

Concept Note for
GEF IEO – OPS-8 Chemicals and Waste Focal Area Study
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Purpose/rationale and objective(s)

This focal area study will inform the Eighth Comprehensive Evaluation (OPS 8), of the Global Environment Facility's (GEF) activities and results in chemicals and waste. It will build on the first comprehensive review of the GEF's chemicals and waste focal area, undertaken in 2018 by the GEF's Independent Evaluation Office (IEO)¹, as well as an IEO evaluation of GEF interventions in the artisanal and small-scale gold mining sector from 2022.

The previous IEO study covered GEF grant funding for activities focused on persistent organic pollutants (POPs), ozone-depleting substances (ODS), mercury, highly hazardous pesticides in the agricultural sector, and waste, as well as activities regarding sound chemicals management more generally. This IEO study will assess the recent shift in programming from a chemical-by-chemical focus to a sector focus, which tackles the whole life cycle of chemicals and waste from the design stage, over the production and transportation stages, all the way to the recycling stage.

The GEF serves as the Financial Mechanism of the Stockholm and Minamata Conventions and supports the implementation of the Montreal Protocol in Countries with economies in transition. It also and supports some elements of the Strategic Approach to International Chemicals Management (SAICM).

The objectives of the study are as follows:

- Assess the relevance of the chemicals and waste strategy to the guidance of the Conventions and to GEF's sectoral approach.
- Present a synthesis of chemicals and waste results and progress toward impacts, including socio-economic, focusing on the latest shift in programming toward an integrated sectoral approach.
- Assess the approaches and mechanisms through which results have been achieved, including incentive mechanisms, private sector involvement, and demonstration projects.

¹ IEO. 2018. Chemicals and Waste Focal Area Study. Evaluation Report No. 115. Washington, D.C. and IEO. 2017. Chemicals and Waste Focal Area Study. GEF/ME/C.52/inf. 03: "While chemicals and waste activities have undergone review as part of other GEF IEO evaluations—and a "Study of Impacts of GEF Activities on Phase-Out of Ozone Depleting Substances" (GEF 1999) was completed in GEF-2—neither the GEF-5 chemicals focal area nor the GEF-6 focal area has undergone a comprehensive focal area study. Moreover, previous studies refrained from making substantive conclusions given the small number of completed POPs and ODS projects available for their review."

- Assess the efficiency and performance of the chemicals and waste portfolio.
- Identify lessons learned for mainstreaming and scaling-up opportunities for GEF-9.

Background

Chemicals and waste are among the major risks that threaten the health and wellbeing of people and the environment. Since 2000, the global chemical industry's production capacity has almost doubled, from about 1.2 to 2.3 billion tons, according to a 2019 UNEP report.² Today's production of plastics accounts for 400 million metric tons annually, which compares to roughly the weight of all people living on the planet.³

Globally, only 9 percent of plastic waste is recycled, while 22 percent is mismanaged and much of the rest is either incinerated or ends up in landfills, adding carbon emissions to the atmosphere.⁴

Gaps

Even though the conventions on chemicals and waste are designed to prevent potential harm, there are several gaps that need to be addressed with urgency going forward. The literature points to the following needs:

- Identify ways to move from a take-make-waste economic model to a circular economic model. This would involve designing and producing products in a way that make materials easy to recycle once they reach the end of their use, reducing the complexity of chemicals and plastics, especially in developing countries.
- Focus on every step of the whole supply chain when reducing chemicals and waste.⁵
- Create alternative materials and substances through green chemistry and restorative and regenerative materials. Green chemistry is only starting to gain prominence and deliver alternatives to fossil fuel-based products.

² United Nations Environment Programme (2019). Global Chemicals Outlook II – From Legacies to Innovative Solutions: Implementing the 2030 Agenda for Sustainable Development - Synthesis Report. <https://wedocs.unep.org/20.500.11822/27651>.

