

Climate Friendly Purchasing Toolkit

Diesel Fuel

and

Information &

Communication Technology



www.westcoastclimateforum.com

Tuesday, May 3, 2016



West Coast Climate
& Materials Management Forum

West Coast Climate and Materials Management Forum

The West Coast Climate and Materials Management Forum is an EPA-convened collaboration of state, local, and tribal government

- ▣ Develop ways to institutionalize sustainable materials management practices.
- ▣ Develop tools to help jurisdictions reduce the GHGs associated with materials



Check out the Forum's Resources

- [Original Report Connecting Matls/Climate](#)
- [Research Summaries](#)
- [Turnkey Materials Management Presentation](#)
- [Climate Action Toolkit](#)
- [Food Too Good to Waste Toolkit](#)
- [Climate Friendly Purchasing Toolkit](#)
- www.westcoastclimateforum.com



West Coast Climate Forum

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This webinar is being provided as part of the West Coast Climate and Materials Management Forum Webinar Series. The Forum is convened by EPA Regions 9 and 10 and operates under statutory authority in the Pollution Prevention Act, the Resource Conservation and Recovery Act (RCRA), and the Clean Air Act. We invite guest speakers to share their views on climate change topics to get participants thinking and talking about new strategies for achieving our environmental goals. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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Climate Friendly Purchasing Toolkit: Diesel Fuel & Information and Communication Technology Services

Speakers



Karen Hamilton
Environmental Purchasing
Program Manager
King County



John Katz
Pollution Prevention
Coordinator
EPA Region 9



Shannon Davis
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& Materials Management Forum**

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Climate Friendly Purchasing Toolkit

Harnessing the power of public purchasing to reduce Greenhouse Gas (GHG) Emissions

The Climate Friendly Purchasing Toolkit provides clear guidance, tested strategies, and critical resources for governments at all levels to reduce the GHG emissions through their supply chain.

[Learn More](#)

GHG Emissions from Public Institutions

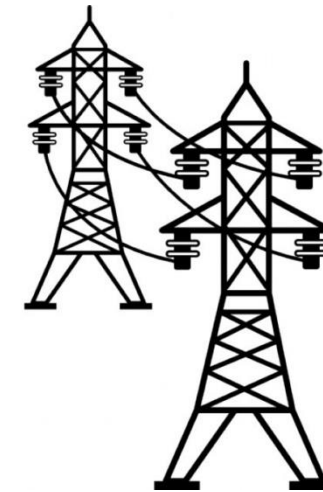
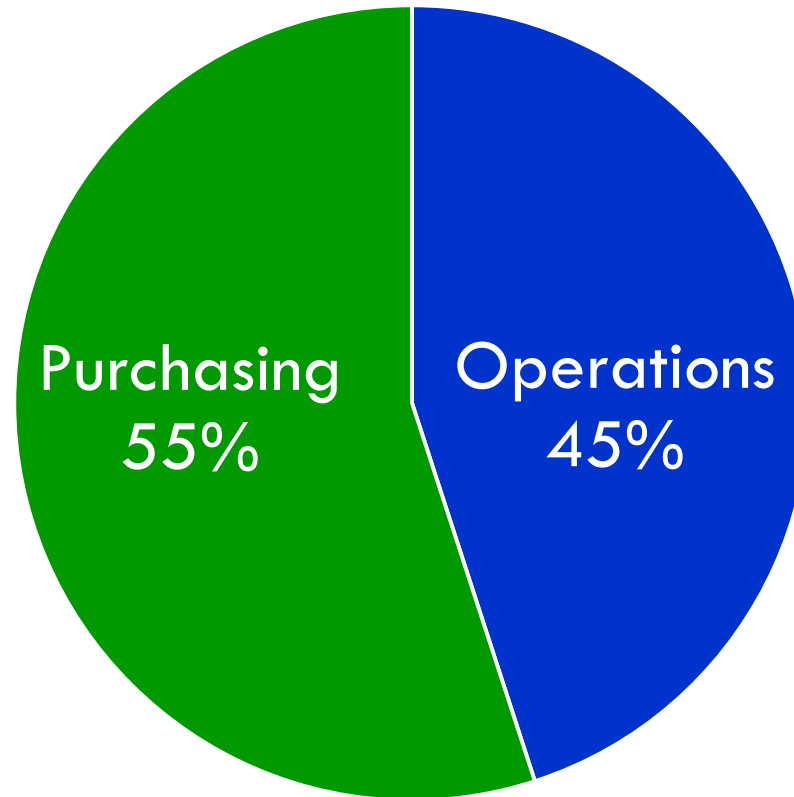
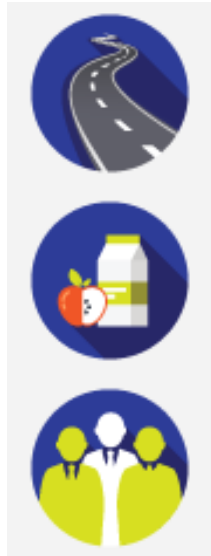


