



DC BIOFUELS, LLC

**Bringing 21st Century Biofuel Technology
to the National Capital Region
An Urban Sustainability Model**

Christine McCoy, Director of Feedstock Sustainability

DC Biofuels (DCB) Management Team

- **Wendell Jenkins, President & CEO** is a co-founder of DC BIOFUELS and brings a creative, practical, hands-on and experience-based perspective to the application of sales strategy and organizational process, coupled with an unparalleled enthusiasm for working with and developing new and growing organizations.
- **James Peeples Senior Vice President** is an international biofuels "sector expert" and has been an active participant in the development of the expanding U.S. renewable fuels industry since 1983. Mr. Peeples has been instrumental in the drafting of federal and state biofuels legislation, and is an authority on the interpretation of laws and regulations governing the commercialization of alternative and cleaner burning transportation and engine fuels.
- **Boris Maslov, PhD. Plant Operations & Construction** is the founder of EnergyOne and brings with him a unique perspective on business development, finance, entrepreneurship, technology, and renewable energy. Being a business and project owner, project developer, investment professional, and technology expert gives him a rare ability to balance the various complex aspects of each project.
- **Christine McCoy, Director of Feedstock Sustainability**. Ms. McCoy is an expert in waste prevention, reuse, recycling, composting, energy-from-waste, and landfilling practices. Christine worked for Covanta Energy Corporation, the City of Alexandria, the Rural Community Assistance Partnership, American Forest & Paper Association, and the National Recycling Coalition. Christine was a Peace Corps volunteer in the Commonwealth of Dominica in the West Indies and she wrote her master's thesis on *Sustainable Solid Waste Management on Small Islands of the Caribbean*.

The DCB Concept

- Recycle used animal fats, vegetable oils, & greases (FOGs) from urban waste streams
- Produce “clean & green” biofuel for centrally-fueled public and private fleets
- Blend, supply and distribute biodiesel **locally**
- Create new economic activity & employment

The DCB Concept

- The DCB state-of-the-art production facility will process multiple FOG feedstocks, including waste vegetable oils (WVO), yellow grease, and brown grease, producing high-quality biodiesel (ASTM D 6751) and will be BQ9000 certified.
- The facility will blend biodiesel with Ultra Low Sulfur Diesel (ULSD) that meets ASTM D 975 specifications based upon a customer's requirements.
- The primary blend will be B20 (20vol% biodiesel + 80vol% ULSD)
- Will be able to provide various biodiesel blends ("Bxx")
- The finished blend will be treated with NOx-reducing & other performance-enhancing additives.

Benefits to the National Capitol Region (NCR)

- Cleaner air & cost-effective GHG reductions
- Price certainty in a volatile petroleum market
- Reliable, local producer & fuel supplier
- “Cleanest & Greenest” B20 available
- Creation of local green jobs
- Will put NCR on the map as a leader in renewable energy

Additional Benefits

- Clean, renewable supplement for standard home heating oil
- Glycerin co-product of biodiesel production can be used in wastewater treatment
- Does not compete with food supply
- Considered an “Advanced Renewable Fuel” under EPA’s RFS-2 standard
- A cost-effective alternative fuel vehicle compliance strategy
- An easy drop-in fleet fuel solution

Advantages of Urban Biodiesel Model

- Restaurants, cafeterias, residents, institutions and wastewater treatment facilities within the NCR produce more than 32 million gals of FOGs/year.
- Reduced transportation & supply chain costs
- “Homegrown” source of green energy
- No competition for local production of biofuels
- Close to substantial feedstock supply and large fleet customers

DC Government Supporters

Eleanor Holmes Norton Congresswoman

Victor Hoskins Deputy Mayor, Executive Office of Mayor Vincent Gray

Christophe A.G. Tulou Director, District Department of Environment

Harry Thomas Jr. Councilmember

Kwame Brown Councilmember-Chairman of City Council

Michael A. Brown Councilmember

Marion Barry Councilmember

Mary Cheh Councilmember-Chairman of Department of Real Estate Services Oversight

Jim Graham Councilmember

Tommy Wells Councilmember-Chairman of Department of Public Works Oversight

George Nichols Principal Environmental Planner, Metropolitan Washington Council of Governments

