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หลักการและแนวคิดการประเมินการ ปล่อยก๊าซเรือนกระจกทางอ้อม (Scope 3)

Live webinar

บรรยายโดย

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หัวข้อการบรรยาย

- การแบ่งประเภท Scope 3 ตาม GHG Protocol และ ISO14064-1
- หลักการและตัวอย่างการประเมิน Scope 3
- หลักการประเมิน Scope 3 ตามมาตรฐาน ISO14069





การแบ่งประเภท Scope 3
ตาม GHG Protocol และ
ISO 14064-1



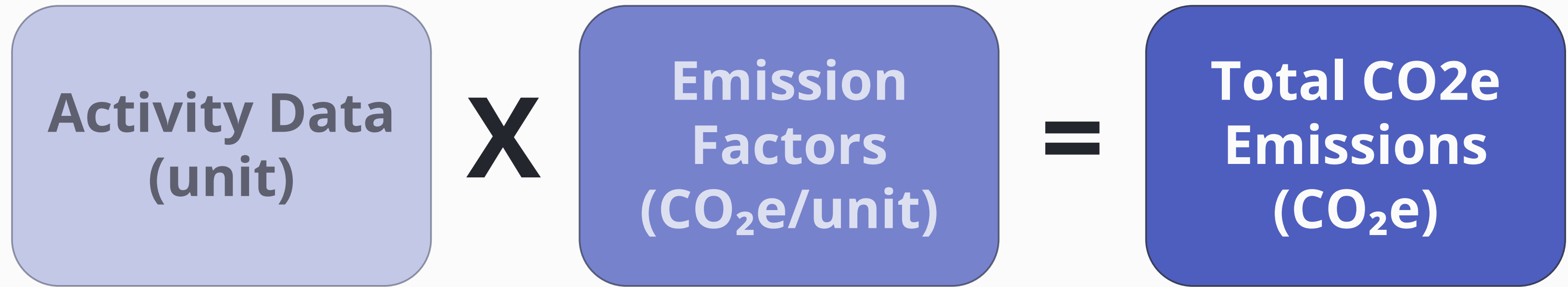
ISO 14064-1	GHG Protocol
Category 3: Indirect GHG emissions from transportation	Cat.4 - Upstream transportation and distribution
	Cat.6 - Business travel
	Cat.7 - Employee commuting
	Cat.9 - Downstream transportation and distribution
Category 4: Indirect GHG emissions from products used by organization)	Cat.1 - Purchased goods and services
	Cat.2 - Capital goods
	Cat.3 - Fuel- and energy related activities
	Cat.5 - Waste generated in operations
	Cat.8 - Upstream leased assets
Category 5: Indirect GHG emissions associated with the use of products from the organization	Cat.10 - Processing of sold products
	Cat.11 - Use of sold products
	Cat.12 - End-of-life treatment of sold products
	Cat.13 - Downstream leased assets
	Cat.15 - Investments
Category 6: Indirect GHG emissions from other sources	Cat.14 - Franchise



หลักการและตัวอย่าง
การประเมิน
Scope 3



Main Principles



AVOID DOUBLE COUNTING

Cat. 1 - Purchased goods and services

Emissions from Goods and Services used by organization.

Method of Reporting

- Supplier-specific method
- Average-data method
- Spend-based method

Example of Evidence

- Certified CFP
- TGO CFP
- Bill of Quantity
- Production Report
- Invoice related to spent RM

Reference

- Supplier Site-specific data
- Reference from CFP-TGO
- Product Category Rules (PCR) TGO
- Etc. (US EPA, GHG Protocol, Sima Pro)

Cat. 2 – Capital Goods

Emissions from assets used by the company to manufacture a product; provide a service; or sell, store, and deliver merchandise.

Method of Reporting

- Supplier-specific method
- Average-data method
- Spend-based method

Example of Evidence

- Certified CFP
- Bill of Quantity
- Evidence related to Life Span (Product Catalogue)
- Invoice Related to Capital goods
- Allocation of Supplier's Scope 1 and 2

Reference

- Supplier Site-specific data
- Reference from CFP-TGO
- Product Category Rules (PCR) TGO
- Etc. (US EPA, GHG Protocol, Sima Pro)

Cat. 3 – Fuel- and Energy-Related Activities

Emissions from upstream emissions of the energy sources.

Method of Reporting

- Supplier-specific method
- Average-data method

Example of Evidence

- Fleet Card Transaction
- Certified Site-specific data
- Calculation from Supplier Inventory
- Operation record

Reference

- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- Etc. (US EPA, GHG Protocol, Sima Pro)

Cat.4 – Upstream Transportation and Distribution

“Emissions from freight services that are paid for by the organization.”

