



Coming Full Circle with Sustainability:

A Workshop on Building a Circular Economy in the DMV Region

Janine Finnell Executive Director Leaders in Energy

University of the District of Columbia September 28, 2017



Leaders in Energy Key Areas of Focus



Goal of Our Circular Economy Workshop Today

- 1) Learn: CE principles, examples, and from the sectors agriculture, advanced manufacturing, eco-industrial parks, and local business and regional economy
- 2) Identify: circular economy opportunities in our work, personal life, and community
- **3) Identify:** enabling factors to accelerate and scale these opportunities in the DMV region
- 4) Lead: Incorporate opportunities into Action Framework that Leaders in Energy will utilize to bring in other leaders in the region to help us move in this direction

Thanks to Our Partners and Sponsors



Clean Energy Leader:



Environmental Leaders: Coffeffe and FilmBison Media



Thank You to Our Event Volunteers

Madhav Achary Amanda Claypool Peter Costolanski John Craig Leo Duran Barbara Englehart Dave Feldman John Gaffigan Mariah Gaffigan Andrey Golumbovsky Candice Guillaudeu Travis High Silvia Lucero Taylor Maher Molly Medlin Beth Offenbacker Jim Schulman Xavier Vergara



Thank you to Our Attendees for Supporting Our Events



Save the Date

- October 19th Improving Resilience Through Microgrids and Battery Storage, Edison Electric Institute, Washington DC
- December 1st 4th annual Four Generations in Clean Energy and Sustainable Solutions Holiday and Awards Event, Crystal City, VA

Presenters – CE Principles and Examples



Barbara Englehart, Principal, Englehart Consulting and Leaders in Energy, Board Member



Janine Finnell, Executive Director, Leaders in Energy





Coming Full Circle with Sustainability:

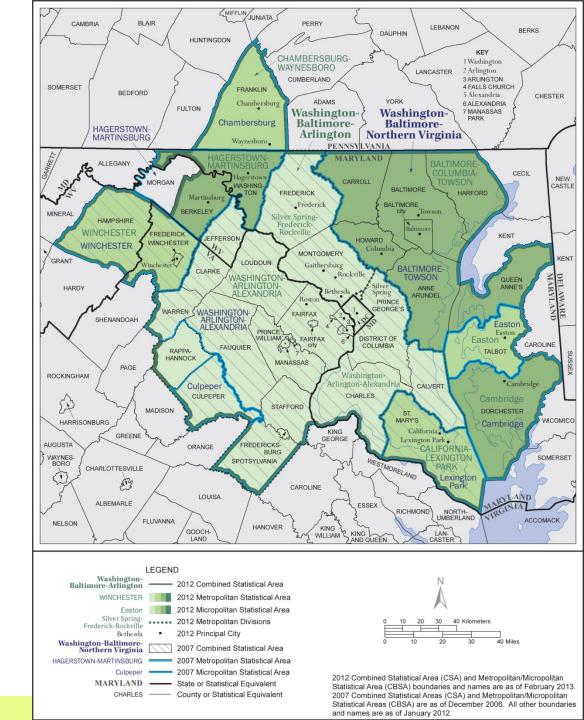
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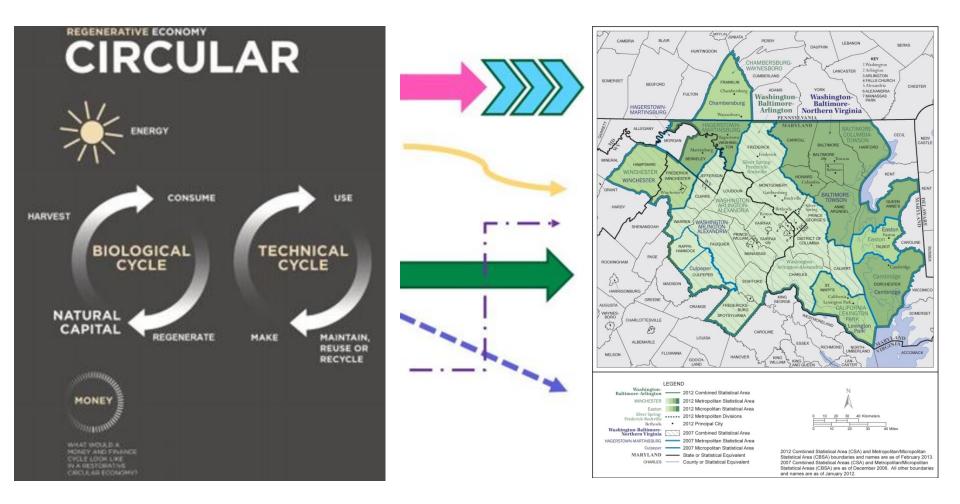
Circular Economy September 28, 2017



Washington DC, **Baltimore MD**, **Northern VA** (DMV) How Can We Build **A Circular Economy in Our Region?**



Who's "Doing" the Circular Economy & Can We Apply That Know-How Here?



