Application of Scope 3 inventory in ICT industry

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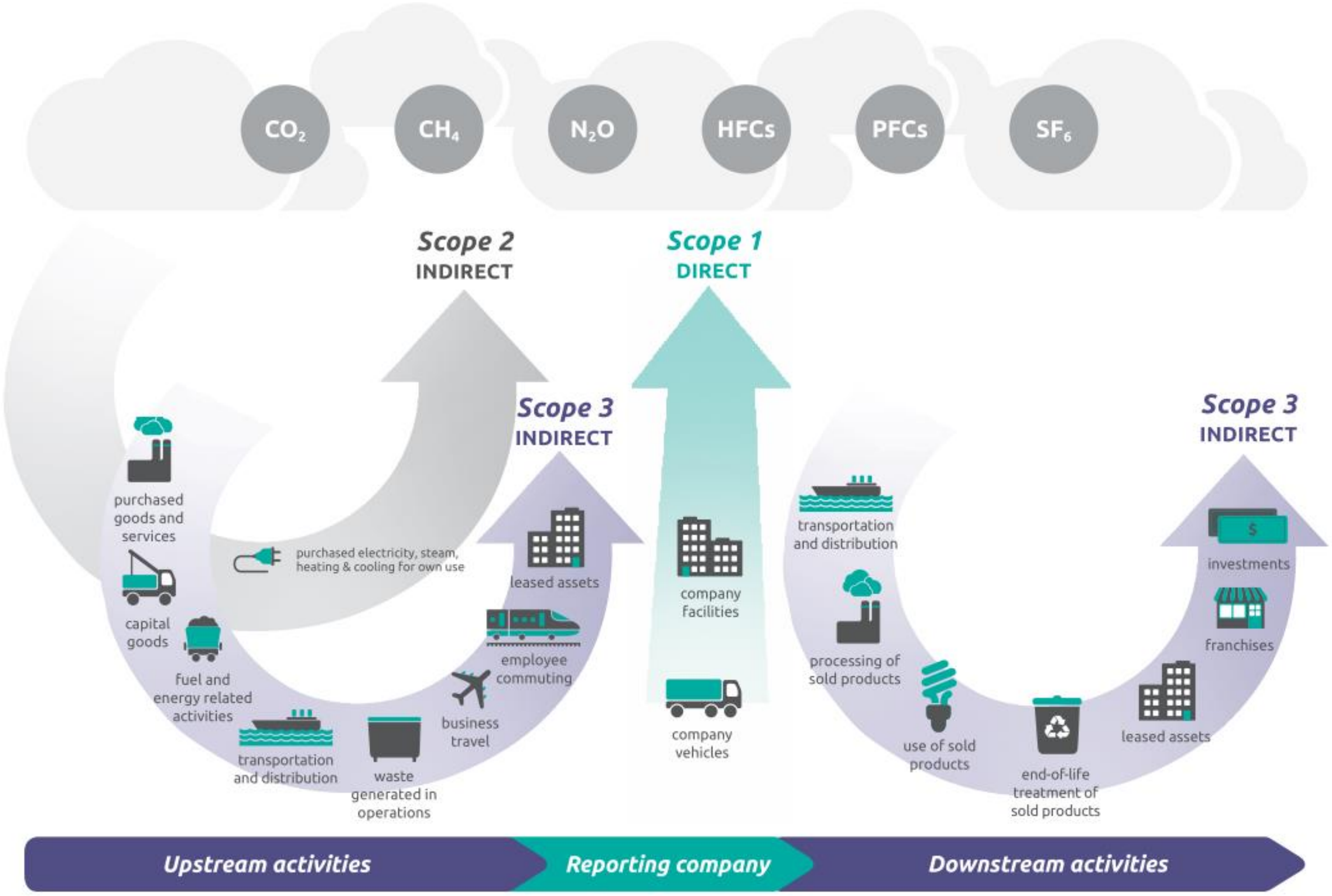
CONTENT

