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Green Revenues Data Model

Methodology



**FTSE
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An LSEG Business

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Section 1

Introduction

Overview

The greening of the global economy, in response to the threat of climate change and other environmental challenges, presents myriad opportunities to investors. However, investors and policymakers face a common challenge: How can green business activities be systematically identified, categorized, and measured across diverse sectors and supply chains to mobilize investment at scale?

The FTSE Russell Green Revenues Data Model provides investors with a highly granular and flexible dataset for assessing over 19,000 listed companies for revenue exposure to green business activities. It identifies any company with revenues derived from environmental products and services and classifies the green revenues based on the Green Revenues Classification System.

FTSE Russell has been at the forefront of research and development of green industrial taxonomies since 2008, starting with the launch of the FTSE Environmental Markets Index Series. The original Green Revenues data model was launched in 2015 and continuously enhanced in 2020 and 2021. The updated data model offers enhanced granularity and usability with an expanded classification system, a robust estimation model and tiering based on the level of “greenness”.

The Green Revenues Data Model is a useful tool for investors to assess portfolio exposure to climate transition risks and identify opportunities for investment in companies with green activities. It also provides a practical solution to the challenges that financial market participants face in complying with taxonomy regulatory requirements such as the EU Taxonomy Regulation.

This document presents the Green Revenues Data Model, the Green Revenues Classification System (GRCS), and the methodology used to generate the Green Revenues data.

Key features

Define the green economy: FTSE Russell's Green Revenues is a unique data model enabling users to identify and quantify revenue exposure to the green economy and measure companies' progress in achieving green standards, based on a transparent and robust methodology.

Comprehensive classification: FTSE Russell's Green Revenues Classification System (GRCS) identifies green products and services across the whole value chain covering 10 green sectors, 64 subsectors and 133 micro sectors. The updated data model offers enhanced usability via company point estimates at the company level and broken down to the sector, subsector, and micro sector level.

Broad coverage and granular data: FTSE Russell Green Revenues data screens over 19,000 listed companies, covering nearly 99% of total global market capitalization. It provides a detailed breakdown of business activities of companies being identified with green revenues. Green revenue percentages are provided at both micro sector and company levels.

Section 2

Green Revenues Data Model

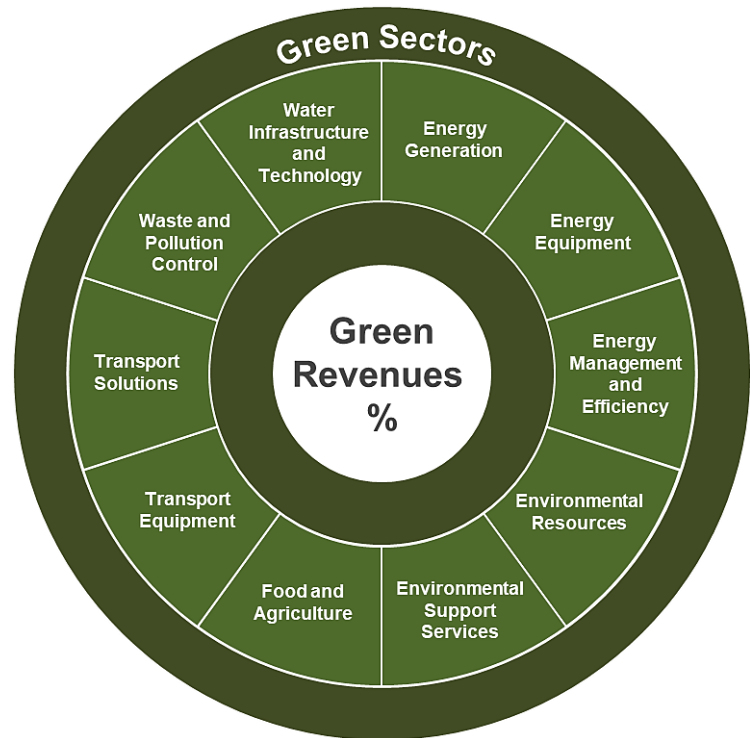
Data structure

FTSE Russell’s Green Revenues Data Model measures the green revenue exposure of more than 19,000 listed companies across 49 developed and emerging markets based on the FTSE Russell’s Green Revenues Classification System (GRCS).

Over 4,000 of these companies generate revenues from green products and services. For these companies, the Green Revenues Data Model provides a detailed breakdown of green activities and associated revenues, as well as an overall company green revenue estimate.

Operational since 2015, the data model was continuously enhanced in 2020 and 2021, featuring:

- A comprehensive green classification system with 10 subsectors, 64 subsectors, and 133 micro sectors
- An estimation model based on reported data, company-specific estimates and sector-specific estimates that delivers point estimates for all companies
- A green tiering system to allow clients to assess net “greenness” over seven environmental objectives, assigned to three tiers



Methodology

The latest model consists of the following data outputs for each company identified to generate green revenues in the research universe.

Data fields	Description	Outputs
Green Revenues Percentage and Range	Portion of revenue derived from green activities	Percentage figure at the company level, and broken down to sector, subsector, and micro sector levels
Estimate Type	Type of estimate used to calculate portion of revenues derived from green activities	Disclosed or Company Specific
Tiering	Overall environmental impact associated with the green activity	Tier 1, Tier 2 or Tier 3

The Green Revenues Data Model is updated on a rolling annual basis. Data sources reviewed and assessed are primarily publicly disclosed information, such as company websites, Annual Reports, CSR Reports, Sustainability Reports, Integrated Reports, Corporate Governance Reports, Factsheets, and Compliance handbooks.

Research and Calculation process

- 1. Semantic screening.** Keywords based on the GRCS such as “biofuel” or “electric vehicles” are being used for automated screening of corporate disclosures to identify companies involved in green business activities. Any companies with matches are then verified by data collectors for actual involvement in products or services that qualify under the GRCS.
- 2. Business segments identification.** For those companies where involvement of green products or services is confirmed, the company-reported business segments are examined and GRCS classifications are attached to the relevant segments. In this process, curators will also assess each reported segment to determine whether it contains: (a) non-green activities; (b) a mix of green and non-green activities; or (c) only green activities. This step allows us to set a minimum and maximum range for green revenues based on corporate disclosure levels.
- 3. Micro sector breakdown.** For the lion’s share of companies with green revenues, public disclosures will be insufficient to determine exact revenues from individual types of green business activities (green ‘micro sectors’). This is because revenue segments reported by companies typically aggregate multiple green activities (say ‘renewables,’ comprising wind, solar, and biomass), or green and non-green business activities (say ‘power generation’ consisting of gas, solar, and hydro power). This prevents not only a granular revenue breakdown across green activities, but in many cases makes it difficult to establish the overall green revenue for a company.

