



Chemical Leasing Business Model

Strategic approach for sustainable management of chemicals

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MCPC Mission

To provide technical advice to the industrial sector to improve its productivity and competitiveness, to ease the access to more and new markets using CP and related tools and to promote the introduction of environmentally-sound technology and international cooperation.

What means Cleaner Production?

Cleaner Production is the continuous application of an integrated preventive environmental strategy to processes, products, and services to increase overall efficiency, and reduce risks to humans and the environment. Cleaner Production can be applied to the processes used in any industry, to products themselves and to various services provided in society.

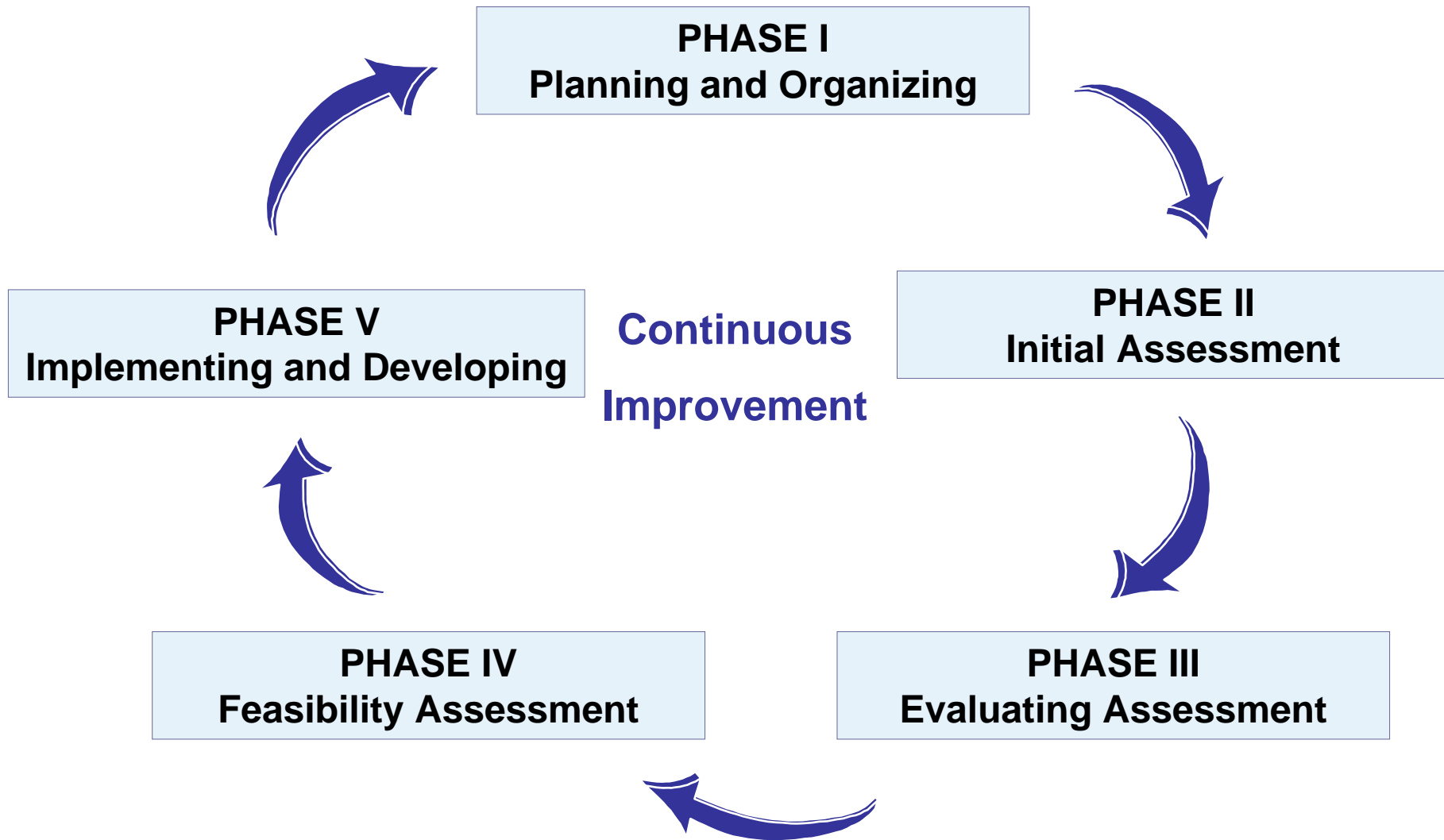
For production processes, Cleaner Production results from one or a combination of conserving raw materials, water and energy; eliminating toxic and dangerous raw materials; and reducing the quantity and toxicity of all emissions and wastes at source during the production process.

