

Mayor's BioEnergy Roundtable Summary Report

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Department of Innovation and Performance





City of Pittsburgh

Innovation & Performance

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Carnegie Mellon

THE HEINZ ENDOWMENTS
HOWARD HEINZ ENDOWMENT • VERA L. HEINZ ENDOWMENT



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Mayor's BioEnergy Roundtable Summary Report

1) Purpose

The purpose of the Mayor's BioEnergy Roundtable is to provide a space to begin the conversation about fostering BioEnergy in Pittsburgh by convening industry sector leaders from around the country and our local expertise.

2) Event Description

The Mayor's BioEnergy Roundtable is the sixth in a series of innovation-based discussions allowing the City to hear from business leaders and civic leaders, academics and government officials on the topic of BioEnergy potential in Pittsburgh. The event was held on November 7th, 2014 and was filmed for later broadcast on the City of Pittsburgh Cable Channel. The Roundtable will be broadcast starting the week of November 24, 2014 and can be viewed on the City's YouTube Channel.¹



a) Introduction

- The hour and a half discussion started with introductions and welcomes. The City's Sustainability Manager, Grant Ervin, welcomed everyone and introduced Mayor Peduto as the first speaker. The Mayor spoke about the desire to study what we're doing in terms of waste and study it from three critical points: **effectiveness, efficiency, and equity.** The Mayor asked, "Are we using the resources in a manner that is harnessing the best and most from it and is it being done equally in the neighborhoods?" In addition asked, "Is there a more efficient way to recycle?" And asked about the "latest technologies" which would allow the City to profit off its waste.

"What are the latest technologies that would allow us to capitalize off our waste?"
--Mayor Peduto

¹ City of Pittsburgh YouTube Channel link: <http://www.youtube.com/watch?v=wxY4QQEZNzk>

b) Speakers and topics covered

- Dustin DePanfilis: [Rehrig Pacific's Environmental Business Group](#), Senior Director of Business Development
 - Benefits of curbside containers and innovation in the waste management sector.
- Jay Darr: [SDL Citadel](#), President
 - Small scale application of waste to energy systems and compact energy from waste systems.
- Mel Kurtz: [Quasar Energy](#), President
 - Waste to energy technology and leadership in creating and fostering partnerships.
- Bjorgvin Saevarsson: [Ecala Group](#), Co-Founder and CEO
 - Applied neighborhood opportunities and details on the closed-loop system.

c) Roundtable discussion topics

After the presentations the Roundtable discussion opened with Grant Ervin facilitating the conversation. Topics for discussion included:

- Collection and transport
- Economic development and community benefits
- Opportunities for the City



4) Roundtable Attendees

- a) A wide variety of attendees were invited to participate in the Roundtable to discuss bioenergy and its potential in Pittsburgh.
- b) The input from the attendees will:

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- Serve as a platform for fostering collaboration between the City, local partners, and national leaders in BioEnergy development.
- Start the conversation about methods, potential, and process in rethinking the waste cycle to be more efficient.
- Develop ideas about how to build on the City's assets and turn it into a national leader in this sector.

c) List of attendees by name and organization:

- Nina Baird, Carnegie Mellon University, Assistant Professor
- Molly Brennan, Carnegie Mellon University, Heinz College Graduate Student
- Christov Churchwold, Ecala
- Renato Contipelli, Quasar Energy, Regional Director
- Jay Darr, SDL Citadel, President
- Dustin DePanfilis, Rehrig Pacific Business Development, Senior Director
- Scott Dellinger, Waste Management, Recycling & Diversion Manager
- Patty DeMarco, Carnegie Mellon, Researcher
- Willie Dillon, SDL Citadel, VP Business Continuity
- Grant Ervin, City of Pittsburgh, Sustainability Manager
- Claire Goodwin, City of Pittsburgh, Innovation and Performance Intern
- Lee Haller, City of Pittsburgh, Public Works
- Volker Hartkopf, Carnegie Mellon University, Center for Building Performance
- Kathy Hrabowski, Allegheny County Sustainability Manager
- Chris Hubbard, HUBER Technologies, President
- Doug Jackson, ALCOSAN, Director of Operations and Maintenance
- Phil Johnson, Heinz Endowments, Program Officer
- Bill Klimovich, City of Pittsburgh, Public Works
- Mel Kurtz, Quasar Energy, President
- Lisa McKnight, Waste Management, Regional Director
- Jerry Paytas, VP Research, Fourth Economy
- William Peduto, City of Pittsburgh, Mayor
- Bjorgvin Saeverson, Ecala
- Justin Stockdale, Pennsylvania Resources Council
- Eric White, URA of Pittsburgh, Business Development Executive
- Sean Wigle, City of Pittsburgh, Public Works

