GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

GEF/C.39/Inf.9
October 19, 2010

GEF Council Meeting
November 16 - 18, 2010
Washington, D.C.

STRATEGY FOR MERCURY PROGRAMMING IN THE 5TH REPLENISHMENT PERIOD OF THE GLOBAL ENVIRONMENT FACILITY

EXECUTIVE SUMMARY

1. Mercury is a global pollutant which can only be effectively controlled through coordinated international action. The GEF's 5th Replenishment calls for an allocation of $10 million for projects to complement and advance negotiations on a global, legally-binding mercury instrument. The mercury Intergovernmental Negotiating Committee (INC) process began in June, 2010 and will continue until early 2013 at which time the instrument is expected to be opened for signature.

2. Mercury is traded internationally and is used in a variety of products (thermostats, thermometers, blood pressure gauges, and other measuring devices; batteries; switches, relays and other electronic equipment; fluorescent lamps; and dental amalgam) and industrial processes, (including artisanal and small-scale gold mining; certain processes for chlorine, caustic soda, and vinyl chloride monomer production.) For most products and processes, cost-effective alternatives to mercury exist. Reducing mercury use is the most direct way to reduce mercury exposures and releases to the environment.

3. Mercury is released to the environment from these intentional uses of mercury and from a number of other sources. The largest man-made source of mercury emissions to the atmosphere is fossil fuel combustion for power and heating. Other sources include industrial metals production, cement production, and waste incineration. Mercury emissions to the atmosphere can be controlled in conjunction with controlling for other pollutants, and through mercury-specific control measures.

4. GEF 5 mercury resources are intended to support assessment and pilot activities that will advance the development of the global mercury instrument and improve countries' abilities to implement its provisions when the instrument enters into force. The strategy calls for a facilitative approach to address key issue areas and knowledge gaps through projects which can be deployed quickly and show results within the INC process timeframe. Building synergies with GEF focal area activities and leveraging larger investment and lending projects are key elements of the strategy. The GEF welcomes project proposals, consistent with the strategy, in the following issue areas:

- Reducing Mercury Use in Products
- Reducing Mercury Use in Industrial Processes
- Reducing Mercury Use and Exposures in Artisanal and Small-Scale Gold Mining
- Enhancing Capacity for Mercury Storage
- Reducing Atmospheric Emissions of Mercury
- Improved Data and Scientific Information at the National Level
- Enhancing Capacity to Address Waste and Contaminated Sites

TABLE OF CONTENTS

SCOPE OF THE PROBLEM AND GLOBAL ENVIRONMENTAL BENEFITS TO BE ACHIEVED

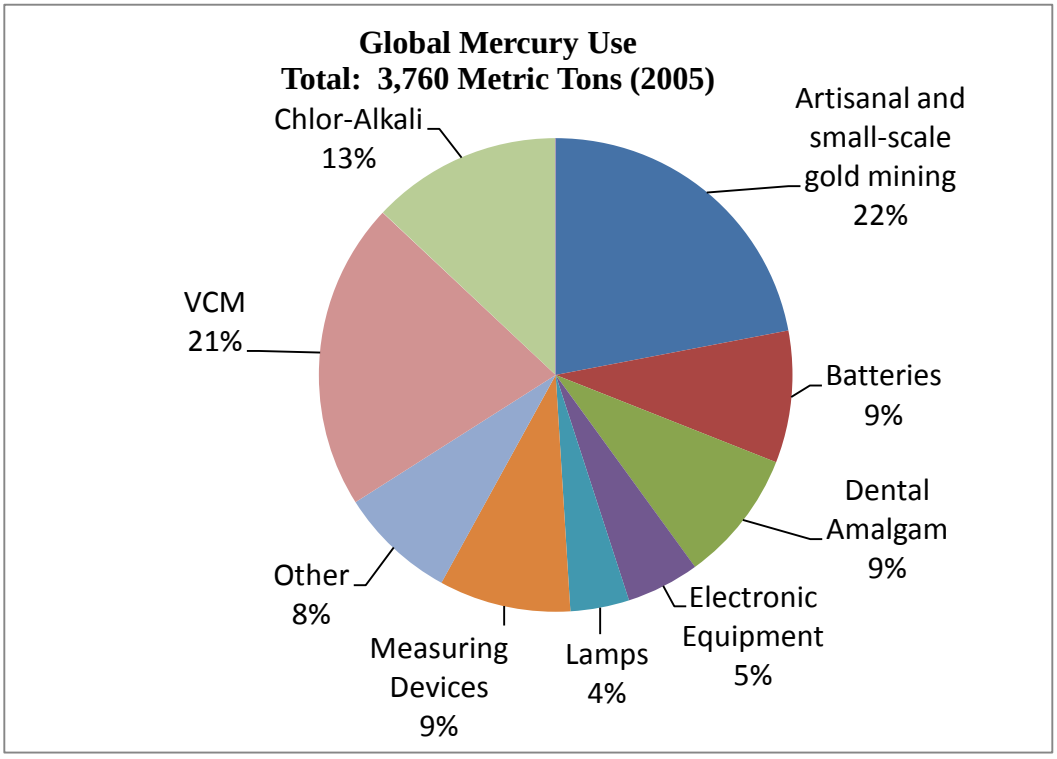
1. Recognizing that the global chemicals management agenda has expanded in scope since GEF 4, the GEF has taken a significant step towards addressing global mercury pollution in its 5th Replenishment.

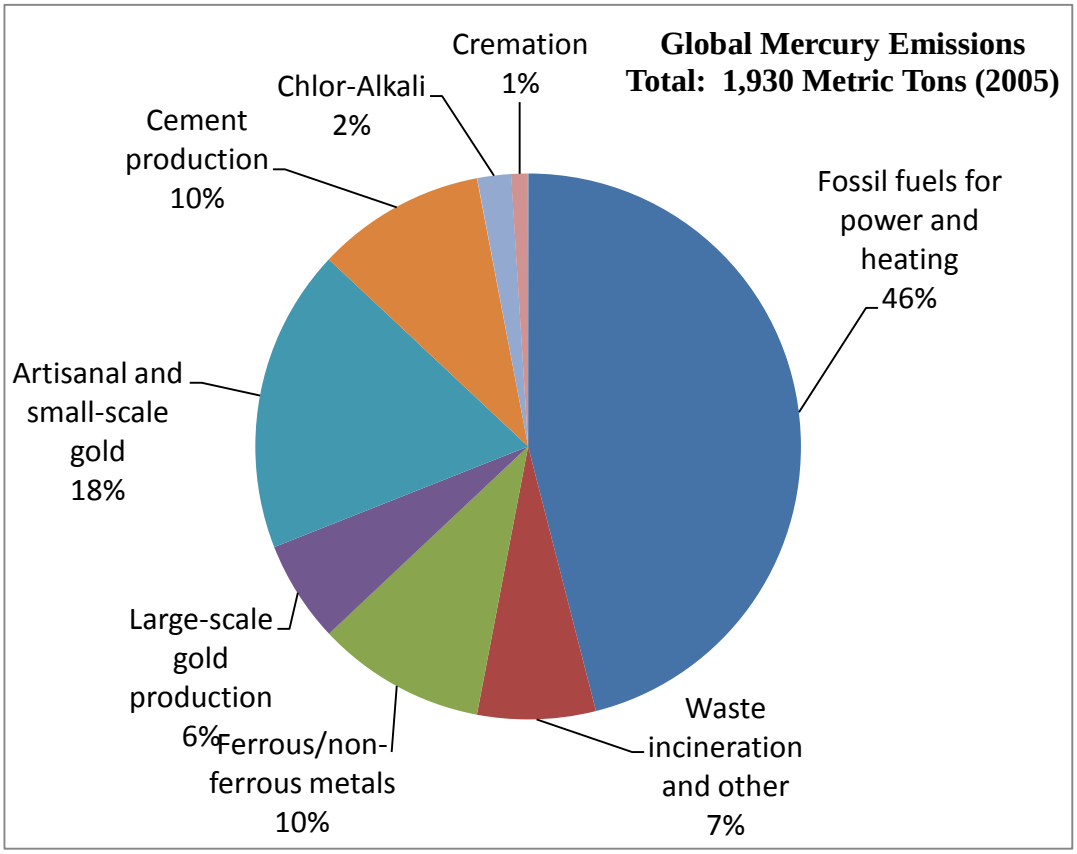
2. Mercury is a neurotoxic heavy metal which is released to the environment from a wide range of industrial and small-scale sectors. Once emitted to the atmosphere, mercury can travel long distances, depositing far from its source. When deposited to land, fresh water bodies, and oceans, much of the mercury is transformed by microorganisms into highly toxic methylmercury, which bioaccumulates in fish tissues. While widespread ecosystem damages have resulted from mercury releases, its effects on human health have galvanized international attention.

