E-liability Pilot Playbook

Introduction

The playbook provides a step-by-step framework for organisations on how to pilot and implement the E-liability method for accurately tracking emissions through complex supply chains. It sets out key processes, considerations, and actions to successfully implement the E-liability approach, as well as supporting documents and FAQ.

Further resources can be found on our website: https://e-liability.institute/pilot-resources/

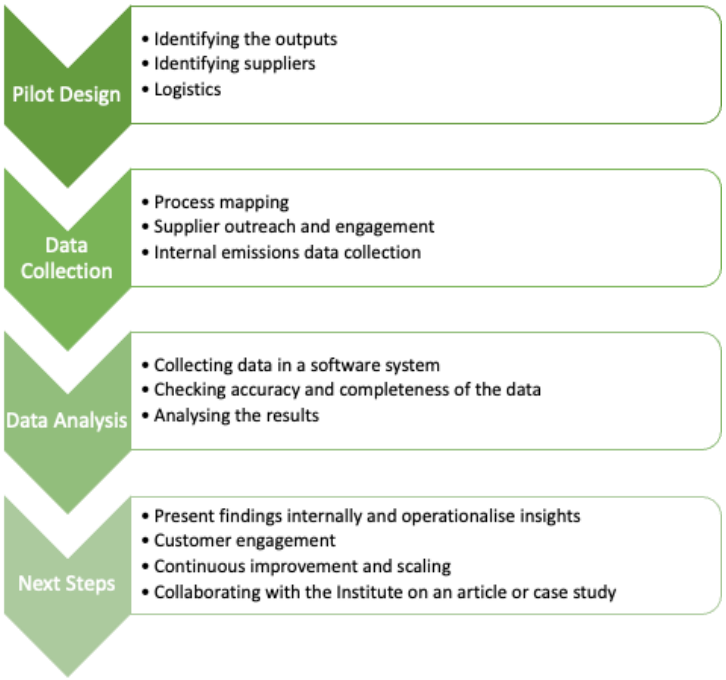
Framework for E-liability Pilot Implementation

The E-liability pilot involves four key stages (refer **Figure 1** below):

- Stage 1: Pilot Design
- Stage 2: Data Collection
- Stage 3: Data Analysis
- Stage 4: Next Steps

Note that these stages, and steps and activities within each stage, can be iterative and flexible to the circumstances of the pilot and particular challenges or hurdles that you may come across.

Figure 1: Summary of the key stages within a pilot



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Stage 1: Pilot Design

The goal of an E-liability pilot is to help an organisation build a first iteration of a real-time, management-information system on the carbon content of its inputs, processes, and outputs via a bottom-up process. Such a system, when scaled, can help the organisation to rethink its strategy and reimagine its purchasing and operations to have a smaller carbon impact, potentially identifying new lines of business along the way.

The first stage of the pilot process is the design phase: Why are you doing it? (What is the "problem" that the pilot will help address?) What is the scope of the pilot? Who is going to be involved, particularly internally and in your supply chain? What is the data that you will need to gather? How are you looking to use the E-liability information to inform your decision?

The pilot charter includes some helpful questions to consider when scoping up a pilot, which are expanded on below.

A good rule of thumb for a first approximation is to focus on 3-4 key sources of emissions and key suppliers of relevant inputs, to capture a material proportion of an output's emissions.

a) Identifying the outputs

To get started, identify the scope and objectives of the pilot, in particular, the specific products or services for which E-liabilities will be calculated.

When defining the scope of the pilot project, set clear objectives, such as accurate emissions tracking, identifying emissions hotspots, and exploring emission reduction opportunities. The following questions may be helpful to understand why you may want to undertake a pilot:

- Which products or services have a high carbon footprint? Either in your operations or in your supply chain. Are there particular products or services where choices can be made in the production process that significantly vary the carbon content of that product or service?

Example: Heidelberg Materials focused its pilot on the dominant contributor to cement-related emissions: the conversion of limestone ($CaCO_3$) into clinker (CaO), which accounts for around ⅔ of the overall emissions from cement production.

- Do you have a question or hypothesis to test regarding the carbon content of particular processes, where a more rigorous accounting methodology and measurement methodology would help you answer? This could be related to your decarbonisation strategy.

