

Algae to clean up oil refinery waste water

New York: Microalgae can be successfully harnessed to clean waste water from industry, say researchers who are growing microalgae in a 5,000 litre photobioreactor at a [Chevron oil refinery](#) in Hawaii.

The researchers are taking advantage of the algae's appetite for chemical nutrients to clean the wastewater from the refinery water, removing noxious chemicals - including 90 percent of the ammonia-nitrogen and 97 percent of the phosphorus.

As the microbes feed, they grow and multiply, providing a wealth of algae-based biomass for producing bio-energy and high-value bio-based chemicals and specialty products, researchers said.

The bioreactor contains a mixed microbial consortium that is enriched for *Scenedesmus* algal species.

The authors also described experiments evaluating the ability of *Chlorella* and *Scenedesmus* algae species to grow on the sugars derived from waste wood obtained from pulp and paper mills and pre-treated using enzymatic hydrolysis to release the pentose and hexose sugars.

They tested and compared the algae biomass production from three types of waste wood -- pine softwood, southern hardwoods and northern hardwoods.

"This is an exciting story on how the engineering of microbial consortia can lead to the development of robust waste management processes," said professor Larry Walker, co-editor-in-chief of Industrial Biotechnology -- the journal in which the study appeared.

http://zeenews.india.com/news/science/algae-to-clean-up-oil-refinery-waste-water_1802589.html