3. While populations which rely heavily on certain types of fish for protein are particularly at risk for mercury exposure, many communities throughout the world are exposed to elemental mercury and mercury vapors at levels which pose significant health risks. Pregnant women, developing fetuses, and young children are particularly vulnerable to mercury, which can cause neurological and developmental problems in children. However, adults are also at risk for a range of health effects, including kidney, heart, and respiratory problems, tremors, skin rashes, vision or hearing problems, headaches, weakness, memory problems, and emotional changes. Mercury's adverse effects can be slow-acting and subtle, or rapid and acute, depending on exposure and risk factors.

4. For these reasons and with the understanding that mercury is a global pollutant which can only be effectively controlled through coordinated international action, governments agreed to launch negotiations on a global, legally-binding mercury instrument. The decision was taken at the 25th Session of the United Nations Environment Programme (UNEP) Governing Council in February, 2009. The first Intergovernmental Negotiating Committee (INC) session took place in June, 2010. The INC process will continue until early 2013 at which time the instrument is expected to be opened for signature.

5. According to the UNEP 2008 "Report on current supply and demand for mercury, including projections considering the phase out of primary mercury mining," global mercury use in 2005 was approximately 3,760 metric tons. A significant portion of mercury used for any purpose is released to the atmosphere and becomes subject to local, regional, and global transport and deposition. According to the UNEP "Global Atmospheric Mercury Assessment: Sources, Emissions and Transport, December 2008," 1,930 metric tons of mercury were emitted to the atmosphere from anthropogenic sources in 2005. It should be noted that global use and emissions inventory data are incomplete and these figures are averages within a range of uncertainty. Natural sources and re-emissions of historical releases of mercury also add to the "global pool" of mercury in the atmosphere. Direct releases of mercury to land and water bodies are not well quantified on a global basis.


Global Mercury Use
Total: 3,760 Metric Tons (2005)
Chlor-Alkali 13%
Artisanal and small-scale gold mining 22%
VCM 21%
Batteries 9%
Dental Amalgam 9%
Other 8%
Electronic Equipment 5%
Measuring Devices 9%
Lamps 4%


Global Mercury Emissions
Total: 1,930 Metric Tons (2005)
Cremation 1%
Chlor-Alkali 2%
Cement production 10%
Fossil fuels for power and heating 46%
Artisanal and small-scale gold 18%
Large-scale gold production 6%
Ferrous/non-ferrous metals 10%
Waste incineration and other 7%

INC ISSUE AREAS: CHALLENGES AND OPPORTUNITIES FOR EARLY IMPACT

6. The mandate for the mercury INC process, as agreed in UNEP Governing Council Decision 25/5 (Paragraph 27), is to develop a comprehensive global approach to mercury which will include provisions to achieve the following:

- Specify the objectives of the instrument
- Reduce the supply of mercury and enhance capacity for its environmentally sound storage
- Reduce the demand for mercury in products and processes
- Reduce international trade in mercury
- Reduce atmospheric emissions of mercury
- Address mercury-containing wastes and remediation of contaminated sites
- Increase knowledge through awareness raising and scientific information exchange
- Specify arrangements for capacity building and technical and financial assistance recognizing that the ability of developing countries and countries with economies in transition to implement some legal obligations effectively under a legally binding instrument is dependent on the availability of capacity building and technical and adequate financial assistance
- Address compliance

GEF-5 MANDATE AND APPROACH

7. As stated in the Programming document approved at the Fourth GEF Assembly in May, 2010, "The GEF Instrument provides that 'the agreed incremental costs of activities to achieve global environmental benefits concerning chemicals management,' as they relate to the GEF focal areas, are eligible for funding…The positive experiences from GEF's early work before the POPs convention was finalized indicate that early action to build capacity for reducing releases of mercury will also achieve good results." The replenishment participants agreed to specify a small amount of funding, $10 million, for mercury reduction. This funding is envisioned to support assessment and pilot activities that would advance the development of the mercury instrument, and improve the readiness of countries to fully implement the provisions of the future instrument when it enters into force. Some additional funding for mercury is expected to be mobilized from other GEF focal areas, such as the International Waters (IW) area, which has taken a leading role in protecting water bodies from mercury use from artisanal mining. Following the replenishment decision, the Secretariat felt that this new programmatic area, while grounded in the POPs focal area and other chemicals-related GEF programs, merited a thorough strategic analysis. The current funding is significant compared to global funding dedicated to this issue to date, and it can and should be influential and catalytic.

8. Resources are limited when considering the multi-sectoral nature of mercury use and releases. Thus, the present strategy points towards a facilitative approach in which GEF resources are aimed towards addressing key issue areas and knowledge gaps which might otherwise limit negotiating options in the INC process, rather than trying to "do everything" with respect to mercury. Projects funded under this strategy should be able to be deployed quickly,

show results within the INC process timeframe, and demonstrate the need and feasibility of taking action to control global mercury risks. The approach is not intended to pre-judge decisions to be taken by negotiators with respect to which mercury concerns should be subject to specific control measures to be included in the legally-binding instrument and potentially eligible for financing.

9. Consistent with prior GEF approaches to chemicals programs, mercury programming should build upon and contribute to strengthening a country‘s foundational capacities for sound chemical management more generally, should promote pollution prevention approaches, and would be based within a lifecycle approach to minimize adverse effects upon health and the global environment. Further, GEF support would help mobilize other sources of finance for projects and programs for sound chemicals management to achieve global benefits.

10. Because the GEF’s operational approach calls for financing only the incremental cost of a specific global environmental benefit, projects funded under this strategy should demonstrate that they address not just localized impacts of a mercury pollution source, but the risk of environmental transport, deposition, and bioaccumulation. GEF mercury projects could show significant impact if they build such global environmental benefits into mainstream investment projects. Further, the GEF emphasis on innovation would favour demonstrations of innovative, appropriate, or new technologies and approaches, including supply and demand reduction rather than end-of-pipe release reductions. Environmental monitoring and research would be funded as a sub-component of a larger approach to understanding or reducing specific global mercury risk areas, rather than a stand-alone effort. In line with the catalytic role of the GEF and its strength in piloting new approaches, projects should support the development of guidance documents, using harmonized methodologies for data collection and monitoring, and disseminating results broadly through multiple media pathways.