³ The Ocean Cleanup. 2023. Ocean Plastic Explained. Retrieved on September 11 from: <https://theoceancleanup.com/ocean-plastic/#:~:text=Humans%20produce%20over%20400%20million,projected%20to%20keep%20going%20up.>

⁴ OECD (2022), Global Plastics Outlook: Policy Scenarios to 2060, OECD Publishing, Paris, <https://doi.org/10.1787/aa1edf33-en>.

⁵ Mathilde Rosenberg Johansen, Thomas Budde Christensen, Tiffany Marilou Ramos, Kristian Syberg, A review of the plastic value chain from a circular economy perspective, Journal of Environmental Management, Volume 302, Part A, 2022, 113975, ISSN 0301-4797, <https://doi.org/10.1016/j.jenvman.2021.113975>.

Evolution of GEF Support for Chemicals and Waste

Over the past decade, GEF programming in the focal area of chemicals and waste has expanded. Under GEF 5, the chemicals and waste programming directions developed a unifying chemicals and waste strategy framework for the POPs and ODS focal areas. For GEF 6, the GEF Fifth Assembly created a single chemicals and waste focal area—replacing the POPs and ODS focal areas⁶, and elaborated the strategy. Under GEF 7, programming directions moved from a chemical by chemical-based approach to a sector-based approach. GEF 7 promoted an integration with other focal areas, such as international waters (marine litter), sustainable cities, food systems, environmental restoration, sustainable forest management, and climate change mitigation.

Finally, GEF 8 has intensified the shift towards a sector-based approach, aligning chemicals and waste activities with the sectoral priorities of countries. The private sector plays a pivotal role in chemicals and waste programming (as identified in GEF IEO OPS 6). In GEF 8 programming, the private sector will be leveraged through integrated approaches across multiple focal areas, with a predicted strong rise in support for biodiversity outcomes coupled to land, forest, and ecosystem restoration. Annex A, Figure 1 demonstrates the evolution of the focal area from GEF 5 to GEF 8.

Preliminary Evaluative Questions

This study will focus on the most recent experience of chemicals and waste financing. It will answer a set of evaluative questions to assess what works in GEF's chemical and waste projects.

- To what extent has the GEF helped countries fulfill their commitments towards the Stockholm and Minamata conventions, the Montreal Protocol, as well as SAICM?
- To what extent has the integrated project design enabled a shift from a chemicals-by-chemicals approach to a sector approach, and what are the related contributing and hindering factors? As a result, is GEF programming still in line with the conventions?
- How have GEF interventions interacted thus far with similar government-, donor-, and/or private sector-funded activities in terms of either contributing to or hindering policy coherence?
- To what extent have GEF chemicals and waste interventions been effective in producing their targeted global environmental benefits and associated socioeconomic benefits, especially in the health sector?
- What are success factors for private sector involvement and co-financing in GEF projects?

⁶ GEF. 2017. Annual Portfolio Monitoring Report 2017. GEF/C.53/03 November 9, 2017. 53rd GEF Council Meeting November 28 – 30, 2017 Washington, D.C. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.53.03_APMR%2BScorecard.pdf.

- To what extent have the cross-cutting issues of gender and resilience been taken into consideration in GEF programming in projects managing chemicals and waste?
- To what extent has GEF programming contributed to greening of the chemicals supply chain? Did GEF identify the right entry points? To what extent did GEF programming address entry and exit points of the supply chain?
- How sustainable were country-led monitoring systems that were created to track chemicals and waste, e-waste, cross-border shipping, and medical waste? How effective were these systems in identifying chemical stockpiles for disposal and understanding root causes?

Thematic Focus

To learn more about what did and did not work in GEF chemicals projects, this study will address the following specific issues based on evidence at the project, thematic, and industry levels.

