



FAQ - E-liability Approach

Purpose

This document provides more detail on the E-liability approach and how it operates, to support implementation. It sets out FAQ and suggested approaches on accounting treatment as well as sector-specific questions, application beyond carbon accounting, and scaling E-liability.

FAQ

Accounting Treatment

How do you account for embodied emissions of a product or service?

Embodied emissions are greenhouse gas emissions generated from the production and transportation of a product or service, from the extraction of raw materials to the manufacturing process to the delivery of the good or service. Embodied emissions are accounted for over time, throughout the value chain, with a focus on realistic and measurable impacts. E-liability is designed as a double-entry system to capture and track these emissions accurately.

Example: Consider a tire company that produces a popular consumer tire. The tire's raw materials such as carbon black, synthetic rubber, natural rubber, and steel include embodied emissions. These embodied emissions are passed down to the tire company from its suppliers. The emissions from the raw materials plus the emissions generated in its own tire manufacturing process compose a tire's embodied emissions, which get passed down to the tire company's customer, an OEM, upon sale.

How does E-liability account for leases?

For building or tenancy leases, E-liabilities are transferred to the lessee for the duration of the lease and then back to the lessor.

Should transportation emissions be included?

We recommend including transportation emissions if they are material. Be sure to consider factors such as the mode of transportation (electric rail line or diesel). The allocation of responsibility for transport emissions, within the framework of the E-liability methodology, hinges on the contractual agreements. If the buyer assumes responsibility upon the product's departure from the seller's factory, the accountability for emissions rests with them. However, if this responsibility commences upon the product's arrival at the buyer's premises, transport emissions are not within their domain. Ownership of shipping trucks plays a decisive role in



determining transport emissions responsibility. The negotiation process serves as the cornerstone, akin to the sharing of costs across different tiers of the supply chain.

How should emissions be factored for recycled goods?

Recycled inputs typically have a 0 emissions factor since they come from consumer use. Processing the recycled inputs incurs emissions, however, which must be factored in. Recycling accounting will also involve negotiation between businesses and other stakeholders.

How should we calculate and allocate the depreciation of capitalised emissions of property, plant, and equipment?

The depreciation should be over the useful lifetime of the property, plant, or equipment. Lifetime is the minimum of {technological obsolescence; physical obsolescence}. The simplest depreciation method is straight-line depreciation, but that assumes uniform production output over the asset's useful life. If production is expected to increase, then the depreciation schedule should allow for increasing CO₂ costs over time; similarly if output is expected to decrease over time (leading to something like sum-of-the-years' digits depreciation, linearly decreasing over time).

The general rule is to estimate the total units of production over the useful lifetime of the asset; divide the asset's embedded emissions by this total production, to obtain the CO₂ emissions per unit of output. Then each unit of output from the asset is assigned the same quantity of the asset's embedded CO₂ emissions.

In the USA, tax authorities restrict depreciation to a maximum of 30 years. A fair rule of thumb for depreciation for pilots is 25 years for buildings and 10 years for capital equipment. Nonetheless, it is vital to factor in the actual useful lifecycle when determining depreciation periods.

Example: Consider a machine used to produce widgets by Company A. If the total units of widgets produced over the useful life of the equipment is 1,000, then Company A should allocate the embodied emissions of the machine to the 1,000 units of widgets over their production.

For new buildings and facilities, and large capital items, depreciation should be considered over their useful life. The challenge lies in the absence of a central database for CO₂ equivalent values.

Obtaining emissions data

When dealing with older buildings, relying on average emissions data based on specific sizes proves effective. You can, for example, roughly calculate emissions per square metre. If a



building or piece of capital equipment has outlived its standard useful life-cycle, but is still in use, then you can consider its emissions to be fully depreciated.

Salvage value and immediate allocation

Another factor to consider is the 'salvage value'. This entails the ratio of the device's resale price, to its initial purchase price. Applying this ratio, a portion of the total CO₂ emissions can be removed from the depreciable total. Items that are destined for disposal should have their emissions fully allocated across their useful lifespan. Disposables should be allocated immediately.

Example: Consider a machine used to produce widgets by Company A. If the total units of widgets produced over the useful life of the equipment is 1,000, and Company A expects to sell the machine after 800 units of production have occurred, then Company A should have allocated 80% of the machine's embodied emissions to its 800 units of output, which get assigned and passed on to Company A's downstream customers upon the sale of the widgets; Company B, the purchaser of the equipment, has the remaining 20% of the machine's capitalised emissions to depreciate over its production.

How does E-liability consider changing equipment lifecycles due to reasons such as technological advancement?

If a piece of equipment is scrapped before all its embedded emissions have been assigned to outputs due to obsolescence, then the remaining emissions will be "expensed" in the period of obsolescence to the outputs produced during that period. This is an incentive to calculate the useful life and total units of production accurately. It is *not* recommended to assign the residual embodied emissions to future production.

If the equipment's useful life is extended due to a technology, then the remaining emissions (including new emissions associated with applying this technology) of this equipment should be allocated based on total production units during the remaining life of the equipment. For companies with cleaner technologies, the E-liability method allows them to differentiate products and receive credit for using cleaner alternatives.

How should emissions be allocated between joint products?

Joint products are two or more products generated from a single production process. The allocation of emissions between joint products should be based on the relative value of each product.

Example: Different cuts of beef have different relative prices (e.g., chuck, brisket, loin, flank, etc.). The different cuts should be allocated different amounts of emissions.



Should emissions from by-product or waste be included?