1

Introduction to the Scope 3 categories

1 Introduction to the Scope 3 categories



Upstream emissions

Downstream emissions

1 Introduction to the Scope 3 categories

Scope 3	Emission categories	Description
Upstream emissions	1. Purchased goods and services	This category includes all upstream (**i.e., cradle-to-gate**) emissions from the production of products purchased or acquired by the reporting company in the reporting year. Products include both goods (tangible products) and services (intangible products).
	2. Capital goods	This category includes all upstream (**i.e., cradle-to-gate**) emissions from the production of capital goods purchased or acquired by the reporting company in the reporting year. ✳Capital goods are final products that have an extended life and are used by the company to manufacture a product, provide a service, or sell, store, and deliver merchandise. In financial accounting, capital goods are treated as fixed assets or as plant, property, and equipment (PP&E). Examples of capital goods include **equipment, machinery, buildings, facilities, and vehicles.**
	3. Fuel- and energy-related activities (not included scope 1 or scope 2)	This category includes emissions related to the production of fuels and energy purchased and consumed by the reporting company in the reporting year that are **not included in scope 1 or scope 2**.
	4. Upstream transportation and distribution	This category includes emissions from the transportation and distribution of products (excluding fuel and energy products) purchased or acquired by the reporting company in the reporting year in vehicles and facilities **not owned or operated by the reporting company**, as well as other transportation and distribution services purchased by the reporting company in the reporting year (including both inbound and outbound logistics).

1 Introduction to the Scope 3 categories

Scope 3	Emission categories	Description
Upstream emissions	5. Waste generation in operations	This category includes emissions from third-party disposal and treatment of waste that is generated in the reporting company's owned or controlled operations in the reporting year. This category includes emissions from disposal of both solid waste and wastewater. Only waste treatment in facilities **owned or operated by third parties is included** in scope 3.
	6. Business travel	This category includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars. **Companies may optionally include emissions from business travelers staying in hotels.**
	7. Employee commuting	This category includes emissions from **the transportation** of employees between their homes and their worksites. Companies may include emissions from teleworking (i.e., employees working remotely) in this category.
	8. Upstream leased assets	This category includes emissions from the operation of assets that are leased by the reporting company in the reporting year and not already included in the reporting company's scope 1 or scope 2 inventories. This category is only applicable to companies that operate leased assets (i.e., lessees).

1

Introduction to the Scope 3 categories

Scope 3	Emission categories	Description
Downstream emissions	9. Downstream transportation and distribution	This category includes emissions from transportation and distribution of products **sold** by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), in **vehicles and facilities not owned or controlled by the reporting company**. This category includes emissions from retail and storage.
	10. Processing of sold products	This category includes emissions from processing of sold intermediate products by third parties (e.g., manufacturers) subsequent to sale by the reporting company. Intermediate products are products that require further processing, transformation, or inclusion in another product before use, and therefore result in **emissions from processing subsequent to sale by the reporting company and before use by the end consumer**. Emissions from processing should be allocated to the intermediate product.
	11. Use of sold products	This category includes emissions from the use of goods and services sold by the reporting company in the reporting year. A reporting company's scope 3 emissions from use of sold **products include the scope 1 and scope 2 emissions of end users**. End users include both consumers and business customers that use final products. ✳This standard divides emissions from the use of sold products into two types: • Direct use-phase emissions • Indirect use-phase emissions **The minimum boundary of category 11 includes direct use-phase emissions of sold products**. Companies may also account for indirect use-phase emissions of sold products, and should do so when indirect use-phase

Introduction to the Scope 3 categories

Scope 3	Emission categories	Description
Downstream emissions	12. End-of-life treatment of sold products	This category includes emissions from **the waste disposal and treatment** of products sold by the reporting company (in the reporting year) at the end of their life.
	13. Downstream leased assets	This category includes emissions from **the operation of assets** that are owned by the reporting company (acting as lessor) and leased to other entities in the reporting year that are not already included in scope 1 or scope 2.
	14. Franchises	This category includes emissions from the operation of franchises not included in scope 1 or scope 2. A franchise is a business operating under a license to sell or distribute another company's goods or services within a certain location.
	15. Investments	This category includes scope 3 emissions associated with the reporting company's investments in the reporting year, not already included in scope 1 or scope 2. This category is applicable to investors (i.e., companies that make an investment with the objective of making a profit) and companies that provide financial services.