Example: Hitachi Energy compared the E-liabilities of recycled copper vs virgin copper in the manufacture and use of copper coils in large electric transformers.

- Is there a popular product or service where it would be helpful to understand the E-liabilities of? This could be a product or service that you believe you have a competitive advantage in and are offering a lower-carbon solution.

Example: Giti Tire focused on the E-liabilities of a standard passenger car tyre as it was one of its most popular products and made up 30% of its tire production capacity.

Example: A large technology firm believes that they offer cloud services in a much less carbon intensive way than their competitors, and wants to use E-liability to demonstrate that in a way that is more accurate and auditable, and then to describe this to their customers.

- Are you early in your decarbonisation journey and see the value of E-liability in informing your decarbonisation strategy to better understand the emissions hotspots, and what your options are?

To focus the scope of a pilot, particularly through the first iteration, consider applying the 'Willie Stutton' rule (the 1950's bank robber who, when queried about his occupational choice, responded "that's where the money was."). Where would Willie Sutton look for carbon in your operations and supply chain? Hence the guiding project design rule, "go where the carbon is.". This means focusing on what matters or what will be the most manageable, and is particularly important for hard to abate sectors, or industries with hundreds of inputs. This could involve tracking one input or raw material through a value chain, or focusing on the E-liabilities of significant inputs, raw materials, or activities within a production process.

Example: Hitachi tracked copper, a critical material in its electrical transformers, through three tiers of the supply chain, from the copper mine, to the company that rolled the copper rods, to the company that wound the copper wire, which were an input into Hitachi's electric transformers.

Example: Giti Tire calculated that four key materials make up about 86% of the weight of its passenger car tyres: steel, carbon black, synthetic polymers, and natural rubber. It started with these inputs when inquiring for upstream supplier data.

Example: Depending on the level of vertical integration in the supply chain, a construction company may only need to go back 1-3 tiers in the supply chain to involve the supplier producing the cement, a high carbon product with an opportunity for decarbonisation.

Pilots should ideally compare more than one product or service. Only analysing one product will provide you with supplier-specific emissions data for that product, but means that the pilot will

not involve allocation choices. If possible, we recommend that you choose two or more *significantly differentiated but comparable* products, ideally with shared product emissions (i.e., the same inputs or operational processes are used in both products).

This could involve:

- Two or more similar products or services that draw from a common pool of inputs so as to test carbon allocation assumptions and drivers. For example, when comparing hip and knee surgeries at a hospital, common pool inputs would include the surgeon's time, use of the operating theatre, anaesthetic, etc. (ie, the same resources are used (separately) for hip and knee replacements, with the only differences being the implant itself, surgeon's operating time, time of operating theatre use, etc.).
- Products or services which are the result of shared activities during their creation (i.e., The usage of the same machine in a factory is particularly useful in determining the process for allocating shared or overhead emissions to individual products.)
- Products or services created in different locations (i.e., Different plant sites or geographical locations) which use similar but not identical processes and/or inputs.
- Products or services that the project manager can reasonably obtain primary emissions data from at least one or two of the key suppliers of the inputs of their selected products or services.

Example: The Tata Steel Meramandali pilot compared two different production processes to make steel to understand which was more emissions-intensive. The methods had some similar and some differentiated raw materials, and the process-related emissions and allocation of emissions to by-products also differed.

Selecting two or more products or services to facilitate comparison enables you to make meaningful allocation decisions and generate actionable data for managerial decision making, analyse the managerially useful causal logic between the allocation of inputs across outputs, and determine if emissions should be an operational and sales factor alongside price.

b) Identifying suppliers

Once you have identified the key products or services that will be the focus of the pilot, and if relevant the key raw materials or components contributing to the product's emissions, the next step is to identify the key suppliers of those raw materials or components.

This is again where the Willie Sutton rule applies. You may want to engage suppliers that are responsible for a small share of emissions for your chosen outputs, if they also supply goods for many other outputs for the business, as the data can be transferable across different projects. E-liability is an incremental solution, and pilots should continue to be iterated to improve accuracy and completeness, and to broaden the scope to cover more suppliers or go deeper into the supply chain.

