

Addressing Reduction of Demand and Supply of Mercury



International Mercury Conference
Brussels, Belgium
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Purpose

- Identify issues relating to mercury supply and demand
- Discuss efforts by the U.S. to reduce demand and manage mercury supplies



Reductions in U.S. Mercury Demand

- Between 1980 and 2001, annual mercury use in the U.S. shrank from 2,225 to 271 metric tons
- Reductions were largely due to
 - Limits on mercury use in batteries
 - EPA's cancellation of pesticide registrations for the use of mercury in paint
 - Closure of chlor-alkali manufacturing plants, and
 - Progress under the United States-Canada Great Lakes Binational Toxics Strategy
 - Voluntary agreement which set forth a goal of 50% reduction by 2006



Reductions in U.S. Mercury Demand

- The U.S. continues to focus on reducing risks where cost effective substitutes exist, thus reducing domestic mercury demand
- Increased efforts to identify and promote mercury alternatives in products and processes
 - Reductions in mercury use in products
 - Reductions in the use of mercury in processes
 - Two of the eight remaining chlor-alkali manufacturing plants in the U.S. scheduled to close in 2008
 - From 1995 to 2005, 91% decrease in the amount of mercury used in production of chlorine and caustic soda
 - New regulations will further reduce emissions from the use of mercury in chlor-alkali plants
 - United States regulations prohibit the new construction of mercury cell chlor-alkali plants



Partnership Efforts to Reduce Global Mercury Demand

- The U.S. supports reductions in demand globally through the Global Partnerships for Mercury Reduction
- The U.S. has been a strong supporter of partnership efforts under UNEP's Global Mercury Program
- The partnership approach aims for immediate, tangible mercury reductions and effective actions
- Currently, three global mercury partnerships focus on reducing demand
 - Mercury Reduction in Products
 - Mercury Reduction in the Chlor-alkali Sector
 - Mercury Management in Artisanal and Small-scale Gold Mining



Partnership Efforts to Reduce Global Mercury Demand

- The partnership approach aims for immediate reductions in mercury releases and exposure
- The partnerships are leveraging
 - resources
 - technical expertise
 - technology transfer
 - information exchanges
- The partnerships are intended to provide
 - effective actions
 - tangible reductions of mercury use and emissions



Mercury Reduction in Products

Identifies and implements successful approaches for reducing or eliminating mercury in products where there are effective substitutes.

- North American Commission for Environmental Cooperation (CEC) Americas capacity building workshop in Mexico
- Health Care Projects
 - Active projects in China, Argentina
 - Planned projects in Mexico
 - Potential projects in Central and South America
- Burkina Faso
 - Initial life-cycle assessment for products
- Philippines
 - Mercury in schools case study



Mercury Reduction in the Chlor-Alkali Sector

Promotes the reduction or elimination of global mercury releases through the adoption of best management practices or through conversion to non-mercury cell technology.

- Russian pilot demonstration project
 - Workshop in Volgograd Russia
 - Cleaner production training
 - Expected to result in 20-25% reduction in mercury use and release
- Mercury Stewardship Workshop
 - Coatzacoalcos, Mexico
 - Information sharing and technology transfer
 - Potential demonstration projects



