

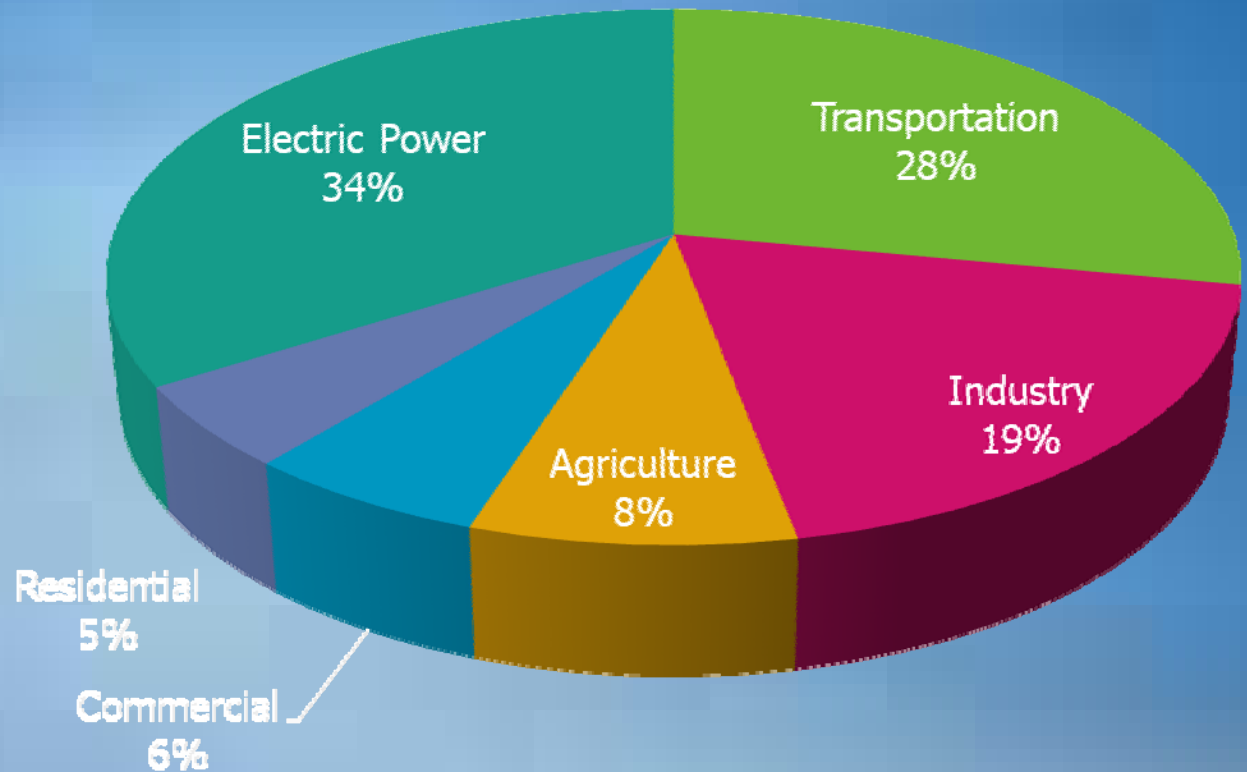


# **GHG and Materials Management**

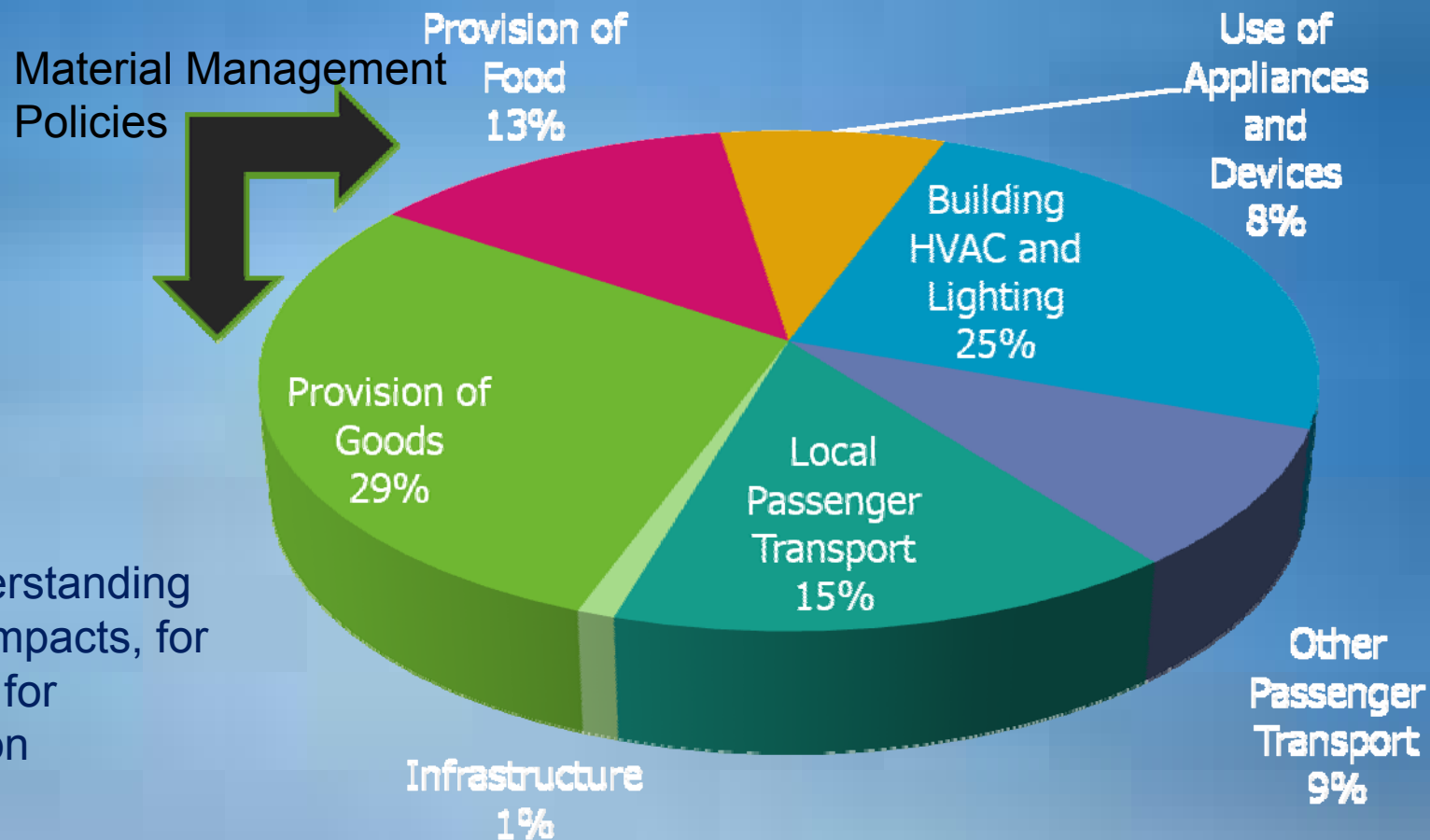
**Conventional vs. Systems  
Based GHG Accounting**

# Conventional GHG Accounting

- Good for showing end-of-pipe opportunities.
- Consumer activities are invisible, “embedded”.



# Systems Based Accounting of GHG



Better for understanding consumption impacts, for education and for individual action

+ ~3-21% "Embodied Emissions of Trade"(Net)  
(Weber and Matthews, 2007)