11. As recommended in the GEF Fourth Overall Performance Study (OPS4), projects should carefully evaluate social and gender issues, both in terms of differential adverse impacts upon various populations which could be mitigated by the project, and in terms of involvement of specific population groups to ensure uptake of the approaches being advanced in the project. For example, women make up a substantial proportion of artisanal gold miners and processors, while pregnant and nursing mothers and their offspring are most at risk from mercury exposure. Raising their awareness regarding the risks and how to avoid the risks is essential for project success. On a wider scale, women play a vital role in food selection and preparation, so raising awareness about methylmercury in the food chain will facilitate exposure reduction. The GEF Agencies would be encouraged to strengthen relevant safeguarding and best practice documents and procurement guidelines that they use so as to take into account mercury considerations.

12. Thus, there would be a number of considerations against which a GEF mercury proposal would be evaluated, some or all of which would apply to any individual project:

- Provide a clearly stated global environmental benefit and discussion of GEF incremental impact
- Improve understanding of specific mercury risks including by characterizing the sources and magnitude of mercury supply, use, and releases in countries

- Demonstrate ability to deploy quickly, showing results within the INC process timeframe, and demonstrating the need and feasibility of taking action to control global mercury risks.
- Improve understanding of specific risk management approaches
- Address barriers to adoption of mercury control measures
- Employ lifecycle and preventive approaches to mercury, demonstrating approaches that are innovative, appropriate, and economically sustainable.
- Describe a vision for scaling up and a strategy for replication
- Provide a description of benefits to women and vulnerable populations
- Incorporate women and vulnerable populations in mitigation design
- Demonstrate that the effort is integrated into national chemicals management approaches and plans and employs a multi-sectoral, multi-stakeholder approach
- Employ harmonized data collection, monitoring, and reporting methods
- Mobilize financing from other sources, including the private sector, to maximize global benefits
- Include an approach/result dissemination component

13. A number of organizations, including some GEF Agencies, have experience with mercury projects or have strengths which are or could be effectively applied to mercury management. UNEP plays a leading role on mercury on the global stage, hosting the Secretariat for the INC process as well as for the UNEP Global Mercury Partnership, a multi-stakeholder approach to mercury management in specific sectors. UNEP is in a good position to provide sound scientific and technical advice to governments on mercury, which will facilitate projects which remove barriers to the adoption of effective approaches on mercury. The development banks would be expected to play a role commensurate with the potential for mainstreaming mercury projects in investment projects. The World Bank, for example, could take advantage of its work in the energy sector in key countries to demonstrate process optimization to enhance mercury capture from existing pollution control technologies. The United Nations Industrial Development Organization (UNIDO) has experience working on mercury use in artisanal mining as well as on cleaner industrial production in sectors of concern, while United Nations Institute for Training and Research (UNITAR), United Nations Development Programme (UNDP), the International Energy Agency, and the Secretariat of the Basel Convention are active in certain aspects of mercury management. The World Health Organization has a natural interest in mercury due to its health effects, particularly on children, and its ongoing use in medical and dental products. Interest by the Food and Agriculture Organization (FAO) would relate primarily to protection of fishery resources from mercury pollution, while the International Labour Organization's interest would relate to occupational hazards of mercury use.

14. Broad-based, global coalitions of non-governmental organizations have also been engaged on the mercury issue for many years. Zero Mercury Working Group members have worked to raise awareness among governments and the public about mercury risks, and a number of them have worked actively to implement practical solutions for mercury reduction. The International POPs Elimination Network has also engaged constructively, reflecting its successful approach in the years leading up to the Stockholm Convention's entry into force. Finally, a number of industry associations have worked within their membership to promote responsible action towards mercury.

15. Annex II provides links to ongoing activities and progress reports relevant to mercury, including links to the UNEP Global Mercury Partnership and its various work areas.

SYNERGIES WITH THE GEF FOCAL AREAS

16. Mercury benefits can be achieved in the context of achieving other local or transboundary pollution objectives. In some cases, in fact, it would not be effective to address mercury as a single pollutant or issue, where only a holistic approach to a sector will generate needed changes. Leveraging programs in other GEF focal areas is an important element of this strategy.

17. The GEF is the financing mechanism for the Stockholm Convention on Persistent Organic Pollutants (POPs). The GEF also finances work on ozone depleting substances (ODS) and other chemicals issues, though funding for the latter has been very small relative to the overall chemicals budget. In GEF 5, $10 million was designated for the sound management of chemicals.

18. The mercury agenda could benefit from other work on sound management of chemicals mainly by leveraging existing institutional strengthening efforts, inventory and pollutant release and transfer registry (PRTR) work, and information/awareness platforms. While the formal linkages to the chemicals and waste conventions and to Strategic Approach to International Chemicals Management (SAICM) are the subject of the INC process, it is likely that mercury programming will benefit from capacities and institutional infrastructure developed through multilateral environmental agreements on chemicals and waste. Programs on environmental or biomonitoring for POPs might be able to readily add a mercury monitoring component at low cost. Mercury waste management and storage efforts could benefit from experience, and possibly ongoing project activity, in POPs destruction and waste management, in particular, experience learned from assessments of regional capacities for POPs disposal. Work to address mercury wastes, including assessments of waste quantities, sources, and trends, should take note of Basel Convention activity in this area, including Basel guidelines for mercury waste management, now under development.

19. Important mercury advances were made in GEF 4 through a multi-country medical waste project to control unintentional releases of POPs (dioxins and furans). Funding of US $ 400,000 was added to this project from the International Waters focal area to address mercury in a cost-effective fashion. Through phase-out of mercury-containing medical equipment in hospitals, the UNDP-managed project successfully added a mercury component to take mercury out of selected medical waste streams. The project also developed guidance for dealing with mercury-containing waste resulting from phase-out.

20. Mercury reduction efforts in artisanal and small-scale gold mining (ASGM) are likely to confront challenges with respect to other chemicals, including cyanide (one of the main alternatives to mercury for small-scale miners), lead (sometimes found in gold ore and released during uncontrolled processing) and tailings. Mercury funding could be augmented by other chemicals funds to best address these issues at relatively low cost. The SAICM Quick Start

Program has funding two regional projects on mercury in ASGM; these projects in Asia and Latin America encourage the development of national and regional action plans for mercury reduction in this sector, and are in initial stages of implementation.

