Press release – FOR IMMEDIATE RELEASE

Dutch Waterboard Opens Europe’s first Nutrient Recovery Facility Recovering Nutrients from Wastewater to Produce a High-Value Fertiliser

Vallei & Veluwe, in partnership with Ostara and Eliquo, launches Energy and Nutrient Recovery Factory, first to produce commercial fertiliser product

Amersfoort, NL and VANCOUVER, British Columbia, June 17, 2016: Today, the Dutch Waterboard Vallei & Veluwe (The Waterboard) officially opened Europe’s first commercial nutrient recovery facility, in partnership with Ostara Nutrient Recovery Technologies and Eliquo Water & Energy. Proactively addressing national and European goals to promote a circular economy, the new facility is part the Waterboards transformation of their Amersfoort Wastewater Treatment Plant (WWTP) into an Energy and Nutrient Recovery Factory, supported by the EU LIFE+ subsidy program.

The Waterboard’s Chairman Tanja Klip-Martin; Environmental Advocate and Attorney, and Ostara Board Member, Robert F. Kennedy, Jr.; and, Director of Plastic Whale, Marius Smit, were joined by CEO of Eliquo, Dr. Reinhard Hubner; and, Co-Founder and CEO of Ostara, Phillip Abrary, to officially open the energy and nutrient recovery facility following a ceremony with speeches by Klip-Martin, Smit and Kennedy.

The new Energy and Nutrient Recovery Factory features, amongst others, Ostara’s Pearl® nutrient recovery and WASSTRIP® technologies, where phosphorous and nitrogen are recovered to create a high value fertiliser product from an existing resource with a process that is both environmentally and economically viable. The facility was designed and constructed by the Dutch company, Eliquo Water & Energy, and also features their LysoTherm® system which allows for an efficient, cost effective and reliable disintegration of waste activated sludge (WAS).

While seven sewage treatment plants have been converted into “energy and nutrient facilities” in the Netherlands, this is the first facility to produce a “ready to use” fertiliser product, sold as Crystal Green®. During her speech, Principal Tanja Klip-Martin advocated for changes to National and European regulations to help stimulate the use of recovered products from waste streams to be able to support the principles of a circular economy, noting that the view on wastewater as a resource has changed fundamentally and is now seen as a sustainable source of energy and nutrients. “The key difference with the Amersfoort facility launched today is that a high value, ready-for-sale fertiliser product is being produced, ready for use on agricultural crops and in the turf and horticulture markets,” said Klip-Martin.

Mr. Robert F. Kennedy, Jr. called Ostara’s technology an incredible conduit to making the circular economy a reality. “With Ostara, municipalities now have a solution to protect waterways, and wastewater treatment plants can essentially play a vital role in tackling point source pollution, without
having to compromise other community needs. The Ostara solution provides a cost-effective option for managing nutrients, and creating a high value product that further protects the environment. The environment does not have to be sacrificed for the economy; Ostara’s technology provides a closed-loop solution that creates worth from waste.”

“We are very excited to have partnered with Dutch Waterboard and Eliquo to provide the technology to effectively recover nutrients at their Amersfoort facility. Their efforts have allowed us to create a sustainable phosphorous fertiliser that will be produced locally and sold in the Netherlands, as the highest beneficial reuse of an existing resource. We are proud to be a key component of the Dutch Waterboard’s innovative energy and nutrient recovery facility which shows leadership on behalf of the industry in Europe,” added Phillip Abrary.

“Vallei & Veluwe challenged market entities to provide the best economic affordable solution for transforming their Amersfoort facility into an Energy and Nutrient Recovery facility. Ostara and Eliquo have provided an exemplary solution to these challenges based on the combination of unique proven technologies which are integrated with maximum re-use of existing assets”, said Dr. Reinhard Hubner.

100% Energy Autonomy / Recovery of Phosphorous into High Value Fertiliser
Designed to treat more than 8,000 m³ of water each day, the Amersfoort WWTP also acts as a regional sludge-processing hub for a number of WWTPs and imports approximately 40 per cent of sludge from other locations. With approximately 12,000 tonnes of dry sludge being treated annually, the facility was facing high operational costs for energy consumption and processing costs for sludge disposal. At the transformed Amersfoort WWTP, all indigenous sludge produced as well as the sludge produced at the WWTP’s of Soest, Nijkerk and Woudenberg will be centrally digested at the new facility. The process of digestion is being enhanced with Eliquo’s Thermal Pressure Hydrolysis (TPH) process called LysoTherm®, in order to increase the biogas and related energy production. As a result, the new facility will produce enough energy to treat all the wastewater from the City of Amersfoort on a 100% energy-autonomous basis, as well as an energy surplus, enough to provide 600 households with green electricity during the year.

