

US EPA ARCHIVE DOCUMENT

THE GREAT LAKES BINATIONAL TOXICS STRATEGY

Great Lakes Binational Toxics Strategy Stakeholder Forum

GLBTS Path Forward

December 12, 2007
Union League Club
Chicago, Illinois

PCBs

Work Group Co-Chairs:

Tony Martig, US EPA

Ken De, Environment Canada

December 12, 2007, Chicago

PCB Challenge Goals

Canada

- 90% reduction of high-level PCBs (>10,000 ppm) by 2000
- Accelerate destruction of stored high-level PCB wastes

United States

- 90% national reduction of high-level PCBs (>500 ppm) by 2006
- Ensure proper management and disposal of PCBs removed from use

Progress Toward the Challenge Goals: Canada

- In Ontario, as of January 2007, 90.2% of high-level (more than 10,000 ppm) PCBs in storage have been destroyed since 1993 (about 2,307 tonnes remaining)
- For PCBs in service, target still remains to be met. About 70% of high-level PCBs in service destroyed (about 2771 tonnes remain in use/service)
- For PCBs in service, it is likely that the 90% reduction target can be met by 2014 (with the assistance of new PCB regulations)

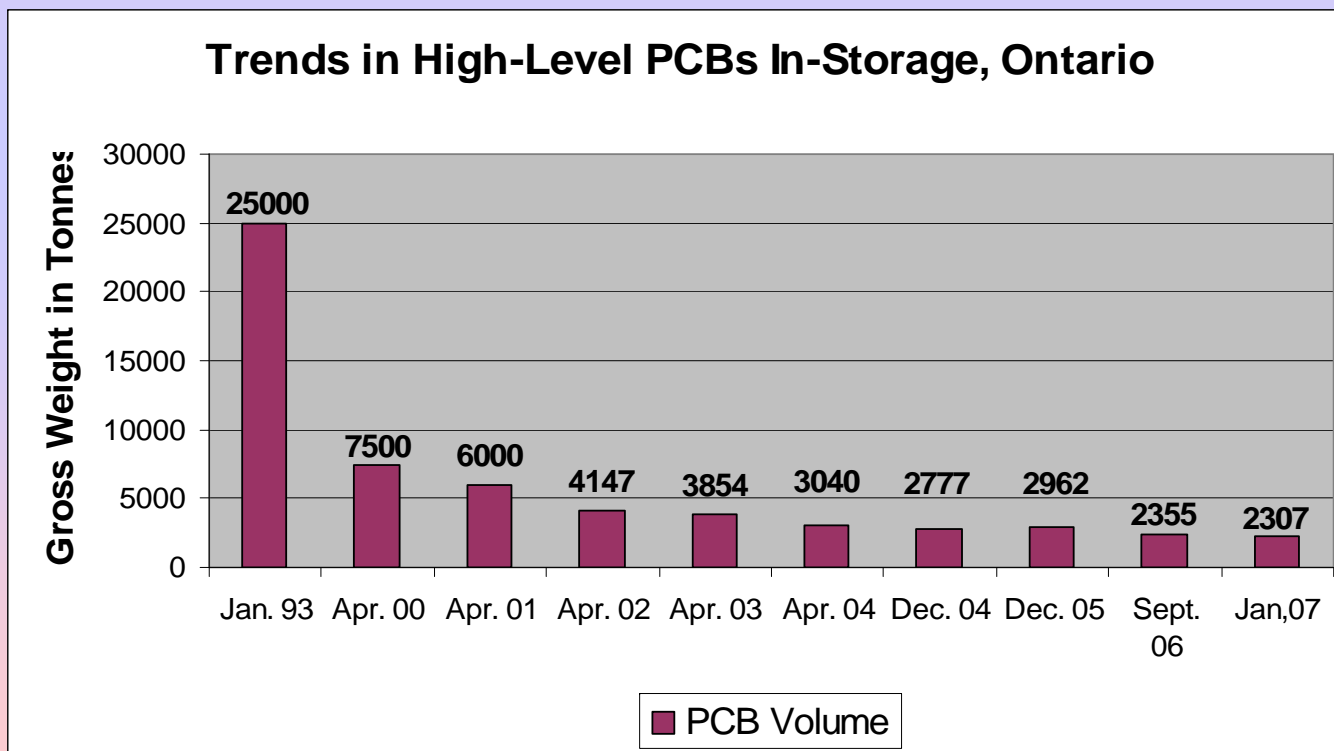
Progress Toward the Challenge Goals: Canada (continued)

- Less than 400 PCB sites are remaining (including federal and non-federal), down from about 1,575 in 1993
 - ◆ An additional 198 sites are PCB free (both in storage and in service)

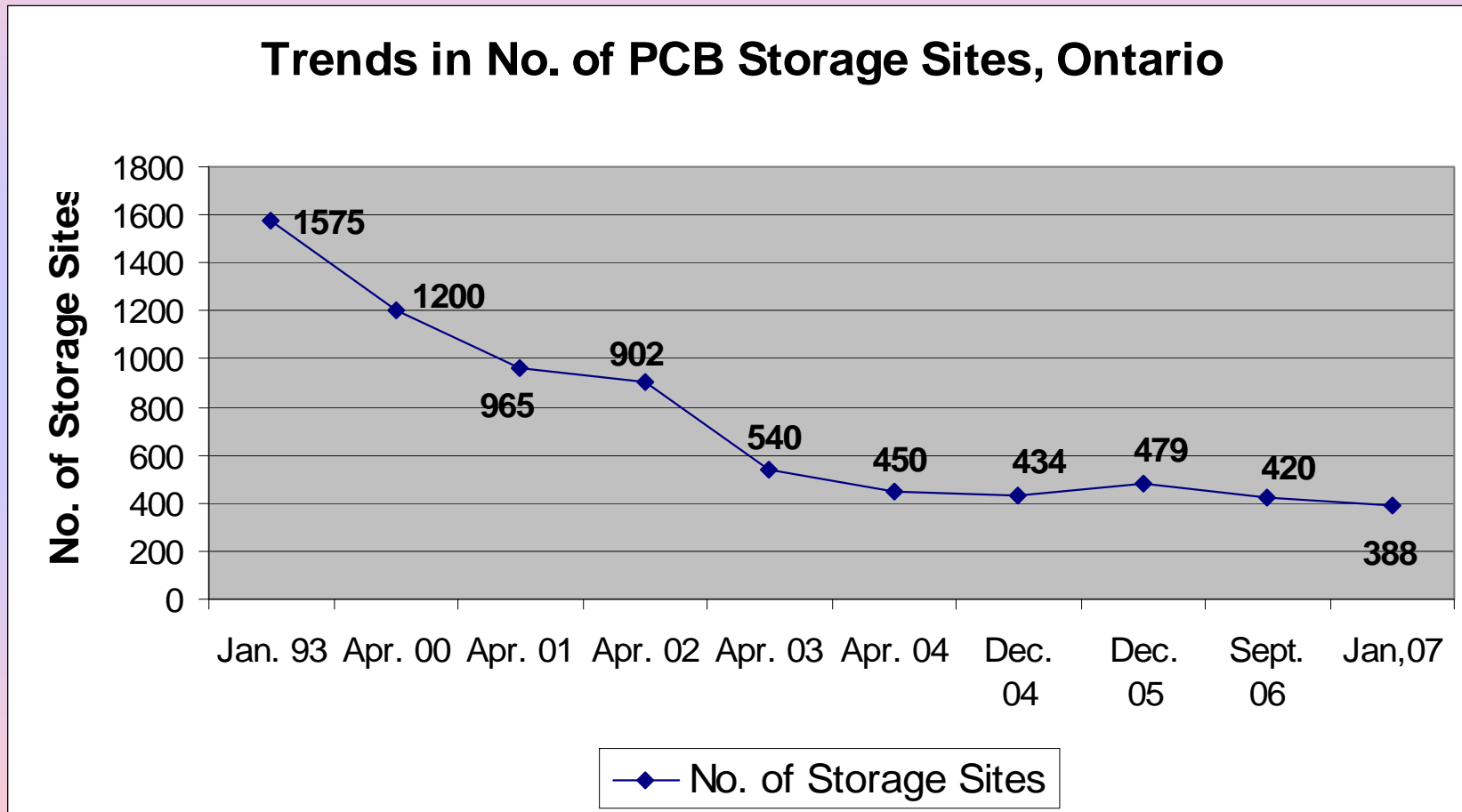
- Two additional organizations – City of Toronto, Real Estate Div., and Dofasco, an integrated steel company in Hamilton, received PCB recognition plaques in the fall meeting at Windsor for achieving the GLBTS goal voluntarily