Public Institution Purchasing Power

Governments, collectively, spend
over ***1.6 trillion dollars year***



GHG Emissions from Public Institutions



Examples:
Use of electricity,
company owned cars, etc.





Toolkit Goals

Toolkit Goals:

- Reduce carbon footprint from purchases
- Identify the most carbon-intensive products and services
- Provide how-to guide for purchasing professionals



Scope of Toolkit

- Cities, counties, public utilities, higher education
- Carbon lens
- Modular





Toolkit Modules



Construction



Asphalt



Concrete



Carpet & Flooring



Food



Fuels



Information &
Communications Technology



Professional Services



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Upcoming Webinars

- Tuesday, June 7
 - Concrete & Asphalt

- Tuesday, June 20
 - Food

THANK YOU

- Next Webinar: Tuesday, June 3
 - Watch your email for registration
- Survey





Diesel Fuels Module

Climate Friendly Purchasing Toolkit

Webinar, May 17th, 2016



West Coast Climate
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Fuel Module Contributors

- Thank you:
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 - ▣ Full Circle Environmental
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Toolkit Module: Diesel Fuel



Reducing Carbon Emissions from Diesel Fuel





Why Diesel?

- For public institution construction projects:
 - ▣ Construction emissions make up to 50% of total emissions
 - ▣ Fuel use contributes 5-23% of total construction emissions





Why Diesel Fuel?

□ Diesel Emissions Have Significant Climate Impacts

- Smog pollution
- Black carbon





Why Diesel Fuel?

- ❑ **Diesel Emissions Pose Significant Health Concerns**
 - ❑ Particulates and gasses contribute to acute and chronic health effects
 - ❑ Classified as a human carcinogen by World Health Organization
 - ❑ Other human health impacts include: cardiovascular, respiratory, nervous system disorders





Diesel Emission Reduction Goal

- Reduce carbon emissions from diesel-fueled on-road and off-road construction, renovation, and maintenance equipment and vehicles:
 1. by evaluating the need for such activities
 2. by requiring or incenting the use of lower emissions vehicles and equipment and best management practices during the use stage.





Fuels-Key Purchasing Strategies

- Demand reduction
- Modernizing, retrofitting and maintenance
- Anti-idling requirements and training
- Alternative fuels





Fuels-Key Purchasing Strategies

Scenario of Construction Sector-wide GHG Emissions Reductions

Activity	Assumption	Metric tons CO ₂ e
Reduce Equipment Idling	10% reduction from all off-road diesel heavy equipment	830,000
Improve Maintenance & Driver Training	Combined practices to increase fuel economy by 3% for heavy equipment	130,000
Increase Fuel Switching to Biodiesel (B20)	Replace 10% of diesel use with B20	1,400,000
Improve Electricity Conservation	Combined practices to reduce total electricity use by 10%	3,100,000
Total Scenario Emission Reductions		5,460,000

Source EPA: Potential for Reducing Greenhouse Gas Emissions in the Construction Sector, 2009



Fuels-Key Purchasing Strategies

- Demand reduction
 1. Right sizing
 2. Route optimization
 3. Fuel use tracking





Fuels-Key Purchasing Strategies

- Modernizing, retrofitting and maintenance
 - ▣ Replacements
 - ▣ Retrofits
 - Diesel particulate filters
 - Diesel oxidation catalysts
 - ▣ Maintenance