2

Current situation of Scope 3 accounting in ICT industry

2 Current situation of Scope 3 accounting in ICT industry

Principles of Scope 3 accounting and reporting

- **Relevance:** Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.
- **Completeness:** Account for and report on all GHG emission sources and activities within the inventory boundary. Disclose and justify any specific exclusions.
- **Consistency:** Use consistent methodologies to allow for meaningful performance tracking of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
- **Transparency:** Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- **Accuracy:** Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve suficient accuracy to enable users to make decisions with reasonable confidence as to the integrity of the reported information.

2

Identify reporting boundaries and emission categories

- Identify reporting boundary and scope 3 emission categories applicable to the reporting organization according to operation situation and business characteristics.

Determine covered categories

Accounting cases for Scope 3 categories

Cases served by CEC	Emission categories	Accounting methods and activity data collection	Notes
IDC（NetEase、Ali Cloud）	1. Purchased goods and services 8. Upstream leased assets	• IDC operations and maintenance services: electricity consumption of leased IDC*average electricity grid emission factor • Purchased IDC equipment: IDC equipment purchases*cradle-to-gate emissions of IDC equipment	Classify the emission categories according to the attribution of IDC and equipment
Purchased raw material（NetEase、Alibaba）	1. Purchased goods and services	• Purchased packaging material: actual consumption of various packaging material * average sector emission factor for each material	
Logistics and distribution（NetEase、Cainiao）	4. Upstream transportation and distribution	• Fuel consumption available: actual consumption of each fuel * fuel combustion emission factor • Transportation distance, load of goods, type of vehicles available: tonne kilometer for each type of vehicle * average sector emission factor	Determine the accounting methods based on data accessibility
Business travel & Employee commuting	6. Business travel 7. Employee commuting	• Business travel: passenger kilometer for each type of vehicle * average sector emission factor • Employee commuting: via questionnaire, sampling passenger kilometer for each type of vehicle * average sector emission factor / sampling rate	

2 Current situation of Scope 3 accounting in ICT industry

Scope 3 emission categories	NetEase（2021）	Tencent（2021）	Alibaba（2021）	Baidu（2021）
1. Purchased goods and services	√ purchased packaging material	√ Procured products	√ the use of packaging materials and consumables √ purchased electricity for leased data centers and other facilities	
2. Capital goods		√ IDC equipment and infrastructure consumables		
3. Fuel- and energy-related activities (not included scope 1 or scope 2)		√		
4. Upstream transportation and distribution	√ Yanxuan transportation emissions	√ Logistics	√ fuel & electricity consumption in outsourced transportation and distribution services	
5. Waste generation in operations		√ Disposal of waste generated from operations		
6. Business travel	√	√	√	
7. Employee commuting	√	√	√	√ electricity consumed from charging equipment
8. Upstream leased assets	√ leased IDC, offices, warehouse, etc.	√ leased IDC	√ infrastructure operations such as leased warehouses and logistics parks	√ leased IDC
9.Downstream transportation and distribution				
10. Processing of sold products				
11. Use of sold products				
12. End-of-life treatment of sold products				
13. Downstream leased assets			√ Self-built office campus and shopping malls for lease, ticket machine	
14.Franchises			√ Cainiao Stations, Franchise stores	
15. Investments			√ investments in TV plays and shows	

2 Current situation of Scope 3 accounting in ICT industry

Scope 3 emission categories	Microsoft (FY2021)	Apple (FY2021)	Amazon (2021)
1. Purchased goods and services	√	√ Product manufacturing (purchased goods and services)	√operating expenses, Amazon-branded product manufacturing, packaging
2. Capital goods	√		√ building construction, servers and other hardware, equipment, vehicles
3. Fuel- and energy-related activities (not included scope 1 or scope 2)	√		√ upstream energy-related
4. Upstream transportation and distribution	√	√ Product transportation	√
5. Waste generation in operations	√ emissions from waste disposed via landfilling or incineration and does not include waste from recycling or compost.		
6. Business travel	√ Commercial air travel, hotel night stays, rail travel, reimbursed mileage, rental cars, and taxi/rideshares	√	√
7. Employee commuting	√ commuting by all employees and contractors that work in Microsoft buildings √ emission impacts from telework: 1 laptop, 2 monitors and 3 lightbulbs are assumed for each employee; other assumptions include 8 hours of work hours/day	√	
8. Upstream leased assets			
9.Downstream transportation and distribution	√	√ Product transportation	√ lifecycle emissions from customer trips to Amazon's physical stores
10. Processing of sold products			
11. Use of sold products	√ not limited to, Xbox devices, Surface devices, keyboards, mice, and other peripherals	√ Product use (use of sold products)	√ Amazon-branded product use phase
12. End-of-life treatment of sold products	√ the model assumes that all devices are sent to landfills at the end of their useful life	√ End-of-life treatment	√ Amazon-branded product end-of-life
13. Downstream leased assets	√ Emissions associated with sublets		
14.Franchises			
15. Investments			

