification • Maintenance: Standard by ISO, the criteria for the Ecolabels themselves are maintained by the standard setting bodies that operate these labels
Self-Declared Environmental Claims ISO Type II ecolabel ISO 14021 https://www.iso.org/standard/66652.html	• Basis and structure: Private claims, first-party verified, adhering to specific principles (verifiable, accurate information, not misleading) • Example of claims: “Recycled content”, “biodegradable”, “designed for disassembly”, “reduced energy consumption” • Sectors/categories: Multiple industries • Current use: Voluntary

Taxonomy system	Description
	• Maintenance: Standard by ISO, the criteria for the Self-Declared Environmental Claims themselves are maintained by the companies that use the Claims in their BtoC or BtoB product communication
Environmental (Product) Declarations ISO Type III Ecolabel ISO 14025 https://www.iso.org/standard/38131.html	• Basis and structure: Quantified environmental data or qualitative information, based on life-cycle analysis, using independent verifiable data, primarily used for business to business communication • Example: Eco-Leaf; Environmental Declaration of products or unit processes; Carbon Footprint information • Sectors/categories: Multiple industries • Current use: Voluntary • Maintenance: Standard by ISO, the criteria for the Environmental (Product) Declarations (EPD's) themselves are maintained by the companies that use the EPD's in their BtoC or BtoB product communication
Ecolabels based on ISEAL Code of Good Practice https://www.isealalliance.org/credible-sustainability-standards/iseal-codes-good-practice	• Basis and structure: Provide a globally recognised framework used by credible sustainability standards, which comprises of ISEAL Standard-setting Code, Assurance Code and Impacts Code • Example: RSPO, FSC • Sectors/categories: Multiple industries, with focus on agriculture and fair trade • Current use: ISEAL members are required to comply • Maintenance: Standard by ISEAL, the criteria for the Ecolabels themselves are maintained by the standard setting bodies that operate these labels

Table 8: Taxonomies for broader use

Taxonomy system	Description
Sustainable Development Goals (SDG)	• Basis and structure: United Nations Sustainable Development Goals. Classification of 17 different sustainability goals to be achieved globally, adopted by all United Nations (UN) Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. • Thresholds: Included for some sub-SDGs • Sectors/categories: Broad economic activities • Current use: Used by observers (especially the public sector) investors, financial institutions and corporates • Maintenance: United Nations
UN Central Framework of the System of Environmental Economic Accounting SEEA-SF (including CEA and CEPA/CReMA) https://seea.un.org/sites/seea.un.org/files/lg_24_b_7.pdf	• United Nations Central Framework of the System of Environmental Economic Accounting (CF-SEEA) is used by many countries for their National Environmental Accounts to assess the size of the eco industries in the economy • Basis and structure: Functional Classifications of Environmental Activities (CEA) with 16 subgroups: Classification of Environmental Protection Activities (CEPA) and Classification of Resource Management Activities (CReMA). It also comprises a categorization of environmental goods and services (Adapted products, Connected products, Environmental technologies and Environmental specific services). See also (EU 538/2014 CEPA/CReMA). Source picture: S. Baud, Austria Statistics  • Utilises ISIC for economic activity classifications • Thresholds: various specific tools, such as lists of environmental goods and services • Maintenance: System of Environmental Economic Accounting (SEEA) Central Framework and 2012 is a collaboration of United

Taxonomy system	Description
	Nations, European Union, Food and Agriculture Organization of the United Nations (FAO), International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), The World Bank.
Green Industry Guiding Catalogue (China) (2019) https://www.ndrc.gov.cn/fggz/hjyzy/stwmjs/201903/t20190305_1220625.html	• Basis and structure: Own taxonomy as created by National Development and Reform Commission (NDRC) and six other organizations, based on 6 key industries • Thresholds: Based on various standards (e.g. National Standards, Industry specific standards, etc) as defined by NDRC • Sectors/categories: 6 key industries - 1. Energy Saving and Environmental Protection Industry, 2. Clean production and manufacturing, 3. Clean energy, 4. Ecology and Environment-related sector, 5. The Green Upgrade of Infrastructure, 6. Green Services • Current use: For broader regulatory usage, voluntary standards for Chinese green bond market for enterprises • Maintenance: Ministry of Ecology and Environment, Ministry of Housing and Urban-Rural Development, Ministry of Industry and Information Technology, Ministry of Natural Resources, National Development and Reform Commission, National Energy Administration, People's Bank of China

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