

Putting the metrics behind sustainability at UNETO-VNI.



UNETO-VNI



Monitoring the Impact of LED Sign Lighting Systems

The Challenge

UNETO-VNI is a Dutch trade organization for contracting installing companies and technical retailers. They wanted to understand the differences in quality and environmental performance between different currently available LED sign lighting systems, so they could provide this information to their member companies. UNETO-VNI also wanted to monitor the performance of the seven selected LED sign lighting systems in a 'real life' situation for a period of five years, but did not know which environmental performance indicators to measure.

PRé Solution

PRé first conducted a life cycle assessment (LCA) to evaluate the environmental performance of seven LED sign lighting systems. To do so, we created a questionnaire to gather information on the production of the LED systems and their transport to the Netherlands. Two suppliers provided us with data. Background data on the production of the components, such as printed wiring boards, cables and LEDs, came from the ecoinvent database. We used the collected information to model the products in the LCA software SimaPro. To calculate the total environmental impact, we applied the ReCiPe endpoint method, and to calculate the climate change impact, we applied the IPCC2007 method.

The baseline study shows that the largest environmental burden of a LED sign lighting system occurs as a result of the power it uses during the use phase of five years. As a result of this assessment, we determined a Key Environmental Performance Indicator (KEPI) for the monitoring phase which was energy use. The production phase of the LED systems had such a low impact that it was not investigated further. After completing the baseline study, we

created a parameterized model so that results can be updated during the monitoring phase of five years.

The seven LED lighting systems were placed outside on a commercial building wall to start a five-year monitoring phase. This is the equivalent of 43,800 operating hours. The monitoring phase is intended to provide information about current energy use and quality loss of the LED systems, and will include reports of parts replacement.

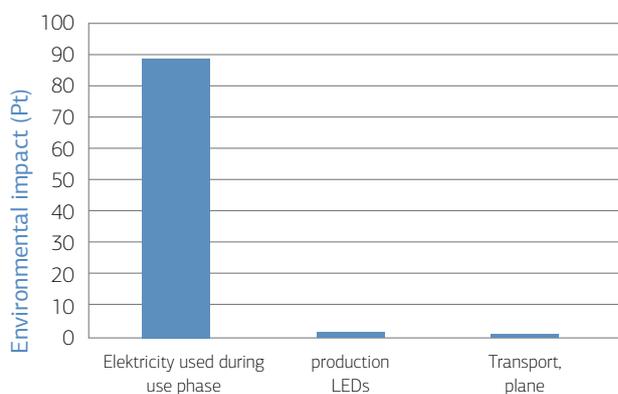


Figure: Environmental Impact of a LED Sign Lighting System.

Business Value

- UNETO- VNI now knows where to focus its data collection efforts.
- UNETO-VNI now knows the most important indicators for improvement and can communicate to its member companies which areas should be the focus of their improvement efforts.
- Manufacturers get the ability to compare their relative strengths and weaknesses to an industry average via benchmarking.
- Improved image for the industry as a whole by communicating the results of the study to a broad public through the UNETO-VNI website.



Creating Business Value Through Sustainability Metrics

Sustainability Metrics Consulting

Sustainability in business has become a core business concern and a driving factor in creating business value. PRé offers a range of consulting services, provided by a team of experts who will work with you to choose, create and deliver the right metrics for your sustainability goals.

PIONEERING Developing Innovative New Metrics For New Challenges

Societal and stakeholder expectations for implementing sustainability in business are becoming more demanding. Sometimes, off-the-shelf metrics cannot help you answer their questions. PRé has extensive experience in life-cycle-based metrics pioneering: implementing cutting-edge new product metrics and developing completely new, scientifically sound and robust metrics. PRé has been the driving force behind many ground-breaking initiatives like ReCiPe or the Handbook for Product Social Impact Assessment.

INTEGRATION Integrating Sustainability Metrics In Your Business

To create business value from sustainability, your business needs to integrate sustainability metrics across its business functions. You can't improve what you can't measure. PRé has the expertise required to help you choose the right metrics and to integrate sustainability into your day-to-day operations. PRé also supports you in increasing the efficiency of your LCA work and in empowering your LCA practitioners.

DELIVERY Expert LCA Knowledge To Measure Sustainability Performance

LCA has proven to be a robust and science-based way to measure and communicate your sustainability performance. PRé can review your LCA studies, deliver EPDs, footprints and other metrics, and provide you with completely new LCA studies to measure your impact. Our consultants are renowned for their expertise in specific topics, such as impact assessment, uncertainty, normalisation, toxicity, social sustainability and databases. PRé offers training courses and in-house training that build a solid knowledge base to help you conduct LCA studies yourself.

Get In Touch With PRé
We're always happy to discuss your sustainability challenges with you. If you have any questions, feel free to contact our offices in the Netherlands and the US.

The Netherlands
PRé Consultants bv
Stationsplein 121
3818 LE Amersfoort

Phone: +31 33 450 4010
consultancy@pre-sustainability.com

United States
PRé North America Inc.
2100 M St NW
Suite 170-352
Washington, DC 20037
USA

Phone: +1 202 728 5087
PRENA@pre-sustainability.com

We look forward to being your partner in putting the metrics behind sustainability.

pre-sustainability.com

Those Who Have Gone Before – Market-leading Businesses That Are Creating Value From Sustainability Metrics

PRé has built a worldwide reputation as a leader on environmental and social impact assessment. We work with organisations and institutes such as the European Commission, European Space Agency, Heineken, BASF, Philips, L'Oréal and DSM.



About PRé

PRé has been a leading voice in sustainability metrics and life cycle thinking, since 1990, pioneering the field of product and supply chain sustainability metrics. We've developed some of the world's most widely recognised and applied environmental impact assessment methods, as well as the world's leading LCA software, SimaPro. From the very first, we have not only focused on developing the science of LCA, but also its application – helping companies create value by using state-of-the-art measuring, monitoring and analysis methodologies to improve their sustainability performance.

Find out more about what we can do for your organisation at www.pre-sustainability.com