Box 1: Example – Company X

Company X categorizes its business into eight segments – some of which are green in their entirety and others which combine green and non-green activities and reports revenues.

Green segments include Renewable Energy, Energy Efficient Lighting and Locomotive Manufacturing, providing 9.7% of company revenues and the minimum green revenue. Additional Power and Transportation segments contain green and non-green activities and account for 24.2% of company revenues. By adding all revenue from these segments to the fully green segments already identified, the maximum green revenue is established as 33.9%.

Company X therefore has a minimum and maximum green revenue range of 9.7% and 33.9%.

Information such as technology types, numbers of product lines and revenues at acquisition are then used to estimate green revenues from the power and transportation segments at 5.9% and 0.8%, respectively. Adding this to the revenue from the fully green segments yields the more precise company-specific green revenue estimate of 16.4%.

Because all of Company X’s activities that qualify under the GRCS are also eligible under the EU Taxonomy, this is also represents the estimate of Company X’s EU taxonomy-aligned revenue.

In these cases, further research is required to break down the revenues associated with each business segment to obtain revenues associated with each green micro sector and to establish their share in the company's overall revenues. FTSE Russell achieves this through:

- a. Direct company engagement.** All companies are engaged directly by FTSE Russell to verify the green revenue assessment, and, where required, are asked to confirm the breakdown of revenues by green activity and the overall green revenue. Guidance documents are provided during company engagement so companies may better respond with related information within a two-week timeframe.
- b. Company-specific estimates.** Where companies provide limited revenue disclosures and do not respond to the request for disclosure, analysts will identify additional data, such as non-revenue data (e.g. production volumes) or relevant market or peer data (such as market share of a product) that can form a reasonable basis for estimating revenues from each green micro sector.

Quality measures

Quality measures occur in four stages:

1. **Analyst Level Quality Controls.** An automated quality check with pre-set rules immediately flag data errors at the point of data entry. This is to ensure accurate research by preventing potential errors prior to the publication of a company assessment in the system. Automated checks at the point of data entry consist of the following features:
 - a. 52 system-based checks implemented in the collection UI (such as missing data previously collected, large fluctuations in data year over year) including restrictions to publication to preserve the data integrity.
 - b. Severity levels assigned to system-based checks based including fatal checks (forcing immediate revision before the company can be published) and forcible checks (allowing the analyst to surpass this check by providing appropriate justification of the triggered change).
2. **Advanced Quality Controls.** *Analysts* conduct a further review, which includes checking accuracy of data assessed, consistency in comparison with companies in the same sector group, and companies' feedback from the direct company engagement process. These checks occur in two phases:
 - a. During the postproduction stage and are based on system logic on data extracted from the database at regular frequency.
 - b. During manual audits by independent teams and performed by Senior Content Analysts.The result of these checks is provided as feedback and recorded in a centralized database for performance assessments and quality analysis.
3. **Company Review of Research.** All companies are contacted and given the opportunity to comment on the accuracy and completeness of the company's data. Where companies identify pertinent publicly available information (i.e. information relevant to its assessment), such as revenues or product specific attributes which was not included in the assessment, then the analyst incorporates the applicable changes and the assessment is updated. FTSE Russell contacts every company and allows them to respond within a two-week timeframe.
4. **Management Reviews.** Subject matter experts along with collection teams conduct deep dive quantitative analysis on the dataset to ensure data consistency and quality across all companies; examples of analysis include outliers, year on year variations across the dataset, change of micro sectors and peer comparisons. Additional management reviews include governance checks initiated by internal teams including Product and Content testing teams. All management reviews are centrally conducted to drive improvement actions. Additionally, during these monthly reviews, insights are drawn from audit findings, client queries, and previous quality stages which are then used to systematically refine data quality checks throughout the collection and postproduction process.

All data is subject to a final review (which may result in further remedies), defended or remedied before being delivered for market consumption.

Section 3

Green Revenues Classification System (GRCS)