Progress Toward the Challenge Goals: Canada (continued)

Trends in High-Level PCBs in Storage in Ontario in Gross Tonnes

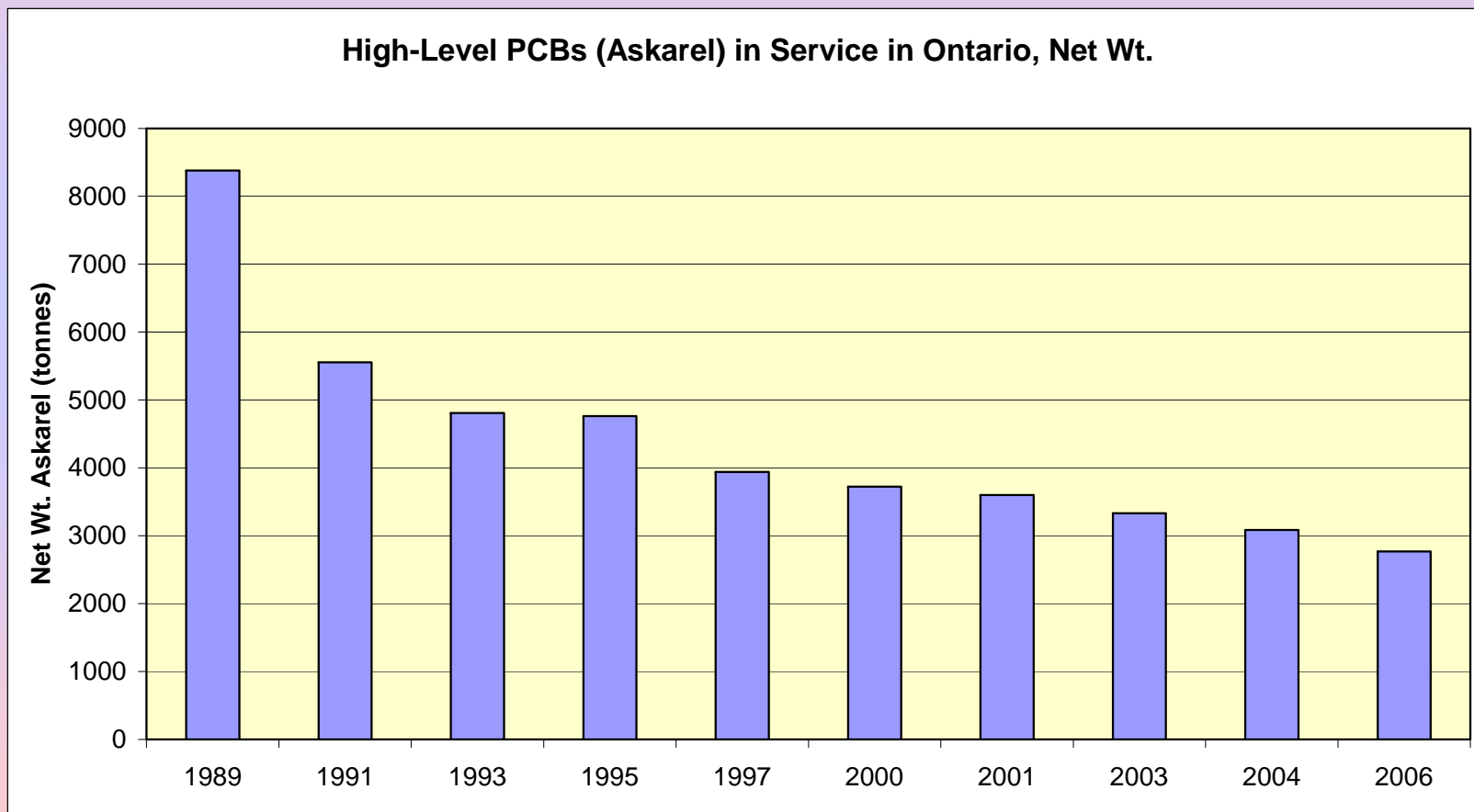


Trends in Number of PCB Storage Sites in Ontario



High-Level PCBs In Service in Ontario

In Net Wt Tonnes



Progress Toward the Challenge Goals: U.S.

- According to the PCB Transformer Registration Database, updated in August 2006, only about 14,700 PCB transformers were registered with U.S. EPA
- According to annual disposal data, at the end of 2005, an estimated 73,000 PCB transformers and 1,294,000 large PCB capacitors remained in use in the U.S.
 - ◆ Estimate obtained by subtracting the annual disposal data from the 1994 estimated baseline
- Lack sufficient data to determine with accuracy the number of PCB capacitors remaining in service

2007 Activities: U.S.

- U.S. Stakeholder PCB Phase-out Efforts Continued and Initiated
 - ◆ Most USWAG companies have procedures in place to ensure >50 ppm PCB equipment identified during repair/servicing is disposed and/or retrofilled
 - ◆ USWAG member companies in the GL basin also have dedicated efforts to identify/remove PCB-containing equipment from service
 - ◆ Mining Outreach Program – US EPA, Region 8
 - ◆ PCB software/spreadsheet tool to determine and compare the costs of phasing out PCB transformers against the costs of continued use developed; currently being evaluated by US EPA
 - ◆ Study of PCB emissions from in-service PCB transformers completed – more information may be needed

Summary of Challenge Goal Status: Canada

- Canada met the challenge goal for high-level PCBs in storage
- Canada working to meet its challenge goal for in-service PCBs

Path Forward

- **Continue with Tier-I Activities**
- **Continue to seek PCB reduction commitments through PCB reduction commitment letters and other PCB phase-out efforts**
- **In view of new PCB regulations, “Recognition & Award” program will discontinue**
- **Continue to gather and update PCB equipment inventories in the U.S. and Canada**
- **Continue outreach/compliance promotion efforts (for new PCB Regulations targeted to be in *Canada Gazette II* in 2008)**
- **PCB Management Assessment recommendations implementation**



