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Independent Thematic Evaluation

UNIDO's work in the area of Persistent Organic Pollutants (POPs)



UNIDO EVALUATION GROUP

Independent Thematic Evaluation

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Persistent Organic Pollutants
(POPs)**



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Abbreviations

BAT	Best Available Techniques
BEP	Best Environmental Practices
BRICS	Brazil, Russia, India, China and South Africa
CE	Country Evaluations
CPU	Cleaner and Sustainable Production Unit
DDT	Dichloro-diphenyl-trichloroethane
EA	Enabling Activities
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMB	Environmental Management Branch
EO	UNIDO Evaluation Office
ESM	Environmentally Sound Management (of chemicals)
EU	European Union
FAO	UN Food and Agriculture Organization
FECO	Foreign Economic Cooperation Office (China)
FSP	Full-sized Project
GEF	Global Environment Facility
ICS	International Centre for Science and High Technology
IEE	Industrial Energy Efficiency Unit
ILO	International Labour Organization
IPCS	International Programme on Chemical Safety
LDC	Least Developed Countries
LFA	Logframe Analysis
LMIC	Lower Middle Income Country
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreements
MEP	Ministry of Environmental Protection (China)
MOEF	Ministry of Environment and Forestry (India)
MIC	Middle Income Countries
MP	Montreal Protocol

MPB	Montreal Protocol Branch
MSP	Medium Sized Projects
MTE	Mid-term Evaluation
NIP	National Implementation Plan
OECD	Organization for Economic Development and Cooperation
ODS	Ozone Depleting Substances
PCBs	Poly-chlorinated Biphenyls
PIR	Project Implementation Review
POPs	Persistent Organic Pollutants
RAU	Refrigeration and Aerosols Unit
RRE	Renewable and Rural Energy Unit
ROtI	Review of Outcomes to Impacts
SAICM	Strategic Approach to International Chemicals Management
SCU	Stockholm Convention Unit
SEA	Strategic Environmental Assessment
TOC	Theory of Change
TORs	Terms of Reference
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNIDO	United Nations Industrial Development Organization
U-POPs	Unintentional Persistent Organic Pollutants
WHO	World Health Organization
WMU	Water Management Unit

Glossary of Evaluation Terms

Term	Definition
Baseline	The situation, prior to an intervention, against which progress can be assessed.
Effect	Intended or unintended change due directly or indirectly to an intervention.
Effectiveness	The extent to which the objectives of a development intervention were or are expected to be achieved.
Efficiency	A measure of how economically inputs (through activities) are converted into outputs.
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention.
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention.
Intervention	An external action to assist a national effort to achieve specific development goals.
Lessons learned	Generalizations based on evaluation experiences that abstract from specific to broader circumstances.
Logframe (logical framework approach)	Management tool used to guide the planning, implementation and evaluation of an intervention. System based on MBO (management by objectives) also called RBM (results based management) principles.
Outcomes	The achieved or likely effects of an intervention's outputs.
Outputs	The products in terms of physical and human capacities that result from an intervention.
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed
Target groups	The specific individuals or organizations for whose benefit an intervention is undertaken.

Executive Summary

Since the mid-1990s, UNIDO has been involved in efforts to address environmental and human health threats posed by Persistent Organic Pollutants (POPs) and more generally chemical pollution leading up to the agreement of the Stockholm Convention in 2001. The Convention objective is to protect human health and the environment through safe phase-out and management of POPs chemicals so as to prevent further releases into the environment. The Convention initially focused on a group of twelve chemicals, known as ‘the dirty dozen’ – these were mostly pesticides such as Dichlorodiphenyltrichloroethane – known as DDT; cooling or insulating agents for electricity generation and transmission such as Poly-chlorinated biphenyls – known as PCBs; and Unintentional-POPs (U-POPs) produced as by-products of industrial processes and burning – such as Dioxin and Furans.

From the 1930s to the mid-1970s POPs were produced in large quantities to facilitate agricultural and industrial development. It was not until the 1960s that research indicated the chemicals were toxic. POPs have a key characteristic that they are very stable in the environment, and resist natural processes of degradation. They can be transported through air, water, soil and food chains such that they can bio-accumulate and bio-magnify in human and animal fatty tissues. In humans and animals they are known to cause cancers, damage to the nervous system, reproductive disorders, disruption of the immune system and neurological damage. The most recent research links low levels of POPs in humans to increases in diabetes and decreases in fertility.

The Global Environment Facility (GEF) was appointed the financial mechanism for the Convention implementation. UNIDO was appointed a GEF agency in the late 1990s on account of its comparative advantage and technical expertise in chemicals management.

Between 2001 and 2011 UNIDO developed and implemented 70 POPs projects in over 50 countries, securing US\$115 million of GEF funding and over US\$200 million in co-finance. From 2001 to 2006 the initial emphasis was on assisting 43 countries in developing their National Implementation Plan (NIPs). The NIPs were a mandatory requirement for all parties [countries] to the Convention and provided initial capacity building, assessment of POPs – through inventory, and definition of priorities and phase-out needs to be addressed through phase-out investment projects. Since 2006/07, with the completion of NIPs, UNIDO emphasis has switched to assisting countries to develop and implement ‘post-NIP’ projects. These projects have focused on systemic, technical and institutional capacity building to ban and enforce phase-out and sound management of chemicals; and investment in phase-out technologies – principally non-combustion chemical destruction, focused mainly on PCBs. UNIDO has also been working with countries to introduce Best Available Techniques (BAT) and Best Environmental Practices (BEP) in waste and industrial processing to reduce U-POPs. The majority of the post-NIP projects are still under implementation, and UNIDO currently has a strong pipeline of post-NIP projects under development.

Within UNIDO the Stockholm Convention Unit (SCU) has the responsibility for assisting countries in developing and implementing POPs projects. It is also responsible for regional and global forums to exchange information on technologies and good practices particularly related to BAT / BEP. It is part of the Environmental Management Branch (EMB) with the Cleaner and Sustainable Production Unit (CPU) and the Water Management Unit (WMU).

Objective, Scope and Methodology

The objectives of the evaluation were to: (i) Provide information on relevance, effectiveness, efficiency, sustainability and progress towards impact of UNIDO POPs interventions; (ii) to identify internal and external, project-related and organizational factors that influence the performance of UNIDO's technical cooperation and global forum functions in the POPs areas; and (iii) to generate recommendations for UNIDO, its implementation partners and, possibly, the GEF.

The evaluation was structured around five criteria: relevance; effectiveness; efficiency; sustainability and the capacity of UNIDO. The scope of the evaluation covered the period from 2001 to 2011⁶ encompassing UNIDO's early involvement in supporting the NIPs and the follow-up post-NIP projects. Thirty-one out of 70 projects were sampled for desk and / or field visits. The methodological approach consisted of five components; (i) portfolio review; (ii) desk reviews of sampled projects; (iii) field visits to three countries⁷; (iv) semi-structured interviews with UNIDO staff, consultants and project stakeholders; and (v) a survey of POPs professionals.

The findings were integrated and triangulated during the analyses and provide the basis for the recommendations.

Conclusions and Recommendations

The evaluation found that UNIDO played a critical role in assisting countries in completing their NIPs, which included establishing foundational capacities for government, initial inventories and raising the awareness of policy-makers. UNIDO has built on NIPs to develop over 30 post-NIP demonstration and investment projects. These projects have been based on country priorities as outlined in the NIPs.

UNIDO has also played, and continues to play a key role in transferring non-combustion technologies to developing countries to enable them to treat and safely destroy POPs. Only three post-NIP projects have been completed and it is not possible to draw definitive conclusions on the results of the portfolio. Emerging and potential for results indicate that UNIDO's portfolio is generally doing the right things – it is addressing policy and capacity building, and has combined these with investments in technologies (mostly non-combustion; BAT / BEP) to phase-out POPs.

⁶ June 30th 2011.

⁷ Ghana, Nigeria and the Philippines.

UNIDO has worked alongside UNEP and the Convention at a regional and global level in sharing the latest techniques and knowledge on BAT / BEP, toolkits for identification of POPs, and also a toolkit for identification and management of contaminated sites.

The portfolio’s rapid development has led to some ‘growing pains’ in terms of weaknesses in project design particularly with regard to M&E planning; lesson learning; sustainability planning; internal and external cooperation and synergies; and capacity constraints within the SCU which if not addressed could threaten the ability of UNIDO to deliver results across the portfolio.

Only main conclusions and recommendations are presented below, for each there are supportive conclusions and recommendations and these can be found in Chapter 6.

Quality at Entry (Project Design)	
Conclusion 1	Recommendation 1
Project designs are coherent and rooted in an appreciation of country context but they also exhibited weaknesses in M&E planning, sustainability planning, synergies with other projects and incorporation of lessons from other UNIDO operations.	UNIDO SCU should address the current weaknesses in design through more thorough project preparation and ex-ante quality assessment. The UNIDO Appraisal Group should focus future project assessments on M&E, sustainability as well as encouraging internal lesson learning to inform project design.
Relevance	
Conclusion 2	Recommendation 2
The POPs programme relevance and alignment with UNIDO and GEF strategies and country priorities is strong, primarily with a focus on PCB phase-out and to a lesser extent U-POP through BAT / BEP, primarily in the countries which have the most significant challenges.	UNIDO SCU should continue to focus on PCB phase-out in the short to medium term, however it should also pro-actively develop the U-POP portfolio through joint POPs – Cleaner Production interventions where possible and with the requisite involvement of National Cleaner Production Centres and the private sector.

Results and Sustainability	
Conclusion 3	Recommendation 3
In the first decade of POPs operations, UNIDO has been instrumental in assisting countries to meet their obligations to the Convention and in transferring non-combustion destruction technology to developing countries. Ongoing implementation experience indicates that UNIDO is assisting countries to put in place policies and capacities for enforcement and environmental sound management (ESM) of chemicals.	As UNIDO SCU moves further into post-NIP portfolio development, it will be important to continue the emphasis on building country capacities to enforce policies within the context of investment projects. It should also work to forge partnerships with the private sector to phase-out POPs and / or to modify product life cycles (production, recycling and disposal) to reduce U-POPs and address New-POPs.
Efficiency	
Conclusion 4	Recommendation 4
POPs projects have been efficiently designed, however emerging implementation experience indicates that projects have faced considerable delays often due to procurement and contracting issues.	<p>UNIDO SCU should consider expanding the national procurement and contracting modality used in China to other countries that have appropriate capacity to improve implementation efficiency, and therefore also provide opportunities to meet the new GEF regulations on the separation of implementing and executing agency functions.</p> <p>Other opportunities could be explored to use National Cleaner Production Centres in countries where their project management capacity is established.</p>
UNIDO Capacity	
Conclusion 5	Recommendation 5
The SCU does not have enough human resources to manage implementation and maintain a strong and consistent focus on results, taking into account the present portfolio and the 'hard pipeline'.	UNIDO should take steps to address resource constraints within the SCU, either through re-organization within the EMB or recruitment of additional staff to achieve a better balance between portfolio size and staff resources for management of projects. In the medium-term, UNIDO should look to

	implement recommendation 4 to confine the SCU role to design, supervision and monitoring / managing for results.
	Future Issues
Conclusion 6	Recommendation 6
There is a trend within international chemicals Conventions toward strategic and operational synergies which are likely to result in more integrated approaches to addressing increasing global waste and pollution threats to environmental and human health.	UNIDO needs to monitor synergies between the chemicals Conventions and also the wider issues of hazardous substances (Mercury) and waste (global plastic waste issues) so that it is well positioned to respond strategically and operationally.

1.

Introduction

1. From June 2011 to February 2012 the Evaluation Group of UNIDO conducted a thematic evaluation of the Persistent Organic Pollutants (POPs) programme. The evaluation focused on assessing the programme relevance, effectiveness and efficiency; however because of the immaturity of many of the projects it was not possible to assess impact and sustainability in-depth.⁸ The scope of the evaluation was mainly on Global Environment Facility (GEF) funded projects, which constitute the majority of assistance to over 50 countries between 2001 and 2010.
2. This chapter provides a brief overview of POPs issues (1.1), the Stockholm Convention⁹ (1.2), background on UNIDO support to the Convention (1.3) and summarizes the evaluation framework detailing the objectives, key questions, approach and methodology, and limitations (1.4).

1.1. Persistent Organic Pollutants¹⁰

3. POPs are organic (carbon-based) chemical substances that possess a particular combination of physical and chemical properties and as such are resistant to environmental degradation through chemical, biological and photolytic processes. It is because of their long-term stability in the environment and the capability to be transported through water, air, soil, and food chains, that POPs are able to bio-accumulate and bio-magnify in human and animal fatty tissues¹¹ and to have significant adverse impact on human and animal health.
4. At the time of their invention and production, many POPs chemicals such as the pesticides, (e.g., DDT¹²; Aldrin, Chlordane, Endrin) and fire retardant, cooling, insulating agents (e.g., PCBs¹³) were viewed as 'wonder chemicals' for facilitating agricultural and industrial development. For example, after the discovery of DDT in the mid-1940s, it played a significant

⁸ According to DAC Criteria:

http://www.oecd.org/document/22/0,2340,en_2649_34435_2086550_1_1_1_1.00.html

⁹ Hereafter referred to as the 'Convention'.

¹⁰ More detailed overviews of POPs can be found at: <http://www.chem.unep.ch/pops/ritter/en/ritterren.pdf> and at http://en.wikipedia.org/wiki/Persistent_organic_pollutant / <http://chm.pops.int/default.aspx>

¹¹ POPs concentrate in living organisms through a process called bioaccumulation. Though not soluble in water, POPs are readily absorbed in fatty tissue, where concentrations can become magnified by up to 70,000 times the background levels. Fish, predatory birds, mammals, and humans are high up the food chain and so absorb the greatest concentrations. When they travel, the POPs travel with them.

¹² Dichlorodiphenyltrichloroethane.

¹³ Polychlorinated biphenyls.

role in combating malaria and yellow fever disease vectors.¹⁴ The major chemical companies¹⁵ produced POP insecticides and PCBs in large quantities from the 1930s until the late 1970s when many were banned in OECD countries, following increasing evidence of their human and environmental health impacts.¹⁶

5. As a result of accidental and deliberate releases¹⁷ into the environment over the past decades POPs are now widely distributed over all the continents, including areas such as the Arctic¹⁸ and Antarctic where no significant local sources exist and the only reasonable explanation for their presence is long-range transportation from other parts of the globe.¹⁹ This extensive contamination of the environment leading to direct exposure of humans and animals or indirect exposure through the food chain has resulted in disease and increased mortality. In humans and animals, there are known adverse health effects of exposure to high levels of POPs; the effects may include cancer, damage to the nervous system, reproductive disorders, or disruption of the immune system. Children have suffered adverse effects from high-level exposure such as learning and behavioural disabilities. There is also increasing concern that chronic exposure to low levels of POPs may contribute to the burden of disease including increased incidence of breast and other cancers, diabetes, neuro-developmental problems, and reproductive problems such as decreased sperm quality and counts.²⁰
6. Although bans have been in place in OECD countries for over twenty years, many POPs chemicals have either remained in use, particularly PCBs that are used in electricity transformers, capacitors and switch gear which have long industrial life cycles, or been stockpiled (in varying conditions) leading to contamination or risk of contamination. In OECD countries, inventory to identify PCB containing equipment has enabled sound management of chemicals in-situ and safe phase out and disposal through de-chlorination or incineration. However, this has been a long process, with inventory, management and disposal activities still ongoing in many countries, such as USA, Canada and Switzerland.

¹⁴ The Swiss chemist Paul Hermann Müller was awarded the Nobel Prize in Physiology or Medicine in 1948 "for his discovery of the high efficiency of DDT as a contact poison against several arthropods." Otto Diels and Kurt. Alder were similarly recognized in 1950 with the Nobel for Chemistry for their Diels-Alder reaction, which formed the basis for the development of many pesticides.

¹⁵ Companies included, Bayer, Ceiba-Geigy, Dupont and Monsanto *inter alia*.

¹⁶ Rachel Carson's influential research on effects of pesticides (Dieldrin and DDT) on bird populations lead to the book "Silent Spring" published in 1962 which brought environmental issues firmly into the public sphere and policy debate in the USA.

¹⁷ See large scale contamination events at: http://en.wikipedia.org/wiki/Polychlorinated_biphenyl

¹⁸ Some of the highest levels of POPs contamination (through bio-accumulation and magnification) have been found in the Arctic among the Inuit peoples. See: Johansen, B.E. (2002) The Inuit's Struggle with Dioxins and other Organic Pollutants. American Indian Quarterly. Vol.26: 3. The Inuit Circumpolar Council (ICC) played a significant role in the negotiation of the Stockholm Convention.

¹⁹ For example, fat samples taken from Killer Whales, which sit at the top of the food chain in the Arctic and Antarctic ecosystems regularly exhibit very high PCB, PBDE and DDT contamination (see Scientific American, January 20th 2009).

²⁰ WHO (2010) Persistent Organic Pollutants: Impacts on Child Health. World Health Organization. Geneva.

7. Concerns arising from POPs releases, and unintentional-POPs (U-POPs), such as dioxins and furans, produced as waste or by-products of industrial processes (e.g., in pulp and paper, petrochemicals processing), particularly in developing countries and those with economies in transition have increased. This is because many countries had not banned their use or had inadequate policy, capacity and incentives for sound management of chemicals and stockpiles.²¹ Most concern has been with those developing countries and economies in transition that had significant industrial and agricultural sector development through the 1930s onwards, such as Brazil, China, India, Russia, Eastern Europe and the former Soviet Republics.
8. In the early 1980s, the World Health Organization (WHO), International Labour Organization (ILO) and UN Environment Program (UNEP) developed the International Programme on Chemical Safety (IPCS) to establish the scientific basis for safe use of chemicals, and to strengthen national capabilities and capacities for chemical safety. The 1992 Rio Conference through its Agenda 21 identified POPs as an issue requiring action to reduce pollution and this was followed in 1995, by a call from the Governing Council of UNEP for global action to be taken on POPs. Following this, IPCS and others prepared an assessment of the 12 worst and most prevalent POPs – known as the ‘dirty dozen’ (see 1.2 & Annex A). These efforts culminated in the Stockholm Convention on POPs that was adopted in 2001 and entered into force in 2004. The overall objective of this global treaty is to protect human health and the environment from POPs.
9. The Global Environment Facility (GEF) was made the financial mechanism for the Convention to provide funding for the phase-out and safe disposal of POPs in developing countries. The GEF has provided over US\$450 million of funding for Convention implementation since 2001, of which approximately US\$115 million²² has been committed through UNIDO implemented projects.

1.2. Stockholm Convention

10. The Convention became effective from May 2004; the main objective is ‘to protect human health and the environment from POPs. The Convention initially covered twelve chemicals referred to as the ‘dirty dozen’ under its ‘Annex A’, until May 2009, when nine additional chemicals were added and dubbed ‘New-POPs’.²³ U-POPs are also addressed by the Convention and listed under Annex C (see Annex A). The Convention is focused around

²¹ For example the Stockholm Convention estimates that over 50,000 tons of obsolete pesticides are currently stockpile or dumped (contaminated sites) in Africa. See UNEP/ POPs/COP/4.27 (2009).

²² Of which the GEF has committed US\$106 million through UNIDO for support to the Convention. Between 2001 and June 2011.

²³ The additional chemicals go beyond the Conventions initial focus on pesticides and PCBs which had quite specific uses to a broader set POPs that have been used in electronics, flame retardants, foams and textiles. In some countries the chemicals are still being used and produced. Given the wider-array of uses the challenges of phase-out these chemicals will be significant.

several key articles²⁴, which countries [parties] required to take action either through financing measures themselves or through the multilateral (e.g., GEF) and / or bilateral assistance. The articles are summarized below:

Article 3: Measures to reduce or eliminate releases from intention, production and use

- Each party is required to prohibit or take legal action to eliminate the production and use of chemicals listed in Annex A and import and export *inter alia*.

Article 5: Measures to reduce or eliminate releases from unintentional production

- Each party is required to develop an action plan, source inventory and promote the use of Best Available Techniques (BAT) and Best Environmental Practices (BEP) for existing and new sources of U-POPs.

Article 6: Measures to reduce or eliminate releases from stockpiles and wastes

- Requires each party to identify and manage existing stockpiles or waste relating to chemicals listed under the Convention annexes, and take measures to dispose of wastes in an environmentally sound manner; to identify contaminated sites for management and remediation.

Article 7: Implementation Plans

- Requires parties to develop national implementation plans and transmit them to the Convention within two years of the Convention coming into force.

Article 10: Public Information, awareness and education

- Requires parties to promote (within their capabilities) awareness among policy and decision makers; development of public awareness campaigns taking into account the environmental health impacts of the POPs on women and children.

Article 11: Research, Development and Monitoring

- Encourages parties to undertaken research, development and / or monitoring on POPs trends in humans and the environment, and release reduction and / or elimination technologies or methods *inter alia*.

Article 13 – 14: Financial Resources and Mechanism / financial arrangements

- Requires developed country parties to provide new and additional financial resources to enabling developing country parties, and parties with economies in transition to meet full incremental costs of measures to fulfil obligations under the Convention.

²⁴ Article 17 addresses non-compliance in terms of stating ‘the COP shall, as soon as practicable, develop and approve procedures and institutional mechanisms for determining non-compliance’. As of 2011, the COP has not returned to discuss and set procedures for Convention non-compliance.

- Article 14 appoints the GEF as the financial mechanism to the Convention.

1.3. Overview of UNIDO's Support for Convention Implementation

1.3.1. Introduction

11. UNIDO's interest in addressing chemical pollutant challenges developed in the early to mid-1990s and was rooted in its core mandate of promoting industrial development²⁵ and its appointment as an implementing agency for the Montreal Protocol in 1992. From the work on phase-out of ozone depleting substances throughout the mid-1990s, further impetus was gained in relation to addressing toxic chemicals, and this was initially related to UNIDO's work on pollution of water bodies. To this end, UNIDO as a member of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) established in 1995 to strengthen cooperation and increase coordination in the field of chemical safety, was involved with UNEP, UNITAR, WHO, ILO, FAO, World Bank and UNDP in following the inter-governmental negotiations leading up to the agreement of the Convention, prior to becoming a GEF executing agency in 1999²⁶, under the 'expanded opportunities decision' of the GEF Council.
12. UNIDO's initial substantive contribution to the operationalization of the Convention was to assist in the drafting of initial guidance for National Implementation Plan (NIP) formulation.²⁷ Subsequent to this, a letter of understanding was established between UNIDO and the GEF, in mid-2001, to provide for expedited project preparation and Enabling Activity (EA) grants.²⁸ This resulted in UNIDO carrying out EAs, including NIP formulation in over 40 countries including China and India (see Chapters 2 and 3) between 2001 and 2007.
13. UNIDO's status as a GEF executing agency recognized the organizations comparative advantage in industrial development and more precisely with respect to energy efficiency and renewable technologies, water and chemicals management. However, with respect to post-NIP cooperation, as an executing agency UNIDO had to work through one of the three implementing agencies (UNDP, UNEP or the World Bank) to obtain

²⁵ Luken (2009) assessment of UNIDO's 'greening' indicates that industrial development core mandate has largely sat alongside the development of the environmental portfolio's and integration has not been wholly successful. See "Greening an International Organization" Review of International Organizations. Vol.4:2 (2009).

²⁶ Interview data. See also GEF/C.13/3 Expanded Opportunities for Executing Agencies. UNIDO was recognized as an executing agency alongside the regional development banks and other specialized UN agencies such as the FAO and IFAD.

²⁷ See GEF/C.17/4 (2001) and also Guidance for developing a NIP for the Stockholm Convention (2005).

²⁸ July 21st 2001 Memorandum of Understanding between UNIDO and the GEF Secretariat: Project preparation and development facility grants and expedited enabling activity grants related to the Stockholm Convention on Persistent Organic Pollutants.

funding for full and medium-sized projects (FSP and MSP respectively) and did not have direct access to GEF funds. This led to various operational inefficiencies, thus creating disincentives for UNIDO and other executing agencies to fully contribute to the GEF partnership through strategic decision-making forums, and through implementation of FSP and MSP operations.²⁹ In 2007, drawing on the conclusions of evaluations of the GEF activity cycle and the expanded opportunities, the GEF Council dropped the executing – implementing agency distinction to create equal access for all ten GEF agencies based on their respective comparative advantages.³⁰ As of 2007, the UNIDO POPs post-NIP portfolio and support for Convention implementation have grown as a consequence of a direct partnership with the GEF. This enabled UNIDO to follow up NIPs with post-NIP interventions and be more responsive to country partners' requests for technical assistance and investment (see Chapters 2 and 3).

1.3.2. POPs Strategy and Positioning within UNIDO

14. UNIDO has adopted and responded to the GEF strategic objectives (See Table 1)³¹ for POPs within the context of the overall environment and energy-programme frameworks, forming part of UNIDO's overall Medium Term Programming Framework (MTPF).³² UNIDO's POPs portfolio puts emphasis on capacity building, inventory establishment, policy development for the implementation of the Convention and on PCB phase-out as these have been most commonly used in the industrial and power sectors (see Chapter 3). It is also an important part of UNIDO 'green industry' initiative launched in 2009. UNIDO's POPs work falls under the third thematic priority of "environment and energy" and is expected to contribute to the Millennium Development Goals (MDGs) 1 (poverty reduction); 7 (environmental protection) and 8 (global partnership for development) (see Chapter 3).³³
15. The GEF strategies for POPs have followed the Convention and COP guidance and evolved through the GEF-3 to GEF-5 replenishment periods from an initial emphasis on targeted capacity building and policy-development, and demonstration of cost-effective technologies for phase-out and safe disposal of POPs chemicals to investment-focused interventions.
16. Within the framework of GEF-5, the GEF continues to place significant emphasis on PCB phase-out and disposal and removal and disposal of obsolete pesticides. The GEF has set targets of 23,000 tons of PCBs and 10,000 tons of pesticides to be phased-out over the course of GEF-5 (see

²⁹ For example, between 2001 and 2006 UNIDO's GEF project consisted of 39 enabling activities and 1 FSP.

³⁰ See GEF/C.31/5 (2007) and also GEF (2006) Joint Evaluation of the GEF Activity Cycle and Modalities. GEF EO. Washington DC; GEF (2006) Evaluation of the Experience with Executing Agencies under Expanded Opportunities in the GEF. GEF EO. Washington DC.

³¹ UNIDO prepared a strategy for the Stockholm Convention that was presented in the GEF Assembly held in Beijing China, 2003 but it had not been formally adopted by the management of the organization.

³² See IDB.35/8/Add.1 (2008).

³³ <http://www.unido.org/index.php?id=7847> The thematic priorities were developed and introduced in 2004 and was part of the UNIDO reform process - <http://www.unido.org/index.php?id=6400>

Chapter 3).³⁴ In order to meet the targets the operational emphasis is now on investment that will lead to direct contributions to phasing out tons of POPs and reduced focus on stand-alone capacity building, awareness raising and demonstration projects.³⁵ This is coupled with a more holistic and results-orientated approach with a focus on sound management of chemicals, encompassing POPs under the Convention, ODS under the Montreal Protocol, but also taking into account developments and synergies with the Rotterdam, Basel Conventions³⁶, and SAICM.

17. The UNIDO objectives with regard to POPs fall within the implementation of multilateral environmental agreements (MEA) - an area that has gained importance for UNIDO since the early 1990's with Montreal Protocol (MP)-related projects accounting for a major share of UNIDO's technical cooperation. Similar to the MP, UNIDO's POPs projects aim at providing assistance to countries in meeting Convention obligations through alignment of policy and legal frameworks, incentive structures³⁷ and environmental technology transfer (see Chapter 3).³⁸

Table 1. Evolution of GEF's Strategic POPs Objectives³⁹

GEF-3 (2002 – 2006)	GEF-4 (2006 – 2010)	GEF-5 (2010 – 2014)
<ul style="list-style-type: none"> ▪ Targeted capacity building – for: <ul style="list-style-type: none"> ○ Development of NIPs ○ LDCs ○ Awareness raising ○ Dissemination of best practice ▪ Implementation of policy / regulatory reforms and investments that emerge from NIPs ▪ Demonstration and promotion of innovative and cost-effective technologies and practices <ul style="list-style-type: none"> ○ Disposal of products ○ Phase-out of PCBs ○ Alternatives to DDT and other POPs 	<p>Goal: To protect human health and the environment by assisting countries to reduce and eliminate production, use and releases of POPs, and consequently contribute generally to capacity development for the sound management of chemicals</p> <p>Strategic Objective: To reduce and eliminate production, use and releases of POPs.</p> <ul style="list-style-type: none"> ▪ Strengthening capacities for NIP implementation, including those countries that lag furthest behind to establish basis foundational capacities ▪ Partnering in investments needed for NIP implementation to achieve impacts in POPs reduction and elimination ▪ Partnering in the demonstration of feasible, innovative technologies and best practices for POPs reduction 	<p>Goal: To promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the global environment</p> <ul style="list-style-type: none"> ▪ Phase out POPs and reduce POPs releases ▪ Phase out ODS and reduce ODS releases; and ▪ Pilot sound chemicals management and mercury reduction <p>Expected Outcomes for POPs:</p> <ul style="list-style-type: none"> • Production and use of controlled POPs chemicals phased-out • Exempted POPs chemicals used in an environmentally sound manner • POPs releases to the environment reduced • POPs waste prevented,

³⁴ See GEF/R.5/31/CRP.1 (2010).

³⁵ Interview data.

³⁶ See the 'synergies decisions' and process on the Basel, Rotterdam and Stockholm Convention websites.

³⁷ Enforcement of legal provisions; fines, taxes and subsidies to encourage POPs owners to adhere to safe disposal.

³⁸ See IBD.35/8/Add.1 (2008) and IDB.36/7-PBC.25/7.

³⁹ See GEF/C.21/9 (2003); GEF/C.31/10(rev) (2007); GEF/R.5/31/CRP.1 (2010).

		<p>managed and disposed of, and POPs contaminated sites managed in an environmentally sound manner</p> <ul style="list-style-type: none"> • Country capacity built to effectively phase out and reduce releases of POPs. <p>Phase-out Targets: Pesticides: 10,000 tons PCBs: 23,000 tons</p>
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18. Structurally within UNIDO, POPs operations were initially placed with the Chemical Industries Branch, then the Cleaner Production and Environmental Management Branch until 2004. With the formation of a Stockholm Convention Unit (SCU), in 2004 the unit came under the responsibility of the Multilateral Environmental Agreements Branch, together with the Montreal Protocol Unit⁴⁰ until 2008. The creation of the Environmental Management Branch in 2008 after an internal reorganization brought the Cleaner and Sustainable Production Unit (CPU), the Water Management Unit (WMU) and SCU under one branch. The rationale for bringing the units together was to encourage strategic and operational linkages between improved and sustainable industrial processes [cleaner production], water and land-based pollution reduction and development, and transfer of environmentally sound technologies (BAT / BEP). This was alongside the recognition that SCU projects had a strong potential to contribute to cleaner production, particularly in the power generation sector (see Chapter 3 and 4).

1.4. Evaluation Framework

19. The evaluation framework summarizes the objectives, key questions, approach, methodology and limitations of the evaluation.⁴¹

1.4.1. Objectives

20. The objective of the evaluation was to:

- Provide information on relevance, effectiveness, efficiency, sustainability and progress towards impact of UNIDO POPs interventions and in doing so:
 - o To identify internal and external, project-related and organizational factors that influence the performance of UNIDO's technical cooperation and global forum functions in the POPs areas;
 - o To generate recommendations for UNIDO, its implementation partners and, possibly, the GEF.

⁴⁰ Now the Montreal Protocol Branch (MPB).

⁴¹ See Thematic Evaluation of UNIDO work in the area of Persistent Organic Pollutants: Inception Report.

21. The scope of the evaluation covered the period from 2001 to 2011⁴² encompassing UNIDO's early involvement in supporting the NIPs and the follow-up post-NIP projects (See Annex B).

22. The evaluation was structured around five criteria:

- **Relevance:** Alignment and relevance of POPs projects to country priorities, strategies and needs; the Convention guidance and GEF strategies, and also UNIDO thematic priorities
- **Effectiveness / Results:** Actual and / or expected tons of PCBs phase-out and safely disposed; capacities built for sound management (enforcement) of POPs (chemicals); policies developed for the management and phase-out of POPs; knowledge management and lesson learning (within UNIDO and between projects, and countries); unintended results and missed opportunities.
 - **Factors affecting results:** Project design and implementation; stakeholder ownership and involvement; type of stakeholders involved or excluded; project delays (internal / external)
- **Efficiency:** Timeliness of design and implementation; implementation approach and adequacy of project management modalities (HQ vis-à-vis field office management; procurement)
- **Sustainability:** Likelihood of augmented capacities and technologies from the portfolio being sustained into the future; extent to which approaches are replicable
- **Capacities:** UNIDO internal capacities (staffing, expertise, training and lesson learning opportunities) to manage and deliver results; internal cooperation and synergies; future issues (internal and external) related to UNIDO, GEF and the Convention

1.4.2. Key Questions⁴³

Relevance

- How relevant/aligned have the UNIDO POPs projects been to the environmental strategies of the supported countries, to the GEF and to the thematic priorities of UNIDO?
- Do UNIDO POPs projects contribute to other UNIDO objectives, such as improved environmental performance of industry, competitiveness of industry, pro-poor growth?
 - Have opportunities for synergies been exploited or missed?
- Do UNIDO POPs projects generate local social and/or environmental benefits? Are global and local benefits linked?

⁴² June 30th 2011.

⁴³ See Annex C – Evaluation Matrix.

- Are UNIDO POPs projects addressing the most pressing POPs-related threats to humans and the environment in the respective countries?

Effectiveness

- How effective has the overall UNIDO's POPs portfolio been in contributing to the phasing out of POPs and other project outcomes, including in particular capacity building in beneficiary countries?
 - How well has the portfolio performed?
 - What are the key results of the UNIDO POPs portfolio?
- What was UNIDO's value added to the efforts to reduce the production, use and release of POPs?

Efficiency

- How efficiently have the POPs projects been implemented?
 - What are the key advantages and disadvantages of the applied implementation approach?
 - Are project management and implementation modalities adequate?

Factors affecting results

- What are the key project-*internal* factors (e.g. implementation approach, internal competencies, type and quality of expertise used, etc.) that determine the performance of the projects and long-term effects?
- To what extent are projects well designed, coherent in their approach and results oriented (is there a plausible link between activities, outputs and expected outcomes and impact?)
- What are the key project-*external* factors (e.g. existing environmental legislation, budgetary provisions in the country, degree and form of private sector development, etc) that determine the performance of the projects and long-term effects?

Sustainability and impact

- To what extent have the desired benefits of UNIDO's POPs projects continued after the project completion?

1.4.3. Approach and Methodology

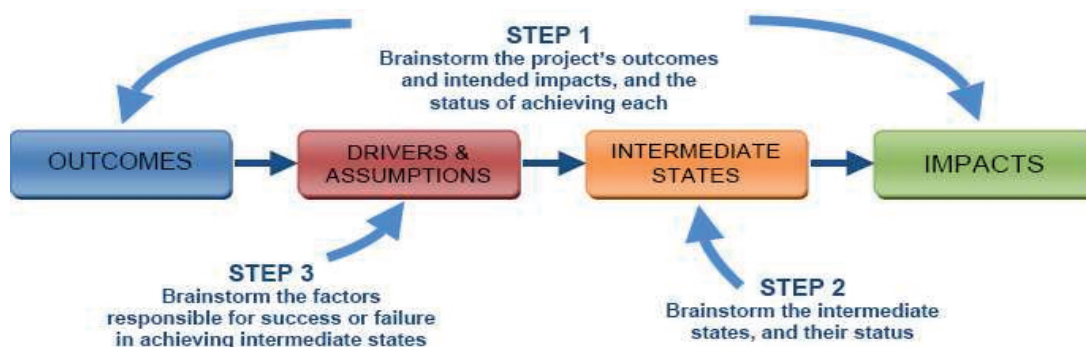
Theory-based approach

23. The approach taken during the initial inception period of the evaluation was to develop theories of change (TOC) for UNIDO's POPs portfolio.⁴⁴ The TOC was based on an initial review of project design(s) and implementation documents, interviews with UNIDO staff and a desk review of GEF POPs strategies.

⁴⁴ UNIDO POPs portfolio is generally equivalent to a program in that all projects have similar higher order objectives and explicit or implicit objectives. The inception report contains two TOCs for NIPs and post-NIP interventions (Ghana – Nigeria case study).

24. TOCs were developed for the projects assessed through fieldwork (post-NIPs PCB phase-out projects) and also the NIPs, using the Review of Outcomes to Impacts (ROtI).⁴⁵ The primary focus of the ROtI approach was to assess explicit and implicit presence or absence of impact drivers / assumptions; which need to hold true and threats, that need to be mitigated in order for a project to move towards results or impact or for a project to move from outcomes to intermediate states and onto sustainable impacts⁴⁶ (see Figure 1 and Annex F).

Figure 1. Review of Outcomes to Impact



25. The TOCs were revisited during the fieldwork, desk studies and analyses (see Chapters 2 and 3). The TOC approach responded to the primary objective of the evaluation to assess 'progress towards results' and was used as a starting point for the ROtI assessment. The ROtI was applied to three completed post-NIP projects (see Table 2) to assess the overall and emerging validity of UNIDO's approach to capacity building, demonstration and investment within the post-NIP projects. The TOCs are presented in Chapter 2 (see 2.2).

Table 2. ROtI Projects

Project	Type
Philippines: Global programme to demonstrate the viability and removal of barriers that impede the adoption and successful implementation of available Non-Combustion Technologies for destroying POPs	Post-NIP (demonstration / investment)
Romania: Capacity Building for environmentally sound management of PCBs in Romania	Post-NIP (capacity building / investment)
Global: Fostering Active and Effective Civil Society Participation in Preparations for Implementation of the SC	Global Project: Capacity Building

⁴⁵ <http://www.thegef.org/gef/node/2225>

⁴⁶ Intermediate states are transitional outcomes that sit between project outcomes and impacts, are ex-post states in which the major barriers to impact have been overcome.

Data Collection Methods

26. The evaluation combined several data collection methods to respond to the objectives and key questions and test the TOCs:

- Portfolio description and review:
 - Provided a comprehensive overview of the UNIDO POPs project portfolio to establish its key trends and characteristics, compared within UNIDO and externally (other GEF agencies' POPs portfolios) and identify overall features, strengths and gaps, particularly in terms of thematic, geographical coverage, development of the portfolio over time and responsiveness to UNIDO, GEF and Convention priorities (see Chapter 2 and 3).⁴⁷
- Desk reviews:
 - Sampled completed / under implementation NIP and post-NIP projects: 31 out of 70 (of which 15 were completed: 12 NIPs and 3 post-NIP as indicated in Table 3) projects were reviewed using a standardized protocol to record information on relevance, effectiveness / results, efficiency, project risks and assumptions (explicit and implicit), quality of project design (quality at entry) and implementation issues. Quality-at-entry focused on: coherence and appropriateness of project objectives⁴⁸; analysis of country context⁴⁹; incorporation of lessons from previous operations⁵⁰; adequacy of technical analyses (environmental, socio-economic and institutional)⁵¹; quality of Monitoring and Evaluation (M&E) (baseline, outcome indicators, M&E plan, methodology and budget); sustainability plans^{52 53}.
 - The quality at entry assessment did not rate or score projects, but focused on providing narrative assessments of the sampled projects.

⁴⁷ Portfolio review covered the period 1st January 2001 to 30th June 2011.

⁴⁸ Objectives are clear, measurable and realistic; stakeholder needs and reflected in the objectives.

⁴⁹ Understanding of use (and historical use) of POPs; clear statement of the problems and context of POPs pollution; sectoral / industrial users and stakeholders; potential contaminated sites.

⁵⁰ Incorporation of lessons learned from other chemicals projects such as ODS (MLF) phase-out; other GEF projects; UNIDO projects.

⁵¹ Environmental studies and anticipation of project risks in relation to the environment; socio-economic assessment, inclusion of relevant social, gender and economic issues in the project; negative impacts on beneficiaries; mitigation measures proposed (if any); Institutional capacity assessment of strengths and weakness in government and other partners, including possible risks to the project outcomes.

⁵² Beneficiaries likely to have improved knowledge, skills to maintain project benefits ex-post; systems and benefits are likely to be financially supported by the government or private sector (industry) ex-post; project likely to provide sufficient capacity and equipment to allow project to maintain benefits ex-post; project benefits an systems will be funded from recurrent budget ex-post.

⁵³ The quality at entry methodology was focused on key aspects of the projects and was tailored to take account of evaluation time and resource constraints. It therefore stopped short of a full quality at entry assessment of the project sample.

Table 3. Project Review Sample

Project Type	Completed	Under Implementation	Sample	
			Completed	Under Implementation
EA/NIP	34	8	12	0
FSP/MSP/Post-NIP	3	25	3	16

The sampling was purposive⁵⁴ but took into account:

- Coverage of different project types (NIP, post-NIP (demonstration and investment))
 - Inclusion of regional / global and national projects
 - Geographical distribution
 - Maturity of post-NIP projects (e.g., availability of Mid-term Evaluations)
- a. Review of various SCU, EMB and other UNIDO documentation relating to ongoing non-project work (e.g., regional and global forum functions);
 - b. A comparative assessment of UNDP and World Bank completed POPs projects (for which evaluations were available) was undertaken to compare approaches, implementation experiences and results⁵⁵. Given the immaturity of the Bank and UNDP portfolios the comparison was limited to one project each –
 - i. UNDP: Latvia – Environmentally Sound Disposal of PCB wastes (completed)
 - ii. World Bank: Moldova – POPs Management and Destruction Project (completed)
 - c. Country visits / project case studies: The country visits (jointly carried out as planned mid-term and terminal evaluations) were used to assess project(s)'s progress towards results mapped out in the TOCs, to further look into links and follow up of the NIPs. Data was collected through semi-structured interviews, documentary review and observation. Two projects were visited:
 - i. Regional Project to Develop Appropriate Strategies for Identifying Sites Contaminated by Chemicals listed in Annexes A, B and C of the Stockholm Convention (Ghana – Nigeria) Mid-Term Evaluation
 - ii. Philippines: Global programme to demonstrate the viability and removal of barriers that impede the adoption and successful implementation of available Non-Combustion Technologies for destroying persistent organic pollutants (POPs) Terminal Evaluation

⁵⁴ As the present portfolio is small with a limited number of projects completed or at the mid-point it was appropriate to select the sample that would be best aligned with the focus of the evaluation and maximize consideration of emerging results.