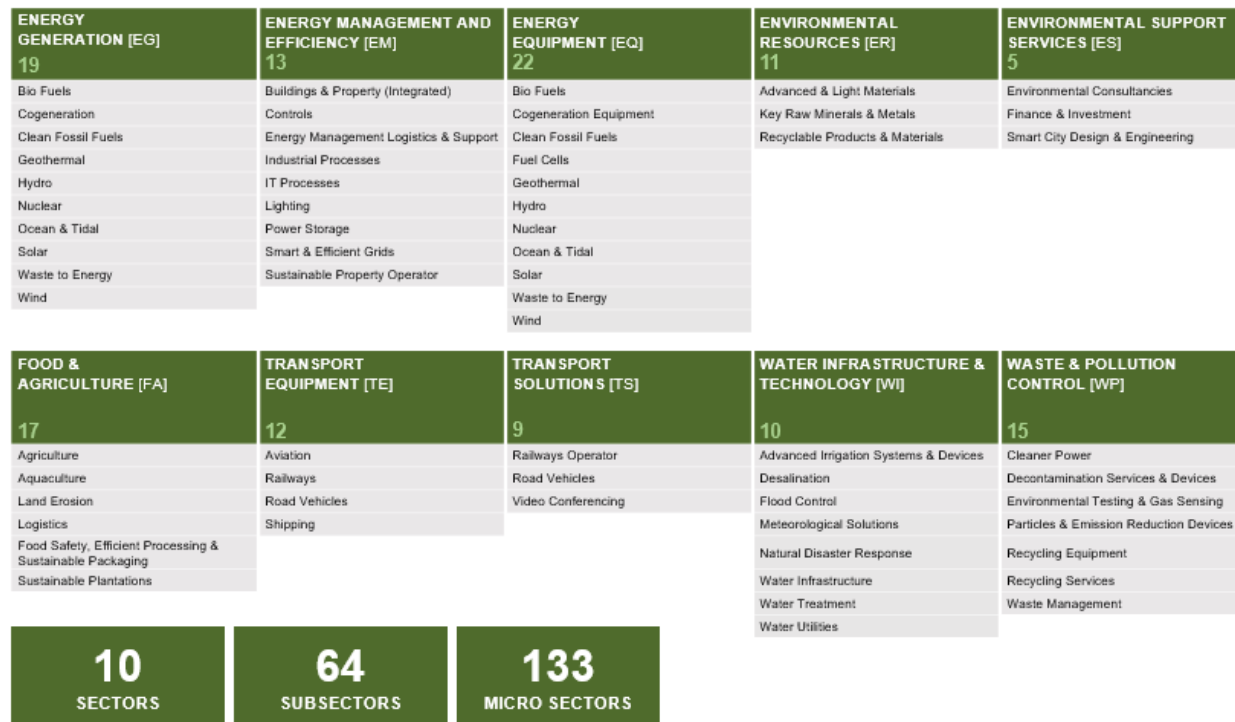
Overview and history

FTSE Russell’s Green Revenues Classification System (GRCS) was created to help investors and financial markets to better identify companies with green products and services, track their performance and facilitate the construction of financial products that seek exposure to such companies.

The GRCS identifies green products and services across the whole value chain covering 10 green sectors, 64 subsectors and 133 micro sectors (see Figure 1). When a company’s activity is identified to have green revenues, it is mapped to one or more micro sectors and then aggregated at the company level.

See Appendix for detailed definitions by GRCS sector, subsector, and micro sectors.

Figure 1 The Green Revenues Classification System

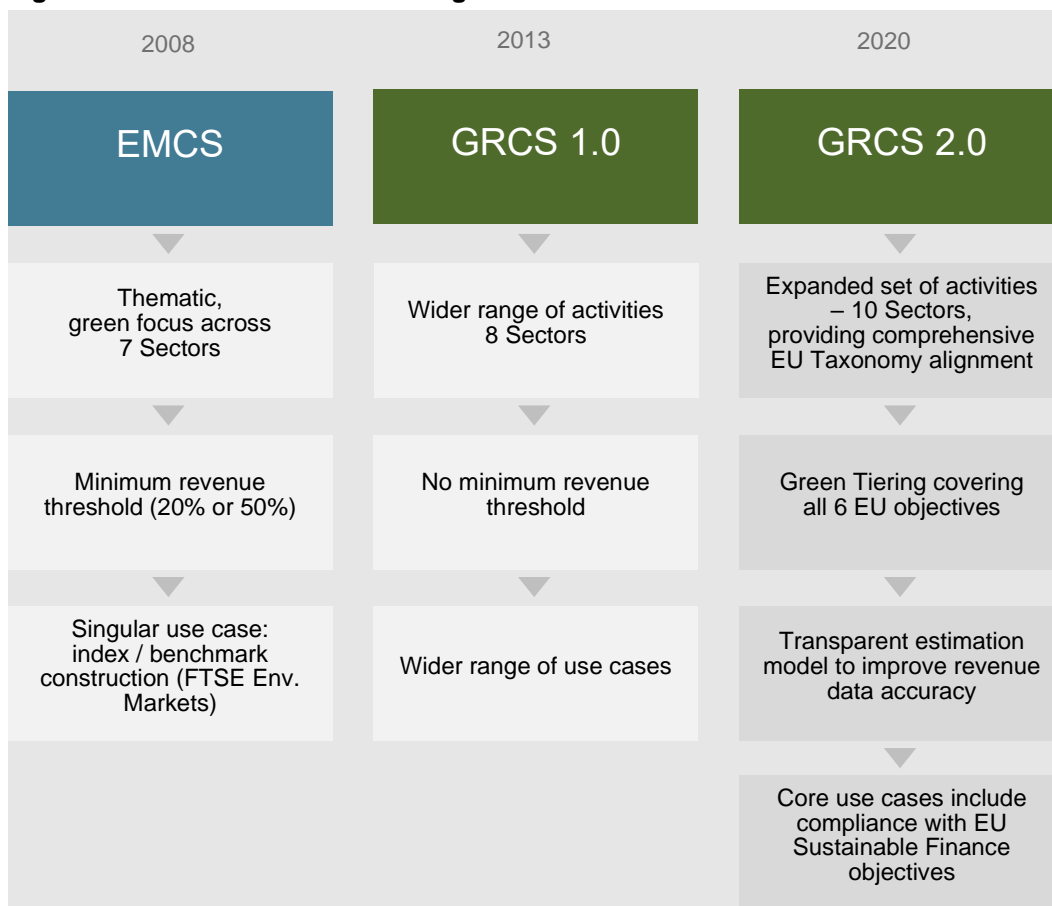


The roots of the GRCS stretch as far as 2008 when FTSE Russell and the Impax Asset Management launched the Environmental Markets Index Series.¹ The collaboration between FTSE Russell and Impax continues today. The initial Environmental Markets Classification System had a thematic focus on sectors including clean energy, energy efficiency, water and waste management and were assessed and included in the index family based on revenue thresholds.²

On this basis, FTSE Russell created the GRCS in 2013 that offered a wider scope and improved granularity. It provided a broader view of what could be considered green and therefore catered to a wider range of use cases including portfolio monitoring and reporting, portfolio construction and benchmarks.

The latest iteration of the classification system, GRCS 2.0 was launched in 2020. It takes a broad, bottom-up view of the green economy, capturing products and services across the whole value chain. These products and services are analyzed based on their impact on climate change mitigation and adaptation, water, resource use, pollution, and agricultural efficiency, which are well aligned with the EU’s environmental objectives.

Figure 2: GRCS – a decade of change



¹ <https://www.ftserussell.com/products/indices/env-markets>.

² Companies are required to have at least 50% of their business derived from environmental markets and technologies to be eligible for the FTSE Environmental Technology Index Series; at least 20% of their business derived from environmental markets and technologies to be eligible for the FTSE Environmental Opportunities Index Series.

Governance

An independent committee structure reflects FTSE Russell's dedication and commitment to the highest standards of index governance. The FTSE Russell Sustainable Investment Committee helps FTSE Russell to ensure that underlying methodologies evolve in line with best practice and investors' needs.

The discussions and feedback from the advisory committee are a data set on which the FTSE Russell Index Governance Board draws when making decisions.

For more information, please see the [FTSE Russell Governance Framework](#) and the webpage on the [External Advisory Committees](#).

