



EVALUATION OF THE GEF FOCAL AREA STRATEGIES

TECHNICAL PAPER 5: CHEMICALS

(UNEDITED)

(Prepared by the GEF Evaluation Office)

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1. INTRODUCTION

The *Evaluation of GEF Focal Area Strategies* is designed as a formative¹ evaluation emphasizing learning as its primary goal. Accordingly, the evaluation's main objective is to collect and assess information related to the GEF-5 Focal Area Strategies to gain a systematic understanding of the elements and causal links each strategy envisions. The evaluation encompasses the analysis of the following Focal Area Strategies: Biodiversity, Climate Change Mitigation, International Waters, Land Degradation, Chemicals, Sustainable Forest Management/REDD+, and Climate Change Adaptation (under LDCF/SCCF). The evaluation focuses on the most recent GEF-5 Focal Area Strategies and LDCF/SCCF Strategy covering the period from 2010 to 2014.

The *Evaluation of GEF Focal Area Strategies* focuses on the analysis of the GEF-5 Focal Area Strategies as they are formulated, emphasizing the strategies' intended rationale and internal logic. Using a theory-based approach, the evaluation takes a detailed look at the logic chains of causality that each strategy identifies to achieve its objectives. Based on the "theory of change" (TOC) analysis, the evaluation provides an assessment of the extent to which the causal pathways identified by the strategies reflect guidance provided to the GEF by the international conventions (UNFCCC, CBD, UNCCD and Stockholm Convention) as well as the current state of scientific knowledge on aspects relating to the strategies. The analysis provides the foundation for a subsequent assessment of the implementation of Focal Area Strategies in GEF projects, which will be conducted in the context of OPS5.

Aiming to improve the understanding of elements and causal links reflected in GEF Focal Area Strategies, the *Evaluation of GEF Focal Area Strategies* employs a four step approach:

- a) **Construct the theories of change:** What are the elements, causal links and overall rationale reflected in each Focal Area Strategy? What are the identified causal pathways envisioned to lead to the achievement of the strategy's objectives?
- b) **Review the relationship with convention guidance:** To what extent and in what way do the objectives formulated in the Focal Area Strategies relate to respective convention guidance?
- c) **Assess the connection with scientific knowledge:** To what extent do the Focal Area Strategies correspond with current scientific knowledge?
- d) **Make recommendations for future strategies:** Based on the findings of steps 1-3, what recommendations for the development of future GEF Strategies can be provided?

The Technical Papers 1-7, covering each of the Focal Area Strategies individually, present the findings from three separate processes of data collection and analysis conducted to answer the evaluation questions outlined above. They illustrate the construction of the Theory of Change for each Focal Area Strategy (chapter 2), present the review of convention guidance and the guidance-strategy mapping where applicable (chapter 3), and summarize the results of the Real-Time Delphi consultation that engages the scientific community in a discussion on the relationship between the Focal Area Strategies and the current state of scientific knowledge (chapter 4).

¹ The evaluation literature distinguishes between "summative" and "formative" evaluations. Summative evaluations focus on the assessment of performance and progress measured against expected targets and are used to evaluate accountability of a given system. In contrast, formative evaluations analyze evidence in order to learn from past experiences to inform improvements of a given system moving forward. See: Scriven, Michael (1967). "The methodology of evaluation". In Stake, R. E. Curriculum evaluation. Chicago: Rand McNally.