3

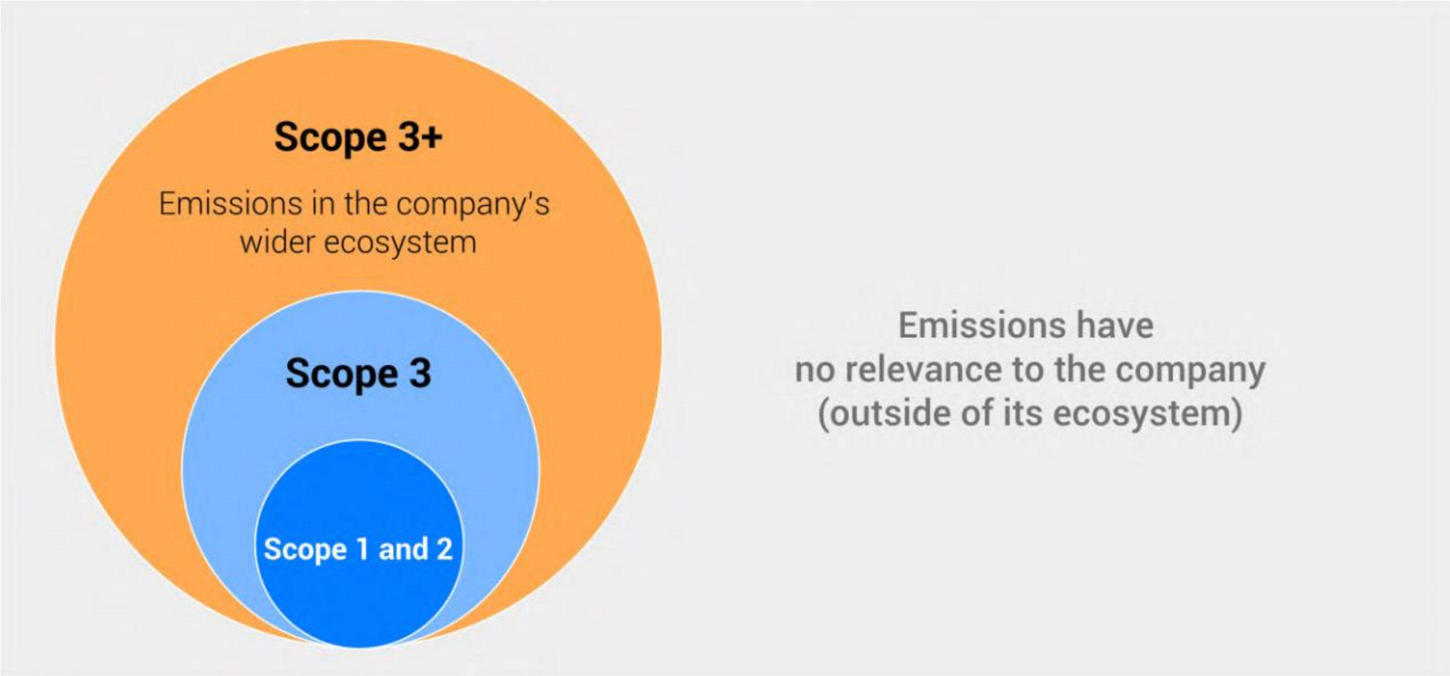
‘Scope 3+’ emissions reduction methodology

3 ‘Scope 3+’ emissions reduction methodology

Definition of ‘Scope 3+’ emissions

Developed by Alibaba in its 2021 Carbon Neutrality Report, the concept of ‘Scope 3+’ refers to the emissions generated by a wider range of stakeholders within a company’s ecosystem, that are outside of the company’s current Scope 1, 2, and 3 emissions.