What means Cleaner Production?

For products, Cleaner Production aims to reduce the environmental, health and safety impacts of products over their entire life cycles, from raw materials extraction, through manufacturing and use, to the 'ultimate' disposal of the product.

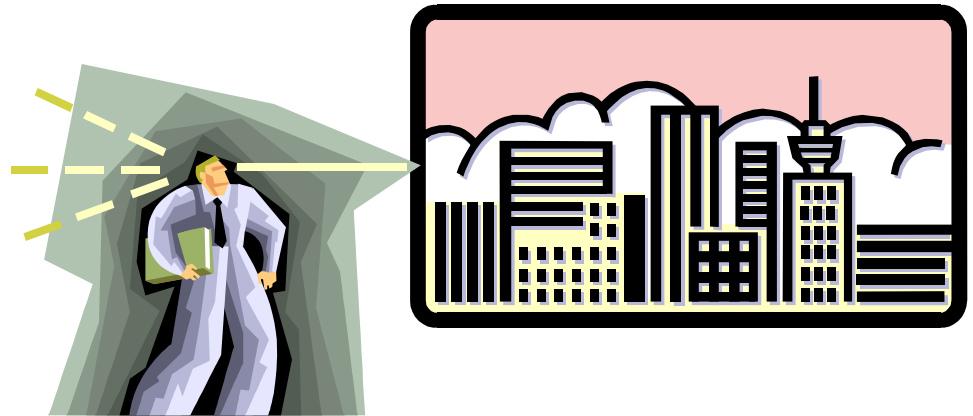
For services, Cleaner Production implies incorporating environmental concerns into designing and delivering services.