2. THEORY OF CHANGE FOR THE CHEMICALS FOCAL AREA

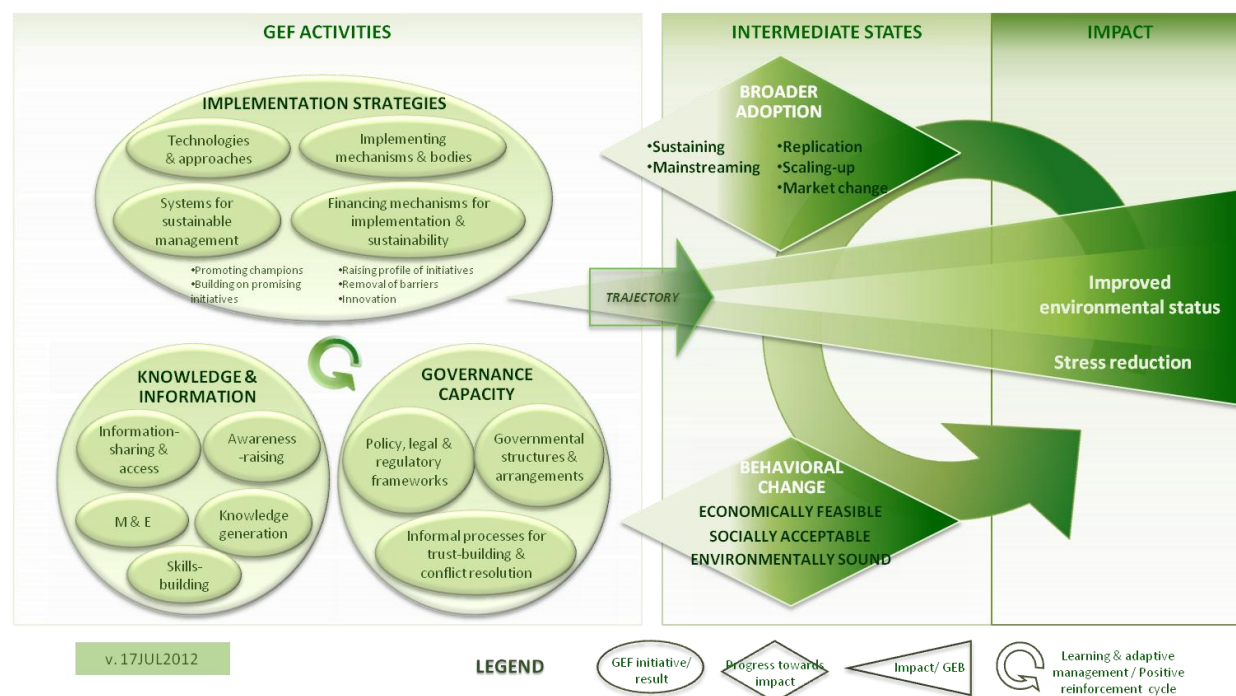
2.1 TOC Approach

A theory-based evaluation is designed around the “theory of change” (TOC) of an activity or strategy. The TOC systematically examines the elements and causal links that constitute the activity/strategy in order to understand and describe the logic of how the activity/strategy is expected to lead to the desired results (Fitz-Gibbon and Morris 1996, Weiss 1972). A theory of change may have been made explicit when the activity/strategy was designed; sometimes it is implicit, which requires the evaluators to reconstruct it. In the case of the GEF-5 Focal Area Strategies, the TOCs are mostly implicit and their reconstruction constitutes a major part of the *Evaluation of GEF Focal Area Strategies*.

General Framework for GEF TOC

In preparation for OPS5, the GEF Evaluation Office has developed a General Framework for the GEF TOC drawing on a large amount of evaluative evidence gathered over the years. The *Evaluation of GEF Focal Area Strategies* uses the General Framework to guide the construction of Focal Area Strategy TOCs. The purposes of the General Framework for GEF’s TOC framework are to classify GEF activities and locate them within the intended causality chain towards the generation of GEBs; establish links between different elements of GEF support as well as between GEF activities and contributions of other actors; assess GEF contribution to progress towards GEBs, including the GEF’s interaction with other actors; and identify constraints on further GEF contributions to progress towards GEBs.

Figure 1: General Framework for GEF Theory of Change



The framework classifies GEF support into three categories that are interdependent and in most cases realize their full potential through their interaction with each other. A specific GEF project often features a combination of elements from different categories:

- a) **Knowledge and information**, including activities to support the generation and sharing of pertinent knowledge and information, awareness-raising activities, improvement of technical skills, as well as monitoring and evaluation.
- b) **Governance capacity**, encompassing support for the development and formulation of policy, legal and regulatory frameworks at the appropriate scales of intervention, assistance for the improvement of governmental structures and processes, as well as support for informal mechanisms for trust-building and conflict resolution.
- c) **Implementation strategies**, covering a broad range of activities including investments in physical assets, establishment of financing mechanisms and organizational arrangements, as well as improvements of sustainable management approaches, among many others. This category entails the testing and demonstration of new technologies, instruments and approaches, as well as efforts to support broader deployment of proven strategies.

Changes directly linked to GEF activities are referred to as GEF outputs and outcomes. In working towards envisioned outputs and outcomes, the different elements within a GEF project are often designed to complement each other and interact with contributions of other actors. GEF projects are usually conducted within the context of previous and ongoing initiatives carried out in part by non-GEF actors (national governments, international organizations, CSOs, private sector). GEF projects often build on and/or supplement contributions of other actors. In addition, GEF activities are implemented under national circumstances that influence the initiative and are largely outside GEF control. The General Framework helps to assess the interactions of GEF activities with contextual factors.

GEF support is typically envisioned to catalyze progress towards impact at a broader level including the broader adoption of technologies, approaches and instruments. The nature of GEF involvement in catalyzing broader adoption is different between individual projects and across Focal Areas. In a number of cases, GEF activities include direct support for the facilitation of broader adoption in collaboration with other actors, turning broader adoption into a direct GEF project outcome as described above. In these cases, broader adoption is directly integrated in the design of the GEF activity. In other cases, broader adoption is following the example of GEF activities, but emerges without direct GEF support which puts broader adoption beyond the scope of implementation of the GEF project itself. Under both approaches, the GEF aims at developing initiatives to trigger a broad range of stakeholders to use the projects' results beyond their direct objectives. The General Framework identifies five general categories of ways towards broader adoption within or beyond the limits of direct GEF influence:

- a) **Sustaining**: Technologies/approaches originally supported through the GEF activity continue to be implemented beyond actual project duration through integration into the regular activities and budget of the government and/or other stakeholders.
- b) **Mainstreaming**: Information, lessons, or aspects of a GEF initiative are incorporated into a broader initiative such as policies, institutional reforms, and behavioral transformations.
- c) **Replication**: Results of GEF activities are reproduced at a comparable scale, often in different geographical areas or regions.