Dioxins and Furans

Work Group Co-Chairs:

Anita Wong, Environment Canada

Erin Newman, US EPA

December 12, 2007, Chicago

Dioxin/Furan Challenges and Progress

Canadian Challenge Goal

- 90% reduction* by 2000
- *All media within Great Lakes Basin, base year 1988

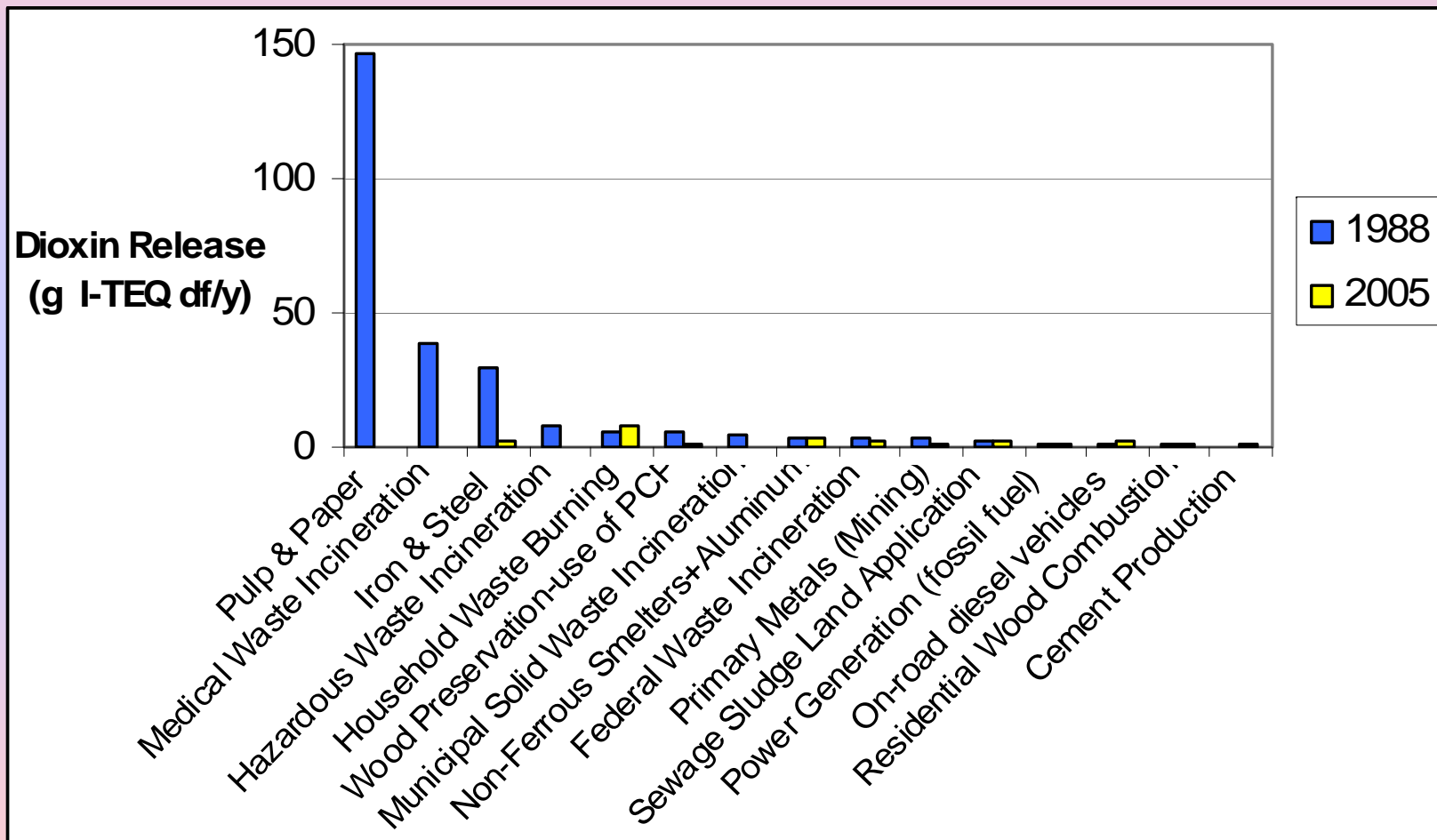
- Progress: **89% reduction** in total releases within GL Basin based on 2005 data

U.S. Challenge Goal

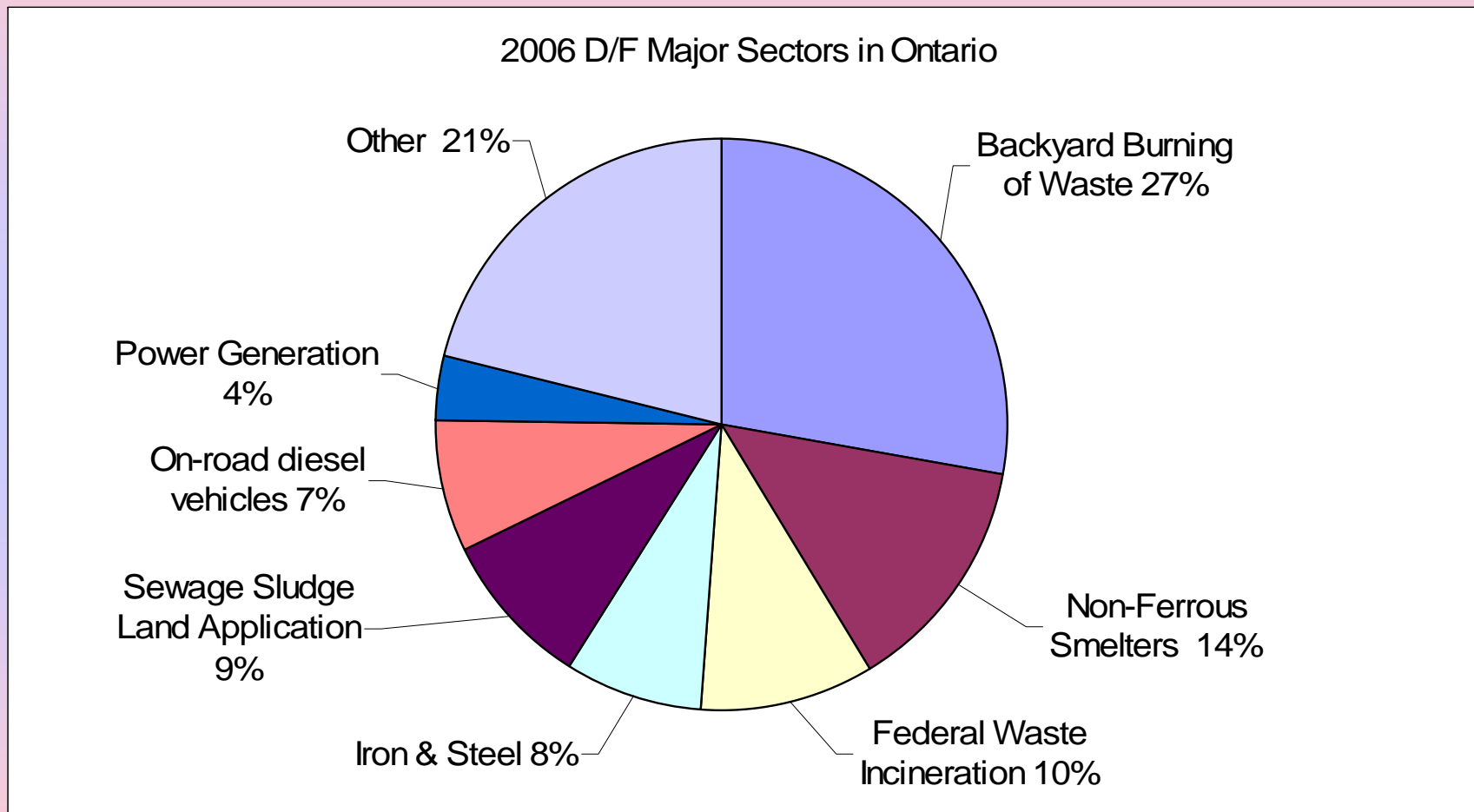
- 75% reduction* by 2006
- *Aggregate of air releases nationwide and water releases within the Great Lakes Basin, base year 1987