Fuels-Key Purchasing Strategies

- Anti-idling requirements and training
 - Policies
 - Driver/Operator training
 - Idle reduction equipment





Fuels-Key Purchasing Strategies

- Alternative fuels
 - Biodiesel
 - Compressed Natural Gas (CNG)
 - Liquefied Natural Gas (LNG)
 - Propane
 - Hybrid-Electric
 - Electric
 - Ethanol





Fuels – Contract Specifications

- ❑ Diesel Emission Control Technology
- ❑ Idling Requirements
- ❑ Exemptions
- ❑ Penalties for Non-Compliance
- ❑ Reporting
- ❑ Costs of Retrofits
- ❑ Mitigation Plans to Address Sensitive Population
- ❑ Other Requirements
- ❑ For More Information





Fuels - Case Studies



- City of Chicago Clean Diesel Construction Initiative
- Manufacturers of Emissions Controls Association
- WCC - Port of Seattle Electrification project





Fuels - Resources

- EPA's Emission Standards
 - *Tier 1-4 for off-road vehicles*
- Northeast Diesel Collaborative
 - *Best Practices for Clean Diesel Construction - Successful Implementation of Equipment Specifications to Minimize Diesel Pollution*



Thank You

**Visit the Forum's website to learn more,
view past webinars and sign up for the
e-newsletter.**

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PURCHASING LOW-CARBON INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)

A MODULE OF THE CLIMATE FRIENDLY PURCHASING TOOLKIT

WESTCOASTCLIMATEFORUM.COM/CFPT

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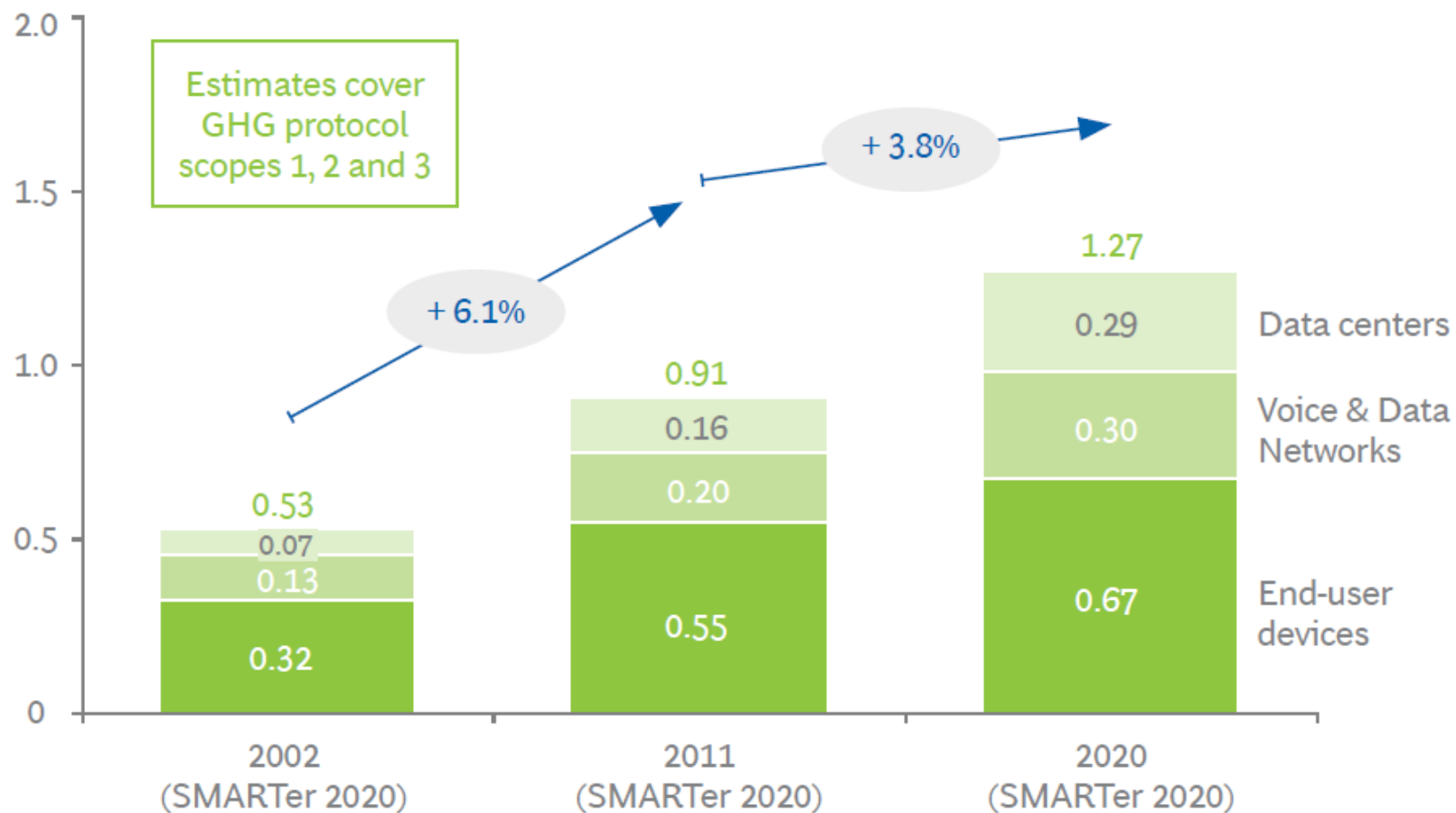
OVERVIEW OF PRESENTATION