21. In recent years, funding for mercury mitigation has been available through the International Waters (IW) focal area as part of its Persistent Toxic Substances (PTS) objectives. Recognizing the severe impact on transboundary water bodies and fisheries caused by mercury use in ASGM, IW funded a six-country pilot project to address this issue. UNDP was the implementing agency for the UNIDO Global Mercury Project, which successfully conducted health and environmental assessments and training on best practices for mercury use and release reduction. This pilot not only triggered global attention to this issue, but spurred a number of bilateral and privately funded projects to build on its example. Early scenarios for the GEF 5 Replenishment included further PTS work in the IW focal area. However, with the limited levels of funding that were approved, the final Replenishment does not include the strategic objective in IW for PTS action. Consequently, further PTS work is not being funded in IW for GEF 5. The completed GEF IW intervention in ASGM was to include a second phase focused on scaling up mercury abatement and national regulatory reforms to ensure sustainability in a few countries with demonstrated commitments to action. Depending on whether the country is actively cooperating with its neighbors in other GEF IW projects, a modest amount of IW funding may be placed towards ASGM in those countries. Given the prominence accorded this issue in the context of the UNEP mercury discussions and INC process, this is an opportune time to achieve a scaling up of this effort. Multi-focal programming using IW and mercury funding and related program management expertise would make sense for this sector. Additional mercury objectives - such as mercury fish tissue testing as an awareness-raising or effectiveness evaluation tool - could be considered in the context of some future IW work addressing sustainable fisheries where countries have identified mercury abatement action as a key transboundary concern in their joint strategic action programs. Conversely, programs to bolster marine fisheries, as well as some fresh water fisheries, may fail to meet long-term objectives if they fail to address threats of methylmercury contamination of fish tissues.

22. Both the Biodiversity and Land Degradation focal areas could enhance their achievement of objectives by addressing sources of mercury pollution impacting project sites. Whether these are protected areas, river basins, or lakes, it is likely that a number of these areas are adversely affected by nearby mercury emissive practices, which are also contributing to global mercury emissions. ASGM is a prime example of a competing land use that is putting pressure on local ecosystems, including forests and wildlife habitat, both through ore removal and washing operations and through mercury amalgamation processes. While it could be argued that any ASGM is a destructive practice which should be stopped, it may be unrealistic or counterproductive to expect this widespread income-generating activity to cease. Further, experience has shown that banning the use of mercury in ASGM is usually ineffective and further drives this activity underground, making technical assistance delivery much more difficult. Practical approaches to implement best practices and appropriate technologies in ASGM can greatly reduce the ecosystem impacts of this activity. At the same time, artisanally-mined gold which is produced according to fair trade standards or jewelry industry codes of conduct (including mercury and other environmental standards) could be marketed as a non-

timber forest product, generating income for communities which may otherwise increase logging activities. In addition, sound ASGM practices can protect tourism assets.

23. Mercury emissions from industrial sources can impact sensitive ecosystems, even at very long distances. Direct mercury releases to land and water bodies can also impact sensitive ecosystems. However, it is difficult to generalize about particular facilities' impacts upon forests, river basins, or protected areas. Projects in these areas should take note of nearby industries in mercury-emissive sectors, and explore mitigation options. Projects would need to demonstrate a strong baseline and clear motivation on part of industry and country.

24. Sub-regional projects on river basin or lake management, or projects on protected areas, would be good foundations to support mercury assessments, awareness raising, and reduction work, particularly on ASGM in areas where mineral exploitation is recognized as an ecosystem pressure, or where protection of fishery resources is an important objective. Protected area surveys and assessments can be a vehicle to obtain valid information about mercury use in the areas. Good regions to explore this type of synergy include Lake Victoria, the Volta River basin, the Mano River basin, and protected areas in Mongolia and Indonesia, to name a few.

25. Any climate change mitigation project which reduces reliance on coal combustion will simultaneously reduce mercury emissions. Thus, a fundamental complementarity exists between climate change and mercury programming. In some such cases, an additional mercury-specific project component would not be necessary to achieve the mercury benefits, though monitoring and evaluation of the resulting mercury benefits would be important. In some cases, projects to increase energy efficiency and reduce greenhouse gas emissions can be optimized to produce additional mercury benefits than would accrue from a strict efficiency improvement scenario.

26. For example, a project to reduce GHGs from the cement industry in a particular country will reduce mercury emissions simply by reducing the energy use per unit output, but additional mercury emissions reduction benefits could be achieved through process improvements and add-on technologies. Thus, mercury funding could be mobilized to assess and/or demonstrate these improvements; funding could cover technical assistance, building of in-country expertise to assess and implement mercury control options to enable future scaling up, and, depending upon available funding and co-financing, the cost of the chosen technology itself. These improvements would otherwise be unlikely to be demonstrated in the developing world. Support is needed to reduce the risk to the plant owner or investor of applying a new approach. As another example of climate-energy linkages, the chlor-alkali industry is an example of one in which converting to a non-mercury process yields significant benefits in terms of energy savings. See below for suggestions to blend technical assistance with investment funding.

27. On a broader scale in a particular country, mercury improvements could be woven into country programs on industrial cleaner production and energy efficiency, building on work of UNEP/UNIDO National Cleaner Production Centers or other in-country organizations that already have industrial expertise. Existing projects on "Resource efficiency transformation" for industries in a country can be optimized to achieve mercury benefits. In addition, programs addressing residential coal use and small industrial boilers would be excellent opportunities for mercury benefits.

28. Projects on energy efficient lighting are a natural fit for mercury management. CFLs, which are widely promoted for energy efficiency, will continue to contain mercury for the foreseeable future because there is no mercury-free fluorescent production process at this time. Global mercury risk reduction can be achieved through the implementation of low mercury content standards for bulb manufacturing and through environmentally-sound recycling at the end of bulb life. These would be low-cost components of larger energy efficiency projects and should thus be worked into those projects rather than being funded through the limited mercury funding.

29. The GEF Small Grants Program will be encouraged to fund community-based and/or Non-Governmental Organization (NGO) managed projects to complement broader-scale national and regional efforts. These could be particularly effective for awareness-raising and reduction approaches for particular mercury risks, such as mercury-containing skin lightening creams, batteries, or artisanal mining.

GENERATING COFINANCING

30. Governments are highly engaged in mercury issues and would be expected to provide significant co-financing for any project consistent with this strategy. In addition, donors have become increasingly active on global mercury issues since the start of the UNEP Global Mercury Partnership, to which partners contribute funding and in-kind project resources. The Partnership has also served as a framework within which to place bilateral projects and discuss strategic collaborations. Thus, excellent opportunities exist to pool both financial and in-kind resources, along with funds mobilized by recipient governments, to achieve strong co-financing ratios.

31. Because mercury is used and released in a wide variety of industrial sectors, promising opportunities exist to work through traditional investment or concessional lending projects, such as those managed by the Multilateral Development Banks, to achieve mercury benefits. This is perhaps most clearly evident in the case of coal-fired power plants, the largest source of mercury emissions globally, where mercury reductions can be achieved in the context of achieving local air quality (particulate, SOX, NOX) objectives through plant optimization or the addition of mercury-specific controls (see paragraph 53).

32. For some sectors, ASGM in particular, scaling up can be maximized by engaging community-based organizations in awareness-raising, training, and implementation of best practices. The Communities and Small-Scale Mining (CASM) program, managed by the Oil, Gas, Mining and Chemicals Department of the World Bank, is a valuable network of community-based organizations, donors, governments, and other experts in the field of artisanal and small-scale mining. CASM is a valuable tool for dissemination of mercury best practices. Organizations active in child labor should also be considered as partners in ASGM work. The Extractive Industries Transparency Initiative, also managed by the World Bank, is active in many countries where mercury use in ASGM is a concern. In some of these projects, mercury is beginning to be addressed through involvement of the UNEP Global Mercury Partnership in the

context of lending programs, and additional countries may be interested in incorporating a strong mercury management component into these projects.