- Progress: Goal has been met
- 2000 emissions ~1,422 grams **89% reduction** from 1987 baseline based on 2000 data

Top Ontario 1988/2005 Dioxin/Furan Release Sources

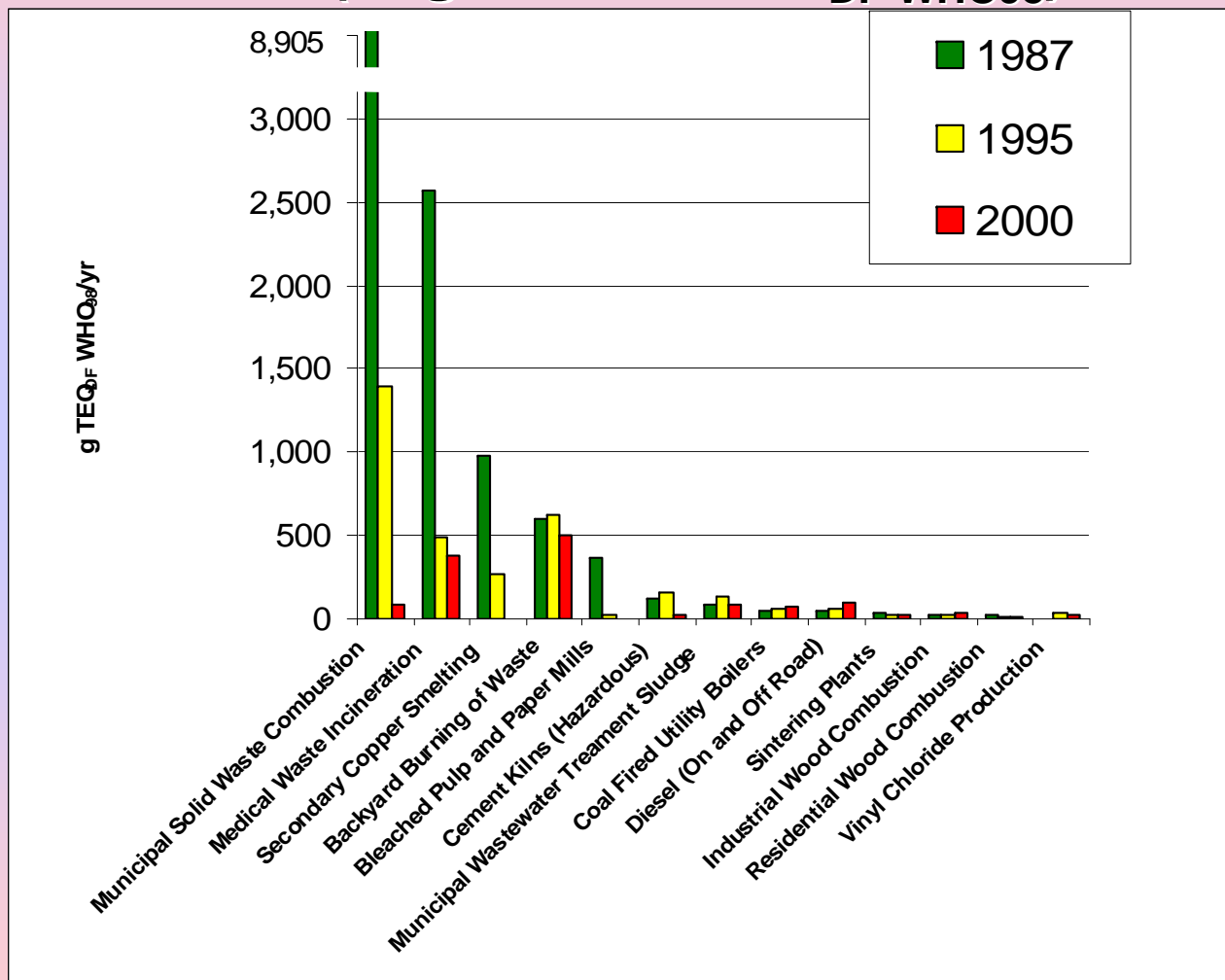


Ontario 2006 Dioxin/Furan Release Sources

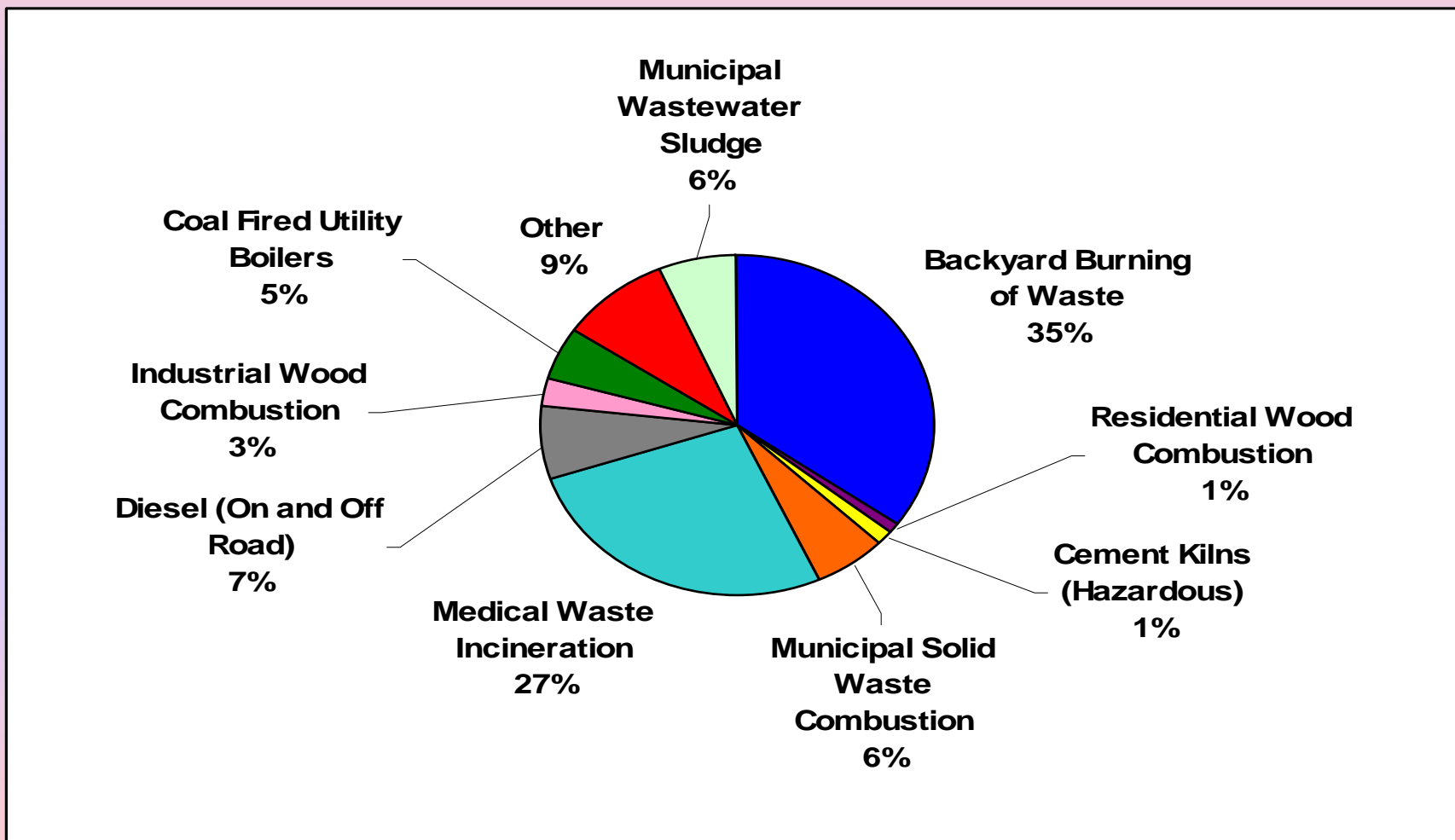


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Top U.S. Inventoried Dioxin Emissions for 1987, 1995, & 2000 (in grams of TEQ_{DF-WHO98})



2000 Top U.S. Dioxin/Furan Releases



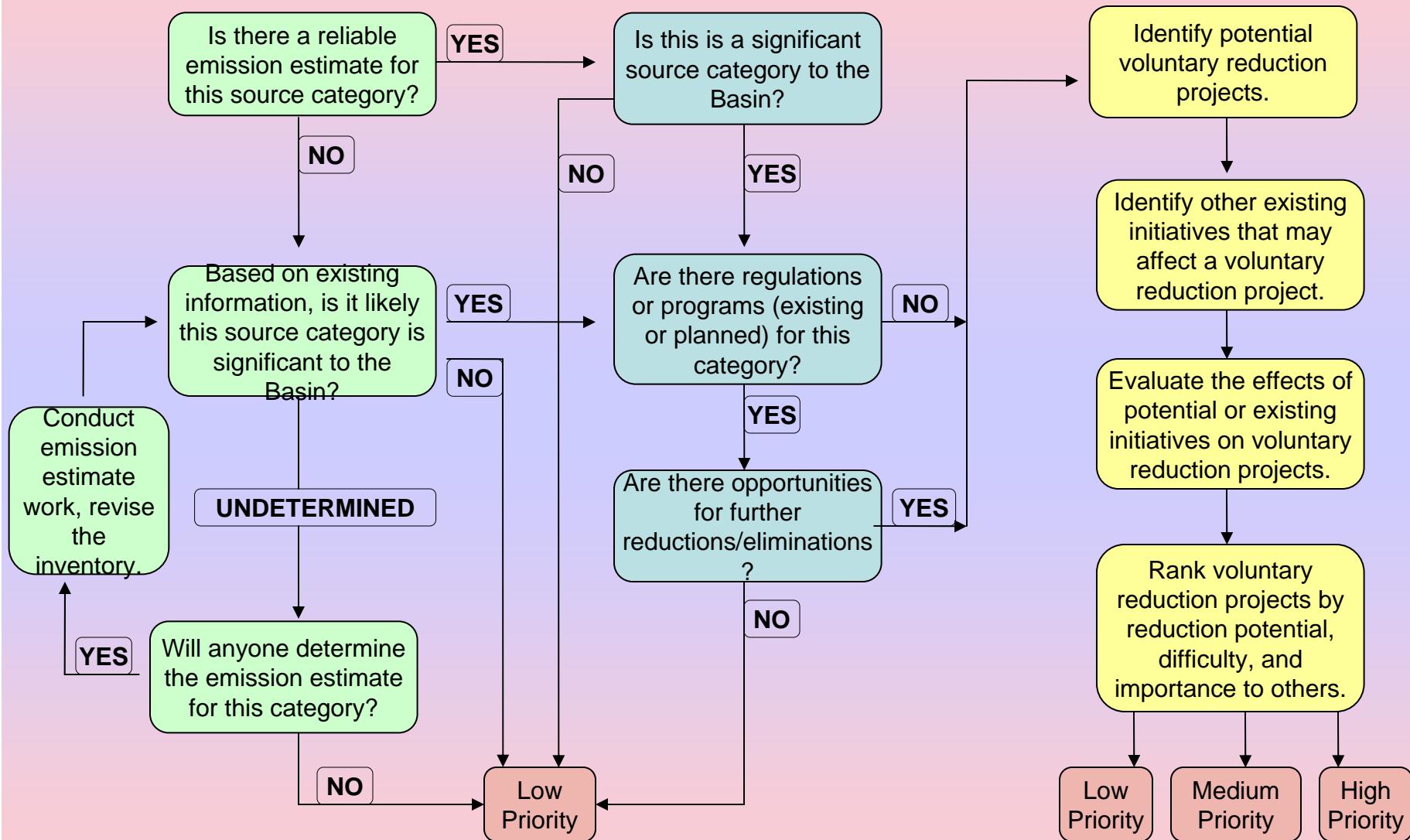
Prioritizing Sources

- **Criteria for Inventoried Sources of Interest:**
 - ◆ **Reliable emission estimates**
 - ◆ **Likely to be significant in the Basin**
 - ◆ **Releases account for more than 2% of the total dioxin inventory**
 - **U.S. – Use 2000 inventory**
 - **Canada – Use 2005 inventory**

- **Will consider non-inventoried sources of interest**

THE GREAT LAKES BINATIONAL TOXICS STRATEGY

Dioxin/Furan Workgroup Decision Tree for Prioritizing Sources



Burn Barrel Subgroup



- Ongoing Federal, State/Provincial and Tribal/First Nations activities in both countries



AIR™ THE QUEST FOR CLEAN AIR
DEFENDERS

HOME SEEK IDENTIFY RESOLVE MISSION

IDENTIFY
The Problem

Burning trash is: Unhealthy
Unnecessary
Unsafe
Unneighborly
Illegal
But... what about campfires?

Learn Not to Burn

THE GREAT LAKES BINATIONAL TOXICS STRATEGY

May 09, 2007

Newsletter

Roundtable



Canadian Centre for Pollution Prevention

Leaders in Shaping the Future of Consumption and Production

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"reducing the practice of residential garbage burning within the Great Lakes Basin."