Ron Flowers Executive Director, Greater Washington Region Clean Cities Coalition

Brendan Shane Director, Office of Policy and Sustainability, District Department of Environment

Harriet Tregoning Director, Office of Planning , Office of Deputy Mayor of Planning & Economic Development

Neil Albert Former City Administrator, Executive Office of Mayor Adrian Fenty

Valerie Santos Former Deputy Mayor, Executive Office of Mayor Adrian Fenty

DCB Strategic Partners

- Well established relationships with waste haulers and recyclers
- Established relationships with local BIDs (business improvement districts)
- Working with individual restaurants, the restaurant associations, institutions, and government agencies



DC Biofuels Team & Strategic Partners

- DCB is a DC-based biofuels development and management company directed by leading biofuels industry experts.
- Strategic Partners:
 - State-of-the-art process technology & construction engineering: EnergyOne, LLC (www.energyone.com), Heffner & Weber (www.heffnerandweber.com), Alfa-Laval/Ageratec.
 - DC-based feedstock collection partners: Urban Service Systems Corp. (www.urbanssc.com) and others including Griffin Industries.
 - CARB- & TCEQ-verified B20 NOx emissions reduction additive provided by Oryxe (www.oryxe.com).
 - Fuel distribution: Quarles Petroleum, Inc. (www.quarlesinc.com).

Letters of Interest, Commitments & Support for Demonstration Testing

- District of Columbia Public School's Division of Transportation (DCPS DOT)
- Washington Metropolitan Area Transit Authority (WMATA)
- District of Columbia Department of Public Works (DPW)
- District of Columbia Water and Sewer Authority (WASA)
- Downtown DC Business Improvement District
- Prince George's County, MD
- Metropolitan Washing Council of Governments
- Greater Washington Region Clean Cities Coalition
- Reverb
- Quarles Petroleum (Strategic Partner)
- Paterson Environmental Holdings

NCR Market for Biofuels

It is estimated that NCR Local Government Fleets use more than **20 Million gals/year**, some of these sources include the following:

- 1,514 WMATA transit buses > 11m gals/year
- 2,300 other diesel-powered vehicles (DC DPW)
- 6,000 vehicles operated by DC alone (2008)
- 700 D.C. school buses (41,000 miles/day)

DCB FOG Collection & Supply Strategy

- DCB will initially collect FOGs and store at a secure, but temporary location while the facility is being built
- DCB will contract directly with restaurants and other entities, but will contract with third-party haulers to service its client accounts and ensure they are providing high-quality customer service
- DCB will work with local restaurant associations, chambers of commerce, BIDs, regional environmental groups, government agencies and others to promote local recovery of FOGs for conversion into biodiesel



DCB Biodiesel Production

- DCB will produce biodiesel within DC City limits and very close potential fleet vehicle customers
- DCB will initially will be processing 4.3 million gallons of FOGs, resulting in approximately 21.5 million gallons of B20 and/or other blends
- DCB will strictly adhere to ASTM D 6751 specifications and BQ-9000 QA/QC requirements



