

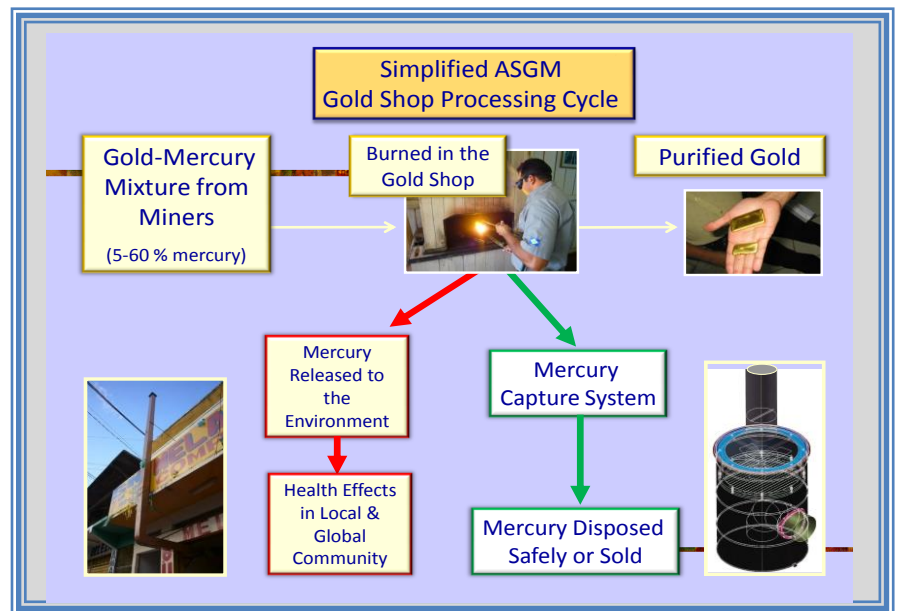


## New Technology for Cleaner, Safer Gold Processing Shops: REDUCING MERCURY AIR EMISSIONS

Artisanal and small-scale gold mining (ASGM) uses mercury to concentrate small particles of gold found in sediments and ore, and is the **largest source of mercury releases to the environment** of any sector in the world. With increasing global demand for gold, this practice has increased worldwide.

ASGM is an important source of income for millions of people around the world, including those working in approximately 50,000 gold processing shops globally. The shops refine the gold by burning off the mercury, and then purchase the pure gold from miners. They are a source of **extremely high mercury emissions** to the air.

Gold shop mercury emissions have serious **local impacts** on gold shop workers and their communities, and **global impacts** as the emissions travel widely in the air. Mercury exposure at high levels can harm the brain, heart, kidneys, lungs, and immune system. High levels of methylmercury in the bloodstream of unborn babies and young children may harm the developing nervous system, making the child less able to think and learn.



We have an opportunity to address this problem. We can **improve the health of mining communities, and of people throughout the world** whose fish and other food sources are impacted by global mercury emissions.

### LOCAL AND GLOBAL COMMUNITIES AT RISK

Gold shop workers typically work long hours in highly contaminated conditions. **Owners, workers and customers, including pregnant women and small children, are exposed to mercury vapor inside the shops.**

EPA investigations of gold shops in Brazil and Peru found high mercury levels both inside and outside the shops. In Peruvian ASGM communities, EPA's preliminary data show mercury levels in gold shops up to 40 times above safe levels for workers. Outside the shops, concentrations can be 166 times above safe levels for ambient air.

Residents living near gold shops are further exposed to this mercury in the air they breathe and fish they eat. **Mercury from gold shops can also travel great distances in the air and deposit in water, raising mercury levels in fish worldwide and creating risks for global communities.**



A gold shop worker burns off mercury from gold amalgam. Without proper controls, mercury vapor will escape, harming him, his community, and the global environment.

## ON THE GROUND SOLUTIONS AVAILABLE

**Gold shops can reduce their emissions** with low-cost mercury capture technologies, such as the Mercury Capture System, which was designed by U.S. EPA in cooperation with Argonne National Laboratory.

This simple, low cost device can be locally produced for under \$500, and **reduces emissions by up to 80%**. Gold shops can send captured mercury to an environmentally sound disposal facility, or sell to miners for reuse.

Other mercury capture options for gold processing are also available. For more information about the Mercury Capture System and other solutions, visit our [website](#).

## THE TIME IS RIGHT FOR CLEANER GOLD SHOPS

The new **Minamata Convention on Mercury** and other international efforts provide opportunities to build capacity and focus attention on this topic. Governments, the private sector, and non-profit partners can collaborate now to expand the use of mercury capture technologies for cleaner gold shops – and to deliver more **responsibly produced gold** to the global marketplace.

Working with gold shops is an **immediate opportunity** to **dramatically reduce mercury risks** to workers, their communities, and people throughout the world.

## NEEDED NEXT STEPS

We can achieve improvements to ASGM livelihoods through responsible gold production. **Join partners engaged in ASGM to help mining communities adopt gold shop mercury capture technologies** to protect their health and the environment. Get involved by supporting efforts to:

- Train metal workers to build and install effective mercury capture systems
- Build community awareness
- Foster adoption of mercury capture technologies

**Together, we can work toward worldwide adoption of mercury capture systems for gold shops.** We value your support in making these next steps a reality.

Learn more: [www.epa.gov/international/asgm/](http://www.epa.gov/international/asgm/)

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