



Alumnus Luc De Baere named UW-Green Bay's 'Earth Caretaker' for 2022

Luc De Baere is a Belgian native. He obtained a Bachelor's in Chemistry (1978) and a Master's Degree at UWGB in Environmental Arts and Sciences with a focus on Waste Management (1980).

Luc's graduate work on anaerobic digestion at UWGB landed him, upon his return to his native country, a job with a large Belgian company, owned in the 70's by Westinghouse of Pittsburg, PA. He was hired to develop a process to produce biogas from municipal solid waste. He became the inventor of the Dranco technology for the anaerobic digestion of organics derived from household solid waste, with several patents in over 35 countries. This technology operates under 'dry' conditions in a similar way as the generation of gas in a landfill, but the Dranco technology controls and optimizes the anaerobic degradation so that the production is complete within 25 days instead of 100 years in a landfill.

In 1988, he formed the company Organic Waste Systems (OWS) together with investors in the Antwerp area of Belgium, and became its managing director. The company has constructed and sold more than 35 waste treatment plants in 16 countries, mostly in Europe but also including facilities in South Korea, Japan and China. OWS is currently pursuing several projects for cities in California, Minnesota and other states that are looking to build infrastructure to treat household waste. The OWS technology, combined with some upfront recycling, can achieve 90% landfill diversion, by producing biogas, a very clean compost, clean inerts (glass/stones/ceramics) and a paper/textile fraction as a combustible material. The compost can be used in agriculture and has been shown to increase yields of corn and other crops. Projects range from \$10 to 50 million of investment for the Dranco part.

During the early nineties, he was approached by the Delaware based company DuPont in order to develop a testing procedure for determining the biodegradability of plastics in landfills. He then drafted three of the most used biodegradability testing methods currently used for determining the biodegradability of biopolymers and compostable materials. These were approved by the American

Society of Testing of Materials (ASTM), and later on a worldwide basis by the European and International Standards Organization (CEN and ISO). This resulted in the launch of a second activity within OWS as a commercial lab to provide the testing of biodegradable and compostable materials. OWS is by far the largest and most experienced lab in the field on a worldwide basis, and has many US clients such as P&G, 3M, Cargill, Scott Paper and many other multinationals looking for plastic waste solutions.

When Luc officially retired in 2021, the company OWS employed 130 people with annual sales amounting to US\$25-30 million. OWS has subsidiaries in Germany, Japan and in the USA, which are active in the field of solid waste digestion and biodegradability testing. Luc continues to be president of OWS Inc and of Dranco Inc, which are the US based subsidiaries of OWS in Dayton, Ohio.