5) Conversation

a) How have we been able to increase recycling in the City?

Bill Klimovich from Public Works started the conversation off by giving the audience some background on the process of refuse collection. There are 34 refuse routes in Pittsburgh and they also service Wilkensburg. The current recycling system is the "blue bag system." He says that the City "**handles 400 tons of refuse a day.**"

Sean Wigle from Public Works reminded participants that the City has been recycling for many years. In 2008 the system changed to a single stream system which doubled the tonnage.

Dustin spoke about the **curbside opportunity** of collection and opportunities for **“collection efficiency.”** He explained that there are different vehicles which will allow more efficiency but will depend on geographic area.

Thomas Voigt said education was key and is where the City should start. He says that we should teach our kids that there is money to be made from refuse. **“It’s not waste, it’s treasure.”**

“It’s not waste, it’s treasure.”
–Thomas Voigt

Justin Stockdale, said that **“waste is a resource”** and it doesn’t belong in the trash. Recycling presents many opportunities for being re-used. He added that this is a great opportunity for Pittsburgh to take leadership on.

Volker Hartkopf from Carnegie Mellon University, said buildings are extraordinarily important. Currently we don’t consider the waste being produced from construction but some companies

are starting to look closer at where these materials end up. Pittsburgh has the opportunity to be a **“living laboratory City”** for these waste to energy systems.

Patricia DeMarco from Carnegie Mellon University said you must start at the source of trash. The useful life of a plastic bag is 12 minutes whereas the time it spends in a landfill is 100 years. We should create a reusable **“Pittsburgh bag”** to enhance awareness and **brand sustainable practices.**

b) Collection and Transport

Grant asked, “What improvements can be made to the collection process and transport?”

Scott Dellinger from Waste Management spoke about the frustration around the source packaging on the market. We should start paying more attention to this.

We should not be making things just to throw them away.
–Patricia DeMarco

Lisa McKnight from Waste Management said that the bag system for recycling poses a problem for the facilities. **A pilot “cart” program could go a very long way in the City.**

Mike Mihuc from OSIsoft spoke about “digesters” and the importance of not only cleaning the source inflow from storm water but having a system that can slow down the flow.

Chris Hubbard from HUBER Technologies said that there is a billion dollar waste stream that is collected and processed everyday: **heat energy in waste water.**

c) Economic Development

Bjorgvin Saevarsson of the Ecala Group said **“the closed-loop system is economic resilience.”**

Renato Contipelli from Quasar Energy then spoke about the Water Environment Federation and their efforts at educating the public about waste to energy processes. “Waste water facilities now are really water recovery resource facilities. Instead of expending energy to process the waste, **you can now create energy from that waste at a lower cost** and having a cleaner waste on the end to be used for fertilizer which helps sustainability.”

Mel Kurtz from Quasar Energy reported that **3% of all total electric power consumption comes from waste water treatment plants.** To produce bio-gas and bio-methane, it would total 12% of the total electric consumption in the US. **“People do what you inspect, not what you expect.”** He ended by stating, **“It’s our responsibility to create programs that make the public more cognizant.”**

Doug Jackson from ALCOSAN, reports that the plant **processes on average 200 million gallons of waste water a day.** They **remove 110,000-115,000 tons of pollutants from the waste stream annually:** plastic bottles, leaves, and other garbage. 1,500-1,600 tons of grit such as rocks cleaned from the stream. 110,000 tons of human waste removed, half is combusted and turned into ash. Ash can be reused as solidification agents and mixtures for brick and mortar. They are evaluating additional disposal options for the City’s biomass.



