

Putting the metrics behind sustainability at WEEE Forum.



Expert review of an assessment tool for e-waste recycling in Europe



The challenge

Waste of electrical and electronic equipment (WEEE) such as computers, TV sets, refrigerators and mobile phones, better known as e-waste, is one of the fastest-growing waste streams in the EU. About 9 million tonnes of e-waste were generated in 2005, and this is expected to grow to more than 12 million tonnes by 2020. The WEEE Forum is an international association speaking for 36 not-for-profit e-waste producer responsibility organisations (PROs). Their mission is to help the PROs succeed operationally, take back and report e-waste efficiently, and be known as members of the world's chief e-waste recycling and competence centre and as promoters of a circular economy.

Some of the members of the WEEE Forum have their own tools to assess the environmental benefits of their recycling activities, but not all members do, and their methodologies differ. Therefore, to help all WEEE Forum members communicate the environmental benefits of their e-waste recycling activities in a common way, the WEEE Forum developed a tool to estimate the avoided emissions of CO₂-equivalents and cumulative energy demand. The main goal of the tool is to compare the impact of proper e-waste recycling activities to a couple of scenarios in which WEEE Forum is not managing the e-waste. WEEE Forum wanted to be certain about the robustness of their common methodology. Therefore, PRé was asked to perform an independent expert review of the developed CO₂ and GJ tool and to complete the underlying datasets with sufficient detail and quality.

PRé solution

Tool review

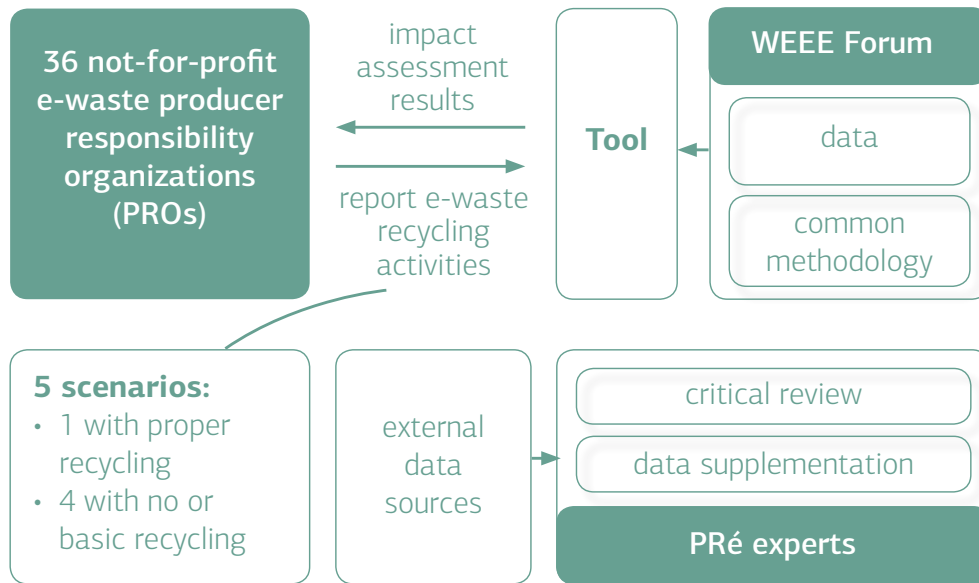
The tool takes into account transport (of the e-waste for recycling and the recovered materials), and all activities related to possible waste treatments (incineration with energy recovery, material recycling, and landfill). The tool then allows the calculation of avoided emissions of CO₂-equivalents and cumulative energy demand based on the e-waste management data of the member company.

PRé's reviewer checked the methodology for completeness, consistency and calculation correctness and presented a preliminary review statement with findings, limitations and suggestions for improvement. The findings were discussed with WEEE Forum, who made some changes to the tool and accompanying report. A second qualitative review round checked the implementation of the recommendations. This resulted in a final review statement.

Completing datasets

In parallel, PRé helped complete the underlying datasets. To safeguard the independence of the reviewer, another expert prepared the datasets. WEEE Forum provided PRé with a 'wish list' of processes and materials to include. PRé selected the best e-waste recycling data available per process, in terms of quality, completeness, and technological and geographical representativeness. We provided a clear spreadsheet that included external data to complete the data gaps, listing the avoided emissions of CO₂-equivalents and the cumulative energy demand per process or material.





Collaboration between WEEE Forum and PRé, and the use of the tool by the WEEE Forum members (PROs)

Business value

The tool is simple and easy to use. It will be made available to the WEEE Forum members for voluntary use, and is particularly relevant for members that have not yet developed their own tool, or those aiming for a comparable common methodology. The benefits of the independent review are three-fold:

1. Robust approach

The independent review makes sure that the e-waste recycling assessment is robust. It is as complete as possible regarding the included processes, while remaining simple and easy to use by member companies.

2. Complete, high-quality dataset

The tool's databases were completed as much as possible with high-quality and up-to-date information.

3. Thorough understanding of results

The review helped WEEE Forum to better understand the impacts and benefits of e-waste recycling. Our advice helps WEEE Forum explain the results to their members.

Now, WEEE Forum members have access to easy and robust GJ and CO₂-reduction calculations. The results can be particularly helpful for communication purposes such as annual reporting, and can help increase understanding of e-waste recycling and how to reduce e-waste impacts.





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.

INTEGRATION

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.

PIONEERING

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.

Market-leading businesses that create 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.



Get in touch with PRé

We are always happy to discuss your sustainability challenges with you - feel free to contact us.

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

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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.