You should also consider how to engage and align relevant tiers of suppliers to get buy-in. A key factor in a pilot's success is having a deep relationship with suppliers and being able to engage them from the very beginning of the project. You can invite suppliers to participate directly in the pilot, as was done with Hitachi. It is helpful if relevant suppliers already have strong existing processes to calculate their Scope 1 and 2 GHG emissions, but this is not critical.

Often, suppliers are keen to cooperate, particularly with major customers, as they will also be under pressure to reduce their own environmental impacts. Being involved will provide the supplier also with the opportunity to learn from the pilot and shed light on the hypothesis. Having your key suppliers involved also makes it easier to approach their suppliers and involve multiple tiers of the supply chain. The E-liability Institute is happy to be involved in initial conversations.

If suppliers are not receptive or willing and able to be involved in the pilot, be open to beginning discussions with other suppliers and, if necessary, re-scoping the pilot to focus on a product or service with suppliers that are interested in being involved and can provide the relevant data. You can also let your non-receptive supplier know that you have opened communication with other suppliers (which may include their competitors) to be involved with the pilot process.

c) Logistics

Once you have scoped the pilot and identified key suppliers who are interested in being involved, internal engagement is critical to obtain high-level support and to form a project team with the necessary skills and experiences.

You will also need to form a project team to lead the pilot. This will involve:

- A pilot project manager, who has day-to-day responsibility for the project. This should be someone who understands the supply chain of the selected product and key upstream and direct sources of emissions associated with the production of the selected outputs.The project manager will scope the pilot, oversee the pilot's implementation, and coordinate team efforts to gather the carbon data and to develop the allocations across products or services.
- An executive sponsor, often the CFO, CSO, or CQO, who approves pilot scope and acts as an enabler for the project manager to get access to internal resources. Obtaining high-level internal support, including Board buy-in, is cited as often being critical to a pilot's success.
- Staff from operations, procurement/supply chain management, sales, and finance are often important resources for the project manager. In particular, consider who is likely to have the information and data that you need. Identify key stakeholders and decision-makers involved in the pilot project, including environmental specialists, engineers, supply chain managers, and data analysts. Assemble a cross-functional team

with diverse expertise relevant to the pilot, including representatives from environmental, supply chain, financial, and data analysis departments.

Example: The Giti Tire pilot project team worked closely with factory floor workers to identify and set out each step of their manufacturing process, which then enabled the team to identify where they could make emissions reductions, with a focus on energy-intensive processes.

You should also determine a plan of action for the pilot. Set a targeted end-date of the pilot and determine accountability checkpoints. Generally, pilots take roughly 6 months from initial scoping to completion, with pilot managers working at least several hours per week on the pilot. This can be shorter depending on data availability. The typical pilot does not generally exceed 0.25 FTE of the project manager's total working hours.

The E-liability Institute provides support during the pilot process pro bono, with support from E-liability Institute staff throughout the scoping and execution phases. We recommend setting up regular meetings with the E-liability Institute (i.e., every 2-4 weeks) to discuss progress and any questions that may arise through the pilot process.

We also recommended signing a Confidentiality Agreement or Non-disclosure Agreement and Memorandum of Understanding with the E-liability Institute and other key external stakeholders involved in the pilot. You are welcome to use your own template or to contact us.