Tiering

The tiering system identifies the level of "greenness", or net environmental impact, of companies' business activities and revenues. Each micro sector in the GRCS is assessed against seven environmental objectives: climate change mitigation, climate change adaptation, pollution prevention and control, protection of healthy ecosystems, sustainable use and protection of water and marine resources, transition to a circular economy, waste prevention and recycling, and sustainable and efficient agriculture. Of which, six environmental objectives are set by the European Commission and aligned with the EU Taxonomy. Sustainable and efficient agriculture, which accounts for significant environmental benefits, was incorporated as an additional environmental objective. It plays a key part in the Environmental Markets and Green Revenues classification systems.

Each micro sector is allocated to a tier based on its overall environmental impacts relating to the seven environmental objectives:

- **Tier 1** covers activities (micro sectors) with significant and clear environmental benefits (e.g. EG.08.0 Energy Generation – Solar).
- **Tier 2** covers activities (micro sectors) with more limited but net positive environmental benefits (e.g. WI.08.0 Water Utilities).
- **Tier 3** covers activities (micro sectors) which have some environmental benefits but are overall net neutral or negative (e.g. EG.06.0 Energy Generation – Nuclear).

The micro sector level tiering and green revenues data allows users to understand the exposure to various levels of green products and services and provides users the flexibility to focus on activities with higher environmental impact.

Appendix

Definitions of GRCS sectors, subsectors, and micro sectors

Sector EG Energy Generation		Revenue generating activities from the generation of power from renewable and alternative energy sources.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Bio Fuels	Bio Fuels (General)	TIER 3	EG.01.0	Revenue generating activities related specifically to the operation and supply of power generation facilities that utilizes non-fossilized organic material, with the exception of peat.
	Bio Gas	TIER 2	EG.01.1	Revenue generating activities related specifically to the operation and supply of power generation facilities that utilizes gas generated through the active decomposition of organic matter, typically during landfill processes.
	Bio Mass (Grown)	TIER 3	EG.01.2	Revenue generating activities related specifically to the operation and supply of electricity from power generation facilities that utilizes crops grown as a fuel source.
	Bio Mass (Waste)	TIER 2	EG.01.3	Revenue generating activities related specifically to the operation and supply of electricity from power generation facilities that utilizes organic byproducts of the agricultural and other systems.
Cogeneration	Cogeneration (General)	TIER 2	EG.02.0	Revenue generating activities related specifically to the operation and supply of power generation where the waste heat is utilized for large-scale heating and/or cooling purposes.
	Cogeneration (Biomass)	TIER 1	EG.02.1	Revenue generating activities related specifically to the operation and supply of power generation where primary source is biomass-based, and where the waste heat is utilized for large-scale heating and/or cooling purposes.
	Cogeneration (Renewable)	TIER 1	EG.02.2	Revenue generating activities related specifically to the operation and supply of power generation where primary source is renewables-based, and where the waste heat is utilized for large-scale heating and/or cooling purposes.
	Cogeneration (Gas)	TIER 2	EG.02.3	Revenue generating activities related specifically to the operation and supply of power generation where the primary source is natural gas, but where the waste heat is utilized for large-scale heating and/or cooling purposes.
Clean Fossil Fuels	Fossil Fuels (General)	---	EG.03.0	Revenue generating activities related specifically to the operation and supply of power generation that utilizes fossilized organic material. Only clean fossil fuels (EG.03.01) are considered green revenues.
	Clean Fossil Fuels	TIER 1	EG.03.1	Revenue generating activities related specifically to the operation and supply of power generation that utilizes fossilized organic material, where chimney emissions are zero (or practically so), for instance through Carbon Capture & Storage.
Geothermal	Geothermal	TIER 1	EG.04.0	Activities related specifically to the operation and supply of power generation that utilizes energy produced by the internal heat of the earth, excluding small-scale heat pump systems.

Sector EG Energy Generation		Revenue generating activities from the generation of power from renewable and alternative energy sources.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Hydro	Hydro (General)	TIER 2	EG.05.0	Revenue generating activities related specifically to the operation and supply of power generation that utilizes the energy produced by flowing fresh water.
	Large Hydro	TIER 2	EG.05.1	Revenue generating activities related specifically to the operation and supply of power generation that utilizes the energy produced by flowing fresh water, where the power generation capacity of the system is greater than 10MW.
	Small Hydro	TIER 1	EG.05.2	Revenue generating activities related specifically to the operation and supply of power generation that utilizes the energy produced by flowing fresh water, where the power generation capacity of the system is less than 10MW.
Nuclear	Nuclear (General)	TIER 3	EG.06.0	Revenue generating activities related specifically to the operation and supply of power generation that harnesses the energy present within atomic nuclei or their components.
Ocean & Tidal	Ocean & Tidal (General)	TIER 1	EG.07.0	Revenue generating activities related specifically to the operation and supply of power generation that utilizes the energy produced by harnessing the power of wave, tidal or other ocean and marine current forces.
Solar	Solar (General)	TIER 1	EG.08.0	Revenue generating activities related specifically to the operation and supply of power generation that harnesses the power of solar radiation, such as solar photovoltaic or concentrated solar systems but excluding solar thermal heating systems.
Waste to Energy	Waste to Energy (General)	TIER 1	EG.09.0	Revenue generating activities related specifically to the operation and supply of power generation that utilizes the energy derived from the incineration of municipal waste, or from a fuel source derived thereof. Otherwise known as Energy from Waste.
Wind	Wind (General)	TIER 1	EG.10.0	Revenue generating activities related specifically to the operation and supply of power generation that harnesses the power of movements or currents in the air.

Sector EM Energy Management & Efficiency		Revenue generating activities from products and services enabling more efficient methods of energy usage and management.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Buildings & Property (Integrated)	Buildings & Property (Integrated) (General)	TIER 1	EM.01.0	Revenue generating activities related specifically to the design, development, manufacture or installation of energy and other resource efficient products and services for use in residential, commercial and municipal buildings. Products include those that contribute to international certification standards such as LEED and BREEAM and can include entire buildings.
Controls	Controls (General)	TIER 2	EM.02.0	Revenue generating activities related specifically to the design, development, manufacture or installation of efficient energy manipulation and optimization systems. Activities include efficient semiconductor controllers and microgrid controllers.

