



# EarthRenew<sup>®</sup>

**Power to Renew the Earth**

EarthRenew answers today's global waste and energy issues with environmental technology of tomorrow. Our commitment is to protect public health and the environment by developing clean energy technologies for the management of biosolids. We are committed to working with municipalities to provide solutions that meet their individual needs.

A background image of a city skyline at dusk or night, with buildings illuminated and their lights reflected in a body of water. A large, white, wavy graphic element is overlaid on the image, starting from the left and curving across the middle of the page.

# Municipal Biosolids



### Low Energy Costs & Price Stability

The WasteRenew technology provides a natural hedge against changing energy costs. Each unit generates approximately 25M kwh of electricity available for sale which offsets a significant portion of the natural gas costs to provide long term price stability.

### Lower Volume & Less Costs

The WasteRenew process creates a clean and environmentally friendly organic fertilizer product for use in agriculture, reclamation and turf. It's 10 times less in mass and volume than the original biosolids thus reducing labor and transportation costs while eliminating the need for land filling.

### Custom Solutions

The WasteRenew solution can be customized to meet the individual demands of each municipality. Each unit can be provided as an on-going service or as a turnkey solution.

### Health and Safety

Through the high temperature cooking process, pathogens, including Salmonella, E. coli, and Giardilla organisms are destroyed. These pathogens can cause food borne illness, a significant risk to



# EarthRenew MUNICIPAL BIOSOLIDS MANAGEMENT

## The WasteRenew™ Solution

In light of increasing regulations and public concern for commonly used biosolids management strategies, the need for environmentally and economically sound alternatives to traditional biosolids recycling methods is becoming increasingly evident.

Our solution provides municipalities with a sustainable option that allows for the co-existence with existing service providers and options and can process approximately 10,000-20,000 dry tonnes per year. As either a primary or complimentary service for the management of biosolids and lagoon capacity, EarthRenew provides municipalities with a cost-effective, no capital cost, and environmentally responsible disposal option.

This energy efficient and cost-effective solution is scalable, can be integrated into the current infrastructure, works with current waste disposal processes and is capable of keeping up with the growing needs of the municipality.

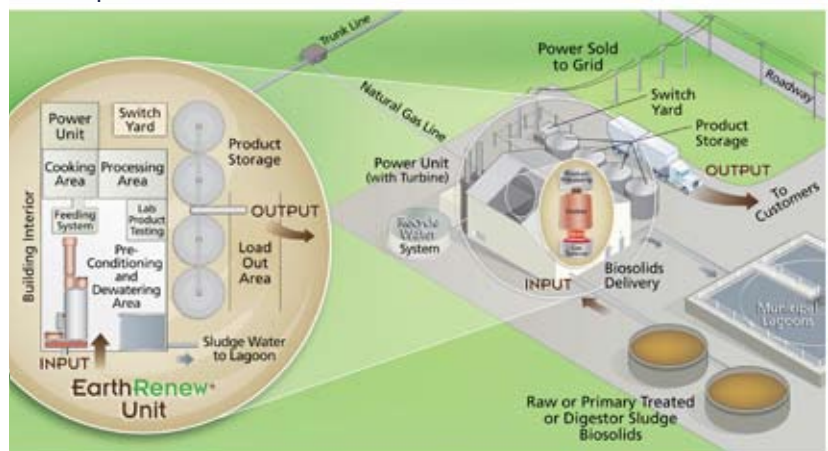
## Social Responsibility meets Technological Efficiency

Municipal biosolids, manure, and green wastes are managed in a highly energy efficient, state of the art facility which utilizes clean burning natural gas in a drying process while generating electricity for the local community.

Overall our processes utilize up to 85% of the energy in the fuel and 90% of the electricity generated is sold to the power grid, host, or other customers. Locally generated electricity results in less wasted energy and fewer emissions produced.

In our drying process, temperatures reach far higher than what composting or other drying processes could achieve. This "flash" vaporization instantly breaks down and destroys E. coli, Salmonella, pathogens, weed seeds, and even chemicals including pesticide and herbicide residues. The final Organic Matter Fertilizer™ product is formed into a dry, easy to use and safe to handle; pellet or granule.