33. Looking beyond ASGM, community-based and civil society organizations, including women's groups, must be engaged at local and national levels to provide input to governments on approaches. In recent years, private foundations have recognized this and have provided limited support, which should be augmented to enable broader civil society engagement. Active outreach to private foundations could achieve a coordinated approach to co-financing projects which engage civil society. Small grants funding windows also may be appropriate for such engagement. UNEP managed a mercury small grants fund for projects under $100,000, but this fund is currently depleted.

LEVERAGING PRIVATE SECTOR SUPPORT

34. The ability to achieve important mercury reductions in a variety of industry sectors makes working with private industry particularly important and attractive. As stated above, in some cases mercury co-benefits can be optimized when industries address other air pollutants; in others, moving away from older mercury-based technologies represents a move towards more efficient production. The utility industry may be interested in projects to advance multiple benefits. In some cases, making process changes to reduce or eliminate mercury use or releases presents an opportunity for an industry to revamp and update its technologies, with some payback in the form of improved efficiency or higher product quality (this is especially true in the case of mercury-based industrial processes). GEF support could be tailored to incentivize private industry to undertake mercury reduction or elimination upgrades, where the majority of the project funding would come from the private companies concerned. GEF support would help demonstrate approaches which do not negatively impact a company's bottom line. This would need to be done in a transparent and competitive manner so as to not favor particular companies.

35. Some industry associations have made voluntary pledges regarding mercury management. For example, the International Council for Mining and Metals has a position statement on mercury risk management which includes a pledge by member companies (representing about 70% of the global industry) to employ best practices for mercury emissions control in industrial-scale metals production, and to work constructively with artisanal mining communities to reduce mercury use. These companies could support training and micro-financing for ASGM improvements in areas where they have large-scale operations. Individual mining companies as well as end-user industries, such as the jewelry industry (as represented by, for example, the Responsible Jewellery Council), have also been engaged on ASGM, and could work with selected communities to "green" the gold supplied by those communities. The lighting industry, through the U.S.-based National Electrical Manufacturer's Association, has pledged to limit the amount of mercury used in compact fluorescent lamps (CFLs). The World Chlorine Council has managed an active program of reporting on mercury reductions and, through the UNEP Global Mercury Partnership, is drafting a document on how to convert to non-mercury production processes. The global cement industry has had active engagement on environmental issues and may be interested in mercury specific projects. Similarly, the World Business Council for Sustainable Development may wish to partner in one or more industry

sectors, supporting, for example, training done by in-country counterpart organizations for member companies. Electric utility industry association member companies could provide financial or in-kind support for laboratory analyses of coals, stack monitoring, or engineering design as part of their routine activities at a very small incremental cost. Finally, product user groups, such as hospital associations or global federations like the World Dental Federation, could bring significant in-kind expertise to the table while raising awareness.

PROPOSED PROJECT AREAS AND ALLOCATIONS

36. Because the total funding for mercury in GEF 5 is limited, it is anticipated that most proposals would be crafted as Medium Sized Projects (MSPs) of $1 million, though leveraging other funds, including other GEF focal area funds, could augment this general size recommendation. Countries interested in submitting project proposals for this funding should work through their GEF Operational Focal Point and an appropriate GEF agency to submit a proposal to the GEF Secretariat.

37. The following section outlines the types of projects/sectors that would be most usefully targeted during GEF-5. While taking into account country demand and country-drivenness and opportunities presented for mainstreaming, the GEF Secretariat would work further with the GEF agencies to ensure that most if not all categories are supported by at least one activity during the replenishment period. The activities described here are intended to be illustrative, recognizing the dynamic of the INC process and the need to strategically prioritize issues as the process moves forward.

REDUCING MERCURY USE IN PRODUCTS

38. Mercury is used in a variety of products, including batteries, dental amalgam, medical devices like thermometers and blood pressure cuffs, electrical switches and relays, and fluorescent lamps. Alternatives to most mercury-containing products are generally available at reasonable prices. Mercury use in products can result in releases to the environment at various stages of the life cycle. Atmospheric emissions and resulting global impacts from mercury-containing products are primarily due to waste management practices at the end of product life, though releases and occupational exposures can also occur in the product manufacturing process. Eliminating or decreasing mercury content in products decreases atmospheric emissions of mercury from waste streams, while proper handling and recycling will also reduce emissions.

39. In the course of UNEP's discussions on mercury, a general consensus has emerged that mercury use in products should be phased out while phasing down selected ongoing uses, such as for energy efficient lighting and dental amalgam. Negotiations on mercury use in products will likely encounter difficulties in taking on rapid phase-out commitments, with developing consumer countries saying that the costs of non-mercury products will be too high, and developing producer countries saying that the costs to produce mercury-free technologies are too high. The GEF could advance a transformational approach which demonstrates that the shift towards non-mercury products and processes can be economically attractive for consumers and

financially feasible for businesses. In addition, the GEF could play a useful role in disseminating information about successful policy approaches in this area.

40. Considerable work has been done directly with hospitals in many countries to effect a phase out of mercury-containing medical devices (including thermometers and blood pressure gauges). While additional work in this area could scale up the results, manufacturers should be drawn into the effort to enable a better understanding of the manufacturing side of this trend and to encourage manufacturing shifts towards production of mercury-free products. Demonstration projects which provide sufficient support to enable the retooling of a manufacturing line or sector in a producer country would show that major reductions in mercury demand are possible through rapid and cost-effective product phase-out. GEF involvement would be geared towards facilitating the economic and policy incentives needed to facilitate the shifts, and could include such approaches as buying down the cost of financing to hasten a sectoral shift, developing legislation to mandate mercury-free products, financing a rebate system or a marketing program for a particular mercury-free product, and/or supporting feasibility and technical assistance components. Any project in this area should take a lifecycle management approach and pay due attention to the management of any resulting mercury wastes or surplus mercury.

41. A project which retools a manufacturing line for mercury-containing thermometers or blood pressure gauges, for example, in a key product manufacturing country could be highly effective and replicable. It should build on existing involvement of projects such as those on greening the health sector or sound management of medical wastes. It should involve the World Health Organization to develop standards and to ensure that chosen alternatives are safe, reliable, and practical. Most of the financing would come from the industry involved, while GEF support would address particular barriers and support technical assistance. A similar approach could be applied, for example, to battery manufacturing.

REDUCING MERCURY USE IN INDUSTRIAL PROCESSES

42. Mercury use in industrial processes can result in direct atmospheric emissions. In addition, re-emission from sites contaminated by mercury-using industries also increases the global pool of mercury available for environmental cycling. There are two main industries of concern: mercury-cell chlor-alkali production (for chlorine and caustic soda) and mercury-based vinyl chloride monomer (VCM) production. While the use of mercury in chlor-alkali facilities has declined substantially in recent years and is expected to be phased out in the United States and the European Union over the next decade, there are still over 50 mercury-cell plants outside of Europe and the United States. Non-mercury-based processes are not only cleaner but more efficient and are thus the choice for any new construction, but mercury-cell plants are unlikely to close or convert until the end of their lifespan, which varies between facilities.

43. A chlor-alkali pilot project which augments a conventional investment project through low-cost financing and technical assistance for conversion to a non-mercury process, including calculation of projected energy savings, could demonstrate innovative financing for an industrial process shift.

