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Biosolids Recycling

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For more information about the Biosolids Recycling Program, please send us an email message or contact us at:

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Resource Recovery
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Seattle, WA 98104
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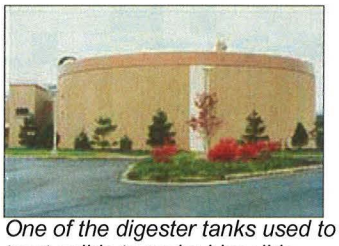
How biosolids are made

Biosolids are the organic product of the wastewater treatment process. When wastewater goes down the drain in the greater Seattle area, it eventually finds its way into one of our treatment plants. The main facilities are the West Point Treatment Plant near Discovery Park and the South Treatment Plant in Renton.

Wastewater is treated at these facilities to remove solids, then discharged to Puget Sound or used as reclaimed water. The solids recovered from the process of treating wastewater are collected and become the raw material for making biosolids.



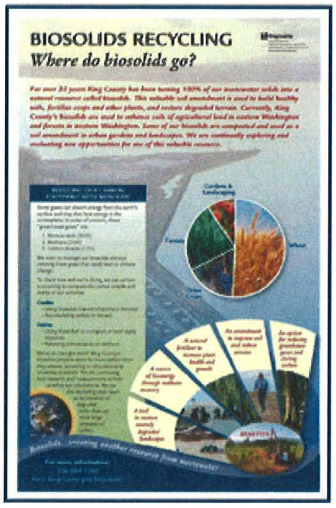
One of the digester tanks used to treat solids to make biosolids

The wastewater solids are pumped into large digester tanks. Under elevated temperatures and in the absence of oxygen, beneficial microbes (bacteria and other microscopic organisms) break down and consume a large portion of the solid material. A major product of this microbial activity is methane gas, the primary component of natural gas. This methane gas is recovered and used as a source of energy to help operate the treatment plant -- another way we turn a waste into a resource. The process of digestion kills off nearly all (around 90-95%) of the disease causing organisms that might have been present in the raw solids, and reduces the volume of solids. After several weeks of digestion, the solids are centrifuged in a process known as "dewatering." At this point, the biosolids product is a black-grey semisolid soil-like material.

Closeup view of dewatered biosolids

King County's treatment plants produce about 112,000 tons of dewatered biosolids each year. Biosolids are about 20-28% solid material by weight (the rest is still water). Biosolids contain high concentrations of organic carbon and other nutrients beneficial to soils and plant growth. The

Biosolids program poster



(1.6MB pdf)

Related information

Animation on how wastewater and biosolids are treated at South Plant Treatment Plant Process
National Biosolids Partnership

EXHIBIT K190

biosolids are loaded onto trucks at the wastewater treatment plant, and taken to one of our recycling locations.

Recycling biosolids

Biosolids are recycled by using them as a soil amendment and fertilizer. Our project sites include timber forests in eastern King County and agricultural fields in eastern Washington, where crops include wheat, hops, and even canola that will be processed into biodiesel fuel. A small percentage of King County's biosolids are used to make GroCo, a compost used to improve landscape and garden plantings or in restoration projects.

A tractor spreading King County biosolids on a wheat field in Douglas County, Washington.

In all cases, the biosolids ultimately find their way back into the soil to improve its physical properties and to provide nutrients such as nitrogen, phosphorus, potassium, sulfur, zinc that are needed by plants.

The biosolids management program is responsible for activities associated with recycling biosolids: transportation, land application, research, public information, monitoring, acquiring state and federal permits, market development and planning. King County has been partnering with various organizations and farm groups since 1973 to responsibly recycle its biosolids in ways that improve the soil and enhance plant growth. In that time we have gained extensive experience in safely and sustainably recycling biosolids, which is reflected in the awards and certifications the biosolids recycling program has received.

King County's biosolids program is a model for other communities throughout the nation, and our projects have won numerous awards for innovative and environmentally responsible biosolids recycling advancements. King County's biosolids program gained the certification of the National Biosolids Partnership for our biosolids Environmental Management System. In addition, King County has a long history of partnership with university scientists involved in the latest research on biosolids recycling and safety.

Find out more about King County's biosolids recycling program, including:

- Using biosolids compost (GroCo) to improve soils in your garden
- Current biosolids recycling projects
- Safety and regulation of biosolids

Updated: March 12, 2012

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