

Science for Environment Policy

Supplier and end user collaboration could reduce chemicals' environmental impacts

A model for chemical use that involves collaboration between suppliers and end-users could benefit both parties as well as the environment, according to recent research. In a Serbian case study, a bottled water manufacturer reduced its costs, water and chemicals consumption, and production of hazardous wastewater when it collaborated with its supplier of lubricant for factory conveyor belts using the 'Chemical Leasing' model.

In the EU, the REACH regulation¹ places the responsibility on [industry](#) to assess and manage the risks posed by [chemicals](#), in order to protect human health and the environment. The United Nations' Industrial Development Organisation launched the Global Chemical Leasing Programme², which supports businesses in the risk management of chemicals. Chemical Leasing aims to benefit chemicals suppliers and end users by increasing knowledge sharing and reducing chemical use and waste. This can lead to economic benefits and lessen the environmental impacts.

Through a case study in the bottled water industry, the authors of this study explored the role that collaboration between chemical suppliers and users plays in the chemical leasing model. In Chemical Leasing, the producer sells the function that the chemicals perform, rather than the chemicals themselves. For instance, instead of paying for a certain volume of paint, a car manufacturer might pay for the square metres of surface covered by the paint, and the supplier's expertise in applying it. This changes the emphasis from volume to function and encourages both suppliers and buyers to use materials more efficiently to optimise chemical performance.

In this case study, the user was a large Serbian producer of bottled mineral water which used a lubricant for the conveyor belts that carry bottles around its manufacturing facility. Previously, a hazardous lubricant was used that produced large volumes of contaminated wastewater.

Using the Chemical Leasing model, the lubricant supplier measured friction on the conveyor belt, proposed a new, non-hazardous lubricant and agreed to design and install equipment needed to apply the new chemical. The bottled water company paid the supplier based on the number of working hours of the conveyor belt.

The collaboration resulted in reductions in wastewater, as well as in water consumption, chemicals, downtime on the conveyor belt, and the cost of disinfecting and cleaning the conveyor belt. Over one year, the bottled water company saved €6000, just in water and chemicals, in addition to indirect savings.

According to the researchers, this case study shows that Chemical Leasing can complement policy and scientific initiatives for reducing the environmental impacts of chemicals. They say collaboration between partners helps to balance short-term gains with longer-term considerations, encourage more open communication and information sharing, and establish joint development and improvement opportunities. However, trust and fair sharing of the benefits are essential. The researchers also note that overdependence on partners could pose a challenge.



28 November 2013
Issue 352

Subscribe to free weekly News Alert

Source: Lozano, R., Carpenter, A. & Satric, V. (2013). Fostering green chemistry through a collaborative business model: A Chemical Leasing case study from Serbia. *Resources, Conservation and Recycling*. DOI: 10.1016/j.resconrec.2013.07.007

Contact: r.lozano@uu.nl, rodlozano@org-sustainability.com

Read more about:
[Chemicals](#),
[Sustainable business](#)

The contents and views included in Science for Environment Policy are based on independent, peer-reviewed research and do not necessarily reflect the position of the European Commission.

To cite this article/service: "Science for Environment Policy": European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.

1. http://ec.europa.eu/enterprise/sectors/chemicals/reach/index_en.htm
2. www.chemicalleasing.com