Promoting Recycling as Energy Conservation and a tool to combat climate change – How to perk up stagnant promotions

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October 2009
Your next residents

- The traditional-age student in the incoming college & university first year class was born in 1991.

- That’s 4 years after the Mobro Garbage Barge made it’s fateful journey.

- They were 3 the year of the Carbone vs. Clarkstown Supreme Court decision.

- Many/most have never known a local landfill. For them, waste has always been sent “away” to a landfill or combustion facility somewhere else.
Your next residents (cont.)

• Conversely, the most formative environmental moment for most of them was the release of “An Inconvenient Truth” during their early-to-mid high school years.

• Many consider energy conservation as something brand new and cutting edge, and see recycling as something “old hat” and passe.
  – An ironic complete reversal for those of us who started in this field in the mid-to-late 1980s.

• To reach these new residents, we need to move away from our “landfill diversion” dogma and return to basics.
Landfill or Incinerator  

CONSUMER  

MANUFACTURER  

COLLECTOR  

PROCESSOR  

Natural Resources
Environmental benefits of recycling
3 types of benefits from recycling

• Minimizes need for landfills and the damages that result from landfilling or incinerating waste.
Question:
If your only goal is to keep stuff out of the landfill, littering does that as well as recycling. What makes recycling better than littering?
For many materials, disposal emissions < production emissions.
3 types of benefits from recycling

- Minimizes damage to ecosystems from extraction of natural resources
Revising that ecosystem message:

• The “protecting ecosystems” message resonates with only a small minority, even among students that consider themselves environmentalists.

• Tweaking that message to talk about preserving “carbon sinks” suddenly hits home with this new generation of climate minded environmentalists.

• Even folks who are less versed in climate vocabulary understand and respond to discussions about protecting the “lungs of the planet” and protecting something that takes carbon back out of the air.
3 types of benefits from recycling

- For many materials, it uses less energy to collect, process, and remanufacture recycled materials than to use “virgin” feedstocks, reducing our need for fossil fuels and the resulting risks of climate change.
Expanding that energy conservation message:

• If you promoted a new widget that cut energy use at a mill by 10%, climate change advocates would be lauding you as a hero and would be promoting it’s use left and right…

• Yet using as little as 30% recycled cullet to make a new bottle accomplishes exactly that, and gets little notice.

• Climate-minded students will spend hours trying to get a professor to shut off a desk lamp when they leave their office for lunch…

• Yet too many don’t connect the dots and realize that had they better recycled the case of aluminum cans that got thrown away after a party, it would have saved the same energy as turning off that 60 watt desk lamp every lunch hour for a month (every lunch hour for the semester if that bulb was a CFL).

• We need to get back to our original message, stop focusing on only landfill diversion and go back to promoting all the benefits of recycling.
If every student at Smith College recycled just one additional sheet of paper per day...

Recycling that old paper into new products instead of throwing it into the landfill will reduce greenhouse gas emissions by the equivalent of about 29 tons of CO2.

That’s the same as taking almost 6 cars off the road each year.
If every student at Smith College recycled just one additional aluminum can per week...

- Recycling those old cans into new aluminum products instead of throwing them into the landfill would reduce greenhouse gas emissions by the equivalent of not burning 20 tons of coal each year.

- That’s the same as cutting all of the electrical power to a small house like Tenney or Hopkins for the entire year.
If every student at Smith College used one less plastic bottle per day...

The energy and resources saved from not manufacturing and transporting all those plastic bottles would reduce greenhouse gas emissions by the equivalent of 15 tons of CO2 per year.

That's the same as removing more than 70 refrigerators from student rooms each year.
Changing the nature of the climate change discussion
• Truly understanding the role of recycling in climate change requires a change in thinking about how we count carbon and other greenhouse gas emissions.

• The question comes down to one of “What did you emit” vs. “what did you cause to be emitted.”
Traditional ghg inventories use a snow globe model, placing imaginary bubble over a geographic area, and counting the emissions that accumulate within the bubble.

- Great for initial inventory to figure out how much is generated.

- However in practice becomes a misleading and misused “don’t blame me, it didn’t happen in my snow globe” metric.

- Under this paradigm, the best way to reduce your emissions is to move them out of your snow globe and into someone else’s.
The Great Britain Example

Source: DEFRA, 2008
The Great Britain Example

Source: DEFRA, 2008
To effect emissions, not just inventory them, I think we need a to look at footprint or lifecycle.

- What did my consumption cause to be emitted, whether it was emitted in my snow globe or in someone else’s.

- When you use this methodology, and look at the emissions and energy embedded in “stuff,” you start to see a very different picture.
“Stuff” = Climate Change

- Most of that energy used by the industrial and commercial sector is to manufacture and sell the “stuff” we buy.
- Our actions have a direct impact on that energy use.

2007 U.S. Energy Use by Sector

- Residential: 21.0%
- Transportation: 29.0%
- Industrial: 32.0%
- Commercial: 18.0%

+ ~3-21% “Embodied Emissions of Trade” (Net)

Sources: US EPA (draft); Weber and Matthews (2007)
Greenhouse Gas Inventory Example: UC Berkeley (2006)

http://sustainability.berkeley.edu/calcap/inventory-footprint.html

- Traditional Inventory: 209,000 MTCO2e
- "Footprint": 482,000 MTCO2e