Sector EM Energy Management & Efficiency		Revenue generating activities from products and services enabling more efficient methods of energy usage and management.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Energy Management Logistics & Support	Energy Management Logistics & Support (General)	TIER 2	EM.03.0	Revenue generating activities related to the design, development, manufacture or installation of energy management or efficiency products or services that are directly related to the other core products but do not by themselves lead to increased efficiencies.
Industrial Processes	Industrial Processes (General)	TIER 1	EM.04.0	Revenue generating activities related specifically to the design, development, manufacture or installation of energy and other resource efficient products and services for use in industrial applications. These include products and core components which improve energy profiles, and products or systems which reduce energy and other resource usage within processes.
IT Processes	IT Processes (General)	TIER 2	EM.05.0	Revenue generating activities related specifically to the design, development, manufacture or installation of energy efficient information technology products and services.
	Cloud Computing (General)	TIER 2	EM.05.1	Revenue generating activities related specifically to the design, development, manufacture or installation of cloud computing products and services. These include infrastructure and underlying platforms but not pure software. General data centers are not included.
	Efficient IT (General)	TIER 1	EM.05.2	Revenue generating activities related specifically to the design, development, manufacture or installation of highly energy efficient IT equipment and electronics.
Lighting	Lighting (General)	TIER 1	EM.06.0	Revenue generating activities related specifically to the design, development, manufacture or installation of energy efficient lighting.
Power Storage	Power Storage (General)	TIER 1	EM.07.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of products that store energy at a grid or building level.
	Power Storage (Battery)	TIER 1	EM.07.1	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of products that store electrical energy at a grid or building level. Also include lithium-ion and other advanced batteries and their components unless specifically designed for consumer products.
	Power Storage (Pumped Hydro)	TIER 1	EM.07.2	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of products and facilities that store potential energy at grid level through the utilisation of electricity at times of low demand to pump water to an upper reservoir.
Smart & Efficient Grids	Smart & Efficient Grids (General)	TIER 1	EM.08.0	Revenue generating activities related specifically to the design, development, manufacture or installation of equipment and services that enhance the efficiency of operation of the electrical power network. This includes advanced meters, distributed generation, "smart grid" technologies, high efficiency power generation, transmission and distribution technologies.
Sustainable Property Operator	Sustainable Property Operator (General)	TIER 2	EM.09.0	Revenue generating activities related specifically to the operation of sustainable buildings.

Sector EQ Energy Equipment		Revenue generating activities from the renewable and alternative energy value chain, excluding power generation activities.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Bio Fuels	Bio Fuels (General)	TIER 3	EQ.01.0	Revenue generating activities related specifically to the development, processing, production and distribution of bio-derived fuels for transport, heat and electrical power generation. Bio-derived fuels include bioethanol, biodiesel, and 'advanced' biofuels such as cellulosic ethanol. Excluded are blends combining bio and conventional fuels.
	Bio Fuel (1st & 2 nd Generation)	TIER 3	EQ.01.1	Revenue generating activities related specifically to the development, processing, production and distribution of bio-derived fuels predominantly for transport. These include 1st Generation Biofuels that use food stock (such as corn) and 2nd Generation uses other biomass types such as woodcuttings or waste products from food stock (such as sugarcane bagasse).
	Bio Fuel (3rd Generation)	TIER 3	EQ.01.2	Revenue generating activities related specifically to the development, processing, production and distribution of bio-derived fuels for transport, heat and electrical power generation. These include 3rd Generation uses specially-engineered non-food items such as algae.
	Bio Gas	TIER 2	EQ.01.3	Revenue generating activities related specifically to the development, processing, production and distribution of bio-derived gas generated through the active decomposition of organic matter, typically during landfill processes.
	Bio Mass (grown)	TIER 3	EQ.01.4	Revenue generating activities related specifically to the development, processing, production and distribution of bio-derived fuels typically for heat and/or electrical power generation using crops grown as a fuel source.
	Bio Mass (waste)	TIER 2	EQ.01.5	Revenue generating activities related specifically to the development, processing, production and distribution of bio-derived fuels typically for heat and/or electrical power generation using organic byproducts of the agricultural and other systems.
Cogeneration Equipment	Cogeneration Equipment (General)	TIER 2	EQ.02.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for power generation where the waste heat is utilized for large-scale heating and/or cooling purposes.
	Cogeneration (Biomass)	TIER 1	EQ.02.1	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for power generation where primary source is biomass-based, and where the waste heat is utilized for large-scale heating and/or cooling purposes.
	Cogeneration (Renewable)	TIER 1	EQ.02.2	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for power generation where primary source is renewables-based, and where the waste heat is utilized for large-scale heating and/or cooling purposes. This excludes activities where biomass is the primary energy source.
	Cogeneration (Gas)	TIER 2	EQ.02.3	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for power generation where primary source is natural gas, and where the waste heat is utilized for large-scale heating and/or cooling purposes.
Clean Fossil Fuels	Fossil Fuels (General)	—	EQ.03.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for power generation using fossilized organic material. Only activities related to carbon capture & storage (EQ.03.1) are considered green revenues.
	Carbon Capture & Storage	TIER 1	EQ.03.1	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for capturing carbon dioxide produced through power generation for long-term storage.

Sector EQ Energy Equipment		Revenue generating activities from the renewable and alternative energy value chain, excluding power generation activities.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Fuel Cells	Fuel Cells	TIER 2	EQ.04.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment for power generation through fuel cells, which are primary cells that consume fuel continuously and converts its chemical energy directly into electrical energy.
Geothermal	Geothermal	TIER 1	EQ.05.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that utilizes energy produced by the internal heat of the earth, excluding small-scale heat pump systems.
Hydro	Hydro (General)	TIER 2	EQ.06.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the energy produced by flowing fresh water.
	Large Hydro	TIER 2	EQ.06.1	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the energy produced by flowing fresh water, where the power generation capacity of the system is greater than 10MW. This includes dam construction.
	Small Hydro	TIER 1	EQ.06.2	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the energy produced by flowing fresh water, where the power generation capacity of the system is less than 10MW.
Nuclear	Nuclear (General)	TIER 3	EQ.07.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the energy present within atomic nuclei or their components.
Ocean & Tidal	Ocean & Tidal (General)	TIER 1	EQ.08.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the power of wave, tidal or other ocean and marine current forces.
Solar	Solar (General)	TIER 1	EQ.09.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the power of solar radiation, such as solar photovoltaic or concentrated solar systems but excluding solar thermal heating systems.
Waste to Energy	Waste to Energy (General)	TIER 1	EQ.10.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that utilizes the energy derived from the incineration of municipal waste, or from a fuel source derived thereof.
Wind	Wind (General)	TIER 1	EQ.11.0	Revenue generating activities related specifically to the development, processing, production and distribution of equipment and plants engaged in the supply of power generation that harnesses the power of movements or currents in the air.