44. Similarly, in countries where coal-based feedstock is used for VCM production, providing an economic incentive to spur the adoption of sector-wide improvements could provide a dramatic reduction in mercury use. China is the primary country where this process is employed. There is a private sector initiative underway to develop a mercury free catalyst for the coal-based feedstock. Future assessment by the GEF Scientific and Technical Advisory Panel or peer review of the bench scale, commercial scale testing, and demonstrations approaches may be useful, provided data are available. In addition, building off successful testing to develop and implement deployment strategies for the mercury free catalyst in the more than 90 plants involved may also be useful, provided the testing proves the alternatives viable.

45. As is the case with products, technical assistance should extend to the environmentally sound management of surplus elemental mercury and mercury-containing equipment which results from plant conversions.

REDUCING MERCURY USE AND EXPOSURES IN ARTISANAL AND SMALL-SCALE GOLD MINING

46. Artisanal and small scale gold mining represents the largest use of mercury globally. This activity is widely dispersed in over 70 countries, directly involves over 10 million miners, including approximately 3 million women and children, and produces about 15% of the world's gold. Most of this gold is produced using mercury amalgamation techniques, in which mercury is added either to whole ore or to ore concentrates to form an amalgam of gold and mercury, which is then heated to vaporize the mercury. A second-stage processing further purifies the gold by burning off the remaining mercury. Both these stages result in mercury vapor inhalation exposure of miners, processors, and surrounding communities, as well as releases to land, water bodies, and air. While the impacts of this activity are dramatically evident in the often rural or migratory mining communities, much of the processing takes place in homes, jewelry shops, and gold trading offices in urban and peri-urban areas, and a significant portion of the mercury vapor is transported regionally and globally.

47. Previous successful interventions to demonstrate and disseminate best practices for mercury reduction in ASGM provide models and experience for scaling up. The largest such effort, the Global Mercury Project, was funded by the International Waters window during GEF 2 and covered six countries. The UNEP Global Mercury Partnership and other programs, such as those managed by the Alliance for Responsible Mining or the Responsible Jewellery Council, have also been active in this area. However, most governments at the national level are not fully engaged in the problem or its solutions. The work of these programs on best practices, technologies, and regulatory regimes should be scaled up through an approach in which participating countries act as regional leaders to demonstrate how mercury management approaches can be scaled up and implemented nationally, throughout the gold supply chain, with a view towards replicating at the regional level. Participating countries would have indicated a strong commitment to deal with this issue at the national level. These countries would improve their baseline data and develop national strategic action plans on ASGM. The plans would apply best practices and approaches described in the UNIDO Technical Guidelines on Mercury Management in Artisanal and Small-Scale Gold Mining. An important element of the project would be to develop and field test a template for national ASGM plans.

ENHANCING CAPACITY FOR MERCURY STORAGE

48. As demand for mercury for products and processes shrinks, there will be growing stocks of elemental mercury which emanate from primary mercury mining, as a by-product of mining and processing/smelting of other non-ferrous metals, cleaning of natural gas, recovery from mercury-containing products, and closure of industrial facilities that use mercury. These stocks pose an immediate risk to nearby communities, and pose a wider risk of sale and diversion to inappropriate uses which result in global environmental risks. Taking mercury out of the global marketplace and providing environmentally sound management of surplus mercury stocks in the face of declining demand are critical steps towards managing these risks. An interim approach can facilitate longer-term management. Over the longer term, approaches to stabilization of elemental mercury, which would allow its safe disposal, are of significant interest to the global community and will be of interest to the GEF once available.

49. Immediate needs exist to provide interim storage for stocks of elemental mercury. Governments are naturally wary of agreeing to host repositories for surplus elemental mercury. This project area would demonstrate safe, effective and straightforward approaches to interim and long-term mercury storage which can be implemented at reasonable cost. The diversity of skills and approaches which need to by synthesized to make a project in this area successful calls for a project steering committee arrangement which would include relevant in-country and international organizations, including non-governmental organizations

50. GEF support could cover site selection, and feasibility analysis for an interim storage facility for elemental mercury in one or more countries. Sufficient co-financing could enable the establishment of the interim facility. A country which is making significant progress in reducing mercury demand or in capturing by-product mercury, and thus needs to secure the resulting elemental mercury, or a region which has or is expected to have near-term needs for mercury storage, would be good locations for such a project. Short of hosting an interim facility, such countries could benefit from GEF support to develop intermediate-term plans for specific surplus mercury stocks. A background document on policy and site selection considerations for locating a storage facility, which could be used for other sites in the future, would be a useful component of a project in this area.

51. Interim and long-term storage of elemental mercury requires valid projections of expected amounts of surplus elemental mercury that will require safe storage at national and regional levels, including amounts of byproduct mercury expected to be captured from metals production. Such surplus mercury inventories would build upon work already done through the UNEP Global Mercury Partnership, such as the assessment of mercury storage needs in the Latin America and Caribbean, Asia-Pacific, and Central and Eastern European regions. Development and field testing of guidance for conducting surplus mercury inventories would be a valuable component of this project area. This work could be done in the context of mercury inventory development or could be done specifically for surplus stocks in particular countries, and would feed into global estimates of mercury supply. Project countries could build upon their surplus mercury inventories and develop "National Action Plans for Excess Mercury Supply," for which guidance would be developed and provided. It should be recognized that, for many countries,

the amount of mercury requiring storage is likely to be relatively small and could be usefully considered within national hazardous waste management strategies.

52. Also critical to advancing this work is the compilation of standards and guidelines for safe storage, packaging, transportation, data management, inspection and monitoring, including expected cost per ton to store mercury in a variety of settings. Technical training and study of existing storage facilities in North America and Europe for oversight officials and potential facility managers could be included. A useful component would be an assessment of financing options for mercury storage, which would cover such issues as user fees, contingency funding, and storage capacity changes. An assessment of barriers and innovative approaches to regional cooperation on storage would also be useful.

REDUCING ATMOSPHERIC EMISSIONS OF MERCURY

53. Coal combustion is the largest source of anthropogenic mercury emissions to the atmosphere, both globally and in many countries. Other sectors, in particular cement production, industrial mining and processing of non-ferrous metals, and waste incineration, emit varying amounts of mercury depending upon the mercury content of the fuel and inputs. Control approaches for conventional air pollutants like particulate matter or SOX can be optimized for mercury "co-benefits," and mercury-specific control options are available, though not widely in use. As noted above, some industries (chlor-alkali and vinyl chloride) can use mercury as a direct input; control approaches for those industries would first seek to reduce or eliminate the use of the mercury (see products and processes, above).

54. The wide range of raw material and fuel inputs, combined with the wide variety of plant configurations and technologies in use throughout the world in these sectors, makes generalizations about mercury control options difficult. In addition, there are major data gaps regarding mercury content of coals and raw materials in various locations and for various uses (including residential coal burning) and resulting emissions factors. A demonstration project at a typical plant in a particular country would validate the feasibility of mercury reductions and demonstrate a methodology for examining incremental costs of achieving global mercury benefits in a single facility or throughout a sector in a particular country. Because coal-fired power plants are the largest source of mercury emissions globally, a demonstration in this sector would be highly influential. Pilots at cement plants, metals smelters, or waste incinerators would also be very useful. Short of full-scale pilots, options and costs analyses and feasibility studies would provide solid information about future work in these sectors. Development of site-specific emissions factors for the plants would provide strong foundations to expand the options and cost analyses and emissions factors to a national or even regional scale.