Examples: Companies



Examples of Enterprises Utilizing Circular Economy Business Models











Both Herman Miller and Steelcase have committed to powering all operations with 100% renewable energy, and they are implementing Cradle to Cradle* strategies to achieve it.



Waste as a Resource - Optoro



- In the U.S. alone, customers return approximately 3.5 billion products back to the point of sale each year, of which only 20% are actually defective.
- Optoro using digital platforms to resell returned and excess merchandise by creating secondary markets and reduce retail waste. Partnering with Groupon and others.
- Metrics:
- Reduce waste by up to 73%
- Cut fuel costs by \$850M
- Lower CO2 emissions by 2+ million metric tons

Sustainable Office Furniture - Herman Miller and Steelcase (Design for Disassembly)







- Steelcase Think Chair can be taken apart in about 5 minutes using common hand tools.
- 95% recyclable and all parts that weigh more than 1 ounce are labeled for easy identification of their component materials.
- The chair is cradle-tocradle certified by <u>MBDC</u> which evaluates a product's environmental impact throughout its lifecycle.

Source: Understanding Industrial Design, Simon King and Kuen Chang

Sells Repair Parts - Ifixit (Repair Café model)



Exercise Your Right to Repair

iFixit is a global community of people helping each other repair stuff. Let's fix the world, one device at a time.

Why Repair?

26,419 FREE MANUALS

102,043 SOLUTIONS



Biobased Packaging - Ecovative Design Ecodesign/Waste as a Resource)



Packaging made from mushrooms, called "MycoFoam," which is a renewable biomaterial made by New York– based <u>Ecovative Design</u>.

This is an sustainable alternative to toxic petrochemicals that are found in many plastics and insulations—and in traditional surfboards.

Examples of the Circular Economy in Action in the DMV Region







Examples: Cities



Examples of Circular Cities and Regions



Reimagine Phoenix 🌘 **Transforming Trash Into Resources**



The Circle City Scan Method



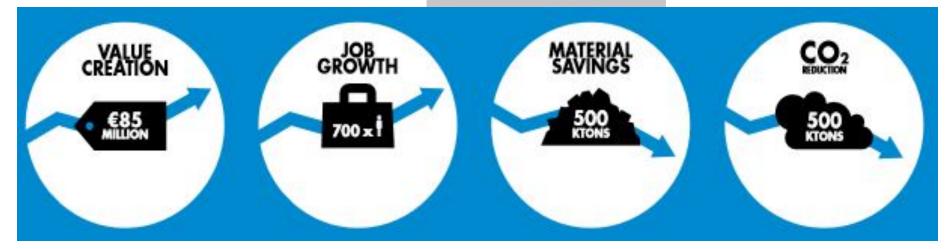
Conduct a spatial analysis to identify clusters of key players within each sector and their locations within the city. Helps give clearer understanding of:

- The best locations for the implementation of circular innovations
- The opportunities of local cooperation and sharing of resources
- The potential for scaling up pilot projects in the future

Amsterdam: Numerous Circular Economy Benefits in Construction Supply Chain





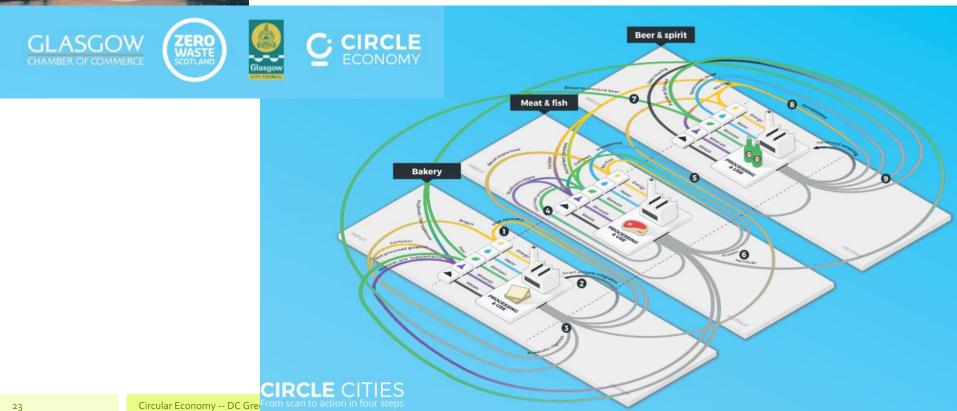


Glasgow: Identified Circular Economy Opportunitie in the Food and Beverage Sector



Identified nine circular strategies in food and beverage sector and will implement four of them:

- Heat recovery
- Bread to beer
- Aquaponics
- High value cascading



Phoenix: Waste Diversion and Innovation



- Reimagine Phoenix: City initiative to increase waste diversion rate to 40 percent by 2020 and to better manage its solid waste resources.
- <u>Resource Innovation and Solutions Network (RISN)</u> A network focused on creating value and economic development opportunities from solid waste streams.
- <u>RISN Headquarters and Technology Solutions</u> <u>Incubator</u> - Houses a business incubator for startup/emerging technologies and manufacturing processes.