⁵⁵ Supplemented by interviews with Bank and UNDP staff.

- d. Semi-structured interviews: Semi-structured interviews with UNIDO, UNDP, World Bank, GEF Secretariat and Convention staff to obtain information relating to portfolio performance, results and expected results, threats or risks, project design and implementation processes, UNIDO capacities and future issues and challenges.
- e. Survey with POPs professionals: The professionals selected included UNIDO staff, international consultants (including Chief Technical Advisors) and national project managers and coordinators. A questionnaire was developed based on the initial assessment of qualitative data from the semi-structured interviews and used to validate responses regarding relevance; effectiveness; quality of project design; implementation issues (e.g. delays), UNIDO capacities and future issues (see Annex E). Two separate surveys aimed at two distinct groups were conducted⁵⁶:
 - i. UNIDO staff and international consultants: 70 selected respondents out of which 38 completed the survey (response rate of 54%)
 - ii. UNIDO National project coordinators and / or managers of post-NIP projects: 17 identified respondents out of which 12 completed the survey (response rate of 71%)
- f. Capacity review of the UNIDO SCU: Qualitative and quantitative data (e.g., numbers of personnel and numbers of projects managed per staff member) was collected on the capacity of the SCU and other comparable units within and external to UNIDO (UNDP and World Bank).

1.4.4. Limitations

27. The main limitations encountered during the evaluation were:

- The immaturity of the UNIDO POPs portfolio evidenced by the absence of a wide cohort of completed post-NIP projects limited the extent to which results of the investment and the demonstration of BAP / BEP technologies could be assessed.
- The evaluation field visits provided detailed data and understanding of the implementation of the projects and emerging results, and sustainability. However, due to limited resources available to the evaluation more field visits could not be conducted. This reduced the extent to which a general overview of progress towards results / impacts can be made with certitude. Consequently, the evaluation is largely dependent on documentary evidence from the project desk reviews.
- The quality of documentary evidence was variable, with some projects not always adhering to their M&E or reporting plans. For example, in some cases Mid-term Evaluations (MTEs) were not conducted.

⁵⁶ Surveys were sent to SCU for comments before finalization. A pre-qualification email was sent to all possible respondents to verify their emails before the questionnaire was sent out on September 12, 2011. The survey respondents were given 1 month to respond. The survey closed on October 14, 2011. The survey in essence was a self-evaluation / assessment for the key UNIDO and technical stakeholders.

Furthermore, due to the lack of an adequate common electronic filing system, the SCU was not always able to provide complete implementation documentation.

28. Given the above limitations the evaluation placed emphasis on assessing relevance, efficiency, capacity and “progress towards results” instead of aiming at a concise assessment of actual results across the portfolio. This included NIPs projects, which laid important foundations in terms of capacity and policy development, as well as identifying priorities for the post-NIP project investments. Three post-NIP projects have been completed and these were assessed using a combination of fieldwork (in the case of the Philippines Non-Combustion project) and desk review.

1.4.5. Report Overview

29. The remainder of the evaluation is structured around Chapters two through five.

Chapter Two: Provides an overview of the UNIDO POPs portfolio, trends and characteristics in terms of geographical and thematic coverage, financing, external comparison with other GEF agencies, description of NIP and post-NIP design and implementation modalities and theories of change.

Chapter Three: Provides the substantive findings of the evaluation in relation to quality at entry, relevance, effectiveness / results, efficiency, sustainability and impact drivers.

Chapter Four: Provides the assessment of UNIDO capacities to design and implement projects and deliver results

Chapter Five: Provides a brief overview of future issues.

Chapter Six: Provides the main conclusions and recommendations.

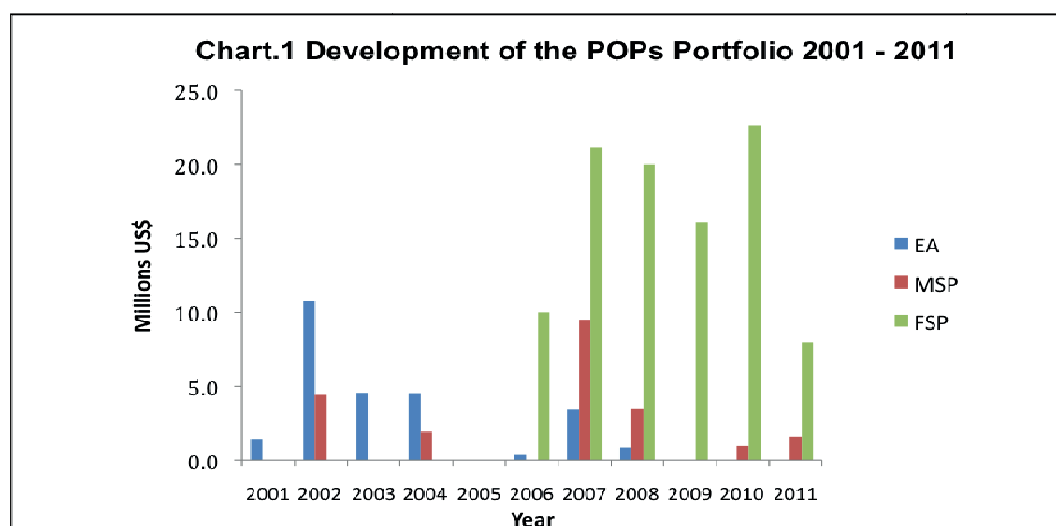
2. UNIDO's Persistent Organic Pollutants Portfolio

30. This chapter firstly provides a review of the project portfolio, detailing the main trends in its development in terms of project type and financing, geographic and thematic coverage, including a comparison with the portfolios of the World Bank, UNDP, UNEP and FAO. Secondly, it outlines the design and implementation process used by UNIDO for POPs projects.

2.1. Portfolio Review

2.1.1. Development of UNIDO's POPs Portfolio

31. The overall trend in the development of the UNIDO POPs portfolio has followed the structure established by the Convention. In the initial years 2001 – 2006 operations were focused on assisting countries to complete NIP (EA), these were followed by post-NIP demonstration and investment MSP and FSPs which is reflected in increased volumes of financing (see Chart 1)⁵⁷.

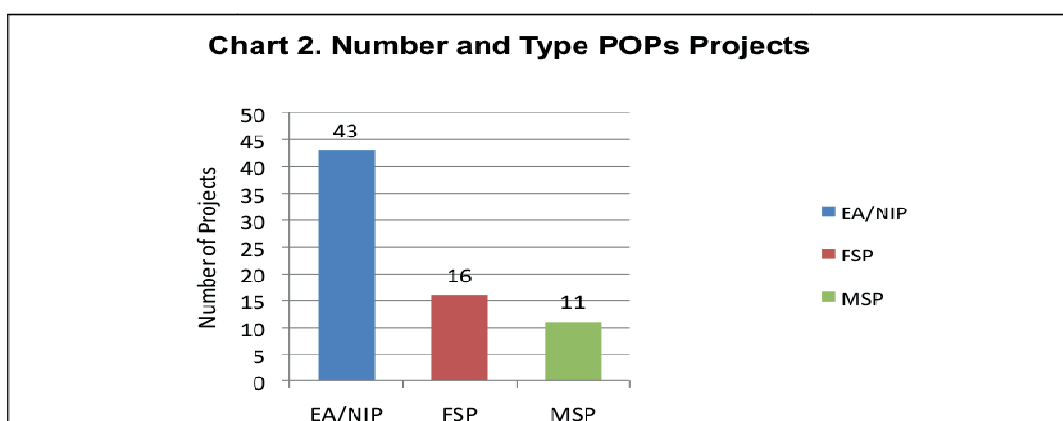


32. The growth in funding for POPs projects has also been influenced by the change in UNIDO's status from a GEF executing agency to a "GEF agency" with direct access to financing in 2007. This, combined with the completion of many of the NIPs, coincided with rapid growth in post-NIP financing throughout the GEF-4 replenishment period (2006 – 2010).

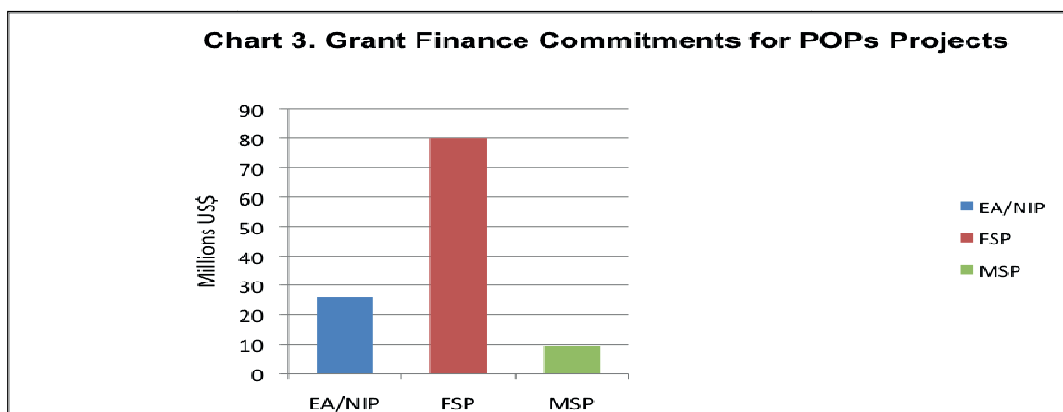
⁵⁷ Approved projects under implementation and completed. Does not include 2011 pipeline.

2.1.2. Project Type and Financing

33. Over the past 10 years UNIDO has implemented 70 POPs projects, not including preparatory projects.⁵⁸ Out of the 70 projects, 43 were NIPs (EAs) and 27 post-NIP demonstration or investment projects, of which 11 were Medium-Sized Projects (MSPs) and 16 Full-Sized Projects (FSPs) (see Chart 2)



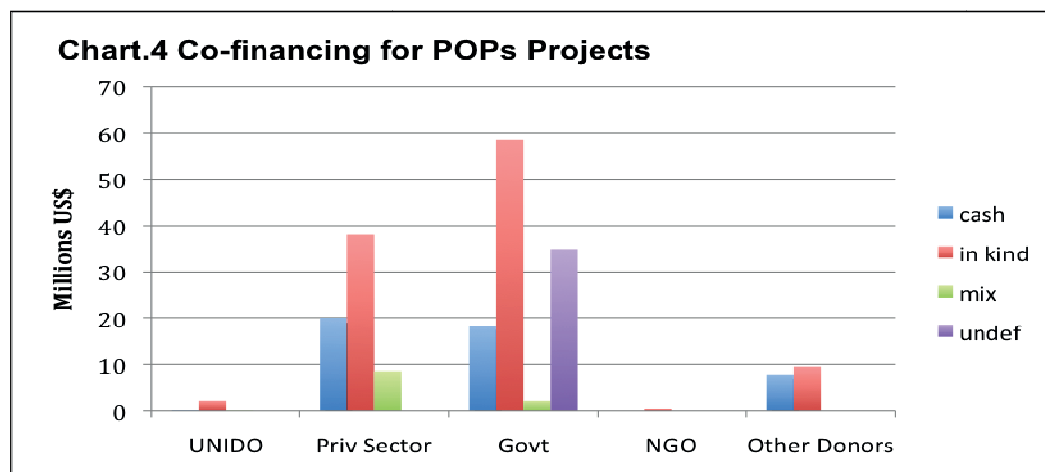
34. Grant funding totals US\$115 million, with approximately US\$90 million for post-NIP projects and US\$26 million for NIPs, which reflects the significant difference in grant volumes between the foundation activities related to the NIP (which were limited to US\$0.5 million⁵⁹ per project) and the follow-on investment, demonstration and in-depth capacity building activities under the post-NIP (see Chart 3).



⁵⁸ Formerly Project Development Funds (PDFs) or now Project Preparatory Grants (PPGs) provided by the GEF to develop project proposals, engage stakeholders and conduct initial 'preparatory' activities and studies. In the UNIDO project management systems (Agresso), PDFs / PPG are defined as 'projects'.

⁵⁹ GEF limited NIP EAs to a budget of US\$0.5 million; however, the exceptions were larger countries notably China and India which were granted over US\$7 million to complete their NIPs.

35. The grant funding generated approximately US\$200 million in approved / expected co-financing from Governments, other donors and the private sector (see Chart 4).⁶⁰



36. The total co-financing ratio is US\$1:1.73. However, analysis of the co-financing across the portfolio indicates that only US\$56 million is designated as 'in-cash' / 'mix of in-cash or in-kind contributions' with the remainder being either 'in-kind' or 'undefined'. Hence, the cash and mixed ratio is substantially reduced to US\$1:0.56. The majority of co-financing (US\$108 million) comes in the form of 'in-kind' contributions from Governments, public utilities / private sector, which are difficult to track during implementation. The risk is that in-kind co-finance is not delivered and that this impacts negatively on the completion of project outputs, for example, this was the case in the recently completed India NIP.⁶¹ At present, UNIDO SCU does not systematically monitor co-financing beyond figures reported at project approval stage, hence it is difficult to ascertain if a project is under-performing for lack of delivery of pledged co-financing.

2.1.3. Geographical, Income⁶² and Thematic Coverage

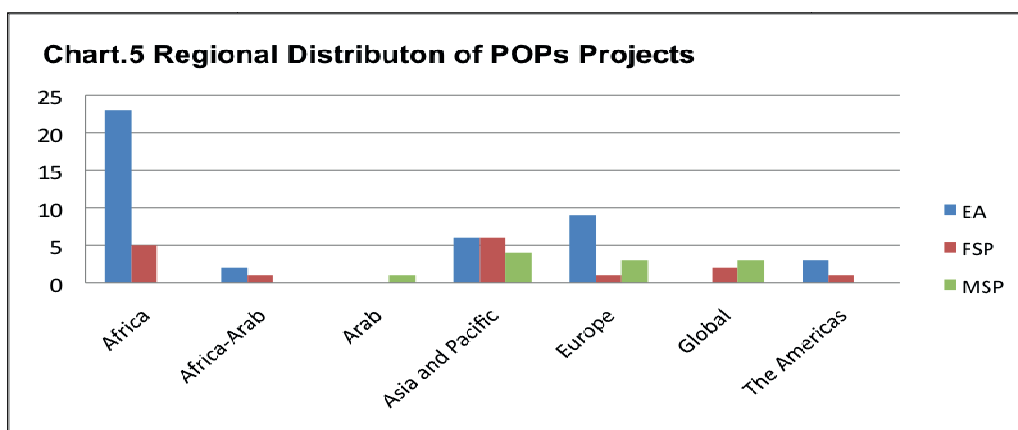
37. Geographical coverage of UNIDO POPs projects (of all types) shows that in absolute numbers, Sub-Saharan Africa has hosted most projects, however, these have mostly been NIP (23), with no national post-NIP investment or demonstration projects, although several regional projects have been approved in 2011. The Asia – Pacific region has 16 projects with the majority being post-NIPs reflecting UNIDO's success in developing partnerships with the Chinese and Indian Governments. In

⁶⁰ Co-financing for NIPs was not always required. Out of US\$26 million of GEF funding for NIPs, approximately US\$14 million was generated in co-finance, with almost all of it associated with the China and India NIPs.

⁶¹ UNIDO (2011) Independent terminal evaluation of the UNIDO project GF/IND/07/004 Development of a National Implementation Plan in India as a First Step to Implement the Stockholm Convention on Persistent Organic Pollutants.

⁶² Gross National Income classification: See World Bank <http://data.worldbank.org/about/country-classifications>

contrast, only small numbers of projects have been developed across North Africa, Arab states and the Americas (see Chart 5). Hence, the current portfolio, although focusing on several countries in Asia,⁶³ where the most significant POPs phase-out challenges are found, is somewhat imbalanced with relatively few investments in Sub-Saharan Africa, North Africa and the Americas. This imbalance reflects several factors such as in-country capacities and demand, level of industrialization and finance issues such as the ability of countries to raise co-finance and meet the GEF requirements.⁶⁴ For example, Sub-Saharan African countries, many of which are LDCs and / or fragile states, have limited available co-funding for environmental projects, including chemicals.⁶⁵ Furthermore, bilateral donors are often directing their funds through budgetary support or policy-based lending and not through technical assistance projects. In contrast, the development of the American portfolio was reported to be weak because of a lack of Spanish-speaking POPs expert within the SCU.⁶⁶



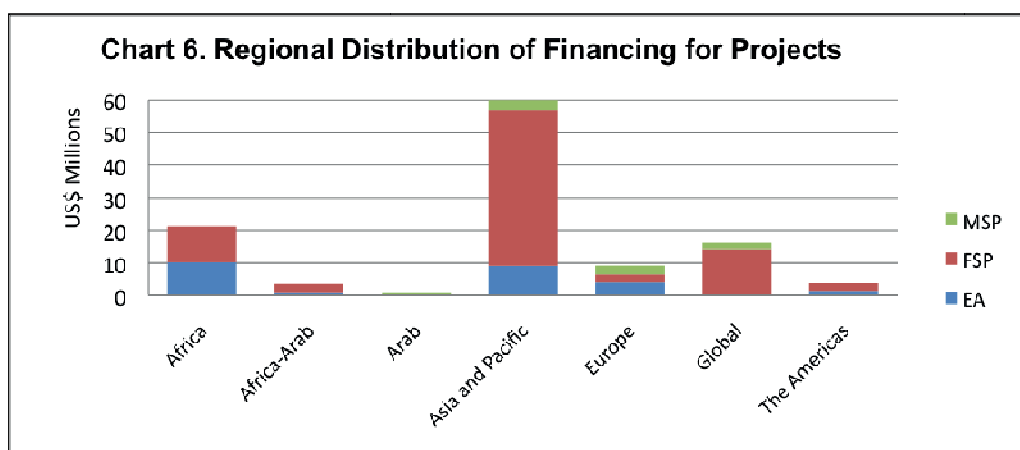
38. The financial dominance of Asia – Pacific is clearly observable below with China and India accounting for approximately US\$57 million of post-NIP investments (see Chart 6 and 7) spread across six FSPs and four MSPs.

⁶³ Armenia, Azerbaijan, China, India, Mongolia, Nepal and Vietnam all have developed post-NIP projects with UNIDO.

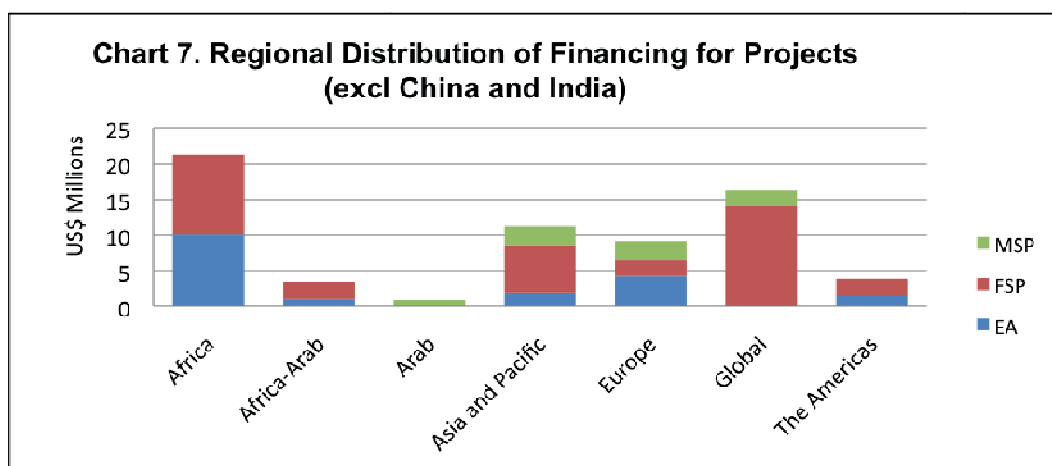
⁶⁴ In GEF-4 the informal co-finance ratio for POPs projects was set at US\$1 leveraging US\$2 in co-finance. In GEF-5 the informal ratio requirement has been raised to US\$1 to US\$4 in co-finance.

⁶⁵ Interview data.

⁶⁶ Ibid.



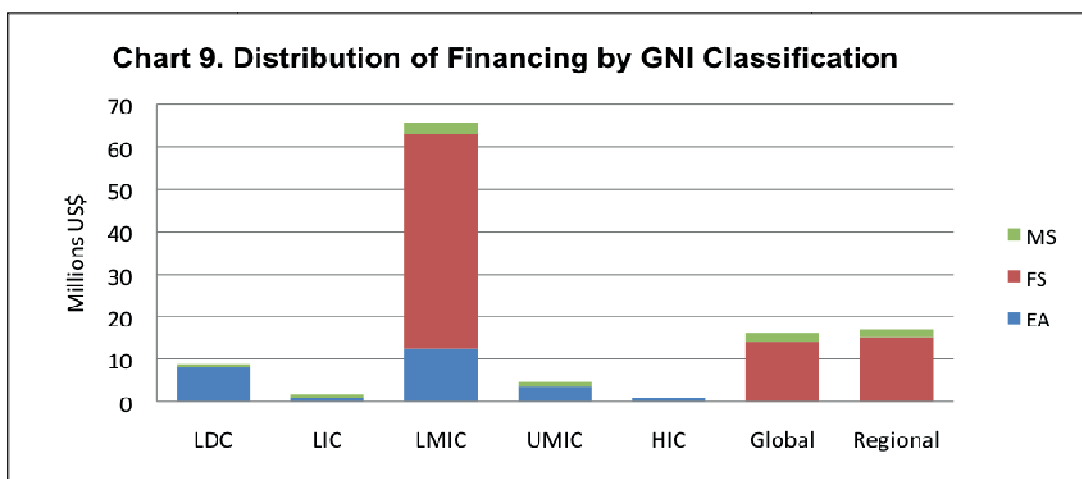
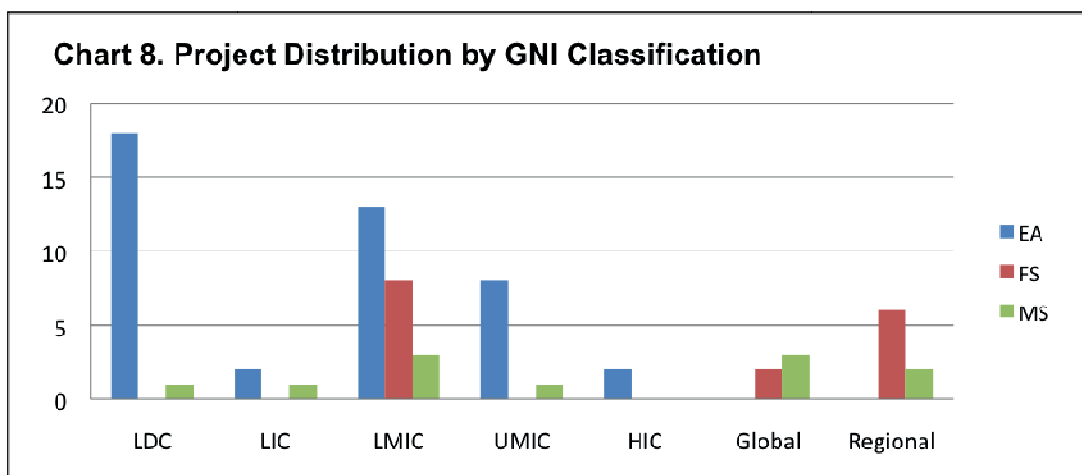
39. The importance of China and India is illustrated by removing them from the analysis, which reduces Asia-Pacific investments by approximately US\$50 million (see Chart 7). UNIDO, together with partner countries, notably the Philippines and several African regions (e.g., ECOWAS and SADC) developed global or regional POPs projects⁶⁷. These projects have focused on demonstrating technologies such as non-combustion (Philippines) or developing regional tools and approaches to BAT / BEP based on assumptions of ex-post dissemination and replication (see Charts 6 and 7).



40. When the portfolio is analysed by Gross National Income (GNI) classification, it shows that UNIDO has concentrated on developing projects with LMIC and LDCs (see Chart 8). However, as already asserted the majority of the LDC projects have been NIP, and with the exception of Nepal, have not led to any national post-NIP projects (see justification above).⁶⁸ The majority of post-NIP investment through FSP and MSP has been directed at LMIC countries and mainly at those where the largest POPs challenges are to be found – China and India (see Chart 9).

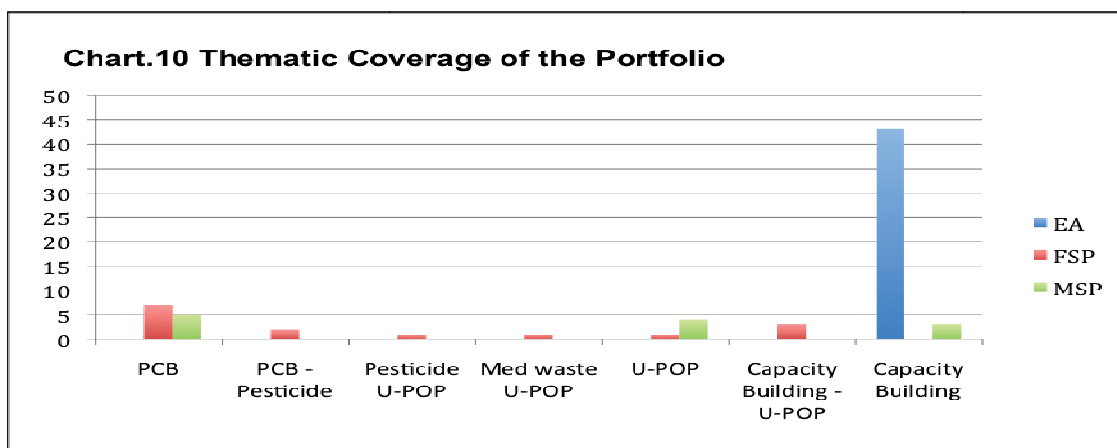
⁶⁷ Grouped under 'global' in Charts 5 and 6.

⁶⁸ Despite NIPs identifying priorities that UNIDO could work on such as PCBs and BAT / BEP.

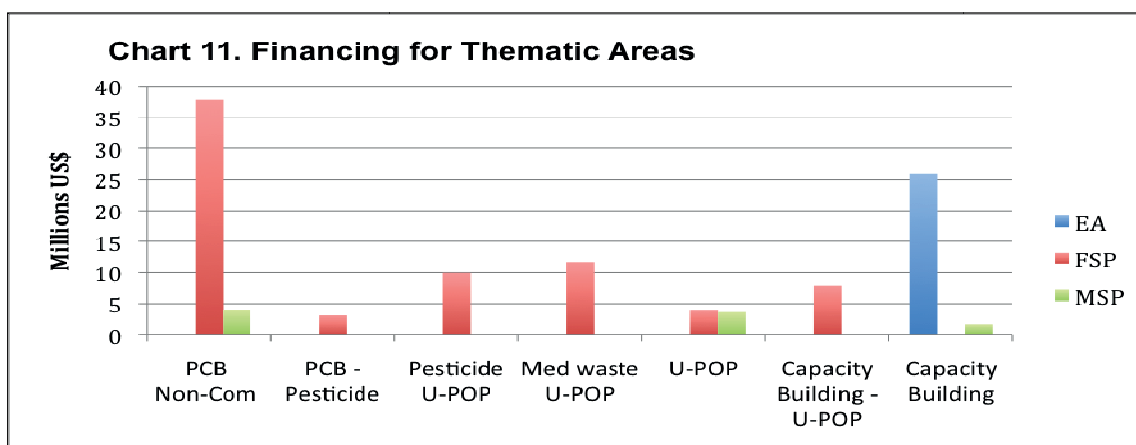


41. The portfolio thematic coverage across POPs reflects UNIDO comparative advantages and responds to Convention articles and guidance (see Chapter 3) with 12 post-NIP projects focused on PCB phase-out and demonstration / investment in disposal technologies, mostly in the power sector⁶⁹; two projects are focused on PCB and Pesticides; six on reducing U-POPs emissions from a range of industrial (e.g., boilers) and medical waste (1) sources. All of these projects also contain significant capacity building components such as developing policy and institutional expertise within governments and continuing / updating POPs inventories. In many cases these activities have continued and deepened the progress made during the NIPs (see Chart 10 and 11).

⁶⁹ The disposal technology promoted by UNIDO has been non-combustion, particularly with respect to PCB phase-out. This is in contrast to the other GEF Agencies – the World Bank and UNDP who have pursued a range of options from export for destruction in developed countries to incineration (see Chapter 3).



42. The financing shows that just over US\$40 million has been directed at PCB phase-out and / or non-combustion technologies, with another US\$10 million of investment in pesticides, and approximately US\$25 – 30 million in U-POP projects focused mostly on medical waste and capacity building. The most significant financing for capacity building came through the NIPs (see Chart 11).

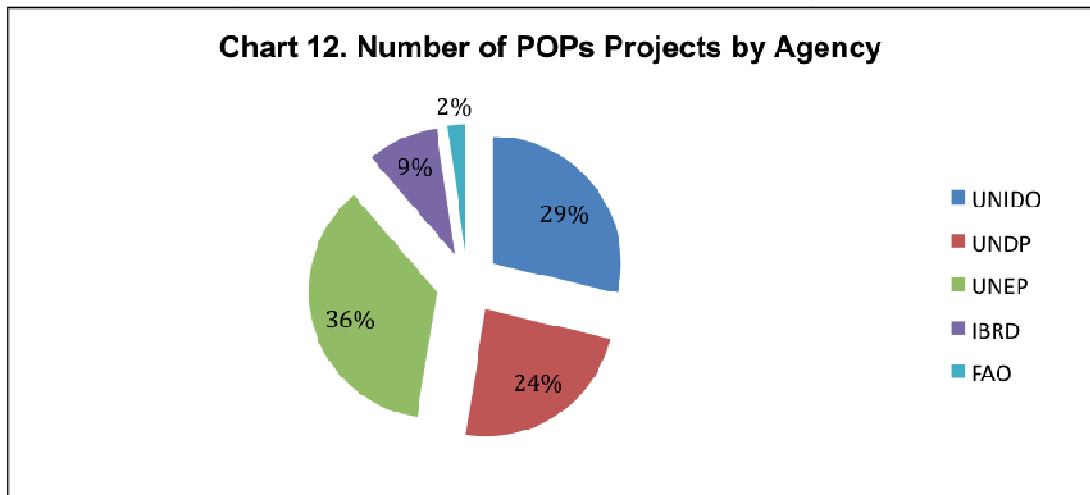


2.1.4. Portfolio External Comparison

43. The GEF agencies currently supporting implementation of the Convention with regard to POPs are: the World Bank, UNDP, UNEP, FAO and UNIDO. None of the regional development banks or other GEF agencies (e.g., IFAD) is involved in POPs-related work. Comparison of the agency portfolios shows that UNIDO has second largest share of POPs projects by number (see Chart 12) and financing. UNIDO, UNDP (29 NIPs) and UNEP⁷⁰ have been implementing agencies for the majority of the NIPs, and this explains their larger overall share of projects, than the World

⁷⁰ UNIDO – 43 NIP / UNDP – 29 NIP and UNEP – 53 NIP.

Bank⁷¹. FAO has become actively involved in POPs work more recently and is focused on post-NIP pesticide phase-out projects.



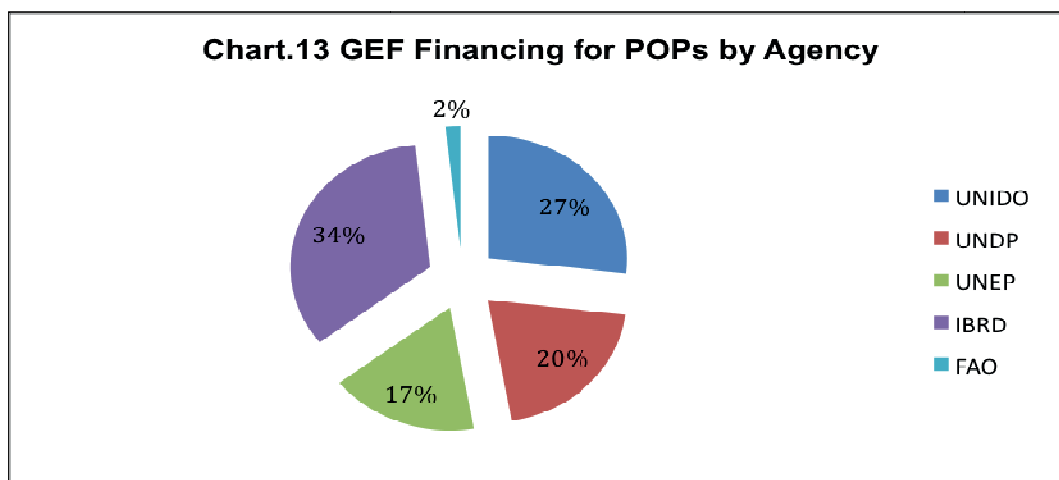
44. The financial comparison shows that the World Bank has been allocated 34% (US\$145 million), against 27% (US\$115 million) for UNIDO, 20% (US\$87 million) for UNDP and 17% (US\$66 million) for UNEP. The development of post-NIP projects has reflected patterns of historical use and scale of use of POPs in relation to industrialization and agriculture and to some extent to the ability of countries and agencies to raise co-finance (to meet GEF requirements) and link POPs more broadly to waste management.

45. The World Bank has a broader mandate than UNIDO, UNDP, UNEP or FAO, cutting across infrastructure (power sector reform and investment), private sector, agriculture, waste management and health (medical waste), and also the ability to co-finance a wider set of POPs disposal options that require significant capital investment, such as incinerators. In this regard, the Bank has primarily focused on larger post-NIP investments and been able to link some projects, mostly from Lower Middle-Income (LMIC) and Upper Middle-Income Countries (UMICs), to IBRD loans and tap into broader government concern for and issues of solid waste management and urban development. Therefore, the Bank has the largest overall share of GEF financing (see Chart 13).⁷²

⁷¹ The World Bank preferred to focus on post-NIP projects, given the greater opportunities for linking such investments to IDA or IBRD loans. (Interview data). Out of the 4 NIPs supported by the Bank 2 have led to identification and funding of follow on post-NIP projects in Belarus and Moldova.

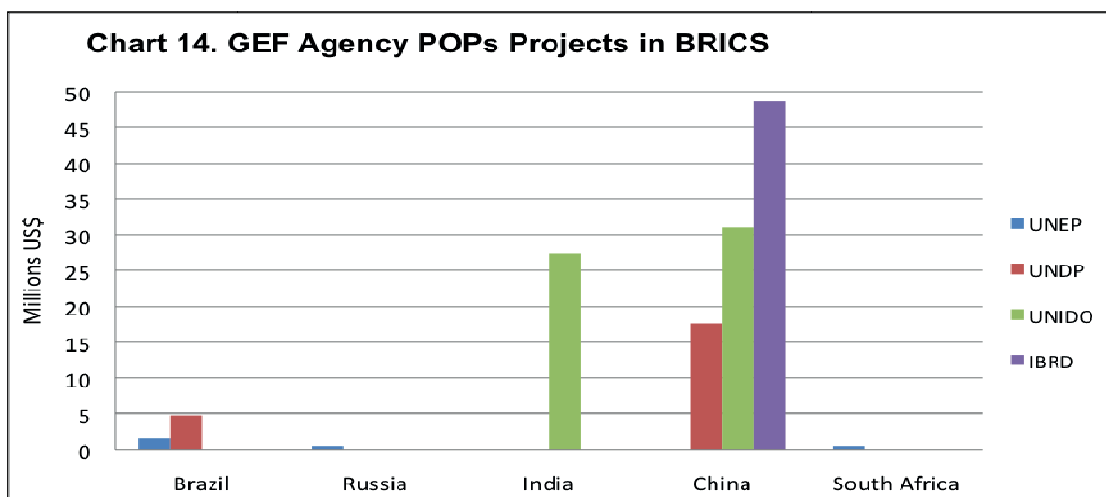
⁷² For example, the World Bank has developed projects in Belarus, Egypt, Kazakhstan and Tunisia that have been leveraged with a mix of IBRD loans, and other multilateral investment, alongside the private sector, and often linked to wider waste management issues, rather than focusing exclusively on POPs.

Chart.13 GEF Financing for POPs by Agency

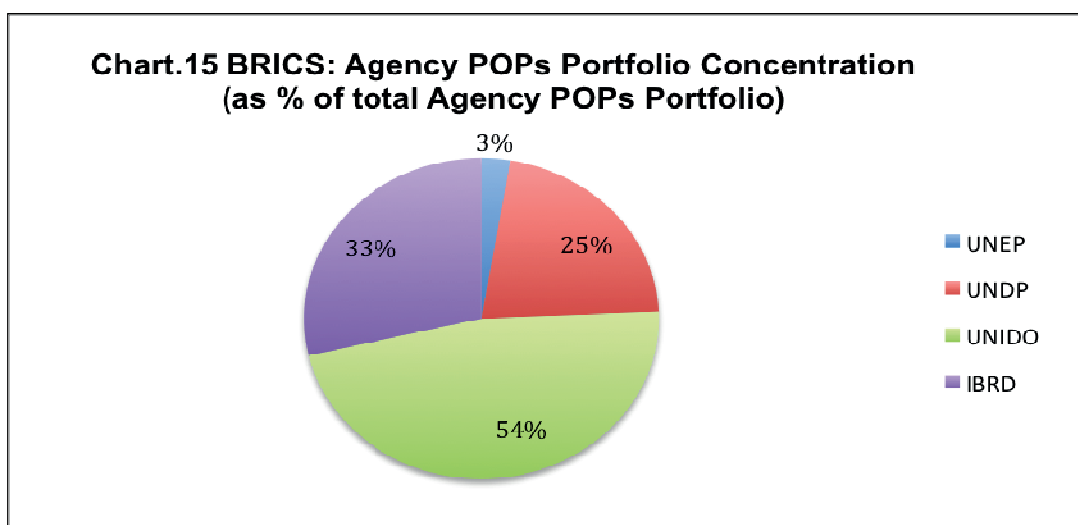


46. In contrast to the WB portfolio are the UNIDO and UNDP portfolios, which are thematically similar with a strong focus on PCBs, with some medical waste and pesticide projects. In doing so, both agencies have addressed several waste management issues associated with POPs.
47. China has received most post-NIP investments as compared to any other country, capturing approximately 20% of the total GEF POPs grants by value since 2001 – UNIDO, UNDP and World Bank projects total nearly US\$100 million (see Chart 14). Other BRIC countries have received comparatively little assistance from UNIDO or the other agencies, with the only post-NIP project outside of China and India being with UNDP in Brazil (PCB waste management and disposal). South Africa and Russia have only received assistance through NIP / EAs. The development of POPs projects in Russia was delayed until the Convention was ratified in June 2011⁷³, although the UNEP NIP began implementation in 2009. POPs phase-out and disposal challenges and needs in Russia are likely to be significant given the history of industrialization during the Soviet period. The same situation is likely in Brazil, South Africa and other large countries with significant industrial and agricultural sectors such as Mexico and Argentina.

⁷³ <http://eng.kremlin.ru/news/2474>



48. In terms of concentration and portfolio exposure, UNIDO currently has 54% of the total value of its POPs portfolio allocated to China and India, the most of any of the GEF agencies, followed by the World Bank and UNDP (see Chart 15). For UNIDO although it is mainly addressing countries with some of the most significant production/use legacies.⁷⁴



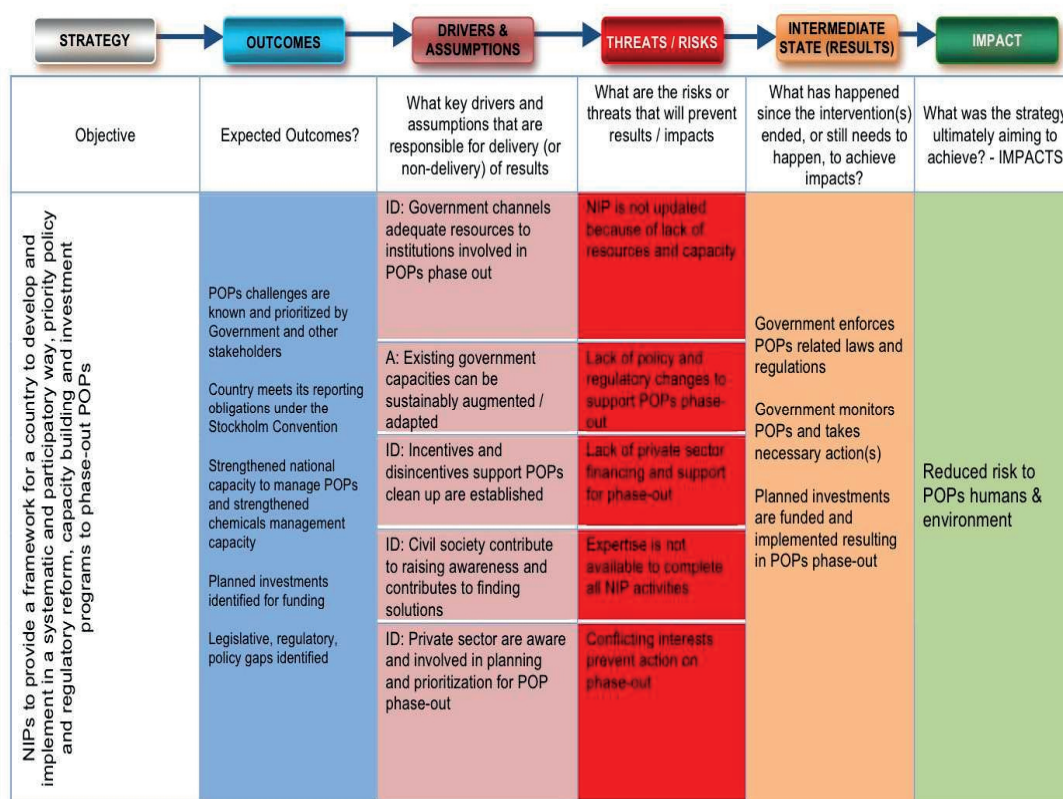
⁷⁴ There are internal and external risks associated with portfolio concentration. Internally, the organization could become overly dependent on a few country relationships regardless of results being achieved. Externally, concentration on countries which are large-scale producers / users of POPs may reduce the overall relevance of portfolio as other countries with serious contaminated sites, receivers of obsolete chemicals or regionally significant pollution sources are ignored, these may often be in LDCs or fragile states as incidents over the last 20 years demonstrate. For example, see <http://www.artetv.com/download/permanent/u1/somalie/pops-in-africa-hazardous-wastes.pdf>

2.2. Design and Implementation Approaches

2.2.1. National Implementation Plan: Foundations for Post-NIP Investments

49. The design and implementation structure laid out by the Convention stipulates that developing countries needed to complete and submit a NIP before receiving investments to assist them in addressing POPs challenges. In this respect the Convention followed the experience of the Montreal Protocol which required countries to produce country programs for ODS phase-out.
50. The NIP is an important foundation activity that enables countries to (a) define the scale and type of POPs problems faced through inventories of PCBs and obsolete pesticides, and possible sources of U-POPs; (b) develop initial institutional and policy capacities; (c) develop awareness of policy-makers and the general public and private sector stakeholders; and (d) carry-out needs-based assessment of priorities for post-NIP investments. UNIDO NIP / EAs were designed around a template which included five outputs / activities:
- Coordination and organization processes
 - Inventory and capacity building
 - Priority setting (responding to inventory results)
 - Stakeholder involvement (Government, private sector and civil society (NGOs))
 - Endorsement of the NIP by Government and other stakeholders
51. In general, UNIDO NIP / EAs designs did not provide a log-frame analysis (LFA), because this was not a GEF requirement at the time they were approved. In order to better understand NIPs and how they are expected to contribute to progress towards results the evaluation developed a TOC for NIPs based on the review of project documents (see Figure 2),
52. The key outcomes for countries are: strengthened national capacities to manage POPs and conduct (and update) inventories; and identification of investment and legislative – policy changes and gaps, to be addressed through post-NIP activities.