Sector ER Environmental Resources		Revenue generating activities from production, processing and sale of key and advanced materials which specifically enable the minimization of negative environmental impacts and improve the efficiency of natural resource use.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Advanced & Light Materials	Advanced & Light Materials (General)	TIER 1	ER.01.0	Revenue generating activities related specifically to the design, development or manufacture of materials that during their manufacture or through their use allow for considerable increases in the efficiency of resource usage.
	Key Raw Minerals & Metals (General)	TIER 3	ER.02.0	Revenue generating activities related specifically to the mining, processing, handling or owning of raw materials fundamental to the transition to a green economy.
Key Raw Minerals & Metals	Cobalt	TIER 3	ER.02.1	Revenue generating activities related specifically to the mining, processing, handling or owning of cobalt, a key input into advanced batteries.
	Lithium	TIER 3	ER.02.2	Revenue generating activities related specifically to the mining, processing, handling or owning of lithium, a key input into advanced batteries.
	Platinum & Platinum-Group Metals (PGM)	TIER 3	ER.02.3	Revenue generating activities related specifically to the mining, processing, handling or owning of the Platinum Group Metals (PGMs), a key input into pollution control systems.
	Rare Earths	TIER 3	ER.02.4	Revenue generating activities related specifically to the mining, processing, handling or owning of Rare Earth Metals, a key input into super-strength magnets for the renewable energy and advanced vehicles industries.
	Silica	TIER 3	ER.02.5	Revenue generating activities related specifically to the mining, processing, handling or owning of silica, a key raw material for the solar photovoltaic industry.
	Uranium	TIER 3	ER.02.6	Revenue generating activities related specifically to the mining, processing, handling or owning of uranium, a key raw material for the nuclear power industry.
	Recyclable Products & Materials (General)	TIER 1	ER.03.0	Revenue generating activities related specifically to products and materials that are explicitly designed with disassembling and repurposing abilities or that biodegrade rapidly at the end of their useful life.
Recyclable Products & Materials	Recyclable Materials	TIER 1	ER.03.1	Revenue generating activities related specifically to materials that have been created to allow for repurposing or are able to be or to biodegrade rapidly at the end of their useful life.
	Recyclable & Reusable Products	TIER 1	ER.03.2	Revenue generating activities related specifically to products that have been created to allow for multiple re-use, disassembling and repurposing or are able to biodegrade rapidly at the end of their useful life.

Sector ES Environmental Support Service		Revenue generating activities from environmental support services relating to consulting, investment or urban design that enable or indirectly contribute to green activities resulting in a large breadth of environmental utility.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Environmental Consultancies	Environmental Consultancies (General)	TIER 2	ES.01.0	Revenue generating activities related specifically to companies that provide advice and/or support regarding environmental issues and strategies.
Finance & Investment	Finance & Investment (General)	TIER 2	ES.02.0	Revenue generating activities related specifically to tradable environmentally based credits and to investment vehicles that specialize in environmental themes.
	Carbon Credits trading	TIER 2	ES.02.1	Revenue generating activities related specifically to tradable environmentally based credits or certificates, such as RECs, TRCs or carbon credits.
	Sustainable Investment Funds	TIER 2	ES.02.2	Revenue generating activities related specifically to investment vehicles that specialize in environmental themes.
Smart City Design & Engineering	Smart City Design & Engineering (General)	TIER 2	ES.03.0	Revenue generating activities related specifically to the design, development, manufacture or installation of products and services that allow cities to use IT and communication technologies to operate at a significantly higher resource efficiency level.

Sector FA Food & Agriculture		Revenue generating activities from products that improve yield, productivity and sustainability in agriculture, silviculture, aquaculture and food production or distribution, whilst minimizing negative environmental impacts.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Agriculture	Agriculture (General)	TIER 3	FA.01.0	Revenue generating activities specifically designed to improve yield, productivity and sustainability in agriculture, silviculture, aquaculture and food production or distribution, whilst minimizing negative environmental impacts, or that help with adaptation to long term issues of climate change.
	GM Agriculture	TIER 3	FA.01.1	Revenue generating activities related specifically to the design, development or manufacture of advanced seeds in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination.
	Machinery	TIER 1	FA.01.2	Revenue generating activities related specifically to the design, development or manufacture of agricultural machinery that demonstrate exceptionally high levels of operational efficiencies.
	Meat & Dairy Alternatives	TIER 1	FA.01.3	Revenue generating activities related specifically to the design, development or manufacture of advanced or modern foods that aim to replicate either animal meat or dairy products.
	Non GM Advanced Seeds	TIER 2	FA.01.4	Revenue generating activities related specifically to the design, development or manufacture of advanced seeds in which the genetic material (DNA) has been altered in a way that occurs naturally by mating and/or natural recombination.
	Organic & Low-Impact Farming	TIER 1	FA.01.5	Revenue generating activities related specifically to the food producers and distributors of food that meets national organic standards. Typically, these are those that use natural pesticides and fertilizers, no antibiotics or genetically modified ingredients, and that encourages wildlife.
Aquaculture	Aquaculture (General)	TIER 3	FA.02.0	Revenue generating activities related specifically to the design, development or manufacture of fish farming equipment, or those who operate fish farms.
	Aquaculture (Conventional)	TIER 3	FA.02.1	Revenue generating activities related specifically to the design, development or manufacture of standard fish farming equipment, or those who operate fish farms that do not meet feed inputs, antibiotic use and transparency levels as defined by the ASC.
	Aquaculture (Sustainable)	TIER 1	FA.02.2	Revenue generating activities related specifically to the design, development or manufacture of fish farming equipment that is designed to significantly reduce the impact the industry has on the environment, or those who operate fish farms where feed inputs, antibiotic use and transparency levels are meet as defined by the ASC.
Land Erosion	Land Erosion (General)	TIER 1	FA.03.0	Revenue generating activities related specifically to the design, development, manufacture or installation or application of products or services that reduce the degradation and movement of the upper layer of soil, particularly in areas exposed to natural disasters or those that have erosion-related soil quality issues.
Logistics	Logistics (General)	TIER 1	FA.04.0	Revenue generating activities related specifically to the operation of efficient logistics systems and infrastructure in areas of high food wastage in the transportation stage of production.
Food Safety, Efficient Processing & Sustainable Packaging	Food Safety, Efficient Processing & Sustainable Packaging (General)	TIER 3	FA.05.0	Revenue generating activities related specifically to the design, development, manufacture, installation or application of products or services that raise food safety standard, test or monitor food, or packaging technologies that extend shelf life and reduce waste.

