



FOR IMMEDIATE RELEASE

CONTACT:  
Jean Smoke  
HTI  
480.362.4957  
[jsmoke@htewater.com](mailto:jsmoke@htewater.com)

### **HTI PROVIDES IMPORTANT FORWARD OSMOSIS TECHNOLOGY TO JOINT SEWER MINING PROJECT**

---

*Clean Water Harvested from sewage with Forward Osmosis technology supplied by  
Hydration Technology Innovations (HTI)*

**ALBANY, Ore./SCOTTSDALE, Ariz.** (June 28, 2010) - Hydration Technology Innovations, LLC (HTI) along with Netherland based groups, KWR Watercycle Research Institute, Delft University of Technology, Waternet, DELTA Triqua and Bareau Duurzame Technologie have begun development on an innovative project that harvests clean water from sewage. This revolutionary process called Sewer Mining is poised to make an impactful difference in sewage waste reduction along with contributing to significant groundwater and energy savings.

At the end of 2009, Researchers Emile Cornelissen and Kees Roest of KWR Watercycle Research Institute, initiated the Sewer Mining Project. They enlisted the help of technology partners such as; HTI as the developer and supplier of the Forward Osmosis membranes, DELTA Triqua as the system constructor, Bareau Duurzame Technologie for the high pressure fermentation, TU Delft as a University partner and Waternet to manage and control the whole watercycle relevant to this project.

HTI's Forward Osmosis (FO) membranes are necessary to filter the heavily polluted sewage to produce clean water. Osmosis is a natural process where two liquids separated by a special proprietary membrane seek equilibrium. The permeate side of the membrane contains a salt "draw" solution which has a higher osmotic potential than the dirty feed water side. This naturally pulls the water from the dirty feed side through the membrane which rejects organics, minerals and other solids; resulting in only clean water moving through the membrane. FO allows a high degree of separation to be achieved using relatively low energy consumption. HTI's technology will be combined with high pressure digestion, which is necessary to recover the leftover salt after the FO process. The combination of both of these ground-breaking technologies is the basis for Forward Osmosis Sewer Mining.

"HTI is the first and only company worldwide to supply commercial forward osmosis membranes needed for the Sewer Mining concept, and we are lucky to have them on

board to provide us with enthusiastic and prompt knowhow and support". Emile Cornelissen – Senior Scientific Researcher at KWR

The key benefits of the Sewer Mining project will be the ability to create decentralized industrial water from sewage so fresh groundwater is maintained exclusively for drinking water. In addition, local energy is recovered from the high pressure digestion process due to fermentation, the quality of the influent water entering the sewage treatment plants will be improved and the processes results will show large savings in reduced sewage capacity along with the ecological benefits of the reduced effluent discharge.

The total scope of the joint project is to run through 2013 with a budget of 1,450,000 Euros. The project has already received an InnoWater subsidy from AgentschapNL and has also been garnered the very prestigious AGV Innovative Water Award in the Netherlands.

#### **About HTI's Forward Osmosis Technology**

In state-of-the-art plant facilities located in Albany, Ore., HTI manufactures a proprietary forward osmosis membrane material that allows water to migrate through the membrane, powered only by a draw solution on the clean water side of the membrane, leaving behind virtually all contaminants.

For more information on HTI's Forward Osmosis technology and the various applications it can be applied to, please visit [www.HTIwater.com](http://www.HTIwater.com)