- d) **Scaling-up:** Results of GEF activities are expanded to address concerns at larger geographical, ecological or administrative scales.
- e) **Market change:** GEF activity catalyzes market transformation, which might encompass technological changes, policy and regulatory reforms, and financial instruments that increase demand for goods and services likely to contribute to global environmental benefits.

Broader adoption goes hand in hand with behavioral change, meaning sustained and significant changes in stakeholder choices towards more environment-friendly actions. The TOC framework highlights the reinforcing interactions between broader adoption, behavioral change and environmental improvements.

TOC construction for GEF-5 Focal Area Strategies

The *Evaluation of GEF Focal Area Strategies* applies the general framework to each of the GEF-5 Focal Areas as well as the LDCF/SCCF Strategy. The resulting TOCs map out the strategies' elements and causal links, depicting the means-ends linkages envisioned explicitly or implicitly in the strategy and thereby identifying the logical chain of actions that are supposed to lead to the achievement of the strategies' objectives.

The purpose of the Focal Area Strategies TOCs, serving to establish the foundation for a subsequent evaluative effort on the implementation of GEF Focal Area Strategies, is to gain a better understanding of the elements, causal links and assumptions underlying the GEF-5 Focal Area Strategies as initially formulated, without incorporating the evolution of the strategy that occurred during its implementation. The implementation of the strategies through GEF-5 projects including the evolution since the formulation will be analyzed as part of OPS5. Accordingly, the current TOC reflects the information as provided in the actual text of the GEF-5 focal area strategy document and results framework. While additional documents have been consulted to provide contextual information, this document strictly presents the TOC of the strategy itself, meaning that it is solely based on the strategy text plus documents that the strategy directly references.

The construction of the TOCs proceeded in two steps. First, each strategy is disaggregated into its objectives in order to systematically identify different GEF activities articulated by the strategy, to assess the causal links between elements and to recognize the underlying assumptions these causal chains are based on. Second, the identified elements and causal links are consolidated in one overarching Focal Area Strategy TOC, illustrating the causal pathways the strategy envisions and the underlying assumptions the pathways are based on. Throughout the TOC process, the evaluation team consulted with the respective GEF Secretariat teams to ensure correct interpretation of the strategy documents and establish agreement on the central aspects of the TOC.

Figures 2 shows examples for the relationship between the general categories of GEF activities as proposed by the General Framework and concrete activities described in GEF-5 Focal Area Strategies. Figure 3 presents an example for a causal chain implicit in several GEF-5 Strategies.

Figure 2: Categories of elements of GEF and examples from GEF-5 Focal Area Strategies