“It’s our responsibility to create programs that make the public more cognizant.”
--Mel Kurtz

d) Opportunities for the City

Vulker Hartkopf called on all participants to view Carnegie Mellon’s plan for its campus extension and asked that attendees use their influence with the university’s president to promote BioEnergy systems.

Patricia DeMarco followed by proposing that a pilot program take place in a food dessert community.

Scott Dellinger said that his trash, as Waste Management’s Recycling and Diversion Manager, is the blue bags. The **plastic blue bags are difficult to control in the landfills.** The paper that comes from residential recycling is exported for revenue to foreign markets. Most other recyclables are locally recovered. He says there is a desire for **recoverable packaging.** It has become difficult to produce better quality recoverable recyclables to export.

Jay Darr from SDL Citadel said that waste to energy systems can be moved around to create efficiencies where they are needed most.

Mel Kurtz from Quasar Energy talked about transportation costs. **Federal government subsidies encourage them** to expand the use of clean fuels and build more facilities. Their fleet operates on CNG and has helped them stay competitive.

Jay Darr from SDL Citadel continued that the **off-takes are financially and environmentally attractive.**

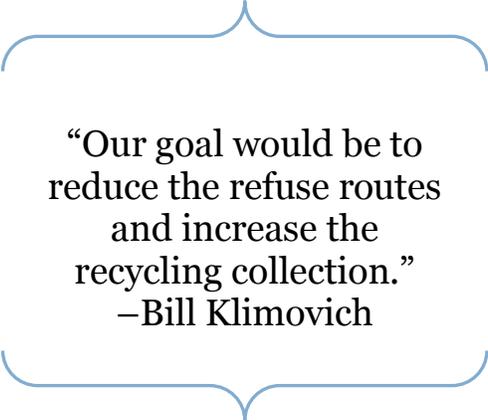
Dustin DePanfilis from Rehrig Pacific followed by stating the importance of providing education about what can be recycled and what should not be included to be recoverable.

Bill Klimovich from Public Works says that **“we would love to get to a once a week recycling program.”** He says that **the more convenient you make it for people, the more they are going to recycle.** The real struggle is a capital one. **“Our goal would be to reduce the refuse routes and increase the recycling collection.”**

By decreasing the tonnage of refuse simultaneously decreases other challenges such as transportation.

Lisa McKnight from Waste Management says that **switching to a cart system will create more benefits than switching to weekly recycling pick-up.**

Dustin DePanfilis from Rehrig Pacific finished up by speaking about the size of the container and how it can be used to control the amount of waste being disposed.



“Our goal would be to reduce the refuse routes and increase the recycling collection.”
–Bill Klimovich

Grant Ervin ended the discussion by thanking everyone for attending and summarized the main points from the discussion. **“We learned a lot today,”** he said. “We learned about the opportunities to enhance our collection systems, opportunities to integrate new fuel options in our fleets, the possibilities for pilot locations, and the new opportunities on how we can leverage capital to develop new waste to energy systems.”

6) Recommendations

The BioEnergy Roundtable produced several good ideas with potential for exploration:

- There is money to be made in recycling and the City should consider the best way to transition to a more efficient recycling system in order to reap the financial benefits of recovery.
- Curbside recycling could be improved by switching from the bag system to the cart system.
- A pilot cart program should be considered to begin.
- There is a need to get the public more involved through education of waste to energy and recoverable recycling.
- Source materials that are non-recyclable should be addressed.
- New fuel options should be considered for company and municipality fleets.
- Capital funding options for waste to energy systems are available.

This roundtable was part of the larger conversation between the City and other centers of innovation. Throughout the summer of 2014 to today, the Innovation and Performance Department and the Mayor have met with organizations representing the Maker's Movement, Clean Technology, Co-working/Accelerator Spaces, Startups and Entrepreneurship, and Venture Capital. These conversations have helped shape the future vision of the City with regards to innovation and will be presented in the Innovation Roadmap in 2015.