# Life cycle



Get Raw  
Materials



Prepare  
Materials



Manufacture  
Product



Use Product



Dispose of  
Product



# Life cycle -- Recycling



# Life cycle -- Reuse



# Life cycle -- Reduce



Get Raw  
Materials



Prepare  
Materials



Manufacture  
Product



Use Product



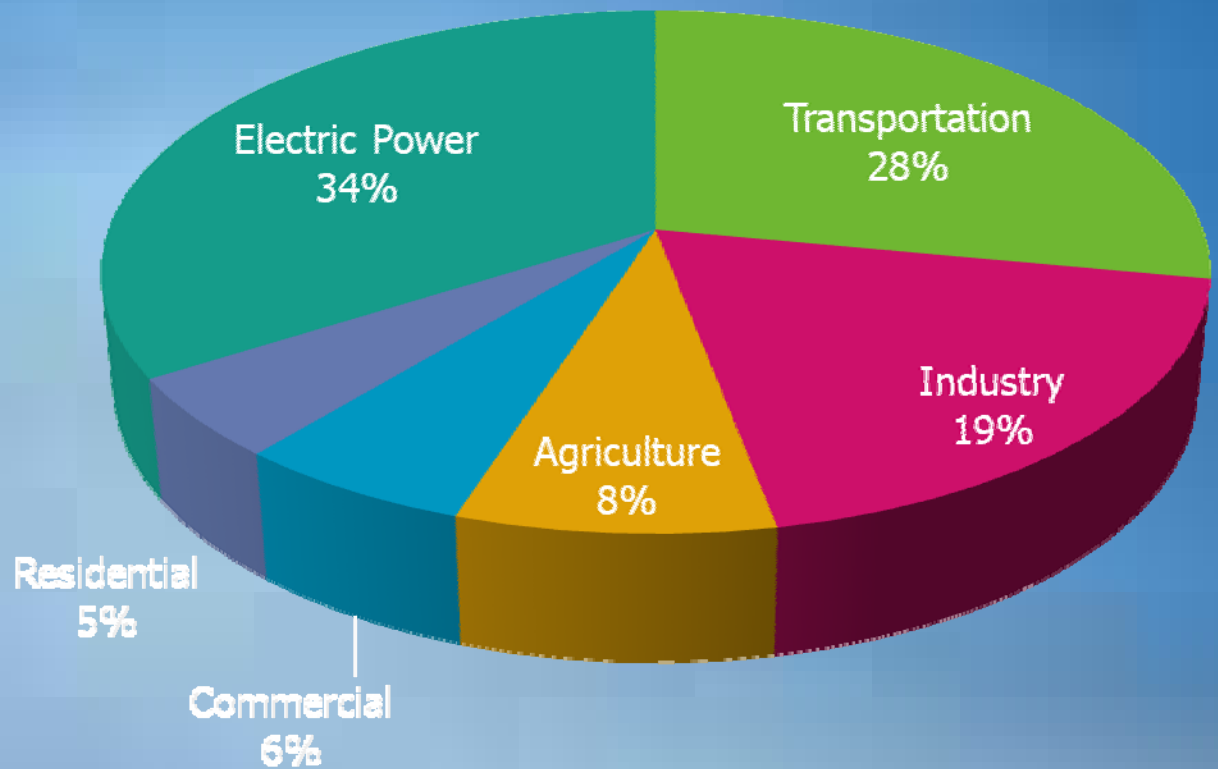
Dispose  
Product





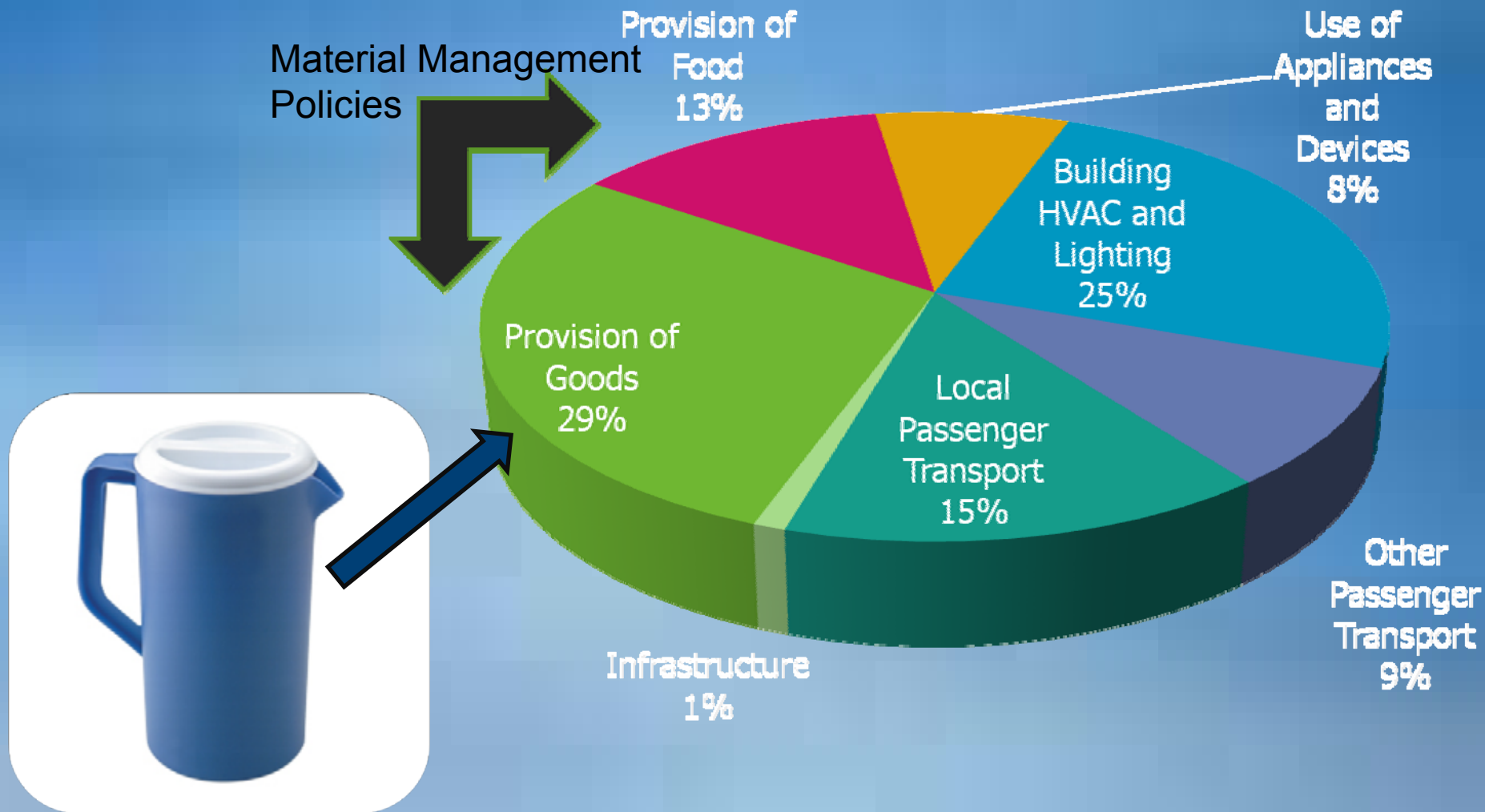
# Accounting for the Plastic Pitcher

Where do  
embodied  
GHG from  
this go?