Sector FA Food & Agriculture		Revenue generating activities from products that improve yield, productivity and sustainability in agriculture, silviculture, aquaculture and food production or distribution, whilst minimizing negative environmental impacts.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
	Food Safety, Efficient Processing & Sustainable Packaging (no single use plastic)	TIER 1	FA.05.1	Revenue generating activities related specifically to the design, development, manufacture, installation or application of products or services that raise food safety standard, test or monitor food, or packaging technologies that extend shelf life and reduce waste where no single-use plastic material is used in the product.
	Food Safety, Efficient Processing & Sustainable Packaging (with single use plastic)	TIER 3	FA.05.2	Revenue generating activities related specifically to the design, development, manufacture, installation or application of products or services that raise food safety standard, test or monitor food, or packaging technologies that extend shelf life and reduce waste where single-use plastic material is used in the product.
Sustainable Plantations	Sustainable Plantations (General)	TIER 2	FA.06.0	Revenue generating activities related specifically to the cultivation of forests and oil palms to verifiable international standards and protocols, which maintain or improve the long-term productivity of timberlands and plantations while enhancing the efficiency of input resources used.
	Sustainable Forestry	TIER 2	FA.06.1	Revenue generating activities related specifically to the cultivation of timber and lumber to verifiable international standards and protocols, which maintain or improve the long-term productivity of timberlands and plantations while enhancing the efficiency of input resources used.
	Sustainable Palm Oil	TIER 2	FA.06.2	Revenue generating activities related specifically to the cultivation of oil palms to verifiable international standards and protocols, which maintain or improve the long-term productivity of plantations while enhancing the efficiency of input resources used.

Sector TE Transport Equipment		Revenue generating activities from the provision of technologies, systems and services which minimize the environmental impacts and improve the efficiency of natural resource use associated with the transportation industry.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Aviation	Aviation (General)	TIER 2	TE.01.0	Revenue generating activities related specifically to the design, development or manufacture of advanced aircraft, or products or services that enable advances in the environmental impact of aviation above and beyond the improvements in fuel economy typically associated with new generations of aircraft.
Railways	Railways (General)	TIER 2	TE.02.0	Revenue generating activities related specifically to the design, development or manufacture of rolling stock or its key components.
	Railway (Infrastructure)	TIER 1	TE.02.1	Revenue generating activities related specifically to the design, construction or management of rolling stock and rail infrastructure. Activities include locomotives, rolling stock, railway infrastructure, systems and equipment (excluding infrastructure where the primary good transported is coal)
	Trains (Electric / Magnetic)	TIER 1	TE.02.2	Revenue generating activities related specifically to the design, development or manufacture of electrical or magnetically powered rolling stock and their key components.
	Trains (General)	TIER 2	TE.02.3	Revenue generating activities related specifically to the design, development or manufacture of diesel-powered rolling stock, and their key components.

Sector TE Transport Equipment		Revenue generating activities from the provision of technologies, systems and services which minimize the environmental impacts and improve the efficiency of natural resource use associated with the transportation industry.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Road Vehicles	Road Vehicles (General)	TIER 1	TE.03.0	Revenue generating activities related specifically to the design, development or manufacture of low-impact and other advanced road vehicles and their key components.
	Advanced Vehicle Batteries	TIER 1	TE.03.1	Revenue generating activities related specifically to the design, development or manufacture of advanced batteries designed for road vehicles.
	Bikes and Bicycles	TIER 1	TE.03.2	Revenue generating activities related specifically to the design, development or manufacture of bicycles, and advanced electrified components.
	Bus and Coach Manufacturers	TIER 1	TE.03.3	Revenue generating activities related specifically to the design, development or manufacture of buses and coaches for public transportation.
	Electrified Road Vehicles & Devices (incl Hydrogen powered)	TIER 1	TE.03.4	Revenue generating activities related specifically to the design, development or manufacture of advanced road vehicles and their key components. These include hydrogen-powered, electric and hybrid vehicles, but exclude mild hybrids and gas-powered vehicles.
	Energy Use Reduction Devices	TIER 1	TE.03.5	Revenue generating activities related specifically to the design, development or manufacture of road vehicle devices that lead to considerable savings in fuel economy, such as Stop-Start systems.
Shipping	Shipping (General)	TIER 2	TE.04.0	Revenue generating activities related specifically to the design, development or manufacture of advanced ships and components that lead to considerable savings in fuel economy. This does not include shipping operators.

Sector TS Transport Solutions		Revenue generating activities from the operation of transportation solutions and services which minimize the environmental impacts and improve the efficiency of natural resource use associated with the transportation industry.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Railways Operator	Railways Operator (General)	TIER 2	TS.01.0	Revenue generating activities related specifically to the operation of rolling stock networks.
	General Railways	TIER 2	TS.01.1	Revenue generating activities related specifically to the operation of diesel-powered public transportation and railway freight networks (excluding those where the primary good transported is coal).
	Electrified Railways	TIER 1	TS.01.2	Revenue generating activities related specifically to the operation of electrified public transportation and railway freight networks (excluding those where the primary good transported is coal).
Road Vehicles	Road Vehicles (General)	TIER 3	TS.02.0	Revenue generating activities related specifically to the operation of sustainable road transportation services.
	Bike Sharing	TIER 1	TS.02.1	Revenue generating activities related specifically to the operation of city cycle hire schemes and other similar ultra-short-term individual transport vehicle schemes.
	Bus and Coach operators	TIER 3	TS.02.2	Revenue generating activities related specifically to the operation of bus and coach fleets.
	Car Clubs	TIER 2	TS.02.3	Revenue generating activities related specifically to the operation or management of fleets of self-drive road vehicles (typically in urban or

Sector TS Transport Solutions		Revenue generating activities from the operation of transportation solutions and services which minimize the environmental impacts and improve the efficiency of natural resource use associated with the transportation industry.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
				residential locations) which members may rent, usually on an hourly or per minute basis.
	Ride Hailing	TIER 2	TS.02.4	Revenue generating activities related specifically to the operation of pre-booked taxi fleets, particularly those that offer ride-sharing services.
Video Conferencing	Video Conferencing (General)	TIER 2	TS.03.0	Revenue generating activities related specifically to the design, development, manufacture of video-based teleconference facilities designed for business purposes that allow participants to see as well as hear one another.