- Why ICT?
- Purchasing Strategies to Reduce Lifecycle GHG
 - Low Carbon Desktop and Enterprise Equipment
 - Print Management Services and Consolidated Printing
 - Cloud-based Services



CLIMATE IMPACT: BIG AND GROWING

Global ICT emissions (GtCO₂e)



	CAGR % 2002-2011	CAGR % 2011-2020
Data centers	8.6	7.1
Voice & Data Networks	4.7	4.6
End-user devices	6.1	2.3



TWO KEY PRINCIPLES

- Demand reduction
 - Rightsizing
 - Life-cycle extension
- Efficiency



STRATEGY #1: PROCURING LOW-GHG EMISSIONS DESKTOP AND ENTERPRISE ICT EQUIPMENT



- Specify ENERGY STAR™ for Equipment
- Join ENERGY STAR's Low-Carbon IT Campaign
 - Provides targeted advice for reducing power use
 - Includes measurement and benchmarking tools
 - Can gain recognition from EPA for implementing two strategies
- Go beyond ENERGY STAR
 - Specify Lower Total Energy Consumption
 - Require EPEAT registered products
- Extend Product Life

- 

1 Put your computers to sleep
Save \$10-\$50 per computer each year, tap into free technical consultation, and receive recognition
- 

2 Choose energy-efficient IT equipment
Save with desktops, notebooks, servers, printers, copiers, and more
- 

3 Save energy in the data center
Review the top 12 ways to cut energy costs
- 

4 Benchmark your data center's energy efficiency
Receive an energy performance rating
- 

5 Reduce peripheral energy consumption
Printers, smart power strips, and more



STRATEGY #2: MANAGED PRINT SERVICES

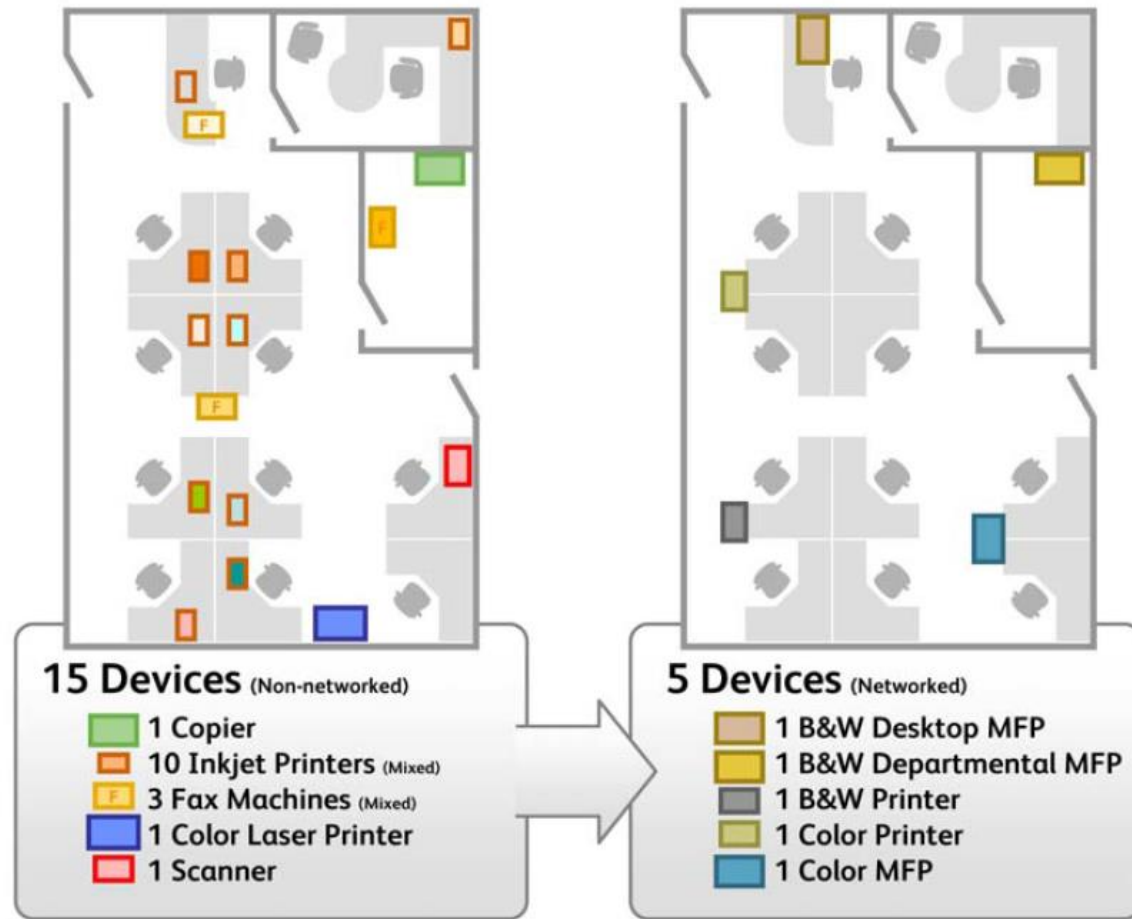
- Printers account for between 2-5% of energy use in the typical office building.
