



## **ECOCYCLING** – Valuable Raw Materials from Waste

*A Vision becomes Reality.*

Waste is dead-end, made up of all the things humans have no further use of. Some waste can be recycled, reused, treated, or processed. Other types of waste do not seem to fit into any natural, technological, or economically viable cycle and can only be disposed of or incinerated. This is where waste turns into a problem worldwide. The situation becomes even more critical when the topic focuses on hazardous, toxic, or contaminated waste. Over time, waste has become a threat to mankind and the environment.

For the first time, ever, **ECOCYCLING** offers a completely safe procedure that not only neutralizes wastes but, in addition, turns waste into valuable raw materials that readily find their way back into production as well as the economic cycle. This exciting new concept from **ECOCYCLING** is ingenious: waste turned into valuable raw materials and ecological benefits go hand in hand with dynamic economics.

### *The Current Waste Disposal Situation*

In 2005 in the then European Common Market countries alone, over 2 billion tons of waste was produced. Of this enormous amount, approximately 59 million tons were classified as hazardous waste or as waste that is officially defined as being “difficult to get rid of, the disposal of which needs to be carefully monitored since it is dangerous to both mankind and the environment” (according to the law for Recycling Economics and Waste Management). Not to mention the remaining waste to be landfilled and thus creating a questionable legacy.

Although the accumulation of waste in some industrialized countries is stagnating and the amount that can be recycled is increasing, this is, by no means, the time to sit back and relax. The amount of problematic waste is on the rise as well as the level of contamination.

Until now, there has been no economically viable solution to the problem. One thing is clear: conventional waste disposal requires a great deal of effort and cost and the results are limited at best. Landfills are toxic legacies waiting to unleash their harmful remains. Incinerators may reduce the overall amount of waste in volume and weight, but they leave behind far more problematic waste materials such as sulphurous gypsum, highly toxic filter dust particles and problematic flue gas. Some recycling procedures are deceptive, since the proportion of contaminants produced increases with each run.

Conventional waste management has always been expensive. In Europe, the incineration of one ton of waste costs between 100 and 200+ Euros and in the

**ECOCYCLING**  
is the name of  
the process de-  
scribed herein.





case of certain types of hazardous waste, the price can quickly rise to more than 2,000 Euros per ton.

Safety monitoring systems, cost to the public and long-term implications are some of the hidden expenses not calculated into these examples. The economic consequences are ludicrous: nowadays the production of synthetic packing materials make up one-quarter of the total cost while the other three-quarters pay for recycling. The price of raw materials has become substantial.

This situation has become more than a mere societal dilemma; it has become an economic catastrophe.

### **ECOCYCLING** – a revolutionary waste management program puts an end to waste problems.

It would be a step in the right direction for our environment if it were possible to at least neutralize waste. Waste could then be a thing of the past. Nevertheless, it would not alleviate the problem of landfills.

**ECOCYCLING** has taken the decisive step to link environmental and economically viable goals. The **ECOCYCLING** process neutralizes waste almost regardless of its composition and turns this waste into a valuable raw material. The result is an environmentally friendly material family – having properties as defined by the target application. These materials can be used in several technical processes. The medium-term market demand for these materials is considerable. The key to the process is the combination of input material and target application which are wired up in specific recipes. Recipes are the basis of the technology – just like the recipes in a bakery, allowing the baker to produce vastly different products from an almost infinite number of ingredients.

**ECOCYCLING** – Process works without external heating and thus is not producing any exhaust gas. It also does not produce any other by-products. It uses, other than the waste mixture as a raw material, several specific additives (e. g. minerals or chemical substances). The process produces the target product, some heat, carbon monoxide, hydrogen, and steam. The first two in marginal quantities, the latter depending on the input moisture, which is bonded with the material being formed during the process and therefore is not released into the atmosphere.

The process is fully automatic. During the process, all the waste materials are “attacked” and using suitable reaction chains and are bound into the created material. Gaseous and liquid materials are solidified and then treated. Heavy metal molecules are stored in the crystallized structure of the newly created minerals and / or chemically bound to the adequate molecules and immobilized.

When the process is completed, what remains is a harmless material that can be stored or transported without any concern. The product can be used for further

**ECOCYCLING** is a process which implements a production based on recipes. The recipe specifies the input material, the additives and the target products properties to be achieved. Bear in mind that not all input can be processed to all target products. The specifications of the target product determine the costs and the possibilities of input material to be used.





process steps or as a raw material for applications in the wood fiber board, agriculture, paper, or construction industry. Even conservative estimates calculate the medium-term implementation at several million tons.

And what is particularly important is that the result of the transformation process is a Product and not just another waste form.

### **ECOCYCLING** *in a nutshell*

- In an environmentally friendly process, **ECOCYCLING** turns waste into an equally environmentally friendly new raw material.
- Everything from organic household garbage to commercial waste is the basis of the **ECOCYCLING** process in a defined mixture.

Due to their exceptionally dangerous nature, radioactive materials, and explosives such as ammunition are impossible to process as well as highly infectious material. Due to their material specific properties tyres, metal (FE/NE) and steel reinforced concrete are excluded too.

**ECOCYCLING** is a state-of-the art process that has been independently documented and approved of. **ECOCYCLING** is available and can be carried out anywhere in the world.

- **ECOCYCLING** makes a significant contribution to the conservation of our environment in helping to preserve pure water, clean air and fertile soil.
- The granular mineral material produced by **ECOCYCLING** is a valuable raw material for a group of newly created materials (building materials, adhesives, and fibers) that have superb properties suited to the manufacture of a line of new products.
- Waste can now be transformed into a much-sought-after product. Ecological benefits and earning-power goals merge. **ECOCYCLING** helps our environment while turning a profit at the same time, improving all-round performance, and increasing competitive advantages.

Most waste fractions can however be pre-treated and thus become available for **ECOCYCLING**, e. g. infectious waste like clinic waste. Once it is sterilized it is a potential input and the technologies for sterilizing are readily available.

Detailed information can be obtained directly from:

**Xproducts** Deutschland GmbH