CP Methodology

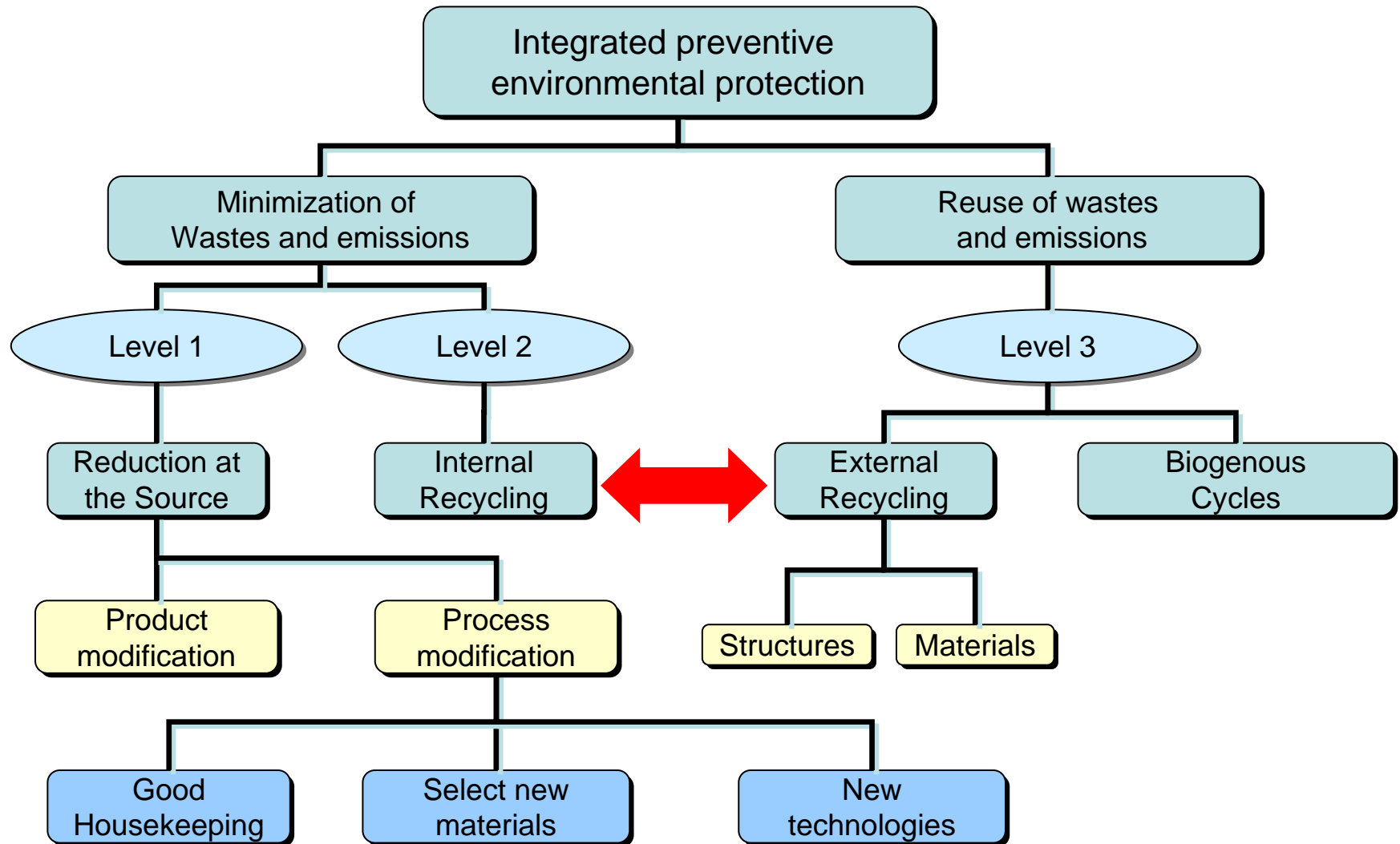


Benefits Obtained with CP

- Reduction in water consumption;
- Reduction in energy;
- Reduction of raw material consumption;
 - Substitution of hazardous raw materials;
- Reduction of hazardous wastes;
- Environmental benefits;



Levels and Strategies of CP



Chemical Leasing Background

At the 2002 Johannesburg World Summit on Sustainable Development the chemicals will be produced and used in ways that minimize significant adverse impacts on human health and the environment.



UNIDO's Cleaner Production Programme and the Austrian Ministry of environment have decided to join hands to promote Chemical Leasing business models.

UNIDO definition of Chemical Leasing

Chemical Leasing is a service-oriented business model that shifts the focus from increasing sales volume of chemicals towards a value-added approach.

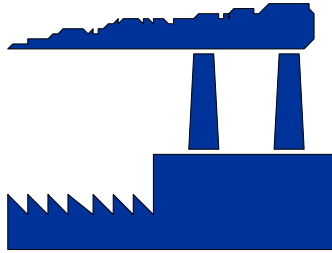
The producer mainly sells the functions performed by the chemical and functional units are the main basis for payment.

Within Chemical Leasing business models the responsibility of the producer and service provider is extended and may include the management of the entire life cycle.

Chemical Leasing strives for a win-win situation and aims at increasing the efficient use of chemicals while reducing the risks of chemicals and protecting human health. It improves the economic and environmental performance of participating companies and enhances their access to new markets.

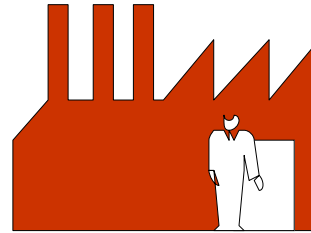
Key elements of successful Chemical Leasing business models are proper benefit sharing, high quality standards and mutual trust between participating companies.

Standard Business Scheme

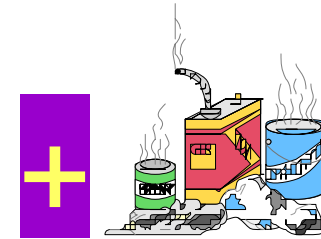


Chemical Producer

Sells



User of chemicals



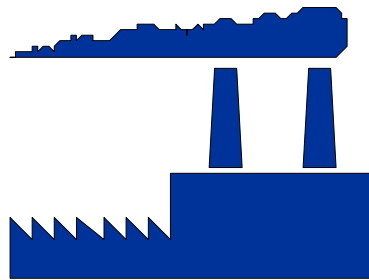
Emissions
Waste water
Wastes

Existing problems:

- Producer wants to sell more in order to earn more money
- User wants to buy less in order to save more money
- Producer has often no interest to share know-how on products
- User has often no interest to share experiences on use of chemicals

Chemical Leasing Scheme

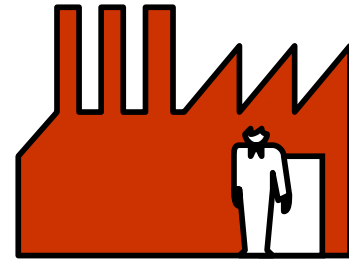
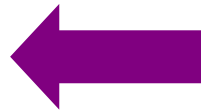
SERVICE ORIENTED BUSINESS STRATEGY



Chemical producer



Chemical Leasing



User of chemicals

The producer mainly sells the functions performed by the chemical and functional units are the main basis for payment.

e.g. number of pieces cleaned, amount of area coated

Business Model Advantages

- Win-win situation.
- High quality chemicals.
- Increases the efficient use of chemicals.
- Improves the economic and environmental performance
- Promote the mutual trust between provider and user participating companies
- Access to new markets
- Promotes the responsible management of chemicals