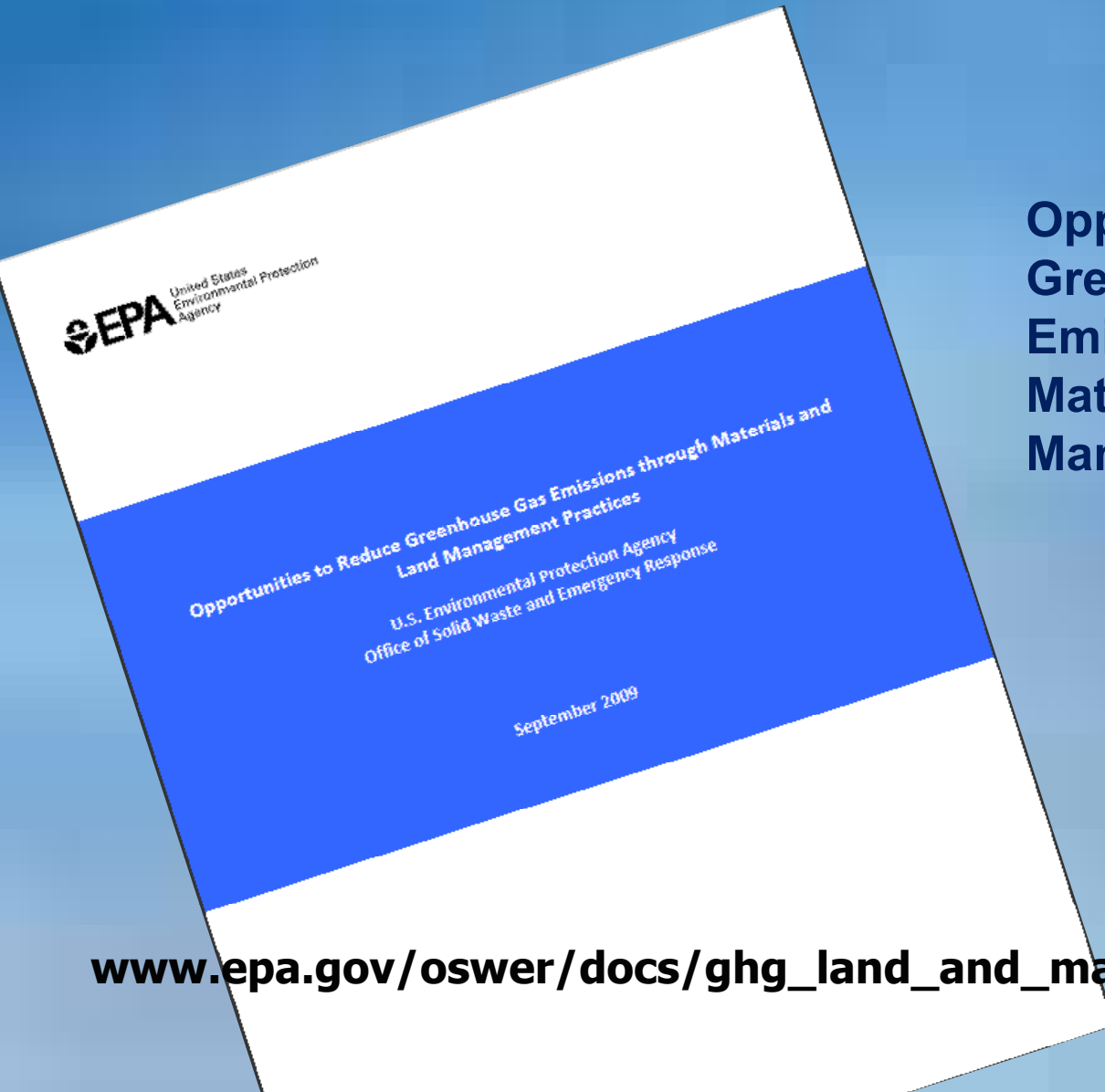
# Accounting for the Plastic Pitcher



# GHG Benefits: MM Strategies

Box ES-1: Summary of Total Technical Potential Scenarios			
Source Reduction			Estimated GHG Emission Benefit*
	Reduce packaging use by:	50%	40—105 MMTCO <sub>2</sub> E/yr
		25%	20—50 MMTCO <sub>2</sub> E/yr
	Reduce use of non-packaging paper products by: <sup>10</sup>	50%	20—70 MMTCO <sub>2</sub> E/yr
		25%	10—35 MMTCO <sub>2</sub> E/yr
	Extend the life of personal computers by:	50%	25 MMTCO <sub>2</sub> E/yr
		25%	15 MMTCO <sub>2</sub> E/yr
Reuse/Recycling			
	Increase recycling of construction and demolition debris to:	100%	150 MMTCO <sub>2</sub> E/yr
		50%	75 MMTCO <sub>2</sub> E/yr
		25%	40 MMTCO <sub>2</sub> E/yr
	Increase national municipal solid waste (MSW) recycling and composting rate from 2006 rate (32.5%) to:	100%	300 MMTCO <sub>2</sub> E/yr
		50%	70—80 MMTCO <sub>2</sub> E/yr
	Increase composting of food scraps from 2006 rate (2%) to:	100%	20 MMTCO <sub>2</sub> E/yr
		50%	10 MMTCO <sub>2</sub> E/yr
		25%	5 MMTCO <sub>2</sub> E/yr
Energy Recovery / Disposal			
	Combust percentage of currently landfilled MSW:	100%	70—120 MMTCO <sub>2</sub> E/yr
		50%	35—60 MMTCO <sub>2</sub> E/yr
		25%	20—30 MMTCO <sub>2</sub> E/yr
	Combust MSW remaining if national recycling rate is increased to 50%:		65—110 MMTCO <sub>2</sub> E/yr
	Capture percentage of currently emitted methane at U.S. landfills for electricity generation:	100%	150 MMTCO <sub>2</sub> E/yr
		50%	70 MMTCO <sub>2</sub> E/yr
		25%	35 MMTCO <sub>2</sub> E/yr

# EPA Report Available Online



**Opportunities to Reduce  
Greenhouse Gas  
Emissions through  
Materials and Land  
Management Practices**