Sector WI Water Infrastructure & Technology		Revenue generating activities from technologies, infrastructure, products and services for the supply, management and treatment of water.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Advanced Irrigation Systems & Devices	Advanced Irrigation Systems & Devices (General)	TIER 1	WI.01.0	Revenue generating activities related specifically to the design, development, manufacture or installation of equipment that enables water to be applied efficiently in agricultural contexts.
Desalination	Desalination (General)	TIER 1	WI.02.0	Revenue generating activities related specifically to the design, development, manufacture, operation or installation of facilities that remove salt from marine and other saline waters for subsequent industrial, agricultural or residential use.
Flood Control	Flood Control (General)	TIER 2	WI.03.0	Revenue generating activities related specifically to the design, development, manufacture, operation or installation of products and services that prevent or reduce the impact of flood waters.
Meteorological Solutions	Meteorological Solutions (General)	TIER 1	WI.04.0	Revenue generating activities related specifically to the design, development, manufacture, operation or installation of products and services that enable accurate weather forecasting and climate predictions.
Natural Disaster Response	Natural Disaster Response (General)	TIER 2	WI.05.0	Revenue generating activities related specifically to the design, development, manufacture, operation or installation of products and services that help reduce the adverse impact on human life and property in the event of a natural disaster.
Water Infrastructure	Water Infrastructure (General)	TIER 1	WI.06.0	Revenue generating activities related specifically to the design, development, manufacture, operation or installation of products and services that enhance water infrastructure systems. This includes specialty pipes, pumps, valves, actuators, hydrants and meters activities and the development and construction of water infrastructure.
Water Treatment	Water Treatment (General)	TIER 2	WI.07.0	Revenue generating activities related specifically to the design, development, manufacture or installation of technologies or facilities for the separation and purification of water to meet environmental standards. This includes membranes, ultra-violet, desalination, filtration, ion exchange, biological treatment, chemical and environmental treatment.
	Water Treatment Chemicals	TIER 2	WI.07.1	Revenue generating activities related specifically to the design, development, manufacture or installation of chemicals produced for the separation and purification of water to meet environmental standards.

Sector WI Water Infrastructure & Technology		Revenue generating activities from technologies, infrastructure, products and services for the supply, management and treatment of water.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
	Water Treatment Equipment	TIER 1	WI.07.2	Revenue generating activities related specifically to the design, development, manufacture or installation of equipment used for the separation and purification of water to meet environmental standards. This does not include any chemicals.
Water Utilities	Water Utilities (General)	TIER 2	WI.08.0	Revenue generating activities related specifically to the operation of water treatment and supply infrastructure, providing potable water or wastewater and sewage services.

Sector WP Waste & Pollution Control		Revenue generating activities from products and services which reduce, monitor, or prevent the contamination of air, water and soil to address global, regional and local environmental issue and technologies, systems and services for waste management, reuse and recycling.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
Cleaner Power	Cleaner Power (General)	TIER 2	WP.01.0	Revenue generating activities related specifically to facilitating the substitution of more polluting fuels by cleaner burning fuels in areas of chronic air pollution, in particular relating to the powering of industry.
Decontamination Services & Devices	Decontamination Services & Devices (General)	TIER 1	WP.02.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the clean-up of air, soil or water pollution.
	Air Decontamination Services & Devices	TIER 1	WP.02.1	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the clean-up of air pollution.
	Land & Soil Decontamination Services & Devices	TIER 1	WP.02.2	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for reduction, prevention or clean-up of land & soil pollution.
	Sea & Water Decontamination Services & Devices	TIER 1	WP.02.3	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for reduction, prevention or clean-up of marine, river and other water table pollution.
Environmental Testing & Gas Sensing	Environmental Testing & Gas Sensing (General)	TIER 2	WP.03.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for environmental analysis, monitoring and modelling, auditing, site evaluation and environmental impact assessments.
Particles & Emission Reduction Devices	Particles & Emission Reduction Devices (General)	TIER 1	WP.04.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the clean-up of air pollution. Principal areas are the industrial and power generation sectors (such as smoke stack scrubbing technologies), and the transportation sector (such as particulate filters and catalytic converters).
	Industrial Pollution Reduction	TIER 1	WP.04.1	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the prevention of air pollution associated to the industrial and power generation sectors (such as smoke stack scrubbing technologies).

Sector WP Waste & Pollution Control		Revenue generating activities from products and services which reduce, monitor, or prevent the contamination of air, water and soil to address global, regional and local environmental issue and technologies, systems and services for waste management, reuse and recycling.		
Sub-Sector	Micro-sector	Green Tier	Code	Description
	Transport Pollution Reduction	TIER 1	WP.04.2	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the prevention of air pollution associated to the transportation sector (such as particulate filters and catalytic converters).
Recycling Equipment	Recycling Equipment (General)	TIER 1	WP.05.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment for the return of materials to a previous stage of a cyclic process.
Recycling Services	Recycling Services (General)	TIER 1	WP.06.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of services for the return of materials to a previous stage of a cyclic process.
Waste Management	Waste Management (General)	TIER 2	WP.07.0	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the collection, management and treatment of waste.
	Hazardous Waste Management	TIER 1	WP.07.1	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the processing and treatment of hazardous waste such as clinical waste, batteries, end of life vehicles, electronic equipment (e-waste) and radioactive waste.
	Organic Waste Process	TIER 1	WP.07.2	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for the processing and treatment of animal and plant-based waste.
	General Waste Management	TIER 2	WP.07.3	Revenue generating activities related specifically to the design, development, manufacture, installation or operation of equipment and services for general municipal and commercial waste management operations, typically including collection, processing and disposal (including landfill and incineration)

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