CP and Chemical Leasing

CP

ChL

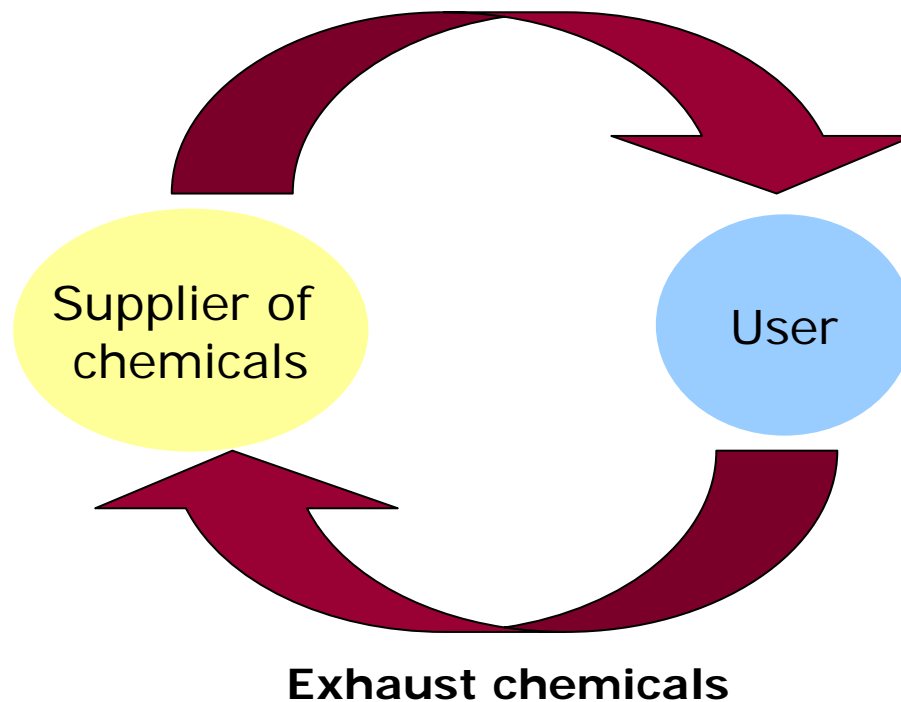
- Reduction of water, raw materials and energy consumption
- Increase efficiency
- Identify technological changes
- Process analysis

Sustainable consumption and production of chemicals

- Promotes technology development
- Business index
- win-win situation
- Increases productivity
- Productive commercial relationships

Model approach in Mexico

Increasing the efficient use of Chemical products while reducing the risk of chemicals and protecting human health



- Chemical supplier is paid for the service provided by the chemicals and not for the amount of chemicals delivered
- Closing the loops

EXPERIENCES

Electro-plating (Promote technology development)

User: Cromadora Delgado, S.A. de C.V.

Supplier: Mardi, Inc. S.A. de C.V.

Objective: establish a ChL model for the use of chemicals

Chemical: brightness

Technological change: Switch the traditional process

Benefit: reduction by 22 % of nickel consumption

Unit of payment

\$0.14 USD/ 10 Ampere-hour



Experiences obtained “Electro-plating”

1. Development of unit of payment based in heterogenic production

2. Promotes Technology Development
 - Chemical composition in the tank
 - Consumption Nickel was reduced (22%)

3. The experiences can be apply in similar process

4. Substitution of hazardous materials

5. Improvement of the relationship between user and supplier
 - Win – Win situation
 - To share the know-how

Sugar Mill

- User: Ingenio San Cristobal.
- Supplier: Chemical Mac Oil.
- Objective: establish a ChL model for the use of chemicals
- Chemical: biodegradable grease SCHUTZBIOTECH SM 3000
- Technological change: Switch the traditional lubricant
- Benefit: 50% less lubricant consumption

Unit of payment

\$ 0.03 USD/ton milled



Experiences Obtained “Sugar Mills”

1. All the variables are important for the selection of the provider
 - Technical support
 - Product quality and performance
 - Cost
 - Environmental friendly products
 - Supplier experience
2. To use comparison matrix (quality, price and service) when exist several suppliers
3. The model can be implemented in the Government Sector

Experiences Obtained “Sugar Mills”

4. Its important to do a technical requirement analysis for the correct chemical product selection before implement
 5. Its important detect technical or process problems in order to ensure that the implementation works excellent
4. The model implementation between small suppliers and big users its difficult because
- Sometimes a small company doesn't have the capacity to bring an integral services for a big client (recycling, technical support, quantity of product, ...)

Conclusion

Chemical leasing is an innovative business model for the sustainable management of chemicals where the economic benefits achieved by selling chemical services instead of increasing the sales volume of chemicals. It provides adequate chemicals risk management coupled with environmental advantages and economic benefits for both the user and the producer and strongly promotes the substitution of hazardous chemicals



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