Figure 2. NIP Theory of Change



53. The TOC identified several key impact drivers and assumptions that need to be present for a NIP to enable countries to move towards results / impact: (a) Government support for phase-out through the allocation of resources for chemicals waste management; (b) incentives and disincentives (e.g., polluter-pays principles) to support phase-out and clean up operations; (c) civil society (NGOs) contribute to raising awareness among general population; and (d) private sector that is aware and involved in the planning and prioritization of investments. This assumes that existing government capacity can be sustainably developed and adapted. It also identified a number of threats to NIP / EAs; these include lack of capacity or resources to update NIPs and continue / complete activities, particularly continuous activities such as inventory, which as experiences in developed countries show, require dedicated financial and human resources.

54. UNIDO implementation of NIPs projects all followed a similar management structure in which a national executing agency (NEA) was sub-contracted by UNIDO (usually the Ministry of Environment or similar) to manage national consultants inputs. UNIDO controlled contracting and disbursement of project funds against project sub-contract deliverables. This arrangement was used as UNIDO did not have a permanent office in most countries. However, the key lesson reported by UNIDO on this project implementation arrangement was that it did not always allow for

effective monitoring of implementation, as information was not always supplied in a timely fashion by the NEAs (see also Chapter 3).⁷⁵ Apart from the China and India NIPs which, given the scale of the POPs issues, were allocated FSPs and underwent terminal evaluations, the NIP / EAs projects in other countries were not required to conduct evaluations, instead UNIDO prepared Terminal small-scale Project Reports (TPR) for some but not all NIP/EAs.

2.2.2. Post-NIP Demonstration and Investment Projects

55. The identification and design of post-NIP projects began with the priorities outlined in the completed NIP.⁷⁶ UNIDO has generally taken the lead role in developing post-NIP project concepts, component details and final project documents to meet the GEF requirements. The process has typically been led by teams of international consultants and involves holding consultative workshops and meetings to gather the necessary information to feed into the project design and secure co-financing. As such, the projects are not designed by in-country stakeholders but are designed for them. Whilst the projects are not country designed, their adherence and response to the NIP priorities provide for country ownership (see also 3.4).
56. The implementation arrangements, with the exception of China, has positioned UNIDO as the implementing / executing agency, working alongside a national government partner, which typically provides a national project manager / coordinator. In most cases, a project steering committee (PSC) is established by UNIDO to include all key government stakeholders. With the exception of China, UNIDO controls the budget and procurement process⁷⁷ for services and infrastructure required for project implementation.
57. UNIDO often plays an important role in the selection of international consultants for projects and / or chief technical advisers (CTAs) who typically provide technical advice (which is not available in-country). UNIDO management of the projects addresses supervision, monitoring and project implementation management (procurement and contracting) and is predominantly handled from the Vienna HQ with limited involvement of regional and / or country offices (see Chapter 4).
58. In China, UNIDO signed a MOU with the Foreign and Economic Cooperation Office (FECO) of the Ministry of Environmental Protection (MEP) to execute the project and conduct contracting and procurement, recognizing in-country capacities and experience in project management and delivery. For the Chinese projects, most of the contracting is made to national firms and consultants. A portion of the budget is executed by

⁷⁵ This lesson was repeated (cut and paste) in the majority of the TPRs.

⁷⁶ Survey responses highlighted the value and close linkage between NIP and post-NIP investments: 71% (survey 1) and 67% (survey 2) agreed that NIPs were 'very useful' for the identification of relevant post-NIP investments.

⁷⁷ Tendering / contracting and procurement follow UNIDO rules and guidelines and do not use country partner systems.

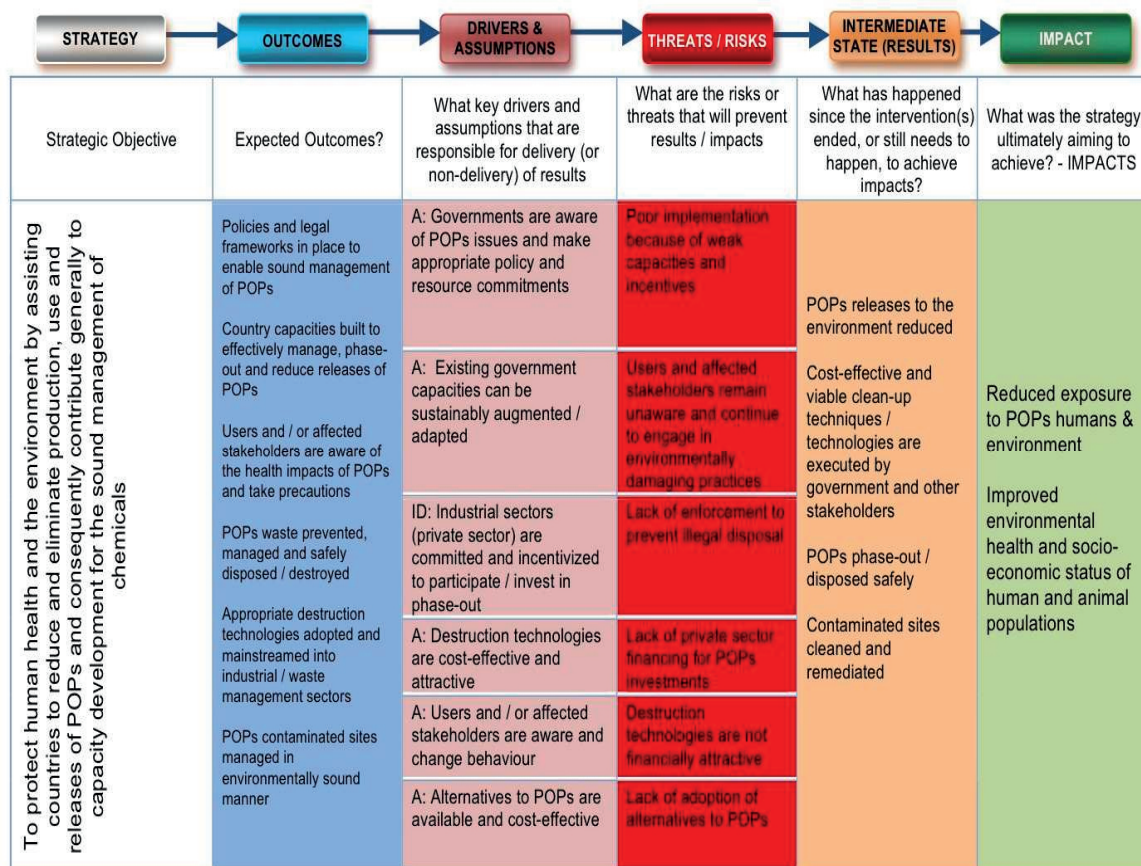
UNIDO to recruit international experts who cooperate with FECO. UNIDO has the overall responsibility for supervision and conducting MTEs and TEs.

59. As the portfolio review has shown, in most countries UNIDO is working on PCB phase out, in line with its focus on industry and comparative advantage. The PCB projects have broadly similar components and outputs focusing on:

- Capacity building and policy and regulatory development to manage and dispose of PCBs;
- Introduction of non-combustion technologies to safely destroy PCB through de-chlorination, within the context of developing waste management service sector at the national and / or regional level;
- Strengthened inventory, monitoring and identification of PCBs transformers (still in use or in storage), including the establishment of national laboratory and testing capacities;
- Development of environmental sound management (ESM) practices for handling, maintenance and repair of transformers.

60. The review of project documents showed that in many cases the LFAs did not go beyond outputs and outcomes, and distinctions between the two often lacked clarity. For example, in both the regional contaminated sites project and the Philippines non-combustion project visited during the fieldwork the LFAs were incomplete and lacked a clear results orientation. As this is the most prevalent thematic group of projects, the evaluation team developed a TOC for PCB projects (see Figure 3).

Figure 3. Post-NIP (PCB / destruction technology) TOC



61. The TOC outlines six outcomes and drivers / assumptions required to be present for the project to progress towards results or impacts: (a) government policy and resource commitments to support phase-out (e.g., through co-finance and ex-post financing arrangements); (b) existing (or continuation of) capacity building; (c) buy-in and/or support from the private sector (power sector and other industrial users / former users and holders of PCBs); (d) the ability to develop and manage cost-effective non-combustion destruction facilities, vis-à-vis other options such as incineration and export for destruction; (e) availability of effective PCB substitutes; and finally (f) enhanced awareness of affected stakeholders (e.g., PCB users / power sector workers / general public). The threats include weak capacity and incentives, lack of awareness of dangers of PCBs leading to continued unsafe practices and disposal, regulatory enforcement barriers, inadequate private sector involvement and co-financing. The intermediate states, which projects can expect to have moved towards by their completion and through ex-post sustainability of activities are: reduced POPs releases into the environment (through ESM by government and private sector (e.g., EHS); available and functioning non-combustion waste management services; and POPs (PCB) phased-out (tons of PCBs destroyed).

2.2.3. Approaches of Other GEF Agencies

62. The design and implementation approach of the UNDP Latvia PCB phase-out project and the World Bank Moldova POPs destruction projects were assessed in order to identify similarities and differences with UNIDO projects.
63. UNDP and World Bank projects have taken a broadly similar approach to UNIDO in terms of the objectives, components and outputs of their post-NIP projects with (a) development of enabling policy environment; (b) strengthening capacities for ESM; (c) updating inventories, identification and monitoring of POPs through establishment of laboratories. The major difference between the UNDP and World Bank approaches as compared with UNIDO's are with regard to assessment and selection of POPs destruction approaches and technologies. Neither the UNDP nor the World Bank make the case for the development of national POPs destruction facilities; instead they prefer exporting the POPs wastes to destruction facilities (incineration and / or de-chlorination) in other parts of Europe,⁷⁸ thus, taking advantage of the availability of regional capacities to handle hazardous waste. Both UNDP and the World Bank have adopted a context-driven approach to selection of destruction options depending on: (a) the tonnages and types of POPs, and contamination levels; (b) availability of waste management and treatment services in the region; and finally (c) the cost-effectiveness of options such as export for treatment⁷⁹.
64. UNIDO projects tend to favour in-situ (or mobile) non-combustion technologies and approaches. There are also logical reasons for supporting non-combustion as it does not entail risks and costs associated with export – such as risk of shipping or road transport accidents; insurance and transport costs (e.g., Basel convention obligations must be fulfilled); shipping lines and receiving communities do not always accept hazardous waste (with prior informed consent – adhering to the Rotterdam convention). Furthermore, if incineration technologies are not correctly employed, they produce U-POPs - Dioxins and furans, thus undoing benefits associated with disposal of PCBs or pesticides.

2.3. Main Conclusions

65. UNIDO's portfolio has grown rapidly over the last few years and represents a significant and growing share of the organisation's technical cooperation. A good link between UNIDO's NIP / EA and actual phase out work only exists in LMIC and UMIC countries, especially China and India. The portfolio distribution across countries shows that UNIDO has been less successful at developing post-NIP national projects in LDCs, particularly in Africa. This is related to challenges of raising co-finance, government priorities and demand and levels of industrialization.

⁷⁸ Interview data.

⁷⁹ Treatment encompasses the full range of options such as incineration, de-chlorination or plasma.

66. The thematic coverage coincides well with UNIDO's comparative advantage as it focuses on PCBs and U-POPs. However, there seems to be room for further focus on industrial POPs issues such as U-POPs.
67. Non-combustion technologies for PCB destruction are accounting for more than half of UNIDO's post NIP project volume. UNIDO is the only GEF agency with a strong understanding and focus on this technology. Other agencies have supported incineration and export for treatment in developed countries (see Chapter 3).
68. UNIDO's project approaches for both, EAs and post-NIP projects, have been largely focused on outputs with limited but improving focus on outcomes and results (see Chapter 3).

3.

Performance and Results

69. This chapter details the findings of the evaluation in relation to performance and progress towards achievement of results of the POPs portfolio, drawing on the sample of completed projects and those under implementation, interviews with UNIDO staff and other stakeholders and the survey of POPs professionals. The first section assesses quality at entry of the sampled projects designs; second, relevance to UNIDO, the GEF, Convention and country stakeholders; third, emerging results from the sampled projects and potential results; fourth, efficiency in terms of time and resources for design and implementation; and finally, sustainability and presence of impact drivers.

3.1. Quality at Entry

70. The quality of project design is one of the determinants of successful projects and not the least in terms of defining SMART⁸⁰ objectives. Project design documents are equally important for the definition of country and project context, defining sub-contracts and providing work-plans. Deficiencies in project design are difficult to correct during implementation. The quality at entry assessment responds to the question:

- To what extent are UNIDO POPs projects well designed, coherent in their approach and results oriented?

71. The assessment covered the following aspects:

- Coherence and appropriateness of project objectives;
- Analysis of country context;
- Adequacy of situation analyses: environmental, socio-economic and institutional
- Incorporation of lessons from previous operations into project design
- Quality of M&E planning (baseline, outcome indicators, M&E plan, methodology and budget);
- Sustainability planning.

3.1.1. Coherence and Appropriateness of Objectives

72. Coherence and appropriateness of objectives were assessed for the sampled NIP and post-NIP projects. The evaluation assessed coherence

⁸⁰ Specific, Measurable, Attainable, Relevant and Time-bound.

and appropriateness by analyzing the extent to which objectives were clear, realistic and measurable; and reflected the needs of stakeholders.

73. The NIP projects typically had one overarching objective, namely to produce a NIP and ensure that initial country obligations to the Convention were met. The projects also intended to build national capacities and strengthen knowledge amongst government, industry (through inventory assessments) and the general public⁸¹ (through awareness-raising). However, objectives such as improving awareness⁸² were not explicitly stated in 10 out of 12 NIPs projects, but stated as ‘activities’.
74. At the time of the NIP preparation for most countries between 2001 – 2004 the projects were not required to include a LFA, with the exception of the India FSP / EAs which was developed in 2007 at which time it had become a GEF project design requirement. The projects through their inventory activities were charged with creating initial POPs baselines, however, they did attempt to set targets or indicators to track progress towards improved capacities.⁸³
75. The clarity of post-NIP project objectives generally improved over the course of the GEF-4 replenishment period.⁸⁴ 16 of the 19 reviewed projects have clearly defined overall objective followed by (sub) immediate objectives⁸⁵ which typically encompass areas of policy and regulatory development; institutional capacity building, continued (and more detailed) and inventory of POPs. In some of the earlier projects, the formulation of objectives lacked clarity and measurability mainly because they were stated in several different ways with no clear structural hierarchy of objectives.⁸⁶ Increasingly, the objectives provide clear indicators and targets (outcome / impact level) for tons of POPs to be phased out, particularly in the PCB projects. Furthermore, the GEF placed greater emphasis on project objectives including clear quantifiable statements for POPs reduction, and this created positive pressure for improvements in the coherence and clarity of project objectives and outcome-orientation.⁸⁷ Where the post-NIP projects tend to exhibit weakness is in regards to developing impact orientated objectives and related measurable indicators to assess, and track changes in environmental and human health (see also 3.1.5), and thereby clearly demonstrate contributions towards achieving the overall Convention goals.

⁸¹ To strengthen national capacity and to enhance knowledge amongst decision-makers, managers, industry and the public at large on POPs to develop and formulate a National Implementation Plan.

⁸² It was reported that public awareness is not automatically financed by the GEF, therefore it was difficult to include it as a specific objective in project designs, particularly post-NIP projects (interview data).

⁸³ It was reported that most NIP Enabling Activities were approved rapidly between 2001 and 2004 so that the Convention could ‘enter into force’ quickly. The reason was to avoid poor ratification rate of the some of the other multilateral environmental agreements.

⁸⁴ The survey (1 & 2) responses support the finding with 63% (1) and 50% (2) agreeing that project designs are coherent in their approach and objectives.

⁸⁵ See for example, Azerbaijan PCB; India PCB; Macedonia PCB; Mongolia PCB; Nepal PCB; Peru PCB; Vietnam BAT / BEP.

⁸⁶ For example, see Armenia PCB; Regional Contaminated Sites; Philippines non-combustion; Romania PCB.

⁸⁷ Interview data.

3.1.2. Analysis of Country Context

76. The evaluation assessed the quality of country context, in terms of the problem description, analyses, description and initial understanding of the historical use of POPs, and of present possible holders / users of POPs and wastes.
77. The analyses of the country context in NIP / EAs were generally sufficient and provided enough detail and justification for each project with regard to brief descriptions of the industrial, agrochemical and power sectors and hence probable presence and use of POPs, existing management of chemicals and hazardous waste, keeping in mind that in most countries active management of POPs was lacking, with no inventory and hence no precise understanding of country context and challenges faced.
78. In post-NIP, the description and analysis of country context has been dependent on the strength of the NIP, in terms of defining the initial inventory and scale of the POPs challenges, and capacity gaps. Many of the post-NIP projects have to some extent continued activities started under the NIP such as inventory to establish a more precise context of in-country POPs challenges. This also reflects that obtaining a detailed understanding of the POPs country context requires a longer timeframe and more resources than were provided under the NIPs. Despite the work carried out under the NIP and the preparatory work undertaken by the projects (some through PDF or PPGs), clear understanding of industrial and private sector stakeholder context was not strong in most projects, and often exhibited vagueness on how companies (and former POPs users and holders of obsolete stocks) would be involved and incentivized.⁸⁸ Similarly, understanding of the public health impacts, though described in broad terms, was often unclear, although this related to lack of in-country data on POPs related health impacts and also a reluctance on the part of the GEF to provide funding for research studies to be conducted during project preparation or implementation.⁸⁹
79. Usually beneficiaries of POPs reductions were not specified in the documents and the analysis of stakeholders was limited to those directly involved in project implementation. Important examples for this are that project documents neither contain a sufficient analysis of the role of civil society in POPs reduction and phase out nor the actual capacities for enforcement of existing and future laws and regulations.

3.1.3. Technical Analyses

80. The evaluation assessed project documents for evidence of analyses of the environmental, institutional, technological and socio-economic issues relevant to the projects.

⁸⁸ See for example, Azerbaijan PCB; India PCB; Mongolia PCB; India NIP; Nepal PCB; Peru PCB; Regional Contaminated Sites.

⁸⁹ Comments and additional information provided during draft revision.

81. The projects were reviewed for evidence of use of (or commissioning) environmental, socio-economic and institutional assessments or other analyses to inform project designs. As the NIPs (with the exception of FSPs) foresaw the preparation of such assessments, no prior in-depth studies were necessary. For the NIP FSP in China and India more detailed technical analyses were conducted on pre-project environmental statuses and institutional capacities. However, some deficiencies were noted in the evaluation of the China NIP:

“The objectives to develop the NIP were clearly spelt out and the corresponding activities to achieve these objectives were properly described in the project document. However, it is felt that the project [design] did not address sufficiently the issue of capacity building at provincial level. More specifically, the project did not explain clearly how the capacity built and experience gained would be transferred / disseminated to other provinces where no component of the project was run.”⁹⁰

The review of post-NIP project designs found analyses to be adequate with regard to institutional issues, threat / barrier analyses and detailing of projects risks. However, the means to address or mitigate risks were often not clear. Technological assessments included in post-NIP PCB projects for non-combustion based on de-chlorination provided sufficient evidence of the efficacy of the technology⁹¹, although detailed economic and financial comparisons with alternatives such as incineration, plasma-arc and export for incineration or de-chlorination lacked detail, being based on ‘estimates’ which justified UNIDO’s chosen technological approach. In such circumstances cost-benefit analyses could have been used, but it was reported that technical and financial details due to the proprietary nature of the information could not be obtained by UNIDO either directly or through technical experts as even for technologies that had been used for more than 20 years such information was regarded as confidential.⁹² In some projects the selection of non-combustion technologies was based on reduced health⁹³ risks vis-à-vis technologies such as incineration (improved public health and safety), and specific national laws that either prevent the use of incinerators and / or export of wastes.

⁹⁰ See UNIDO (2008) China: Building the Capacity of the People’s Republic of China to Implement the Stockholm Convention on POPs and Develop a National Implementation Plan. UNIDO Evaluation Group. Vienna.

⁹¹ This was evident as de-chlorination technologies have been used in developed countries to address PCB and pesticides for more than 20 years, and there are several major technology providers based in Canada, Japan, Germany and the USA.

⁹² Information could be gathered only after signing the contractual arrangement and the confidentiality agreement with the vendor. In several times it was found that published information in technical reviews contained only partly correct or even false information on technologies therefore were not reliable for comparative analysis. Hence cost estimates and cost benefit analysis could only be prepared based, for the time being, on the few available data gathered through UNIDO projects in China.

⁹³ UNIDO attempted to address the health risks in a systematic manner jointly with a Czech NGO. However, due to information privacy, personal and medical data privacy and the non-interest of GEFSEC, the project concept was aborted in 2003.

3.1.4. Incorporation of Lessons Learned in Project Design

82. The evaluation assessed the incorporation of lessons learned from other UNIDO and GEF projects into POPs project designs, and particularly the use of past evaluations.
83. The NIP project designs did not explicitly draw lessons from other UNIDO projects or evaluations⁹⁴, particularly those with capacity building elements (such as from MLF projects). The standard template used for the EAs did not require 'lesson learning'. This was a missed opportunity, particularly, with regard to issues that were subsequently faced in NIPs (of UNIDO and other agencies e.g., UNEP)⁹⁵ regarding unrealistic timeframes for implementation, challenges in building capacities, which were already apparent from the EAs of other conventions (e.g., UNCBD and UNFCCC). For example, the India NIP project design from 2007 was a FSP of considerable scale and complexity but it still committed to a 2 year implementation timeframe, even though the majority of previous NIP were delayed by 2 years+ and were considerably smaller investments. The project design made no reference to any emerging lessons from the NIPs.
84. The review of post-NIP projects showed that lessons from other UNIDO project evaluations, particularly from the country or region where the project is focused or related areas such as the MP are not used to inform project design. The only project that made use of lessons was the China SIRE project which detailed key lessons from the China NIP. The reasons for these shortcomings relate to the fact that POPs is a specialized area with an immature portfolio that has produced few lessons and the projects are different from other GEF or UNIDO operations. The lesson learning, as stated in the project documents, is structured in terms of 'lessons to be drawn out of the project implementation experience', for the future.
85. There has been no explicit consideration of lessons from other GEF projects or agencies. Whilst the technical details of POPs projects are specific, the activities such as capacity building, policy development and project management issues including M&E are common to many GEF and other UNIDO projects and lessons exist on these issues.⁹⁶ One of the reasons flagged for challenges to lesson learning related perception of POPs projects as a new technical area which had to create its own body of

⁹⁴ See NIP / EAs Azerbaijan; Bolivia; China; Ethiopia; Ghana; India; Lao; Mongolia; Nepal; Nigeria; Hungary; Venezuela.

⁹⁵ UNEP subsequently produced a useful review of lessons learned across its POPs NIP in 2006, which has many useful lessons on design and implementation which go beyond EAs. However, this does not appear to have informed UNIDO. See

http://www.pops.int/documents/implementation/nips/lessons_learned/GLOBAL%20REPORT%20V1%20rev2.pdf

⁹⁶ The data from survey 1 indicates that nearly 20% of UNIDO staff and international consultants did not know if lessons were useful for project development. In survey 2, 42% national consultants and stakeholders believed lessons to be very useful. However, the evidence from project documents seems to be at odds with the perceptions.

lessons and work pressure leading to lack of time to learn from experience⁹⁷ (see Chapter 4).

3.1.5. Quality of M&E

86. The evaluation assessed the quality of M&E at entry in relation to: M&E plans (including roles and responsibilities); establishment of baselines for monitoring; use of the LFA; outcome and impact indicators; and budgets.

87. The NIP projects were not required to have M&E plans, baselines or LFA, with the exception of the China and India NIPs which were FSP. No budgets were set at the project preparation stage to provide for M&E. The China and India NIP M&E plans included proposals for annual reporting through Project Implementation Reviews (PIR), Mid-term Evaluations (MTE) (India NIP) and / or project management structures such as the Technical Coordination Group in the case of China. However, neither project design established baselines or suitable indicators to monitor progress towards outputs or outcomes. The India NIP evaluation states:

“The logical framework in the project document was not sufficiently detailed for monitoring verifiable outputs. The management did not develop a new Logic Framework as the Convention Guidelines on NIPs as well as other NIPs were used instead to determine progress (25) ... The “Guidelines on NIPs” consists of five documents that provide general information that would not be useful for monitoring and evaluating the performance of contractors [the project] (48).”⁹⁸

88. In general, the lack of M&E planning at project entry for NIPs has resulted in a missed opportunity for UNIDO and the GEF to acquire structured feedback on the performance and lessons learned related to capacity development and inventory. The evaluation⁹⁹ noted that for each NIP UNIDO received approximately US\$50,000 for ‘project management fees’, but this was not used to put in place M&E systems. In the India NIP FSP the budget for M&E was US\$105,000, about 1% of the total project budget of US\$10 million. Similarly, for China NIP FSP the M&E budget was US\$110,000, again about 1% of the total project budget of US\$10.2 million. Whilst there is no general standard for M&E budgets it usually ranges from one to ten percent of the overall project budget, hence, UNIDO was positioned towards the low-end of the range.

89. For post-NIP projects, in general the quality of M&E plans was mixed, although over the course of GEF-4 the M&E has improved in terms of the outcome orientation of the LFAs, with some projects such as the China Medical Waste project approaching best practice in terms of LFA, outcome indicators and budget, whilst others exhibit shortcomings. Firstly, post-NIP projects do not establish appropriate baselines against which to measure implementation progress, particularly with regard to environmental and

⁹⁷ Interview data and additional written comments provided.

⁹⁸ See UNIDO (2011) Development of a National Implementation Plan in India as a First Step to Implement the Stockholm Convention on Persistent Organic Pollutants. UNIDO Evaluation Group. Vienna.

⁹⁹ Ibid.

human health objectives and goals¹⁰⁰, which are of key importance for the Convention. On the positive side, most PCB projects now provide clear outcome targets for tonnages of POPs to be phased out (see Table 4); secondly, projects often confuse output / outcome and impact indicators in the LFA¹⁰¹; thirdly, budgets for M&E lack consistency with regard to their relationship to overall project budgets and this may be impeding the ability of projects to document results.

90. The M&E budgets appear to be set in an arbitrary way, for example, the Mongolia and Morocco PCB projects have similar total budgets, but budgets for M&E differ by nearly US\$200,000. Similarly, China Medical Wastes has a good budget for M&E including the Mid-term and Terminal Evaluations, but projects of comparable size such as the China Pesticides and India PCB have an inadequate M&E budget with low budgets for the Mid-term and Terminal Evaluations. Overall across the sample, 1.36% of the total project budgets are allocated to M&E; whilst this is within the satisfactory range several projects seem to have insufficient funding for M&E.

Table 4. Budgets for M&E of Sampled Post-NIP Projects (at entry)

Post-NIP Project	Overall M&E Budget (US\$)	Mid-term Evaluation Budget (US\$)	Terminal Evaluation Budget (US\$)	Total Project Budget (US\$)	M&E as % of Total Project Budget (US\$)
Armenia PCB	71,000	Not specified	10,000	2,653,640	2.6%
Azerbaijan PCB	89,000	20,000	25,000	7,380,790	1.2%
China Medical Waste	902,000	132,500	132,500	44,727,140	2%
China Pesticides	312,000	20,600	21,800	42,357,300	0.73%
China SIRE	170,000	Not specified (to be paid out of the PIR budget 80,000)	Not specified (to be paid out of the PIR budget 80,000)	15,235,000	1.11%
Global: Civil Society	60,000	Not specified	Not specified	2,000,000	3%
India PCB	327,000	30,000	41,000	43,450,000	0.75%
Macedonia PCB	26,700	5,000	5,000	2,785,000	0.95%
Mongolia PCB	253,219	14,500	25,375	8,473,000	2.97%
Morocco PCB	67,000	4,000	8,000	7,537,360	0.88%
Nepal PCB	59,000	10,000	22,100	1,810,000	3.25%
Peru PCB	111,900	20,550	23,550	7,770,000	1.44%
Philippines Non-Combustion (PCB)	140,000	8,000	16,000	11,770,880	1.18%
Regional Contaminated Sites	160,000	50,000	45,000	4,750,000	3.36%
Regional BAT / BEP	158,800	25,800	28,800	13,100,000	1.21%
Romania PCB	70,000 ¹⁰²	Not specified	Not specified	2,025,000	3.4%
Vietnam BAT / BEP	21,000	Not specified	10,000	2,390,000	0.87%
Grand Total	2,998,619			219,990,110	1.36%

¹⁰⁰ Of survey 1 respondents 60% regarded baselines to be appropriately reflected in project documents, in contrast to 41% of survey 2 respondents. These perceptions are in contrast with the substantive evaluation findings and relate to differing interpretations of baselines.

¹⁰¹ Only 34% of Survey 1 respondent agreed that POPs projects M&E systems adhere to SMART principles, which affirm the evaluations findings.

¹⁰² Estimated from the Project document and the UNIDO project management fee (not clearly specified).

3.1.6. Sustainability Plans

91. Sustainability of project outcomes (including capacity building, phase-out and demonstration – leading to investment) is a prerequisite for a project to move towards long-term impact. The evaluation assessed the extent to which project designs allow for sustainability. The assessment looked for the presence of the following factors in sustainability sections of the project designs: likelihood of beneficiaries to have improved knowledge, skills to maintain project benefits ex-post; evidence of ex-post financial support by the government (through recurrent budget allocation) or private sector (industry) buy-in; project likely to provide sufficient equipment / technology to allow beneficiaries to maintain benefits ex-post.
92. The NIPs did not consider ex-post sustainability in their project designs; indeed, guidelines for EAs did not require them to include detailed plans for sustainability, with the exception of the China and India NIP FSPs which did discuss sustainability briefly, but with little differentiation between both countries. The China NIP FSP / EA stated that the NIP was the starting point for sustainable efforts to address and reduce POPs pollution, stating in 2004:

“... the proposers recognize that capacity building and institutional strengthening to ensure that China moves successfully from development to the subsequent implementation of its plans cannot be fully achieved within the duration or financial resources of the project proposed here. For this reason, the full project will develop and invite donor support for a proposal for a longer-term Capacity Building Programme.”

93. The India NIP FSP / EA also provided an identical set of statements for its POPs NIP project design in 2008.¹⁰³ Although the sustainability analyses rightly pointed out that the NIP is the starting point for sustainability, the sections fell short of a detailed consideration of how these issues would be addressed except through continued ‘donor support’. Indeed, the sustainability section in the China project design was replicated in the India project design as if the sustainability situations and contexts in both countries were identical in terms of capacity and investment potential, which is unlikely.
94. This situation is further perpetuated as shown by the conclusion of the mid-term evaluation of the capacity building project that followed the China NIP (SIRE project):

“Considering the unbalance existing of economic development and environmental management in different provinces and cities, it will be essential that China continue to benefit from the Convention’s financial support mechanism to ensure replication and sustainability of the SIRE project in other provinces especially the provinces with weak economic bases.”

¹⁰³ Development of a National Implementation Plan (NIP) in India as a first step to implement the Stockholm Convention on Persistent Organic Pollutants (POPs) (UNIDO, 2008). See page 48.

95. The post-NIP project sustainability analysis and plans also revealed similar statements (that seem to have been cut and paste between project documents) across most of the projects with no plans or methods to ensure governments and industry (private sector) provide support through recurrent budget allocation or financial disincentives / incentives. The issue of sustaining and building capacity within government and other institutions for enforcement is not discussed in sufficient detail. Experience from other areas of development show that in most cases such institutional sustainability depends on internal incentives (salaries / non-monetary rewards), accountability and leadership¹⁰⁴ – these are not acknowledged.¹⁰⁵ The sustainability sections of project documents typically assume that sustainability will be ‘ensured’ through a series of forward-looking statements and assumptions.
96. Of the post-NIP projects reviewed, only the Macedonia and Morocco PCB projects contained more detailed plans for sustainability, which offered greater depth of analysis than the commonly reported sustainability statements detailed above. Overall, the sustainability planning indicates that there are opportunities for improvement to tailor the analyses and prepare for implementation more closely to country contexts.

3.2. Relevance

97. The relevance assessment of the portfolio was based on the following criteria:
- Alignment of the portfolio with:
 - ❖ Country environmental plans (NIPs) and other country environmental strategies and policies
 - ❖ UNIDO thematic priorities
 - ❖ GEF strategies and the Convention
 - Within project or through synergies with other projects and programs contributions to:
 - ❖ Pro-poor growth
 - ❖ Environmental performance (greening / cleaner production) of industry
 - ❖ Contribution to and generation of local socio-economic and incentives to support POPs phase-out
 - ❖ Stakeholders involvement (NGOs and the private sector)

¹⁰⁴ See UNDP (2009) Capacity Development: A Primer. UNDP. New York.

¹⁰⁵ The responses to survey 1: 44% of respondents rate as ‘very common’ the presence of unsustainable enforcement capacities and poor socio-economic incentives threatening project sustainability, with 39% and 31% rating it as ‘fairly common’.

3.2.1. Strategic Alignment with Country Policies and Plans

98. The strategic alignment with country environmental plans and policies and NIPs was measured through the review of sampled projects and interviews during country visits to projects in Ghana, Nigeria and the Philippines. Overall, the evidence from the project reviews, country visits and interviews indicates that the portfolio has performed satisfactorily with regard to relevance to and alignment with country environmental plans and policies. As discussed in more detail below, the NIPs provided the essential foundation for work on POPs in terms of identifying existing strengths in country environmental policies (e.g., on waste and hazardous waste management) and also policy weaknesses or gaps to be followed up through further legislative and regulative development in post-NIP investments.¹⁰⁶ All UNIDO post-NIPs¹⁰⁷ have been closely linked to country priorities outlined in NIPs (which identified the scale of the POPs problem) and in many cases have included actions to develop and / or further strengthen country legislation and regulation of POPs to support phase-out and sound management of chemicals. This has further enhanced the country relevance by raising the awareness and need for action among politicians and policy-makers in some countries.
99. The NIPs provided countries with funding to conduct reviews of their existing institutional, policy and legal frameworks concerning the management of POPs and / or hazardous waste, and to identify strengths and weaknesses – to be addressed through further policy development. In most cases, existing country policies and plans that dealt with chemicals and hazardous waste were either too general and / or fragmented¹⁰⁸ and therefore, lacked specificity to manage, control and establish standard permissible levels, import / export regulations, monitor and dispose PCBs and obsolete pesticides, and also prevent production and release of U-POPs. 11 of 12 NIP¹⁰⁹ and NIP reports identified some policy gaps or barriers¹¹⁰ which required further systemic capacity development through post-NIP investments, although the depth of analyses of policies and plans varied from country to country. For example, in India the Ministry of Environment and Forests chose to use relatively inexperienced and junior staff to conduct the reviews of existing legislation and policies towards the end of the NIP and the resulting inputs fell short of contractual performance criteria.¹¹¹ In Nigeria, it was reported that NIP identified the broad synergies with existing country policies and gaps but the substantive policy amendments were left for the UNIDO's Regional Contaminated Sites project to follow up on. In contrast, Hungary and Czech Republic's NIPs showed that the countries' policy and legislative frameworks for chemicals management (including POPs) were either already compliant or

¹⁰⁶ Assessment of existing policy, legislation and plans was methodological component of all NIPs. See *Guidance for Developing a National Implementation Plan for the Stockholm Convention* (2005).

¹⁰⁷ With the exception of the India PCB project which was designed before completion of the India NIP.

¹⁰⁸ Based on Agenda 21 (Chapter 19).

¹⁰⁹ Azerbaijan, Bolivia, China, Ethiopia, Ghana, India, Lao, Mongolia, Nepal, Nigeria, Venezuela.

¹¹⁰ NIP guidelines and project documents worked on the assumption that where possible existing legislation and policy should be used and adapted, rather than recommend the development of new or specific policies.

¹¹¹ See India NIP Terminal Evaluation (UNIDO Evaluation Group 2011) and India NIP. Interviewee data.

about to be, with EU legislation in connection with Convention ratification by the EU states. In this respect, both EA's achieved enhanced alignment outcomes due to EU accession in 2004.

100. UNIDO's post-NIP projects alignment with country policies and plans was automatic as the interventions had to be identified in the country NIP as a 'priority'. The review of post-NIP project documents showed that designs took into account existing legislation and policy, identifying gaps and also the wider linkages to national environmental action plans (NEAPs), country national pollution control or hazardous waste management laws, and in some cases plans for cleaner production (e.g., Vietnam BAT / BEP). In the majority of projects, particularly those focused on PCB phase-out and management, development of new policies and regulations are under implementation in order to improve country-level alignment with the Convention.

101. Alignment with broader development policies and plans such as poverty reduction strategies, energy or power sector strategies and reform or health plans of countries were not clearly articulated in project documents or implementation reporting.

3.2.2. Alignment with UNIDO Thematic Priorities and the MDGs

102. The UNIDO thematic priorities are: (1) poverty reduction through productive activities; (2) trade capacity building and (3) environment and energy. The POPs portfolio activities are intended to respond to the environment and energy priority and in doing so contribute to MDGs 1 (poverty reduction), 7 (environmental sustainability) and 8 (global partnership). The thematic priorities were introduced as part of the 2004 UNIDO reforms and therefore, with the exception of some of the NIPs developed prior to 2004, all of the projects were required to be aligned with priority three.

103. The evaluation reviewed the post-NIP project sample (19 projects) for alignment with priority three and MDGs 1, 7 and 8. In general, the projects respond to UNIDO thematic priority three and MDG 7 without explicit reference, in terms of targeting reductions in POPs and ESM of chemicals leading to reduced environmental pollution, particularly in relation to water resources. Only the Morocco PCB project document explicitly mentioned linkages and contributions to MDG 7.

104. In terms of relevance to MDG 1, none of the reviewed post-NIP projects references or explicitly intends to contribute towards poverty reduction. The projects do not explicitly target the poor or vulnerable human populations (e.g., by prioritising pollution hot spots with high exposure of local population), and furthermore, do not intend to produce income or nutritional (hunger reducing) benefits.¹¹² In this respect, the POPs portfolio does not seem to be directly relevant to MDG 1. However,

¹¹² Although arguably removing PCBs and pesticides from the possible entry into the food chain does indirectly improve the quality of nutrition.

UNIDO also maintains some initiatives not funded by the GEF to investigate alternatives to POPs pesticides (RENPAF; Pesticides formulation centre in China), which are relevant to MDG 1, by reducing the entry of dangerous chemicals into the food chain. MDG 8 is broadly relevant to the POPs programme through planned partnerships with public power utilities and the private sector in relation to working on new technologies for safe POPs phase-out and destruction. In addition, project designs also specify operational synergies with other GEF agency projects. However, similar to MDG 1 none of the reviewed projects explicitly referenced intent to contribute to MDG 8. Furthermore, reporting on the development of partnerships is variable across the sampled projects (see Section 3.4).

105. The POPs portfolio is relevant for MDG 4 (child mortality) and MDG 5 (maternal health), as all projects respond to and make the link between POPs pollution and human health impacts, particularly on women and children, responding to the fundamental objective of the Convention – protecting human health. Currently, the project designs often contain explanations of the linkages between POPs pollution and detrimental effects on human health. In the majority of the projects reviewed, the linkage has been operationally developed through components / outputs that focus on: (a) awareness raising, education and communication for the public to warn them of the dangers of POPs exposure; and (b) the introduction of ESM and / or EHS in public utilities and the private sector to reduce worker exposure and / or risk of exposure.¹¹³ In some projects, the intention has been to conduct socio-economic and health research to measure POPs exposure (see Mongolia PCB; Regional Contaminated Sites Project (Ghana and Nigeria) in potentially exposed communities or workers, and also develop suitable M&E in coordination with Ministries of Health (in line with Convention Article 11)¹¹⁴, although emerging implementation information (discussed in 3.3) indicates that M&E of human health changes is weak. Despite the relevant intentions of the projects, none have made an explicit link to MDG 4 or 5 in project designs or progress reports. Hence, at present the portfolio is missing an opportunity to enhance its thematic relevance within UNIDO in terms of broadening the MDG coverage of the thematic priority three, but also, not fully exploiting opportunities to resonate with wider human health goals at the country level.

