

# Waste-to-X and RNG specialists

Waste is our energy



# RNG partnerships across North America



Kanadevia Inova biogas upgrading technology

## Biogas upgrading, upstate New York

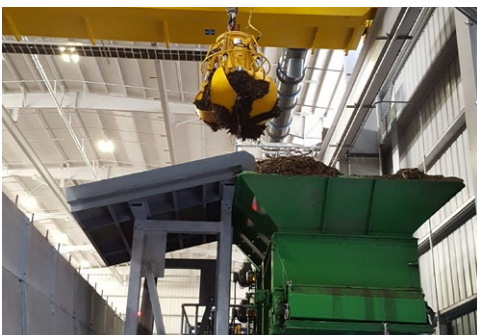
Kanadevia Inova North America's partnership with Generate Upcycle continues with the commissioning of three biogas upgrading systems to be constructed and installed by Kanadevia Inova in Buffalo, Niagara, and Cayuga, New York. The plant will use Kanadevia Inova's proprietary membrane technology to process biogas from the neighboring anaerobic digestion facility, which processes organic waste from the surrounding community. Kanadevia Inova's new system will upgrade the biogas produced by the AD facility to biomethane, which will be supplied to the local gas grid. This RNG initiative is driven by New York State's goal to reduce GHG emissions by 40% by 2030.



Kanadevia Inova, 3 Rivers Energy Partners and Beam Suntory at the groundbreaking for the Booker Noe distillery RNG project

## Agriculture – distillery RNG, Boston (KY)

Kanadevia Inova North America is a proud partner with 3 Rivers Energy Partners on the Booker Noe distillery RNG project in Kentucky. Kanadevia Inova is providing the overall technology, engineering, procurement, and construction of wet AD, Amine Biogas Upgrader system (BGU), and integrated process piping and controls for the facility, to convert spent stillage into renewable biomethane that will supply energy to the distillery. Our digesters will also produce a carbon-negative, fossil-fuel free byproduct that will be converted into fertilizer. Once the project is completed in 2024, the distillery will be 65% powered by RNG, and onsite GHG emissions will be reduced by 50%.



Kanadevia Inova's Kompostas® facility in San Luis Obispo

## Organics diversion – Kompostas®, San Luis Obispo

Kanadevia Inova built the Kompostas® plant in 2018 in San Luis Obispo under a finance, design, build, own, operate (FDBOO) model. The facility processes up to 36,500 short tons of source-separated organics and green waste as well as fats, oils, and greases from the SLO county's residential collection program. The Kompostas® thermophilic AD process ensures complete sanitation of the organic matter, while its gas potential is fully exploited. The resulting biogas is utilized in an on-site combined heat and power (CHP) unit to produce renewable energy that is supplied to the grid. The Kanadevia Inova KOM+Press separates the discharge into solid and liquid digestates, which are supplied as fertilizer to local agriculture. For odor control, all processing at the facility is enclosed within a negative air pressure building, and a biofilter cleans the collected waste air.

## About Kanadevia Inova

Founded in 1933 in Zurich as Von Roll Inova, and becoming part of the Kanadevia Corporation in 2010, the Kanadevia Inova Group is a Swiss-Japanese, global clean-tech leader in integrated resource recovery and circular economy solutions, including Waste to X and RNG. With locations in Knoxville, TN, San Luis Obispo, CA, and Montreal, Canada, Kanadevia North America is a leading supplier in the US of biogas processing plants and W2X technologies. We are a project developer, technology supplier, and engineering, procurement, and construction (EPC) provider, delivering complete turnkey plants and system solutions for thermal and biological waste recovery. The group's innovative, high quality solutions have been part of more than 600 projects worldwide.



# Kanadevia Inova's RNG technologies at a glance

## Kompogas® Dry Ad

The Kompogas® process treats organic waste in a horizontal plug-flow digester by means of continuous dry digestion in an anaerobic environment. Kept at a constant temperature of 55°C throughout the 14-day processing period, the degradable fraction in the organic waste is completely converted into biogas and the digestate is sanitized, with spores and bacteria eliminated.

## Wet AD

As part of the Kanadevia Inova Group, Kanadevia Inova Schmack has over 25 years of experience in constructing, maintaining, operating, and optimizing biogas plants, including turn-key construction, project development, permit planning, and commissioning plants. Kanadevia Inova Schmack's capabilities include gas upgrading technologies, solutions for producing renewable fuels and harnessing CO<sub>2</sub>, and power-to-gas solutions for producing gasses such as hydrogen and synthetic methane, with BiON® biological methanation technology. With comprehensive, tailored service packages, Kanadevia Inova Schmack enables operators in agriculture, municipal services, and power supply utilities to select the modules that best meet their requirements.

## Methanos® – booster for biogas plants

METHANOS® F<sup>3</sup> is a mixture of two different types of bacteria that occur naturally in biogas installations, albeit in only very small quantities. Injecting METHANOS® F<sup>3</sup> into the installation increases the concentration of these highly efficient bacteria, boosting the efficiency of the plant.

## KOM+PRESS

KOM+PRESS is a dewatering press for the separation of fermentation residues. With its precise technology it has low wear and tear, reducing operating costs. When servicing is required, swiveling sieve baskets allow for easy serviceability. In addition to its use in Kanadevia Inova AD plants, KOM+PRESS is suitable for retrofitting existing biogas installations.