55. For a coal-fired power plant, the cost of a mercury-specific add-on technology would be in the range of $1 - $2 million; a demonstration project could thus be done for under $3 million. Ideally, such a project would be multi-focal and build on industrial sector work in, for example, climate mitigation. Another useful approach would be to demonstrate process optimizations to enhance mercury capture of existing pollution control technologies in a given plant, or to demonstrate pre-combustion approaches, and quantify the costs and results. While the cost of a

full demonstration project would vary between countries and plants, it is reasonable to assume that a demonstration of this type could be carried out for $1 million to $2 million and achieve significant mercury reductions.

56. A similar approach could be taken in the cement and metals production sectors. A cement project could usefully demonstrate process and input optimization, with possible additional pollution controls, documenting resulting costs, energy efficiency improvements, and mercury reductions. For metals, a project could assess the amounts of byproduct capture and resultant emissions reduction possible on a plant scale, and then extrapolate to country basis, and costs of this control.

57. Any mercury air emissions projects should collect baseline and post-project data using harmonized methodologies and approaches which would be set forth in a guidance document as part of the project. The guidance document, once validated through the project, would be available for broad dissemination. The mercury control approaches demonstrated would be appropriate for national-level scaling up, and would be widely disseminated to other countries.

IMPROVED DATA AND SCIENTIFIC INFORMATION AT THE NATIONAL LEVEL

58. Many countries, including some large mercury emitting countries, have only limited or incomplete data on their mercury uses or releases. UNEP has developed a mercury inventory toolkit which has been used to produce inventories in several countries, and is now piloting a streamlined version of the toolkit. Other inventory work has been conducted through bilateral and regional activities. While detailed global assessments of mercury use and emissions are available and are updated periodically, they do not provide validated information at the national level.

59. Solid mercury inventory information will help negotiators to make informed interventions during the INC process, will assist at the national level in demonstrating issue areas and specific concerns, and will provide a basis for the development of cross-ministerial consensus on approaches. National inventories could be rapidly updated to provide baselines for particular sectors in the event that the INC process results in commitments requiring baselines. A two-pronged inventory approach would support inventory development for a limited number of large countries and/or countries with significant atmospheric mercury emission sources, combined with a limited number of regional projects designed to provide inventories for a large number of countries and thereby aid their understanding of their reduction needs in relation to various potential control options. However, inventory work should be a limited complement to immediate actions piloted through the GEF mercury program, and should be quickly deployed and completed in order to have the most impact upon the INC process.

60. Inventories would cover use (including specific product manufacturing sites and quantities) and emissions, and would draw on, and provide more detail to, artisanal mining and chlor-alkali global inventories done through the UNEP Global Mercury Partnership. Two versions of inventory toolkits, one in-depth and one more rapid, are available through UNEP and could be quickly deployed, providing the advantage of harmonized data, as is a questionnaire to assess artisanal mining issues. Countries that have or are developing PRTRs could use their

PRTR to deploy and disseminate mercury inventory information. To the extent possible, inventories would include both current and projected amounts of mercury supply from by-product capture and recycling, mercury waste, mercury contaminated sites, and trade in elemental mercury and mercury compounds.

61. Inventory development should include stakeholder involvement as well as dissemination of results via national stakeholders, in order to increase awareness of national mercury issues. Countries would be expected to convene their stakeholders and develop an information dissemination plan, such as through a national Chemical Information Exchange Network platform or similar approach. Support to NGO networks to build awareness and increase stakeholder involvement at the national and regional levels would be an important component of this work, and could also be considered as elements of other work areas described above. In key emitting countries, inventories could be supplemented by national situational analyses or action plans on mercury, which would reflect relevant information on national policies, ministries important to mercury management, and stakeholders.

62. While the health effects of mercury exposure are generally well understood, the exposure of various populations in many parts of the world is not well documented. A joint FAO-World Health Organization (WHO) expert meeting looked at fish data and identified gaps in information, and limited biomonitoring studies have been completed. Air sampling studies in developing countries, including in mercury hotspot areas, have been limited. To the extent possible, pilot mercury projects funded by the GEF could incorporate monitoring and biomonitoring components, using harmonized, standardized methods. For example, a project could use the existing "2008 UNEP-WHO Guidance on Identifying Populations at Risk from Mercury Exposure" and expert papers on biomonitoring to identify vulnerable populations and from there conduct specific pilot biomonitoring, which could be used in the future to estimate global burden of disease. Use of FAO methods for fish tissue monitoring would be a useful component to many projects. A country which has high fish consumption would be an important study area for both these elements. Monitoring activities would not be recommended as stand-alone projects under this strategy and, particularly if human health monitoring and assessment is done, it should be part of a larger project designed to mitigate risks to the populations studied

63. Projects using harmonized monitoring methods should document their results such that the UNEP Global Mercury Partnership or other information repositories could compile the information, including the methodologies. Further, a database of operational laboratories with mercury monitoring and analysis capabilities would be useful. This work would lay important groundwork for global monitoring and effectiveness evaluation programs that could be established by the INC. These efforts would also feed into ongoing work to establish a global air monitoring program.

WASTE AND CONTAMINATED SITES

64. Because of their potential to increase the global pool of mercury through emissions as a result of incineration, or re-emissions of previous releases to land, control of mercury-containing wastes and contaminated sites are important issues which will be examined in the INC process.

However, the cost per ton of mercury removed from global atmospheric circulation from contaminated sites may not justify a significant GEF focus on this issue at this time. In some cases, the global benefit may be larger than simply the quantities of mercury remediated, and GEF involvement would be key to producing broader benefits. This may be the case with support for the transition to alternative economic activities and away from primary mercury mining in Kyrgyzstan, which is the subject of UNEP Global Mercury Partnership work. An important component of this work seeks to secure immediate threats of mercury contamination and diversion at the site. Any other GEF support for contaminated sites would be limited to assessment, planning, and technical assistance, not the remediation itself.

65. For potential approaches to controlling mercury emissions from waste incineration, projects should first seek to minimize mercury content of waste streams through reducing mercury use in products and keeping mercury waste out of incinerators, then, as needed, examine options for air emissions control approaches.

66. With respect to product waste streams, in the near term there will be increasing quantities of discarded mercury-containing products awaiting removal of elemental mercury. Compiling guidance, assessing options for, and possibly demonstrating, innovative approaches and interim storage approaches for specific mercury product wastes, such as a city-wide demonstration of a collection and environmentally sound management system for certain mercury-containing wastes, could reduce barriers to widespread adoption of sound waste management practices. Any waste project should build on the Basel technical guidelines for mercury waste and will help further validate and refine the guidelines.

CONCLUSION

67. GEF resources can be effectively deployed to address critical mercury reduction needs in advance of entry into force of the global mercury instrument, and allowing its rapid and effective implementation. GEF projects can demonstrate practical approaches for mercury reduction, building on work already underway by the Global Mercury Partnership and others, and building on broader development and industrial management efforts. The approach outlined here can catalyze additional in-country action. In so doing, the GEF will facilitate coordinated action to protect the health of the world's populations, including our most precious resource, children, and to protect global fisheries, sensitive ecosystems, and the planet from the noxious effects of mercury.