Aerial View of DCB's, NE Facility Location



< CSX rail line/siding

< DCB plant site

< DC school bus fleet depot

Pilot Projects & Biofuel Sales

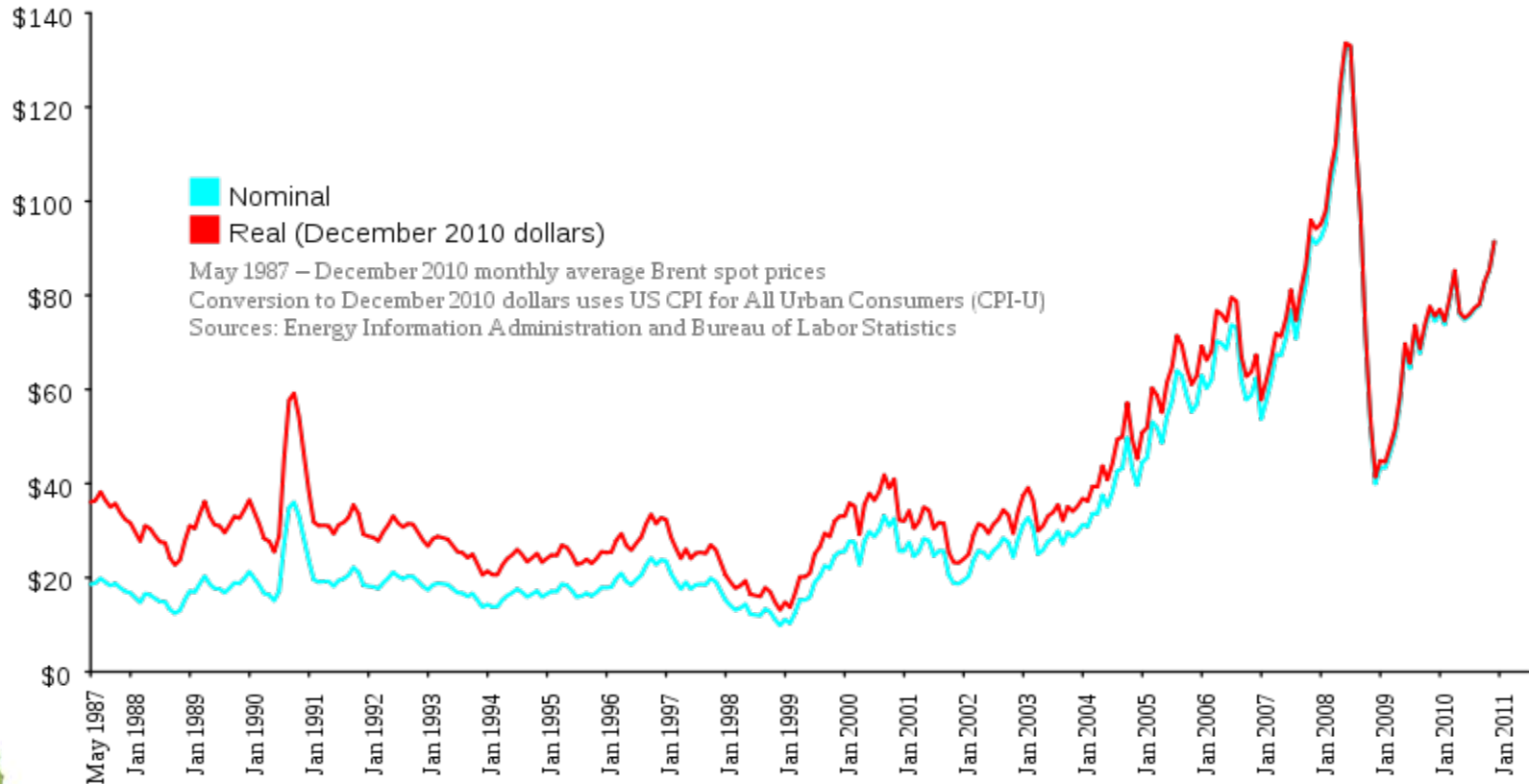
- While the facility is being built, DCB will be carrying out fleet vehicle fueling pilot projects with local jurisdictions
- DCB will blend and distribute biodiesel products within the local community.