Mercury Management in Artisanal & Small-Scale Gold Mining

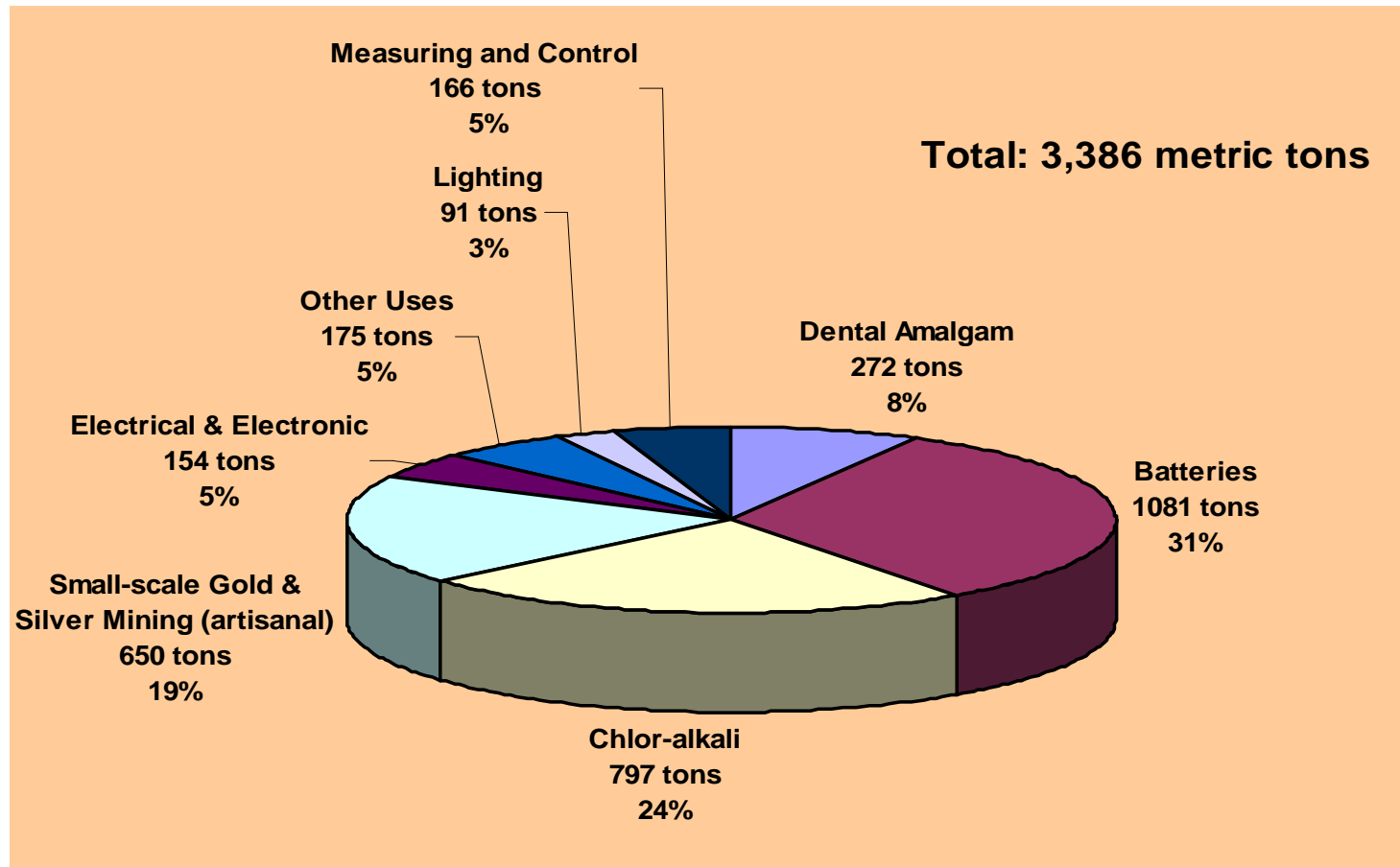
Reduces human health and environmental impacts associated with the use of mercury in artisanal gold mining by working with mining communities and small-scale gold producers

- Pilot projects in Senegal and Brazil in conjunction with UNIDO
 - Expect measurable improvements in mercury consumption and releases by mid-2007
- Mongolia
 - Information sharing
 - Public awareness programs