- This evaluation aims to address a pivotal question regarding the relevance of GEF programming in tackling the significant challenges within the chemicals and waste sector. The evaluation team will construct a schematic to benchmark the issues in chemicals and waste against the accomplishments of GEF projects and programs. This approach involves assessing the percentage of GEF programming that aligns with the most pressing needs, examining the extent of engagement with relevant industries and stakeholders, and identifying the areas where GEF has achieved the most success.
- PCBs are a focus for the Stockholm Convention as the phase out deadlines approach in 2025-28. GEF has funded projects in 115 countries to clean up PCBs, but gaps remain. This study will therefore take a retrospective look prior to the next Stockholm COP in 2025 to see how well PCB issues have been addressed through GEF work, and GEF's effectiveness in phasing out PCBs, and determine if there are any residual issues that need addressing. The Stockholm Convention will initiate its 6th review of the financial mechanism and the needs assessment for the Convention, which will be considered by the 12th COP in 2025.
- Both the fashion and the food and beverage industries have taken center stage in GEF8 programming. This evaluation seeks to gauge the extent to which GEF programming encompasses the entire supply chain, as opposed to concentrating on a singular stage or specific chemical within the supply chain. To facilitate this assessment, a heat map of the two industries (fashion and food) will be generated. This visual aid will enable the evaluation team to compare the relevance of GEF interventions with the prevailing issue of chemical pollution.
- Private sector engagement has increased over time. Earlier projects focused on engaging electric utility companies in relation to stockpile management. Newer programs have been able to involve larger private companies: for example, cruise

and shipping companies and the hotel industry in ISLANDS; refiners and jewelers in GOLD; hotel chains for waste management; and garment associations. This review will determine the level and nature of private sector engagement including co-financing arrangements by conducting a survey of private sector players in GEF projects.

- Chemicals and waste play a large role in the integrated programs. STAP has noted that the chemicals and waste focal area does not capture co-benefits well that extend to other focal areas. STAP has made a concerted effort to do this. The integrated approach can be difficult as agency chemicals specialists tend not to have much expertise in other environmental topics. GEF 8's integrated programs indicate this. The Eliminating Hazardous Chemicals from Supply Chains Integrated Program includes many benefits for other focal areas but is mostly funded through chemicals and waste programming. It would therefore be useful to assess how well chemicals and waste projects have been addressed in the integrated programs so far and the lessons learned. It would also be useful to evaluate why other focal areas are not measuring benefits to the chemicals and waste focal area.
- Agency specialization does not seem to be of a concern, but it would be interesting to learn why regional development banks are not more involved. Implementing agencies tend to use a traditional project design that looks narrowly at an issue rather than considering a systemic approach. For example, instead of just removing a stockpile of waste, a systemic approach would look at underlying reasons for its accumulation to avoid more waste replacing it after project end. Analyzing ongoing projects, to what extent has the GEF's programming approach evolved into an integrated approach along the whole supply chain of chemicals. Consequently, the evaluation will assess whether the GEF's financing approach aligns with the current needs of the conventions?
- The chemicals and waste focal area has a strong history of looking at plastic waste through POPs (when plastics are burned in incinerators, they emit POPs) and through segregation of hospital waste. Projects also tackle plastics through a marine focus under the international waters focal area, although the new Circular Solutions to Plastic Pollution Integrated Programs are mostly funded by the international waters focal area. GEF funded a regional project in Africa on plastics recycling and a global cities project on disposal of difficult plastics. GEF 7 and 8 strategies move away from like-like replacements of plastics non-regrettable substitutions (using alternative methods such as refrigeration and UV light to kill bacteria rather than chemicals in packaging). A portfolio analysis will provide further evidence of the different ways in which the GEF finances chemicals and waste projects. The evaluation will assess how successful GEF was in helping countries to phase out POPs in support of the conventions. To evaluate this question, the evaluation will conduct case studies, examining regional similarities in programming, in order to select representative case study countries. Here interviews with project managers and private sector representatives will be important.

- Pesticides have not been a huge focus in the GEF portfolio, except for POPs. Older projects on this topic dealt with the initial 12 listed chemicals, which tended to be chemicals that were applied directly, such as DDT. Newer chemicals were not listed since then, except for certain pesticides, that are ingredients in products. The study will examine pesticides mostly through the lens of POPs.
- E-waste is another issue that is gaining in importance and where solutions need to be developed and so are Polyfluorinated Substances (PFAS). The study will further elaborate on these chemicals based on project experience.
- Another challenge is developing data and assessment systems in countries to be able to monitor and assess stockpiles of POPs, in order to be able to eliminate them. This study will examine these systems in the context of GEF's and the countries' commitments to the Stockholm Convention.