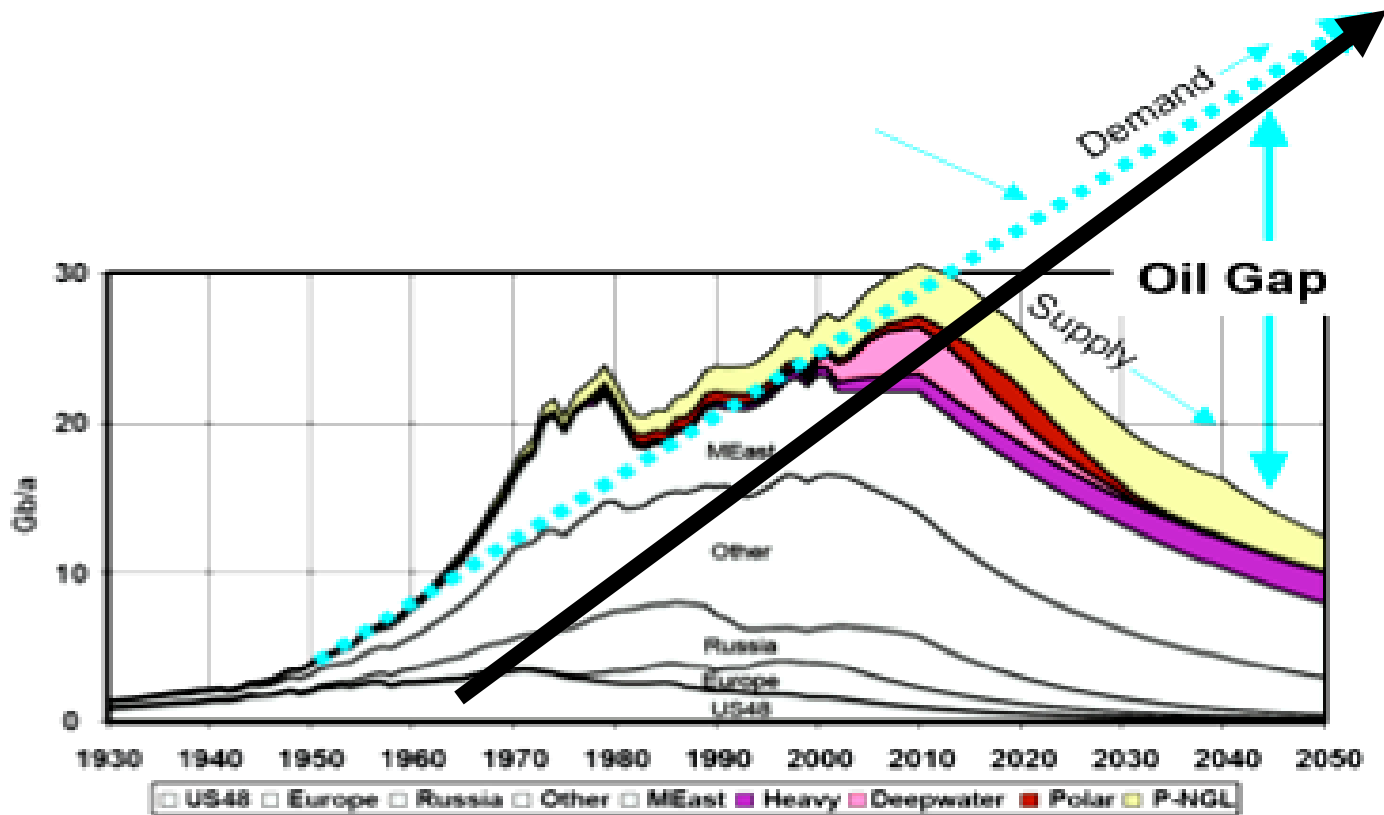
Reality Check - 2011

- National Capital Region has persistent air quality problems
- The cost of large fleet operations continues to increase
- Regulatory compliance challenges (EPA CT)
- Growing dependence on fossil fuels
- Unemployment with few green jobs

Global Crude Oil Prices: 1987 - 2010



The Global Oil Gap



Base graph from C. J. Campbell and Anders Sverdrup, "Updating the Oil Depletion Model", 2005

NCR & Air Pollution

- NCR Remains in nonattainment of U.S. Ambient Ozone (Moderate – 8 hr., Severe – 1 hr.) and for PM2.5 Standards.
- Children Are Most Affected by PM2.5 and Ozone Exposure - Asthma is Epidemic in Inner Cities.