Agriculture Sector

- Due to close proximity to food sources, workgroup is examining agricultural burning activities more closely
- Agriculture issues related to dioxins/furans and other air toxics:
 - Burning garbage, plastics
 - Animal carcass crematories
 - Outdoor boilers
 - Energy facilities to heat greenhouses
 - Feed and feed trough material
- Workgroup discussing formation of subgroup
 - ◆ Develop scope / Terms of Reference
 - ◆ List of potential members and lead

Options for Dioxin Workgroup

- **Reviewing 4 options:**
 - ◆ **Maintain active status**
 - ◆ **Maintain active status but reduced effort**
 - ◆ **Inactive status but maintain subgroups**
 - ◆ **Combine with another workgroup**

- **Structural issues need to be reviewed**
 - ◆ **E.g., subgroups**



Mercury

Work Group Co-Chairs:

Alexis Cain, US EPA

Robert Krauel, Environment Canada

December 12, 2007, Chicago

Canada's Mercury Reduction Challenge and Progress

Challenge:

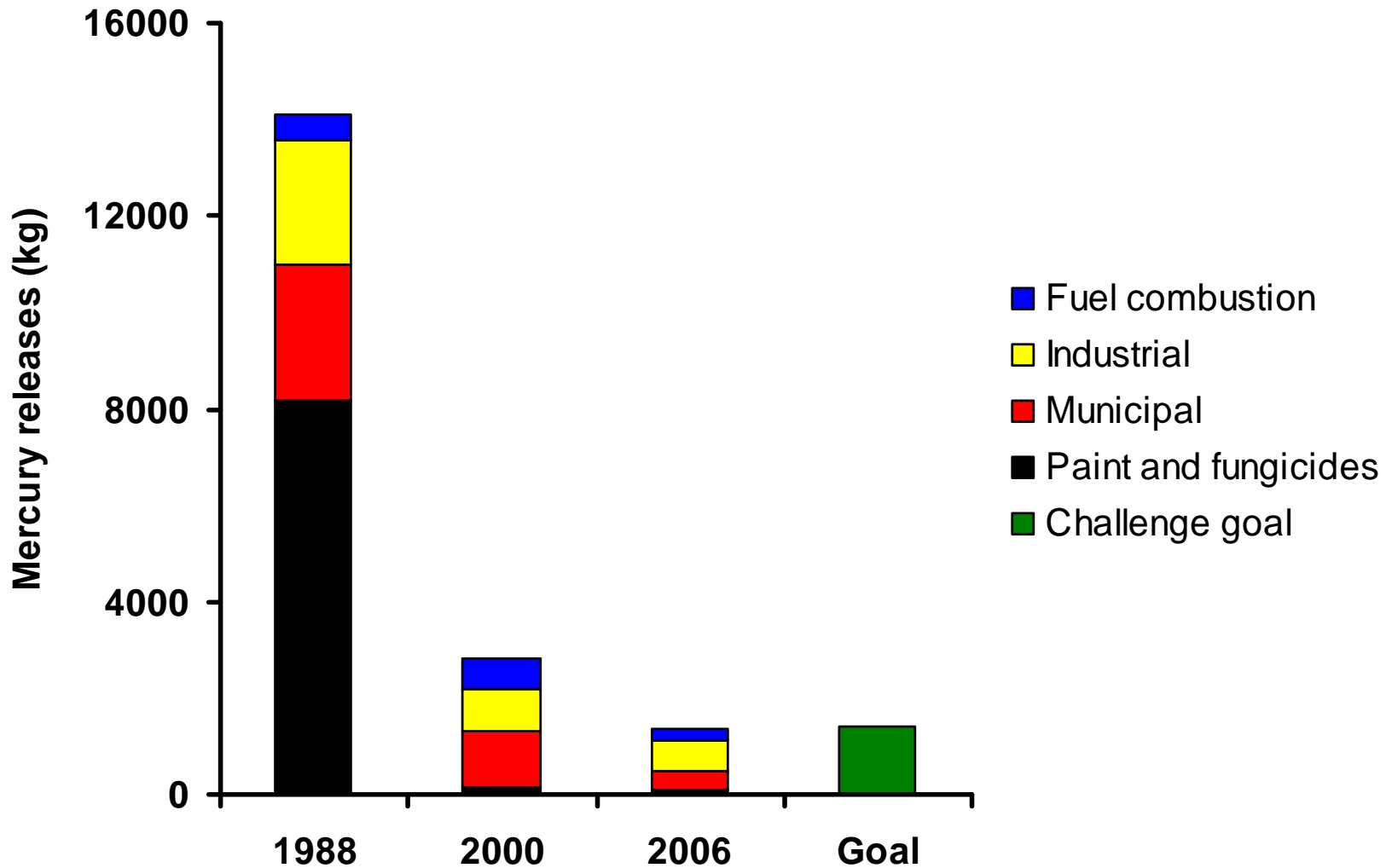
“Achieve by 2000, a 90% reduction in the release of mercury, or where warranted the use of mercury, in the Great Lakes Basin”

Baseline: 1988

Progress:

- Reduction >90% (as of 2006)

Ontario Mercury Releases



U.S. Mercury Reduction Challenge and Progress

Challenge:

“Achieve by 2006 a 50% reduction in use and air emissions of mercury nationwide”

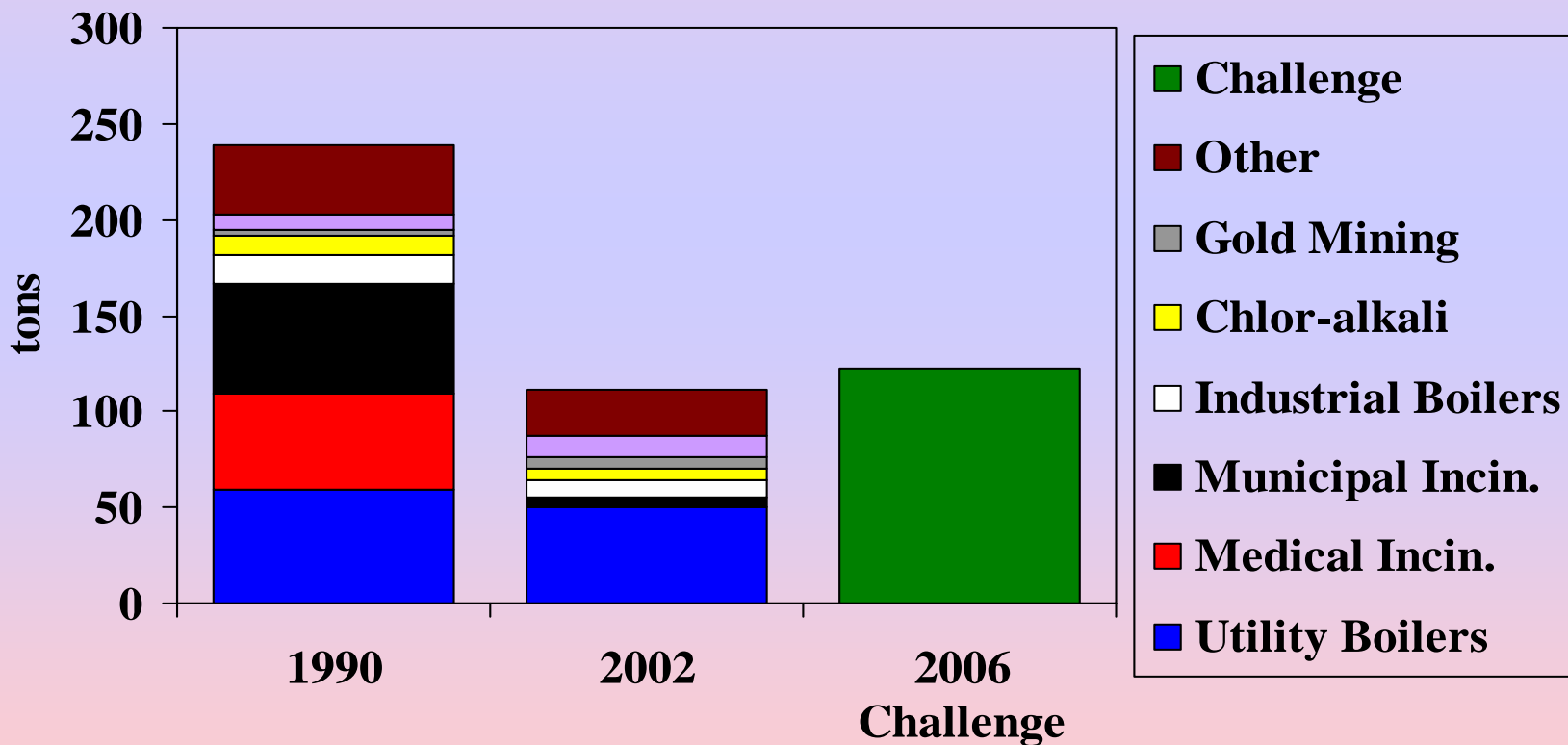
■ Baselines:

