Case story CHB Group, Athens, Greece

Driving sustainability with Alfa Laval LCA Solution insights

As Greece's leading fruit processor, CHB Group has prioritized sustainability since 1955. From farm to retail, the Group continuously enhances its environmental performance. Preparing for EU emissions regulations, CHB partnered with Alfa Laval to assess its impact using the Alfa Laval Life-cycle Assessment (LCA) Solution. This tool compared the footprint of processing citrus into concentrate and NFC juice. By quantifying carbon and water footprints, CHB gained actionable insights to optimize operations, boost efficiency, and strengthen customer relationships.



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Products	Al Farm Pro	duct Proc	Product Details Envir	ronmental Footprint	Impact Reduction Plan	Histor
+ Add New Produ	et			ate change	Impact by life cycle stages	
Product Name	Product Type	Sales		0.88	Cultivation	
Apple Juice	Juice	1 Litre		kg CO2 eq/kg of product	Processing 19%	
Grape Soda	Drink	1 Litre	Lovi Mix Juice EAN Code: 18019		Peckaging	
Red Ale	Beer	500 m	Supplier: Supplier Name	Lavel's impact assessment hodology strictly adheres to 14040:2006 and ISO 14:2006 standards for Life	Transportation	
Green Soda	Drink	330 m	Data type: Supplier Provided	le Assessment.	30 22%	
Green Soda	Drink	500 m	Indicator	Measure	Unit	
Lovi Juice	Juice	1 Litre	Climate change	0.420	kg CO2 eg/kg of product	
Orange Soda	Drink	330 m	Ecotoxicity for freshwater aquatic ecosyste	ems 46.432	CTUe/kg of product	
Red wine	Wine	750 m	Land use	53.517	Pt/kg of product	
IPA Original	Beer	2 kg b	Water use	16.587	m3 depriv/kg of product	
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The Alfa Laval Life-cycle Assessment Solution provides verified, up-to-date data on the environmental impact of food and beverage production, from farm to retail.

"The LCA Solution delivered actionable insights for improving our environmental performance. We identified ways to reduce energy and water use while minimizing waste."

Nicholas Christodoulou CEO of CHB Group

A longstanding strategic partnership for sustainability

The CHB Group operates two state-of-the-art production facilities, processing over 15 fruit varieties for customers in 89 countries worldwide. CHB worked with strategic partner Alfa Laval to assess the environmental impact of its operations using the Alfa Laval LCA Solution.

"Our strategic partnership with Alfa Laval allowed us to leverage the LCA Solution to evaluate our processing line efficiency," says Nicholas Christodoulou, CEO of CHB Group. "Doing so enabled us to understand the environmental impact of our operations better, address compliance with scope 3 emissions requirements, and enhance how we can communicate our sustainability efforts in juice production to customers."

Turning data into actionable insights

The Alfa Laval LCA Solution provides scalable digital mapping of supply chains and production processes. By entering key data,

the citrus producer can measure and verify the carbon footprint of its products. Doing so enables the Greek fruit processor to pinpoint opportunities to minimize energy and water use, reduce waste, and improve efficiency at key production stages – including washing, sorting, squeezing, filtering, pasteurizing, and packaging. These insights help drive efficiency improvements and significant cost savings while enhancing sustainability performance.

"The LCA Solution delivered actionable insights for improving our environmental performance," the CEO notes. "We identified ways to reduce energy and water use while minimizing waste. The tool quantified carbon emissions of our citrus juice and concentrate production with full transparency, using a certified and verified approach. It also evaluated the impact of our operations on 16 environmental factors, including land and water use. These insights offer a pathway to significant cost savings and improved efficiency."

Enhancing data accuracy with advanced tools

To bridge gaps in manufacturer data, the LCA Solution leverages the Climate Crop Database, which provides country-specific data for over 250 crops worldwide. This robust dataset enables CHB to analyze its environmental impact without supplier-specific data. Alternatively, the platform facilitates supplier collaboration – allowing suppliers to input and share data directly. This improves transparency, speeds up decision-making, and enhances the accuracy of sustainability assessments.

The LCA analysis revealed that a significant portion of the product's carbon footprint comes from the fruit, not just energy and heat consumption. While CHB already repurposed some side streams, the findings highlight untapped opportunities for further optimization. By expanding by-product recovery and reuse, CHB can strengthen its sustainability efforts.



The CHB Group can also collaborate with suppliers to reduce emissions from fruit cultivation, further lowering its carbon dioxide equivalent emissions from the fields.

Empowering customers with sustainability insights

The Alfa Laval LCA Solution provides CHB with real-time environmental impact data through an intuitive dashboard. Beyond internal optimization, this data enables CHB to support its customers' sustainability goals by offering verified environmental impact assessments for their products and ingredients. "Partnering with Alfa Laval enabled us to use the LCA Solution to **evaluate and enhance the efficiency** of our processing lines."

Nicholas Christodoulou CEO of CHB Group



Starting with basic data input and gradually expanding to more detailed analysis, CHB Group now has access to a comprehensive overview of its sustainability performance. The LCA Solution enhances supply-chain transparency, provides actionable insights on opportunities to reduce environmental impact, and supports clear, credible communication of its sustainability efforts to customers. These capabilities have not only strengthened the Group's market position but also reinforces its commitment to sustainable practices – helping the fruit processor and its customers achieve their environmental targets.



Contact Alfa Laval Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval reserves the right to change specifications without prior notification.