Method of Reporting

- Fuel-based method
- Distance-based method
- Spend-based method

Example of Evidence

- Fleet Card Transaction of supplied vehicles
- Calculation of distance and tonnes carrying (Google Maps distance/ Searates, etc.)
- Transportation log Record

Reference

- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- Etc. (US EPA, GHG Protocol, Sima Pro)

Cat. 5 – Waste Generated in Operations

Emissions from third-party disposal and treatment of waste generated in the reporting company's owned or controlled operations.

Method of Reporting

- Supplier-specific method
- Waste-type-specific method
- Average-data method

Example

- Document related to waste treatment (Quantity, Company who treat waste)
- Certified CFP (Treatment Service)
- Calculation from IPCC

Reference

- Supplier Site-specific data
- IPCC (Calculation Method)
- Reference from CFP/CFO-TGO

Cat. 6 – Business Travel

Emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties

Method of Reporting

- Fuel-based method
- Distance-based method
- Spend-based method

Example of Evidence

- Invoice/fuel use for vehicles
- Ticket related to business trips
- Transportation log Record

Reference

- Reference from CFP/CFO-TGO
- Website – Searates, Air Miles, ICAO Calculator
- Etc. (Research, SIMA Pro, EEIO)

Cat. 7 – Employee Commuting

Emissions from the transportation of employees between their homes and worksites

(If applicable, including energy use for telecommunication)

Method of Reporting

- Fuel-based method
- Distance-based method
- Average-data method

Example of Evidence

- Questionnaire for employee in each mode of travelling
- Distance from Google maps

Reference

- Reference from CFP/CFO-TGO

Cat. 8 – Upstream Leased Assets

Emissions from the operation of assets that are leased by the reporting company in the reporting year.

Method of Reporting

- Asset-specific method
- Lessor-specific method

Example of Evidence

- Invoice of activity related to assets (Fuel use, Electricity, etc.)
- Lessor Details supporting allocation (such as meter readings, Internal systems)

Reference

- Site Specific data
- Reference from CFP/CFO-TGO
- Etc. (Research, SIMA Pro, EEIO, GWP support IPCC)

Cat. 9 – Downstream Transportation and Distribution

Emissions from freight services that are due to the first purchasers OR other purchasers throughout the supply chain but not paid for by the organization.

Method of Reporting

- *Fuel-based method*
- *Distance-based method*
- *Spend-based method*

Example of Evidence

- Fleet Card Transaction of supplied vehicles
- Calculation of distance and tonnes carrying (Google Maps distance/ Searates, etc.)
- Transportation log Record

Reference

- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- Etc. (US EPA, GHG Protocol, Sima Pro)

Cat. 10 – Processing of Sold Products

Emissions from the processing of sold intermediate products by third-party before use.

Method of Reporting

- Site-specific method
- Average-data method

Example of Evidence

- Product design specification (How to use products)
- Purchased records
- Energy consumed in process

Reference

- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- PCR

Cat. 11 – Use of Sold Products

Emissions from the use of goods and services sold by the reporting company.

Method of Reporting

- Direct use method
- Indirect use method

Example of Evidence

- Production Report
- Ingredient label

Reference

- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- PCR

Cat. 12 – End-of-Life Treatment of Sold Products

Emissions from the waste disposal and treatment of products sold by the reporting company

Method of Reporting

- Waste-type-specific method
- End-of-life-treatment method

Example of Evidence

- Production Report
- Sales Report

Reference

- Supplier/Waste Disposer Site-specific data
- Reference from CFP/CFO-TGO
- TGO-CFO Guidelines

Cat. 13 – Downstream Leased Assets

Emissions from the operation of assets that are owned by the reporting company and leased in the reporting year.

Method of Reporting

- Asset-specific method
- Lessor-specific method

Example of Evidence

- Invoice of activity related to assets from lessee (Fuel use, Electricity, etc.)
- Lessor Details supporting allocation (such as meter readings, Internal systems, etc.)

Reference

- Site Specific data
- Reference from CFP/CFO-TGO
- Etc. (Research, SIMA Pro, EEIO, GWP support IPCC)

Cat. 14 – Franchises

Emissions from the operation of franchises not included in scope 1 or scope 2.

Method of Reporting

- Franchise-specific method
- Average-data method (Estimation)

Example of Evidence

- Scope 1, Scope 2 and optionally Scope 3 data from franchisees
- Data Related to Scope 1,2,3 of Franchise

Reference

- Site Specific data
- Reference from CFP/CFO-TGO
- Etc. (Research, SIMA Pro)

Cat. 15 – Investment

Emissions from the investees related to reporting company's investments.