- ◆ Emissions: 1990
- ◆ Use: 1995

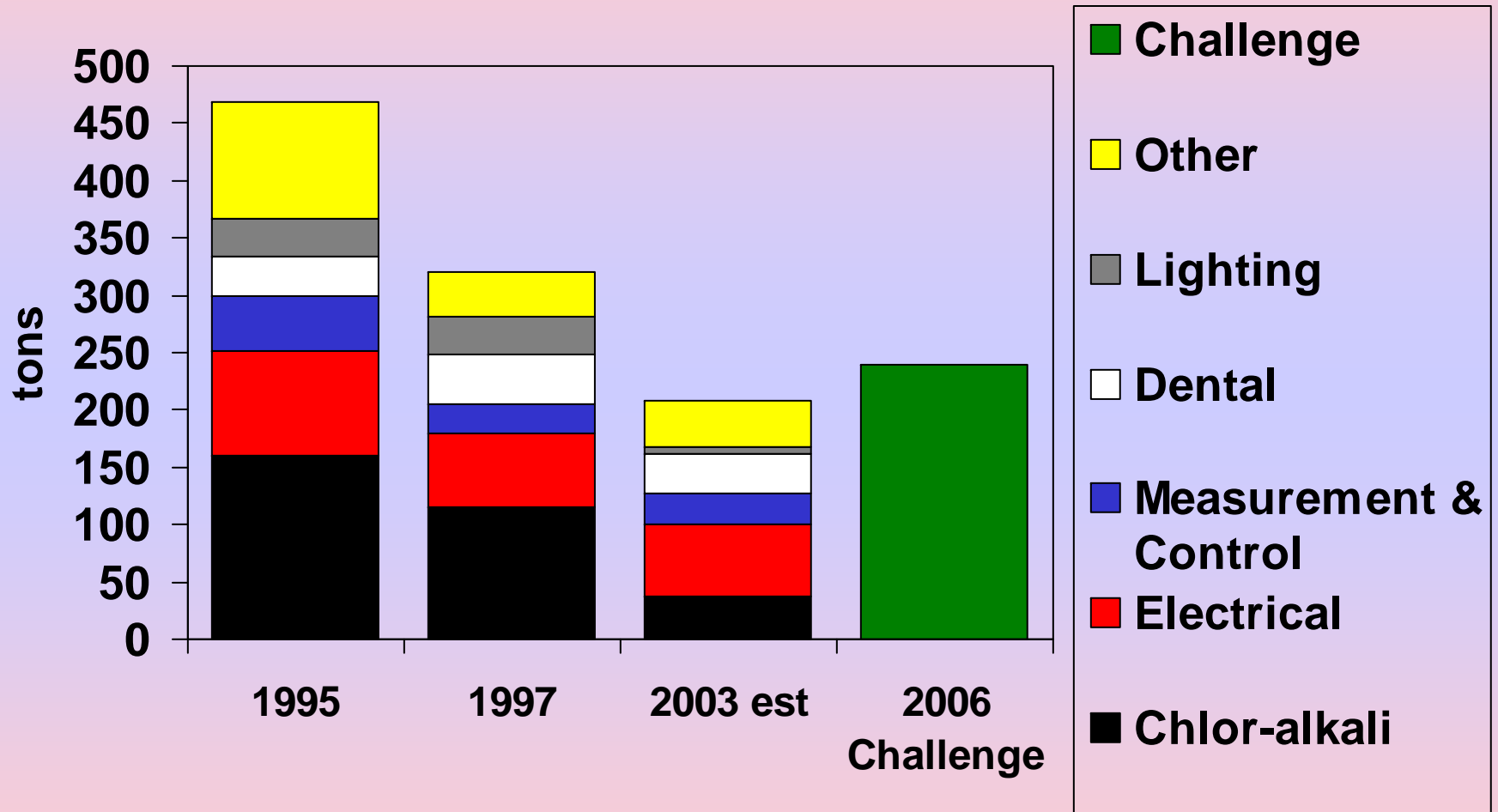
Progress (best guess):

- Emissions: > 50% reduction (as of 2002)
- Use: > 50% reduction

U.S. Mercury Emissions: 2006 Challenge, 1990 Baseline



U.S. Mercury Use



Source: US Geological Survey, *Minerals Yearbook*, 1996, 1997. Chlorine Institute Annual Report to EPA, 2004; National Electrical Manufacturer's Association, direct communication, 2004.

