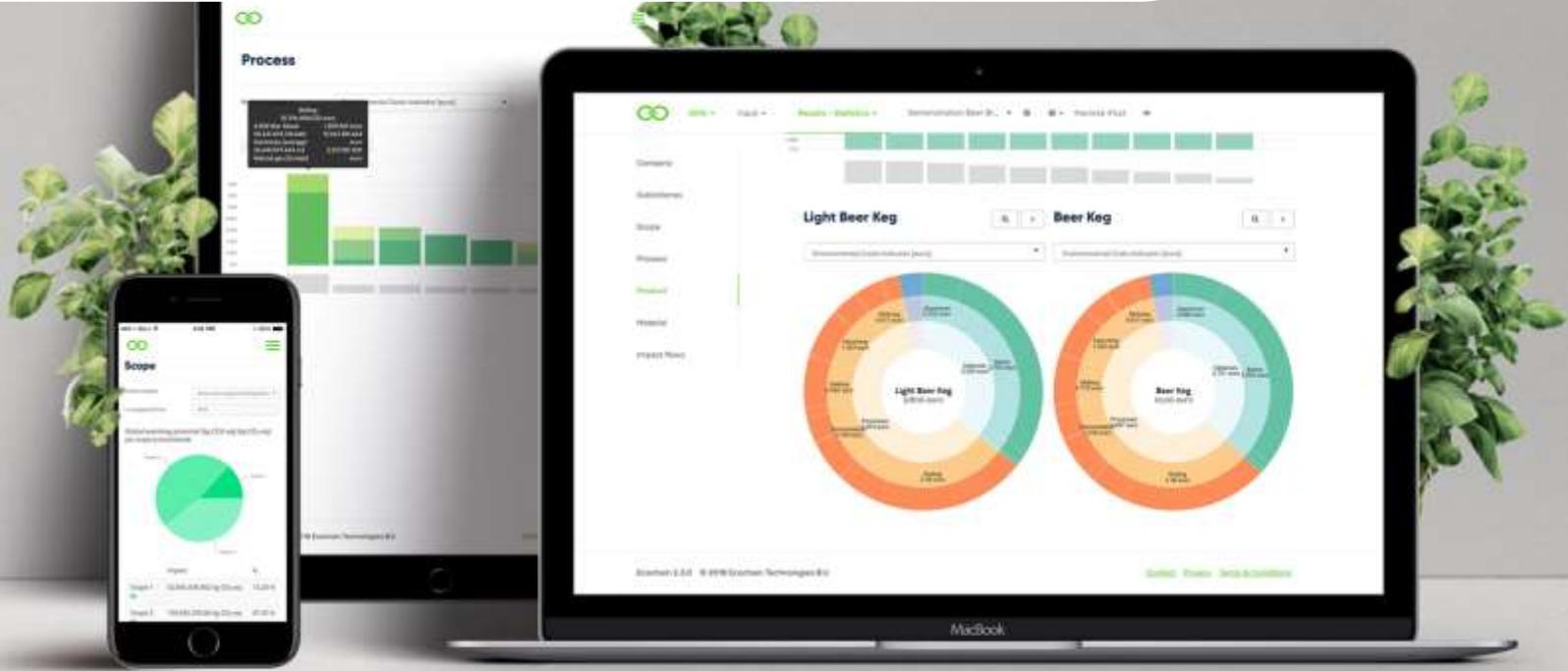


Ecochain Product Sheet

Ecochain Technologies BV

Environmental Business Intelligence



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Introduction

Ecochain's Environmental Business Intelligence platform provides you with all the applications you need to gain complete control over your environmental performance. Using our platform, you can measure the environmental impact of your operations, your supply chain, your processes and products.

Ecochain will provide your business and your supply chain partners with the insights to develop lean & green business cases and the collaboration tools to maximize sustainable growth together.

1. Product Summary

1.1. LCA Software Reinvented

In essence, Ecochain is the world's most advanced Life Cycle Assessment Software*. We have redefined the purpose of LCA applications by taking on a radically different approach we call Activity-Based Footprinting. As a result, the purpose of Ecochain exceeds that of common LCA software, because it offers integrated reporting value that enables everyone to collaborate in making sustainable change.

Traditional approach:

LCA Software

Common applications on the market provide solutions to digitize the Life Cycle Assessments of single products.

