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Why Waste?

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Why waste? It's a question with an easy answer — throwing stuff out means wasted money, wasted resources, wasted time and wasted energy. Ditto to why we conserve. Most of us recognize that the less we toss, the more we save, and the more we reduce and reuse, the better off are our communities, not to



mention the planet. But inevitably, stuff still does wind up in the trash can, especially organic materials. How can parks and recreation areas not only promote more sustainable waste management but also reap the benefits — yes, BENEFITS — of turning organic waste into something more? And what in the world can rotten food do to sustain and advance environmental preservation? New distributed waste management technologies, like modular, scalable anaerobic digestion and compost systems, offer a way forward in promoting conservation at a local level while providing monetary and social benefits to the communities in which they operate.

Organic Waste 101

First, what is organic waste, and what exactly does anaerobic digestion and composting actually do?

Organic waste is any carbon-based material, but in particular, it means common stuff we throw out, like logs, grass, leaves, branches, banana peels, pizza crusts, egg shells and coffee grounds.

Anaerobic digestion describes a process by which microorganisms, living in an environment without oxygen, decompose organic waste. As a byproduct, these microorganisms burp out a gas called biogas, which is a mixture of methane (natural gas) and carbon dioxide. This biogas is a valuable and useful product that can be converted into electricity, heat, vehicle fuel or renewable natural gas.

Composting describes a similar process, but the microorganisms decomposing the organic waste live in an oxygen-rich environment, and they produce a nutrient-rich compost soil. This compost contains macro- and micronutrients that can be used by plants — Mother Nature's fertilizer. Compost also provides a great deal of benefits to soil and landscape health, promoting water retention and reducing runoff, improving drainage and rebuilding soil structure lost over time. Composting may happen after anaerobic digestion, or be implemented alone.

Distributed, small-scale anaerobic digestion and composting technologies promote and enhance these natural processes.

Wasting Away

National, state, county and community parks promote conservation through the protection of open space and natural landscapes and all the ecological services such environments provide. Each and every visitor benefits from the experience of entering such a space. But they leave something behind, and managing the impact of visitors is a major focus of recreation stewards.

Disposal costs and the environmental impacts of transporting waste are real issues faced by park managers every day. At the same time, urban park operators maintain many cultivated landscapes, from play fields to community gardens. This often requires the input of fertilizers, pesticides and other products to maintain these landscapes. Not only can these inputs be expensive, they often offer no benefit to, or can even hinder, the conservation of soils and water use.

Finally, many parks use energy for lighting facilities into the night, and heating and powering community centers, restrooms and other buildings. Power sources are often from fossil fuels and add more cost to budgets.

What Can Organic Waste Do for You?

Distributed energy systems and local waste management solutions like anaerobic digestion and modular composting can offset these negatives, while providing even greater benefits. Biogas may be used onsite for electricity, heat or even fuel for maintenance vehicles. Compost can serve as a great source of nutrients to landscapes and community gardens and promote excellent drainage in play fields. For areas being rehabilitated back to a natural state, compost can aid growth of natural vegetation while controlling erosion and runoff, and conserving topsoil, important nutrients and water. And of course, these useful products are made onsite from waste that would otherwise have to be trucked to distant disposal sites. Finally, waste management solutions located within the boundaries of parks offer an opportunity to impact visitor choices beyond their borders through signage and tours, school field trips and any other visitor engagement.

Get Started!

So then, really, why waste? Why waste an apple core that can power a building? Why throw away leaves and grass that can conserve and protect our natural environment? Why dump in a landfill a ham sandwich that could teach us all a thing or two about how we can each take part in the solution?

I can't think of a reason either. If you are interested in taking part, the first step is to understand your park or recreation area's needs:

Perform a waste audit. Sort out what your visitors leave behind to estimate what could be diverted to composting or anaerobic digestion. On average in the U.S., 2.2 pounds of organic waste per person is sent to the landfill every day.

Evaluate your site. In particular, urban park operators should get to know their neighbors and assess their space constraints. Some of the smallest anaerobic digestion and modular composting models can fit on 800 square feet.

Calculate your cost. Find out how much you spend on waste collection and disposal, fertilizers and other landscaping products, and energy. Avoided costs and new income streams can lead to a positive return on investment in five years.

Find your footing. In addition to promoting the central tenant of conservation, sustainable waste management can be leveraged for education, job creation, training and a host of other activities. What value-adds apply to you?

For more information, and to explore the possibilities at your park or recreation area, click [here](#).

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