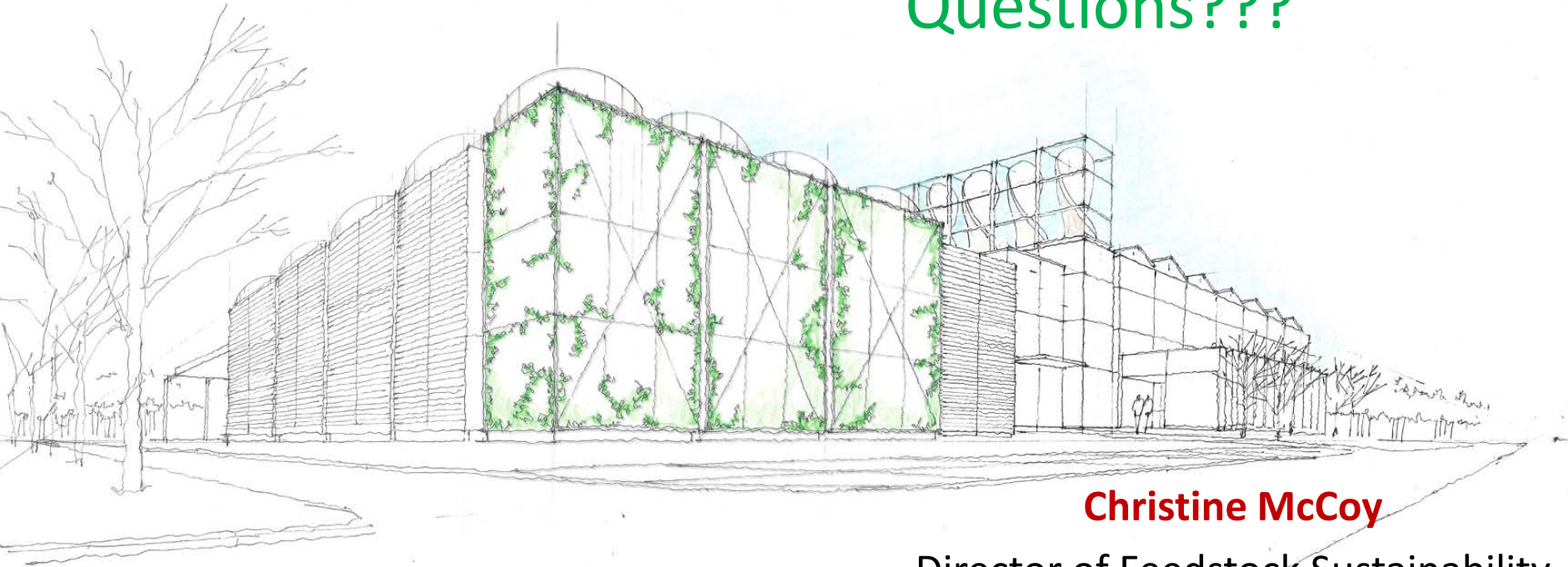
Biofuel GHG Emission Reductions

Fuel Pathway	100 year, 2% Discount Rate	30 year, 0% Discount Rate
Corn Ethanol (Best Case Natural Gas Dry Mill)	-39%	-18%
Corn Ethanol (Coal Dry Mill)	+13%	+34%
Corn Ethanol (Biomass Dry Mill)	-39%	-18%
Soy-Based Biodiesel	-22%	+4%
Waste Grease-Based Biodiesel	-80%	-80%
Sugarcane Ethanol	-44%	-26%
Switchgrass Ethanol	-128%	-124%
Corn Stover Ethanol	-115%	-116%

Source: EPA Lifecycle Analysis
of Renewable Fuels (2009)

Thank You!

Questions???



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