This implies that you need to perform just as many assessments as you have products, meaning you should collect and research input-data for every single product assessment.

Also, the outputs of all these individual product assessments are hard to consolidate for performance management or integrated reporting purposes.

Future-ready approach:

Environmental Intelligence

We believe that environmental information, just like financial information, must be accessible and interpretable for all its stakeholders. That is why Ecochain has turned the traditional approach upside down and introduced Activity-Based Footprinting.

The ABF model (ref 1.2 p.04) allows us to convert scientific LCA data to integrated performance statistics that everyone understands, whether you want to dive into LCA details of materials or benchmark the environmental performance of your processes.

This will help to make better decisions and collaborate efficiently because Ecochain's outputs are applicable to many different stakeholders while derived from a single source of truth.

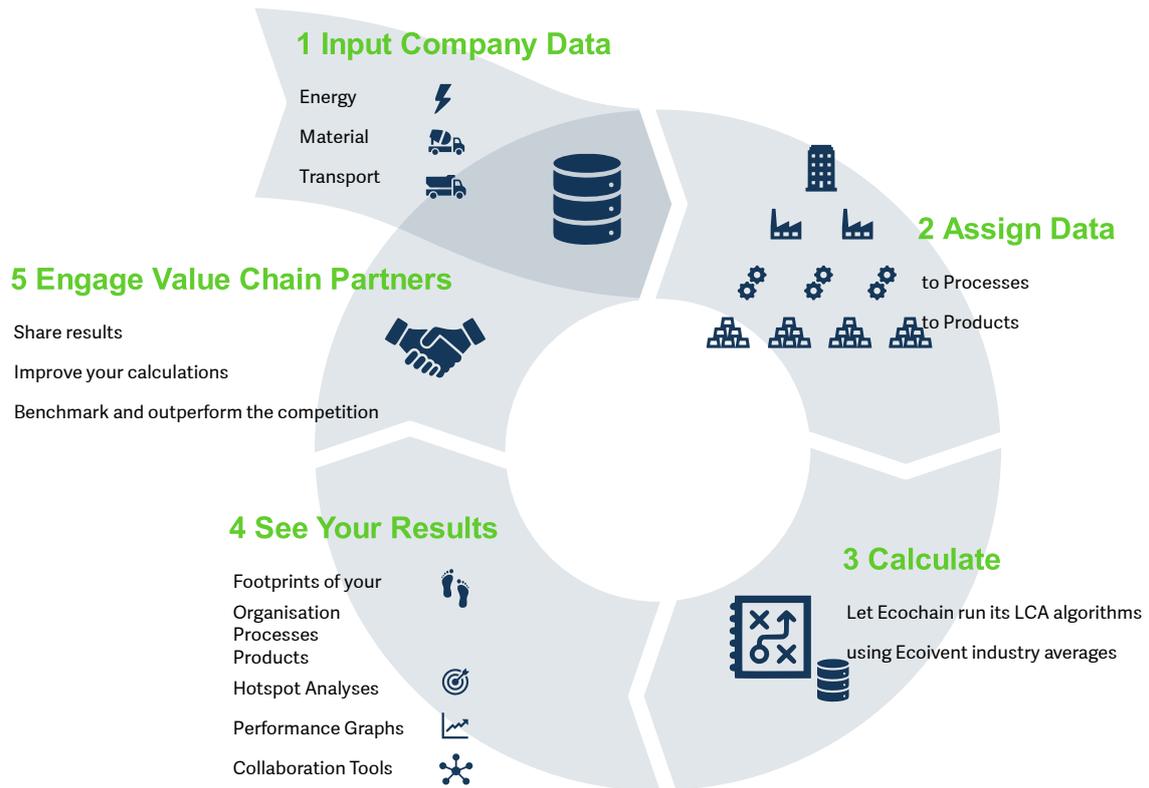
*Life Cycle Assessment?

Life cycle assessment (LCA) is a methodological tool used to quantitatively analyze the life cycle of products/activities within the context of environmental impact. LCA, the total life cycle of a product or activity is considered; from the extraction of resource materials onto the waste and waste treatment stage, also referred to as from cradle to grave. Traditionally LCAs were conducted by external consultants, nowadays – since the market demand for footprint information increases and environmental regulations are intensifying, companies can choose to adopt an in-house, digitized solution.