Scope

The chemicals and waste study will focus on GEF interventions from GEF 5 to date, irrespective of which GEF focal areas these were categorized under. The review will focus on quality at entry for ongoing projects under GEF 7 and GEF 8 to assess the shift towards an integrated sectoral approach.

Under GEF 8, the chemicals and waste focal area has shifted towards more programs, such as ISLANDS, GOLD, and GOLD+ that are ongoing, and FARM that has not yet started. (The ISLANDS program is being evaluated separately and this study will draw on some of the early findings) The Minamata Convention financial mechanism review included the recommendation to use a programmatic approach in order to share knowledge and foster cooperation. Given that implementation is still ongoing, this study will conduct a formative evaluation for those ongoing projects by comparing project design with the GEF's programming directions. By scrutinizing the design of ongoing projects, the evaluation aims to gauge the extent to which these projects adopt an integrated approach that encompasses the entire chemical supply chain.

Simultaneously, this analysis will provide insights to the GEF, informing them about the alignment of this approach with the requirements of the conventions. Even though the pesticides sub-portfolio is quite small, this study will cover pesticides projects as well.

Key stakeholders to be engaged

Regular stakeholder interaction will be sought with the GEF Secretariat and relevant GEF Agencies (ADB, AfDB, BOAD, CI, IDB, FAO, DBSA, EBRD, UNDP, UNEP, UNIDO, and the World Bank), the Scientific and Technical Advisory Panel (STAP), relevant country Operational Focal Points (OFPs), and other national stakeholders and key informants during country studies to enhance the evaluation process. This will include consultation and outreach while the evaluation is under way, and dissemination and outreach once the evaluation is complete. During evaluation preparation, the team

will solicit feedback and comments from stakeholders to improve the evaluation's accuracy and relevance. An added benefit to engaging stakeholders during the evaluation process is stimulating interest in the evaluation results. The principles of transparency and participation will guide this process. Such stakeholder interaction will contribute important information and qualitative data to supplement data, interviews, case studies, and other research.

Timeframe

The chemicals and waste study will be conducted between September 2023 and June 2024. The study will be carried out in three phases and focus on desk reviews: 1) the elaboration of an approach paper and literature review; 2) aggregate analysis (portfolio, terminal evaluations database, quality at entry, other); and 3) write-up and incorporation of feedback. An initial work plan is presented below. The work plan will be revised and fine-tuned as part of further preparations.

Task	Year	2023				2024													
	Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Approach Paper																			
Background information & portfolio data gathering	x	x	X																
Approach Paper discussed with the reference group			X																
Finalizing the approach paper				x															
Data gathering and analysis																			
Desk review/Portfolio analysis (PRT design and filling)				x	x	x													
Quality at entry and other analyses					x	x	x	x	x										
Triangulation brainstorming													x						
Gap filling														x	x				
Report writing																			
Draft report															x	x			
Due diligence (gathering feedback and comments)																x			
Final report																	x		
Presentation to Council																		x	x
Dissemination and outreach																			x

Manager and staff time

Name	Position	No. of days/weeks	Total
Geeta Batra	Manager		
Silke Heuser	Staff	7 months	7 months
Eki Ramadhan / Francisco Grahhammer	Staff		
Consultant	Staff		

The chemicals and waste study will be conducted by a team led by an Evaluation Officer from the IEO with oversight from the Chief Evaluation Officer and the Director of the IEO. The team will include one IEO research assistant. It will be supplemented by one externally contracted evaluation analyst (STC) to help with desk reviews and portfolio analyses. The required skills mix includes practical, policy, and/or academic expertise in key GEF focal areas of the projects and programs under analysis, evaluation experience and knowledge of external information sources that are relevant to GEF activities.

ANNEX A – Figure 1: Evolution of GEF Support for Chemicals and Waste (GEF 5 – GEF 8)

Legend:

Chemicals and waste strategy objectives:

Objective (1): Create, strengthen, and support the enabling environment and policy coherence to transform the manufacture, use, and sound management of chemicals and to eliminate waste and chemical pollution.