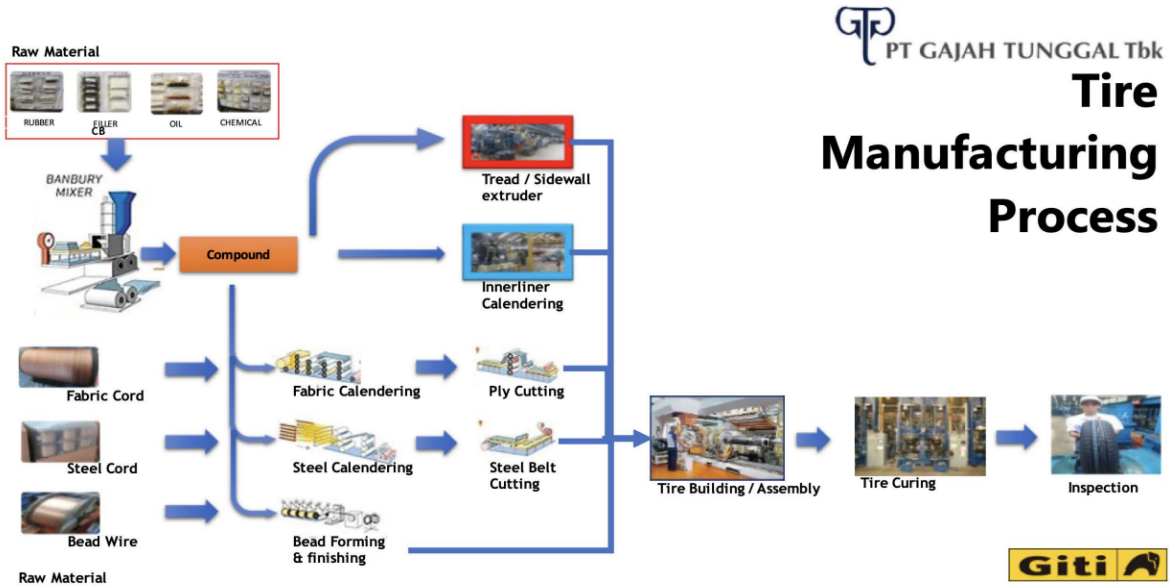
Stage 2: Data Collection

The next stage in the pilot involves gathering emissions data. Pilots are part of an iterative process. The first pass of gathering data can be followed with more detailed data collection up the supply chain or with additional inputs and outputs.

a) Process mapping

You should map your production process flow to identify major emission sources. Often this will require simplifying complex manufacturing processes to identify major emissions sources along a production line. Creating an illustrative flow chart can be useful (refer **Figure 2** below for an example from the Giti Tire pilot). Applying the Willie Sutton rule, focus on energy-intensive processes and conduct a detailed analysis of emissions associated with these activities.

Figure 2: Example process flowchart from the Giti Tire pilot



b) Supplier outreach and engagement

Once you have the process mapped out, you can begin engaging with multiple intermediaries of the supply chain to gather emissions data of selected inputs. This could include vendors, transport, key suppliers, etc. Where useful, the E-liability Institute can join conversations to walk key suppliers through the E-liability methodology, as well as the pilot process and scope.

It may be helpful to establish a communication plan with suppliers to request emissions data for these materials. The pilot process can also enable the exploration of collaboration opportunities with suppliers to find emissions reduction alternatives.

Example: Once Giti Tires' suppliers knew it was actively invested in reducing its carbon footprint, they started to propose potential lower-emission alternatives. The carbon-black supplier suggested using circular production methods that stressed the importance of maximising resource use and the lifecycle of products, which would reduce its respective emissions by 38%. The natural-rubber supplier could switch from a domestic-plantation supplier to a more productive one in Thailand to reduce emissions by 27%. The steel supplier could replace virgin ore smelted in basic-oxygen furnaces with recycled steel from electric-arc furnaces to reduce emissions by over 43%.

Where suppliers are keen to be engaged on pilots, they may be able to share specific emissions factors on their final products. If specific emissions data from suppliers are not readily available, consider using publicly available emissions data, such as Environmental Product Declarations (EPDs) or Life Cycle Analysis (LCA) assessments. Using the E-liability approach, once you

purchase the relevant materials from your supplier, the inherent emissions are transferred from the suppliers to the company's own working E-liability statement.

> **Example:** Heidelberg Materials was already producing EPDs to estimate the CO2 emissions for one specific product, produced at a specific plant, in a specific period. Using E-liability, it was able to leverage this work and data to create a real-time management measurement system that reflected the actual carbon content from current cement recipes, production processes, energy purchasing, and materials sourcing.

The aim is for each tier of a supply chain to concentrate on the emissions that they have control over (i.e., their direct emissions and their purchased/acquired emissions, not downstream emissions). The E-liability pilot should capture actual transactions that have been made between suppliers and customers. This enables managerial insights to support real-time decarbonisation decisions.

c) Internal emissions data collection

Your own direct and Scope 2 emissions are a critical part of the pilot process. Using the process map, conduct a detailed analysis of emissions associated with your key activities.

In short, gathering emissions data within a company involves extensive collaboration with various stakeholders across different departments. The project manager needs to communicate with workers on the ground, line managers, HR personnel, engineers, and internal experts in fields like energy and sustainability. This collaborative approach ensures that a comprehensive and accurate picture of emissions-related data is collected.