Operations and resource recovery are further enhanced by removing phosphorous from the liquid wastewater stream using Ostara’s Pearl technology. The Amersfoort WWTP features one Pearl®2K reactor with the capacity to remove 85 per cent of the phosphorus and up to 15 per cent of the nitrogen from liquid wastewater streams. Ostara’s WASSTRIP technology has also been implemented which turbo-charges the nutrient recovery process and increases the amount of phosphorous recovered by more than 60 per cent for added operational and revenue generating benefits. This further reduces the amount of sludge formed, while improving dewaterability.

Recovery for Reuse – The only “ready for use” recovered fertiliser, Crystal Green®
Phosphorous is contained in all humans and also in wastewater, and is a vital resource necessary to produce the food needed for long-term global food security. It is also considered a non-renewable, finite resource, as most conventional fertilisers are produced from mined phosphorous exported from
countries such as Morocco. Ostara’s solution provides an innovative phosphorous management strategy, and a closed loop solution.

Vallei & Veluwe’s nutrient recovery facility not only helps solve both nutrient supply – producing fertiliser from an existing resource – and nutrient pollution issues by releasing responsibly, but will also generate revenue for Vallei & Veluwe through the sale of the fertiliser.

The valuable nutrients recovered are sold as a 99.6% pure, granular Crystal Green fertiliser, which is European Certified in the category with the highest quality fertilisers. This product is composed of phosphorous, nitrogen and magnesium (5-28-0-10Mg), and is sold and marketed by Ostara through a global network of blenders and distributors to professionals in the turf, horticultural and agriculture sectors. Its unique Root-Activated™ mode of action improves crop yields, enhances turf performance and significantly reduces leaching and minimizes runoff, thus protecting local waterways from nutrient pollution.

The new facility has the capacity to produce approximately 900 tonnes of Crystal Green annually, and Vallei & Veluwe will receive revenue for every ton of fertiliser it produces. In addition, the new nutrient recovery facility will realize annual cost savings in chemicals, solid waste disposal, maintenance and power. With a dominant focus on efficiency and sustainability, this innovative energy and nutrient recovery facility at Amersfoort is a true example of the circular economy, which has been made possible by the European LIFE+ subsidy for development, furthering the European nature and environment policy. Vallei & Veluwe’s Energy and Nutrient Recovery Factory is a leadership example of the circular economy for all of Europe.

Ostara Nutrient Recovery Technologies Inc. helps protect precious water resources by changing the way cities around the world manage nutrients in wastewater streams. The company’s Pearl® technology sustainably transforms phosphorous and nitrogen recovered from municipal and industrial water treatment facilities into a high-value, eco-friendly fertiliser, sold and marketed by Ostara as Crystal Green®. Ostara is the recipient of numerous awards including being named a 2011 Technology Pioneer by the World Economic Forum, and being consistently placed on the
Global Cleantech 100. For more information visit [www.ostara.com](http://www.ostara.com) and [www.crystalgreen.com](http://www.crystalgreen.com).

**ELIQUO Water & Energy** designs, builds and maintains turn-key multi-technology solutions for sludge treatment and energy, and nutrient recovery in the municipal wastewater treatment sector. Eliquo is part of the German Eliquo Water Group and besides the Netherlands, is active in selected European Countries, Australia and South East Asia. [www.eliquo-we.com](http://www.eliquo-we.com).

**Waterboard Vallei en Veluwe** is responsible for safe dikes, clean and sufficient surface water as well the treatment of wastewater in the delta’s of the rivers IJssel and Nederrijn. Vallei en Veluwe is operating and maintaining 28.244 kilometres of waterways and rivers, 81 pumping stations, 16 Wastewater Treatment Plants and 872 km of dikes. WVV is treating sewage of 1.471.000 inhabitants. [www.vallei-veluwe.nl](http://www.vallei-veluwe.nl) and [www.omzetpuntamersfoort.nl](http://www.omzetpuntamersfoort.nl)

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