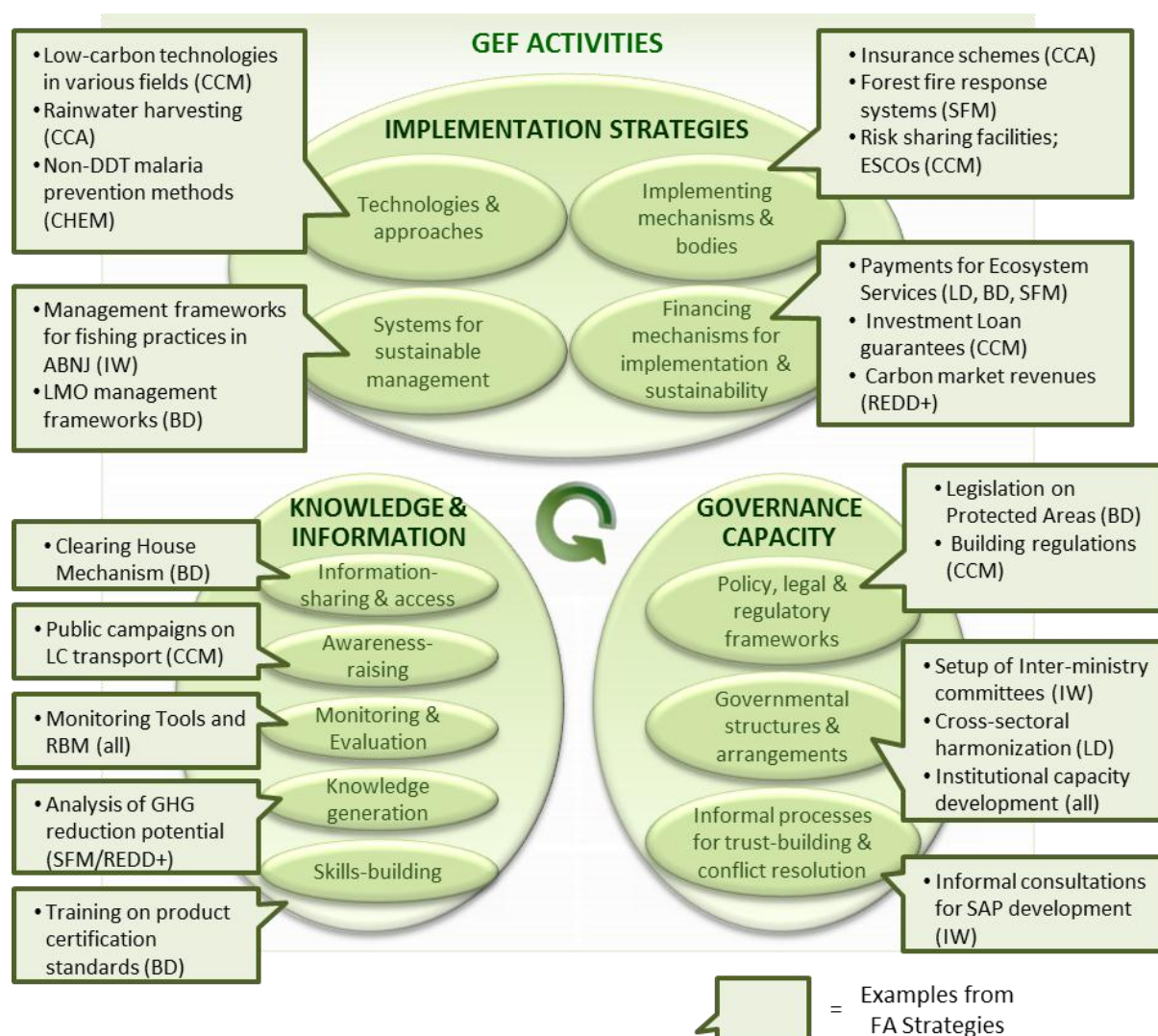
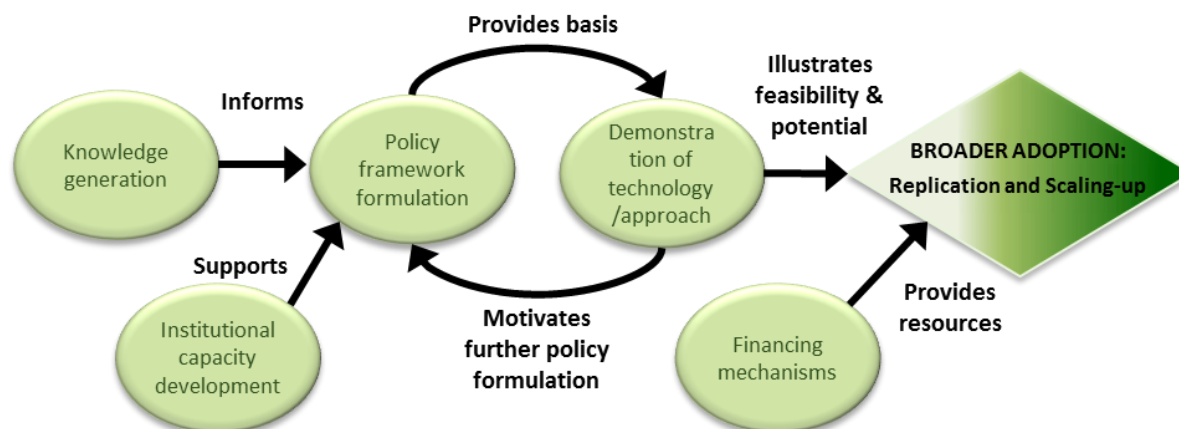


Figure 3: Example for frequent chain of causality implicit in several Focal Area Strategies



2.2 Construction of CHEM Focal Area Strategy TOC

Overview of CHEM Focal Area Strategy objectives

Table 1 presents an overview of CHEM Focal Area Strategy objectives including the indicative GEF-5 allocation as approved by the GEF Council as part of the GEF-5 Focal Area Strategies. The indicative allocations are compared to the resources programmed for GEF activities under the respective objectives as of 30 June 2012.

Table 1: Overview of objectives and resource allocations

Chemicals Focal Area		
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	
Objectives	Indicative allocation	Approved resources (as of 30 June 2012)
Objective 1: Phase out POPs and reduce POPs releases	\$340m / 81.0%	\$118m / 83.1%
Objective 2: Phase out ODS and reduce ODS releases	\$25m / 6.0%	\$5m / 3.5%
Objective 3: Pilot sound chemicals management and mercury reduction	\$20m / 4.8%	\$12m / 8.5%
Objective 4: POPs enabling activities	\$35m / 8.3%	\$7m / 4.9%
Total	\$395m / 100%	\$142m / 100%

Note: NA – not available.

Source: Indicative allocations from GEF/C.37/3; Approved resources are estimates from the GEF Secretariat.