1.2. Introducing Activity-Based Footprinting (ABF)

Activity-Based Footprinting is derived from ABC, Activity-Based Costing, an accounting method that assigns an organization's costs to its activities and then to their related outputs; like products and services. Ecochain applied that concept to assign your organizations material and energy usage to its production processes and then to its outputs. Next, Ecochain deploys its LCA algorithm to conduct an integrated footprint calculation on company, process and product level. This makes Ecochain the only solution that delivers reconcilable data that adds value to integrated reporting and performance management. Our ABF model is what makes Ecochain an Environmental Intelligence tool and differentiates us from traditional LCA tools.



1.3. Ecochain in 5 steps

1. Gather all your company data on the use of resources, like energy and materials
2. Import your data into Ecochain and allocate them to processes and products
3. Let Ecochain run its complex LCA algorithms, as your digitized environmental expert
4. Learn from its razor-sharp hotspots analyses and assess significant business opportunities
5. Develop game-changing business cases and engage value chain partners to maximize sustainable return on investment together



2. Stakeholders & user applications

Enabling everyone to make sustainable change

Finance and reporting; can access consolidated and reconcilable data for integrated performance analyses and environmental profit and loss statements.

Procurement; can benchmarks suppliers on environmental/ price performance rates based on actual footprint data from suppliers

Supply Chain management; can discover the environmental hotspots and identify opportunities to develop leaner and greener value chains. (! on average >70% of a company's footprint is induced by its supply chain)

Process Engineering; can relate environmental impact to costs of products and processes to discover lean and green process improvements

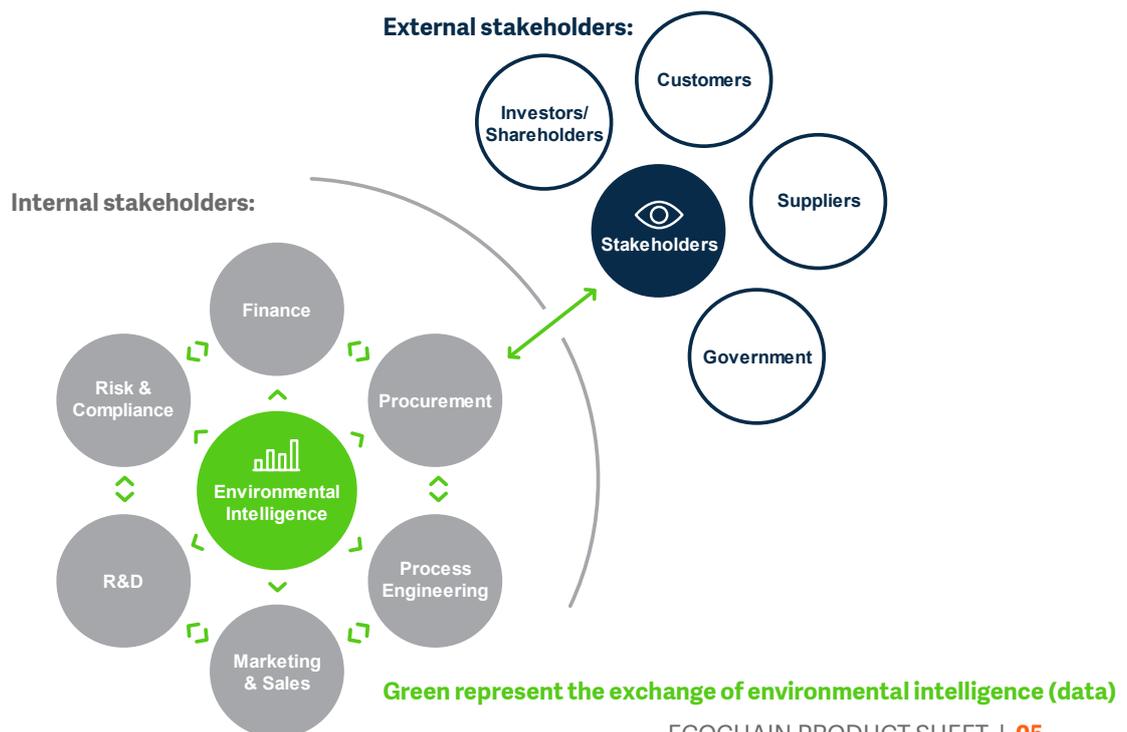
Marketing; can benchmark the environmental and commercial performance of product lines, disclose reliable footprint information, benefit from the growing market for sustainable brands

Sales; has access to environmental performance/ price ratio of products, can pro-actively inform purchasers, win green tenders and become the go-to suppliers for sustainable products

R&D; can analyze, model and compare the performance of product designs to enhance decision making and the success of product innovations

Risk & Compliance; has access to reliable information about environmental performance indicators to monitor key compliance with environmental regulations risks and high risk value chain partners, such as suppliers.