Objective (2): Prevent future buildup of hazardous chemicals and waste in the environment.

Objective (3): Eliminate hazardous chemicals and waste.

- Strategic Program (SP)
- Objective (O)
- **POPS = blue**
- **ODS = orange**
- **Mercury = red**
- **SAICM = green**

GEF 5	GEF 6	GEF 7	GEF 8
July 1, 2010--June 30, 2014	July 1, 2014 to June 30, 2018	July 1, 2018 to June 30, 2022	July 1, 2022 to June 30, 2026
CHEMICALS STRATEGY INCLUDES POPS AND ODS FOCAL AREAS	CHEMICALS WASTE FOCAL AREAS	CHEMICALS WASTE FOCAL AREAS	CHEMICALS WASTE FOCAL AREAS
Objective 1: Phase out POPs and reduce POPs releases SP2 SP3	Strategic objective 1: Develop the enabling conditions, tools, and environment for the sound management of harmful chemicals and waste	Strategic objective 1: Replacement of POPS and relevant HHP's used in the global food supply chain, including agricultural plastics contaminated by these chemicals with alternatives, preferably non-chemical alternatives.	Objective 1: Creation, strengthening and supporting the enabling environment and policy coherence to transform the manufacture, use and sound management of chemicals and to eliminate waste and chemical pollution.
Objective 2: Phase out ODS and reduce ODS releases SP1	Program 1: Develop and demonstrate new tools and economic approaches for managing harmful chemicals and waste in a sound manner O1 O3 O3	Program 1: Industrial Chemicals Program. O1 O3 O3	Objective 2: Prevention of future buildup of hazardous chemicals and waste in the environment
Objective 3: Pilot sound chemicals management and mercury reduction SP2 SP4	Program 2: Support enabling activities and promote their integration into national budgets and planning processes, national and sector policies and actions and global monitoring O3 O4	Strategic objective 2: Disposal of obsolete agricultural chemicals that are POPs.	Objective 3: Elimination of hazardous chemicals and waste
Objective 4: POPs enabling activities SP1	Strategic Objective 2: Reduce the prevalence of harmful chemicals and waste and support the implementation of clean	Program 2. Agriculture Chemicals Program. O3	Program 1: Industrial Chemicals Program O1 O3 O3

GEF 5	GEF 6	GEF 7	GEF 8
	alternative technologies/substances		
	Program 3: Reduction and elimination of POPs O1	Program 3. Least Developing Countries and Small Island Developing States Program. O4	Program 2: Agricultural Chemicals Program O3
	Program 4: Reduction or elimination of anthropogenic emissions and releases of mercury to the environment O3	Program 4. Enabling Activities. O1 O3 O3	Program 3. Least Developing Countries and Small Island Developing States Program. O4
	Program 5: Complete the phase out of ODS in CETs and assist Article 5 countries under the Montreal Protocol to achieve climate mitigating benefits O2		Program 4. Enabling Activities. O1 O3 O3
	Program 6: Support regional approaches to eliminate and reduce harmful chemicals and waste in LDC and SIDS O1 O3 O3		

Annex B – Theory of Change

Theory of Change

One can think of the theory of change for GEF-funded chemicals and waste projects as taking a two-pronged approach. Under pillar 1, implementing partners would work with regulators to change laws, policies and regulations. They would improve institutional capacity through workshops and trainings at the government and private sector level and improve knowledge about toxic chemicals and waste through information sharing. Under pillar 2, implementing staff would work on phasing out or substituting harmful chemicals and waste. They would organize demonstration workshops, fund innovative projects, and generate knowledge about chemical stocks. This would lead to an improved management of toxic chemicals and waste and increased compliance with relevant conventions. Projects would result in environmental outcomes, such as reduced water and soil pollution and at the local level, and reduced chemicals and plastics pollution, as well as fewer GHG emissions at the global level. Projects would demonstrate social benefits, such as improved health, improved quality of life, and improved welfare of workers in the formal and informal sectors. Finally, projects would result in economic benefits, such as employment and increased land value (see Theory of Change below).