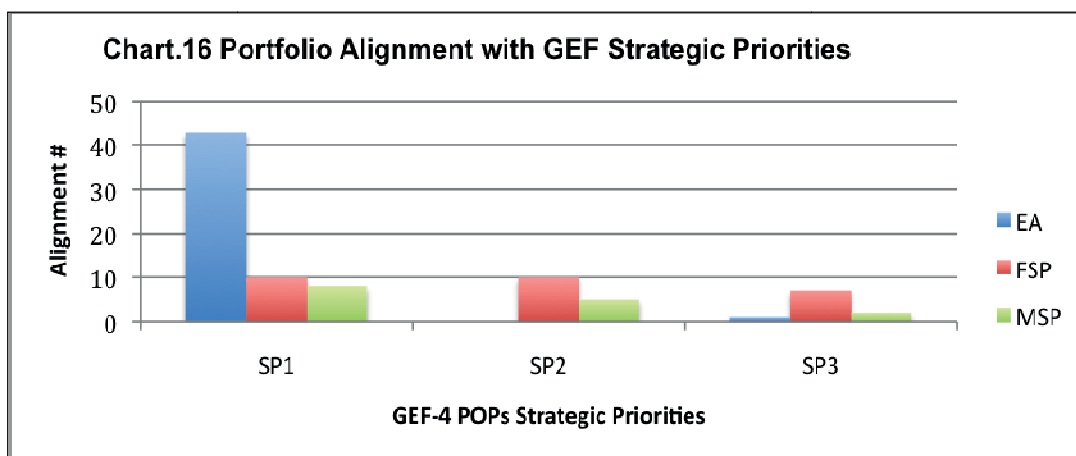
106. In conclusion, the evaluation shows that POPs portfolio's relevance to UNIDO thematic priorities and the MDGs is largely implicit and lacks acknowledgement and specificity in project design and implementation, particularly with regard to linkages to MDGs beyond environmental sustainability.

¹¹³ See for example, the Armenia, Azerbaijan, India, Macedonia, Mongolia, Nepal, Peru, Philippines (global); Regional (Ghana and Nigeria) Romania, Vietnam.

¹¹⁴ Article 11 of the Convention: Research and Monitoring 1(d) and 2(d).

3.2.3. Alignment with GEF Strategies

107. The alignment with GEF Strategies and the Convention is a key factor in the design and implementation of the UNIDO POPs portfolio. All projects in the portfolio (n = 70) were closely aligned to the GEF-4 strategic priorities (SP). Chart 16 shows that UNIDO has concentrated on strengthening capacity for implementation of the Convention (SP1), mostly through the NIPs but also through more targeted capacity building in the FSP and MSP projects. Many of the FSP and MSP projects respond to two priorities. The most commonly observed combination was for capacity building and investments to reduce POPs releases / phase-out (SP2). Demonstration (SP3) of technologies has been used within the context of applying BAT / BEP and in the initial piloting of non-combustion POPs destruction technologies.



108. The distribution of alignment indicates a strong emphasis on capacity building which is related to the immaturity of the portfolio and the need to build country capacities over short to medium term (0 – 10 years) for activities such as inventory and institutional strengthening followed by investment.

109. In conclusion, the portfolio exhibits a close alignment and responsiveness to GEF strategy. This result was to be expected given that such alignment is screened during project design through UNIDO internal review, GEF Secretariat and also Scientific and Technical Advisory Panels' (STAP) reviews.

3.2.4. Contributions to Pro-Poor Growth and Greening Industry

110. An overall pro-poor growth orientation of UNIDO's technical cooperation was absent in the POPs programme. Project documents do not mention poverty or specifically target 'the poor', although it is possible that the poor are in certain contexts most at risk of exposure to POPs. For

example, it was reported during the Nigeria field visit that PCB oil often is sold (illegally) into local markets where it is used for cooking or to make primitive hair and skin creams. It has also been dumped into Lagos Lagoon (which is surrounded by informal settlements). Samples of fish taken from the lagoon show significantly higher levels of PCBs and are consumed locally.¹¹⁵ Clearly, such practices could have negative effects on poor people, but in the absence of appropriate project design, research or M&E to capture these effects, it is impossible to take a pro-poor approach with respect to benefits (growth) or mitigation / avoidance of negative impacts.

111. It is also possible that projects phasing out PCBs and obsolete pesticides could have unintended negative impacts on the poor and opportunities for growth, by reducing income-earning opportunities, from creams or from the use of pesticides in subsistence and cash crop production. During discussions with the Ministry of Agriculture in Nigeria, officials asserted that obsolete POP pesticides are still used by subsistence farmers because they often hold stocks for long-periods of time and are not always able to purchase safer replacements. There is usually a perception among rural farmers that the 'banned' pesticides are the 'strongest' and therefore more effective than newer and safer alternatives. The UNIDO projects do not tend to consider such negative effects, and tend to perceive phase-out as a linear relationship resulting in positive impacts. This may be relevant at the national and international level, but may be irrelevant at the local level where perverse incentives and benefits are often present. Perverse local incentives are usually difficult to identify without adequate research during project preparation with target communities. It was reported that financing is difficult to secure to build research studies into project preparation or implementation.
112. In terms of actions to promote greening of industry, all projects are contributing to reducing pollution and / or risks of pollution from industry or agriculture through the phase-out of PCBs, pesticides or U-POPs. The PCB projects, which constitute the majority of UNIDO's post-NIP investments are predominantly focused on addressing the 'symptoms' of POPs use through phase-out of chemicals and contaminated transformers, and once phase-out is achieved, greening of industry will be completed. Most of the projects are working with public companies / utilities owned by governments, with less primary involvement of the private companies in other sectors such as manufacturing, oil and gas and mining.
113. In contrast U-POPs projects working with industry and medical waste issues are focused on introducing BAT / BEP to address inefficient industrial practices that cause dioxins and furan releases and have a more 'preventive approach' as technological changes need to be continually applied to sustain environmental benefits. However, with the exception of the Vietnam BAT / BEP project and the regional BAT / BEP projects, the remaining sampled projects do not make reference to UNIDO's Cleaner

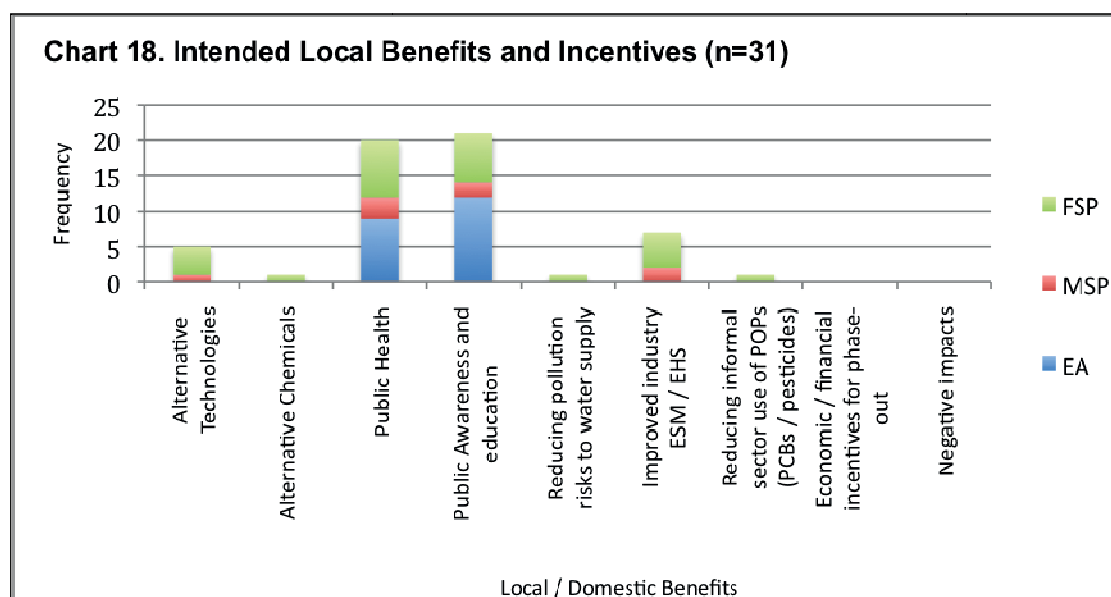
¹¹⁵ See Adeyemi D. et al (2009) Polychlorinated biphenyl in the fish samples from the Lagos Lagoon, Nigeria. African Journal of Biotechnology Vol.8 (12): pp.2811 – 2815.
<http://www.ajol.info/index.php/ajb/article/viewFile/60880/49091>

Production Programme which, over the years, has acquired substantial experience in introducing preventive approaches to environmental management in industry. This seems to represent a substantial untapped potential for increased relevance of the POPs programme to UNIDO's goal of sustainable industrial development.

3.2.5. Local Benefits and Incentives for Phase-Out

114. Local socio-economic or domestic benefits and incentives are often relevant to environmental projects because they act as drivers for changes in behaviour for individuals and companies.¹¹⁶ Linkages between local and global benefits have been evaluated in detail by the GEF Evaluation Office and been accepted by the GEF as essential to support and sustain environmental benefits.
115. In POPs projects, local socio-economic effects and incentives have been most commonly described by survey respondents as relating to public health improvements through phase-out and / or reduced risk to public health; public awareness and education of the dangers of POPs exposure; and technological transfer and improved industrial practices relating to worker safety (ESM / EHS) which in turn relates back to health benefits (see Chart 18).
116. The emphasis on public health benefits and awareness is relevant to POPs project design and implementation; however, the review of sampled post-NIP projects found that none has designed appropriate M&E systems to prove or track the delivery of such secondary benefits. In a few projects where M&E components have a 'stated intention' to develop indicators and a baseline for human health, the evaluation could find no evidence that systems have been in place that would convert high-level and relevant design statements into action. Similarly, public awareness components are common across the UNIDO POPs projects but generally there is no M&E.

¹¹⁶ See GEF (2006) The Role of Local Benefits in Global Environmental Programs. GEF Evaluation Office. Washington DC.



117. Where relevance of POPs projects for local benefits is stronger is in relation to ESM and EHS practices of industry and several of the PCB and BAT / BEP projects were working with public / utilities and companies to introduce improved worker practices to reduce risk. Overall, the present local (domestic) benefit and incentive incorporation within the projects is not optimized and lacks M&E, meaning that UNIDO is not in a position to prove and illustrate how local benefits and incentives across its portfolio support environmental benefits and make them more sustainable.¹¹⁷

3.2.6. Stakeholder Involvement

118. Involvement of relevant stakeholders is often key for project success as they normally bring a mix of technical, knowledge and financial contributions (co-finance) for the effective and efficient delivery of project benefits. The challenge of phasing out POPs and reducing emissions of U-POPs cuts across the public – private sectors, civil society and research institutions:

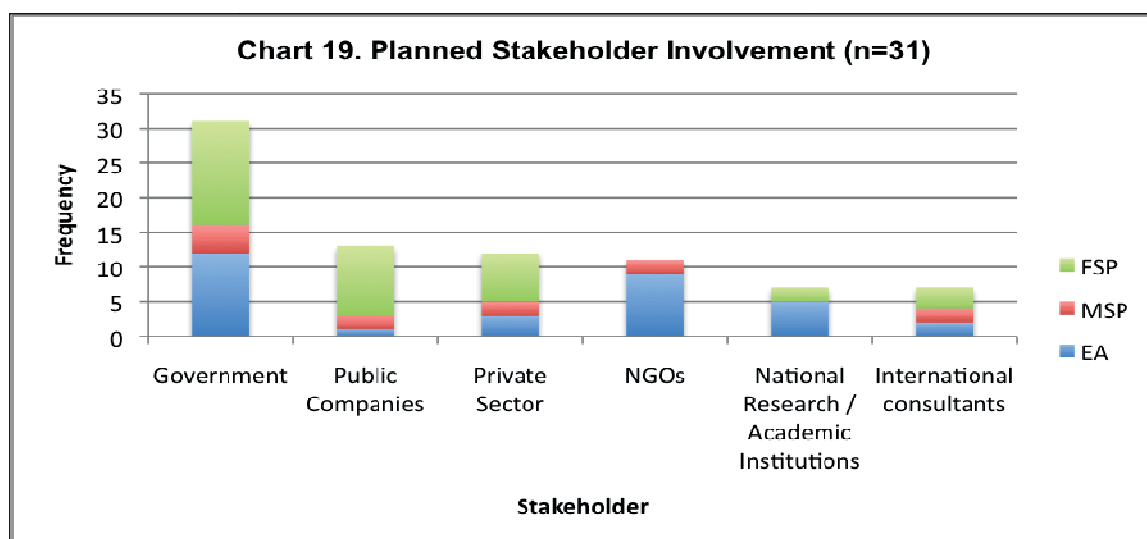
- Governments have a central role in creating appropriate legal and regulatory frameworks; enforcing phase-out across the public power companies, agricultural users and private companies; raising awareness and educating the general public; and protecting human health;
- Public power companies and private companies have a role in putting in place appropriate ESM / EHS systems to control, manage and monitor POPs that are stockpiled, contaminating production or former production sites, and releases of U-POPs, as well as paying for the costs of clean-up. Furthermore, the private sector is the main producer

¹¹⁷ The responses to Survey 1 and 2 seem to indicate contrasting perceptions of local socio-economic benefits with 84% and 65% of survey 1 ‘completely agreeing’ that UNIDO contributes towards human health and socio-economic incentives. In survey 2, complete agreement dropped to 66% and 50%.

and user of POPs. Hence, its involvement in phase-out and management is critical;

- Civil society (NGOs) has a significant role in raising public awareness and knowledge of the dangers of POPs and alternatives to POPs¹¹⁸, particularly among consumers and poor or vulnerable groups that are frequently exposed to POPs such as subsistence farmers, as they conduct advocacy for public and private sector action on POPs phase-out;
- Research and academic institutions play an important role in conducting research on presence and effects of POPs on human and environmental (biodiversity / water) health; identification of ‘hot spots’ for pollution; and provide laboratory services for testing.

119. The evaluation found that the sampled POPs projects designs placed most emphasis in the involvement of government; particularly Ministries of Environment, Agriculture and / or Industry (see Chart 19).



120. This was to be expected as key project components involved developing / adjusting government policy and building capacity to support phase-out of POPs. Public power companies were identified as key partners in the PCB phase-out projects (see Armenia, Azerbaijan, Macedonia, Mongolia, Nepal, Peru and Philippines projects). However, in some projects these were often mis-categorized as the private sector. Private sector involvement was intended in most of the post-NIP projects as providers of cash or in-kind co-finance but the actual depth and type of involvement was often not clearly articulated in the project design or reported during implementation (see Peru PCB project and Regional Contaminated Sites project).¹¹⁹ For example, the Regional Contaminated Sites project in Ghana and Nigeria intended to involve Mobile Oil Company

¹¹⁸ Many of the GEF SGP POPs project focus on these issues, however, so far UNIDO projects have not linked with the SGP.

¹¹⁹ Respondents to survey 1 rated lack of private sector engagement to be very common (29%) to fairly common (47%) in projects presenting a substantive risk to results.

and industrial associations, but the design left the character of the involvement undefined. The field visit revealed that no meaningful involvement had developed during implementation. In the Philippines, the Non-Combustion Project experience was different with a mix of public and private companies (e.g., Meralco and Goodyear Tyre) involved in the project steering committee or as prospective customers for the non-combustion plant. This enhanced the relevance of the project for the private sector. It was reported that many governments are not used to working with the private sector and this impedes cooperation.

121. The Romania PCB project is a good example for high relevance to the private sector. It was originally designed to work with the public power company, but the privatization of the power generation sector resulted in the loss of the project's main partner during the initial phase of implementation. Subsequently, private power companies did not wish to cooperate with the project. This resulted in the project re-orienting its approach to concentrate on waste management service / storage companies and small – medium sized enterprises (SMEs) with lesser quantities of PCBs, which resulted in the maintenance of the relevance of the project and thus increased ESM outcomes for the private sector. The project clearly demonstrated the added value of UNIDO in terms of adaptive management in maintaining project relevance, as well as going beyond the usual focus on the power generation sector.

122. Involvement of NGOs, with the exception of the international POPs elimination project (IPEP) which supported NGOs in raising POPs awareness, has been insufficiently articulated in project design and implementation reporting. NGO involvement in the Regional contaminated sites project was limited to 'consultations'¹²⁰ and was largely absent in the China and India NIPs. NGOs were strongly involved in the Philippines Non-Combustion project as members of the project management committee. They played an important role in liaising and mediating between the project and the communities around the plant site who were initially resistant to the project, because of human health fears. Other post-NIP projects have yet to report on NGO involvement.

123. Overall, information on stakeholder involvement has been uneven – project designs contain statements of intent on involving stakeholders in project components, but reporting is variable, particularly with regard to private sector and NGO involvement, although positive experiences such as those documented in the Romania PCB and Philippines Non-Combustion project clearly show that UNIDO can work across the public, private sector and GOs.¹²¹ NGO involvement, however, often seems to be in conflict with Government perceptions of civil society (e.g. China, India, Nigeria, and Ghana) and UNIDO has not yet managed to overcome this barrier.

¹²⁰ The field visit to Ghana and Nigeria found that planned NGO involvement in public awareness activities had not been implemented and Government seemed to view NGOs as an inconvenience rather than allies to address the paucity of public knowledge on the dangers of POPs.

¹²¹ The extent to which UNIDO SCU is able to reflect and draw lessons from the initial cohort of completed projects remains to be seen, given the excessive work and travel loads of staff members (see Chapter 4).

3.3. Results

124. The results assessment of the portfolio looked at the effectiveness of the portfolio with respect to its contribution to the phasing out of POPs (tons of POPs) and other project outcomes, including capacity building, policy development and technology demonstration & transfer. Apart from actual results observed, the assessment also took into account the potential for and progress towards results.

3.3.1. Phase-out of POPs Achieved and Potential Results

125. In general, the evaluation found that the portfolio's results in terms of phase-out of POPs, as measured in tons of POPs chemicals safely disposed, are too early to assess as the vast majority of investment projects are still under implementation. Only two post-NIP investment / demonstration projects have been completed – Romania PCB phase-out and the Philippines Non-combustion project (see Table 5). The Romania project targeted the disposal of 300 tons of PCBs held by the public power company. However, with the loss of the power sector partnership because of privatization the project began to work more closely with several hundred small and medium sized firms, including local waste management companies. These activities combined with the development of an appropriate policy, improved inventories, ESM and better capacity within the government resulted in the project exceeding its planned target, by over three hundred percent, to dispose of 1,166 tons of PCB waste.

126. The Philippines Non-Combustion project has been completed in terms of setting up the plant for processing of PCB waste, but it has yet to commence operations. The plant is targeting 1,500 tons of PCBs for destruction during the demonstration phase over the next two years. A further 6,879 tons will be targeted for destruction after the demonstration has been completed. However, the safe disposal of PCBs in the Philippines presents a considerable logistical and financial challenge in the short term as most of the PCBs (6,879 tons) are held by small island power cooperatives who have limited ability to pay for disposal and the fact that the project has targeted larger power and industrial companies in its demonstration phase.

Table 5. POPs Phase out through UNIDO: Target and Achieved in Sampled Post-NIP Projects

Project	Chemical ¹²²	Phase-out Target ¹²³	Phase-out Achieved	Price (per Kg) target	Price (per Kg) Achieved
Armenia: PCB	PCB	No stated target	-	-	-
Azerbaijan: PCB	PCB	540	-	US\$3	-
China: Medical Waste	U-POPs	No stated target	-	-	-
China: Pesticides and other POPs Wastes	Pesticides / PCDD – PCDF	10,000 / 1,000	-	-	-
China: SIRE	Capacity building	No stated target	-	-	-
Global: Civil Society	Capacity building	No stated target	-	-	-
India: PCB	PCB	7,700	-	US\$3 – 3.5	-
Macedonia: PCB	PCB	150	-	-	-
Mongolia: PCB	PCB	1,000	-	US\$3 – 3.5	-
Morocco: PCB	PCB	5,000	-	US\$2 – 3	-
Nepal: PCB / Pesticides	PCB / Pesticides	167 / 33	-	US\$2	-
Peru: PCB	PCB	1,000	-	US\$3 – 3.5	-
Philippines: Non-Combustion	PCB	1,500 ¹²⁴	-	US\$6-7	-
Regional: Contaminated Sites (Ghana and Nigeria)	PCB / Pesticides	No stated target			
Regional: BAT / BEP	U-POPs	No stated target			
Romania: PCB	PCB	300	1166	US\$5.5	US\$1.2
Vietnam: BAT / BEP	U-POP	No stated target	-	-	-
Total	-	27,850	1166	-	-
Comparison Projects					
UNDP / Latvia: PCB	PCB	280	600	US\$2.6	US\$1
World Bank / Moldova: PCB / Pesticides	PCB / Pesticides	1060 / 1,150	937.5 / 1,293	US\$1.5 – 2	US\$4

127. The total phase-out potential of sampled projects still under implementation is 27,550¹²⁵ tons of POPs, of which 16,517 tons is PCB, with the rest being PCDD / PCDF from the China project and pesticides from the China and Nepal projects. Furthermore, the BAT / BEP projects will prevent yet unspecified releases of dioxins and furans. The GEF-5 phase out target for PCB's is 23,000 tons; and 10,000 tons for pesticides. At present it is too early to predict the contribution that UNIDO will make to reach the GEF-5 targets.

128. The progress towards achieving the targets depends on a combination of factors such as enabling policy, government, public utility and private

¹²² PCBs + PCB contaminated equipment / Pesticides / U-POPs emissions avoided.

¹²³ This figure is the absolute tonnage and does not include the baseline inventory, which is not always available in projects as further inventory is planned during implementation for a more accurate baseline.

¹²⁴ This target was for the demonstration period only, with a further 6,879 tons targeted after the demonstration phase is completed and the plant enters full operational phase.

¹²⁵ Less 300 tons targeted phase out of the Romania PCB project.

sector capacities, enforcement, and importantly, the transfer of technology to develop national and regional infrastructure to treat and safely destroy POPs.

129. In order to understand UNIDO projects' contributions to meet their POPs phase-out targets, a comparison of the UNIDO Romania project with two phase-out projects of other GEF agencies provide useful insights.
130. The Romania PCB project demonstrated that improved inventory can result in identification of further tonnages of POPs to be phased out, and in the context of a growing waste disposal service sector, it is possible for a project to significantly exceed its planned phase-out potential. This is also demonstrated by the results of the UNDP and World Bank POPs projects in Latvia and Moldova. In the case of UNDP, the Latvia PCB project benefited from improved inventory that identified more PCBs, put in place ESM and gained strong participation from the private sector and exceeded targets by over 100%. The PCB waste was then exported for treatment in Europe. The overall reported cost-effectiveness of exporting the PCBs including transport was approximately US\$1 per kg (US\$1,000 per ton).
131. The World Bank Moldova POPs destruction project addressed PCB, pesticides and contaminated soil. While project design targeted the destruction of 1,150 tons of obsolete pesticides, the project collected and shipped, to France for disposal, 1,293 tons of pesticides. During project preparation, the total quantity of obsolete pesticides was estimated at 6,940 tons. However, this figure increased during implementation to 7,350 tons due to a more thorough inventory, out of which about 4,000 tons are currently stored according to ESM practices in government warehouses awaiting disposal. With regard to PCBs, dismantling / excavation, elimination and disposal of PCB-containing power equipment from 13 power stations, the project dismantled and repacked the wastes, which were also exported to France for incineration.
132. The reported costs per kg of PCB for the UNIDO and UNDP phase-out projects are between US\$1 to 1.5 per kg (US\$1,000 – 1,500 per ton).¹²⁶ The World Bank project had a higher cost of approximately US\$4, which included inventory, storage, transport and destructions costs for all material (PCB, pesticides and contaminated soil). Incineration costs were only US\$1 – 1.5, not including transport. The World Bank evaluation judged the costs to be acceptable given the complexities and increased tonnage.
133. All three projects have benefited, to some extent, from either close proximity to established EU markets and facilities for the treatment of hazardous waste (Latvia and Moldova), or from policy development and regulatory incentives (and adopting EU regulation) that have led to the emergence of private waste management and treatment companies (Romania).

¹²⁶ It is unclear if the price includes inventory, storage and transport costs, or just reflects the destruction cost.

3.3.2. Policy and Capacity Building Results and Potential Results

NIP

134. The initial gains with regard to strengthening government capacities, conducting initial inventories and building awareness were made through the NIPs / EAs. The majority of the 12 sampled NIPs have assisted countries in: meeting their initial reporting obligations to the Convention; improved awareness among government policy-makers of the dangers posed by uncontrolled and disorderly disposal of POPs into the environment; built initial capacity within government ministries and departments charged with environmental protection; completed initial inventories that have allowed countries to scope the size of their POPs challenges with regard to PCBs and pesticides, although less work was conducted on emission sources of dioxin and furan; and finally as a planning process it has provided countries with a structured approach to examine and define their policies, capacity, monitoring and investment gaps.
135. Despite the improved awareness of government policy-makers created by the NIPs in most countries, the evaluation found that in Ghana, Nigeria and Philippines better awareness and understanding of the challenges posed by POPs has not been translated into governments giving POPs and broadly chemicals management issues priority in environmental management. On the contrary, POPs is one of a plethora of pressing environmental problems facing each country and it is not efficiently mainstreamed. Indeed, the Philippines were unequivocal in stating that POPs was not one of the top environmental priorities of the government, being far behind concerns and resources allocated to water and sanitation, urban waste management, forest management and climate change, despite the NIP and good performance of the Non-Combustion project. A similar situation was observed in Ghana and Nigeria, both governments reported that POPs needs to be placed within the larger context of improving cleaner production, reducing industrial pollution, urban waste management, and emerging problems such as e-waste and plastics. The NIP – focusing exclusively on POPs – did not allow for synergies and optimal resource allocation. Currently, there is no funding window under the GEF that adequately allows for cross-cutting hazardous waste challenges to be addressed.
136. The governments are largely dependent on post-NIP projects, such as the Regional Contaminated Sites project, and those of the UNDP and the World Bank to maintain government awareness. Furthermore, in Ghana and Nigeria it has proved to be difficult to maintain capacity due to staff changes within government ministries and / or agencies. It was also clear from all three countries that NIPs were the starting point for capacity building, POPs inventory and awareness raising among policy-makers and

general population.¹²⁷ In developed countries, inventory work has been underway for over 20 years, and databases of POPs require ongoing updates.

137. The results of UNIDO's two FSP NIPs in China and India illustrate how, despite significant investments, complex capacity-building activities and their results need to be driven by government ownership as evidenced by financial allocations, willingness to build and expand on existing capacities. In China, the situation prior to the NIP was described as:

*"Before the NIP project including the PDF-B phase, almost all central/provincial government officials involved in hazardous chemicals management knew little or nothing about POPs."*¹²⁸

138. Due to numerous training and awareness-raising activities and consultations on NIP development at both central and provincial levels, most of the targeted government officials were familiar with POPs by the end of the project in terms of the basic Convention requirements and actions required. The project catalyzed Chinese-led regulatory strengthening, research and demonstration of technologies. The government made more than 100 million RMB (approx US\$16 million) available to finance scientific and chemical engineering research in the POPs area, which included the upgrading of laboratory facilities for identification, inventory and monitoring. Critically, MEP through FECO was committed to the project and used it to put in place a team of professionals focused on POPs management. Lastly, with growing urbanization and pollution in China, addressing waste management and POPs have become increasingly important and subsequent post-NIP projects such as SIRE, Medical Waste and Pesticides have seen the further development of policy and prioritization in overall government development planning.¹²⁹

139. The experience of India's NIP has been quite different to China's even though the investments were similar. The recent evaluation of the India project highlights that the key output, the production of the NIP, was achieved, which has allowed India to develop a post-NIP project focusing on PCBs. However, the NIP and the project had important shortcomings:

"... the quality of the NIP and its Annexes was found to be rather low as it failed to use common scientific methods such as statistical analyses to assist the development of the inventory of POPs; survey methodologies were inadequate; and there was limited information on alternatives to DDT. ... Many of the most important outputs related to legislation were 'not yet delivered' ... which included identification of POPs specific institutional responsibilities and gaps in the regulatory framework; provision of

¹²⁷ Similar findings were reported in the Terminal Evaluation of project GF/4030-02-03 "Development of National Implementation Plans for the Management of Persistent Organic Pollutants" UNEP Evaluation Office, 2010.

¹²⁸ See UNIDO (2008) Building the Capacity of the People's Republic of China to Implement the Stockholm Convention on POPs and Develop a National Implementation Plan. Independent Evaluation. UNIDO Evaluation Group. Vienna.

¹²⁹ China: SIRE; China: Medwaste; China: Pesticide projects.

*information on monitoring, enforcement ... institutional structures affecting POPs management ... management information system ... and provision of website to increase awareness of POPs and issues related to safe handling ...*¹³⁰

140. The project failed to complete the majority of its outputs. The evaluation highlighted several explanatory factors for poor performance including, insufficient project management by UNIDO and Ministry of Environment and Forestry (MOEF) and not using the project document as a guide for implementation. Critically, MOEF did not use the funding provided by the project to recruit well-qualified staff to work on the range of outputs that were important for POPs management, but instead chose to employ inexperienced, though well-qualified, junior staff for short periods of time towards the end of the project. Further, due to lack of time, the legislative and policy analyses were not completed. The project, like the China NIP, did not attempt to involve NGOs, particularly with regard to raising awareness among the general public and private sector. Lastly, the project did not put in place adequate M&E that could have alerted MOEF and UNIDO that the project was under-performing.
141. The China and India NIP experiences highlight the importance of government commitment, ownership and prioritization for the attainment of capacity building and policy results, alongside good project management and regular monitoring.

Post-NIP Projects

142. The post-NIP projects' progress toward policy and capacity building outputs is already apparent in projects that have reached their mid-point¹³¹, with the exception of the Philippines Non-Combustion, Romania PCB, Global Civil Society projects, there is a paucity of outcome level results across the portfolio (see Table 6). Furthermore, several projects have only recently commenced implementation and have yet to report progress,¹³² others have encountered delays.¹³³
143. The project reviews found that several projects underestimated the amount of time required to develop or amend and approve new policies for POPs management and phase-out, contributing to delays in implementation. Putting in place new policy often entailed further rounds of sensitization and awareness-raising with Ministries (and Ministers) and other policy-makers, in essence repeating the awareness-raising activities conducted during NIPs because Ministers and policy-makers often change and knowledge does not flow perfectly within partner governments. For example, in the Armenia PCB project the enactment of new legislation to improve ESM of POPs has taken nearly double the expected time.

¹³⁰ See UNIDO (2011) Development of a National Implementation Plan in India as a First Step to Implement the Stockholm Convention on POPs. Independent Evaluation. UNIDO Evaluation Group. Vienna. See pages 10 – 12.

¹³¹ See: China Medwaste; China Pesticides; China: SIRE; Philippines: Non-Com.

¹³² See India PCB, Nepal PCB and Peru PCB.

¹³³ See Armenia PCB; Azerbaijan PCB; Mongolia PCB; Regional: Contaminated Sites.

Similarly, the Regional Contaminated Sites project encountered delays in Ghana and Nigeria due to changes in Ministers and elections resulting in new policy-makers with whom the project needs to consult in order to get policy changes enacted. The Mongolia PCB project – although also encountering some policy-related delays – has been requested by the government not to develop a separate POPs policy but to amend and integrate POPs into the existing Law on ‘Toxic and Hazardous Chemicals’, which reduces the legislative burden and may lead to simplified implementation and enforcement on the ground.¹³⁴

144. Besides policy development, many of the projects are at various stages of establishing ESM practices, not only through the development of codes and regulations with governments, but also through building the capacity of public utilities and the private sector (e.g., Romania PCB project) (see Table 6). The recently completed Philippines Non-Combustion project developed a Code of Practice for ESM of PCBs, to provide guidance to PCB holders on the handling, storage, transport and disposal of PCB wastes as well as the requirements of the Department of Natural Resources. Furthermore, the evaluation mission revealed that regional Environmental Management Branch (EMB) staff have had their [POPs] capacities strengthened through participation in 8 workshops organized by national EMB during the period 2008 – 2010. In particular, capacities have been built to enforce PCB regulations and to monitor activities at utility level regarding PCB management such as inventory, storage or phasing out of PCBs, in line with the ESM Code of Practice. As part of their routine duties the regional officers carry out inspection visits at electrical utility sites, former power stations and PCB storage sites. However, due to lack of human resources these inspections are not carried out on a regular basis and do not cover the whole country due to logistical and time constraints imposed by the island geography of the Philippines. Regional officers, with the help of national EMB officers, have also carried out awareness raising activities targeting local electrical cooperatives and communities, which has contributed to an improved inventory of PCBs held and still in use with the cooperatives.¹³⁵

¹³⁴ See Mongolia PCB.

¹³⁵ Philippines inventory is now being improved through the World Bank PCB project, which will work with the electricity cooperatives.

Table 6. POPs Policy and Capacity Building in Sampled Post-NIP Projects

Project	Policy Development			Capacity Building															
	Institutional Capacity Strengthening ¹³⁶			EMS or BAT / BEP			Inventory			Awareness Raising			POP Research / Studies			Socio-Economic / Health Studies			
	Planned	In-Progress	Achieved	Planned	In-Progress	Achieved	Planned	In-Progress	Achieved	Planned	In-Progress	Achieved	Planned	In-Progress	Achieved	Planned	In-Progress	Achieved	
Armenia: PCB		✓			✓			✓					✓						
Azerbaijan: PCB		✓		✓															
China: Medical Waste			✓																
China: Pesticides and other POPs Wastes		✓																	
China: SIRE			✓																
Global: Civil Society			✓																
India: PCB	✓																		
Macedonia: PCB																			
Mongolia: PCB		✓																	
Morocco: PCB			✓																
Nepal: PCB / Pesticides	✓																		
Peru: PCB	✓																		
Philippines: Non-Combustion																			
Regional: Contaminated Sites (Ghana and Nigeria)		✓																	
Regional: BAT / BEP	✓																		
Romania: PCB			✓																
Vietnam: BAT / BEP			✓																
Total	4	5	3	6	8	2	4	3	1	6	7	3	1	5	1	1	1	1	1

¹³⁶ For example, training and technical advice to improve enforcement / inspection function of government environmental agencies.

145. In the Global Civil Society International POPs Elimination Project (IPEP) project, NGOs enhanced their capacity and knowledge of POPs and related health issues which allowed some of them to participate and effectively contribute to NIP processes, such as in the Philippines and Tanzania. However, according to the project evaluation, it was difficult to assess the quality of participation and contributions during the evaluation exercise. Major weaknesses were lack of participation in Brazil and China and insufficient attention to NGO inputs by government sectors. Another major weakness was the lack of assessed and documented policy influence, despite the large number of policy recommendations produced:

“Despite the large number of policy briefs and policy recommendations produced in the context of IPEP activities in the different regions, there is no evidence so far that these have been considered during policy formulation and decision-making. Even during missions to hubs, the evaluator was not provided with any evidence ... In many countries, NGOs are not generally considered as valuable stakeholders that could contribute effectively unless they have proven track record like in some countries e.g. Philippines or Tanzania where NGOs were invited to participate in NIP processes or to provide information regarding POPs issues. In some cases NGOs could not participate and contribute to NIPs due to the bad timing of IPEP that came after the enabling activities to implement the Stockholm Convention.”

146. The project established eight regional ‘hubs’ supported by NGO members of the International POPs Elimination Network (IPEN) to provide knowledge and assistance to national NGOs in over 60 countries. The NGOs in many countries conducted awareness-raising activities through TV and newspapers, particularly with communities living close to incinerators. However, the results of such activities are difficult to assess due to an absence of baselines and monitoring data. The Global Chicken Egg study, in which 17 countries participated, was the major research achievement of the project. Priority was given to countries that lacked information about POPs in their environment. The study did not attempt to determine the average level of POPs (PCDD/Fs, PCBs, etc.) in eggs in the country, but rather samples were collected near facilities like cement kilns or industrial plants that NGOs suspected to be potential sources of POPs release. Seventy percent of the samples were found to contain levels of dioxins that exceeded the EU limit and 60% exceeded the EU limits for PCBs.

147. Despite the lack of M&E, the Global Civil Society project demonstrated that NGOs are responsive and flexible with regard to disseminating relevant information in the public sphere, and contributing to increasing awareness of the environmental health dangers. However, in many of the post-NIPs reviewed, there is a lack of reported involvement of NGOs, despite stated project intentions.¹³⁷ Hence, it is difficult to ascertain how countries and UNIDO have built on experiences of the Global Civil

¹³⁷ See, for example, Armenia PCB; Azerbaijan PCB; China Medwaste; China Pesticides; Macedonia PCB; Regional Contaminated Sites; Vietnam BAT / BEP.

Society project, and on other programs such as the GEF Small Grants Program (SGP). The mid-term evaluation of the Regional Contaminated Sites project in Ghana and Nigeria stated;

“Despite the project documents assertion that civil society involvement was “the hallmark of project preparation”¹³⁸ the design did not seem to take account of the existing and ongoing experiences, of civil society organizations in both countries, on hazardous waste management and POPs, particularly as concerns the GEF SGP. NGOs still ‘wait to be involved’ by the project. Government stakeholders in both countries informed the evaluation mission that NGOs need to handle ‘carefully’. The implication of such statements is that the capacity and knowledge of NGOs, particularly to raise awareness among the public, is not efficiently used by the project.”

148. In other areas, post-NIP projects are contributing to capacity building through continued and enhanced inventory (and inventory methodologies) of POPs, particularly PCBs. Eight of the post-NIP PCB projects (see Table 9) are at various stages of identifying, establishing databases of and monitoring PCBs that are stored or still in use, therefore further improving government understanding of phase-out resource and activity needs. One critical element in this context is building national laboratory capacity for identifying PCBs so as to negate the need to send samples to overseas laboratories in Europe or the USA and also improve inventory cost-effectiveness and efficiency.
149. The introduction of ESM or BAT / BEP is a major component of 16 post-NIP projects. Most projects are not only working with government stakeholders and public power utilities to improve the safe handling, storage and disposal of POPs but also introducing technologies to reduce U-POPs. Romania PCB project, as already mentioned, worked extensively with private sector PCB owners as well as waste management companies to put in place ESM practices. Other projects in Armenia, Azerbaijan, India, Mongolia and Peru are planning or are in the process of putting in place similar systems. The emerging results from the China Medical Waste project show that BAT / BEP has been incorporated into the 12th 5-year development programming and the government has allocated substantial funding for the construction of medical waste disposal centres in demonstration cities, of which 120 will run on non-incineration technology and thus reduce dioxin emissions. The project is also working with hospitals to improve the sorting of medical waste to reduce the total tonnage to be treated either with incineration or non-combustion techniques. In this way the project is addressing causes and not just looking at ‘end of pipe’ solutions.
150. Awareness raising is included in all post-NIP project designs, and many have reported that activities such as publication of pamphlets and use of the local media and internet are on-going. Whilst these communication channels are undoubtedly appropriate, the results are

¹³⁸ See project document page 16 and the project document annexes.

difficult to ascertain as baselines and adequate M&E has not been put in place to track changes in the understanding of the dangers of POPs and changes in behaviour.¹³⁹ Furthermore, in the case of the Regional Contaminated Sites project, awareness-raising is one of the activities to be carried out by the project; however, implementation has been limited to policy-makers. Unfortunately, this has meant that workers charged with servicing transformers have not been alerted on the human and environmental health effects of PCBs, or ESM practices:

“One awareness-raising newsletter¹⁴⁰ aimed mostly at policy level decision makers has been produced by the project. Whilst this is good in terms of raising visibility of POPs among influential Government [Nigeria] officials who often make or influence resource-deployment decisions, the project has yet to reach out to those companies and communities exposed to or using POPs. For example, it was observed that awareness and sensitization of workers of the public power utilities at two sites (Ijora, Lagos and Accra) - considered to be two of the most contaminated and polluting in both countries - has not been actively pursued. Workers continue to be unaware of the dangers of handling PCB oil (with their bare hands) and of the deleterious environmental effects of dumping the oil. In Ijora, Lagos the workers explained to the evaluation team how they continue to dump oil onto the ground adjacent to the Lagos Lagoon, from whence it seeps into the lagoon, the ocean food chain and the world, via the Gulf of Guinea Current, as well as into the local water table. Scientists at the University of Lagos, Nigeria, who have carried out preliminary sediment and water samples within the lagoon, confirmed significant PCB pollution.”

151. Finally, general institutional capacity building within government departments has focused on training of enforcement of legislation, inspection, identification, testing (often associated with inventory activities) and cooperation between ministries such as environment and health, or industry. In some countries, such as China, institutional capacity building has progressed well; for example, in the SIRE project government agencies conduct joint-inspections of industrial facilities. Furthermore, the project has facilitated more structured cooperation between ministries at local / regional levels that did not exist before. In the case of China, a cadre of educated government officials already existed with requisite accountability and incentive systems to support training, knowledge and technology transfer related activities provided by UNIDO and international experts. This was backed by strong government ownership and willingness to make POPs and hazardous waste a priority.¹⁴¹

152. Difficulties in building and maintaining government capacities were demonstrated in the Regional Contaminated Sites project. Firstly, key project government personnel retired or were reassigned eroding capacity; secondly, the trainings to operate laboratory services and use the

¹³⁹ In survey 1 71% of respondents ‘completely agree’ that UNIDO is contributing toward improvements in awareness. However, this is impossible to substantiate without M&E and baseline studies in place to track changes in knowledge, attitudes and behaviour.

¹⁴⁰ POPs Contaminated Site Newsletter. Publication of the Ministry of Environment (Nigeria).

¹⁴¹ See also China Medwaste and China Pesticides.

contaminated sites toolkit were delivered; however various procurement and internal issues delayed operationalization of laboratories and the toolkit, hence most government employees have now requested refresher training; thirdly, the appropriateness of the contaminated sites toolkit was questioned as it was more tailored to a developed country context than to the human and financially constrained situation facing developing country governments.¹⁴²

153. In conclusion, although UNIDO's POPs portfolio is doing the right things in terms of changing and developing policy and improving capacities, the context in most countries, with the exception of China, indicate that the challenges of sustaining capacity to support policy enforcement are significant.

3.3.3. The specific contribution of UNIDO towards Results: Demonstration

154. UNIDO's contribution towards results and also potential results has mainly related to its role in facilitating the demonstration of 'new' technology and practices (BAT / BEP) in partner countries. This has taken place through specific project interventions such as the Philippines Non-Combustion project, the BAT / BEP China, and also Regional and Vietnam projects. The work on demonstrating non-combustion technology is of course not new in developed countries, but UNIDO has played and continues to play an important role in projects in introducing fixed and mobile de-chlorination technology from leading service providers in Europe, Japan and North America. In doing so, the distinction between demonstration and investment activities has become blurred as UNIDO has promoted non-combustion technologies before the results from the Philippines facility have been assessed. However, the risks are low as the technology is well established [in developed countries], and the capacity for managing the technology seems to be there for most projects under implementation.

155. At a regional level, UNIDO has played an important role in the International Expert Group of BAT/BEP, particularly in the Asia and the Pacific regions. This has enabled exchange of information and the raising of awareness about the availability of technologies and practices to address POPs phase-out and prevent U-POPs production across several industries including cement production and also medical waste.