CHEM-1: Phase out POPs and reduce POPs releases

Table 2: CHEM-1 results framework

Objective	Expected Outcomes and Indicators	Core Outputs
CHEM-1	Outcome 1.1: Production and use of controlled POPs chemicals phased out. Indicator 1.1.1: Amount of POPs not produced or used following demonstration of alternative; measured in tons per year against baseline as recorded through the POPs tracking tool.	Output 1.1.1: Countries receiving GEF support to phase out the production or use of controlled POPs (other than new POPs). Indicator 1.1.1.1: Number of countries receiving GEF support to phase out the use of controlled POPs (other than new POPs). Indicator 1.1.1.2: Number of countries receiving GEF support to phase out the production of controlled POPs (other than new POPs). Output 1.1.2: Countries receiving GEF support to pilot “new POPs” reduction activities. Indicator 1.1.2.1: Number of countries receiving GEF support to pilot “new POPs” reduction activities.
	Outcome 1.2: Exempted POPs chemicals used in an environmentally sound manner. Indicator 1.2.1: Number of countries managing the use of exempted POPs in an environmentally sound manner.	Output 1.2.1: Countries receiving GEF support for environmentally sound management of DDT. Indicator 1.2.1.1: Number of countries receiving GEF support for environmentally sound management of DDT. Output 1.2.2: Countries receiving GEF support for environmentally sound management of exempted POPs (other than DDT). Indicator 1.2.2.1: Number of countries receiving GEF support for environmentally sound management of exempted POPs (other than DDT).
	Outcome 1.3: POPs releases to the environment reduced. Indicator 1.3.1: Amount of unintentionally produced POPs releases avoided or reduced from industrial and nonindustrial sectors; measured in grams TEQ against baseline as recorded through the POPs tracking tool.	Output 1.3.1: Action plans addressing unintentionally produced POPs under development and implementation. Indicator 1.3.1.1: Number of countries with Action plans addressing unintentionally produced POPs under development and implementation.
	Outcome 1.4: POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner. Indicator 1.4.1: Amount of PCBs and PCB-related wastes disposed of, or decontaminated; measured in tons as recorded in the POPs tracking tool. Indicator 1.4.2: Amount of obsolete	Output 1.4.1: PCB management plans under development and implementation. Indicator 1.4.1.1: Number of countries with PCB management plans under development and implementation. Output 1.4.2: Countries receiving GEF support for environmentally sound management of obsolete pesticides, including POPs.

	<i>pesticides, including POPs, disposed of in an environmentally sound manner; measured in tons.</i>	Indicator 1.4.2.1: <i>Number of countries receiving GEF support for environmentally sound management of obsolete pesticides, including POPs.</i>
	Outcome 1.5: Country capacity built to effectively phase out and reduce releases of POPs. Indicator 1.5.1: <i>Progress in developing and implementing a legislative and regulatory framework for environmentally sound management of POPs, and for the sound management of chemicals in general, as recorded in the POPs tracking tool.</i>	Output 1.5.1: Countries receiving GEF support to build capacity for the implementation of the Stockholm Convention. Indicator 1.5.1.1: <i>Number of countries receiving GEF support to build capacity for the implementation of the Stockholm Convention.</i>

Elements and chain of causality

CHEM-1 aims to reduce the “exposure to POPs and other PTS of humans and wildlife”, supporting the implementation of the Stockholm Convention. Following a chemicals life cycle approach, CHEM-1 includes elements to specifically address POPs reduction at every stage: before production (phase out), during use (management/release reduction), and after use (destruction/disposal). The evolution of the CHEM strategy across GEF replenishment periods is characterized by the addition of new groups of chemicals to be addressed through GEF supported activities. In this context, CHEM-1 highlights expanded efforts to reduce “releases of unintentionally produced dioxins and furans from industrial and non-industrial sources” as well as pilot interventions for nine “new POPs” (added to POPs Convention in 2009).

Institutional capacity

The CHEM strategy across objectives heavily builds on **legally mandated provisions, bans and limits to catalyze broader adoption and behavioral change**. Consequently, CHEM-1 highlights the importance of legislative and regulatory frameworks and institutional capacity to implement, monitor and enforce legal and regulatory provisions. GEF support to legal frameworks and capacity development provides the basis for most activities under CHEM-1 described in the following sections. In addition, the causal link between the legal and regulatory framework and the GEF support for the implementation of concrete measures is reciprocal: GEF supported implementation activities create a demonstration effect that informs and motivates political decision-makers to further develop and improve policy, legal and regulatory stipulations.

Implementation strategies

Support for POPs reduction along the chemical life cycle employs two closely connected levers to effect broader changes of the approach to POPs in particular and sound chemicals management more generally (see CHEM-3): the indirect **demonstration effect** of successful interventions illustrating the feasibility of sound POPs management, and the direct **POPs reduction effect** of large-scale GEF supported interventions. Most GEF activities are envisioned to yield both effects simultaneously along the stages of the chemical life cycle:

- a) **Phase out:** CHEM-1 places special emphasis on the **phase out of POPs**, preventing their production in industrial processes as well as their use in products. A core element of GEF

supported activities is to identify and **promote alternatives** to POPs production and use, demonstrating their feasibility and thereby facilitating broader adoption of POPs reducing practices.

- b) **Management:** CHEM-1 supports the **environmentally sound management** of POPs that cannot be fully phased out (exempted POPs) in order to minimize their production and use, including the development and implementation of suitable management plans. This also includes management challenges with regards to unintentionally produced POPs, POPs waste and contaminated sites. Being dependent on the skills, knowledge and information of individuals, environmentally sound management is closely connected to efforts of **awareness, education, and access to information** (see below).
- c) **Disposal:** The third group of activities under CHEM-1 focuses on the end of the chemicals life cycle and includes activities to support the **environmentally sound destruction and disposal** of POPs.