If you already undertake emissions reporting and disclosure, you may find that much of the necessary data is already available and you are not starting from scratch. Rather, the challenge will be to verify the accuracy of, and ensure the completeness of, the existing data and, where possible, to get dynamic and lot-specific data.

Further detail is provided below on how you could identify, calculate, and allocate the emissions data for direct activities. A stylised example of a data centre is set out at **Figure 3** below. For illustrative purposes, the time period of one month is used. Please also refer to **Table 1** in ***Stage 3: Data Analysis***.

Figure 3: Stylised example of internal emissions data collection in a data centre

Example Data Centre			*For month of: Jan-23*		Output 1: "Standard" Product (services per kwH)		Output 2: "Premium" Product (services per kwH)	
Inputs e.g. raw materials and activities	**Total emissions per month (in kgCO2e)**	**Unit of input**	**Total input capacity per month**	**Factor - Emissions per unit of input**	**Usage - Units of input per output 1**	**Total emissions per unit output 1**	**Usage - Units of input per output 2**	**Total emissions per unit output 2**
Fibre cable	*ab*	metre of cabling	*a*	*b*	*c*	*bc*	*d*	*bd*
Aluminium	*ab*	kilogram	*a*	*b*	*c*	*bc*	*d*	*bd*
Copper	*ab*	kilogram	*a*	*b*	*c*	*bc*	*d*	*bd*
Cooling	*ef*	run-time hours	*e*	*f*	*g*	*fg*	*h*	*fh*
Main electricity inlet usage	*ef*	run-time hours	*e*	*f*	*g*	*fg*	*h*	*fh*
Back-up electricity inlet usage (diesel)	*ef*	run-time hours	*e*	*f*	*g*	*fg*	*h*	*fh*
Employee commuting	*ef*	employee hours	*e*	*f*	*g*	*fg*	*h*	*fh*
PPE depreciation (1/25)	*ef*	facility run-time hours	*e*	*f*	*g*	*fg*	*h*	*fh*

i. Direct inputs and raw materials

Once you have identified all the direct inputs and raw materials, and your usage of these inputs per month (*a*) you begin by calculating the emissions factor for each unit of raw material. In Figure 3 above, this would involve calculating (*b*) i.e., the emissions factor associated with 1 metre of fibre cabling, 1 kilogram of aluminium, and 1 kilogram of copper.

For external suppliers, this will involve inputting supplier-specific primary data (as discussed above). To determine emissions related to specific internal input units (e.g., kg of raw material per hour of activity), the project manager can engage with factory floor workers, line managers, HR, and engineers. These discussions help in understanding the relationship between inputs and emissions for each activity. The expert opinions of workers who are directly involved in these processes provide valuable insights into how variations in inputs impact emissions.

Once you have this factor, you can calculate the total emissions per month (in kgCO2e) for your direct inputs (*ab*).

ii. Calculate emissions per unit of output for direct inputs

Next, you calculate the usage of raw materials per output (*c* and *d*). Once you have this factor, you can use the emissions factor per unit of input (*b*) to calculate the total emissions of each output (*bc* and *bd*).

iii. Indirect inputs and activities

Then, for all other indirect inputs or activities, you first calculate capacity per month (*e*), emissions factor per unit of capacity (*f*), and emissions per month (*ef*). In Figure 3, this would consider the cooling, main electricity inlet usage, back-up electricity inlet usage, employee commuting, and PPE depreciation.

- To gather emissions data for activities, the project manager would engage with various stakeholders involved in these activities. This could involve discussions with factory floor workers, line managers, and the HR department. These conversations aim to understand the time spent on specific tasks, processes, or operations that directly contribute to emissions. By collecting information on the duration of these activities, the project manager can establish a baseline for emissions linked to each task.
- Analysing electricity usage data is crucial for estimating emissions from activities relying on electrical energy. By studying utility bills and energy consumption patterns, the project manager can calculate the emissions associated with electricity use.
- Indirect emissions can be understood similarly to “overhead costs” and includes factors such as emissions from administration and depreciation. Estimating indirect emissions requires a comprehensive approach. The project manager can work with relevant experts to assess depreciation of buildings and industrial equipment. This involves considering the embedded emissions within the raw materials used for construction and the equipment's life cycle emissions. Collaborating with experts in engineering, finance, and sustainability can aid in arriving at accurate estimates for these emissions.