- **Typically, offices use an output device only about 15 minutes (2%) of every business day.**



STRATEGY #2: MANAGED PRINT SERVICES



Good MPS strategy may consolidate existing devices for increased efficiency





STRATEGY #2: MANAGED PRINT SERVICES

Step 1: Conduct a Print Assessment

Step 2: Develop a Plan for Consolidation

Step 3: Implement slowly, and track results



KEY TAKE AWAY:

A different kind of procurement!

STRATEGY #3: REDUCE GHG FROM CLOUD BASED SERVICES



VOIP

Apps

Data storage

E-mail

Procurement challenge: *how to compare ICT service providers and select those providing services with the lowest carbon footprint.*

STRATEGY #3: REDUCE GHG FROM CLOUD BASED SERVICES



- Use surveys, questionnaires, or information requests in RFPs to request information from vendors
- Four types of data to help differentiate GHG footprint
 - Service-based - GHG Intensity of service provided (e.g. CO₂e per Terabytes of data processed)
 - Operations efficiency-based – Power Usage Efficiency
 - Facility/corporate certifications-based – LEED, ENERGY STAR
 - Practices implemented – virtualization, best practices for cooling

COMMON IMPLEMENTATION TIPS



- Work with IT departments to understand needs, timelines, purchasing processes
- Build in time for training, education, and transition
- Include measurement mechanisms
- Turn to the Toolkit for case studies, purchasing resources and more!



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Moderator

UPCOMING WEBINARS

☐ Tuesday, June 7

☐ Concrete & Asphalt

☐ Tuesday, June 20

☐ Food



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