## Municipal Biosolids EarthRenew Unit

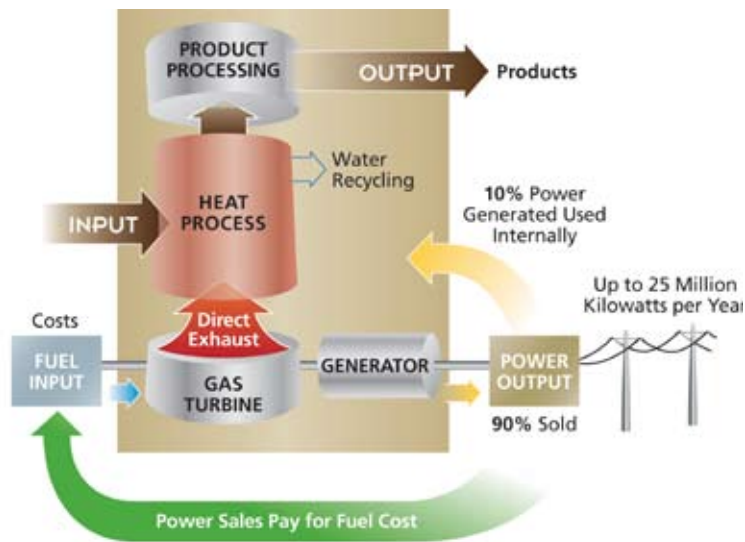


An overview of an integrated WasteRenew™ Unit at a municipal lagoon with processing, power and product storage components.

## The WasteRenew™ Process - Clean, Efficient and Reliable

1. Biosolids are taken as fresh as possible to prevent decomposition
2. A centrifuge de-waters the biosolids down to 70% moisture content.
3. De-watered biosolids automatically enter dryer unit
4. A natural gas turbine generates process heat and electricity
5. Process heat flash-dries the sludge cake, vaporizing the water
6. Vaporized water is condensed and/or used as low temperature heat source
7. The electricity is made available to the municipality
8. Exhausts are cleaned with scrubbers and/or odor control
9. Final biosolids are formed into organic fertilizer products

## WasteRenew™ Process Flow Diagram



## Sustainability

EarthRenew provides solutions for biosolids recycling that do not compromise economic viability for environmental sustainability. In an era of growing uncertainty, we give our customers the option of predictable pricing for the long term.



agricultural producers and a significant risk in the application of biosolids on land. Pharmaceuticals and other chemicals present in biosolids are also destroyed by the high heat, further reducing the public's human health risk.



## Environmental

Storage of biosolids in lagoons requires continual groundwater monitoring, and poses the risk of offsite contamination should the lagoons breach or overflow with rain or snow. Transportation also presents the risk of roadside spills, incidents, and odours, all leading to negative public perception.

The risk and liability associated with soil and groundwater contamination will be minimized using EarthRenew's technology resulting in a reduced footprint for your wastewater treatment operations.

## Emissions Reductions

Carbon emissions are reduced by taking the biosolids as fresh as possible reducing the release of greenhouse gasses and creates an organic matter rich fertilizer product which when used, naturally sequesters carbon back into soils.

Additional emissions reductions are achieved by reducing the number of trucks needed to transport and dispose the wastes, preventing landfill carbon emissions and displacement of less efficient power generators. The recycling of biosolids and reduction of emissions that results from implementation of our process will address the environmental concerns of the municipality and its citizens.

## Contact Us

EarthRenew sells waste solutions, owning and operating EarthRenew facilities.

If you would like to know more about us, please visit our website at [www.earthrenew.com](http://www.earthrenew.com)

Or give us a call at **1-877-457-7667**, we are always excited to talk about the company. You can also drop us an email at [info@earthrenew.com](mailto:info@earthrenew.com)

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### Strategic Alliances & Experience

EarthRenew has developed alliances with leading industry players including T.E. Ibberson Company which provides design engineering, procurement, component manufacturing and assembly, project management and installation; Wood Group (a joint venture of Rolls Royce PLC and John Wood Group PLC) which provides maintenance management and gas turbine overhaul. Our current alliances provide significant expertise and industry experience in their disciplines supporting us in the execution of our growth and human resource strategies.



**Rolls Wood Group**