

# Transportation Sustainability Day-to-day Applications

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TRB Committee ADC60

July 2009

# Overview

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- Building on Mr. Heaney's introduction, let's offer ideas and measures for
  - Facilities
  - Construction
  - O&M

Practicing sustainability at the "working level"...  
taking actions that can provide near-term  
and long-term benefits.

# Other Facilities – offices

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## □ Opportunities

- Paper, products, power consumption
- Adjust product mix (recycled content)

## □ Benefits

- Reduced consumption
- Reduced waste
- Reduced cost (for products, power, disposal)
- Reduced emissions and other environmental impacts

See the following sample offices summaries.

# Offices (cont'd)

Item	Number	In-Use Power Consumption			Standby Power Consumption (Watts)	Day Use (Hrs/Wk)	Weekend, Evening, or Sleep Mode (Hrs/Wk)	Percent On (Off-hours) (Percent)	Power kWh/yr	Cost \$0.066/kWh	CO2 Emissions Lbs/Yr
		Low	Estimated or Known	High							
<b>Workrooms</b>											
Copier	13		250		75	0	168	100%	8,518	\$562	11,362
Electric Stapler	4		1		1	0	168	100%	35	\$2	47
Fax Machine	11		40		10	0	168	100%	961	\$63	1,282
Printer Office	35	100	100	350	20	0	168	100%	6,115	\$404	8,158
Scanner	4		40		5	0	168	100%	175	\$12	233
Shredder	12		50		3	0	168	100%	314	\$21	420
Servers (LAN Room)	3	400	500	600		168	0	100%	13,104	\$865	17,481
<b>Office Equipment</b>											
2-way Radio Charger	1		20		5	10	158	100%	51	\$3	69
Air Purifier (Personal)	9		60		1	36	132	100%	1,073	\$71	1,431
Card Key Access	12		3			168	0	100%	314	\$21	420
Desktop Computer (US-V and cont)	283	50	80	110	10	50	118	90%	74,492	\$4,916	99,373

## 2008 Estimated Annual Greenhouse Gas Emission Baselines

- Office Equipment and Lighting – 983,400 lbs of CO<sub>2</sub>
- Paper (30% recycle) – 158,800 lbs of CO<sub>2</sub>

# Offices (cont'd)

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## □ Challenges

- Identifying opportunities – may require survey with experienced staff helps – use \$, pounds, fuel (see our spreadsheet example)
- “Selling” management (a common theme) – \$, pounds, fuel (see our spreadsheet example)
- Updating practices (including the simple – turn it off), equipment, and training personnel

## □ Sample information sources

- DOE, EPA, OFEE

# Construction

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- Opportunity – recovery and reuse
  - Steel, concrete, asphalt, slag, glass, crumb rubber
- Benefits
  - Minimize new materials production – quarries, processing, etc.
  - Reduced transportation cost – look for materials close by
  - Reduced fuel consumption – transportation as well as production
  - Reduced emissions – transport, production

# Construction (cont'd)

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## □ Challenges

- Identify opportunities during project planning
- “Selling” management (a common theme) – \$, pounds, fuel (see our spreadsheet example)
- Updating practices (including purchasing) and training personnel

## □ Sample information sources

- AASHTO [www.environment.transportation.org](http://www.environment.transportation.org)
- Recycled Material Resource Center [www.rmrc.unh.edu](http://www.rmrc.unh.edu)
- Slag Association, other trade groups, DOE, OFEE

# O&M

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- ❑ Opportunities – green products, control product (fuel, roadway materials, garage supplies, etc.) use
- ❑ Benefits
  - Track “green” product details
  - Reduced cost from reduced consumption
  - Emissions associated with reduced fuel and other products consumption – also remember the cost and impacts of transporting products to us

# O&M (cont'd)

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## □ Challenges

- Identifying opportunities – may require survey with experienced staff helps – use \$, pounds, fuel (see our spreadsheet example)
- “Selling” management (a common theme) – \$, pounds, fuel (see our spreadsheet example)
- Updating practices (including purchasing) and training personnel

## □ Sample information sources

- USDA, EPA, DOE, OFEE, DOD

# Closing

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- ❑ Two more presentations will follow
- ❑ Any questions, comments?
- ❑ A key ...we want ideas from you for your agencies
- ❑ For further information

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# PDH and CEU Questions

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- Using the information provided in today's sustainability panel discussion, please identify at least one opportunity to pursue a sustainability initiative in your agency/department.
- For the identified initiative – identify the expected environmental as well as business benefits, identify the management “champion” who may support the effort, and estimate the time that it may take to achieve the expected benefits.