Source: <u>https://www.phoenix.gov/publicworkssite/Pages/resource-innovations.aspx</u>



Nord-Pas de Calais Regional Plan



Nord-Pas de Calais Third Industrial Revolution Master Plan – 2013



The region in France has committed to a number of circular economy principles, such as energy efficient networks, recycling and sustainable innovation.

- Regional Innovation Strategy
- Nord-Pas de Calais: Third Industrial Revolution Master Plan 2013
- Their aim is to make the regional economy one of the most resource-efficient, productive, and sustainable in the world.

Read more: <u>http://bit.ly/2cWJ5vd</u>



Working to Accelerate Circular Opportunities in Our Metro Region

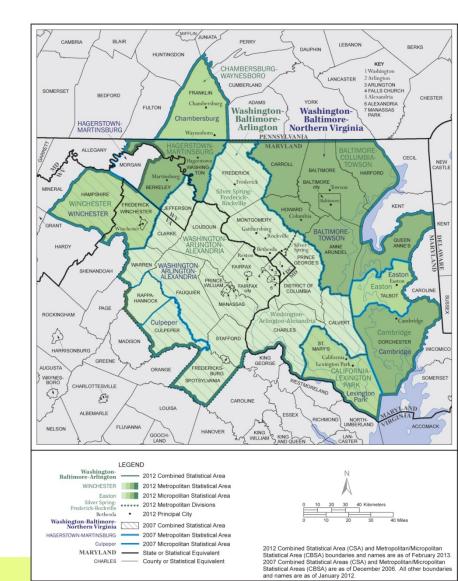


Working to Realize a Vision of a Circular Economy in the DMV

Ultimate question -How do we scale the **?** CE in our region

- The "Regenerative Rs" approach
- Identifying circular opportunities
- Enabling factors
- Visioning/Analytical Tools
- All stakeholders working together (public and private)

Source: Adapted from Association of Cites for Sustainable Resource Management (ACR+)



Enabling Factors to Scale and Accelerate the Circular Economy

	Enabling Factors Toolkit	Examples
	Education, Information, and Awareness	Public communication and info campaigns; integration of circular economy/systems thinking into school and university curricula; R&D programs in the files of material sciences and biosystems; materials marketplaces
	Collaboration Platforms	Public-private partnerships; voluntary industry collaboration platforms
	Business Support Mechanisms	Technical support, advisory, training and demonstration of best practices to business
	Public Procurement & Infrastructure	Various counties in region have green procurement programs
NOTICE OUR GROUNDS ARE A SMOXE FREE ZONE	Regulatory Platforms	Waste regulations, e.g., Zero Waste Arlington goals of waste diversion to at least 90% by 2028
	Fiscal Frameworks	Initiatives underway in Europe for favorable tax treatment for repair shops, etc.
	Municipal and Regional Programs	Municipal programs in health, safety, and disposal

Source: Adapted from Delivering the Circular Economy – A Toolkit for Policymakers _ Selection of Key Exhibits

Organizations Working to Create the Circular Economy in the DMV Region and U.S.







- **Leaders in Energy** Circular Economy Workshop and Events
- **Chamber of Commerce Foundation** Circular Economy Conferences in DC
- Alliance for Regional Cooperation



Leaders

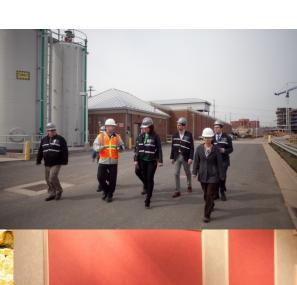
Alliance for Regional Cooperation





May 24, 2016 6 - 8:30 pm Crystal Gateway Condomium 1300 Crystal Drive Arlington, VA 22202

Register at: www.lercpa.org



Thank You & My Contact Information



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Sector Presenters



Kamran Zendehdel, Ph.D., Assistant Director, Center for Sustainable Development, College of Agriculture, Urban Sustainability and Environmental Sciences (CAUSES), University of District of Columbia



Peter Lowitt, Director/Land Use Administrator for the Devens Enterprise Commission



David Woessner, General Manager, Local Motors, Inc.



Jim Schulman, Executive Manager of the Alliance for Regional Cooperation

Circular Economy Workshop Facilitator



Beth Offenbacker, PhD HR Consultant and Coach

Waterford, Inc.

Workshop Format and Timing

7:00 pm –	Beth	•	Kickoff of
7:05 pm	Offenbacker,		workshop –
	Introduction		form small
	of Workshop		groups
7:05 pm –	Workshop	•	Sharing and
8:25			interaction
			from small
			groups to
			contribute to
			Action
			Framework
8:25 pm –	Wrap-up and		
8:30 pm	Adjourn		

Sustainable Manufacturing Building a Circular Economy in the Washington DC/Baltimore MD/Northern Virginia Region



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