Method of Reporting

- Investment Specific Method
- Average-data method

Example of Evidence

- Scope 1 and Scope 2 data of investee
- Financial Record of reporting company
- Revenue of Investee company
- Investor proportional share of equity

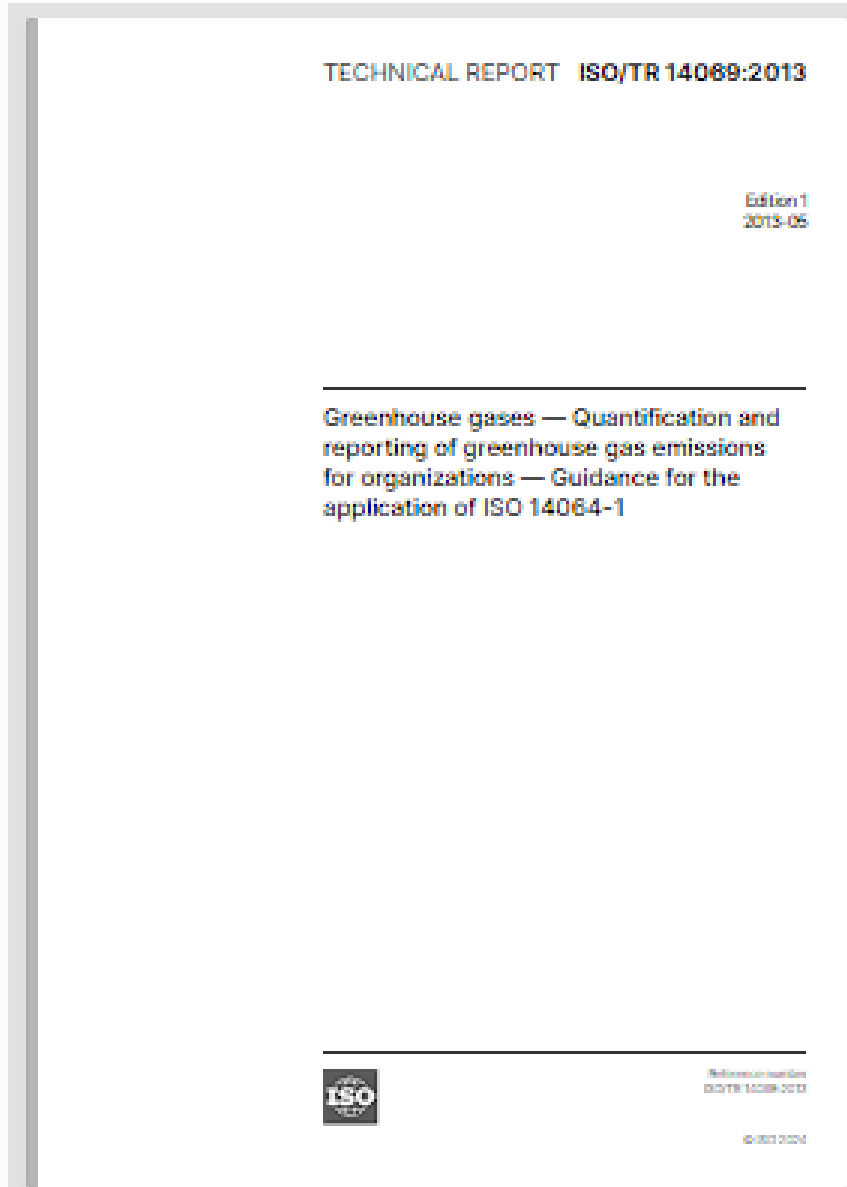
Reference

- EEIO
- Other applications

หลักการประเมิน
Scope 3
ตามมาตรฐาน
ISO 14069



ISO 14069:2013



ISO/TR 14069:2013



Greenhouse gases — Quantification and reporting of greenhouse gas emissions for organizations — Guidance for the application of ISO 14064-1

Published (Edition 1, 2013)

Life cycle

Now

Published
ISO/TR 14069:2013

A standard is reviewed every 5 years
Stage: **90.92** (To be revised) ✓

Will be replaced by

Under development
ISO/CD TS 14064-4



Reference:

<https://www.iso.org/standard/43280.html>



Cat. 1 - Purchased goods and services

Method

- Exact Physical Amount – weight/volume/units
- Estimation – monetary/calculation

Evidence

- Activity data – Purchased invoice/Production Report
- EF - LCA Database of representing Goods related to production
- EF – Site-specific data
- EF – CFP-TGO / PCR

Cat.2 – Capital Goods

Method

- Date of acquisition, assessed life time.
- Other data such as total weight/volume.