156. At the global level, UNIDO has supported the Convention and UNEP in the development of the POPs toolkit¹⁴³ for the identification and quantification of releases. UNIDO also developed additional toolkits for investigating and managing contaminated sites.¹⁴⁴ In addition, the SCU is

¹⁴² See UNIDO (2012) Regional Project to Develop Appropriate Strategies for Identifying Sites Contaminated by Chemicals Listed in Annexes A, B and/or C of the Stockholm Convention. UNIDO Evaluation Group. Vienna.

¹⁴³ http://www.chem.unep.ch/pops/pcdd_activities/toolkit/default.htm

¹⁴⁴ <http://chm.pops.int/Implementation/BATBEP/AdditionalResources/tabid/1493/Default.aspx>

presently supporting the Convention in the drafting of guidelines for NIP updates (to include the New-POPs).

3.4. Efficiency

157. The efficiency assessment of the portfolio looked at: adequacy, advantages, and disadvantages of the applied design and implementation approach and synergies between projects (UNIDO and non-UNIDO).

3.4.1. Design and Implementation Approach

158. UNIDO has played a dual role of implementing and executing agency, with the exception of China, where national-led implementation through a special agreement with FECO has been the case. UNIDO's approach has been to work closely with countries to select relevant priorities identified in their NIP and then work with the ministries or agencies to design the project interventions. Information is gathered through individual consultations, meetings and workshops with stakeholders at which time they commit and recommit to the project design, but they cannot be said to have led the process.¹⁴⁵ Furthermore, the focus of design consultations seems to be predominantly on government stakeholders with whom UNIDO built working relations through the NIP / EA process, with more limited involvement of civil society and private sector stakeholders. Hence, with the exception of China, the extent to which broad-based ownership is built through the design process is unclear, despite higher-level strategic relevance and prioritization within the NIP / EAs.

159. The writing of project proposals has been led by UNIDO SCU staff and international consultants¹⁴⁶, the reasons cited for doing so were often that country partners often did not fully understand the structural and semantic "in's and out's"¹⁴⁷ of writing GEF proposals. Therefore, it was more efficient to gather the necessary information from stakeholders for input into the proposal in order to meet the design criteria and timelines¹⁴⁸ required by the GEF. Typically, the proposals are shared with the government at various stages for review and comments prior to submission through UNIDO's internal project-cycle and approval process to the GEF Secretariat.¹⁴⁹

160. UNIDO's internal project approval process requires all projects to be formally assessed by the Appraisal Group (AG)¹⁵⁰ prior to submission for

¹⁴⁵ Interview data and Ghana, Nigeria and Philippines field mission data.

¹⁴⁶ This is not unusual for GEF projects as international consultants are often used to put together proposals, as they have to be written in English.

¹⁴⁷ Including GEF co-financing requirement, eligibility of activities and strategies.

¹⁴⁸ Since GEF-4 replenishment period all projects have to be designed (from concept to effectiveness) within a 22 month period.

¹⁴⁹ Including review by the Scientific and Technical Advisory Panel (STAP).

¹⁵⁰ The panel consists of thematic advisor, GEF advisor and UNIDO Evaluation Group staff. Projects are required to pass AG screening. If a project does not meet the required quality standards it has to be resubmitted to the AG after responding to observed deficiencies.

approval to the Programme Approval and Monitoring Committee (AMC). The UNIDO POPs projects are assessed against GEF and OECD-DAC criteria. The AG has noted that the POPs projects tend to be logically structured and meet the criteria and in general are not required to be resubmitted to the AG. In contrast, the non-GEF UNIDO projects are more frequently re-submitted because the quality is lower in terms of description of project context, problem analyses, logic and evidence of co-finance. This better overall quality of POPs projects seems to be related to the fact that the GEF grants substantial funds for project preparation (PDF, PPG), something that most other UNIDO donors do not do. The main problems encountered in the AG appraisal process have been submissions by the SCU to the GEF Secretariat and its subsequent approval prior to the AG and AMC submission, which results in degrading UNIDO's process to a mere "rubber stamp". Steps have been taken to minimize risk of this occurring. Additionally, the AG is now placing more emphasis on issues of co-financing¹⁵¹, sustainability and results-orientation of the LFA for both, GEF and non-GEF projects. The current strengths and weaknesses in POPs project design (see Section 3.1) indicate that AG's focus on sustainability and results is correct.

161. The major design challenge encountered by UNIDO, perhaps with the exception of China, was securing co-financing to meet the GEF financing ratios. The co-financing requirement was set at 1:2 (i.e., co-finance needs to be twice the amount of the GEF grant) in GEF-4 and has now been increased to 1:4 for GEF-5, which was reported to be difficult to meet in most countries except for China and India. UNIDO SCU has to search for co-financing from other donors, which was reported as a major challenge because of the financial crisis and the consequent narrowing of donor priorities; also the limited availability of co-finance (cash or in-kind) from recipient government is a major challenge. These difficulties have caused delays in project development.

162. The design process has, however, been efficient, particularly for post-NIP projects, with all meeting the 22-month time limit stipulated by the GEF. Two of the post-NIP GEF-3 projects – the Philippines Non-Combustion and China Medical Waste¹⁵² - suffered significant delays due to inefficiencies in the GEF project cycle and changes in the senior management of the GEF Secretariat at the beginning of the GEF-4 replenishment period. NIP projects, with the exception of India NIP were designed and approved in under one year, as the designs were straight-forward and included similar elements for all countries. The India NIP suffered delays of nearly 5 years and the Indian MOEF considered switching GEF agency in 2007 because of UNIDO inaction.¹⁵³

¹⁵¹ To ensure that co-financing commitments are well documented and realistic.

¹⁵² Philippines Non-Combustion and China Medical Waste project took nearly 4 years to design due to the requirement to re-submit proposals at the beginning of GEF-4.

¹⁵³ See UNIDO (2011) Development of a National Implementation Plan in India as a First Step to Implement the Stockholm Convention on POPs. Independent Evaluation. UNIDO Evaluation Group. Vienna. See page 47.

163. In China, FECO is the main executing agency having strong project ownership, capacity and a specialized division handling POPs projects, also with delegated decision-making in contracting / procurement for participating companies and institutions. The evaluation review of the China POPs projects affirmed the view of the recent UNIDO China Country Evaluation¹⁵⁴ that this implementation modality is working efficiently in China and is results orientated. In all other projects, design and implementation / execution management is conducted by UNIDO from Vienna, with advantages as well as disadvantages. For implementation, with the exception of China, all NIP and post-NIP projects are subject to UNIDO contracting and procurement rules. The experience from the NIP project subcontracting indicates that this modality did not always work efficiently: eight of the NIP terminal small-scale project reports (TPRs) had a similar lesson on project management:

“...most of the budget had to be subcontracted to a national executing agency (NEA). This affects the ability of UNIDO to monitor the implementation of the project effectively. NEA was the principle channel for receiving information on achievement and problems related to the project. Sometimes, that information did not reach UNIDO in time and thus UNIDO being unaware of the problem / and or not receiving first hand information, UNIDO could not recommend timely actions.”¹⁵⁵

164. For the NIP, supervision and monitoring from UNIDO was minimal as budgets did not allow for frequent country visits, with the exception of the FSP NIP / EAs in China and India. Whilst China was well managed and supervised, the India NIP lacked close control and supervision from UNIDO of sub-contractors and also suffered contracting delays indicating shortcomings in the quality of management.¹⁵⁶ Generally, the NIPs were planned to be implemented over 2 years, however many have taken 3 to 4 years and longer to complete.¹⁵⁷ In part because of longer time frames needed to sub-contract project components, build in-country capacity to start assessments, and UNIDO’s procurement and contracting arrangements. For example, some countries such as Botswana, Guatemala and Venezuela made requests to use national procurement / contracting systems after the projects commenced implementation, but UNIDO did not agree, resulting in delays until countries agreed to use UNIDO procedures. The root causes of the delays are related to the lack of procurement and contract plans in project designs that clearly delineate legal roles and responsibilities, assumptions that government stakeholders would accept UNIDO’s rules without question, and finally a lack of trust on the part of UNIDO to transition to using national systems for procurement /

¹⁵⁴ See UNIDO (2011) Independent UNIDO Country Evaluation of the People’s Republic of China. UNIDO Evaluation Group. Vienna.

¹⁵⁵ See TPRs for Azerbaijan; Croatia; Czech Republic; Hungary; Macedonia; Mongolia; Nepal; Romania

¹⁵⁶ Ibid, see pages 47 – 48.

¹⁵⁷ See Armenia; Azerbaijan; Bolivia; China; Croatia; Ethiopia; Ghana; Hungary; India; Lao; Macedonia; Mongolia; Nepal; Nigeria; Romania; Venezuela.

contracting where countries, such as Botswana have in place appropriate public financial management systems.¹⁵⁸

165. In the sampled post-NIP projects, the emerging implementation experience indicates that some are being impacted by delays.¹⁵⁹ The sources of the delays are related: (a) UNIDO procurement / contracting procedures, particularly in relation to the rules for competitive tendering processes. This was reported to be problematic when the technologies such as non-combustion are innovative and provided solely by a few companies, making competitive tenders involving a minimum number of companies / offers to satisfy UNIDO rules difficult to reach. In the case of the India PCB project, unsatisfactory tendering resulted in the need to re-run the process; (b) deficiencies in project design similar to those exhibited by the NIP such as lack of procurement planning, and realism in determining project implementation timeframes; and (c) issues outside of UNIDO's control such as longer timeframes involved for changing and / or developing policies. In some projects¹⁶⁰, efforts are being made to decentralize project management to UNIDO's regional and / or country offices to help reduce supervision costs, resolve delays and provide for better understanding of country contexts. But the efficiency gains are yet to be realised (see also Chapter 4). Furthermore, it was reported that UNIDO procurement and legal departments are becoming more familiar with the particular issues associated with POPs projects and this is assisting to minimise or avoid delays.

In summary, the advantages of UNIDO's present design and implementation modalities mostly accrue through efficient design that is led by UNIDO SCU and international consultants. The centralized implementation modalities of UNIDO provide at present some difficulties (see also Chapter 4) – as the lessons from the NIP / EAs show. These issues seem to be reoccurring in post-NIP projects, although legal / procurement hold-ups are likely to reduce, as the particular needs of POPs projects are understood.

3.4.2. Synergies with Other Projects

166. The evaluation assessed synergies with other UNIDO and non-UNIDO projects in all sampled post-NIP projects. 11 of the 17 post-NIP projects had stated intentions to link up with other projects during implementation (see Table 7). The extent to which synergies have been realized and reported varies. 2 projects did not report on progress, and 2 were too immature to have results. The remaining seven projects have reported some level of success in developing linkages with at least one other project. For example, the Mongolia PCB phase-out project linked with the World Bank energy sector reform project to improve the introduction of PCB-free transformers.

¹⁵⁸ See European Union 2008 Public Financial Management Assessment Report for Botswana: http://ec.europa.eu/europeaid/what/economic-support/public-finance/documents/botswana_pefa_report_en.pdf

¹⁵⁹ See Armenia PCB; Azerbaijan PCB; India PCB; Mongolia PCB; Morocco PCB; Philippines Non-Combustion; Regional Contaminated Sites.

¹⁶⁰ See India PCB; Nepal PCB.

167. Other projects seem to be less successful. For example, the Regional Contaminated Sites project has failed to link with the UNDP and World Bank PCB projects in Ghana and Nigeria despite self-evident advantages of doing so for the adoption of the toolkit and business for the Laboratory Geo-environmental Centres being established in both countries.

168. The UNIDO POPs portfolio has not recognized the potential benefits of linking with the GEF Small Grants Programme POPs projects¹⁶¹ as a mechanism to involve NGOs / Community-based Organizations in awareness-raising, contaminated site management and research studies.

169. So far, there has been a paucity of linkages between UNIDO POPs projects and those addressing Montreal Protocol and Cleaner Production, the latter being critical for reducing the production of U-POPs.¹⁶² Only the Vietnam BAT / BEP has linked with the in-country CP Centre which has assisted the project in identifying and disseminating best practices, and establishing relations with the private sector, such as cement companies (see also Chapter 4).¹⁶³ Operational linkages were reported to be difficult to achieve with Montreal Protocol operations because of difficulties in sequencing design and implementation, and lack of internal incentives to encourage cooperation.

Table 7. Project Synergies Planned and Reported in Sampled Post-NIP Projects

Project	Planned	Reported
Armenia: PCB	<ul style="list-style-type: none"> <input type="checkbox"/> UNITAR – SAICM Quick Start Program Trust Fund <input type="checkbox"/> NATO – Inventory, Monitoring and Analysis of Obsolete Pesticides in Armenia for Environmentally sound Disposal Project <input type="checkbox"/> SAICM project – “Prioritization of chemical risks at national level in a global context (PrioChemRisks)” 	NATO Project: working with the project on training, provision of laboratory material for analysis and inventory of POPs.
Azerbaijan: PCB	Not intended	-
China: Medical Waste	Not intended	-
China: Pesticides and other POPs Wastes	Not intended	-
China: SIRE	<p>“Project to facilitate the high-quality implementation of the thematic investment projects.”</p> <ul style="list-style-type: none"> <input type="checkbox"/> World Bank – PCBs Management and Disposal Demonstration Project <input type="checkbox"/> World Bank – Demonstration of Alternatives to Chlordane and Mirex in Termite Control Project 	Not reported

¹⁶¹ GEF SGP has completed or under implementation 291 POPs projects across Africa, Asia, Eastern Europe and Central Asia and Latin America and Caribbean, including in countries of strategic importance to the UNIDO portfolio such as China and India.

¹⁶² Of survey 1 respondents 42% regarded synergies to be ‘not applicable’ or provided ‘no answer’. Only 24% ‘completely agreed’ that UNIDO had adequate resources to exploit synergies.

¹⁶³ See Vietnam Cleaner Production Centre (2011) Introduction of BAT and BEP Methodology to Demonstrate Reduction or Elimination of U-POPs Releases from Industry in Vietnam. Hanoi.

	<input type="checkbox"/> UNDP – Alternatives to DDT Usage in the Production of Antifouling Paint	
Global: Civil Society	<input type="checkbox"/> UNIDO – Demonstration of Viability and Removal of Barriers that Impede Adoption and Effective Implementation of Available, Non-combustion Technologies for destroying POPs <input type="checkbox"/> UNEP – Support for the Implementation of the Stockholm Convention on POPs <input type="checkbox"/> UNIDO and UNEP – all NIP / EAs	NGOs have enhanced their capacity and knowledge regarding POPs and related issues and this allowed some of them to participate and effectively contribute to NIP / EA processes
India: PCB	Not intended	-
Macedonia: PCB	<input type="checkbox"/> UNIDO – ICS to provide expertise	Not reported
Mongolia: PCB	<input type="checkbox"/> Sweden (SWECO) – Renovation of the Central Region Electricity Transmission <input type="checkbox"/> World Bank – Energy Sector Additional Financing: Upgrading of Power Supply in Ulaanbaatar	Project is linking with both projects to increase the efficiency and effectiveness of PCB phase-out and provision of new transformers.
Morocco: PCB	<input type="checkbox"/> UNDP – Safe Management and Disposal of PCB's Pillar 1 <input type="checkbox"/> GTZ – Programme de Gestion et de Protection de l'Environnement (PGPE) <input type="checkbox"/> UNEP – Demonstration of a Regional Approach to Environmentally Sound Management of PCB Liquid Wastes and Transformers and Capacitors Containing PCBs	Project cooperation with UNDP Phase 1, which is exporting high concentration PCBs for incineration is going ahead as planned.
Nepal: PCB / Pesticides	<input type="checkbox"/> Regional Network on Pesticides for Asia and the Pacific (RENAP) <input type="checkbox"/> FAO will be consulted on disposal of pesticides	Project yet to begin implementation reporting
Peru: PCB	<input type="checkbox"/> UNEP – Best Practices for PCB management in the mining sector of South America”	Project yet to begin implementation reporting
Philippines: Non-Combustion	<input type="checkbox"/> World Bank – PCB project	Project has attempted to link with the World Bank project but operational practicalities were not established.
Regional: Contaminated Sites (Ghana and Nigeria)	<input type="checkbox"/> World Bank / CIDA – African Stockpiles Program (ASP) <input type="checkbox"/> UNDP – PCB Phase-out Project (Ghana); <input type="checkbox"/> DANIDA – Densu Basin Pollution Control Project (Ghana) <input type="checkbox"/> UNDP – Agricultural Land Contamination – UNDP (Nigeria) <input type="checkbox"/> SAICM (Africa-wide); <input type="checkbox"/> UNIDO / UNEP – Global Civil Society IPEP <input type="checkbox"/> UNIDO – Guinea Current Large Marine Ecosystem (GCLME)	Not reported, with the exception of the projects joint use of GCLME GIS in Nigeria (Lagos University)
Regional: BAT / BEP	Not intended	-
Romania: PCB	Not intended	-
Vietnam: BAT / BEP	<input type="checkbox"/> UNDP – Building capacity to eliminate POPs pesticides stockpiles in Vietnam <input type="checkbox"/> World Bank – PCB Management and Disposal Demonstration Project <input type="checkbox"/> UNIDO Cleaner Production Program (Vietnam CP Centre)	Synergies with World Bank report in terms of improving monitoring procedures for U-POPs and sharing training. However, the project has worked more closely with the UNIDO CP Centre to develop / disseminate BAT / BEP

3.5. Sustainability and Impact Drivers

170. This section assesses the evidence of and potential for sustainability. The assessment specifically looked for evidence of the extent to which benefits are or have the potential to continue to accrue after project completion through the presence of (a) impact drivers identified in the TOCs; and (b) ROtI assessment of 3 completed POPs projects.

3.5.1. Potential for Sustainability and Impact Drivers

171. Chapter 2 presented two generic TOCs for NIP / EA and post-NIP PCB projects, and identified impact drivers; and assumptions that need to hold true during and after project implementation for a project move towards sustainability. The evaluation assessed 11 post-NIP PCB phase-out projects and two FSP NIP / EAs in China and India for the presence of impact drivers.

172. In general, in four out of the 11 PCB projects under implementation there are at least 2 or more impact drivers and/or critical assumptions present. Most commonly, projects are laying the foundation for sustainability and impact through policy changes / development and building capacities in government with 5 in progress and 2 rated as achieved. However, the extent to which governments are willing to devote significant resources for ex-post inventory and enforcement, given many other environmental and economic priorities and demands is unclear. There is a risk that even with appropriate policies, measures will not be sustained after the completion of projects (See Table 8).

173. What is less apparent is the extent to which private sector is committed to support phase-out of PCBs either through push-factors such as government policy and enforcement, or pull factors such as improved awareness, cost-effective phase-out options, corporate responsibility or opportunities to switch to improved technology or insulation chemicals. Most of the projects have chosen to focus on public power utilities as this is where much of the PCB stock is usually concentrated; however the experience of the Romania PCB project demonstrated that significant quantities of PCBs are held outside of the large power sector utilities with small and medium sized firms. The India NIP evaluation stated that a considerable amount of PCB is held by smaller firms, and hence a focus on power generation sector, although correct because of large tonnages of PCB's used, may not in itself result in the achievement of sustainable results.

174. The technical and financial sustainability of non-combustion technologies generally remains to be proven across the projects; the delays in the commissioning and in the demonstration phase of the Philippines Non-combustion project mean that preliminary observations were not available to the evaluation. The Philippines country context is an important factor influencing sustainability and long-term impacts because

most of the high concentration PCBs is held by small electricity cooperatives who have limited funds to pay for the costs of safe transport to the non-combustion facility in Bataan and for safe disposal. The cost-effectiveness of non-combustion technologies in terms of price per kg of PCB will be key factor and incentive for private sector owners of PCBs for safe destruction; in this regard the project will need to maintain its cost projections ex-post, otherwise incentives may develop to dump PCBs illegally.

175. Alternatives to PCBs (mineral oil) are widely available in most countries; however, the projects are not directly involved in promoting replacements for PCBs. In Mongolia, replacement for PCBs is being made through the World Bank's power sector reform projects. In this regard, other projects may be benefiting from exogenous power investment programs or privatization, which usually include environmental due diligence aspects that would create synergies with UNIDO projects. However, the extent to which this assumption holds is difficult to gauge due to lack of reporting on parallel or synergistic investments by other donors or governments.

176. For the NIP, the China project, as already discussed in previous sections, had a high degree of support and ownership from FECO – MEP achieved key policy and capacity drivers / assumptions, and provided foundation for private sector involvement in subsequent post-NIP investments¹⁶⁴. The evaluation highlights several key points, which made the NIP outcomes sustainable and a foundation for follow on projects¹⁶⁵:

“China has a strong central government that has confirmed its determination amongst others to comprehensively take legal, economic, technical and necessary administrative measures to solve POPs issues. The implementation capacity in terms of human resources (FECO/MEP, CIO) and related infrastructure and in terms of adequate administrative systems (bidding, auditing, financial, etc.) and management structure (FECO/MEP, NCG, MIS) already exists. High technical capacity exists in the country for monitoring, research and development (e.g. leading research institutions equipped with very adequately equipped laboratories). The project is highly relevant to key stakeholders including the private sector and ownership has been observed.” (15)

¹⁶⁴ Pulp and paper industry and waste incineration.

¹⁶⁵ UNIDO (2009) Building the Capacity of the People's Republic of China to Implement the Stockholm Convention on POPs and Develop a National Implementation Plan.

Table 8. Sampled Post-NIP and NIP / EA FSPs: Impact Drivers and Assumptions

Project	Post-NIP Assumptions and Impact Drivers																	
	ID: Governments are of POPs issues and make appropriate policy and resource commitments			A: Existing government capacities can be sustainably augmented / adapted			ID: Industrial / private sector are committed and incentivized to participate / invest in phase out			A: Destruction technologies are cost-effective and attractive			A: Users and / or affected stakeholders are aware and change			A: Alternatives to POPs are available and cost-effective		
	Achieved	In progress	Not achieved	Achieved	In progress	Not held	Achieved	In progress	Not achieved	Achieved	In progress	Not held	Achieved	In progress	Not held	Achieved	In progress	Not held
Armenia: PCB		✓			✓		-	-	-	-	-	-	-	-	-	-	-	-
Azerbaijan: PCB		✓			✓		-	✓	-	-	✓	-	-	✓	-	-	-	-
India: PCB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Macedonia: PCB		✓			✓		-	-	-	-	-	-	-	✓	-	-	-	-
Mongolia: PCB		✓			✓		-	✓	-	-	✓	-	-	✓	-	-	-	-
Morocco: PCB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nepal: PCB / Pesticides	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peru: PCB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Philippines: Non-Combustion	✓			✓			-	✓	-	-	-	✓			✓			
Regional: Contaminated Sites (Ghana and Nigeria)	-	✓				✓			✓	-	-	-		✓	-	-	-	-
Romania: PCB	✓			✓			✓			✓		✓			✓			
Total	2	5		2	4	1	1	3	1	1	2		2	3	1	2	1	
	NIP Assumption and Impact Drivers																	
	ID: Government channels adequate resources to institutions involved in POPs phase out			A: Existing government capacities can be sustainably augmented / adapted			ID: Incentives and disincentives support POPs clean up are established			ID: Civil society contributes to awareness raising and finding solutions			ID: Private sector are aware and involved in planning and prioritization for POPs Phase					
	Achieved	In progress	Not achieved	Achieved	In progress	Not held	Achieved	In progress	Not achieved	Achieved	In progress	Not achieved	Achieved	In progress	Not achieved			
India NIP			✓			✓			✓			✓			✓			
China NIP	✓			✓			-	-	-			✓		✓				
Total	1		1	1		1			1			2		1				1

177. In contrast, the India NIP did not achieve a sustainable result mainly because of the absence of impact drivers and the assumption that government capacities could be enhanced, which was not the case. Hence, owing to the failures in the NIP project, the India PCB project, which has followed on from the NIP, is arguably at greater risk because the foundational capacities and government ownership have not been built.

178. In summary, the generic TOCs have in a broad sense indicated that post-NIP PCB projects are putting in place the right conditions, predominantly policy and capacity drivers to move towards sustainability and ultimately impacts. However, as few have been completed it is not possible to draw definitive conclusions on overall likelihood for sustainability of the PCB-focused projects.

3.5.2. Review of Outcomes to Impacts

179. As of mid-2011, only three post-NIP POPs projects had reached completion; the Global Civil Society; Philippines Non-Combustion and the Romania PCB projects. These projects were assessed using the ROTI methodology developed by the GEF Evaluation Office. As already detailed in Chapter 1, this is a rapid TOC based approach to assess the progress towards impacts (see Table 9).

180. The Global Civil Society project was judged not to have progressed toward impact as it did not manage to catalyze civil society involvement in several key countries such as Brazil and China, or in policy change and dialogue. The experience of the China NIP confirms that civil society was excluded; and the post-NIP projects' emerging implementation experience indicates variable involvement of civil society. Furthermore, the linkages between improved civil society participation and ultimate impact of reduction of human exposure to POPs was not proven (rated BC).

181. For the Philippines non-combustion project, most of the key outcomes have been achieved, but as the project has yet to be commissioned and embark on the two-year demonstration phase, the link to impact could not be proven (rated B-). The Romania PCB project achieved its outcomes, demonstrated strong private sector involvement and supported the development of a hazardous waste management service sector. Hence, it was judged to be moving towards impact, although it currently lacks monitoring of human and environment health indicators to track progress definitively (rated AA).

182. Overall, the ROTI ratings are positive, albeit constrained with a small sample. The Philippines Non-Combustion project has a good probability to move from B- to AA rating once the facility proves its effectiveness and moves from demonstration to full operational capacity and operate sustainably.

Table 9. Summary ROTI Assessment

Global: Fostering active and effective civil society participation in preparation for implementation of the Stockholm Convention (POPs)						
Outputs	Outcomes	Rating (D-A)	Intermediate States	Rating (D-A)	Impact	Rating (+)
1. Hubs established in eight regions to guide and support NGOs	1. Increased NGO knowledge and awareness	B	1. (Desired) Enhanced capacity of NGOs to contribute to NIP and Post-NIP implementation	C	1. (Desired) Reduction in exposure to POPs of humans & wildlife.	BC
2. Establish "International POPs Elimination Project," their website, with participation of 160 NGOs from 61 countries.	2. NGOs provide recommendations regarding policy, formation, and implementation of NIPs.					
3. Global Chicken Egg study in 17 countries (dioxin contamination).	Justification for rating: It was intended that awareness building would increase the effectiveness of NGOs in their contribution to NIP implementation. The NGOs responded fully and enthusiastically. The egg study was sound and important.		Justification for rating: Weakness: lack of participation of Brazil and China; NGO outputs not considered during policy formation by government sectors, decision making, in NIPs; POPs not a priority in many countries; problematic project financial accounting		Justification for rating: NGO inputs could and should lead to improved implementation of NIPs and Post-NIPs; and eventually to GEB. But, weaknesses need to be addressed before results can be sustainable. Part of the issue here relates to the overall lack of civil society participation in some countries and the need for a long-term approach to change attitudes.	

Philippines: Global programme to demonstrate the viability and removal of barriers that impede adoption and successful implementation of available, non-combustion technologies for destroying persistent organic pollutants (pops)							
Outputs	Outcomes	Rating (D-A)	Intermediate States	Rating (D-A)	Impact	Rating (+)	Overall
1. Establishment of the Project Co-ordination and Support Unit, technology selection process and contracting	1. Non-combustion technology facility constructed and testing is successful (desired)	B	Non-combustion facility is cost-effective and processing PCBs (desired)	-	Reduce human exposure to PCBs and improved environmental health (desired)		B-
2. Effective, specific and documented actions taken to ensure technical and environmental standards	2. Capacity to safely operate the non-combustion facility developed		PCB released into the environment reduced (desired)				
3. Effective, specific and documented actions taken to ensure purchase and installation of the non-combustion unit	3. Private sector are incentivized and willing to pay to use the non-combustion facility						
4. Monitoring and evaluation (M&E) of PCB-containing equipment and wastes destruction of 1,500 tonnes in 2 years of operation, monitoring of compliance with technical and environmental standards as well as active public participation	4. Other donor programs provide their beneficiaries with incentives to use the non-combustion facility						
5. Recruit additional donors to strengthen co-finance participation both from public and private sectors within the Programme, dissemination of results at national and international level	5. Government policy discourages other disposal alternatives for PCBs						
	Justification for rating: Facility was constructed and yet to be commissioned. Meanwhile, the capacities had been established; private sector partners were committed and government policy discourages export and bans incineration		Justification for rating: Facility has not yet demonstrated its cost – effectiveness, due to project delays. Furthermore, the ability of electricity cooperatives to pay for processing remains to be observed		Justification for rating: Assuming the facility can demonstrate cost-effectiveness the rating would change to AA		

Romania: Disposal of PCB wastes in Romania							
Outputs	Outcomes	Rating (D-A)	Intermediate States	Rating (D-A)	Impact	Rating (+)	Overall
1: Project Coordination	1. Capacity to solve the PCB issues at the country level through strengthened institutions and infrastructure	A	PCB released into the environment reduced	A	Reduce human exposure to PCBs and improved environmental health		AA
2: Institutional strengthening and development of an environmentally sound management system of PCBs	2. Developed and functioning ESM system for disposal of PCBs		Private sector involvement in the waste management business established and incentivized				
3. PCB management at the demonstration area and practical implementation of the ESM measures (including PCB inventory)	3. Disposal and storage options identified and established						
4. Countrywide plan of actions for PCB elimination	4. Removal and disposal of PCBs from contaminated sites						
5. Public awareness	5. Public awareness of the dangers of PCBs increased						
	Justification for rating: The project exceeded its PCB destruction targets by over 300%, put in place relevant legislation and catalyzed an emerging private waste management sector to address the problem of PCBs		Justification for rating: Same as previous comment		Justification for rating: Not possible to establish higher human health and environmental impact as the project did not establish a baseline or long-term monitoring system		

3.6. Main Conclusions

183. The quality-at-entry assessment of project design showed that whilst project objectives are coherent, and the analysis of country context is satisfactory, it also highlighted several key areas for improvement: technical justifications for technology selection; sustainability planning; M&E planning; and the incorporation of lessons. The evaluation found that the development of UNIDO POPs portfolio has missed opportunities to learn other UNIDO and GEF projects.
184. Projects are clearly justified in terms of contributing to the higher human and environmental health goals of the Convention but do not attempt to put in place M&E systems that would allow them to track progress towards that goal. However, the difficulties in establishing baselines and tracking levels of POPs in humans are costly and are currently not financed by the GEF.
185. The evaluation shows that POPs programme relevance to UNIDO thematic priorities is largely implicit and lacks acknowledgement and specificity in project design and implementation, particularly with regard to linkages to MDGs beyond environmental sustainability. The programme is well aligned with country priorities, with post-NIP projects being based on country needs defined in the NIPs. It also responds well to the GEF strategies.
186. The relevance of projects at a national or local level is generally focused on governments which have an important role in regulation, controlling and phase-out of POPs. Often stated intentions contained within the project documents to involve the private sector and NGOs are not systematically tracked or reported on during implementation, hence the nature and character of UNIDO's engagement in most projects lack specificity from which emerging lessons can be drawn.
187. With regard to results, UNIDO has assisted over 40 countries in completing their NIPs and this allowed systematic identification of POPs challenges and definition of priorities. However, the extent to which NIPs provided foundational capacities across the countries is unknown because with the exception of China and India the projects' evaluations were not a requirement. In China, the NIP had a transformative outcome in terms of building government capacity, awareness and commitment, which resulted in significant financing to address hazardous waste as part of the 5 year development plan. However, in India, the NIP failed to produce many of the key outputs, in part because the government has not prioritized hazardous waste management and devoted insufficient resources to make the project a success.
188. The sampled projects intended to phase out over 25,000 tons of POPs chemicals and contaminated equipment (PCBs and pesticides), and contribute towards the reduction in U-POPs releases from medical waste, and industrial processes. With the exception of the Romania PCB project,

all sampled post-NIP project are yet to report progress towards their phase-out targets. Hence, there are no substantive tangible results across the portfolio to report in terms of actual phase-out. However, the results from Romania are encouraging.

189. The results of the Romania PCB project indicate that with modest investments UNIDO can, with cooperation from the government and the private sector, phase-out and safely destroy PCBs, and exceed project design targets.
190. UNIDO has been a leader in demonstrating and promoting non-combustion technologies for the phase-out of POPs in partner countries. However, the Philippine Non-Combustion demonstration facility was yet to be made operational at the time of the evaluation. It has also led regional forums to promote BAT / BEP technologies and practices; and contributed to the production of POPs and contaminated site toolkits with UNEP and the Convention which has contributed to the sharing of knowledge and good practice.
191. At present, most of the sampled post-NIP projects are putting in place policies and capacities for enforcement and ESM. Furthermore, many projects have continued the inventory activities started under the NIPs as these require rolling updates. For the GEF, there is a perception that capacity building processes are complete; however, the emerging results of many projects indicate that such activities need to be continued as part of the investment-related projects.
192. The prospects for sustainability of the portfolio depend on establishing the right foundations such as capacities for enforcement, testing, ESM and changes of or in the development of policies. However, the extent to which appropriate actions will be continued ex-post is currently unknown. In many cases, sustainability rests on putting in place private sector incentives to dispose of POPs (PCBs) within the law and adhere to the polluter pays principle.
193. The time taken by UNIDO for project design / preparation has been within the limits imposed by GEF.¹⁶⁶ UNIDO relies on a small group of technical experts and consultants to assist countries in putting together project proposals. Hence, although the projects are based on country priorities, countries do not lead the design process and are not involved in the substantive writing of proposals. Experiences from some of the NIPs seem to indicate problems with responsiveness to in-country challenges from UNIDO. Furthermore, the India NIP showed that when government and other in-country partners are not responsive, project management from Vienna can present challenges from the remote HQ location. The arrangement for the China projects of direct execution by FECO – MEP does seem to be working well and offers an alternative efficient model. This has not been adopted in other countries and opportunities would

166 In GEF-4, the Secretariat set a 22-month time limit for project design (concept to effectiveness).

depend on public financial management standards and to the extent national institutions have capacity to implement.

194. Synergies with other projects have been pursued but on somewhat of an ad-hoc basis with limited reporting on the status and depth of the cooperation. Internal cooperation with the CPU and MPB has not been exploited systematically, with only the BAT / BEP project developing ties to cleaner production.

4.

UNIDO's Capacity to Deliver Results

195. One of the important factors influencing design and implementation is UNIDO's internal SCU capacity. The assessment of capacity encompassed: resources (human and financial) and staffing levels with attention to the ability to manage the current and future portfolio; organizational structure; lesson learning and training opportunities; and finally synergies with other UNIDO units.

196. As already stated (see Chapter 2) UNIDO's POPs programme has undergone rapid growth since 2006 – 2007 with the development of the approximately 27 post-NIP operations with a further 39 operations in the pipeline for GEF-5. Similarly, the SCU has undergone several organizational changes and is now under the EMB (see Chapter 1).

4.1. Resources and Structure

197. The evaluation assessed the extent to which the SCU has appropriate staff resources (numbers; competences / skills) to deliver services and implement the portfolio; the extent to which adequate financial resources have been allocated to the SCU to implement projects and other services; and the adequacy of the current organizational structure. The assessment included an external comparison of human resources of the UNDP and the World Bank, and also internal comparison with the CPU and WMU.

Human Resources

198. The SCU presently has five professional staff and two support staff¹⁶⁷ to manage a portfolio of 38 projects, with approximately 39 additional projects under development for GEF-5. The average number of projects managed by the SCU per professional staff is 7.5 (see Table 10) and with the pipeline included this rises to approximately 15 projects per professional staff member. Moreover, currently, there is not an even distribution of project responsibilities within the SCU, hence, some staff manage significantly more projects than others.

¹⁶⁷ Consisting of 4 male professionals, 1 female professional and 2 female general service staff.

Table 10. Human Ressources vis-à-vis Portfolio Size

	UNIDO SCU	World Bank	UNDP
Projects	38 (39) ¹⁶⁸	15	27
Staff	5 ¹⁶⁹	10 ¹⁷⁰	5 - 6 ¹⁷¹
Ave. of Projects Per Staff	7.5 (15) ¹⁷²	1.5	4.5
Ave. Size of Project in US\$ (millions)	4.48	20.82	4.35

199. In comparison, the World Bank staff on average manages two POPs projects and for UNDP the average is between 1.5 and 4.5. Although in the case of the World Bank senior environmental specialist / task managers are generalists and manage additional non-POPs project operations, hence their project management responsibilities exceed the figure above. UNDP projects are designed and managed by technical specialists who also have other responsibilities.¹⁷³ However, overall, the comparison indicates that UNIDO professional staffs are managing more projects than comparator agencies, and are therefore under greater pressures to design projects and deliver results.

200. It was reported¹⁷⁴ that the growing POPs portfolio was placing increasing demands on the SCU, particularly in relation to managing implementation. This was indicated by: (a) increased supervision and general project management duties, which the SCU management also shared with the support staff, effectively using general service (GS-level) as professional (P-level) staff and also using consultants to conduct project supervisions.¹⁷⁵ This was an innovative use of support staff¹⁷⁶ that offered them on-the-job development opportunities, however it does not substitute professional staff input into project design and implementation management; (b) work pressures resulted in some projects not being monitored adequately, for example, several projects had missed their MTEs¹⁷⁷; (c) others have encountered inadequate supervision¹⁷⁸ which has

¹⁶⁸ 76 projects assuming the hard pipeline (39 projects) is realized in GEF-5.

¹⁶⁹ This figure does not include vacant posts or short-term consultants. 1 post is currently vacant. Consultants are used to assist with project preparation and implementation to cover for staff shortages.

¹⁷⁰ Interview data. This is an approximate figure for the World Bank Group.

¹⁷¹ Interview data. This is an approximate figure for UNDP.

¹⁷² 15 projects per professional staff is the predicted end of GEF-5 scenario assuming no increase in SCU staffing.

¹⁷³ An attempt was made to extract similar data from units within UNIDO however the data from Agresso was too polluted with preparation projects, workshops (also entered as projects) and other miscellaneous entries. Hence, reliable estimates for the number of projects managed per staff member were not available.

¹⁷⁴ Interview data.

¹⁷⁵ In some cases the international consultants are former and / or retired UNIDO staff.

¹⁷⁶ All the GS-Level staff are educated to Bachelors level (one also being a chemistry graduate).

¹⁷⁷ China Pesticides; Global Civil Society; Macedonia PCB; Philippines Non-Combustion; Romania PCB; Vietnam BAT – BEP.

resulted in reduced effectiveness¹⁷⁹ and (d) internal pressures within UNIDO to develop new projects to satisfy country demands and internal incentives (e.g. PAD growth) seem to place greater emphasis on project preparation than implementation and managing for results. However, this is to some extent expected as the portfolio is in a growth stage with consistent demand from countries.

201. Emerging evidence from project evaluation indicates that implementation management and reporting are coming under pressure. For example, the Regional Contaminated Sites MTE revealed poor supervision by UNIDO, inadequate technical inputs and supervisory backstopping by CTA resources, whilst the project slipped further behind in the implementation of its component activities. The Romania PCB evaluation indicated that project monitoring and reporting required 'more regular attention' in future operations despite the success of the project. The India NIP evaluation also detailed weaknesses in UNIDO managerial and supervisory capacities that contributed to the project failing to deliver many of its component activities.

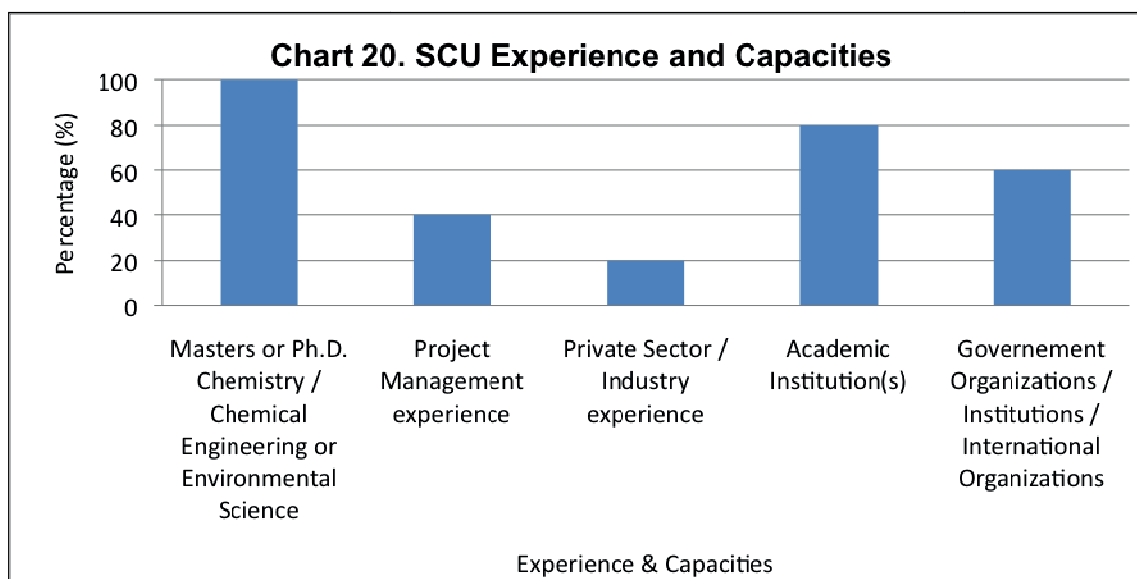
202. SCU professional staff have strong background in chemistry, chemical engineering or environmental sciences¹⁸⁰, which are relevant to the technical nature of POPs issues (see Chart 20). Most of the staff also have relevant previous work experience. This has allowed the SCU to build up a good network. The majority of project 'leads' and 'concepts' were developed by the SCU Unit Chief who hands over projects to other professional staff once they are in the 'hard pipeline': this has become a standard practice and whilst it may represent the most efficient and effective means of developing projects, it is largely dependent on the contacts and relationships built up on an individual basis.¹⁸¹

¹⁷⁸ SCU performs supervision also through regional project coordinators, international and national project managers whose role was reported to be more important in the overall portfolio management than those very few CTAs.

¹⁷⁹ India NIP; Regional Contaminated Sites.

¹⁸⁰ All to Ph.D. level.

¹⁸¹ Interview data.