- **‘Scope 3+’ emissions are related to the company’s business and stakeholders (including users, suppliers, business partners, etc.) in the ecosystem**
- **‘Scope 3+’ emissions do not belong to the company’s current Scope 1, 2, and 3 GHG emissions**



3

‘Scope 3+’ emissions reduction methodology

Examples of ‘Scope 3+’ emissions

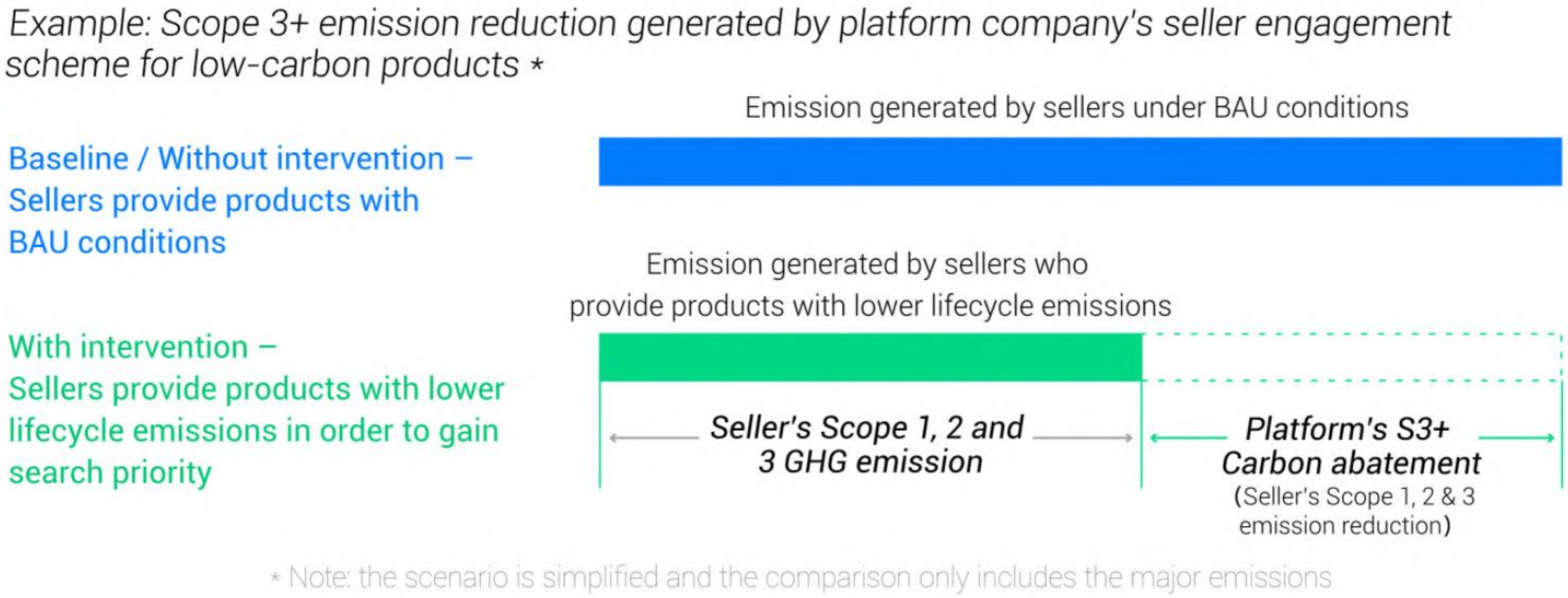
Company type	Business model	Product’s LCA emissions belong to
E-commerce platform	Independent sellers sell their own products on platform	Independent seller’s Scope 3, and platform’s ‘Scope 3+’
Regular retailer	Retailer purchases products from suppliers for resale	Retailer’s Scope 3

Company	Emission source	For the real estate developer of the office building	For the manufacturer of the glass installed on the office building
Office building glass manufacturer	Heating- and cooling- related emissions of an office building	Scope 3	‘Scope 3+’

Examples of ‘Scope 3+’ emissions reduction

‘Scope 3+’ emissions reduction is defined as the carbon abatement resulting from collaborative actions and solutions by the company and stakeholders within its ecosystem. These actions fall outside of the company’s Scope 1, 2, and 3 emissions reduction. ‘Scope 3+’ emissions reduction includes the actual emissions ‘reduced’ by stakeholders’ actions, as well as the emissions ‘avoided’ by stakeholders’ use of lower carbon solutions.