Evidence

- Activity data – Purchased invoice/Production Report, Assessed lifetime (Product catalog)
- EF - LCA Database of representing Goods related to production
- EF – CFP-TGO / PCR

Cat.3 – Fuel- and Energy-Related Activities

Method

- Exact Physical Amount – weight/volume/units
- Estimation – monetary/calculation

Evidence

- Activity data – Purchased invoice/Production Report/Fleet Card Control
- EF - LCA Database of representing fuels type
- EF – Site-specific data
- EF – CFP-TGO

Cat.4 – Upstream Transportation and Distribution

Method

- Activity data – distance based using distance travel, mass carrying, and types of vehicles
- Activity data – Calculate consumption on Distance Travel and Type of fuel

Evidence

- Activity Data - Record related to amount of goods received, Total round trip, Distance of transporting
- EF – CFP-TGO Transportation
- EF – CFO-TGO Mobile Combustion

Cat.5 – Waste Generated in Operations

Method

- Activity data – Quantity of waste
- EF – Types of treatment

- Evidence
- EF – Site-specific data such as certified CFP-TGO
- Activity data – Document related to exported waste quantity/total waste such as Sor Kor 3

Cat. 6 – Business Travel

Method

- Activity data – distance based using distance travel (Location), and types of vehicles
- Hotel night (Optional)

Evidence

- Activity Data - Record related to business trips, Total round trip, distances
- EF – CFP-TGO Transportation, IPCC
- Other reference such as Flight ticket (with CO2 emissions data, Research)

Cat.7 – Employee Commuting

Method

- Activity data – distance based using distance travel, working days, and types of vehicles
- Activity data – Calculate consumption on Distance Travel and Type of fuel
- Estimation – Total Average distance and Types of Transport
- Telecommuting (Optional)

Evidence

- Activity Data – Questionnaire/Survey record related to distance travel from home to workplace, Types of Vehicles
- EF – CFP-TGO Transportation
- EF – CFO-TGO Mobile Combustion

Cat. 8 – Upstream Leased Assets

Method

- Activity data – Energy consumption of leased assets

Evidence

- Activity data – Meter Reading/Billing of Energy used.
- EF – CFO-TGO

Cat.9 – Downstream Transportation and Distribution

Method

- Activity data – distance based using distance travel, mass of products carrying, and types of vehicles
- Activity data – Calculate consumption on Distance Travel and Type of fuel

Evidence

- Activity Data - Record related to amounts of products sold, Total round trip, Distance of transporting
- EF – CFP-TGO Transportation
- EF – CFO-TGO Mobile Combustion

Cat. 10 – Processing of Sold Products

Method

- Activity data – emission from processing of products
- Estimation – GHG during processing on “final consumer” stage

Evidence

- Product design specification (How to use products)
- Sold records
- Energy consumed in process
- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- PCR

Cat. 11 – Use of Sold Products

Method

- Activity data – emission from the used of products
- Estimation - GHG during usage on “final consumer” stage

Evidence

- Production Report/Sold Record
- Ingredient label
- Supplier Site-specific data
- Reference from CFP/CFO-TGO
- PCR

Cat. 12 – End-of-Life Treatment of Sold Products

Method

- Activity data – End of life scenario of products
- Activity data – Treatments of packaging waste
- Activity data – Treatment of product waste
- Estimation – calculation from components

Evidence

- Activity data – Product Sold Records
- EF – Site-specific data
- EF – Reference from CFP-TGO

Cat. 13 – Downstream Leased Assets

Method

- Activity data – Energy consumption of leased assets
- Activity data – Scope 1,2 Inventory of leased assets

Evidence

- Activity data – Meter Reading/Billing of Energy used.
- Activity data – Other evidence related to Scope 1, 2 of leased assets
- EF – CFO-TGO

Cat. 15 – Investment

Method

- Activity data – monetary value/GHG emissions of each assets

- Evidence
- Activity data – Financial statement shows equity proportional.
- EF – EEIO of the represent sector
- GHG inventory/information from investee

Some References for Indirect GHG Emission Reporting

GHG Protocol

<https://ghgprotocol.org/scope-3-calculation-guidance-2>

US EPA + USEEIO

<https://www.epa.gov/land-research/us-environmentally-extended-input-output-useeio-technical-content>

IPCC

<https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html>

TGO (CFO, CFP)

<https://thaicarbonlabel.tgo.or.th/index.php?lang=TH&mod=YUc5dFpRPT0>

PCR (Refer to TGO)

<https://thaicarbonlabel.tgo.or.th/index.php?lang=TH&mod=Y0hKdlpIVmpkSE5mY25Wc1pYTT0>

Industry Guidance

<https://thaicarbonlabel.tgo.or.th/tools/files.php?mod=YjNKblIXNBibUYwYVc5dVgyUnZkMjVzYjJGaw&type=WDBaSIRFVIQ&files=TWpBPQ>

" Q&A

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