

Know your supply chain's carbon emissions

Knowing the greenhouse gas emissions and the associated climate change risks of a company's supply chain is becoming a business imperative. PwC's ESCHER (Efficient Supply Chain Emissions Reporting) Calculator is a lean and efficient solution to address this issue.

Our solution

- *Accounts for emissions of procured goods (complete supply chains) and services.*
- *Places particular emphasis on accounting for international interdependencies in a globalised world.*
- *Employs uniform and consistent methodology. Publically accepted econometric methods and data.*
- *Cost-efficient methodology that provides results within days rather than weeks.*
- *Works without technical details being required from suppliers.*

The value to you

Comprehensive and transparent emissions management:

- *Improves credibility when reporting to customers and stakeholders.*
- *Allows for the identification and focused exploitation of opportunities to reduce carbon emissions originating upstream.*
- *Permits analysis of the risks in the supply chain related to future effects of climate change and developments on the carbon markets.*
- *Allows for additional features that can help you on your journey towards an environmental profit and loss account.*

Key stakeholders now expect companies to manage their greenhouse gas (GHG) emissions comprehensively.

While many companies already monitor and communicate externally what their direct emissions (Scope 1) and those related to the generation of purchased energy (Scope 2) are, data on upstream supply chain emissions (Scope 3) is often excluded from reporting, or is only partially addressed.

A new standard on data collection and accounting for Scope 3 emissions (GHG Protocol, Scope 3 Accounting and Reporting Standard) requires screening of all indirect GHG emissions.

Your interest

You are looking for reliable methods and data to inform your company's management about GHG and you would like to collect information about indirect emissions either to meet your reduction targets cost-efficiently or to satisfy the Scope 3 reporting requirements that emerged in 2011.

The challenges

While data on suppliers' GHG performance is scarce, the data on GHG performance of your supplier's suppliers (tier 2, tier 3, etc.) is often unavailable.

Audit questionnaires often indicate that data quality is poor, or that data is neither reliable nor consistent.

Supplier analyses often require intensive resources and are therefore costly, particularly in view of the fact that a company may have a large number of suppliers.

Finding a consistent approach that takes in your entire portfolio can be tricky. This is particularly true for system boundaries but also when emission factors derived from various life-cycle assessment (LCA) databases are used.

Our approach

To keep it simple, the tool is termed the ESCHER Calculator: Efficient Supply Chain Emissions Reporting.

The most important characteristics of the ESCHER Calculator can be summarized as follows:

- *Only information that is easily available from financial accounting is required.*
- *The total volume of GHG emissions of CO₂, F-gases, N₂O and CH₄ is calculated.*



Where you can learn more:
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Where we have done this before:
A number of leading multi-national companies have already used the ESCHER Calculator for various purposes, such as analyzing, screening, benchmarking or reporting:

- Deutsche Telekom
- Siemens
- Major European telecoms provider
- Global chemical company
- Global retailer
- PwC

Outputs and results

Applying the ESCHER Calculator to your requirements, PwC can support you with valuable information. Outputs and results include:

- Data sets that are readily available for Scope 3 upstream reporting.
- Identified hot spots and major drivers of upstream GHG emissions; often, 20% of your companies' intermediate goods import accounts for 80% of your Scope 3 emissions.
- Further recommendations may be given to adjust management strategies accordingly.
- Comprehensive footprint overview that details regional and sector-specific (product group) contributions. This footprint covers all the upstream emissions of your product and service portfolio.

How does ESCHER function technically?

Part of the ESCHER success story is that its underlying methodology combines sophisticated and publicly accepted econometric methods.

The Global Trade Analysis Project (GTAP) maintains an accurate and comprehensive database of all foreign trade activities worldwide. This database has been used to build up an interregional input-output model to quantify the supply chain effects differentiating separate sectors and regions.

Applying such an extended inter-regional input-output framework, ESCHER calculates emission factors per monetary unit to estimate Scope 3 emissions.

The ESCHER Calculator may also be extended to other topics such as water scarcity.

ESCHER is a reliable and efficient tool that meets GHG Protocol accounting requirements for Scope 3 GHG emissions.

ESCHER is ideal for identifying major drivers of upstream GHG emissions.