Theory of Change for CW Study

Pillar 1

- Improved policies and institutions
 - Laws, policies, regulations
 - Institutional development
 - Capacity building at local, private sector, and other government levels
 - Information sharing/awareness raising

Pillar 2

- Phase out and substitution of harmful chemicals and waste
 - Demonstration/pilots
 - Implementation of chemical substitutes
 - Management systems/strategies
 - Research/knowledge generation
 - Accompanied by
 - Financial sustainability
 - Awareness and behavior change
 - Private sector participation
 - Integration of the informal sector

Improved management of toxic chemicals and waste and increased compliance with relevant conventions

Environmental

impacts

- Local: reduced water and soil pollution
- Global: reduced chemicals and plastics pollution; reduced GHG emissions

Social impacts

- Improved health
- Improved quality of life
- Improved welfare of workers in the formal and informal sectors

Economic impacts

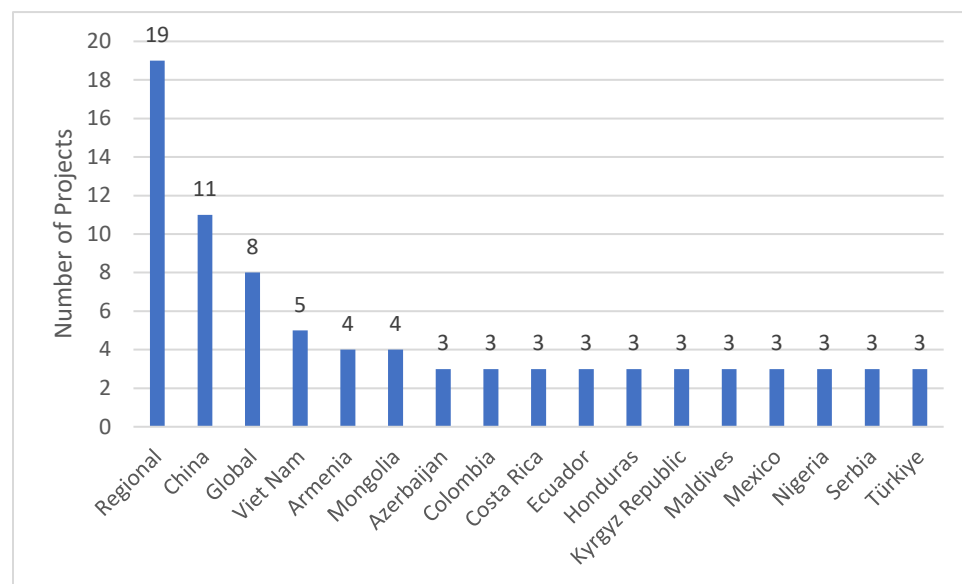
- Employment
- Increased land value

Annex C – Preliminary Portfolio

The portfolio will include all projects categorized as “solid waste,” “POPs,” and “ozone depleting substances (ODS),” as well as those projects that have “POPs,” “ODS,” “PCBs,” “mercury,” “pesticide / agrochemical,” “circular economy,” or waste in their titles.