## Biogas upgrading – including CO<sub>2</sub> liquefaction

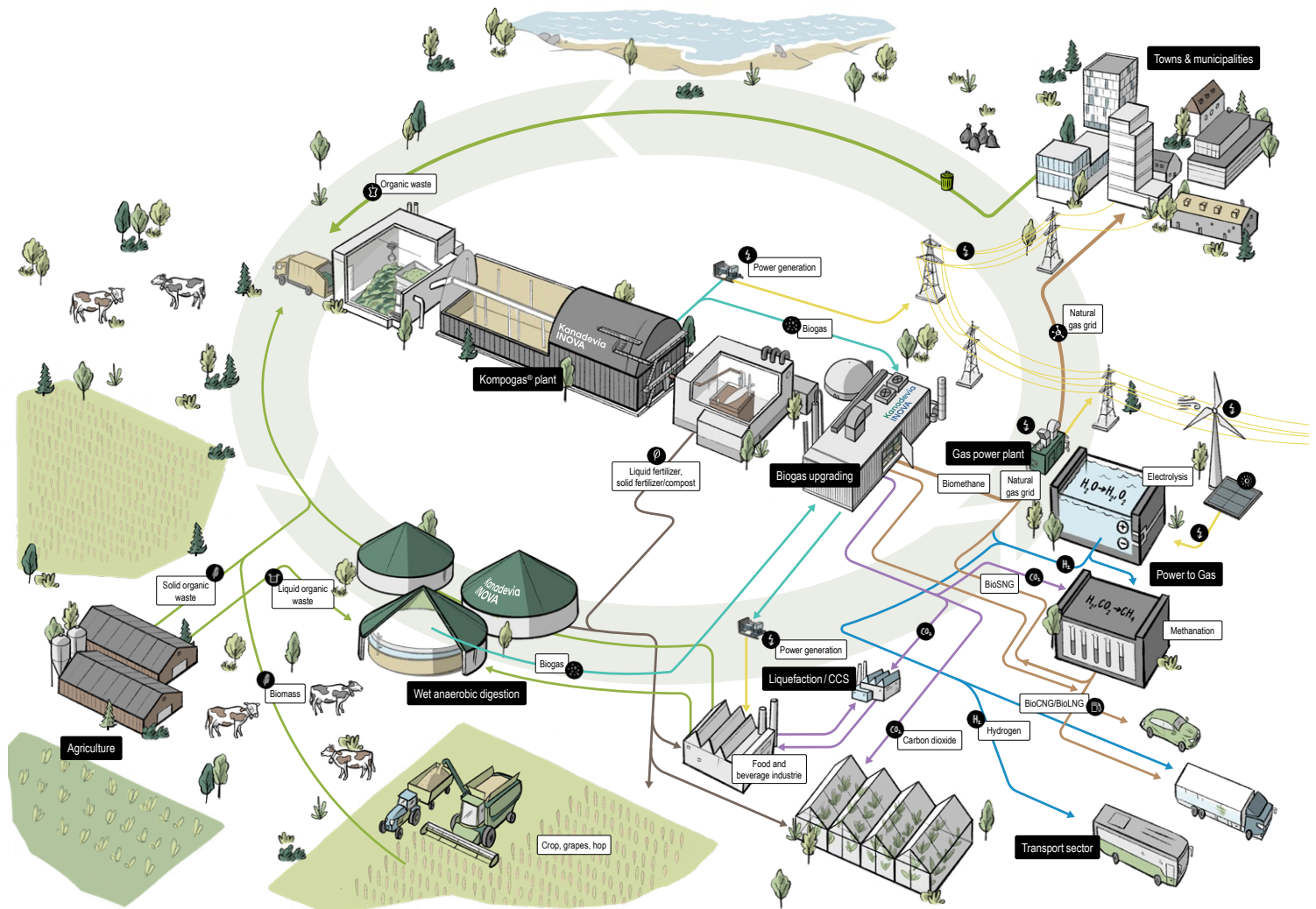
Kanadevia Inova's gas upgrading technologies treat biogenic raw gasses by cleaning them and separating out their carbon dioxide (CO<sub>2</sub>) content. This process produces biomethane and CO<sub>2</sub> gas for a wide variety of applications. Kanadevia Inova BioMethane technology can be connected downstream of the anaerobic digestion process. At this stage, it separates out carbon dioxide using a physical or thermal process to upgrade the raw biogas, produced to natural gas quality, and delivering highly pure biomethane. Combining the Kompogas® and upgrading technologies, Kanadevia Inova offers solutions covering the entire process from biowaste to biomethane – all from a single source.

## Power2Gas – making energy storable

Kanadevia Inova EtoGas develops and constructs turnkey power-to-gas (PtG) plants for producing synthetic gasses such as hydrogen and methane. PtG technology makes it possible to convert virtually unlimited amounts of power from unstable renewable sources into storable synthetic gas.



# RNG – integrated resource recovery



## Why our partners choose to work with us:

- Global leader in integrated RNG technology solutions
- Comprehensive industry-leading digestion and gas cleaning technology
- In-house engineering, procurement, and construction management capabilities
- In-house service, operations, and plant monitoring expertise
- Dedicated R & D – waste processing, RNG, hydrogen, carbon capture and utilization

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