In all three dimensions, the CHEM strategy stresses the application of Best Available Technologies and Best Environmental Practices (BAT/BEP), creating a synergistic link to related technology innovation and transfer efforts under Objective 1 of the Focal Area Strategy on Climate Change Mitigation (CCM-1). Furthermore, activities under CHEM-1 are linked to the National Implementation Plans (NIP) for the Stockholm Convention supported under CHEM-4. The NIPs identify the country-specific priority areas for GEF interventions under CHEM-1.

Knowledge & Information

As described above, the environmentally sound management of existing/exempted POPs is dependent on the individual level of knowledge and information of producers. GEF support to **awareness, education, and access to information** are therefore particularly highlighted under CHEM-1. In addition, knowledge and information efforts targeting policy decision makers also serve to inform the process of formulating suitable legal and regulatory frameworks on POPs.

Broader adoption and behavioral change

The combination of demonstration and direct POPs reduction effects of GEF supported activities, building on a comprehensively enforced governance framework, are envisioned to induce further **replication** and **scaling-up** of POPs reducing practices, widely applying the BATs/BEPs demonstrated in GEF projects. Awareness and knowledge about the benefits of POPs reduction can add to the increase of political engagement and private sector compliance regarding POPs frameworks.

In addition, the CHEM strategy highlights the similarities between the capacity necessary to manage and phase-out POPs (as well as ODS) and the ability for overarching sound management of chemicals in compliance with the Basel, Bamako and Rotterdam conventions. Consequently, the CHEM strategy assumes that efforts under CHEM-1 and CHEM-2 can make a significant contribution to promoting Sound Management of Chemicals in general and the implementation of the Strategic Approach to International Chemicals Management (SAICM) at the country level in particular (see CHEM-3).

Key Assumptions underlying CHEM-1:

- Legal/regulatory stipulations provide an effective instruments to change POPs related practices and are the most important lever to induce corresponding behavioral change of stakeholders
- Adoption of and compliance with legal stipulations can be significantly increased through the demonstration of alternative ways to handle harmful chemical substances: Demonstration effects facilitate the process of broader adoption and behavioral change
- The level of individual knowledge and information of key stakeholders plays a crucial role within the causal chain towards POPs reduction
- Supporting activities that address POPs in different stages along the entire chemicals life cycle is, under given conditions, an effective use of GEF resources to achieve the CHEM-1 objective
- Efforts under CHEM-1 (and CHEM-2) can make a significant contribution to promoting Sound Management of Chemicals in general and the implementation of the Strategic Approach to International Chemicals Management (SAICM) at the country level in particular

CHEM-2: Phase out ODS and reduce ODS releases

Table 3: CHEM-2 results framework

Objective	Expected Outcomes and Indicators	Core Outputs
CHEM-2	Outcome 2.1: Country capacity built to meet Montreal protocol obligations and effectively phase out and reduce releases of ODS. Indicator 2.1.1: <i>GEF-supported countries meet their reporting obligations under the Montreal Protocol, as recorded by the Ozone Secretariat.</i>	Output 2.1.1: Country annual reports to the Ozone secretariat. Indicator 2.1.1.1: <i>Number of GEF recipient countries submitting their annual reports to the Ozone secretariat.</i>
	Outcome 2.2: ODS phased out and their releases reduced in a sustainable manner. Indicator 2.2.1: <i>Amount of HCFCs phased out from consumption or production, measured as ODP tons against baseline.</i>	Output 2.2.1: HCFCs phase out plans under development and implementation. Indicator 2.2.1.1: <i>Number of countries with HCFCs phase out plans under development and implementation.</i>

Elements and chain of causality

CHEM-2, focusing on the reduction of Ozone Depleting Substances (ODS), builds on successful activities in previous GEF periods. Therefore, the “support required for eligible countries to meet their obligations under the Montreal Protocol, in particular as relates to HCFCs, is expected to remain relatively modest”. CHEM-2 continues to focus on the accelerated phase out of production and use of HCFCs in eligible CEITs, highlighting the potential synergies and benefits of multi-focal area financing with regards to CCM-2 on energy efficiency in industry and the building sector. Depending on resource availability CHEM-2 might also include pilot activities to address ODS disposal.

Institutional capacity & Implementation strategies

CHEM-2 largely follows the chain of causality described for CHEM-1: Supporting the formulation or update of suitable legal and regulatory provisions in combination with capacity development to implement and enforce these provisions represents the basis of GEF activities under CHEM-2. The process of governance framework and institutional capacity development is supported and guided by national reporting obligations to the Montreal Protocol. Building on the governance framework, GEF supported activities focus on phasing out HCFCs in production and use, minimizing HCFC release. At the same time, the **reciprocal causal relationship** described under CHEM-1 applies for CHEM-2 as well: the demonstration effect of GEF activities inform and motivate the development and improvement of the governance framework.