Example: Estimating emissions from employee commuting involves using the best available data sources, such as travel logs, surveys, or transportation records. The project manager might collaborate with HR to obtain data on commuting distances, modes of transportation used, and average fuel efficiency for different modes. By combining this information with emission factors for each mode, the emissions resulting from employee commuting can be calculated.

iv. Calculate emissions per unit of output for indirect inputs

Finally, you can calculate the emissions per unit of output for those indirect inputs and activities. This involves calculating the usage or capacity of indirect inputs or activities per output (*g* and *h*). Once you have this, you can calculate the total emissions of each output for those indirect inputs and activities (*fg* and *fh*).

Allocating emissions from overhead and capital to products and services will generate interesting insights. Doing this at the batch-level can help you to find new efficiencies.

Stage 3: Data Analysis

Once you have emissions data for key inputs, raw materials, and activities, the E-liability approach enables you to calculate emissions at the level of individual products or services using an activity-based costing methodology, commonly applied to financial accounting. This requires inputting data into a cost-accounting spreadsheet, analysing the results, and checking for accuracy and completeness.

There is a key difference between industry averages and the data you will collect as a pilot. You will be making the key decisions as to how to allocate that data to products - this is what accounting is! This will also provide you with managerial insights, including opportunities for innovation and decarbonisation in your procurement and operations, potential new products and services, and factoring emissions data into how you price your products and services.

Example: Heidelberg Materials sought an alternative measurement system to assign an appropriate share of plant-level, energy-related, and purchased emissions to each of the plant's outputs. The pilot followed a multi-step process for allocating direct and indirect emissions from major processes at the plant, to products (outputs) using appropriate drivers such as the product's relative clinker or slag content, and its milling time, akin to an activity-based costing approach.

a) Collecting data in a software system

The Sample Emissions Worksheet is a simple annotated sample activity-based costing spreadsheet. While there is no one spreadsheet that can help manage an E-liability pilot, this sample spreadsheet is intended to be a very basic template that is fit-for-purpose. Together with the below advice, the spreadsheet can be used to help you in:

1. Gathering complete data
2. Aggregating data
3. Checking the accuracy of data
4. Analysing data

To fill in your spreadsheet, you will want to gather data points set out in Table 1 below.

Table 1: Suggested data points for the emissions spreadsheet

Data needed	**Suggested approach**
The amount of raw material per finished good	Request data directly from suppliers and avoid use of industry averages.
The number of hours per month of direct activities	Talk with factory floor workers, line managers, HR dept, etc.
The number of hours per month of indirect activities	Talk with factory floor workers, line managers, HR dept, etc. to calculate the number of hours of a given activity (e.g., employee commuting) based on best estimates.
The monthly emissions of each activity	Analyse electricity usage and internally gathered emissions data. Calculate indirect emissions based on best estimates i.e. depreciation of buildings and industrial equipment according to the embedded emissions of raw materials and useful life cycle of the building/equipment (see *Depreciation* below).
Emissions factor, i.e., The emissions per kg (or unit) of raw materials and activities	Request data directly from suppliers, avoiding use of industry averages.
Usage, i.e., The units of each input (kg of raw material/hour of activity) for each output	Talk with factory floor workers, line managers, HR dept, engineers, etc. The main data point is the expert opinion of workers on the ground.

This will involve engaging with your suppliers. You do not need to share the spreadsheet directly with them, if you do not want to; what you need is the key number related to the input. For example, if your input is kg of copper, your supplier will need to provide you with data on the embodied carbon (or E-liabilities) associated with 1 kg of copper.

With this data gathered, information on the emissions factor of each activity and total emissions per output can be calculated.

If a tier of your supply chain is directly involved in the pilot, then the emissions per output of that tier's finished goods is supplied to the next tier in the chain for their raw material input data.

