Chemical Leasing

Redefining the sustainable management of chemicals

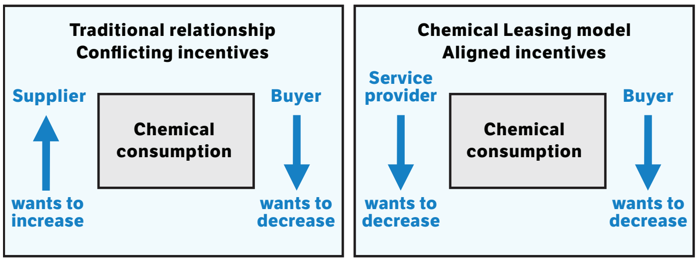
THE CHALLENGE

Chemicals used for industrial processes play a beneficial and important role in the economy but can have an adverse impact on the environment and humans during their manufacture, use and disposal. Industry is one of the main contributors to hazardous waste and as more areas of the world industrialize the amount of chemicals used in industrial processes has risen heavily.

Despite growing concerns about the environment, traditional business models are fuelling the unnecessary consumption of chemicals and the generation of hazardous waste. Financial incentives encourage suppliers to increase the amount of chemicals they sell. This model also rewards the supplier if chemicals are used inefficiently, inhibiting progressive and environmentally sound industrial development. This is an increasing global challenge, particularly for Small and Medium Sized Enterprises (SMEs) in developing and transition countries, many of which have neither the capacity nor the capability to manage their waste in an environmentally sound way.

THE RESPONSE

Since 2004, UNIDO has been pioneering Chemical Leasing (ChL) in developing and transition economies, with the direct support of the governments of Austria and Germany. ChL is a one-of-a-kind service-orientated business model that promotes the sustainable management of chemicals.



Chemical Leasing models align incentives for a win-win situation

ChL shifts the focus from increasing the sales volume of chemicals to a value-added approach. Under ChL the supplier sells the functions performed by the chemical and functional units (number of pieces cleaned, amount of area coated, etc.) become the main basis for payment. For example, a producer of metal parts needs detergents to clean them. Instead of being paid for the amount of detergent provided, the chemical supplier sells the functions performed by the detergent, such as the cleaned metal parts. In order to increase profit margins, the supplier trains the user's employees to optimise the usage of the detergent and reduce the amount of detergent consumed.

By decoupling the payment from the consumption of chemicals, ChL aligns incentives, bringing about a win-win situation for the chemical supplier and user, as well as the environment. Since chemical products provide a broad variety of services (such as clearning, coating, colouring and degreasing), the ChL model is applicable in a multitude of industry sectors in large companies,

WEBSITE
www.chemicalleasing.com

INDUSTRY
Any sector using chemicals

PARTNERSHIP OBJECTIVE
A win-win situation for both business and the environment

BUSINESS PARTNERS
Chemical Supplier and Chemical User, including numerous multinationals such as Cabot, Ecolab, Ecopetrol, General Motors, Henkel, Safechem as well as national companies and SMEs

PROGRAMME PARTNERS
UNIDO / UNEP Global Resource and Efficient Cleaner Production Network

ADDITIONAL STAKEHOLDERS
Equipment suppliers, chemical distributors, recyling/disposal companies, national governments, quality assurance institutes, consultancies

RESULTS & OUTLOOK
- Methodology, tools and sustainability criteria developed
- Over 40 projects successfully implemented
- Global Chemical Leasing Award launched
- Plans to expand the model to further regions

GEOGRAPHIC SCOPE
Brazil, Colombia, Croatia, Egypt, Mexico, Nicaragua, Russia, Serbia, Sri Lanka, Uganda, Ukraine

PARTNERSHIP CATEGORY
Multi-stakeholder and transformational partnerships

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as well as in SMEs. Experience has proven, however, that best results are achieved when the model is applied to processes that are not the core know-how of the chemical user.

UNIDO promotes Chemical Leasing through its world-wide network of National Cleaner Production Centres. The Centres help companies to prepare Chemical Leasing contracts and provide UNIDO's methodology and tools for the successful implementation of ChL business models. UNIDO ensures that partnerships are based on mututal trust and that the benefits are equally shared among partners. It also oversees that ChL models are effectively customized and adapated for implementation in developing and transition countries.

The first pilot projects were initiated in various sectors in Egypt, Mexico and Russia in 2005, followed by Sri Lanka, Serbia and Colombia in 2008. Additional ChL activities started in cooperation with the Centres in Brazil, Croatia Russia, Ukraine and Nicaragua. Since then, over 40 projects have been successfully implemented. A growing number of businesses from diverse industrial sectors are partnering with UNIDO and its respective National Cleaner Production Centres to switch over to the ChL business model.

THE BENEFITS OF PARTNERING

Chemical Leasing leads to more efficient and economic use of chemicals and to lower water, raw material and energy consumption, significantly reducing the environmental impact of the production process. By sharing the added value created through the more economic use of chemicals, both the chemical supplier and user gain an economic advantage from applying the ChL business model.

Alongside improving the economic and environmental performance of participating companies, ChL also reduces occupational health and safety risks, protecting human health from the hazardous effect of chemicals. Companies are better positioned to respond to the latest changes in international chemical policies and also enhance their access to new markets. Unlike the outsourcing model ChL involves a transfer of knowledge from the supplier to the user, so there is no loss of jobs at the user's location. It also fosters long-term collaboration between the partners, leading to innovation and the transfer of environmentally sound technology.

UNIDO, as the partnership's convenor, leverages the knowledge and implementation capacity of its National Cleaner Production Centres to ensure the success and sustainability of projects in developing and transition economies.

CHEMICAL LEASING: A SUCCESS STORY IN SERBIA

In 2009, UNIDO cooperated with Knjaz Miloš, Serbia's largest producer of mineral water and beverages, and its chemical supplier, Ecolab, to implement a Chemical Leasing project. Knjaz Miloš conveyor belts have to be lubricated to ensure the smooth movement of bottles along the lines, but the water-based lubricant it used to spray the conveyor belts contained hazardous properties. It also made the floor slippery and led to stoppages.

Following an assessment by UNIDO's Cleaner Production Centre, the production process was modified and the lubricant was substituted by a non-hazardous dry lubricant, which leaves the factory floor dry. New equipment, such as automated dosage systems and spraying nozzles were also installed. Instead of buying the lubricant per kilogram, the factory pays Ecolab for the working time of the conveyor belt. Ecolab's profit is directly linked to how little of the lubricant is used and it motivates the chemical supplier to optimise the effectiveness of the lubricant.

For Knjaz Miloš the subsitution is reducing running costs, improving performance and making the company better prepared for Serbia's possible accession into the European Union. In 2009 packaging line number 3 used 6000kg of the lubricant and 1,500 m3 of water. By switching to the dry lubricant, the company no longer requires water or chemicals for pre-treatment and waste water treatment, reducing chemical consumption by 50 per cent and conserving water. It has also improved occupational health and safety due to a reduced risk of injuries and a lower quantity of aerosols in the working environment. Total cost savings per packaging line amount to EUR 5,700 per year.

For Ecolab the profit margin for its dry lubricant is 10 per cent higher, even though the company sells less lubricant per production line, and has costs for the service. Ecolab is now the sole lubricant supplier of Knjaz Miloš. The partners have already adopted Chemical Leasing for two more lines and plan to extend the model to all packaging lines. Due to the success of the partnership, both companies were honoured with a Gold for their project at the Global Chemical Leasing Award in June 2012.

Site visit at Ecopetrol S.A. in Colombia which adopted Chemical Leasing together with its chemical supplier Nalco de Colombia Ltda., in 2008