

# The Dental Amalgam Separator Rule:

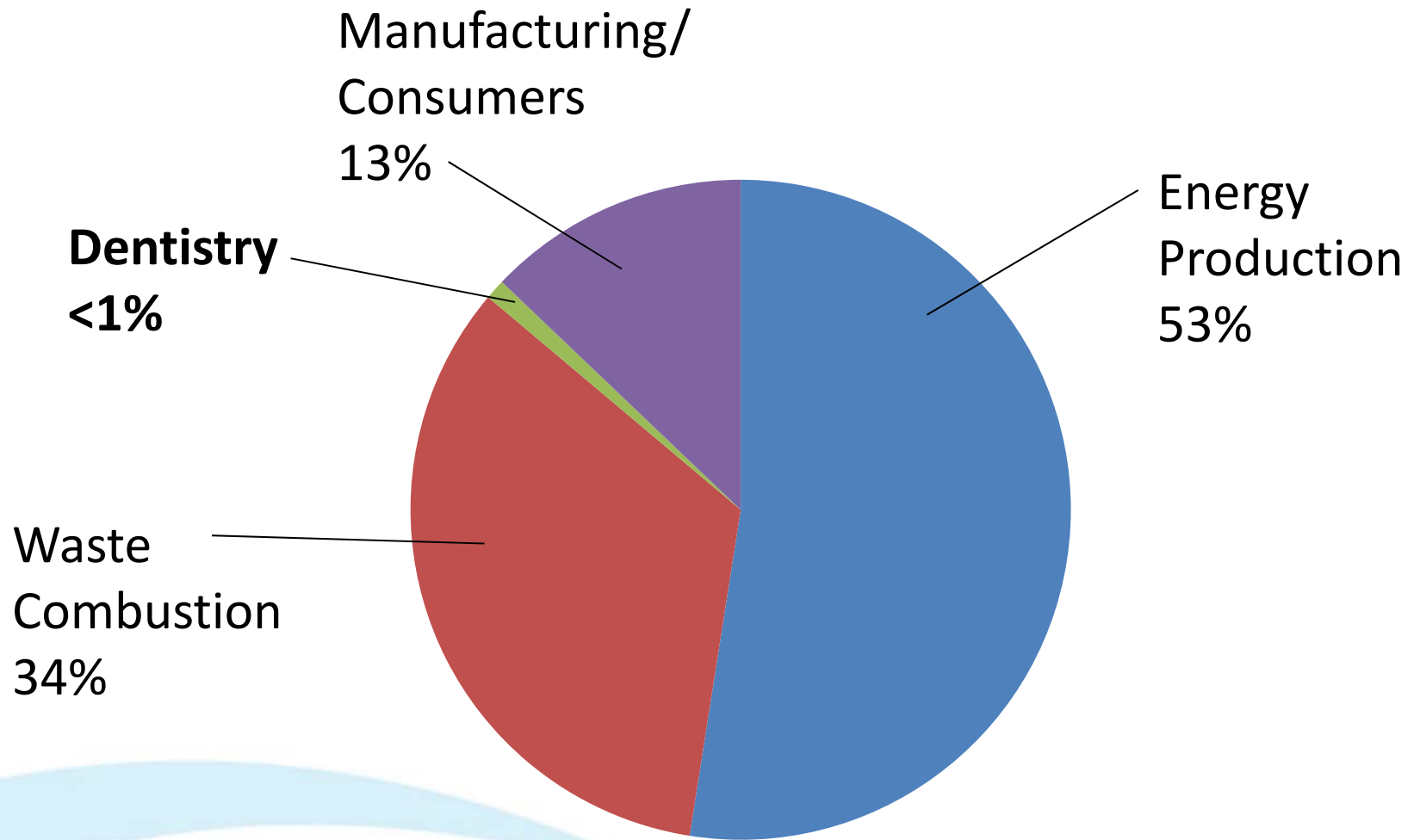
## NACWA's View

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# Mercury in the Environment



# Mercury from Dental Amalgam

- Dental amalgam = about 50% mercury
- Amalgam use declining
  - 1979: 157 million restorations
  - 1999: 66 million restorations
  - 2005: 52.5 million restorations
- 52% of dentists do not place amalgam fillings
- 120,000 dental offices that use or remove amalgam fillings



# NACWA Amalgam Separator Study

- Influent, effluent, and biosolids mercury measured monthly at 12 POTWs, 2003-2006
  - Biosolids concentrations decreased with increasing separator use (but not at some individual POTWs)
  - Effluent concentrations did not decrease with increasing separator use
  - Influent concentrations highly variable



# Biosolids Mercury Concentrations (mg/kg) for Greensboro, NC

Year	Average	Maximum
2007	0.36	0.684
2008	0.28	0.836
2009	0.27	0.410
2010	0.12	0.276
2011 (4 months)	0.12	0.183

“High Quality” Biosolids Mercury Limit = 17 mg/kg  
Mercury Removal Rates for this POTW: 89-98%



# Cost of the Rule - Dentists

## EPA 2008 Detailed Study Analysis

Average cost of separator purchase	\$2,320
Average annual cost of operation and maintenance	\$657
Total annualized cost (7% interest, 10 year separator lifetime)	\$1,020
Number of facilities that would need to install separators (assume 1 per facility)	73,751
<b>Total annual national cost of rule</b>	<b>\$75.2 million</b>



# Cost of the Rule - POTWs

Greensboro, NC	
Total influent mercury per year	7.25 lbs
Total effluent mercury per year	0.475 lbs
Assume 50% reduction in mercury effluent	0.2375 lbs
Assume 1 FTE necessary for rule implementation	\$50,000/year
<b>Cost of dental amalgam separator rule</b>	<b>\$210,526/lb mercury removed</b>



# Cost of the Rule - POTWs

All U.S. POTWs	
Number of POTWs with Pretreatment Programs	1,600
Assume 1 FTE necessary for rule implementation	\$50,000/year
<b>Cost of dental amalgam separator rule</b>	<b>\$80 million/year</b>

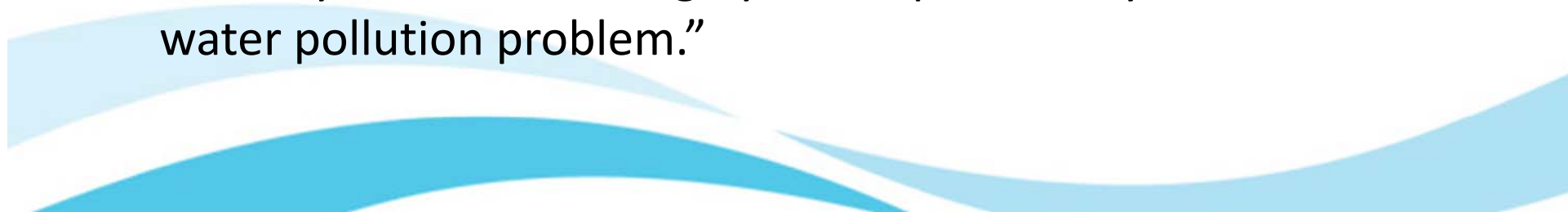




# EPA's Dental Amalgam Separator Rule

- Preliminary 2010 ELG Plan (Dec. 28, 2009) – Reaffirmed EPA's decision to not pursue rulemaking for dental amalgam
- Final Plan (Oct. 26, 2011)

“Given the human health and aquatic-life impacts associated with mercury, the level of stakeholder interest, and the availability of a technological solution, EPA decided to initiate rulemaking to develop pretreatment standards for dental mercury to more thoroughly and expeditiously address this water pollution problem.”



But It's Just One More Regulation...