Make sure to run through each of the activities to check activities/raw materials rows are not missing anything important. You can fact check by engaging with managers and workers on the ground to fact check. In particular:

- Query precise sources for the unit of input (column B) and that capacity (column E) is the right capacity.
- Query the hours or raw material input for each output (Column F/H)

b) Checking accuracy and completeness of the data

Once you have inputted the spreadsheet, you can check the accuracy and completeness of the data. Some common questions relating to capacity, and suggested approaches, are set out below.

Further detail and FAQ on the E-liability method can be found here.

i. Capacity considerations

From an emissions allocation standpoint, you must allocate redundant capacity in addition to the actual utilised production capacity.

> **Example:** It is cheaper for a steel company to run a blast furnace 24/7, even though they only use the furnace 6 hours per day for smelting materials. However, the full 24 hours of blast furnace use must be allocated to products, not just the 6 hours that are used for smelting.

You can also ensure data accuracy by comparing input capacity with the actual production capacity. Dividing the Total input capacity per month (Column D) by the usage for each output (Columns F, H, J) should yield a result closely mirroring your actual monthly production for each output. A considerable deviation might signify potential errors, including:

- Incorrect total input capacity - the actual production capacity may differ from the initial assumption. Making the distinction whether hours are based on workers or workstations is a judgement call that falls under your purview.
- Incorrect usage - Double check with *workers on the ground* that your hours per activity is correct. Ensure that you are not under-allocating redundant capacity as per the blast furnace example above.

ii. Underperformance of outputs to capacity

A production output falling below the maximum capacity, attributed to factors like labour or raw material shortages, or inefficient production practices, bears consequences that should not be overlooked. It is important to understand the causes of the underutilisation of full capacity, such as resource limitations, operational inefficiencies, or other contributing elements.

iii. Capacity and avoiding the 'death spiral'

When dividing capacity by actual units produced, exercise caution to prevent initiating a 'death spiral". The "death spiral" describes a case in which, if in any period you are producing less inventory than your full capacity and you allocate all of your emissions to that produced capacity, then emissions per unit rise as production diminishes. You can avoid the 'death spiral' by applying a hypothetical maximum capacity, rather than actual delivered capacity for the month (or relevant time period) in question. Adopting this approach also allows you to examine questions about why production has not reached full capacity or whether certain customers necessitate extended processing times to warrant such production levels.

Example: A watch manufacturer suffered an electrical fire which decreased production from 1,000 units per month to 500, before returning to 1,000 the following month. During this time, indirect emissions remained the same. In their emissions spreadsheet, the watch manufacturer decreased production for the month in question to 500, which doubled the amount of indirect emissions per unit. A hypothetical customer of the watch manufacturer may refuse to buy these watches as they had twice as many indirect emissions relative to the usual stock. To fix the problem, for accounting purposes, the watch manufacturer used the hypothetical maximum capacity of 1,000 for the month in question and allocated indirect emissions accordingly.

c) Analysing the results

Once you have completed the above steps, you will have a first pass at the E-liability of a given product or service. This will tell you the carbon emissions of the individual product or service in scope of the pilot, as well as the carbon emissions associated with the individual raw materials and activities that underlie that product or service.

The next step is to dig into the data: What is it telling us? What have we learned? What have you learned in terms of insight for your management decision making? What have you learned about the application of E-liability on the relevant outputs and at your organisation?

The pilot will provide you with real-time, supplier-specific data that will enable you to identify areas where you can make emissions reductions - both internally (e.g., energy efficiency) and through your procurement decisions (e.g., lower emissions inputs). Additionally, through the data collection and allocation process, you will have made key decisions as to how to allocate that data (i.e., E-liabilities) to products.

From the data, you can draw a range of managerial insights, including opportunities for innovation and decarbonisation in your procurement and operations, potential new products and

services, and factoring emissions data into how you price your products and services. It may also provide opportunities for collaboration with suppliers on low emissions alternatives.

Stage 4: Next Steps

Now that you have a clearer understanding of the emissions of the relevant product or service, and how they could be reduced, the next stage involves socialising findings internally and externally, including with customers. You should also continue to iterate and build on the work and data from the initial pilot.

a) Present findings internally and operationalise insights

We suggest presenting the results of the pilot to management and exploring how you can use feedback and insights from the pilot to inform management decision making, such as:

- Collaborate with suppliers and internal teams to explore innovations and sustainable practices for reducing emissions (e.g., including emissions as a KPI to drive performance, alongside cost and quality).
- Consider opportunities for renewable energy sources, energy-efficient processes, and low-carbon alternatives for raw materials.