203. With regard to private sector / industry experience, only one member of the SCU has previous experience through employment in the oil and gas sector.¹⁸² Industry-related POPs phase-out and tackling U-POPs and New-POPs areas will grow in importance (see Chapter 3 on relevance and Chapter 5) and will require a strong interface with the private sector; in the current SCU there are opportunities to further enhance skills in private sector experience and contacts.¹⁸³

204. Lastly, whilst the SCU has some experience in technical and project management experience, it is less than would be expected. It was reported that imbalances in project management experience means that many of the more recent professional staff rely heavily on the SCU management for administrative and technical advice, which is often difficult to source due to burdensome travel schedules.¹⁸⁴

Financial Resources

205. Financial resources for pipeline project development¹⁸⁵ are sourced partly from UNIDO core funds and partly from the GEF, through Project Preparation Grants (PPGs). As a GEF agency, UNIDO has received a ten-percent agency or 'management fee', which covers the costs of implementation management, supervision and monitoring. For GEF-4 POPs projects, the agency fee amounted to approximately US\$10 million¹⁸⁶ which was supplemented by UNIDO core funding of

¹⁸² Although the experience is not recent, the SCU lacks experience and understanding of the private sector, particularly in terms of business development and being able sell or incentivize partnership with UNIDO to address hazardous waste.

¹⁸³ It was reported the UNIDO EMB is in the process of signing a MOU with Holcim.

¹⁸⁴ Three staff members are recent additions to the SCU team, so their reliance of established members of the team should reduce in the medium term.

¹⁸⁵ Expenditures are typically on staff travel and international and national consultants.

¹⁸⁶ From GEF POPs grants of approximately US\$100 million.

approximately US\$4 million across the GEF portfolio.¹⁸⁷ It was not possible to ascertain how such funds were disbursed and used within UNIDO, and how much funding has been directed at POPs project pipeline development and implementation. The GEF-5 UNIDO core-funding budget has been increased to US\$7.2 million, with an expected additional US\$30 million stemming from GEF agency fees (approximately half will come from POPs). In principle, these resources are sufficient to support the development of the POPs portfolio and supervise implementation.

206. Interviews with SCU and other UNIDO staff revealed a range of opinions regarding the adequacy of financing for project development and implementation, with some reporting positively and others negatively. These opinions were repeated in the survey with no clear opinion emerging.¹⁸⁸

Organizational Structure

207. The evaluation assessed the extent to which the current organizational structure of the SCU was effective for implementing the POPs portfolio.

208. Similar to other units of UNIDO, the SCU is based at the HQ in Vienna with no staff deployed in regional or country offices. The centralized structure of UNIDO¹⁸⁹ has some advantages in terms of grouping all the relevant project management functions in one location and promoting teamwork and opportunities for lesson learning within SCU, but can present challenges in terms of being remote from projects. It was reported that the centralized structure makes developing and maintaining relations with governments more difficult; reduces responsiveness and supervision duration and quality. The current project portfolio and the pipeline mean that challenges to a centralized structure are likely to increase, at a time when there is significant international focus on managing and reporting results.

209. UNIDO has decentralized some of its staff to field offices, but technical capacities remain predominantly with professional staff based at the HQ. It was reported that decentralized staff usually do not possess the technical capacity to develop or manage POPs projects.¹⁹⁰ Where field offices are involved, it is primarily for administration and maintaining government relations. UNIDO SCU presently supplements its own limited staff resources with international consultants and national consultants /

¹⁸⁷ Status and Funding Required for GEF Projects 2012 – 2013. Presentation to the UNIDO Executive Board Meeting January 12th 2012 (D. Piskounov).

¹⁸⁸ Of the survey 1 respondents (question 17) 18% ‘completely agreed’ that budgets were sufficient to develop, implement and monitor projects; 31% somewhat agreed and 21% did not agree, with 13% rating it not applicable and 16% with no answer.

¹⁸⁹ Over 70% of the UNIDO professional level staff are based in Vienna.

¹⁹⁰ Of the Survey 1 respondents only 36% completely agreed that field offices had the capacity to design POPs projects. Although 40% completely agreed that they had the capacity to contribute to implementation and supervision.

project managers who are sub-contracted to provide project specific technical inputs and also project management / supervisory backstopping.

210. In the World Bank and UNDP, the organizational structures are different to UNIDO. In the case of UNDP, only two professional staff are based at the New York HQ, and their role is primarily quality control of project designs prior to submission to the GEF, and as a direct interface with the GEF Secretariat. The projects are designed and managed by specialists (4 professional staff) based at UNDP's regional bureaus, with country offices playing a supporting technical and administrative role. For the World Bank, ten environmental specialists are based in Washington DC but supported during implementation by consultants and country office staff. Both the World Bank and UNDP benefit from a substantial country office network which UNIDO, as smaller agency, does not possess.

4.2. Lesson Learning and Training

211. Lesson learning and training are two essential activities required to ensure that UNIDO internal capacities remain relevant, effective, and results orientated.

212. The evaluation found that SCU does not have a formal structure for lesson learning and experience exchange, reporting to the unit, and poorly structured internal information management. Experiences tend to be shared informally among SCU team members on a bilateral basis. This was reported to be inefficient, as the knowledge does not flow evenly within the SCU and there has been a tendency for team members 'to work independently'. Furthermore, because of the size of the present portfolio of 70 projects and pipeline of approximately 44 projects relative to the small number of SCU staff means that much of the time of staff is spent on developing¹⁹¹ projects as per UNIDO organizational incentives (PAD) and supervising projects, and 'there is little opportunity for learning'. Reporting within the unit through mechanisms such as 'back to office reports' and / or internal project filing system was also found to be deficient, with missing reports (e.g., back to office reports).¹⁹² It was reported that SCU staff tended to keep individual filing systems on their projects and this prevented an efficient and effective centralized system coming into operation which would form the basis for knowledge management, lesson learn and managing for results.

213. It was conveyed that meetings with other EMB units and MPB would be beneficial in order to provide opportunities for cross-unit learning, but it has not been possible to put in place an internal structure or forum due to SCU travel and work schedules. In other units, such as the MPB, it was reported that the team has regular formal and informal team meetings at

¹⁹¹ PAD in UNDO rewards project approvals; hence, a lot of time is spent by staff trying to develop projects. Conversely, staff are not rewarded for results and learning.

¹⁹² For example, the project files provided to the evaluation on the sampled projects were found to be incomplete. After several requests information was provided but it still fell short of what would be expected given the supervision and monitoring 'good intentions' stated in project documents.

which available members of the unit gather to exchange information and lessons learned from their projects. Such events not only foster information exchange but opportunities to work together and also share and trouble-shoot current and emerging design and implementation problems.¹⁹³

214. It was reported to the evaluation by several SCU staff that there was little time for training to improve skills or knowledge, whilst others reported that opportunities were available. The primary training technique used was on-the-job training; whilst this is of critical importance, it did not allow team members to learn about a wide range of technical areas, which could help enhance portfolio performance, or familiarize themselves with evaluative evidence. One shortcoming that was highlighted was a lack of language skills within the SCU, which has constrained the development of UNIDO's POPs portfolio in Central and Latin America.¹⁹⁴ Arguably such gaps could have been filled through language training, however recent staff recruitments now seem to address the Spanish language skills gaps.

4.3. Main Conclusions

215. Based on the available data, it can be concluded that there are opportunities to enhance the capacity of the SCU. The present project portfolio and the pipeline indicate that the SCU is under staffed. The SCU current strengths are working with countries to develop project concepts and proposals for GEF approval and to some extent project supervision, whilst the emerging implementation experience indicates that the SCU capacities are being stretched with regard to managing for results.¹⁹⁵

216. UNIDO's centralized structure has advantages in terms of gathering all technical and project management resources together in one place, however with the present portfolio, and predicted growth (coupled with modest staffing), this structure is challenged by the geographies of remote management of projects. The SCU (and senior management) have yet to consider the possibility of decentralization of some professional staff to regional offices. The SCU is beginning to take some steps towards allocating projects to staff based on regional groupings, which would aid any future moves to decentralize. Other agencies such as UNDP and to a lesser degree the World Bank already manage project implementation through their own networks of regional and / or country offices.

217. The opportunities for learning are reported to be limited mostly by the excessive work (and travel) schedule of the SCU related to pressures of project development and implementation.

¹⁹³ SCU reported that plans had been made for joint informal meetings with MPB but these had never been acted on. Hence, exchange of information remained imperfect.

¹⁹⁴ The SCU has now recruited a Spanish speaking expert to develop the portfolio in Latin America as well as managing those projects currently under implementation.

¹⁹⁵ Experiences from India, Ghana and Nigeria where management has fallen short of expectations were affirmed during interviews.

218. Internal synergies are unlikely to be systematically pursued unless there are requisite incentives put in place and clear and consistent management pressure for operational staff to develop joint projects. Hence, although opportunities do exist particularly for the SCU to work within the EMB (with the CPU and WMU) and also with the MPB, the systematic realization of joint project teams is likely to remain somewhat ad-hoc and under developed if the present situation continues.

5.

Future Issues

219. The UNIDO involvement in reducing or eliminating POPs takes place within a dynamic and constantly changing institutional and technological environment. In order to assess UNIDO's preparedness for tapping future opportunities, the main dimensions of change and their possible effects on UNIDO's POPs work need to be taken into account. Four main dimensions are briefly discussed: a) developments in international chemicals management; b) technical developments in the POPs area relating to new-POPs and U-POPs; c) developments within the GEF partnership; and d) developments within UNIDO.

5.1. Developments in International Chemicals Management

5.1.1. Increasing Synergies

220. The Basel, Rotterdam and Stockholm Conventions¹⁹⁶ are multilateral environmental agreements which share the common objective of protecting human health and the environment from hazardous chemicals and wastes, assisting countries to safely manage chemicals at different stages of their life-cycle. The Stockholm Convention is focused on production and use of chemicals, the Rotterdam Convention on their trade and the Basel Convention on the disposal of wastes. Each of the Conventions has its own secretariat and procedures, but there is significant potential for synergies. For example, some of the same chemicals are listed in their respective annexes and the Secretariats undertake technical assistance and capacity building activities at the regional and national levels, often with the same partners. The Conferences of the Parties (COPs) of the three Conventions have decided to enhance cooperation and coordination in order to "improve programme delivery in the coordinated implementation of the three Conventions at the national and regional levels"¹⁹⁷. The respective plans include:

- Increased coordination at the national level;
- The coordinated use of regional offices;
- Harmonization of national reporting;
- Increased cooperation on compliance;

¹⁹⁶ The Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal; The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

¹⁹⁷ UNEP (2009) *The Hazardous Chemicals and Wastes Conventions*. UNEP, Nairobi.

- Cooperation on technical and scientific issues;
- Information management and public awareness; and
- Resource mobilization and coordinated meetings.

221. All three Conventions address the technical assistance needs of developing countries and countries with economies in transition. The Basel Convention (Article 14) and the Stockholm Convention (Article 12) provide for regional centres for training and technology transfer. The Basel Convention has a Technical Cooperation Trust Fund to provide assistance to developing countries, and countries with economies in transition while the Stockholm Convention (Articles 13 & 14) establishes a “financial mechanism”, the principal entity of which is the GEF. The Rotterdam Convention (Article 16) provides for technical assistance between Parties for the development of infrastructure and the capacity to manage chemicals. The Rotterdam Convention also has a voluntary trust fund to provide assistance to countries in line with the program of work adopted by the Conference of the Parties.

222. SAICM is a policy framework to foster the sound management of chemicals. It was developed by a multi-stakeholder Preparatory Committee and supports the achievement of the goal agreed at the 2002 Johannesburg World Summit on Sustainable Development of ensuring that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. Ministers, heads of delegation and representatives of civil society and the private sector assembled at the International Conference on Chemicals Management (ICCM) stated in 2006 that they “will strive to integrate SAICM into the work programmes of all relevant United Nations organizations, specialized agencies, funds and programmes consistent with their mandates as accorded by their respective governing bodies.”

223. While both processes, Conventions’ synergies and SAICM, have not yet led to any significant changes affecting POPs projects, the developments are important in principle as these may lead to demand for different type of assistance. The GEF has already moved to bring together its ‘chemicals strategies’ in GEF-5, alongside mercury, which may have its own convention in the near future. Other global environmental issues that are rapidly coming to prominence include the increase in plastic wastes both in terrestrial and marine environments, which through degradation are now entering animal and human food chains.¹⁹⁸

224. The medium to longer term implication of the synergies at the Convention level within the GEF, and emerging threats such as global plastic waste should be an incentive to UNIDO to address hazardous waste more holistically.¹⁹⁹ In doing so, it is likely to require more joint

¹⁹⁸ GEF-STAP (2011) Marine Debris as a Global Environmental Problem: Introducing a Solution based Framework focused on Plastic. GEF STAP. Washington DC.

<http://www.thegef.org/gef/sites/thegef.org/files/publication/STAP%20MarineDebris%20-%20website.pdf>

¹⁹⁹ For example marine plastic waste issues will require WMU, CPU and SCU to work together within the context of the GEF funding more multi-focal projects cutting across chemicals – international wasters and biodiversity.

strategic, policy and project development within UNIDO and increased cooperation with industry / manufacturing and natural resource sectors to reduce and avoid further waste production as opposed to addressing the symptoms (see Section 5.4).

5.1.2. Trade-offs or Synergies with other Conventions

225. Air pollutants and GHGs are often emitted by the same sources, and, therefore, a single set of technologies or policy measures (an integrated approach) has co-benefits for emission reduction. However, there are situations when energy efficiency improvements may have limited or negative impact on the release of air pollutants (trade-offs)²⁰⁰.
226. The operation of end-of-pipe techniques is in general accompanied by energy consumption and an overall increase of GHG emissions. However, from a total perspective, this drawback of energy consumption is far outweighed by the benefits, in terms of energy efficiency and emission reduction (including GHG) achieved by BAT and BEP. The goals of POPs and GHG emission reduction may come to be seen in the context of an integrated approach to protect the environment as a whole.²⁰¹
227. Potentials for synergies also exist in relation to ODS as well as in avoiding trade-offs (e.g., in relation to the use of Sulphur-hexafluoride (SF6) in switchgear and transformers) as a substitute for PCBs.

5.2. Technical Developments and Challenges: New POPs and U-POPs

228. The most important technical developments are the inclusion of new POPs in the Convention as well as emerging new waste sources like electronic production and waste, flame retardants, foams, furnishings (e.g., PBDE / TBDE / PFOS) and textile production (HBDE / PeCB) and ship waste. With regard to the former UNIDO has been closely involved and as a consequence has been entrusted with updating NIPs in several countries which will place it in a good position to assist countries in identifying priorities, sources and a range of possible investments.
229. The new POPs provide new challenges and opportunities of working across the full product life cycle in many industries, in addition to the current focus on addressing waste, which is relevant to e-waste and ship-waste issues. Again, this emphasizes opportunities for an integrated approach within UNIDO and stronger partnership with industry in

²⁰⁰ GEF-STAP (2009). Benefits and trade-offs between energy conservation and releases of unintentionally produced persistent organic pollutants, A STAP advisory document by S.Böhmer, W.Carroll, E.Fiani, H. Hartenstein, and U.Karl. Global Environment Facility, Washington, D.C.

²⁰¹ UNIDO developed a eco industrial project for Vietnam addressing three thematic areas, International waters, POPs, Chemicals and Climate change. However, the GEF was reported to be having challenges in dealing with multi-focal projects.

developed and developing countries to modify use of materials, production processes and recycling.

230. With regard to technical developments, it should be noted that the elimination of obsolete POPs pesticides and other PCB stocks will be increasingly resolved over the next 10 to 15 years, whereas the effective control of new POPs and U-POPs pose the next 'wave' of challenges. Lastly, research on impacts of chemicals previously thought to be benign is likely to continue to expand the remit of the Conventions.

5.3. Developments within the GEF

5.3.1. Changes in the GEF Partnership

231. Over time, the community of GEF partners has grown to go beyond the agencies and to allow for direct access by countries, subject to certain financial management conditions. This process was taken a step further in 2010 by the GEF's interest in promoting country ownership and drivenness through the accreditation of national institutions as GEF partner agencies.²⁰² Under the GEF-5 pilot, the GEF will be able to accredit up to ten (10) institutions to serve as GEF Project Agencies, with the goal of accrediting at least five national institutions. The Council decided that bilateral development agencies will not be eligible for accreditation but that the Council will consider their participation in the pilot at its first meeting in 2013.
232. For UNIDO, this process might have direct consequences as its POPs portfolio has been focused largely on countries where sufficient capacities for accrediting national agency seem to exist, in particular China and to some extent India.
233. In November 2011, the GEF council decided on a revised section of the minimum fiduciary standards, in order to establish a clearer and more explicit separation of implementation and execution functions²⁰³:

“(i) The preferred practice within the GEF on separation of functions is that the agency that undertakes project execution reports and is responsible to the agency that carries out project implementation, with the latter overseeing the executing entity and having accountability to the GEF Council.”

“(ii) In cases where an agency carries out both implementation and execution of projects, the agency must separate its project implementation and execution duties and establish each of the following: institutional arrangement for the separation of implementation and

²⁰² GEF/C.39/7/Rev.2; Broadening of the GEF Partnership under Paragraph 28 of the Instrument: Key Policy Issues.

²⁰³ GEF/C.41/06/Rev.01; GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies (GEF Council Document).

executing functions in different departments of the agency; project implementation and execution functions”.

234. Before gaining direct access to the GEF, UNIDO was (outside the POPs focal area) acting as executing agency, with either UNDP or UNEP acting as implementing agency. In some ongoing projects, this arrangement still exists. For the POPs focal area, most of the projects have been executed and implemented with UNIDO assuming both functions. However, according to the GEF the two functions are meant to be clearly separated:

“Implementation generally involves project identification, preparation of project concept, appraisal, preparation of detailed project document, project approval and start-up, project supervision, and project completion and evaluation, as further detailed in Council document GEF/C.39/9. Execution generally includes the management and administration of the day-to day activities of projects (from GEF/C.39/9) in accordance with specific project requirements in an agreement with the agency responsible for implementation. Execution implies accountability for intended and appropriate use of funds, procurement and contracting of goods and services.”

235. Currently, the SCU implements and executes projects without such a clear separation. This concerns in particular the separation of project design and supervision (implementing agency) and management & administration (executing agency).

236. Other recent changes to the GEF’s requirements for partner agencies are the policies on environmental social safeguards and on gender mainstreaming²⁰⁴, which were approved by the GEF Council in May 2011. Currently the GEF secretariat is preparing steps to audit its partner agency for compliance with these policies. The objective is to “mitigate any unintended negative impacts to people and the environment that might arise through GEF operations”. The safeguards policy includes criteria on the following seven safeguard standards: (1) Environmental and Social Assessment; (2) Natural Habitats; (3) Involuntary Resettlement; (4) Indigenous Peoples; (5) Pest Management; (6) Physical Cultural Resources; and (7) Safety of Dams.

237. While not all of these standards are relevant for all POPs projects (standards 3 to 7 can be qualified by the auditor as not applicable for certain agencies), standards 1 and 2 are mandatory and standard 5 seems to be of particular relevance for POPs pesticide projects which need to demonstrate that their environmental and social safeguard systems include mechanisms for ensuring enforcement and accountability for the application of their policies.

238. While the new policies will assess compliance at the organisational rather than at the project level (no screening of projects for safeguards by

²⁰⁴ GEF/C.40/10/Rev.1; GEF Policies on Environmental and Social Safeguards and Gender Mainstreaming.

the GEF secretariat is foreseen), agencies will have to demonstrate that they “use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental and social assessment required of the project so that appropriate studies are undertaken proportional to potential risks and to direct, and, as relevant, indirect, cumulative, and associated impacts.” Furthermore, the agencies will be expected to “disclose draft environmental and social assessments in a timely manner, before appraisal formally begins, in a place and accessible to key stakeholders including project affected groups in a form and language understandable to them.”

239. Currently, UNIDO does not have an effective system in place to deal with these standards within the appraisal and approval process of projects. The GEF policy anticipated that agencies that are not currently in compliance could present a time-bound remedial action plans to the Council in its November 2012 meeting.

5.3.2. Funding Trends for POPs Issues

240. The GEF has provided over US\$450 million of funding for Convention implementation since 2001, of which approximately US\$115 million²⁰⁵ has been committed through UNIDO implemented (and executed) projects. However, the POPs management challenges in developing countries and countries with economies in transition significantly outstrip GEF funding. The Convention conducted a detailed funding needs assessment in 2009 and estimated that US\$4.85 billion was required for the period 2010 – 2014, and this is in addition to the unmet needs of US\$3.4 billion for the period 2004 – 2009.²⁰⁶ This assessment did not include the future costs of phase-out of new POPs which are likely to add several US\$ billion in additional unmet needs.

241. The GEF-5 replenishment increased the funding for the chemicals focal area from USD 319 million to USD 420 million with an envelope for POPs of USD 375 million (including EAs). Assuming a similar share of UNIDO in implementing POPs projects (approx. 25%), roughly USD 90 to 100 million of GEF grant funding could be expected for UNIDO from GEF-5. The total amount of SCU pipeline projects²⁰⁷ is USD 175 million vs. an amount of ongoing project budgets of USD 70 million. A rough estimate, using a 3.5 year average implementation period and an increased project portfolio of USD 100 million would lead to approximately USD 30 million to be implemented by the SCU per annum. This is in contrast to delivery figures of USD 12 million in 2011 and USD 13 million in 2010.

242. Besides the issue of GEF funding volumes, the GEF’s changing policies on incrementality and co-finance have a significant bearing on the mobilisation of resources. This has been recently reiterated in a council

²⁰⁵ GEF has committed US\$106 million through UNIDO for support to the Convention.

²⁰⁶ UNEP/POPs/COP/4.27 (2009).

²⁰⁷ UNIDO Infobase as per 12 February 2012.

document for the November 2011 meeting²⁰⁸. The relation of GEF grant co-funding, the co-finance ratio, is not set officially by the GEF. However, in practice the requirements have increased over the years and for POPs projects a 1:4 for ratio is now a requirement for approval of most POPs projects. This has been criticised by GEF agencies including UNIDO, who often find it difficult to mobilise the required co-funding, in particular when working with LDCs (see also Chapter 2). While the GEF in past years demonstrated flexible application, changes to the project monitoring and information system (PMIS) foresee better monitoring and reporting of co-funding in GEF projects. This will require adequate monitoring procedures to be built into POPs projects, including clear commitments of counterparts and co-funders to release the required information. Currently, the SCU does not monitor or report on co-funding once projects are under implementation.

243. Finally, the GEF Secretariat has been pushing for more efficient project management by reducing the corresponding percentage of project funds and by excluding certain types of expenditures (e.g. agency staff travel) as part of the project management cost²⁰⁹. The current maximum percentage of 10% will likely be further reduced, in particular for projects implemented and executed by the same agency. This would affect UNIDO's capacity to properly monitor and administer POPs projects.

5.4. Developments within UNIDO

244. UNIDO has been going through important changes over the past few years. Several of these changes are still ongoing and might have important positive and/or negative consequences on the way SCU works.

245. POPs projects fall within UNIDO's third core programme: environment and energy. The current administration, has been aiming at increasing the synergies among different UNIDO services as illustrated by the goal of "delivering as one UNIDO"²¹⁰. The most relevant service areas with good potential for synergies are all within the same core programme: energy, ODS phase-out and cleaner production. The EMB has established a solid conceptual basis by introducing UNIDO's Green Industry strategy²¹¹. The two main pillars of this strategy are first, the greening of industries, i.e. improving the environmental performance of existing and newly founded enterprises and second, the creation of industries that provide environmental goods and services. While this widened concept in principle accommodates UNIDO services within the energy efficiency area, the current ways in which UNIDO does business has presented little incentives for cooperation among units and branches (see Chapter 3 and 4). However, changes discussed in above (see 5.1) are likely to provide a

²⁰⁸ GEF/C.41/Inf.04; Guidelines for project financing; October 2011 (GEF Council Document).

²⁰⁹ GEF/C.39/9; Rules and Guidelines for Agency Fees and Project Management Costs; November 2010, (Council Document).

²¹⁰ See UNIDO Mission Statement: <http://www.unido.org/index.php?id=7851>

²¹¹ IDB.39/13; UNIDO Programme and Budget 2012 2013, page 58.

further incentive for internal cooperation. Other internal issues are discussed below:

246. Firstly, de-centralisation of project implementation has been high on the management's agenda. In some cases, projects have been transferred to UNIDO staff at field offices. While this presents opportunity for increased efficiency and effectiveness, the downside could be reduced potential for cooperation with other branches or increased incentives to use the network of National Cleaner Production Centres (NCPs). However, this should be seen in context of the above-mentioned changes in the GEF that call for a clearer separation of executing and implementing functions.
247. Secondly, the ongoing business process reengineering, which is accompanied by the introduction of a new enterprise resource planning (ERP) system and software package, will allow for more efficiency and greater transparency of the technical cooperation activities in UNIDO. It can be expected that this system will positively contribute to efficiency, cooperation and synergies.
248. Thirdly, one of the most important management priorities during the past few years was the drive to increase technical cooperation activities in terms of funding volumes. Given the relatively good funding situation and country demand for POPs projects, it is likely that the portfolio will continue to grow fast. This implies a risk that the Organisation's response in adjusting human resources might be too slow, causing inefficiencies and delays in project delivery, as already discussed in Chapter 4.

5.5. Main Conclusions

249. The evolving international field of chemicals management and also the increasing realization of the threat posed to the global environment by plastics is likely lead to more integrated approaches in projects addressing hazardous waste. Furthermore, the classification of the new-POPs opens up challenges and opportunities for UNIDO to engage more strongly with industry on chemical and product life-cycle management, efficient production, recycling, reuse and disposal / destruction. UNIDO has the experience within EMB and MPB, as well as other units but internal incentives for cooperation are not yet fully developed.
250. UNIDO's GEF-5 'hard' pipeline is significant with nearly 40 projects and as already discussed this is likely to create pressures on implementation management. Presently, internal incentives within UNIDO encourage project development but place less emphasis on the need to manage for results.
251. Other developments within the GEF such as stronger emphasis on co-financing (and ratios) for supporting baseline activities and its monitoring will place further pressure on UNIDO particularly during project preparation.

252. The new GEF safeguard requirements are likely to improve project preparation, but also add complexity and increase the workload at the front of the project cycle. UNIDO currently does not have sufficient internal capacity (staff / methods, etc.) to address safeguards.
253. The separation of implementing / executing agency functions presents UNIDO with a challenge as it currently acts in both capacities in most POPs projects with the exception of China. Where country capacities and financial management arrangements are sufficient, opportunities will exist to adapt the model already being used in China and in others maintain its dual role albeit with reduced resources for management. Opportunities also exist for the involvement of NCPCs.
254. Finally, internal changes within UNIDO to promote decentralization and internal cooperation and synergies ('delivering as one') are broadly in-line with the external trends towards synergies in chemical and hazardous waste management.

6.

Conclusions and Recommendations

255. This chapter presents the main conclusions and recommendations from the thematic evaluation of UNIDO's POPs portfolio. The evaluation found that UNIDO played a critical role in assisting countries in completing their NIPs - putting in place foundational government capacities, completing initial inventories and raising awareness of hazardous chemicals issues among policy-makers. UNIDO has built on NIPs to develop over 30 post-NIP demonstration and investment projects. These projects have been based on country priorities as outlined in the NIPs.

256. UNIDO has also played, and continues to play, a key role in transferring non-combustion technologies to developing countries to enable them to treat and safely destroy POPs. Only three post-NIP projects have been completed and it is not possible to draw definitive conclusions on the results of the portfolio, although the results of the Romania PCB project – the first of its kind to be completed exceed expectations. Emerging and potential for results indicate that UNIDO's portfolio is generally doing the right things – it is addressing policy and capacity building, and has combined these with investments in technologies (mostly non-combustion / BAT and BEP) to phase-out POPs.

257. UNIDO has played an important role at a regional and global level in sharing the latest techniques and knowledge on BAT / BEP, toolkits for identification of POPs (with UNEP and the Convention), and also a toolkit for identification and management of contaminated sites.

258. The portfolio's rapid development has led to some 'growing pains' in terms of weaknesses in project design, particularly with regard to M&E planning, lesson learning; sustainability planning; internal and external cooperation and synergies; and capacity constraints within the SCU which if not addressed could threaten the ability of UNIDO to deliver results across the portfolio. The evaluation team has prepared a set of recommendations designed to remedy the identified shortcomings.

259. The conclusions and recommendations presented below reflect the evidence presented in the main text and build on the summaries at the end of Chapters 2 through 5, and relate to:

- Quality at entry
- Relevance
- Results and sustainability
- Efficiency

- UNIDO capacity
- Future issues

260. **Quality at Entry:** Conclusions and recommendations are provided in Table 11.

Table 11. Quality at Entry (Project Design) Conclusions and Recommendations

	Quality at Entry (Project Design)
Conclusion 1	Recommendation 1
<p>Project designs are coherent and rooted in an appreciation of country context but they also exhibited weaknesses in M&E planning, sustainability planning, synergies with other projects and incorporation of lessons from other UNIDO operations.</p>	<p>UNIDO SCU should address the current weaknesses in design through more thorough project preparation and ex-ante quality assessment. The UNIDO Appraisal Group should focus future project assessments on M&E, sustainability as well as encouraging internal lesson learning to inform project design.</p>
Contributing Conclusions	Supportive Recommendations
<p>Technological assessments included in post-NIP project designs provided sufficient understanding and evidence of the efficacy of the technology, although detailed financial and economic comparative assessments vis-à-vis alternatives lacked detail.</p> <p>Projects' designs were weak with regard to assessment of socio-economic and health benefits and potential negative impacts. However, the introduction of safeguards (as per GEF requirements) is likely to result in improvements in the ex-ante assessment of socio-economic and environmental health issues in future POPs projects.</p> <p>So far, the POPs portfolio has not systematically drawn on lessons from GEF and non-GEF UNIDO project experiences and evaluations.</p> <p>The quality of M&E plans in post-NIP projects was mixed. Whilst some projects had outcome-orientated LFAs and sufficient budgeting for M&E, others were deficient. Projects did not establish appropriate baselines against which to measure implementation progress.</p> <p>Sustainability planning in many of the post-NIP projects was found to lack a context-driven approach, with the same generic set of sustainability 'statements' produced for different</p>	<p>UNIDO SCU should seek to improve technical, financial and economic justifications for technology selection, particularly in larger projects.</p> <p>UNIDO SCU should consider forming partnerships with other agencies, such as the World Health Organization²¹² or International NGOs to address weaknesses in socio-economic and health baselines and M&E in projects.</p> <p>Lessons from other UNIDO projects, particularly in the areas of cleaner production and Montreal Protocol need to be drawn on by SCU in the design of POPs projects, especially for U-POPs and synergies for destruction technologies.</p> <p>UNIDO SCU should ensure projects are outcome and impact orientated and Logical Frameworks are used for M&E. M&E plans should be closely adhered to so that opportunities to provide feedback are not overlooked. Mid-term evaluations should be mandatory and not 'forgotten' or 'skipped'.</p> <p>Sustainability planning, including understanding of threats and risks should become more realistic. Thus, it should take country context as</p>

²¹² For example, the WHO has a long record of working with medical research institutions and universities around the world – it has carried out a global breast milk study to assess bioaccumulation of POPs in humans.

projects.	<p>the starting point and carefully assess counterparts' capacity (human and financial).</p> <p>UNIDO should take steps to put in place safeguard systems and guidelines (for projects) and also source appropriate experts to ensure environmental and social sustainability due diligence is conducted not only in POPs projects, but also across its GEF portfolio</p>
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261. **Relevance:** Conclusions and recommendations are provided in Table 12 below:

Table 12. Relevance Conclusions and Recommendations

	Relevance
Conclusion 2	Recommendation 2
<p>The POPs programme relevance and alignment with UNIDO and GEF strategies and country priorities is strong, primarily with a focus on PCB phase-out and to a lesser extent U-POPs through BAT / BEP, primarily in the countries which have the most significant challenges.</p>	<p>UNIDO SCU should continue to focus on PCB phase-out in the short to medium term; however, it should also pro-actively develop the U-POPs portfolio through joint POPs – Cleaner Production interventions where possible and with the requisite involvement of National Cleaner Production Centres and the private sector.</p>
Contributing Conclusions	Supportive Recommendations
<p>UNIDO's portfolio has focused on China and India, as they are countries with globally significant POPs challenges that encompass PCB – pesticides and U-POPs, but has not been able to follow up NIPs with investment projects in most LDCs. Difficulties to meet rigid co-funding requirements of the GEF are a contributing to this pattern.</p> <p>UNIDO's portfolio has been well aligned to country priorities as outlined in the NIP, but broader relevance to poverty reduction, power or health sector policies was not articulated or pursued.</p> <p>UNIDO has strongly involved government in project design and implementation to address POPs phase-out, however, the opportunities for partnership with the private sector have not been maximized or well-reported.</p> <p>Civil society involvement, which could enhance project awareness-raising, research and community involvement in managing contaminated sites, has been largely ignored. Furthermore, UNIDO has not recognized the potential for synergies with the GEF Small Grants Programme (SGP) to encourage partnership between government and civil society.</p>	<p>Whilst continuing to focus on countries with significant tonnages of POPs to phase-out and / or industries with large U-POP emissions, UNIDO should seek to cooperate with the GEF to find specific solutions to better address the needs of LDCs.</p> <p>The GEF might consider a more flexible approach to co-financing, in particular in relation to the existing financial capacities in countries and to the type of projects (low requirements for capacity building, high requirements for investment and vice-versa).</p> <p>UNIDO SCU needs to be more assiduous in developing relevant partnerships with the private sector and also tracking and documenting relationships, achievements and failures so that lessons can be learnt.</p> <p>UNIDO SCU should encourage projects to link with GEF SGP POPs operations, where appropriate, so as to utilize civil society's important role in awareness-raising and environmental health research among the general public and communities living in close proximity to contaminated sites.</p>

262. **Results and Sustainability:** Conclusions and recommendations are provided in Table 13.

Table 13. Results and Sustainability Conclusions and Recommendations

	Results and Sustainability
Conclusion 3	Recommendation 3
In the first decade of POPs operations, UNIDO has been instrumental in assisting countries to meet their obligations to the Convention and in transferring non-combustion destruction technology to developing countries. Ongoing implementation experience indicates that UNIDO is assisting countries to put in place policies and capacities for enforcement and environmental sound management (ESM) of chemicals.	As UNIDO SCU moves further into post-NIP portfolio development, it will be important to continue the emphasis on building country capacities to enforce policies within the context of investment projects. It should also work to forge partnerships with the private sector to phase-out POPs and / or to modify product life cycles (production, recycling and disposal) to reduce U-POPs and address New-POPs.
Contributing Conclusions	Supportive Recommendations
<p>Aggregate UNIDO targets for PCB and pesticide phase-out indicate that there are opportunities to make significant contributions towards the achievement of the GEF-5 POPs targets. However, at present the portfolio is too immature to make definitive judgments regarding the likelihood of UNIDO achieving consistent results across the portfolio.</p> <p>Emerging implementation experience and evaluations indicate that capacity, inventory and awareness challenges are likely to require continuous investment over the next decade.</p> <p>The responsibility for ESM and disposal of PCBs and obsolete pesticides stocks reside primarily with government or public utilities in many countries and UNIDO has yet to assist in putting in place incentives for the private sector to participate and adhere to the principle of 'the polluter pays'.</p>	<p>It is important that the GEF should take a medium to long-term view on funding for capacity building (enforcement, inventory and ESM) rather than assuming that challenges are resolved through one or two projects.</p> <p>UNIDO will need to do more to build partnerships with private sector stakeholders to take a larger role in future POPs projects, in the area of waste management and treatment and avoidance of emissions (U-POPs).</p>

263. **Efficiency:** Conclusions and recommendations are presented in Table 14

Table 14. Efficiency Conclusions and Recommendations

	Efficiency
Conclusion 4	Recommendation 4
POPs projects have been efficiently designed; however, emerging implementation experience indicates that projects have faced considerable delays often due to procurement and contracting	UNIDO SCU should consider expanding the national procurement and contracting modality used in China to other countries that have appropriate capacity to improve implementation efficiency, and therefore also provide opportunities to meet the new GEF

<p>issues.</p>	<p>regulations on the separation of implementing and executing agency functions.</p> <p>Other opportunities could be explored to use National Cleaner Production Centres in countries where their project management capacity is established.</p>
<p>Contributing Conclusions</p>	<p>Supportive Recommendations</p>
<p>Meeting GEF co-financing ratio requirements has become a major design challenge for UNIDO and has prevented the development of projects in LDCs, and encouraged the concentration of the portfolio in larger countries which can provide co-finance.</p> <p>Synergies with other projects have been pursued on somewhat of an ad-hoc basis with limited reporting on status and depth of operational cooperation. Internal synergies with CPU, WMU and MPB have yet to be widely developed across the portfolio.</p> <p>In China, UNIDO has delegated project execution to FECO – MEP. In relation to the GEF’s policy on separating implementing and executing functions, this corresponds to focusing on the implementing function. In China this modality is working efficiently and is results orientated. However, this modality has not been replicated in other countries where UNIDO retains the dual-role of implementing – executing agency.</p>	<p>UNIDO SCU should design a strategy, to move – in the medium term – towards the implementing function of the GEF project cycle (i.e., focusing its work on project development and supervision).</p> <p>UNIDO should work pro-actively to build capacities in partner countries with a view to delegating execution functions to capable partners. The requirements of the GEF for accreditation of partner agencies should guide this process.</p> <p>UNIDO SCU should take action to develop internal and where possible external synergies with other projects. However, the first priority should be to enhance cooperation and exploit synergies within the EMB with CPU on U-POPs and New-POPs, and second, with the MPB on joint ODS – POPs destruction projects.</p>

264. **UNIDO Capacity:** Conclusions and recommendations are presented in Table 15

Table 15. UNIDO Capacity Conclusions and Recommendations

	UNIDO Capacity
Conclusion 5	Recommendation 5
<p>The SCU does not have enough human resources to manage implementation and maintain a strong and consistent focus on results, taking into account the present portfolio and the ‘hard pipeline’.</p>	<p>UNIDO should take steps to address resource constraints within the SCU, either through re-organization within the EMB or recruitment of additional staff to achieve a better balance between portfolio size and staff resources for management of projects. In the medium-term, UNIDO should look to implement recommendation 4 to confine the SCU role to design, supervision and monitoring / managing for results.</p>

Contributing Conclusions	Supportive Recommendations
<p>UNIDO's current centralized structure is challenged by the wide geographical span of remote management of the POPs portfolio. UNDP and to a lesser degree the World Bank already manage project implementation through their own networks of regional and / or country offices.</p> <p>There is an above average project volume to be implemented by SCU staff, which is not matched by current internal capacity and has the potential to reduce effectiveness and managing for results.</p> <p>The opportunities for internal learning are limited mostly by lack of incentives and the excessive work (and travel) schedule of the SCU related to pressures of project development and implementation.</p> <p>The SCU currently lacks strength and depth in terms of private sector / industry experience which constrains its ability to build partnerships and make the business case for POPs phase-out and prevention of releases.</p>	<p>UNIDO has begun a process of decentralization, which brings the organization closer to its country partners and industry clients. Therefore, once SCU human resources are increased, it should consider decentralizing some professional staff of the SCU to serve in the regions (Regional Offices) and then closely monitor the impacts on project efficiency and effectiveness of the new arrangements.</p> <p>UNIDO SCU should put in place a structured system within the office for knowledge management and lesson learning to foster a culture of continuous improvement.</p> <p>UNIDO SCU should aim at establishing a more balanced distribution of projects within the unit. Moreover, there should be more emphasis placed on SCU management functions.</p> <p>UNIDO should consider recruiting SCU staff with strong private sector experience. This will become increasingly important as the U-POPs and New-POPs portfolio develops and matures.</p>

265. **Future Issues:** Conclusions and recommendations are presented in Table 16 below

Table 16. Future Issues Conclusions and Recommendations

	Future Issues
Conclusion 6	Recommendation 6
<p>There is a trend within international chemicals Conventions toward strategic and operational synergies which are likely to result in more integrated approaches to addressing increasing global waste and pollution threats to environmental and human health.</p>	<p>UNIDO needs to monitor synergies between the chemicals Conventions and also the wider issues of hazardous substances (Mercury) and waste (global plastic waste issues) so that it is well positioned to respond strategically and operationally.</p>
Contributing Conclusions	Supportive Recommendations
<p>U-POPs and the addition of nine New-POPs is likely to provide an external push towards increased internal cooperation within UNIDO EMB and MPB.</p> <p>GEF has placed a stronger emphasis on co-financing for supporting baseline activities and monitoring which will place further pressure on UNIDO during project design.</p>	<p>U-POPs and New-POPs should be addressed, where appropriate, through an integrated approach combining SCU and Cleaner Production experience and skills.</p> <p>Where possible, UNIDO should try to further develop a strategic and operational holistic approach to hazardous waste management as it relates to industry and manufacturing in developing countries and countries with economies in transition.</p> <p>UNIDO should develop a suitable monitoring mechanism for co-financing. This mechanism could be part of existing reporting format and schedules and allow for co-finance partners to report on their financial or in-kind commitments.</p>

Annex A: List of Chemicals under the Stockholm Convention

10.5	Type / Details
Aldrin (A)	Pesticide – that was widely used until the 1970s, when it was banned in most countries. It is a colourless solid. Before the ban, it was heavily used as a pesticide to treat seed and soil against termites, grasshoppers and rootworm <i>inter alia</i> . Humans are mostly exposed to aldrin through dairy products and animal meats.
Chlordane (A)	Pesticide – that was used until the late 1980s when it was banned in most countries. It is an emulsified liquid or a dust. Before the ban it was used on corn and citrus crops as a pesticide, as well as a method of termite control. It is believed that human exposure occurs mainly through the air
DDT (A)	Pesticide – DDT was widely used during World War II to protect soldiers and civilians from malaria and other diseases spread by insects. DDT continued to be used to control disease, and it was sprayed on a variety of crops, especially cotton. It was used in developed countries until the mid-1970s, and continues to be used in some developing countries to control malaria.
Dieldrin (A)	Pesticide – Originally developed in the 1940s as an alternative to DDT to control termites and textile pests, dieldrin proved to be a highly effective insecticide and was very widely used during the 1950s to early 1970s. Food represents the primary source of exposure to the general population
Endrin (A)	Pesticide – Developed in the 1950s and used widely until the mid-1970s on the leaves of crops such as cotton and grains. It is also used to control rodents such as mice and voles in orchards. The primary route of exposure for the general human population is through food
Heptachlor (A)	Pesticide – Developed in the 1950s and used until the early 1970s to kill soil insects and termites, heptachlor has also been used more widely to kill cotton insects, grasshoppers, other crop pests, and malaria-carrying mosquitoes. Food is the major source of exposure for humans
HCB (A)	Pesticide (fungicide) – Developed in the 1940s and used until the mid-1960s to treat seed fungi that affect food crops. It was widely used to control wheat bunt. Food is the most prevalent source of exposure for humans
Mirex (A)	Pesticide – In use from the 1950s until the mid-1970s mainly to control fire ants and termites. The main route of exposure for human is through meat, fish and wild game.
Toxaphene (A)	Pesticide – that was used from the 1960s until it was banned in the mid-1980s to treat cereal grains, fruits and vegetables and mange in cattle. The main exposure route is through food.
PCBs (A)	Coolants / Heat exchangers – Developed and used from the early 20 th century until being banned in most countries in the mid-1970s. Used in industry as heat exchange fluids, in electric transformers and capacitors, and as additives in paint, carbonless copy paper, and plastics. Of the 209 different types of PCBs, 13 exhibit a dioxin-like toxicity. Food (particularly from animals) is the major source of exposure for humans.
Dioxins (PCDDs) (C)	These chemicals are produced unintentionally due to incomplete combustion, as well during the manufacture of pesticides and other chlorinated substances. They are emitted mostly from the burning of hospital waste, municipal waste, and hazardous waste, and also from automobile emissions, peat, coal, and wood. There are 75 different dioxins, of which seven are considered to be of concern. Food (particularly meat products) are the major source for humans