The allocation of by-product or waste emissions hinges on the existence of a market for the waste (e.g., steel slag being purchased for concrete production). The specific allocation of the emissions may depend on the negotiations between the buyer and the seller of the by-product or waste. Should no buyer exist, then all waste must be allocated to your own products.

How do you account for the end-use of products?

The end-use of products is accounted for in a manner similar to the entire lifecycle, considering the transfer of E-liabilities to customers. This ensures transparency and accurate representation of emissions associated with product use.

Which emissions from entity accounting and facilities should be included?

The inclusion of work-from-home emissions, such as food and electricity for remote workers should also be considered in the pilot. From an accounting perspective, only elements under an entity's (i.e., your) control are accounted for. Therefore, home costs of employees not directly working for the entity are typically not included unless they contribute to facilities that wouldn't exist without the company. This differs from cases like on-site cafeterias, which are controlled and thus accounted for by the company. Facilities that are established solely due to the company's presence, like temporary housing, should be included in emissions allocation.

Can you apply mass balancing when allocating emissions?

The E-liability approach allows for the utilisation of "mass balance numbers" for raw materials. It is not a partial equilibrium framework, but rather a full equilibrium framework which empowers you to maximise the benefits of mass balancing. As the E-liability method becomes widely accepted, mass balancing emerges as an accurate technique for comprehending emissions comprehensively and allocating them appropriately.

Example: If a steel maker receives two shipments of iron from different mines - one with higher embodied carbon and one with lower embodied carbon - these can be mixed together and the company can take the average emissions of the proportion of low vs high carbon iron.

Sector-specific questions

How can E-liability incentivise organisations close to the end-consumer?

For organisations close to end-consumers, E-liability offers the opportunity to measure and disclose CO₂ content of products directly as well as CO₂ per unit of consumer use in annual reports and filings. While not part of upstream emissions, this approach allows companies to influence consumer behaviour and showcase their commitment to sustainability.

How can E-liability be applied to financial services?



For financial institutions, E-liability can be attached to various outputs, such as assets under management or labour hours. It involves an allocation approach, and institutions can use E-liability to drive decisions and inform customers about their carbon footprint.

How can E-liability be applied to renewables?

E-liability accurately accounts for embedded emissions in infrastructure and provides incentives for companies to reduce their e-liability load, encouraging the transition to renewables and sustainable practices.

Application beyond carbon accounting

How does E-liability cover other types of environmental impact?

E-liability can cover various environmental impacts, treating them similarly to GHG emissions. However, it acknowledges the complexity of broader environmental metrics and focuses on measurable and accountable components.

How can E-liability be applied to social metrics like modern slavery?

E-liability can use the same methodology to track and account for social metrics like modern slavery, utilising a parallel account within the system to address workplace harms, water management, and other relevant factors.

How can E-liability assist with broader CSR goals?

Integrating E-liability into your CSR strategy and tools will mean that you have carbon data (and other environmental and social metrics) available and trackable in a dynamic way. This supports decision-making as well as annual reporting.

Scaling E-liability

What is the ultimate objective of E-liability?

The ultimate objective of E-liability is to contribute to the global effort to decarbonise the world. By providing accurate measurements, E-liability aims to be a valuable tool in driving sustainable practices and decision-making across organisations.

What about downstream emissions? Should companies be held accountable for them?

The proposition behind GHG Protocol Scope 3 downstream carbon accounting is that a company needs to be accountable for the emissions from its products' use. E-liability recognises that companies have more control over their upstream decisions than they do about the downstream uses of their product. As a result, while we can hold companies accountable for emissions in their purchased products and services and in their own operations (so-called "cradle to gate"), it is difficult to hold them to account for emissions due to their customers' (and other downstream) decisions (so-called "gate to grave").

E-liability is an accounting solution, and holding companies accountable for customers' decisions violates accounting principles. Calculating downstream emissions is prospective and



often unverifiable. However, voluntary disclosure on downstream emissions can continue. Keeping track of their downstream emissions-impact can motivate companies to develop products that are more emission-efficient in use. How companies communicate the value of any emissions improvements to customers (and other downstream users) is a matter for marketing, not accounting.

How does E-liability work without every company adopting it simultaneously?

The theory of change involves working with lead steer companies to create bottom-up and top-down momentum. These companies can use the E-liability method to better inform their purchasing, operational, and strategic decisions. After major companies embrace it, others will follow suit, and regulators may adopt it, enhancing the chances of widespread adoption.

How will E-liability influence policies and regulation?

Our aim is to make E-liability principles the global gold standard for carbon accounting. We are engaging with policy makers and regulators around the world. Our pilots with high-impact companies across different industries demonstrate the value of the E-liability method.

How does E-liability sync up with other sustainability standards?

The E-liability approach acknowledges the differences between disclosure standards, like the GHG Protocol Scope 3, and accounting standards. While the two may inform each other, E-liability focuses on providing a robust accounting standard, leveraging best practice from financial accounting to enable the measurement and transfer of GHG emissions along an entire corporate value chain. The E-liability Institute is open to collaboration with various organisations in the sustainability space.

How can E-liability be scaled?

Scaling E-liability involves collaboration with technology and assurance providers. Technologies such as blockchain and tokenisation can help scale the E-liability approach. Assurance providers can offer verification and assurance on companies' emissions data. While the E-liability Institute does not provide technology solutions, it can connect organisations with relevant partners for scaling. Companies are also encouraged to engage the technology providers, consultants and auditors with whom they have an existing relationship early in the piloting and scaling process.

How will E-liability plug into existing systems?

E-liability can be integrated into products via manufacturing execution systems (already in place) and tracking via ERP (in progress). It can also produce enterprise reporting that can be verified by an external assurance provider.