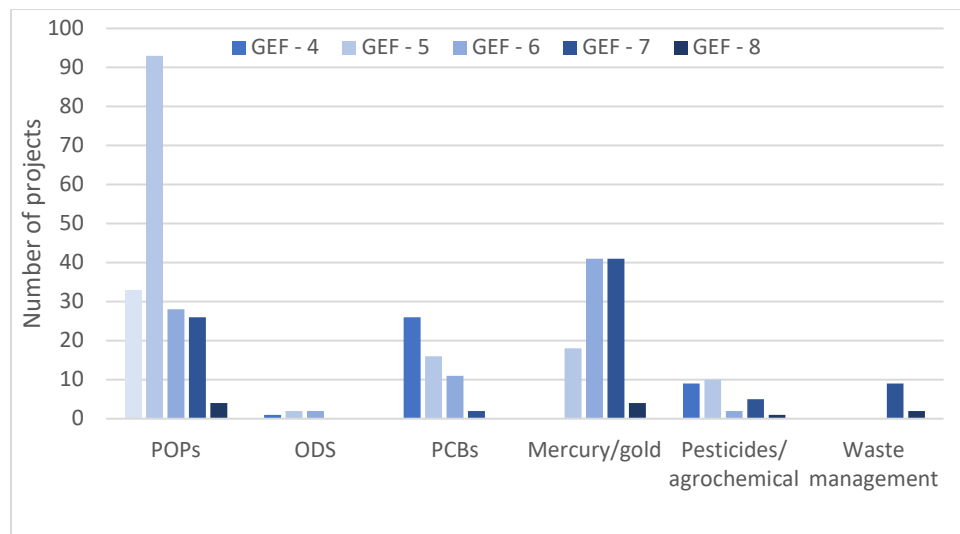
Geographically, the evaluation will include relevant countries with some countries benefiting from multiple interventions (see Figure 1). Countries with chemicals and waste projects are concentrated in the Asia-Pacific, Latin American, and Central Asian regions.

Figure 1 – Implemented Projects by Country for GEF 5, 6, and 7 (With 3 or more Projects)



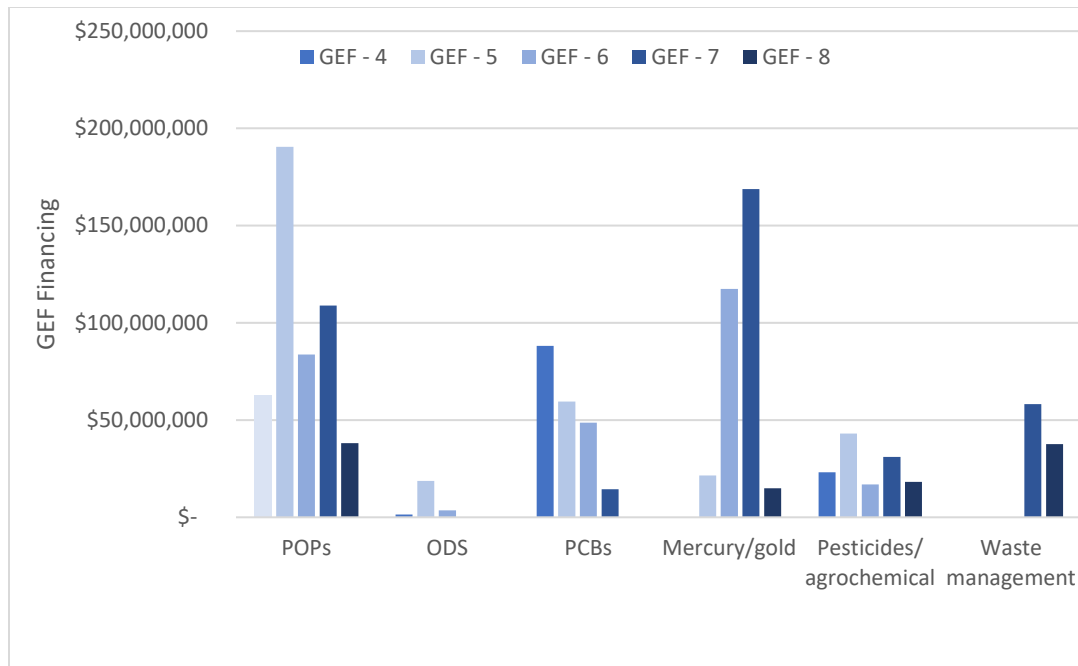
Source: GEF Database

Figure 2 -- Number of Projects by CW Topic by GEF-Phase



Source: GEF Database

Figure 3 -- Project Amount by CW Topic and GEF-Phase



Source: GEF Database

Literature

- GEF. 2017. Annual Portfolio Monitoring Report 2017. GEF/C.53/03. November 9, 2017. 53rd GEF Council Meeting November 28 – 30, 2017 Washington, D.C. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.53.03_APMR%2BScorecard.pdf.
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