



Metropolitan Water Reclamation District of Greater Chicago

# Press Release

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## Nutrients recovered by MWRD lead to new resources and cleaner environment for the Mississippi River Basin and Gulf of Mexico



*Metropolitan Water Reclamation District of Greater Chicago (MWRD) Board of Commissioners partnered with Ostara Nutrient Recovery Technologies to announce the opening of the world's largest nutrient recovery facility. Cutting the ribbon to unveil the new facility were: U.S. Environmental Protection Agency Acting Regional Administrator Robert Kaplan (from left) MWRD Chairman of Finance Frank Avila, MWRD Commissioner David Walsh, Ostara President and CEO Phillip Abrary, MWRD Vice President Barbara McGowan, MWRD President Mariyana Spyropoulos, Ostara Board member Robert F. Kennedy, Jr., Deputy Mayor of Chicago Steve Koch; MWRD Executive Director David St. Pierre and MWRD Commissioner Kari Steele.*

The world's largest nutrient recovery facility is open for business, working to clean the country's waterways, save taxpayers money, provide for farmers and protect the entire planet facing a scarcity of phosphorus and harmful algae blooms.

The Metropolitan Water Reclamation District of Greater Chicago (MWRD) in partnership with Ostara Nutrient Recovery Technologies and Black & Veatch officially opened the world's largest nutrient recovery facility

on May 25, at their Stickney Water Reclamation Plant (WRP) in Cicero.

"The MWRD is dedicated to becoming the utility of the future," said MWRD President Mariyana Spyropoulos. "Ostara's technology is a solution to managing the overabundance of phosphorus while creating a revenue stream through the sale of the fertilizer. This is a win for the environment and a win for Cook County taxpayers." *(continued)*

## Nutrients recovered by MWRD lead to new resources and cleaner environment *(continued)*



*Environmental advocate and attorney Robert F. Kennedy, Jr., spoke to the shortage of phosphorus in the world at the unveiling of a new facility at the Metropolitan Water Reclamation District of Greater Chicago's Stickney Water Reclamation Plant. Kennedy said cities and water management agencies must provide for future generations by protecting today's environmental infrastructure.*

MWRD's new nutrient recovery facility is an example of how progressive technology can be implemented to transform a wastewater treatment facility into a resource recovery center, providing significant environmental benefits to the Chicago Area Waterway System and downstream to the Mississippi River and the Gulf of Mexico. Through Ostara's technology, phosphorus and nitrogen will be recovered to create a high value fertilizer, marketed as Crystal Green. The process is both economically and environmentally viable. The new facility has a production capacity of 10,000 tons of Crystal Green per year. As part of the commercial sale of Crystal Green, the MWRD will receive revenue for every ton of fertilizer it produces. By removing phosphorus from the water and returning it to farmers and other agricultural producers, this facility represents a significant shift in the wastewater industry from treatment to recovery for reuse.

"To see the largest wastewater treatment facility in the world implement Ostara's system is proof to municipalities there exists a viable and cost-effective solution to address their nutrient challenges," said environmental advocate and attorney Robert F. Kennedy, Jr., an Ostara board member. "Having a solution to solve plant issues while addressing more global challenges affecting the nation's watersheds, without economic burden, is progress for the environment, ratepayers and future generations."

Nutrient pollution is among the biggest environmental problems of the 21st century. Excess phosphorus in waterways can cause algae to grow and bloom, creating toxic conditions that destroy aquatic life and severely limit



*Metropolitan Water Reclamation District of Greater Chicago (MWRD) Commissioner Kari Steele (from left), MWRD President Mariyana Spyropoulos, Friends of the Chicago River Executive Director Margaret Frisbie, MWRD Chairman of Finance Frank Avila and MWRD Vice President Barbara McGowan dip their hands into the usable phosphorus recovered from the wastewater stream and converted into a high quality, slow-release form, which can be sold in stores and used in fertilizers. Marketed as Crystal Green, the recovered fertilizer will provide revenue to the MWRD per each ton produced for distribution. The MWRD expects to produce 10,000 tons of Crystal Green annually. Phosphorus, a non-renewable resource essential for life, is estimated to be gone from reserves within the century.*

recreational enjoyment of lakes and rivers. Phosphorus is considered a major contributor to nutrient pollution, entering bodies of water from a number of sources including urban water treatment facilities. The MWRD's nutrient recovery facility will greatly reduce its nutrient effluent load to the Chicago/Calumet river system, upstream of the Mississippi river basin and as a result, will reduce its impact on hypoxia in the Gulf of Mexico.

While excess phosphorous discharged to waterways can contribute to water quality problems, it is also a non-renewable resource which is essential for life. It is estimated that there are fewer than 50 years of phosphorus reserves remaining worldwide. Most phosphorus is sourced from rock mines and must be transported considerable distances.

Closer to home, however, this renewed water stewardship will pay an instant impact on area waterways, especially in Chicago, where river walks are being constructed and recreational use of the Chicago River and area waterways has increased dramatically in recent years. Cleaned water from Stickney WRP is released into the Chicago Sanitary and Ship Canal southwest of the Chicago River so taking proactive steps in protecting the local watershed continues to be a priority for the MWRD.

"Thanks to critical partnerships like this the Chicago region is a global leader in driving water *(continued)*

## Nutrients recovered by MWRD lead to new resources and cleaner environment *(continued)*



*The finished product of the Metropolitan Water Reclamation District of Greater Chicago's (MWRD) new nutrient recovery facility is a high value, slow release fertilizer that is not soluble, making it more environmentally friendly than most fertilizers. It will be marketed as Crystal Green and the MWRD has the production capacity of 10,000 tons per year, enough to grow 1 billion pounds of potatoes or 250 million bags of potato chips.*

technology and innovation forward,” Chicago Deputy Mayor Steve Koch said. “This new facility will keep that progress going while benefiting Chicago’s environment and residents.”

Designed to treat up to 1.44 billion gallons of water each day and serving a population equivalent to 2.3 million residents including the central part of Chicago and 46 suburban communities, the Stickney WRP discharges

into the Chicago and Sanitary and Ship Canal, making it the largest water reclamation plant in the world. MWRD’s mission is to protect the water supply source, improve the quality of area waterways, and protect businesses and homes from flood damages while sustainably managing this vital resource for the Greater Chicago area.

Facing more stringent regulatory limits affecting effluent discharge permits in addition to a wastewater system that was experiencing an accumulation of mineral in struvite form, MWRD sought a closed-loop and cost-effective phosphorus management strategy. As a global leader in nutrient recovery, Ostara provided MWRD a solution to their challenges.

“For Ostara, partnering with MWRD is a milestone in successfully scaling up our technology to serve the largest wastewater treatment facility in the world, providing a cost effective and environmentally progressive solution to support their clean water mandate,” said Ostara President and CEO Phillip Abrary. “We are proud to be part of a solution that will ultimately help protect the Mississippi River Basin and provide revenue to the District from the sale of the high value phosphorus fertilizer recovered to benefit ratepayers.”

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### Recovering Resources, Transforming Water

*Established in 1889, the MWRD ([www.mwr.org](http://www.mwr.org)) is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois.*