Given the comparably small amount of remaining HCFCs and the tried and tested mechanisms for phase out, demonstration effects to induce replication and scaling-up do not play a strong role for this element. In contrast, GEF pilot activities to test approaches for ODS destruction/disposal are envisioned to create a demonstration effect for subsequent follow-up and improvement, replication and scaling-up.

Broader adoption and behavioral change

CHEM-2 mainly focuses on maintaining the current level of adoption and compliance as well as political and private sector engagement in HCFC phase out to achieve the goals set by the Montreal Protocol's plan for accelerated phase out. ODS destruction/disposal introduces a new element into CHEM-2 to be piloted to a limited extent during GEF-5.

Key Assumptions underlying CHEM-2:

- ODS phase out is on the right track; maintaining, refining current practices will lead to the achievement of associated goals
- ODS destruction/disposal represents an area for potential GEB creation; investments in pilot activities can be effective in opening new opportunities for ODS related GEF activities
- Efforts under CHEM-2 (and CHEM-1) can make a significant contribution to promoting Sound Management of Chemicals in general and the implementation of the Strategic Approach to International Chemicals Management (SAICM) at the country level in particular

CHEM-3: Pilot sound chemicals management and mercury reduction

Table 4: CHEM-3 results framework

Objective	Expected Outcomes and Indicators	Core Outputs
CHEM-3	Outcome 3.1: Country capacity built to effectively manage mercury in priority sectors. Indicator 3.1.1: <i>Countries implement pilot mercury management and reduction activities.</i>	Output 3.1.1: Countries receiving GEF support for mercury management and reduction, on a pilot basis. Indicator 3.1.1.1: <i>Number of countries receiving GEF support for mercury management and reduction, on a pilot basis.</i>
	Outcome 3.2: Contribute to the overall objective of the SAICM of achieving 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 environment. Indicator 3.2.1: <i>Countries implement SAICM relevant activities that generate global environmental benefits and report to the International Conference on Chemicals Management</i>	Output 3.2.1: Countries receiving GEF support to implement SAICM relevant activities, including addressing persistent toxic substances and other chemicals of global concern (other than mercury), on a pilot basis. Indicator 3.2.1.1 <i>Number of countries receiving GEF support to implement SAICM relevant activities, including addressing persistent toxic substances and other chemicals of global concern (other than mercury), on a pilot basis.</i>

Elements and chain of causality

CHEM-3 entails particularly forward looking elements of the CHEM strategy. Reminiscent to GEF activities in the lead-up to the Stockholm Convention (adopted in 2001), CHEM-3 includes exploratory activities regarding the **management of mercury**, envisioned to feed into the current negotiations for an international treaty on mercury. In addition, CHEM-3 supports the further development of cross-convention approaches to sound chemicals management, promoting the **Strategic Approach to International Chemicals Management (SAICM)** as adopted by the International Conference on Chemicals Management (ICCM) in 2006.

Implementation strategies & Institutional capacity

The CHEM-3 chain of causality follows two closely interlinked pathways:

- Mercury:** The CHEM-3 causality chain on mercury starts with assessment activities on suitable approaches to mercury management which directly inform a series of pilot projects to test, explore and demonstrate approaches to mercury phase out and release reduction as well as identification and promotion of mercury in production and use. These GEF supported pilot activities are envisioned to inform the ongoing formulation of an international mercury treaty and provide a head-start in terms of demonstrating feasible approaches facilitating future replication and scaling up in the context of the new treaty.
- SAICM:** In addition, CHEM-3 entails more general efforts of the GEF to extend its support to other chemicals beyond POPs and ODS in the future. In this context, GEF activities are envisioned to demonstrate and pioneer the principles of SAICM, addressing a spectrum of SAICM priority areas and thereby supporting the further development of the SAICM

framework. Efforts include institutional capacity development for joint implementation of international instruments, envisioned to provide the basis for a more strategic and integrated international approach to chemicals management.

Broader adoption and behavioral change

CHEM-3 is envisioned to prepare the ground for future GEF efforts in international chemicals management, exploring and testing approaches to mercury management as one of the greatest chemicals related challenges of the future as well as promoting SAICM as a way to address current and future challenges beyond POPs and ODS in a strategic and integrated way. The broader adoption of approaches and necessary behavioral changes related to these future challenges are envisioned to move towards the center of GEF supported activities in coming replenishment periods and associated CHEM focal area strategies.

Key Assumptions underlying CHEM-3:

- Mercury management is one of the main future challenges related to chemicals management
- GEF can provide valuable input to the formulation of an international mercury treaty through pilot activities, testing and demonstrating the feasibility of approaches
- SAICM should be employed and promoted through GEF activities
- Efforts under CHEM-1 and CHEM-2 can make a significant contribution to promoting Sound Management of Chemicals in general and the implementation of the Strategic Approach to International Chemicals Management (SAICM) at the country level in particular

CHEM-4: POPs enabling activities

Table 5: CHEM-4 results framework

Objective	Expected Outcomes and Indicators	Core Outputs
CHEM-4	Outcome 4.1: NIPs prepared or updated or national implications of new POPs assessed. Indicator 4.1.1: Progress in development or update of NIPs as recorded through the POPs tracking tool.	Output 4.1.1: Countries receiving GEF support for NIP development. Indicator 4.1.1.1: Number of countries receiving GEF support for NIP development. Output 4.1.2: Countries receiving GEF support for NIP update. Indicator 4.1.2.1: Number of countries receiving GEF support for NIP update.