Furans (PCDFs) (C)	These compounds are produced unintentionally from many of the same processes that produce dioxins, and also during the production of PCBs. They have been detected in emissions from waste incinerators and automobiles. Furans are structurally similar to dioxins and share many of their toxic effects. There are 135 different types, and their toxicity varies. Food, particularly meat are a major source of exposure for humans.
New Chemicals	Type / Details
Alpha-HCH (A)	By-product – Although the intentional use of alpha-HCH as an insecticide was phased out years ago, this chemical is still produced as unintentional by-product of lindane. For each ton of lindane produced, around 6-10 tons of the other isomers including alpha- and beta-HCH are created. Large stockpiles of alpha- and beta-HCH are therefore present in the environment.
Beta-HCH (A)	By product – Although the intentional use of beta-HCH as an insecticide was phased out years ago, this chemical is still produced as unintentional by-product of lindane. For each ton of lindane produced, around 6-10 tons of the other isomers including alpha- and beta-HCH are created. Large stockpiles of alpha- and beta-HCH are therefore present in the environment.
Chlordecone (Kepone) (A)	Pesticide – Developed in the mid-1950s and used until the mid-1970s to control cockroaches. The main exposure route is through food.
Endosulfan (A)	Pesticide – endosulfan is an insecticide that has been used since the 1950s to control crop pests, tsetse flies and ectoparasites of cattle and as a wood preservative. As a broad-spectrum insecticide, endosulfan is currently used to control a wide range of pests on a variety of crops including coffee, cotton, rice, sorghum and soy.
HBB (A)	Fire retardant – industrial chemical that has been used as a flame retardant, mainly in the 1970s. According to available information, hexabromobiphenyl is no longer produced or used in most countries. But may be present in old products and new / old stocks in developing country parties
Hexa-BDE / Hepta-BDE (A)	Used in a wide-array of products – industrial chemical that has been used in furnishings, building materials and transportation. Commercial mixture of octaBDE is highly persistent, has a high potential for bioaccumulation and food-web biomagnification, as well as for long-range transport. Many commercial and household articles contain these chemicals
Lindane (A)	Pesticide / pharmaceutical – used as an agricultural pesticide and as a treatment for lice and scabies. Produced since the 1950s until it was banned in most countries in 2006 – 07. Lindane is persistent, bioaccumulates and bioconcentrates rapidly. There is evidence for long-range transport and toxic effects in animals and aquatic organisms.
PeCB (A & C)	Used in a wide-array of products / produced unintentionally – PeCB was used in PCB products, in dyestuff carriers, as a fungicide, a flame retardant and as a chemical intermediate e.g. previously for the production of quintozene. PeCB might still be used as an intermediate and is also produced as a U-POP
PFOS / PFOS-F (B)	PFOS is both intentionally produced and an unintended degradation product of related anthropogenic chemicals. The current intentional use of PFOS is widespread and includes: electric and electronic parts, fire fighting foam, photo imaging, hydraulic fluids and textiles. PFOS is still produced in several countries.
Treta-BDE / Penta-BDE (A)	Fire retardants – most commonly used as a flame retardant in flexible foam; it was also used in printed circuit boards in Asia, and in other applications. Commercial mixture of pentaBDE is highly persistent in the environment and bioaccumulative. These chemicals have been detected in humans in all regions and are still present in many household and commercial products

Annex B: List of UNIDO Persistent Organic Pollutant Projects

Project No.	Project Title	Country	Region	NIP/post NIP/ Regional/ Global	GEF Type	Chemical / Activity	National/ Regional/ Global	Total Finance (in US\$)	Start Date	Completion	Status	1 Strengthen Capacity / 2 Investments/ 3 Demo
GFALG02001	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Algeria	Algeria	Africa- Arab	NIP	EA	Capacity building	National	494,000	02/11/2002	06/30/2007	C	1
GFANG08004	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Angola	Angola	Africa	NIP	EA	Capacity building	National	471,600	04/11/2008	12/31/2010	O	1
GFARM02002	Enabling activities to facilitate early action on the implementation of the Stockholm convention of persistent organic pollutants (pops) in Armenia	Armenia	Europe	NIP	EA	Capacity building	National	467,412	02/06/2002	12/12/2006	G	1
GFARM08002	Technical assistance for environmentally sustainable management of PCBs and other pops waste in the republic of Armenia	Armenia	Europe	Post- NIP	MS	PCBs Disposal	National	805,000	11/28/2008	02/28/2011	O	1
GFAZE04001	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Azerbaijan	Azerbaijan	Europe	NIP	EA	Capacity building	National	493,000	10/11/2004	05/31/2008	C	1

GFAZE10001	Environmentally sound management and disposal of PCBs in Azerbaijan	Azerbaijan	Europe	Post-NIP	FS	PCB Disposal	National	2,120,000	05/20/2010	03/31/2014	O	
GFBOL02012	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in the republic of Bolivia	Bolivia	The Americas	NIP	EA	Capacity building	National	479,308	07/05/2002	12/31/2006	G	1
GFBOT03011	Enabling activities to facilitate early on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Botswana	Botswana	Africa	NIP	EA	Capacity building	National	456,000	10/28/2003	05/31/2010	O	1
GFBDI03001	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Burundi	Burundi	Africa	NIP	EA	Capacity building	National	400,724	02/19/2003	10/31/2007	G	1
GFCAF02013	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Central African Republic	Central African Republic	Africa	NIP	EA	Capacity building	National	479,000	06/19/2002	06/30/2007	C	1
GFCHD02021	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Chad	Chad	Africa	NIP	EA	Capacity building	National	491,966	10/22/2002	12/31/2007	G	1
TFCPR03006	Strategies to reduce unintentional production pops	China	Asia and Pacific	Post-NIP	MS	Dioxin / Furans	National	950,056	09/02/2004	06/30/2009	O	1
GFPCR04002	Building the capacity of the Peoples Republic of China to implement the Stockholm convention on pops and develop a national implementation plan	China	Asia and Pacific	NIP	EA	Capacity building	National	4,056,500	10/11/2004	06/30/2009	C	1
GFPCR07008	Environmentally sustainable management of medical waste	China	Asia and Pacific	Post-NIP	FS	Dioxin / Furans	National	11,650,000	11/20/2007	12/31/2012	O	2,3

GFERI07001	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Eritrea	Eritrea	Africa	NIP	EA	Capacity building	National	346,500	03/15/2007	10/31/2010	O	1
GFETH02023	Enabling activities to facilitate early action on the implementation of the Stockholm convention on POPs in Ethiopia	Ethiopia	Africa	NIP	EA	Capacity building	National	496,000	10/22/2002	12/31/2006	C	1
GFGAB03003	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Gabon	Gabon	Africa	NIP	EA	Capacity building	National	421,464	03/10/2003	06/30/2008	G	1
GFGHA02003	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Ghana	Ghana	Africa	NIP	EA	Capacity building	National	494,107	02/04/2002	12/31/2007	G	1
GFGLO11013	Development of the guidelines for updating of national implementation plans (nips) under the Stockholm convention taking into account the new pops added to the convention	Global	Global	Global	MS	Capacity building	Global	719,000	04/19/2011	04/30/2013	O	1
GFGLO02026	Demonstration of viability and removal of barriers that impede adoption and effective implementation of available, non-combustion technologies for destroying persistent organic pollutants (pops)	Global	Global	Global	MS	PCBs / Pesticides Non-com	Global	441,450	10/22/2002	12/31/2007	G	3
GPGLO03012	Fostering active and effective civil society participation in preparations for implementation of Stockholm convention	Global	Global	Global	MS	Capacity building	Global	972,768	03/12/2004	06/30/2007	G	

GFPHI07001	Global programme to demonstrate the viability and removal of barriers that impede adoption and successful implementation of available, non-combustion technologies for destroying persistent organic pollutants (pops)	Global, Philippines	Global	Global	FS	PCBs disposal / Non-com	Global	4,108,500	12/21/2007	12/31/2011	O	3
EGGLO03G31	Global programme to demonstrate the viability and removal of barriers that impede adoption and successful implementation of available non-combustion technologies for destroying persistent organic pollutants (pops) Slovakia	Global, Slovakia	Global	Global	FS	PCB disposal / Non-com	Global	10,004,040	03/14/2006	12/31/2011	-	3
GFGUA02015	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in the republic of Guatemala	Guatemala	The Americas	NIP	EA	Capacity building	National	495,200	07/05/2002	12/31/2010	O	1
GFHUN01005	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Hungary	Hungary	Europe	NIP	EA	Capacity building	National	489,000	11/30/2001	06/30/2007	C	1
GFIND07004	Development of a national implementation plan (nip) in India as a first step to implement the Stockholm convention on persistent organic pollutants (pops)	India	Asia and Pacific	NIP	EA	Capacity building	National	3,074,700	11/06/2007	12/31/2010	O	1
GFIND10001	Environmentally sound management and final disposal of PCBs in India	India	Asia and Pacific	Post-NIP	FS	PCBs Disposal	National	14,100,000	01/18/2010	12/31/2014	O	1, 2

GFINS02008	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Indonesia	Indonesia	Asia and Pacific	NIP	EA	Capacity building	National	497,975	02/11/2002	06/30/2007	G	1
GFLAO02016	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Lao peoples democratic republic	Laos	Asia and Pacific	NIP	EA	Capacity building	National	497,850	06/20/2002	09/30/2007	C	1
GFLES02017	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Lesotho	Lesotho	Africa	NIP	EA	Capacity building	National	488,950	06/20/2002	06/30/2006	C	1
GFLIR03010	Enabling activities to facilitate early action on implementation of the Stockholm convention on persistent organic pollutants (pops) in Liberia	Liberia	Africa	NIP	EA	Capacity building	National	361,820	10/28/2003	06/30/2008	G	1
GFMCD02009	Enabling activities to facilitate early action on the implementation of the Stockholm convention of persistent organic pollutants (pops) in Macedonia	Macedonia	Europe	NIP	EA	Capacity building	National	490,897	02/06/2002	12/31/2006	G	1
GFMCD08002	Phasing out of PCBs and PCB-containing equipment in Macedonia	Macedonia	Europe	Post-NIP	MS	PCBs Disposal	National	957,000	09/23/2008	12/31/2010	O	1, 3
GFMLW03004	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Malawi	Malawi	Africa	NIP	EA	Capacity building	National	496,500	02/19/2003	12/31/2009	O	1
GFMON02024	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Mongolia	Mongolia	Asia and Pacific	NIP	EA	Capacity building	National	492,000	10/22/2002	06/30/2007	C	1

GFMON09001	Capacity building for environmentally sound PCBs management and disposal in Mongolia	Mongolia	Asia and Pacific	Post-NIP	FS	PCBs Disposal	National	2,650,000	06/17/2009	07/31/2013	O	1, 3
GFMR09002	Safe PCB management programme in morocco, pillar ii	Morocco	Africa-Arab	Post-NIP	FS	PCBs Disposal	National	2,437,600	09/22/2009	08/31/2012	O	1, 2
GFNEP02018	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Nepal	Nepal	Asia and Pacific	NIP	EA	Capacity building	National	469,500	06/20/2002	03/31/2008	C	1
GFNEP10001	Environmentally sound management and disposal of pop's pesticides and PCB's	Nepal	Asia and Pacific	Post-NIP	MS	PCB / Pesticide disposal	National	880,000	01/18/2011	12/31/2013		1
GFNER02019	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Niger	Niger	Africa	NIP	EA	Capacity building	National	475,000	06/20/2002	12/31/2007	C	1
GFNIR02004	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Nigeria	Nigeria	Africa	NIP	EA	Capacity building	National	498,000	02/04/2002	12/31/2007	C	1
GFPER10001	Environmentally sound management and disposal of PCBs	Peru	The Americas	Post-NIP	FS	PCB disposal	National	2,448,850	10/14/2010	07/31/2014	O	1
GFPOLO1004	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops convention) in Poland	Poland	Europe	NIP	EA	Capacity building	National	496,954	11/30/2001	12/31/2004	G	1
GFGRAS10003	Demonstration of bat and bep in fossil fuel-fire utility and industrial boilers in response to the Stockholm convention on pops	Regional	Asia and Pacific	Post-NIP	FS	BAT/BEP - Regional	Regional	4,000,000	05/20/2010	04/30/2014	O	3

GFRAF07024	Regional project to develop appropriate strategies for identifying sites contaminated by chemicals listed in annexes a, b and/or c of the Stockholm convention	Regional, Ghana, Nigeria	Africa	Regional	FS	Capacity building / PCB – Pesticide mangt	Regional	2,000,000	01/03/2008	06/30/2011	O	1
GFRAF11012	Capacity strengthening and technical assistance for the implementation of Stockholm convention national implementation plan (nips) in African least developed countries (LDCs) of the comesa sub-region	Regional, COMESA	Africa	Post-NIP	FS	Capacity building	Regional	2,500,000	06/02/2011	03/31/2016	O	1
GFRAF11010	Capacity strengthening and technical assistance for the implementation of Stockholm convention national implementation plan (nips) in African least developed countries (LDCs) of the ecowas sub-region	Regional, ECOWAS	Africa	Post-NIP	FS	Capacity building	Regional	4,000,000	05/31/2011	03/31/2016	O	1
GFRAS10006	Regional plan for introduction of bat/bep strategies to industrial cluster of annex c of article 5 sectors in esea region	Regional, ESEA	Asia and Pacific	Post-NIP	MS	BAT/BEP - Regional	Regional	950,000	09/03/2010	08/31/2012	O	1, 2
GFRAB08006	Promotion of strategies to reduce unintentional production of pops in the persga coastal zone	Regional, PERSGA	Arab	Regional	MS	Capacity building	Regional	950,000	12/23/2008	12/31/2010	O	1
GFRAF11008	Capacity strengthening and technical assistance for the implementation of the Stockholm convention (sc) national implementation plans (nips) in African least developed countries (LDCs) of the sadc sub-region	Regional, SADC	Africa	Post-NIP	FS	Capacity building	Regional	1,500,000	05/12/2011	04/30/2016	O	1

GFROM02020	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Romania	Romania	Europe	NIP	EA	Capacity building	National	495,000	06/20/2002	08/31/2006	C	1
GFROM07001	Disposal of PCB wastes in Romania	Romania	Europe	Post-NIP	MS	PCBs Disposal	National	952,000	03/15/2007	09/30/2010	O	1
GFRWA03005	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Rwanda	Rwanda	Africa	NIP	EA	Capacity building	National	371,000	03/06/2003	12/31/2009	O	1
GFSTP03006	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Sao tome & Principe	Sao Tome and Principe	Africa	NIP	EA	Capacity building	National	372,900	02/19/2003	06/30/2008	C	1
GFSEY03007	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Seychelles	Seychelles	Africa	NIP	EA	Capacity building	National	380,824	02/19/2003	02/18/2008	G	1
GFSIL06001	Enabling facilitate early action on the implementation of the Stockholm convention on pops in sierra Leone	Sierra Leone	Africa	NIP	EA	Capacity building	National	394,600	05/09/2006	12/31/2008	C	1
GFSWA08001	Enabling activities for the development of a national implementation plan as a first step to implement the Stockholm convention on persistent organic pollutants (pops) in Swaziland	Swaziland	Africa	NIP	EA	Capacity building	National	356,000	04/1/2008	12/31/2010	O	1
GFURT02006	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Tanzania	Tanzania	Africa	NIP	EA	Capacity building	National	498,000	02/04/2002	12/31/2007	C	1

GFTOG02005	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Togo	Togo	Africa	NIP	EA	Capacity building	National	495,217	02/04/2002	12/31/2007	G	1
GFTUR03008	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in turkey	Turkey	Europe	NIP	EA	Capacity building	National	469,700	02/19/2003	02/19/2008	C	1
GFVEN03009	Enabling activities to facilitate early action on the implementation of the Stockholm convention on persistent organic pollutants (pops) in Venezuela	Venezuela	The Americas	NIP	EA	Capacity building	National	469,900	02/19/2003	12/31/2008	C	1
GFVIE08005	Introduction of bat & bep methodology to demonstrate reduction or elimination of unintentionally-produced persistent organic pollutants (pops) release from the industry in Vietnam	Vietnam	Asia and Pacific	Post-NIP	MS	Dioxin / Furans BAT/BEP	National	750,000	07/03/2008	07/31/2011	O	3

Annex C: Evaluation Matrix

EVALUATION MATRIX

OBJECTIVE(s):

- ② To provide information on relevance, effectiveness, efficiency, sustainability and progress towards impact of UNIDO POPs interventions;
- ② To identify internal and external, project-related and organizational factors that influence the performance of UNIDO’s technical cooperation and global forum functions in the POPs areas;
- ② To generate recommendations to and lessons for UNIDO, it’s implementation partners and possibly, the GEF.

Key Issues	Questions	Indicators / Basic Data	Sources of information	Methodology components
<i>Internal and Stakeholder Relevance</i>	How relevant / aligned have UNIDO’s POPs projects been to environmental strategies of the supported countries	Project alignment with country strategies	Country environmental strategies & NIPs Project documents Project evaluations	Portfolio review Project reviews (NIPs and Post-NIPs)
	How relevant / aligned have UNIDO’s POPs project been to the GEF strategy and thematic priorities of UNIDO	Project alignment with GEF strategy Project alignment with UNIDO priorities	Field visits to Nigeria, Ghana and Philippines Project review protocols	Case studies Nigeria – Ghana and Philippines Semi-structured interviews with UNIDO staff

<p>External Relevance to wider POPs issues and threats</p>	<p>Are UNIDO POPs projects addressing the most pressing POPs related threats to human and the environment in the respective countries?</p>	<p>Project alignment with POPs threats identified in NIPs by: (a) Chemical (b) Industry (c) Location Country and regional POPs 'hotspots' Linkage between NIP and Post-NIP projects</p>	<p>Project documents Project evaluations Field visits to Nigeria, Ghana and Philippines Project review protocols</p>	<p>Portfolio review Project reviews (NIP and Post-NIP) Case studies Nigeria – Ghana and Philippines Interviews with UNIDO and external experts in other agencies etc.</p>
<p>Relevant incentives? Local – Global Linkages</p>	<p>Do UNIDO POPs projects generate local benefits and / or environmental benefits? Are Local – Global benefits linked</p>	<p>Reported local benefits: (a) Socio-economic (b) Health Linkages between local benefit incentives and POP's site identification / phase-out / clean-up</p>	<p>Project documents Project evaluations Field visits to Nigeria, Ghana and Philippines Project review protocols</p>	<p>Project reviews (NIP and Post-NIP) Case studies Nigeria – Ghana and Philippines Interviews with UNIDO staff Survey</p>

Key Issues	Questions	Indicators / Basic Data	Sources of information	Methodology components
EFFECTIVENESS, SUSTAINABILITY AND IMPACT				
	<p>What are the key results of UNIDO's portfolio? (and potential for results)</p> <p>How effective has UNIDO POPs portfolio been in contributing to capacity building for the phase-out of POPs?</p>	<p>Regulatory and enforcement capacities in place</p> <p>(a) Legislative and policy frameworks in place</p> <p>(b) Strengthened government capacity, including chemicals management capacity</p> <p>(c) Capacity to enforce legislation improved</p>	<p>NIPs evaluations / Mid-terms</p> <p>Country legislative and policy frameworks</p> <p>Field visits to Nigeria, Ghana and Philippines</p>	<p>Project reviews NIP and Post-NIP</p> <p>Case studies Nigeria – Ghana and Philippines</p> <p>Review of Outcomes to Impacts (for completed NIP projects)</p>
<p>Effectiveness and Results: NIP; Investment in NIPs implementation</p>	<p>How effective has the overall UNIDO POPs portfolio been in contributing to the phasing out of POPs?</p>	<p>Phase out of POPs from use:</p> <p>(a) Ton(s)</p> <p>(b) Cost per ton</p> <p>Phase out of POPs from production</p> <p>(a) Ton(s)</p> <p>(b) Cost per ton</p> <p>POPs destroyed in an environmentally sound manner</p> <p>(a) Ton(s) destroyed</p> <p>(b) Cost per ton / per mode of destruction</p> <p>Reduced human and environmental exposure to POPs</p> <p>(a) Populations living close by</p> <p>(b) Sensitive environments</p>	<p>Post-NIP projects under implementation</p> <p>supervision reports and projected results</p>	

<p><i>Effectiveness and Results: Demonstration</i></p>	<p>How effective has the overall UNIDO POPs portfolio been in contributing to the phasing out of POPs?</p>	<p># Promotion of BAT / BEP and techniques demonstrated (a) Reduction of POPs (b) Substitution Scale-up / replication of techniques Stakeholder contribution: Government; NGO; Private sector</p>	<p>Field visits to Nigeria, Ghana and Philippines Project evaluations Post-NIP projects under implementation supervision reports and projected results Survey results</p>	<p>Project reviews NIP and Post-NIP Case studies Nigeria – Ghana and Philippines Review of Outcomes to Impacts (for completed NIP projects) Survey of stakeholders</p>
<p><i>UNIDO's value added</i></p>	<p>What is UNIDO's value-added to the effort to reduce the production, use and release of POPs? (with respect to other stakeholder)</p>	<p>UNIDO's role and responsibility in design and implementation Comparison with other agencies (a) Project type (b) Investments and stakeholder involved Roles and responsibilities of other stakeholders in design and implementation</p>	<p>Field visits to Nigeria, Ghana and Philippines Project evaluations Post-NIP projects under implementation supervision reports and projected results Interviews with UNIDO and other agencies Survey results</p>	<p>Project reviews NIP and Post-NIP Case studies Nigeria – Ghana and Philippines Review of Outcomes to Impacts (for completed NIP projects) Survey of stakeholders</p>

<p>Factors affecting Results (and sustainability)</p>	<p>What are the key project-internal factors that determine the performance of projects and long-term effects?</p> <p>Are projects well designed, coherent in their approach and results orientated (linkage between inputs – outputs – outcomes – impact)</p> <p>What are the key project external factors that determine performance of projects and long-term effects</p>	<p>Implementation modalities and approaches</p> <p>UNIDO competencies</p> <p>Quality of design / supervision and M&E</p> <p>Government legislation and policies</p> <p>Government capacities and budget allocations</p> <p>Private sector involvement / responsibility and funding</p>	<p>Project documents and evaluations</p> <p>Interviews with UNIDO staff</p> <p>Field visits to Nigeria, Ghana and Philippines</p> <p>Project evaluations</p> <p>Post-NIP projects under implementation</p> <p>supervision reports and projected results</p>	<p>Project reviews NIP and Post-NIP</p> <p>Case studies Nigeria – Ghana and Philippines</p> <p>Review of Outcomes to Impacts (for completed Post-NIP projects)</p> <p>Survey of stakeholders</p>
<p>Sustainability and Impact</p>	<p>To what extent have the desired benefits of UNIDO's projects continued after completion?</p> <p>Does UNIDO apply successful and replicable approaches in other non-POPs projects?</p>	<p>Ex-post benefits of NIP projects</p> <p>Links to Post-NIP projects</p> <p>Replication to other non-POPs projects</p>	<p>Project evaluations</p> <p>Interviews with UNIDO staff</p> <p>Survey results</p>	<p>Project reviews NIP and Post-NIP</p> <p>Case studies in Philippines</p> <p>Review of Outcomes to Impacts (for completed NIP projects)</p> <p>Survey of stakeholders</p>

Key Questions & Issues	Sub-questions	Indicators / Basic Data	Sources of information	Methodology components
EFFICIENCY AND CAPACITY REVIEW				
Efficiency of Implementation	How efficiently have the POPs projects been implemented?	Time taken to implement – planned versus actual: # of days	Portfolio review	Portfolio review
	Have the projects been implemented differently from UNIDO's non-POPs projects?	Similarities and differences between POPs and Non-POPs projects	Interviews with UNIDO staff	Project reviews NIP and Post-NIP
	What are the key advantages and disadvantages of the applied implementation approach?	NIP – Post-NIP linkages / Project modality	Supervision reports Survey results	Case studies Nigeria – Ghana and Philippines Survey of stakeholders
UNIDO Capacity	Are project management and implementation modalities adequate?	Project implementation modalities # of supervisions # of staff available for supervisions	Budget and staffing data Interviews with UNIDO staff Survey results	Review of internal documents and budget Interviews Survey
	To what extent does the SCU have adequate resources (including administrative budget and seed funds) to develop, implement and monitor technical cooperation projects and to fulfill its global forum function	SCU annual budget + plus trends in budget (over last 3 – 5 years) # of staff in SCU Division of labor Roles and responsibilities		

<p>UNIDO Capacity</p>	<p>To what extent does the SCU have adequate staff capacity and competence to deliver the services it is supposed to provide and to implement its current portfolio?</p> <p>How adequately have the administrative budgets and programmable funds (seed money) been allocated to the SCU to implement its services and projects?</p> <p>How are other agencies POPs units endowed and how are they using the GEF fees?</p> <p>How appropriate is the SCU organizational set-up for the effective implementation of its interventions?</p> <p>What are the internal monitoring and decision making systems to ensure that the Unit's work program is effectively implemented?</p> <p>Are potential synergies, in particular through cooperation with relevant UNIDO Units and other agencies, exploited?</p>	<p>Competences and experience of SCU staff</p> <p>Distribution of budget by function / responsibility</p> <p>Budgets for field offices</p> <p>Budgets of UNDP / UNEP / WB / FAO</p> <p>Resources and organizational set vis-à-vis portfolio characteristics and size</p> <p>UNIDO internal rules and regulations / audit / organizational performance indicators</p> <p>Synergies and alliances developed</p> <p>Linkages between projects / progs</p> <p>Missed opportunities</p>	<p>Backgrounds and CVs of SCU staff</p> <p>Budget data</p> <p>Budget data of agencies</p> <p>Interviews with agencies</p> <p>Budget / Human resources</p> <p>Portfolio review</p> <p>Organizational performance reviews</p> <p>Documented cooperation and synergies</p>	<p>Review of internal documents</p> <p>Interviews with UNIDO staff and budget data</p> <p>Interviews with other GEF Agency staff</p> <p>Portfolio review (including pipeline project review)</p> <p>Review of internal documents</p> <p>Interviews with UNIDO staff</p> <p>Project reviews (Post-NIP)</p> <p>Review of Outcomes to Impacts (for completed NIP projects)</p>
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Key Questions & Issues	Sub-questions	Indicators / Basic Data	Sources of information	Methodology components
	THE FUTURE			
Future Outlook for POPs and UNIDO	How will the changes in the framework of GEF project funding (GEF-5: broadening of the GEF partnership) affect UNIDO's potential to implement projects?	-	Interviews with UNIDO staff	Interviews with UNIDO staff
	How are the different roles of different types of agencies going to evolve?	-	Interview with GEF and other agencies	Interviews with stakeholders
	Are there any other trends – either external (e.g., increased cooperation of chemicals conventions, SAICM etc..) or internal (e.g., UNIDO's resource efficiency and cleaner production and green industry strategies) that affect UNIDO's POPs work?	Additional POPs Synergies between Conventions Funding / financing levels	S Convention GEF	Literature review + interviews with convention and GEF staff
	How will recent and planned changes within UNIDO affect the future POPs portfolio?	-		
	Can UNIDO handle the large pipeline portfolio?	Portfolio pipeline vis-à-vis UNIDO capacity	Portfolio and SCU / UNIDO capacities Survey results	Interviews with UNIDO staff Survey of stakeholders
	Based on the past experience and future outlook, what are the main challenges that UNIDO will have to tackle in order to meet its POPs related objectives?			

Annex D: List of Interviewees

GEF Secretariat

Ibrahima Sow – Senior Environmental Specialists (Chemicals Coordinator)

Stockholm Convention Secretariat

Katalina Mugalova – Program Officer, Stockholm Convention

Jacqueline Alvarez – Program Officer, Stockholm Convention

UNIDO

George Anestis – GEF Coordinator

Adrie de Groot – Manager, Resource Mobilization

Heinz Leuenberger – Director, Environmental Management Branch

Si Ahmed Sidi Menad – Director, Montreal Protocol Branch

Behraz Moradi – Director of Legal Department

Dmitry Piskunov – Managing Director, Technical Cooperation

Peter Ulrich – Director of Finance Department

Rene Van Berkel – Manager, Cleaner Production Unit

Andrey Volodin – Manager, Quality Assurance Group

Igor Volodin – Manager, Water Management Unit

UNIDO SCU

Carmela Centeno – Program Officer, Stockholm Convention Unit

Zoltan Czier – Consultant to Stockholm Convention Unit

Mohamed Eisa – Manager, Stockholm Convention Unit

Alfredo Cueva-Jacome – Program Officer, Stockholm Convention Unit

Fukuya Iino – Program Officer, Stockholm Convention Unit

Li Peng – Program Officer, Stockholm Convention Unit

Erlinda Galvan – Program Assistant, Stockholm Convention Unit

Meklit Yiman – Program Assistant, Stockholm Convention Unit

UNDP

Klaus Tykko – Program Manager, Montreal Protocol and Chemicals Unit

World Bank

Laurent Granier – Senior Environmental Specialist (Coordinator Chemicals)

Others

Tom Batchelor – Director, Touchdown Consulting

Nigeria

Patrick Kormawa – UNIDO Resident Representative

Adegboyega Ajani – UNIDO Program Officer

Dr. Dickson Okolo – Director, Ministry of Agriculture

Chief Chris Ojembe – Director, Ministry of Health

Julia Afolabi – Power Company of Nigeria

Dr. Johnson Boanuh – ECOWAS

Bougonous Djeri-Alassani – ECOWAS

Ernest Aube - ECOWAS

Aanu Sodeko-Basil – Ministry of Environment (Abuja)

A.J. Adefule – Ministry of Environment (Lagos)
Prof. Oladele Osibanjo – Basel Convention Regional Coordination Centre,
University of Ibadan
Ajai Bolanle – Ministry of Environment (Lagos)
Prof. Babajide Alo – University of Lagos
Prof. Paul Nwilo – University of Lagos (GCLME)
Chike Chikwendu – Friends of the Environment
Eugene Itua – Multidevions
Ane Adogame – National Coordinator NASPIN (NGO Network Nigeria)
Site Visits: Ijora Power Station (Lagos); University of Ibadan (Geoenvironmental
Centre)

Ghana

Daniel Amlalo – Acting Head of EPA
Prof. Siloh Osae – Head of the Dept of Chemistry, Atomic Agency Commission
John Pwamgang – EPA Director of Chemicals
Esi Nana Tetteh – EPA Acting Deputy Director
Representatives of Civil Society (Environmental NGOs) – Accra
Site visits: Accra Power Station; Accra Cleaner Production Centre

Philippines

Suresh Chandra Raj – UNIDO Representative
Leah Texon – UNIDO Project Manager
Annalize Rebuelta-Teh – Director, DENR & GEF Focal Point
Edwin Navaluna – DENR Air Quality
Renato Cruz – DENR Chemicals
Juan-Miguel Cuna – Director, Environmental Management Bureau
Edwin Romel – DENR Chemicals
Beth Novalta – PAFC
Cherie Celeste – PAFC
Clovis Tupas – PAFC
Teresa Vinluan – IPM Construction
Ogie Qunitos – IPM Construction
Arturo Gungon – IPM Construction
Resurreccin Petel – National Power Company of Philippines
Cherry Rivera – Environmental Engineer
Jesus Malana – Meralco
Tamy Payongayong – Meralco
Gerry Parco – World Bank
Maria Capule – CRL Environment Corporation
Ronldi Agabin – CRL Environment Corporation
Site Visits: Non-combustion Facility (Bataan); Global Care (PCB storage facility)

Annex E: Survey Questionnaire Responses

SURVEY 1:

Q1: What is your position?

	Frequency	Percent
UNIDO Headquarter (HQ) Staff	6	15.79
UNIDO Field Staff	0	0.00
International Consultant	10	26.32
National Consultant	16	42.11
Other	4	10.53

Q3: How long have you been working on POPs issues?

	Frequency	Percent
1-5 years	13	34.2
5-10 years	14	36.8
More than 10 years	11	28.9

Q4: What is your role and responsibility (-ies) with regard to POPs projects? (multiple answers possible)

	Frequency	Percent
Project design	15	39.47
Project implementation and supervision	21	55.26
Overall project cycle management (design, implementation, supervision, monitoring and evaluation)	17	44.74
Specific technical inputs (in design and/or implementation)	18	47.37
Other	5	13.16

Q5: In your opinion, were the following useful/not useful in the respective cases:

In %	Very Useful	Somewhat Useful	Not Useful	Don't Know
The National Implementation Plan (NIP) has been a useful guidance for the development of POPs projects	71.05	28.95	0	0
GEF POPs strategies have been a useful guidance for the development of POPs projects	73.68	23.68	0	2.63
Lessons or experience of implementing other UNIDO (non-GEF projects) were useful / relevant in the development of POPs project(s)	36.84	42.11	2.63	18.42
Lessons or experiences of implementing other GEF projects were useful / relevant in development of POPs project(s)	42.11	39.47	0	18.42

Q6: Would you agree/disagree with the following?

In %	Completely Agree	Somewhat Agree	Do Not Agree	Don't Know
UNIDO's post-NIP project(s) is (are) addressing the most pressing POPs issues / challenges	60.53	39.47	0	0
Apart from POPs reduction, UNIDO's POPs project(s) address(es) local environmental problems such as air and water pollution	55.26	42.11	0	2.63
UNIDO's POPs project(s) contribute(s) to mitigation of important human health problems in the country	84.21	13.16	2.63	0
UNIDO's POPs project(s) contribute(s) to socio-economic incentives to encourage clean-up and / or safe destruction of POPs	65.79	28.95	2.63	2.63
UNIDO's POPs project(s) contribute(s) to partnerships between public and private sector (industry) encourage clean-up and / or safe destruction of POPs	71.05	23.68	2.63	2.63
UNIDO's POPs project(s) contribute(s) to raising awareness among industrial workers, farmers and communities exposed to POPs to promote phase-out, clean-up and / or destruction	71.05	26.32	2.63	0
UNIDO's POPs project(s) is (are) well linked other international initiatives with similar objectives (e.g., hazardous waste projects, cleaner production)	42.11	52.63	5.26	0

Q7: POPs projects can have different objectives (e.g. capacity building, demonstration, phase-out, destruction). The following questions should be answered for those projects that aim at the results mentioned. If, for any of those results, no relevant projects exist, please mark "not applicable".

In %	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
UNIDO's POPs portfolio has been effective in contributing to capacity building for the phase-out of POPs	73.68	18.42	5.26	2.63

Government capacity related to chemicals management has been strengthened	65.79	28.95	5.26	0
Legislative and policy frameworks are in place in the country of project implementation	50.00	44.74	2.63	2.63
Capacity to enforce legislation has been improved	39.47	52.63	5.26	2.63
Awareness of the dangers of POPs increased among communities and industries using or with a history of use of POPs	68.42	28.95	2.63	0

Q8: Would you agree/disagree that UNIDO's POPs portfolio has been effective in contributing in the following areas in the respective country of implementation?

In %	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Phase out of POPs from use	63.16	28.95	2.63	5.26
Phase out of POPs from production	52.63	31.58	2.63	13.16
POPs destroyed in an environmentally sound manner	60.53	23.68	5.26	10.53
Reduced human and environmental exposure to POPs	57.89	31.58	5.26	5.26
Promotion of BAT / BEP and techniques demonstrated	81.58	13.16	0	5.26
Contaminated sites identified	60.53	18.42	5.26	15.79
Risk assessment carried out	52.63	34.21	5.26	7.89

Q9: To what extent do you agree or disagree that UNIDOs completed projects and NIPs have produced sustainable results.

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
NIPs have generated tangible ex-post benefits such as improvements in terms of capacity, policy and legislation	71.05	21.05	5.26	2.63
NIPs have catalyzed post-NIP projects	68.42	26.32	0	5.26

POPs projects have led to replication of tools, methods and practices to other non-POPs projects	28.95	39.47	5.26	26.32
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Q10: Which of the following are the most common risks for project results?

In %	Very Common	Fairly Common	Not So Common	Completely Absent	Don't Know
Lack of policy and legal frameworks	31.58	36.84	31.58	0	0
Poor or unsustainable enforcement capacities	44.74	39.47	15.79	0	0
Poor or absent socio-economic incentives	44.74	31.58	21.05	2.63	0
Lack of know-how for POPs management	28.95	42.11	28.95	0	0
POPs is a low government priority	26.32	36.84	26.32	10.53	0
Lack of private sector engagement	28.95	47.37	15.79	7.89	0
Poor sequencing of project components	13.16	42.11	39.47	5.26	0
Lack of awareness of dangers of POPs among users, leading to lack of behaviour change	36.84	34.21	26.32	2.63	0

Q12: Below are some statements regarding factor / issues that commonly influence project efficiency (time and resources taken for project design and implementation).

Please indicate the extent to which you agree or disagree that these statements apply to the UNIDO POPs projects with which you are familiar:

In %	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
The UNIDO project approval process is efficient	42.11	42.11	10.53	5.26
The GEF project approval process is efficient	36.84	42.11	15.79	5.26
Too complex contracting and procurement procedures cause unnecessary implementation delays	21.05	55.26	15.79	7.89
National and/or government counterpart usually have sufficient readiness and/or capacity	15.79	60.53	21.05	2.63

The limited availability of co-finance (cash or in-kind) often leads to delays in project development	36.84	44.74	13.16	5.26
The limited availability of specific technical consultant expertise often leads to delays in implementation	23.68	44.74	28.95	2.63

Q14: The following questions relate to the project documents. In your opinion, to what extent would you agree/disagree with the following:

In %	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable	No Answer
Project(s) is (are) well designed	60.53	34.21	2.63	0	2.63
Project(s) is (are) coherent in their approach	63.16	26.32	2.63	0	7.89
Project(s) is (are) results oriented	73.68	18.42	0	2.63	5.26
Project document(s) establish(es) a good linkage between inputs, outputs, outcomes and impact	60.53	34.21	0	0	5.26
Baselines are appropriately reflected in the project document	60.53	28.95	0	0	10.53
Project(s) include(s) incentives for the destruction of POPs	44.74	31.58	10.53	2.63	10.53
Monitoring and Evaluation systems adhere to SMART principles	34.21	28.95	7.89	10.53	18.42
Project document(s) adequately assess(es) the policy, legal and institutional capacity in the country	63.16	26.32	2.63	0	7.89
Risk Assessment is adequately considered in the project document(s)	52.63	28.95	5.26	2.63	10.53

Q15: In your opinion, to what extent would you agree/disagree with the following statements?

UNIDO adds value to POPs projects through:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Project preparation and design	86.84	7.89	2.63	2.63
Project implementation	73.68	23.68	0	2.63
Technical expertise in chemicals management	81.58	15.79	0	2.63
Local support to project implementation through presence in the field	44.74	39.47	10.53	5.26

UNIDO's roster of Consultants	60.53	23.68	5.26	10.53
Funds Mobilization	44.74	50.00	2.63	2.63
Supervision and Monitoring	63.16	23.68	5.26	7.89

Q17: To what extent would you agree/disagree with the following with regards to adequate resources (including administrative budget and/or seed funds) in the Stockholm Convention Unit (SCU) to develop, implement and monitor technical cooperation projects?:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable	No Answer
Administrative budget is sufficient for project concept development and implementation	18.42	31.58	21.05	13.16	15.79
Availability of seed funds or alternative funds to develop project concepts with national counterparts is sufficient	15.79	28.95	21.05	21.05	13.16
There is sufficient staff to develop and manage UNIDO's POPs portfolio	13.16	42.11	26.32	10.53	7.89
Technical expertise/background of staff is sufficient for project development	52.63	26.32	7.89	7.89	5.26
Technical expertise/background of staff is sufficient to offer appropriate advisory services to national counterparts	52.63	23.68	7.89	7.89	7.89
The SCU exploits synergies with other Units within UNIDO	23.68	23.68	10.53	21.05	21.05
There is an internal monitoring and decision making system to ensure that the Unit's work program is effectively implemented	23.68	23.68	7.89	23.68	21.05
There are sufficient resources (time, money) for supervisions (missions to projects sites)	26.32	39.47	10.53	15.79	7.89
There are sufficient resources (time, money) to attend trainings (management, technical, professional)	23.68	28.95	10.53	21.05	15.79
There are sufficient resources (time, money) for maintaining contacts with national stakeholders	26.32	34.21	10.53	13.16	15.79
There are sufficient resources (time, money) for management of projects and management of people	21.05	47.37	7.89	7.89	15.79
There are sufficient resources (time, money) for opportunities to develop new projects	23.68	31.58	15.79	13.16	15.79

There are sufficient resources (time, money) for dissemination of good/bad practices	23.68	34.21	15.79	10.53	15.79
Availability of qualified POPs Consultants presents a bottleneck for project development	21.05	47.37	18.42	2.63	10.53
Availability of qualified POPs Consultants presents a bottleneck for project implementation and delivery of technical advice	26.32	39.47	23.68	0	10.53
The SCU provides sufficient in-house technical advice to partner countries throughout the project cycle to support delivery of results	47.37	21.05	7.89	7.89	15.79

Q18: To what extent would you agree/disagree with the following:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable	No Answer
UNIDO's Field offices have the capacity to contribute to project concept development and / or design	36.84	23.68	26.32	7.89	5.26
UNIDO's Field offices have the capacity to contribute to project implementation and supervision	39.47	28.95	18.42	7.89	5.26

SURVEY 2:

Q1: What is your position?