‘Scope 3+’ emissions reduction can be classified into ***Enabled carbon abatement*** and ***Engaged carbon abatement***.

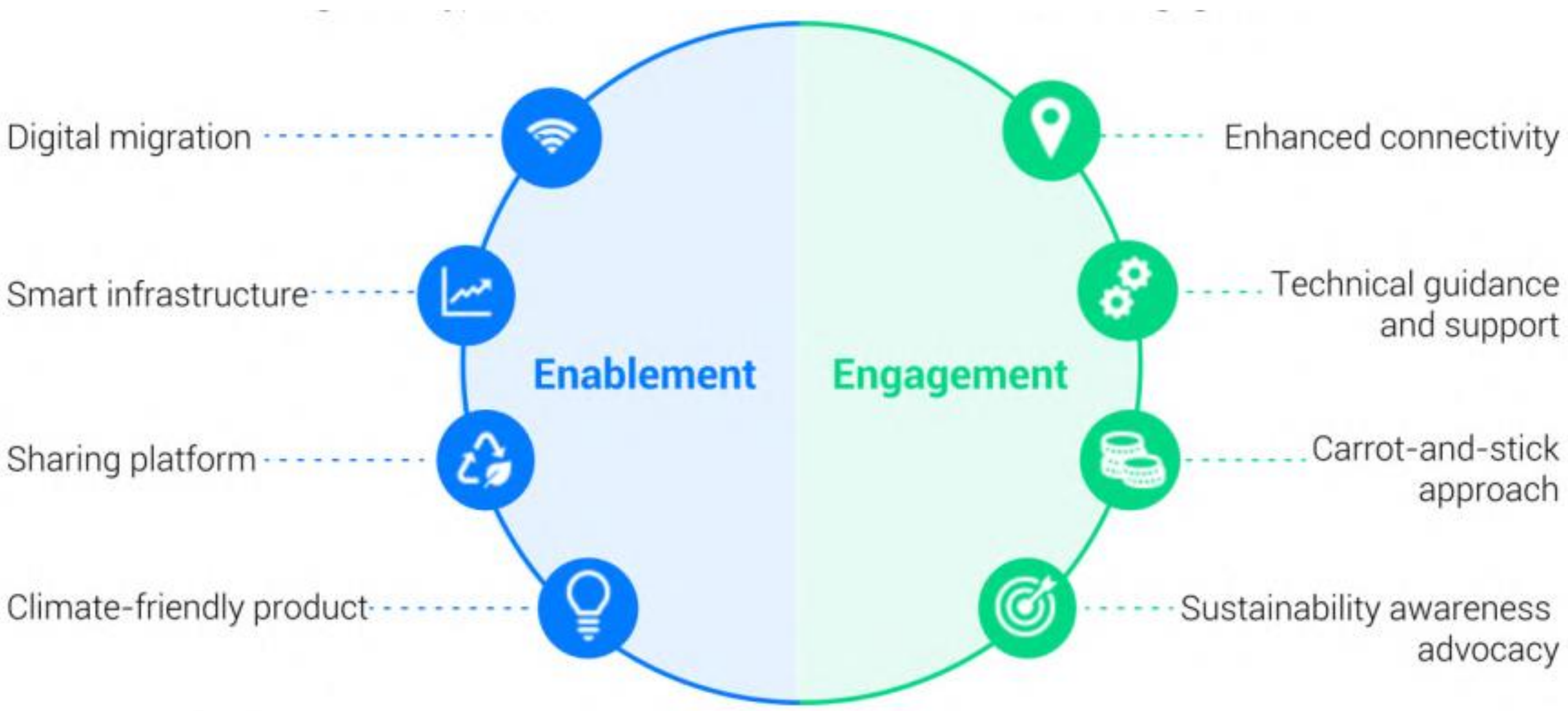


3 ‘Scope 3+’ emissions reduction methodology

Importance of ‘Scope 3+’ emissions reduction to corporates

- Firstly, it can help businesses generate more innovative and sustainable products and services.
- Secondly, reporting ‘Scope 3+’ emissions reduction could help enhance companies’ reputations and user adherence.
- Lastly, introducing ‘Scope 3+’ emissions reduction framework can enhance corporate transparency and improve external communications with key stakeholders.

Levers for enablement and engagement



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