External stakeholders; Ecochain helps you to publish and share environmental data with external stakeholders, such as value chain partners, auditors, suppliers, clients, etc. Ecochain has several reporting formats and publication tools to help you tailor the content and the format of external disclosures for specific purposes and stakeholders.



3. Problems & Solutions

Problem	Solution
Exporting knowledge Outsourcing environmental assessments and reporting will limit your organization to develop the skills and experience that are vital for future growth	Importing knowledge Ecochain brings Environmental Intelligence to the heart of your enterprise, adding great value to your competitive advantage and supporting your business to become future proof
Single product assessments Life cycle assessments of single products require recurring data collection, which is resource and time-consuming. Plus, single product LCAs are hard to consolidate, which limits integrated analysis and reporting.	Integrated Company Assessment Ecochain's ABF model generates one integrated value chain assessment, with insights into your footprints at company, process, product and value chain level. This provides the intelligence to identify key leverage points for sustainable ROI
Multiple product audits Single product assessments require single audit reports. This is time-consuming and results in high costs.	One company audit Ecochain's ABF model generates one integrated assessment of your company, processes and products, that without exception has been validated by auditors in one report, meaning mass-verification of all your products at once.
Company scope (scope 1,2) Common LCA software does not provide supply chain management or collaboration tools to engage suppliers to contribute to your environmental performance. Since >75% of a company's footprint is induced by its supply chain, this is a critical issue that limits your company's insight and span of control.	Value chain scope (scope 1,2,3) Ecochain generates reports on, scope 1: company controlled, direct emissions; scope 2: indirect emissions induced by energy suppliers; scope 3: all indirect emissions induced by the value chain, upstream and downstream; and provides hotspot analyses and collaboration tools for suppliers to exchange data and contribute to your performance
Industry average benchmark A limited scope <i>and</i> lack of collaboration tools limit your company to use industry average data to calculate your impact. Opting for a greener supplier will not influence your performance	Authentic benchmark Ecochain can import supplier data to authenticate your footprint calculations. This will provide you with the insights and the means to outperform competitors.
High recurring variable costs Outsourcing LCAs and/or single product LCAs with common software will result in multiple, variable costs and use of resources.	Low recurring fixed costs An Ecochain account requires yearly recurring, fixed costs that are a fraction of costs spend on single product reports.



4. Key features



- ∞ LCA calculations across full portfolio
- ∞ LCA & EPD document generator
- ∞ Advanced hotspot analyses on company, process & product level
- ∞ Environmental impact/ costs analysis
- ∞ Mass balance calculation & corrections
- ∞ LCA audit management and mass LCA validation
- ∞ Energy management
- ∞ CO₂ management
- ∞ Supply chain management
- ∞ Scope 1, 2, 3 calculations and consolidation



5. Compliance

The Ecochain application is fully certified and meets all the required standards such as ISO 14040-44, EN 15804. Furthermore, Ecochain has been validated by the internationally accredited registrar and classification society DNV GL. Side note for Dutch Market: Ecochain's LCAs allow for quick verification and inclusion in the Dutch National Environmental Database.

Ecochain Technologies is an accredited assessment agency and MPRI licensee.

- ISO 14040/44 compliance
- ISO 14067 compliance
- EN 15804 LCA compliance
- PAS 2050 LCA compliance
- ISO 14021/25 compliance
- ISO 14001 data framework
- ISO 50001 data framework
- GRI data framework environment
- EU Energy Efficiency Directive EED
- European PEF compliance*
- European OEF compliance*

*In anticipation on EU regulations to be enforced 2020

6. Security

The Ecochain application is a SaaS tool designed and built in-house to deliver powerful portfolio insights in the domain of sustainability.

Our security policy is based on the ISO/IEC 27002:2013 code of practice and outlines Ecochain's approach to security and compliance including organizational and technical controls regarding how we protect your data. Our security white paper is offered as [a download](#) on our website.





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