**[www.epa.gov/oswer/docs/ghg\\_land\\_and\\_materials\\_management.pdf](http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf)**

# How does Reduce, Reuse, Recycle relate to this?

- Highlights connection between GHG and resource consumption via Provision of Goods and Provision of Food categories.
- Puts focus upstream. “Materials management” rather than “waste management.”



# Implications and Impacts of System Based Accounting

- Federal money is available for reduction & recycling.
- Makes visible the connection between products and embedded GHG.
- A new way to engage citizens
- Provides additional measure/environmental impact of our work



# **West Coast Forum on Climate Change, Waste Prevention, Recovery and Disposal**

- ▶ A series of webinars/meetings intended to discuss climate change and waste prevention/recycling/disposal
- ▶ Presentations and more info are available at:

<http://yosemite.epa.gov/r10/ECOCOMM.NSF/Programs/wcf>

# Energy Efficiency & Conservation Block Grants

- **\$6.3 Million Available in Minnesota through the General Innovation Fund for Ineligible Entities.**
- **Focus on strategies which:**
  - 1) are highly leveraged**
  - 2) are broadly replicable and scalable**
  - 3) can be self-sustaining beyond the 3-yr funding period.**





# Funds available from DOE and MN Dept of Commerce

- DOE is now accepting applications for up to \$454 million in EECBG competitive grants.
- The competitive grants Funding Opportunity Announcement was issued on October 19, 2009 and applications will be accepted through [grants.gov](http://grants.gov) until December 14 2009.



# Eligible Projects Include

Material Conservation Programs including source reduction, recycling, and recycled content procurement programs.



# For More information...

- [www.eecbg.energy.gov](http://www.eecbg.energy.gov)
- Minnesota Department of Commerce Webpage – search “Energy Efficiency and Conservation Block Grants”

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