Changes in Global Demand

Global Mercury Demand, 2000

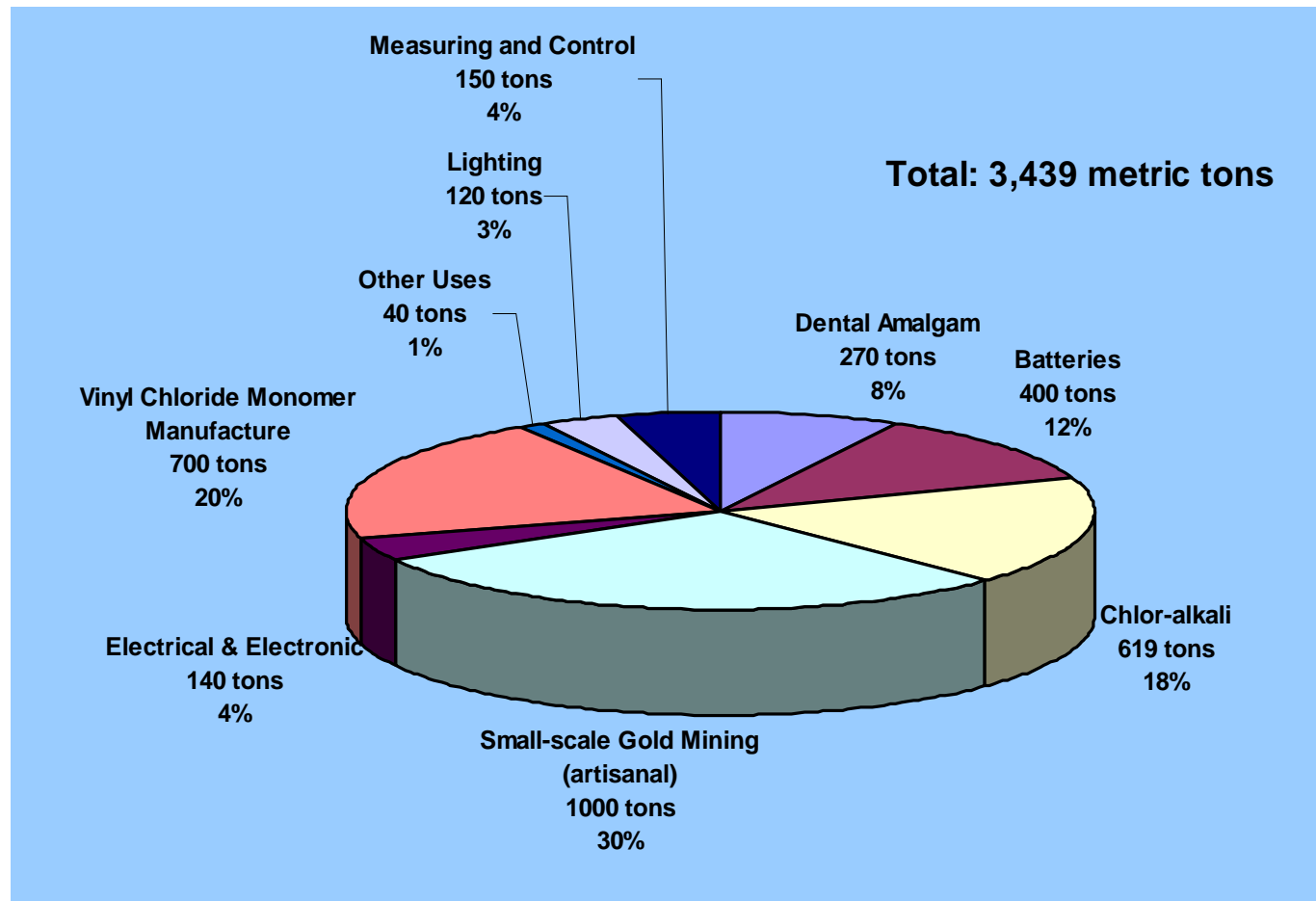


Maxson, P.A., 2004, Mercury Flows Report: Mercury Flows in Europe and the World, the Impact of Decommissioned Chlor-alkali Plants. European Commission. Accessible at: <http://ec.europa.eu/environment/chemicals/mercury/pdf/report.pdf>.



Changes in Global Demand

Global Mercury Demand, 2005



Maxson, P.A., 2006, "Mercury Flows and Safe Storage of Surplus Mercury." Accessible at: http://ec.europa.eu/environment/chemicals/mercury/pdf/hg_flows_safe_storage.pdf



Current Supply Challenges

- The wholesale price of mercury is increasing
 - From 2000 to 2005, the price increased from \$155 USD to \$750 USD per flask
- However, the price of gold has also increased significantly
- Use of mercury for artisanal mining has increased ~50%
- As demand decreases in developed countries, it appears that mercury flows from developed countries to developing countries



U.S. Efforts to Address Mercury Supplies

- Current U.S. stocks total ~7,556 metric tons
- Progress to date
 - More than half is already in long term storage
 - U.S. Department of Defense has 4,436 metric tons of mercury in its strategic stockpile
 - Will be stored at one location for at least 40 years
- Other stockpiles
- Smaller quantities
 - Recovered mercury and byproduct mercury



U.S. Efforts to Address Mercury Supplies

- Current activities
 - Environmental Protection Agency is working with other U.S. Agencies to initiate a process with technical experts and interested parties
 - Discuss domestic options for addressing the expected surplus
 - Discuss ways to encourage the phase-out of mercury mining abroad