Accomplishments

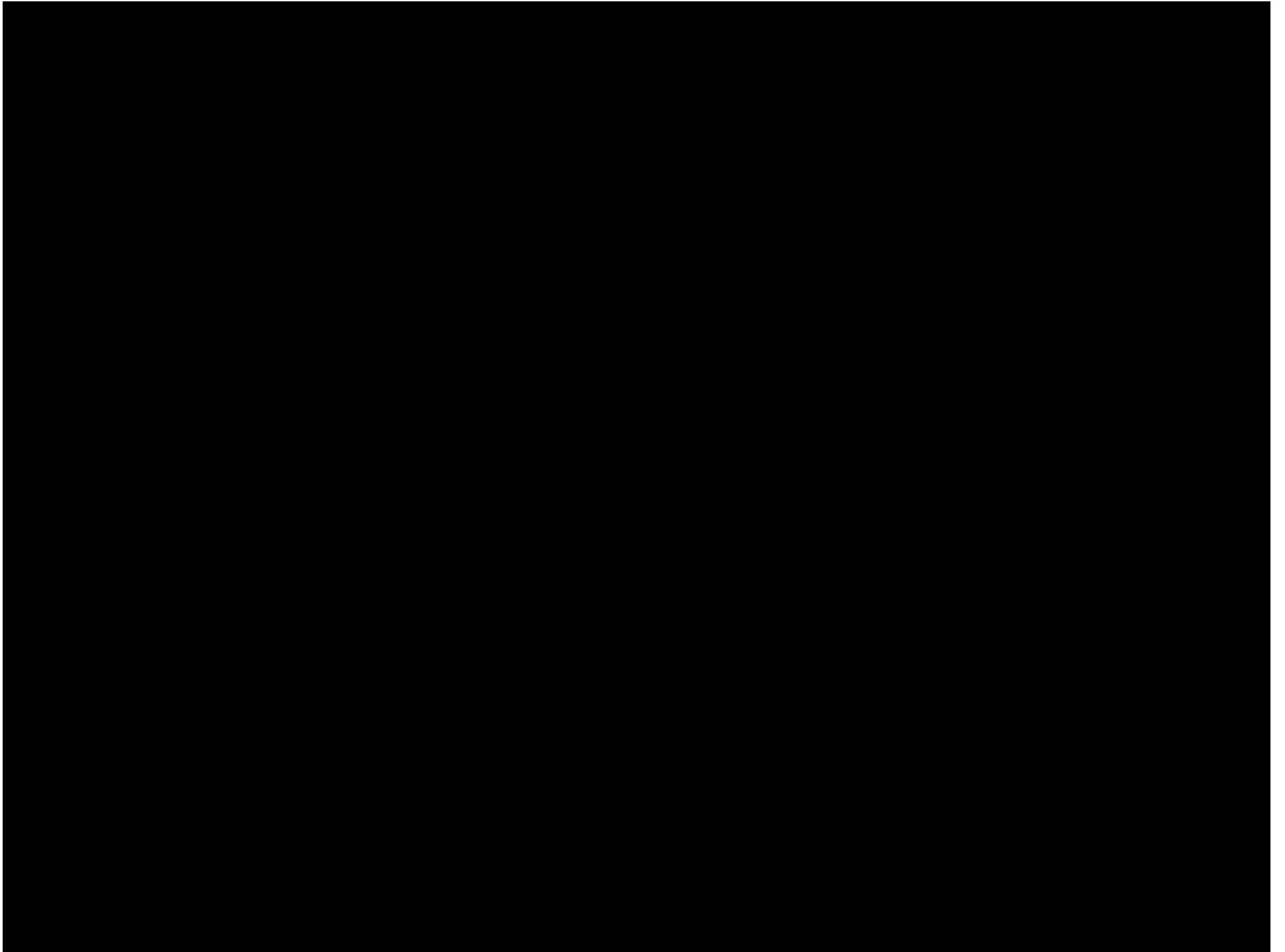
- Draft Great Lakes Mercury in Products Phase-down Strategy under the Great Lakes Regional Collaboration—public comments received
- Environment Canada's proposed Risk Management Strategy for Mercury-containing products

Accomplishments

- Chlorine Institute: 9th Annual Report (for 2006 Mercury Use)—greater than 90% reduction since 1990
- National Vehicle Mercury Switch Recovery Program—now operating in all 50 states
- “Switch the Stat” program launched for collection of thermostats in Ontario
- Recycling Council of Ontario expands Fluorescent Lamp Stewardship Program

Next Steps

- **Implementation of Phase-down Strategy and Risk Management Strategy for mercury containing products**
- **Development of a new Mercury Emissions Reduction Strategy under the Great Lakes Regional Collaboration**
- **Continue information sharing about cost-effective reduction opportunities**
- **Tracking of Environmental Progress**



Benzo(a)Pyrene and Hexachlorobenzene

Work Group Co-Chairs:

Steve Rosenthal, US EPA

Tom Tseng, Environment Canada

December 12, 2007

B(a)P and HCB Challenge Goals

Canada

- Seek a 90% reduction in releases
- By 2000

United States

- Seek reductions in releases that are within, or have the potential to enter, the Great Lakes Basin
- By 2006

Progress Toward the Challenge Goals

- Both Canada and the U.S. have achieved reductions

- The U.S. has met its commitment
 - ◆ B(a)P emissions in Great Lakes states reduced by ~77% from 1996 to 2001
 - ◆ HCB emissions reduced from 1990 to 1999, and further by 2002 (28% reduction from 1999-2002)

- Canada continues to pursue its goal, but it is unlikely that 90% reduction goal will be met in the near future
 - ◆ B(a)P releases reduced by ~52%, relative to 1988
 - ◆ HCB releases reduced by ~74%, relative to 1988

Recent B(a)P Activities: U.S.

- **Residential Wood Combustion**
 - ◆ Artificial Wax Firelog Testing completed
 - ◆ Wood Stove Change-out Program completed in Dayton, Ohio in August 2006
 - ◆ EPA has initiated its Outdoor Wood-fired Hydronic Heater Program
 - ◆ Conducted 4 Tribal workshops in Minnesota, Wisconsin, and Michigan with Canadian First Nations Burn-it-Smart trainers

- **Scrap Tires**
 - ◆ GIS mapping and tire pile inventories prepared for GLs States
 - ◆ Scrap Tire Cleanup Guidebook completed January 2006 and online training has been developed

Recent B(a)P Activities: U.S. (continued)

- **Scrap Tires (continued)**
 - ◆ Best Practices training held in Philadelphia for Pennsylvania, Maryland, New Jersey, Delaware and in Alabama and South Dakota
 - ◆ “Scrap Tire Markets in the United States” completed by RMA in November 2006

- **Coke Ovens**
 - ◆ Pushing, Quenching, and Combustion Stack MACT went into effect in April 2006
 - ◆ Residual risk requirements for doors, lids, offtakes and charging went into effect in July 2005
 - ◆ USEPA has been working with Environment Canada and Ontario MOE on an emission reduction and monitoring program at Algoma Steel in Ontario

- **Midwest Clean Diesel Initiative**

Recent HCB Activities: U.S.

- Burn Barrel reduction work ongoing through Burn Barrel Subgroup
- Ongoing effort to confirm lower levels of HCB in pesticide products
- Substantial emission reductions from several major chemical companies
- Phase one of HCB Inventory has been completed

Outlook: U.S.

- U.S. meeting its commitments for B(a)P and HCB
- Planned HCB Activities
 - Special HCB Inventory Study partially funded
 - Continue soliciting voluntary chemical company reductions

Outlook: U.S. (Continued)

- **Planned B(a)P Activities**
 - **A Wood Stove Change-out funded for Michigan**
 - **Additional Tribal Burn-It-Smart Workshops will be put on**
 - **Reduction activities planned for wood-fired boilers**
 - **Scrap tire piles will continue to be inventoried**
 - **Initiate emission reduction strategies from coal tar based parking lot sealcoats**
 - **Additional coke oven emission reduction requirements will be implemented**

Recent Activities: Canada

B(a)P:

- Residential Wood Combustion
- Creosote-Treated Wood
- Source apportionment study

HCB:

- HCB Modeling Project



Outlook: Canada

- HCB releases are very low (13.1 kg (~29 lbs))
 - ◆ Pesticides (#1 source): Promote further reductions
 - ◆ Burn Barrels (#2 source): Update residential waste generation data
 - ◆ Ferric/Ferrous Chloride (#3 source): Update information on sewage sludge

- Will not meet B(a)P goal
 - ◆ Iron & Steel (#1 source): Number under review by NPRI
 - ◆ Creosote Railway Ties (#2 source): Ontario Creosote Survey being conducted
 - ◆ Wood Stoves (#3 source): Workshops with municipalities; EPA-certified stoves testing; update wood usage data

