



KuWert - Vessel-based Treatment of Plastics ready for Implementation
Schiffsgestützte Behandlung von Kunststoffen erreicht Anwendungsreife

KuWert - A self-financing solution against plastic in the environment with multiple sustainability

The KuWert design concept pays off. The plastic waste generation on the African west coast has been used as an example to demonstrate economic viability

Under the leadership of TECHNOLOG services GmbH, the TECHNOLOG consortium including the Institute for Energy, Recycling and Environmental Protection at the Bremen University of Applied Sciences and Nehlsen GmbH & Co. KG (now Nehlsen AG) developed the concept of KuWert (plastic value creation). KuWert is a vessel-based treatment of plastics for the implementation of value chains.

A platform vessel serves as the basis for the recycling plant. The vessel is 120 meters long and 80 meters wide. It has 5 sorting lines with complex, state-of-the-art recycling facilities as well as processing and storage areas of 14,500 square meters.

When the platform is built, the factory on board does not differ much from similar land-based facilities: Storage areas, conveyor belts, balers, shredders, sorting, washing systems, cranes and extruders for processing plastics are optimally put together to form recycling process chains. In the end, so-called recyclates tumble out of the system. This recyclate can be marketed worldwide or processed into new plastic products in the countries of origin. A single vessel can process 64,000 tons and more per year. The performance depends on the preparations and pre-treatments at the on-site contact points.

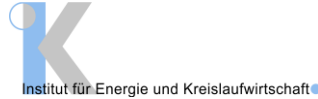
In the meantime, the KuWert concept has been presented and discussed locally to many embassies and governments of the countries on Africa's west coast. All of the countries visited consider the project to be targeted and to be useful and applicable for use in their countries. Recycling platform vessels could also cross Asia, South America, the South Pacific or India.

The initial business model can be used globally: Raw material is purchased per platform vessel for around ten million euros per year, the proceeds from the sale of the recyclate on the world market are higher. The difference can be used to finance the capital costs for the vessel and its operating costs. The business model works solely through the added value of recycled plastic.

Sustainability is not just a matter of plastic recycling. It is also essential that on every platform vessel for plastic waste processing at least 250 local workers are trained and will work on board with long-term employment contracts and above-average income. In addition, there are at least 80 qualified local workers for receiving goods at the ports of call, not counting the local people for bringing the plastic waste onto the platform vessel. In addition, at least 1,200 full-time jobs for collecting plastic waste will be created locally. Everything serves to strengthen local labor markets and industries. These aspects are of great importance for the collecting countries as well as for European politics.

KuWert's primary goal is to prevent plastic from entering the environment and the sea while creating jobs and (through recycling) to return plastic waste to the value-added chain of world trade.

The KuWert project was funded by the Federal Ministry of Education and Research (BMBF) within the research focus "Plastic in the Environment". The research focus "Plastic in the Environment - Sources, Sinks, Solutions" is part of the Green Economy flagship initiative of the BMBF framework program "Research for Sustainable Development" (FONA³).



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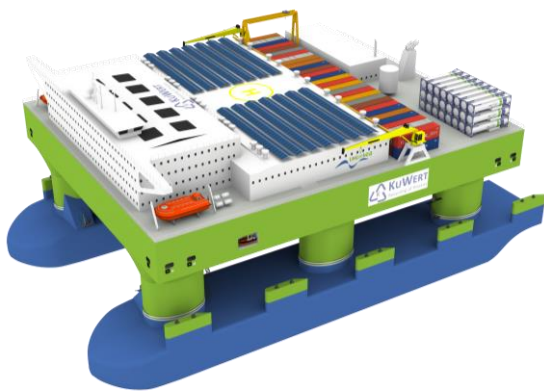
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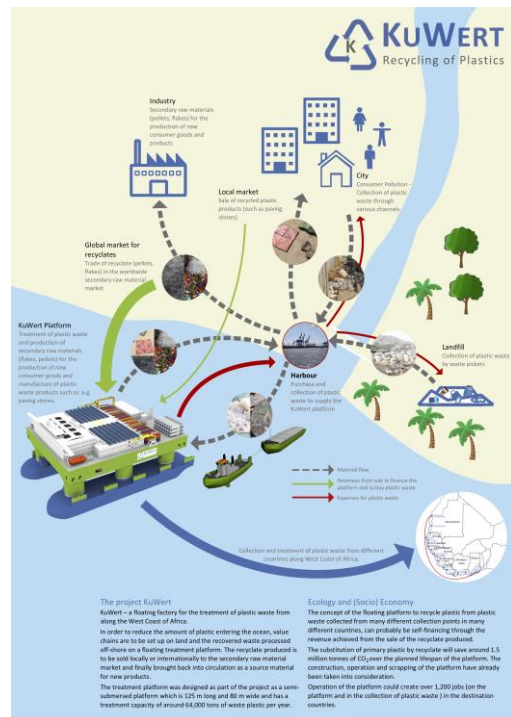
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More information about the KuWert project can be found at:

<http://www.KuWert.hs-bremen.de>



The platform vessel developed by TECHNOLOG and the working group



Example of a landfill

KuWert working principle



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About TECHNOLOG

TECHNOLOG services GmbH, a leading maritime technology partner, offers a comprehensive range of innovative designs, consultancy and feasibility studies as well as professional engineering and project management services with technology transfer for ship owners, operators and shipyards worldwide.

The company was founded in 1979. Customers benefit from forward-looking solutions for the international shipbuilding, marine technology and offshore industries. Together with the TECHNOLOG-MRM marine services (China) Ltd. in Hong Kong and Shanghai and the representatives in Australia, Singapore, South Korea and China more than 40 employees are working in the company in Germany and guarantee economically sound customer service.

More information at www.technolog.biz.

About the Institut für Energie und Kreislaufwirtschaft an der Hochschule Bremen GmbH (Institute for Energy, Recycling and Environmental Protection at the Bremen University of Applied Sciences)

The Institute for Energy, Recycling and Environmental Protection, an example of Public Private Partnership in the field of applied research and development, was founded in the year 2000. The Institute is supported by two partners from industry, (Nehlsen AG, Diersch & Schröder GmbH & Co. KG) and the City University of Applied Sciences in Bremen and serves as a bridge between science and industry so that, on the one hand, more knowledge can be gained and made available to others and, on the other hand, the needs and requirements of those who work in the field can be taken into account in research and training.

More information at www.iekrw.de

University of Mauritius: <http://www.uom.ac.mu>

University of Sierra Leone - Fourah-Bay-College: <http://www.university-directory.eu/Sierra-Leone/Fourah-Bay-College--University-of-Sierra-Leone.html>

Über Nehlsen AG

Nehlsen is an international waste management company that has been providing customer-oriented services since 1923 in the areas of recycling, disposal and cleaning. As a family-owned company with Hanseatic roots, Nehlsen operates with more than 2,000 employees at 50 locations in Europe and Africa.

More information at www.nehlsen.com