REFERENCES

GEF/UNDP/UNIDO, "Results of the Awareness Campaign and Technology Demonstration for Artisanal Gold Miners," Summary Report, April 2008, http://www.globalmercuryproject.org/documents/non_country%20specific/UN_Final_GMP%20Synopsis%20Report.pdf

GEF/UNDP, "Guidance on the Cleanup, Temporary or Intermediate Storage, and Transport of Mercury Waste from Healthcare Facilities," July, 2010, http://www.gefmedwaste.org/downloads/Guidance%20on%20Cleanup%20Storage%20and%20Transport%20of%20Mercury%20from%20Health%20Care%20July%202010.pdf

Pirrone, N. and Mason, R., Eds., "Mercury fate and transport in the global atmosphere: measurements, models and policy implications report," 2008, http://www.unep.org/hazardoussubstances/mercury/interimactivities/partnerships/airtransportandfateresearch/tabid/3532/language/en-us/default.aspx

UNEP, "Global Atmospheric Mercury Assessment: Sources, Emissions and Transport," December 2008

UNEP, "Summary of Supply, Trade and Demand Information on Mercury," November 2006

UNEP (DTIE), "Report on current supply and demand for mercury, including projections considering the phase-out of primary mercury mining," /Hg/OEWG.2/6, July 2008

UNEP, "Assessment Reports of Excess Mercury supply in Asia, the LAC, and the CEE," 2010-2050, http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/SupplyandStorage/Activities/tabid/4505/language/en-US/Default.aspx

UNEP, "Global Mercury Assessment," 2003, http://www.unep.org/hazardoussubstances/Mercury/MercuryPublications/ReportsPublications/GlobalMercuryAssessmentReportDecember2002/tabid/3617/language/en-US/Default.aspx

UNEP, "Guidance for Identifying Populations at Risk from Mercury Exposure," August 2008 http://www.unep.org/hazardoussubstances/Mercury/MercuryPublications/GuidanceTrainingmaterialToolkits/GuidanceforIdentifyingPopulationsatRisk/tabid/3616/language/en-US/Default.aspx

UNEP (DTIE), "Report presenting the costs and benefits for each of the strategic objectives," /Hg/OEWG.2/5, July 2008

U.S. Environmental Protection Agency, "Mercury Study Report to Congress," December 1997

GLOSSARY OF TERMS

Amalgamation – the process of combining mercury and another element, such as gold or silver, to retrieve the other element from ore or to produce an amalgam, as in dentistry.

Anthropogenic emissions – Emissions resulting from human activities

ASGM – artisanal and small-scale gold mining, mining activities in which individuals or loosely organized small groups use rudimentary methods to extract and process minerals on a small scale.

Bioaccumulation – the accumulation of toxic substances in an organism when the organism absorbs a toxic substance at a rate greater than that at which the substance is lost.

By-product – with respect to mercury, the production of elemental mercury in the process of extracting another resource such as a non-ferrous metal whereby gaining the other resource is the objective of the industry.

Chlor-alkali – an industrial process for the production of chlorine, caustic soda, and caustic potash.

CFLs – compact fluorescent lamps, an energy-efficient light bulb

Deposition – a process by which particles and gases from the atmosphere are transported to surfaces, such as soil, water or vegetation.

Elemental mercury – the chemical element Hg, which is liquid at room temperature; also known as “quicksilver”.

Emissions – environmental releases of pollutants to the atmosphere.

Exposure – the contact of a human with a toxic substance, resulting in health risk.

FGD – flue gas desulphurization, an air pollution control measure or device to remove sulfur dioxides from flue gases.

Heavy metal – a chemical element which has metallic properties.

INC – Intergovernmental Negotiating Committee, a group of countries convened to negotiate a legally-binding instrument.

Methylmercury – an organic form of mercury which bioaccumulates in the environment.

Metric ton – 1,000 kg.

Natural emissions – with respect to mercury, natural emissions are those releases to the atmosphere from natural sources such as volcanoes, and not the result of current or past human activity.

Neurotoxin – a toxic substance that acts adversely upon nerve cells.

POPs – persistent organic pollutants, chemicals that remain intact in the environment for long periods of time, regulated under the Stockholm Convention.

Primary mining – with respect to mercury, the process of extracting mercury from ores (mercuric sulfide or cinnabar) whereby mercury is the resource sought, and it is not a by-product of extraction of other resources.

PRTRs – pollutant release and transfer registries, systems to collect and disseminate data on environmental releases and transfers of toxic chemicals from industrial facilities.

Re-emissions – with respect to mercury, secondary input of mercury to the atmosphere from geochemical reservoirs (soil, sea, water) where mercury has been accumulating as a result of previous or current human activity.

Reference Dose -- An estimate of daily exposure by humans to a toxic substance that is likely to be without an appreciable lifetime health risk.

Releases – entry of pollutants into various environmental media, including land, water, and air.

Stabilization – with respect to mercury, transforming elemental mercury into a stable form to enable environmentally sound disposal.

Transport – the movement of pollutants through the atmosphere.

VCM – vinyl chloride monomer, an industrial chemical used to produce polyvinyl chloride.

ANNEX I INC TIMELINE

INC1	INC2	INC3	INC4	INC5
June 2010	Jan 2011	Oct 2011	June 2012	Jan 2013

ANNEX II ACTIVITY AREAS FOR FUTURE CONSIDERATION

In addition to scaling up work in the areas recommended for work in this strategy, the following issue areas may be relevant to future GEF activities:

- Storage. Looking beyond current storage methods to stabilization techniques, GEF involvement could spur the availability of tested and commercially available methods which would make mercury storage unnecessary. For example, the GEF could convene its Scientific and Technical Advisory Panel (STAP) to encourage targeted R&D and to advance, review, and/or document alternative approaches for mercury stabilization.

- Trade in elemental mercury and mercury containing products. The GEF may wish to study trade flows, build capacity in countries to manage imports of mercury and mercury-containing products, and assess the feasibility of trade-related measures.

- VCM. Private Sector R&D is underway on non-mercury techniques for producing vinyl chloride monomer using a coal-based feedstock. Should bench scale approaches become available, the GEF may wish to support assessment or pilot activities.

- Products. Manufacturers of mercury-containing products could be convened to discuss barriers to non-mercury product manufacturing and marketing.

- Global monitoring and effectiveness evaluation. The GEF may wish to support the deployment of broad-scale monitoring and assessment activities, as well as development and compilation of harmonized methods.

- Waste and Contaminated Sites. The GEF could play a role in scoping and assessing the extent of mercury contaminated sites and developing recommendations to address them.

- Air Emissions. The GEF could promote the sharing of policy and regulatory information on reducing mercury emissions from coal-fired power plants and other sectors.

ANNEX III LINKS TO SELECTED ONGOING MERCURY ACTIVITIES AND SUCCESS STORIES

UNEP Global Mercury Partnership (includes business plans and progress reports for each mercury activity area):
http://www.unep.org/hazardoussubstances/Mercury/GlobalMercuryPartnership/tabid/1253/language/en-US/Default.aspx

GEF/UNDP/UNIDO Global Mercury Project (focus on ASGM):
http://www.globalmercuryproject.org

GEF/UNDP Global Healthcare Waste Project (includes mercury use reduction and waste management): http://www.gefmedwaste.org

Communities and Small-Scale Mining (click on "mercury" in "Featured Topics" on right side):
www.artisanalmining.org