We also encourage reflection on the pilot experience:

- What were the key questions raised during the pilot?
- How can the outcomes of the pilot be managerially useful in determining business strategy and making decarbonising decisions?
- How will this impact your company's relationships with customers and stakeholders? What new lines of business can this open up?
- How will this impact your reporting and disclosure framework?
- How does the E-liability method differ from current carbon accounting practices according to:
    - Ease of implementation
    - Accuracy
    - Utility for decision making
- Which would be potential chokepoints to scaling the approach across other products and services, or suppliers and customers?

Often barriers are sociological, not technical, which speakers to the need for careful management of scaling attempts.

b) Customer engagement

There is also an opportunity to communicate the emissions data and reduction efforts to customers and stakeholders, demonstrating your commitment to environmental sustainability.

This could involve exploring possibilities of turning lower-emissions products into a competitive advantage in the market or providing credible and timely product-level emissions information to customers to support their informed decisions. For example, one of Giti's customers, a luxury car manufacturer, was already considering how it might include lower-emission tires in its premium-level cars. You can work closely with your customers, who are likely also under pressure to reduce their environmental impact, to find what best suits their needs.

c) Continuous improvement and scaling

The aim of the first pilot is really about the process and understanding the methodology.

E-liability pilots are part of an iterative process. The first pass of gathering data can be followed with more detailed data collection up the supply chain or with additional inputs and outputs. You can keep refining the pilot and building on. For example, consider expanding the pilot to other products and services, or to involve additional suppliers and customers, to create a more comprehensive emissions management system. You can also improve the data quality and accuracy, add more line items, etc.

The E-liability Institute is working with firms who are creating technology solutions to allow E-liability to scale and enable auditability. We can connect you with these companies, if that is helpful.

d) Collaborating with the E-liability Institute on an article or case study

The E-liability Institute support for pilots is provided pro bono. In return, we wish to prepare case studies, short articles, and learning materials of our pilots to disseminate lessons-learned from implementation of the E-liability method. These materials can be reviewed by your team, and we are happy to camouflage proprietary and competitively sensitive information.

Pilot FAQ

How do we start the pilot project?
Begin by conducting a preliminary assessment of your organisation's current emissions accounting practices and forming a cross-functional team. Define the scope and objectives of the pilot, and start collecting emissions data from key suppliers.

What are the main benefits of the E-liability pilot?
The E-liability pilot can help your organisation:

- Obtain accurate and auditable emissions data for products and services.
- Identify emission reduction opportunities to improve sustainability practices.
- Foster collaborations with suppliers and customers to produce cleaner products.
- Transform lower-emissions products into a competitive advantage in the market.

- Provide credible and timely product-level emissions information to customers for informed decisions.

How long does the pilot project typically last?
The duration of the pilot may vary depending on the complexity of your supply chain and the level of data availability. Expect to take around four to six months to complete the initial calculations.

How can we ensure data accuracy and integrity in the E-liability statement?
Work closely with suppliers to verify and validate emissions data. Encourage transparency and collaboration to ensure data accuracy and credibility.

How can we use E-liability to improve Scope 3 reporting?
E-liability takes a bottom-up approach to calculate the emissions associated with products and services, and often includes those of your upstream suppliers. These can be used in Scope 3 disclosures to get a more accurate picture.

How does E-liability account for leases?
For building or tenancy leases, E-liabilities are transferred to the lessee during the period of the lease duration and then back to the lessor.

Can an E-liability balance sheet be converted to dollars and cents?
No, the carbon balance will always be measured in CO2 or other GHG emissions units. There is no proposal to convert it into monetary values.

What if suppliers don't know their carbon footprint? Can they use proxies?
Ideally, key suppliers should be directly involved in the pilot. If not, understanding why they lack this knowledge (e.g., coal shipment mixing) can guide strategic approaches (e.g., focusing on major sources).

Are proxy factors provided for emissions calculations?
For the pilot, it's recommended to focus on a company with good data or willingness to engage. Proxy factors may be utilised if absolutely needed.