	Frequency	Percent
National Project Manager	6	50.00
National Project Coordinator	4	33.33
Chief Technical Advisor	1	8.33
Other	1	8.33

Q3: How long have you been working on POPs issues?

	Frequency	Percent
1-5 years	4	33.33
5-10 years	5	41.67
More than 10 years	3	25.00

Q4: What is your role and responsibility (-ies) with regard to POPs projects?
(Multiple answers possible)

	Frequency	Percent
Project design	1	8.33
Project implementation and supervision	0	66.67
Overall project cycle management (design, implementation, supervision, monitoring and evaluation)	5	41.67
Specific technical inputs (in design and/or implementation)	2	16.67
Other	2	16.67

Q5: In your opinion, for the development of post-NIP project(s), were the following useful/not useful in the respective cases:

In %	Very Useful	Somewhat Useful	Not Useful	Don't Know
The National Implementation Plan (NIP)	66.67	33.33	0	0
GEF POPs strategies	58.33	41.67	0	0
The advice provided by UNIDO	91.67	0	8.33	0
The advice/studies provided by UNIDO Consultants	91.67	8.33	0	0
Lessons or experiences of implementing other GEF projects	41.67	41.67	8.33	8.33

Q6: Would you agree/disagree with the following:

In %	Completely Agree	Somewhat Agree	Do Not Agree	Don't Know
UNIDO's post-NIP project(s) is (are) addressing the most pressing POPs issues / challenges	58.33	41.67	0	0
Apart from POPs reduction, UNIDO's POPs project(s) address(es) local environmental problems such as air and water pollution	66.67	33.33	0	0
UNIDO's POPs project(s) contribute(s) to mitigation of important human health problems in the country	66.67	25.00	8.33	0
UNIDO's POPs project(s) contribute(s) to socio-economic incentives to encourage clean-up and / or safe destruction of POPs	50.00	25.00	16.67	8.33
UNIDO's POPs project(s) contribute(s) to partnerships between public and private sector (industry)	75.00	8.33	16.67	0

UNIDO's POPs project(s) contribute(s) to raising awareness among industrial workers, farmers and communities exposed to POPs to promote phase-out, clean-up and / or destruction	83.33	16.67	0	0
UNIDO's POPs project(s) is (are) well linked to the GEF Small Grants Program projects focused on chemicals	33.33	41.67	0	25.00
UNIDO's POPs project(s) is (are) well linked with other international initiatives with similar objectives (e.g., hazardous waste projects, cleaner production)	41.67	50.00	0	8.33

Q7: POPs projects can have different objectives (e.g. capacity building, demonstration, phase out, destruction). The following questions should be answered for those projects that aim at the results mentioned.

If, for any of those results, no relevant projects exist, please mark "not applicable".

Your post-NIP project portfolio has been effective in contributing in the following areas:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Phase out of POPs from use	58.33	16.67	25.00	0
Phase out of POPs from production	41.67	33.33	0	25.00
POPs destroyed in an environmentally sound manner	58.33	33.33	8.33	0
Reduced human and environmental exposure to POPs	66.67	33.33	0	0
Promotion of BAT / BEP and techniques demonstrated	83.33	16.67	0	0
Policy and institutional capacity developed for sound management of chemicals	58.33	41.67	0	0
Contaminated sites identified	41.67	33.33	8.33	16.67
Socio economic incentives provided for clean-up and/or destruction	16.67	58.33	16.67	8.33

Q8: To what extent do you agree or disagree that UNIDO's post-NIP portfolio would produce sustainable results in your country of implementation:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Your country(-ies) of implementation will maintain/build up sufficient capacity to ensure enforcement for the phase-out and destruction of POPs	58.33	41.67	0	0
Your country(-ies) of implementation (will) have sufficient funds to continue and develop actions started under the POPs project	8.33	58.33	33.33	0
Your project(s) are putting in place economic or other incentives to promote POPs phase out / clean up / destruction	25.00	58.33	16.67	0
Private sector (industry) are is appropriately involved in the post-NIP projects	41.67	50.00	8.33	0
Communities and those working with or exposed to POPs will be more aware of the dangers and change their behaviour to reduce health and environmental risks and threats	33.33	66.67	0	0

Q9: Below are some statements regarding factor / issues that commonly influence the project(s). Please indicate the extent to which you agree or disagree that these statements apply to the UNIDO's post-NIP POPs project(s) with which you are familiar:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Involvement of experts in designing the project was sufficient to enable effective start / implementation	58.33	33.33	8.33	0
Involvement of national stakeholders in designing the project was sufficient to enable ownership	50.00	50.00	0	0
Roles and responsibilities of UNIDO and the national stakeholders are clearly defined in the project document	58.33	41.67	0	0
Local procurement and contracting facilitate efficient implementation of the project	41.67	41.67	16.67	0

Government has sufficient capacity to develop and implement POPs project(s)	16.67	41.67	33.33	8.33
UNIDO has sufficient capacity to develop and implement POPs project(s)	75.00	16.67	8.33	0

Q10: In your opinion, to what extent would you agree/disagree with the following statements:

UNIDO adds value to POPs projects through:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Project preparation and design	75.00	25.00	0	0
Project implementation	83.33	16.67	0	0
Technical expertise in chemicals management	83.33	16.67	0	0
Technical expertise in industry	66.67	25.00	8.33	0
Local support to project implementation through presence in the field	50.00	41.67	8.33	0
UNIDO's roster of Consultants	83.33	8.33	8.33	0
Funds Mobilization	50.00	41.67	8.33	0
Supervision	75.00	16.67	8.33	0
Monitoring and Evaluation	66.67	25.00	8.33	0
UNIDO provides sufficient in-house technical advice to national stakeholders throughout the project cycle to support delivery of results	58.33	33.33	8.33	0

Q12: The following questions relate to the project document(s).

In your opinion, would you agree/disagree with the following:

	Completely Agree	Somewhat Agree	Do Not Agree	Not Applicable
Post-NIP project(s) is (are) well designed	41.67	50.00	0	8.33
Post-NIP project(s) is (are) coherent in their approach	50.00	41.67	0	8.33
Post-NIP project(s) is (are) results oriented	50.00	41.67	0	8.33

Baselines are assessed and defined in the project document(s)	41.67	50.00	0	8.33
Post-NIP project(s) include(s) incentives for the destruction of POPs	16.67	58.33	16.67	8.33
Post-NIP project(s) has (have) been developed in close consultation with the relevant stakeholders in the country	41.67	41.67	8.33	8.33
Project document(s) adequately assess(es) the policy, legal and institutional capacity in the country	41.67	41.67	8.33	8.33
Risk assessment is adequately considered in the project document(s)	41.67	41.67	8.33	8.33

Annex F: Review of Outcomes to Impact – Methodological Note

The ROTI method requires ratings for outcomes achieved by the project and the progress made towards the intermediate state at the time of the evaluation. According to the GEF guidance on the method: The rating system is intended to recognize project preparation and conceptualization that considers its own assumptions, and that seeks to remove barriers to future scaling up and out. Projects that are a part of a long-term process need not at all be “penalized” for not achieving impacts in the lifetime of the project. The system recognizes projects’ forward thinking to eventual impacts, even if those impacts are to be achieved by other partners, and stakeholders, albeit with achievements based on present day, present project building blocks. For example, a project receiving an AA rating appears likely to deliver impacts, while for a Project receiving a DD this would seem unlikely due to low achievement in outcomes and the limited likelihood of achieving the intermediate states needed for eventual impact (see Table E1).

Table E1: Rating Scale for Outcomes and Progress towards Intermediate States

Outcome Rating	Rating on progress towards Intermediate States
D: The project’s intended outcomes were not delivered.	D: No measures taken to move towards intermediate states.
C: The project’s intended outcomes were delivered, but were not designed to feed into a continuing process after project funding.	C: The measures designed to move towards intermediate states have started, but have not produced results.
B: The project’s intended outcomes were delivered, and were designed to feed into a continuing process, but with no prior allocation of responsibilities after project funding.	B: The measures designed to move towards intermediate states have started and have produced results, which give no indication that they can progress towards the intended long-term impact.
A: The project’s intended outcomes were delivered, and were designed to feed into a continuing process, with specific allocation of responsibilities after project funding	A: The measures designed to move towards intermediate states have started and have produced results, which clearly indicate that they can progress towards long-term impact.

Thus a project will end up with a two letter rating, for example – AB, CD, BB etc. In addition the rating is given a + notation if there is evidence of impacts accruing within the life of the project.

The ROTI method provides a basis for comparisons across projects through application of a rating system that can indicate the expected impact. However it should be noted that whilst this will provide a relative scoring for all projects assessed, it does not imply that the results from projects can necessarily be aggregated. Nevertheless, since the approach yields greater clarity in the results metrics for a project, opportunities where aggregation of Project results might be possible can more readily be identified.

Scoring Guidelines

The achievement of **Outputs** is largely assumed. Outputs are such concrete things as training courses held, numbers of persons trained, studies conducted,

networks established, websites developed, and many others. Outputs reflect where and for what project funds were used. These were not rated: projects generally succeed in spending their funding.

Outcomes:

Outcomes, on the other hand, are the first level of intended results stemming from the outputs. Not so much the number of persons trained; but how many persons who then demonstrated that they had gained the intended knowledge or skills. Not a study conducted; but one that could change the evolution or development of the project. Not so much a network of NGOs established; but that the network showed potential for functioning as intended. A sound outcome might be genuinely improved strategic planning in SLM stemming from workshops, training courses, and networking.

Examples

Funds were spent, outputs were produced, but nothing in terms of outcomes was achieved. People attended training courses but there is no evidence of increased capacity. A website was developed, but no one used it. (Score — D)

Outcomes achieved but are dead ends; no forward linkages to intermediary stages in the future. People attended training courses, increased their capacities, but all left for other jobs shortly after; or were not given opportunities to apply their new skills. A website was developed and was used, but achieved little or nothing of what was intended because intended end users had no access to computers. People had meetings that led nowhere. Outcomes hypothesized or achieved, but either insignificant and/or *no evident linkages forward* to intermediary stages leading towards impacts. (Score — C)

Outcomes plus implicit linkages forward. Outcomes achieved and have *implicit forward linkages* to intermediary stages and impacts. Collaboration as evidenced by meetings and decisions made among a loose network is documented that should lead to better planning. Improved capacity is in place and should lead to desired intermediate outcomes. Providing implicit linkages to intermediary stages is probably the most common case when outcomes have been achieved. (Score - B)

Outcomes plus explicit linkages forward. Outcomes have *definite and explicit forward linkages* to intermediary stages and impacts. An alternative energy project may result in solar panels installed that reduced reliance on local wood fuels, with the outcome quantified in terms of reduced C emissions. Explicit forward linkages are easy to recognize in being concrete, but are relatively uncommon. (Score A)

Intermediary stages: The **intermediate stage** indicates achievements that lead to Global Environmental Benefits, especially if the potential for scaling up is established.

“Outcomes” scored C or D. If the outcomes above scored C or D, there is no need to continue forward to score intermediate stages given that achievement of such is then not possible.

In spite of outcomes and implicit linkages, and follow-up actions, the Project dead-ends. Although outcomes achieved have *implicit forward linkages* to intermediary stages and impacts, the project dead-ends. Outcomes turn out to be insufficient to move the project towards intermediate stages and to the eventual achievement of global environmental benefits. Collaboration as evidenced by meetings and among participants in a network never progresses further. The implicit linkage based on follow-up never materializes. Although outcomes involve, for example, further participation and discussion, such actions do not take the project forward towards intended intermediate impacts. People have fun getting together and talking more, but nothing, based on the implicit forward linkages, actually eventuates. **(Score = D)**

The measures designed to move towards intermediate states have started, but have not produced result, barriers and/or unmet assumptions may still exist. In spite of sound outputs and in spite of explicit forward linkages, there is limited possibility of intermediary stage achievement due to barriers not removed or unmet assumptions. This may be the fate of several policy related, capacity building, and networking projects: people work together, but fail to develop a way forward towards concrete results, or fail to successfully address inherent barriers. The project may increase ground cover and or carbon stocks, may reduce grazing or GHG emissions; and may have project level recommendations regarding scaling up; but barrier removal or the addressing of fatal assumptions means that scaling up remains limited and unlikely to be achieved at larger scales. Barriers can be policy and institutional limitations; (mis-) assumptions may have to do with markets or public — private sector relationships. **(Score = C)**

Barriers and assumptions are successfully addressed. Intermediary stage(s) planned or conceived have feasible direct and explicit forward linkages to impact achievement; barriers and assumptions are successfully addressed. The Project achieves measurable intermediate impacts, and works to scale up and out, but falls well short of scaling up to global levels such that achievement of global environmental benefits still lies in doubt. **(Score = B)**

Scaling up and out over time is possible. Measurable intermediary stage impacts achieved, scaling up to global levels and the achievement of global environmental benefits appears to be well in reach over time. **(Score = A)**

Impact: Actual changes in environmental status “**Intermediary stages**” scored **B to A.**

Measurable impacts achieved at a globally significant level within the Project life- span. . (Score = ‘+’)

Annex G: Terms of reference

I. Background and overview

POPs and the Stockholm Convention²¹³

Persistent Organic Pollutants (POPs) are organic chemical substances such as pesticides, industrial chemicals, or unwanted by-products of industrial processes. They possess a particular combination of physical and chemical properties such that they are the most dangerous of all the pollutants released by human activities into the environment. They are highly toxic and long-lasting, and cause an array of adverse effects, including disease and birth defects in humans and animals. Some of the severe health impacts from POPs include cancer, damage to the central and peripheral nervous systems, reproductive disorders, and disruption of the immune system.

POPs do not respect international borders, and are often intergenerational, affecting both adults and their children. They can affect people and wildlife even at very low doses. As a result of releases to the environment over the past several decades, POPs are now widely distributed over large regions, including those where POPs have never been used, and in some cases they are found around the globe. This extensive contamination of environmental media and living organisms includes many foodstuffs and has resulted in the sustained exposure of many species, including humans, for periods of time that span generations, resulting in both acute and chronic toxic effects.

In addition, POPs concentrate in living organisms through another process called bioaccumulation. Though not soluble in water, POPs are readily absorbed in fatty tissue, where concentrations can become magnified by up to 70,000 times the background levels. Fish, predatory birds, mammals, and humans are high up the food chain and so absorb the greatest concentrations. When they travel, the POPs travel with them. As a result of these two processes, POPs can be found in people and animals living in regions such as the Arctic, thousands of kilometres from any major POPs source.

In response to this global problem, many countries began limiting or banning their production, use and release of POPs. These efforts culminated in the Stockholm Convention on POPs that was adopted in 2001 and entered into force in 2004. The overall objective of this global treaty is to protect human health and the environment from POPs. So far 173 countries Parties to the Convention have agreed to eliminate or reduce the release of POPs into the environment. The

²¹³ The main sources of information in this section are the website of the Stockholm Convention on POPs; the Global Environment Fund's website on POPs and the GEF's Focal Area Strategies and Strategic Programming for GEF-4 (2007).

Convention is administered by the United Nations Environment Programme (UNEP) and is based in Geneva, Switzerland.

Although most intentionally-produced POPs have been banned and are being phased out in OECD countries, the situation in developing countries, and particularly in Least Developed Countries, is of great concern. This is due to the fact that these countries often have inadequate legislative and regulatory frameworks to phase out POPs, in addition to the near absence of capacity for enforcement and lack of awareness of the hazards associated with POPs exposure. As a result, the limited national capacity can lead to regional and global contamination of the environment, with damage to the health and well-being of human populations, particularly the poor that are at greatest risk.

UNIDO and the GEF

The Global Environment Facility (GEF) has been the main funding source for POPs projects (see below). Over the past decade, UNIDO's relation to the GEF has evolved into a more direct partnership. While in the beginning GEF projects were implemented only by three organisations: the World Bank, UNEP and UNDP, in 1999, the GEF Council expanded opportunities for seven organizations, including UNIDO, to contribute to the implementation of GEF projects. These organizations were known as "Executing Agencies" under the GEF's expanded opportunities policy. "Executing Agencies" contributed to the management and execution of GEF Projects but had to go through one of the three "Implementing Agencies". This GEF policy has changed. Nowadays all 10 GEF agencies are recognised as full GEF agencies within their respective areas of "comparative advantages". For UNIDO's these areas include: industrial energy efficiency, renewable energy services, water management, chemicals management (including POP and ODS), and biotechnology.²¹⁴ This process of how the GEF involves partner agencies to plan, implement and evaluate projects will be further evolving.

One important aspect of the relations between Agencies and the GEF is the compensation for services, i.e. the fees²¹⁵. The GEF provides the Agencies with a fee of 10% of the grant volume. 1 of the 10% is reserved for "corporate activities" and the other 9% are for "project cycle management". On top of this, the GEF recognises up to 10% of project cost to be dedicated to management

The amount of fees and how they can/should be used is also subject to reform within the GEF and at present the GEF Secretariat is carrying out a study on the

²¹⁴ See http://www.thegef.org/gef/gef_agencies

²¹⁵ Rules and guidelines for agency fees and project management costs, GEF secretariat, October 2010

actual use of fees/ expenditures in the different GEF agencies. Such reform might also affect the capacities of the GEF agencies.

II. UNIDO's POPs portfolio

In mid 2001 UNIDO started its first POPs project and has since then implemented more than 80 projects²¹⁶, almost all of which were funded by the GEF directly or indirectly through the United Nations Development Programme (UNDP) or the United Nations Environment Programme (UNEP). Total allotments amount to USD 105 million²¹⁷. This amount accounts for 57% of all GEF-funded projects of UNIDO, 65% of which has been spent or committed. At UNIDO, the POPs portfolio is managed by the Stockholm Convention Unit (SCU) of the Environmental Management Branch. The SCU has 4 professional staff (including a Unit Chief) and 4 general service staff.

POPs projects in UNIDO can be divided into two large categories: a) National Implementation Plans (NIPs) as foreseen in the Stockholm Convention as a first step towards POPs reduction and phase out and b) post-NIP projects, which are assisting countries in implementing the NIPs in the different POPs areas. Today, 130 of the 173 parties to the SC have submitted their NIPs to the SC Secretariat and for 43 countries the transmission is still pending²¹⁸.

So far UNIDO has supported 43 countries to prepare NIPs, which are frameworks to develop and implement, in a systematic and participatory way, priority policy and regulatory reform, capacity building, and investment programmes to reduce POPs. The NIP projects are so-called Enabling Activities (EA) and have an average size of around USD 500,000, except those in China and India where the Governments opted for the GEF full-size projects with the funding of USD 4 million and USD 3.2 million respectively. The NIP projects account for 25% of UNIDO's POPs portfolio so far. Currently five NIP projects are ongoing (Eritrea, India, Botswana, Rwanda and Malawi) and two projects are in the pipeline (Bosnia Herzegovina and Myanmar).

²¹⁶ Most data on the POPs portfolio are based on a quick review done by ODG/EVA in October 2010. The portfolio analysis will be updated in the course of the thematic evaluation.

²¹⁷ A small number of ongoing POPs projects are not funded by the GEF. Most of them are related to ongoing GEF-funded projects and receive funding from bilateral donors, including recipient countries (e.g. Nigeria).

²¹⁸ According to data from the Stockholm Convention web-page, April 2011

Table 1. UNIDO's POPs projects

Type of projects	No. of projects	Total allotment (USD)	% of POPs portfolio	Average size (USD)
Preparatory	22	5,865,356	6	266,607
NIP	43	25,943,212	25	603,331
Post-NIP	12	54,620,600	52	4,551,717
Global and regional	7	19,126,758	18	2,732,394
Total	84	105,555,926	100	1,256,618

Source: AGRESSO as of October 2010.

There are 12 post-NIP projects with an average size of USD 4.5 million and the total allotment of USD 54 million, accounting for more than 50% of total UNIDO's POPs portfolio. These projects address all three GEF Strategic Programmes under the POPs Focal Area: 1) strengthening capacities for NIP implementation, 2) partnering in investments for NIP implementation and 3) partnering in the demonstrations of feasible, innovative technologies and best practices for POPs reduction.

There are also seven global and regional projects with an average size of USD 2.7 million. They mainly focus on: i) demonstrating the viability and removal of barriers impeding adoption and implementation of available non-combustion technologies for destroying POPs; and ii) promoting strategies to reduce unintentional production of POPs or identifying contaminated sites.

The current project portfolio of the SC Unit comprises 38 approved projects and totals around USD 85 million, of which 55% has been spent or committed. The portfolio is likely to increase given the estimated value of the pipeline projects of about USD 160 million (infobase April 2011).

III. The objectives of POPs interventions

The objectives and expected outcomes of UNIDO's POPs interventions are described in the UNIDO 2010-2011 Programme and Budget (P&B) and in the GEF Focal Areas Strategy for POPs.

a) UNIDO Programme and Budget²¹⁹

The POPs area comes under programme component E.4., which aims at assisting developing countries and countries with economies in transitions to meet their obligations under multilateral environmental agreements, including in particular the Montreal Protocol on the phasing out of ozone-depleting substances, the Stockholm Convention on persistent organic pollutants and the

²¹⁹ UNIDO IDB.36/7-PBC.25/7; PROGRAMME AND BUDGETS, 2010-2011

United Nations Framework Convention on Climate Change. With respect to POPs specifically, the programme component aims to assist Governments that are parties to the Stockholm Convention to implement legal, organizational and environmental management measures, including substantive technological changes, needed to comply with the requirements of the Convention. The expected impacts and outcomes, including the corresponding performance indicators are described in the P&B as follows:

Contribution to expected impact

- Countries meet their commitments under the Stockholm Convention

Performance indicators²²⁰

- Compliance with Stockholm Convention targets.
- Reduced emissions of POPs (chemicals and wastes)
- Increased industry-related transfer of climate and environmentally friendly technology.

Contribution to policy outcome

- Government policies, legal frameworks and incentives structures are in line with internationally agreed environmental conventions and obligations.

Performance indicators

- Compliance with Stockholm Convention deadlines.

Contribution to institutional outcome

- National institutions assure country compliance with the Stockholm Convention.

Performance indicators²²¹

- Increasing numbers of countries finalize and implement their National Implementation Plans (NIPs).

b) GEF Focal Area Strategy

The GEF has defined the objectives of POPs projects mainly around three categories: capacity building, investments for POPs reduction and demonstration of innovative technologies. These categories were already laid down in the GEF business plan for the period 2004 to 2006²²² (GEF-3) and can be found again in the POPs focal area strategy and strategic programming for GEF-4²²³. These objectives are applicable to most of the UNIDO implemented POPs projects; they are defined as follows:

²²⁰ Demonstrated in pilot projects and assessed through regular surveys

²²¹ Based on mapping, gap analysis and customer surveys

²²² GEF/C.21/9, May 2003, GEF BUSINESS PLAN FY04-06

²²³ GEF/C.31/10/Revised, July 2007, Focal area strategies and strategic programming for GEF-4

Strategic objective:

To reduce and eliminate production, use and releases of POPs

Expected impacts

- GEF-supported countries have strengthened capacity for POPs management and consequently strengthened capacity for the general sound management of chemicals
- Dangerous obsolete pesticides that pose a threat to human health and to the environment are disposed of in an environmentally sound manner
- PCBs, some of the most widespread toxics, are no longer a source of contamination of the local and global environment because they are phased out and disposed of
- The risk of adverse health effects from POPs is decreased for those local communities living in close proximity to POPs wastes that have been disposed of or contained
- The basis for the future implementation of the Stockholm Convention is established through the demonstration of innovative alternative products, best practices, and environmentally sound processes to the generation, use or release of POPs

Strategic programmes:

- Strengthening capacity for NIP (National Implementation Plan) development and implementation
- Partnering in investments for NIP implementation
- Partnering in the demonstration of feasible, innovative technologies and best practices for POPs reduction.

c) Recent changes in objectives and the external environment

The GEF's fifth replenishment period (GEF-5) will cover GEF operations and activities for the four years from July 1, 2010 to June 30, 2014. Under GEF-5 the two GEF focal areas related to chemicals (Ozone depleting substances and POPs) have been merged into the new focal area "chemicals".

The future will see expanded responsibilities of the international community in general and the GEF in particular with regard to the management of chemicals. The number of chemicals covered by the different chemicals-related conventions (Basel, Rotterdam, Vienna, and Stockholm) is expanding. Nine new POPs have been added to the SC convention in 2009 and several new chemicals are currently under review for subsequent inclusion. The new chemicals require

additional measures in support of developing countries' compliance with conventions' provisions.

There are also efforts underway to increase synergies within the chemicals and waste cluster of multilateral environmental agreements. The GEF and the agencies implementing GEF-funded projects will have to play a role in these efforts.

IV. Evaluation objectives

This independent thematic evaluation has been initiated by the UNIDO Executive Board based on the proposed work programme of the UNIDO Evaluation Group, which aims at carrying out thematic evaluations in key areas of UNIDO technical cooperation and global forum activities. The evaluation will be conducted in accordance with the UNIDO Evaluation Policy and has three purposes:

- To provide information on the relevance, effectiveness, efficiency, sustainability and progress towards impact of UNIDO POPs interventions.
- To identify internal and external, project-related and organisational factors that influence the performance of UNIDO's technical cooperation and global forum functions in the POPs area.
- To generate recommendations to and lessons for UNIDO, its implementation partners and, possibly, the GEF.

V. Evaluation scope and key questions

The evaluation is a forward looking exercise as it will provide analyses and recommendations to guide the future direction of UNIDO's POPs interventions, taking into account UNIDO's mandate and comparative advantage, the work of other development agencies active in this field and needs and priorities of developing countries.

- *Review of past performance:* an analysis of performance of all UNIDO POPs activities carried out so far; the depth of analysis will differ from fully fledged evaluations of selected projects to light document reviews of enabling activities.
- *Portfolio analysis:* an analysis of UNIDO's POPs portfolio along a list of criteria (type of projects, substance areas covered/not covered, regional focus, etc.), including a comparison with other GEF agencies and an analysis of how it has and likely will evolve in the future.
- *Future outlook:* an analysis of trends and developments within the POPs area with a view to detecting future demands and requirements of UNIDO as executing and implementing agency (future outlook).

- *UNIDO capacity review*: an analysis of UNIDO capacities at HQ and in the field with regard to the identification, design, implementation, monitoring and evaluation of projects. The evaluation will also review the Stockholm Convention Unit's staff capacity, budgetary allocations (including use of the GEF agency fees) against its strategy, mandate and objectives and against standards and requirements of UNIDO (e.g. UNIDO evaluation policy) and the GEF (e.g. GEF fiduciary standards, M&E minimum requirements)
- Comparison of implementation practices with those of other GEF agencies, based on brief case studies (one project World Bank, one project UNEP, one project UNDP).

Key evaluation questions

1. Overall assessment

Relevance

- How relevant/aligned have the UNIDO's POPs projects been to the environmental strategies of the supported countries and the GEF and to the thematic priorities of UNIDO?
- Do UNIDO POPs projects contribute to other UNIDO objectives, such as improved environmental performance of industry, competitiveness of industry, pro-poor growth? Have opportunities for synergies been exploited or missed?
- Do UNIDO POPs projects generate local social and/or environmental benefits? Are global and local benefits linked?
- Are UNIDO POPs projects addressing the most pressing POPs-related threats to humans and the environment in the respective countries?

Effectiveness

- How effective has the overall UNIDO's POPs portfolio been in contributing to the phasing out of POPs and other project outcomes, including in particular capacity building in beneficiary countries? How well has the portfolio performed? What are the key results of the UNIDO POPs portfolio?
- Taking into account the whole project cycle and the contributions made by different project stakeholders (e.g. GEF, Ministries, NGOs, enterprises, other donors and agencies); what was UNIDO's value added to the efforts to reduce the production, use and release of POPs?
- Do UNIDO POPs projects have unintended environmental, economic or social effects?

Efficiency

- How efficiently have the POPs projects been implemented? The assessment of efficiency should take into account the following questions: Have the projects been implemented differently from UNIDO's non-POPs projects? What are the key advantages and disadvantages of the applied implementation approach? Are project management and implementation modalities adequate?

Factors affecting results

- What are the key project-*internal* factors (e.g. implementation approach, internal competencies, type and quality of expertise used, etc.) that determine the performance of the projects and long term effects?
- Are projects well designed, coherent in their approach and results oriented (is there a plausible link between activities, outputs and expected outcomes and impact?)
- What are the key project-*external* factors (e.g. existing environmental legislation, budgetary provisions in the country, degree and form of private sector development, etc) that determine the performance of the projects and long term effects?

Sustainability and impact

- Does UNIDO apply successful and replicable approaches in other non-POPs projects?
- To what extent have the desired benefits of UNIDO's POPs projects continued after the project completion?
- Has sufficient co-financing been mobilised? Has the co-financing contributed to catalytic effects and upscaling of GEF project results?

2. Questions for specific project types

The review of past performance needs to be based on comparable assessment of individual projects. Thus, when comparing the performance of different interventions, the following framework, which has taken into account the questions/indicators of the three different strategic programmes of GEF focal area strategy for POPs, will be applied²²⁴:

²²⁴ This framework will be also applied by ongoing and planned evaluations of POPs projects (e.g. China, India, Philippines)

	Key questions
NIP projects/ enabling activities/ capacity building	<ul style="list-style-type: none"> • Has the NIP been endorsed officially by the Government? • Has the NIP been submitted to the Stockholm Convention? • Have post-NIP projects been prepared/approved for the country (by any development agencies)? • Are appropriate legislative and regulatory frameworks in place? • Is an appropriate legislative and regulatory framework in place for the management of POPs (and other chemicals) in the country? How did the project contribute? • Have clear responsibilities and roles (administrative and enforcement) in NIP implementation been assigned and is there appropriate institutional capacity to manage implementation? • Has enforcement capacity been strengthened and sustainable?
Partnering in investments for NIP implementation	<ul style="list-style-type: none"> • Any POPs phased out from use and/or production? • Any POPs destroyed in an environmentally sound manner? • Has the exposure to POPs been reduced (number of people living in close proximity to POPs wastes or emission sources).
Partnering in demonstration of feasible, innovative technologies and best practices for POPs reduction	<ul style="list-style-type: none"> • Have demonstrations been successful?²²⁵ • Are the demonstrated alternative products, practices, techniques or processes viable and feasible? • Has research produced results and are these results being used for POPs phase out?

3. UNIDO capacity review

- To what extent does the SCU have adequate resources (including administrative budget and seed funds) to develop, implement and monitor technical cooperation projects and to fulfil its global forum function?
- To what extent does the SCU have adequate staff *capacity* and *competence* to deliver the services it is supposed to provide and to implement its current portfolio?
- How adequately have the administrative budgets and programmable funds (*seed money*) been allocated to the Unit to implement its services and projects? How are other agencies POPs units endowed and how are they using the GEF fees?
- How appropriate is the Unit organizational set-up for the effective implementation of its interventions?
- What are the internal monitoring and decision making systems to ensure that the Unit's work programme is effectively implemented?
- Are potential synergies, in particular through cooperation with relevant UNIDO units and other agencies, exploited?

²²⁵ See: "POPs focal area strategy and strategic programming for GEF-4" in particular the indicators listed for demonstration projects

4. Future outlook

- How will the changes in the framework of GEF project funding (GEF 5; "broadening of the GEF partnership"²²⁶) affect UNIDO's potential to implement projects? How are the different roles of different types of agencies going to evolve?
- Are there any other trends – either external (e.g. increased cooperation of chemicals conventions, SAICM, changes in other GEF agencies approaches and capacities, etc.) or internal (e.g. UNIDO's Resource Efficiency and Cleaner Production (RECP) and Green Industry strategies) that affect the UNIDO POPs work?
- How will recent and planned changes within UNIDO affect the future POPs portfolio? Can UNIDO handle the large pipeline portfolio? Are the screening and approval procedures appropriate?
- Based on the past experience and future outlook, what are the main challenges that UNIDO will have to tackle in order to meet its POPs-related objectives?

VI. Evaluation methodology

The evaluation will use a mixed method approach, collecting and analysing information from a range of sources. The evaluation will encompass the following steps:

I. Document review

A desk review of different sets of documents will be carried out as a first step of the evaluation to provide solid universe of data on UNIDO POPs activities. Based on the document review the evaluation lead consultant will refine the evaluation questions and prepare evaluation matrixes. This will ensure consistency when reviewing projects and help extract comparable information. The document review will include:

Review of the UNIDO POPs portfolio (including past, ongoing and pipeline projects) based on the UNIDO project database. Comparison with other agencies' POP's portfolio's.

Systematic review and analysis of UNIDO evaluation reports that contain UNIDO POPS interventions (see the complete list in section 5 below).

Review UNIDO documents and publications on POPs including strategies, concept papers, work plans, project and programme documents, technical

²²⁶ GEF/C.39/7/Rev.2; Broadening of the GEF Partnership under paragraph 28 of the GEF instrument: key policy issues; November 18, 2010

reports from subcontractors and consultants, progress and final reports and existing evaluation reports.

Review of recent literature and publications on POPs and strategies and programmes of other development cooperation agencies active in this field.

Review resource plans (e.g. staff capacity, in-house competence) and allocations of administrative budgets and programmable funds to the SCU.

II. Review of the intervention logic of UNIDO POPs projects

Based on the desk review the lead evaluation consultant will analyse the *intervention logic (or “theories of change (TOC)”*) of typical UNIDO POPs interventions. These theories will map out how inputs and activities should have logically led to outputs, outcomes and impacts. This will enable the evaluation to determine in how far the design of POPs projects is adequate, whether it is consistent with the GEF focal area strategy and/or whether it contains critical strengths and/or weaknesses that need to be addressed.

The theories of change will be validated through discussions with UNIDO staff members, through surveys of stakeholders (GEF focal points, project counterpart agencies, other GEF agencies) and through review of secondary information (literature).

III. Interviews of UNIDO staff and selected external POPs professionals

Semi-structured interviews with UNIDO POPs project managers and UNIDO Representatives in Field Offices (telephone interviews).

Discussions with relevant UNIDO managers and staff at the headquarters on the evaluation issues and on possible ways forward.

Interviews with selected professionals from SC Secretariat, GEF and/or other GEF agencies on trends and future issues in the POPs area.

IV. Surveys

Surveys will be carried out to triangulate findings from desk review, review of intervention logic and interviews. The final survey design and selection of the survey participants will be done in consultation with the UNIDO SCU staff and management. Depending on this selection it will be necessary to prepare different tailor-made survey instruments. It is suggested to prepare three survey instruments for the following target groups:

- SC implementation units in partner countries and UNIDO POPs project staff (national and international consultants): with focus on the validity of the POPs TOCs, implementation modalities, UNIDO value added and potential for improvements

- Staff of UNIDO partner agencies (WB, UNDP, UNEP, GEF secretariat) and GEF focal points in UNIDO partner countries: with focus on the validity of the POPs TOCs, future trends and issues in the POPs field
- Final beneficiaries (demo project companies, strengthened institutions, etc.): with a focus on the validity of the POPs TOCs and results

V. Evaluations of individual POPs projects

The evaluation will make use of a number of in-depth evaluations of UNIDO POPs projects which have been and will be conducted (see table below). Other evaluation reports (e.g. of other agencies' POPs projects) will be used as reference documents to the extent possible and relevant.

Project number	Title	Type of evaluation	Evaluated
GFINS0200 8	Enabling activities to facilitate early action on the implementation of the Stockholm Convention on (POPs) in Indonesia	ex-post	2009
GPGLO030 12	Fostering Active and Effective Civil Society Participation In Preparations For Implementation of Stockholm Convention	terminal	2006
GFICPR0400 2	Building the Capacity of the People's Republic of China to Implement the Stockholm Convention on POPs and develop a National Implementation plan	terminal	2009
GFIND0700 4	Development of a National Implementation Plan (NIP) in India as a First Step to Implement the Stockholm Convention on Persistent Organic Pollutants (POPs)	terminal	ongoing (to be completed in May 2011)
GFICPR0700 8	Environmentally Sustainable Management of Medical Waste in China	mid-term	ongoing (to be completed in May 2011)
GFICPR0700 9	Strengthening Institutions, Regulations and Enforcement (SIRE) capacities for Effective and Efficient Implementation of the National Implementation Plan (NIP) in China	mid-term	ongoing (to be completed in May 2011)
GFROM070 01	Disposal of PCB wastes in Romania	final	2010

GFPHI07001	Global Programme to demonstrate the viability and removal of barriers that impede adoption and successful implementation of available, non-combustion technologies for destroying persistent organic pollutants.	terminal	planned for second half 2011
GFRAF07024	Regional project to develop appropriate strategies for identifying sites contaminated by chemicals listed in annexes A, B and /or C of the Stockholm Convention – Nigeria and Ghana	mid-term	planned for second half 2011

VII. Reporting

After the evaluation team has been constituted and a first review of key documents has been carried out and before the actual evaluation activities start, the team leader will present an inception report, in which the evaluation approach outlined here is operationalised. This should include an evaluation matrix, a concrete strategy for the surveys and draft TOCs for POPs projects. The main deliverable of the evaluation exercise is the final report of around 40-50 pages with a 3-page executive summary in English. The report should cover the key evaluation issues outlined in section III. It should describe the methodology used and highlight any methodological limitations, identify key concerns and present evidence-based findings, conclusions, recommendations and lessons learned.

The draft report will be shared with UNIDO staff and the GEF Evaluation Office for initial review and consultation. They may provide feedback on any factual errors or omissions and may highlight the significance of such errors in conclusions. The evaluators will also seek agreement on the findings and recommendations. They will take comments into consideration when preparing the final version of the report.

Quality assessment of the evaluation report. All UNIDO evaluation reports are subject to quality assessments by the UNIDO Evaluation Group.

ODG/EVA will constitute a consultative committee to accompany the evaluation process, provide inputs at key decision points (e.g. discussion of inception report, preliminary findings, draft report) and ensure organisational learning from the evaluation. The committee will be composed of one the Director of UNIDO's Environmental Management Branch, the Chief of the POPs Unit, the Director of UNIDO Evaluation Group one director of a related UNIDO branch (e.g. Montreal Protocol) and one external peer.

The Final Evaluation Report will be submitted to UNIDO's Executive Board. The Evaluation Management Response will outline the evaluation recommendations. The Branch and Unit Management and the concerned

project managers will be responsible to provide a management response to the evaluation's recommendations, including acceptance or non-acceptance and planned actions for follow-up. The management response will be posted on the UNIDO intranet to allow tracking of the follow-up of the evaluation. The evaluation report will be posted on the UNIDO internet website: <http://www.unido.org/evaluation>.

VIII. Evaluation team and timing

The evaluation team will be composed of one international evaluation consultant acting as team leader and one staff member of UNIDO Evaluation Group acting as team member. In parallel to the thematic evaluation two evaluations of UNIDO POPs projects will be carried out (Philippines non combustion technology project and Nigeria/Ghana contaminated sites project). The team leaders of these project evaluations will also form part of the evaluation team of the thematic evaluation. Their tasks will be described in the job descriptions and TOR of the project evaluations. One consultant will be recruited as research assistant and survey coordinator. The tasks of the evaluation team members are specified in the job description attached to these terms of reference in Annex 1. The evaluation is scheduled to take place in 2011 in accordance with the following time schedule:

Task/Output	Deadline
Draft ToR	April 2011
Final ToR	May 2011
Selection of consultants	May 2011
Evaluation starts	End of May 2011
Inception report, first meeting of consultative committee	June 2011
Evaluation work including document review, surveys, interviews	June/July/August 2011
Field missions to Philippines and Ghana/Nigeria	July to September
second meeting of consultative committee: discussion of preliminary findings	September
Preparation and circulation of draft report	October 2011
Final Evaluation Report	November/ December 2011

All members of the evaluation team must not have any preconceived notion, opinion or bias with regard to the issues, projects or programmes subject to the evaluation and must not have been involved in the design and/or implementation,

supervision and coordination of and/or have benefited from the programme/project or theme under evaluation, as stipulated in the UNIDO Evaluation Policy²²⁷: The consultants will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of their contract with the Evaluation Group.

Evaluation process. While underscoring the need for independence, the Evaluation Group recognises the importance of engaging the main stakeholders in an active dialogue throughout the evaluation process. The UNIDO Evaluation Policy states that: “*Transparency and consultation with the major stakeholders are essential at all stages of the evaluation process. Involvement of and consultation with stakeholders facilitates consensus building and ownership of the findings, conclusions and recommendations; it also heightens the credibility and quality of the evaluation*”. This is fundamental to ensure the evaluators’ full understanding of the opportunities and constraints faced by the SC Unit, to engage the stakeholders in a fruitful collaboration and to facilitate the discussion of the recommendations and their adoption.

In order to do so, colleagues from the SC Unit will be invited to review and comment on the proposed evaluation methodology and process as set out in this terms of reference, participate in key discussions of the preliminary findings, as well as review and comment on the draft evaluation report.

The SC Unit will provide information and support to the evaluation as required.

²²⁷ UNIDO Evaluation policy:
http://www.unido.org/fileadmin/import/64064_UNIDO_Evaluation_Policy_FINAL.pdf

Annex H: List of Documents

Government of Canada (2003) PCB Disposal: Askarel Transformers. Government of Canada. Ottawa.

GEF (2006) The Nature and Role of Local Benefits in Global Environmental Programs. GEF Evaluation Office. Washington DC.

GEF (2007) Focal Areas Strategies and Strategic Programming for GEF-4. GEF Secretariat. Washington DC.

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GEF (2010) Strategy on Sound Chemicals Management for the 5th Replenishment Period of the Global Environment Facility. GEF Secretariat. Washington DC.

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Stockholm Convention Secretariat (2005) Guidance for Developing a NIP for the Stockholm Convention. UNEP. Geneva.

Stockholm Convention Secretariat (2009) Stockholm Convention (amended 2009): Text and Annexes. UNEP. Geneva.

UNDP (2011) Environmentally Sound Disposal of PCBs Containing Equipment in Latvia. Terminal Evaluation. UNDP. New York.

UNEP (2006) Lessons Learned and Good Practices in the Development of National Implementation Plans for the Stockholm Convention on Persistent Organic Pollutants. Global Report. UNEP. Nairobi.

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UNIDO (2008) Independent Evaluation of the UNIDO-UNEP Cleaner Production Programme. UNIDO Evaluation Group. Vienna.

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