Elements and chain of causality

CHEM-4 comprises additional POPs enabling activities and particularly focuses on the development and update of National Implementation Plans (NIPs) for the Stockholm Convention. The NIPs represent an instrument to improve national capacity to identify POPs related priorities and to integrate them into national planning. In turn, the NIPs and corresponding national policy agendas define the priorities to be addressed through GEF supported activities under CHEM-1. Adding to NIP development, CHEM-4 also includes GEF supported activities to assess the implications of the newly added nine “New POPs” with regard to the country-specific conditions and related policy priorities and planning.

Key Assumptions underlying CHEM-4:

- Development of National Implementation Plans (NIPs) for the Stockholm Convention can improve national capacity to integrate POPs prevention and management into national policy planning
- This process can be effectively catalyzed through GEF support

2.3 Overall TOC for GEF-5 Focal Area Strategy on Chemicals

The causal chains under the different CHEM objectives introduced above can be summarized in three closely intertwined causal pathways towards the creation of GEBs:

Causal pathway 1: Governance framework

The CHEM strategy primarily builds on legally mandated provisions, bans and limits to effect broad adoption and behavioral change. GEF supported activities in the Chemicals focal area are therefore based on national legislative and regulatory provisions, reflecting international treaties and conventions. Governance frameworks mandate the adoption of sound chemicals management practices and are assumed to be an effective instrument to change practices of different stakeholder groups, particularly private sector actors.

The effectiveness of corresponding legal stipulations is closely linked to the development of corresponding institutional capacity, including the ability to implement, monitor and enforce the chemicals governance framework. The combination of legal/regulatory provisions and institutional capacity represents the basis for GEF supported implementation activities as well as subsequent broader adoption and behavioral change. The development of the governance framework is furthermore supported by knowledge creation and information sharing efforts as well as by the experiences from on-the-ground activities (see below) that illustrate the effectiveness and feasibility of sound chemicals management.

Causal pathway 2: Demonstration

GEF activities under the CHEM strategy directly supporting sound chemicals management are based on policy, legal and regulatory frameworks and corresponding institutional capacity. With regard to POPs, activities follow the prioritization of issues to be addressed as provided by the GEF supported National Implementation Plans for the Stockholm Convention.

Following the assumption, that the adoption of and compliance with legal stipulations can be significantly increased through the demonstration of alternative ways to handle harmful chemical substances, GEF activities are envisioned to demonstrate sound approaches to the management of chemicals along the chemical life cycle: phase out, management/release reduction, destruction/disposal. By applying best available technologies and environmental practices, GEF activities intend to illustrate the benefits and feasibility of such approaches.

The demonstration effects are to be amplified by corresponding efforts to raise the level of awareness, knowledge and information among key stakeholder groups, especially relevant private sector actors. In sum, the demonstration of best practices in sound chemicals management is envisioned to facilitate the broader adoption and behavioral change mandated by the governance framework.

Causal pathway 3: Implementation

GEF support on chemicals is able to directly achieve significant stress reduction and improvements in environmental status through GEF supported implementation activities. Based on legal and regulatory frameworks and, to some extent, supported by knowledge creation and information sharing efforts, GEF supported efforts are envisioned to develop a direct impact on the phase out, environmentally sound management as well as destruction and/or disposal of harmful chemical substances.

Key Assumptions underlying the GEF-5 CHEM Focal Area Strategy:

- **Governance:** Legal and regulatory stipulations such as bans and limitations of use provide an effective instrument to change chemicals related practices and are the main element to induce corresponding behavioral change of stakeholders
- **Alternatives:** Adoption of and compliance with legal stipulations can be significantly increased through the demonstration of alternative ways of handling harmful chemical substances: Demonstration of best available technologies and practices facilitate the process of broader adoption and behavioral change
- **Knowledge:** The level of individual knowledge and information of key stakeholders plays a crucial role within the causal chain, especially with regard to POPs reduction
- **Scope of activities:** Supporting activities that address chemicals (especially POPs) in different stages along the entire chemicals life cycle is, under given conditions, an effective use of GEF resources to achieve given objective
- **ODS phase out:** ODS phase out is largely on the right track; maintaining and refining current practices and stakeholder engagement will lead to the achievement of associated goals
- **ODS disposal:** ODS destruction and disposal represents an area for potential GEF creation, presenting opportunities for ODS related GEF activities
- **Mercury:** Mercury management is one of the main future challenges related to chemicals management; GEF can provide valuable input to the formulation of an international mercury treaty through pilot activities
- **SMC/SAICM:** SAICM should be employed and promoted through GEF activities. Efforts under CHEM-1 and CHEM-2 can make a significant contribution to promoting Sound Management of Chemicals in general and the implementation of the Strategic Approach to International Chemicals Management (SAICM) at the country level in particular.

2.4 Framework diagrams for TOC construction

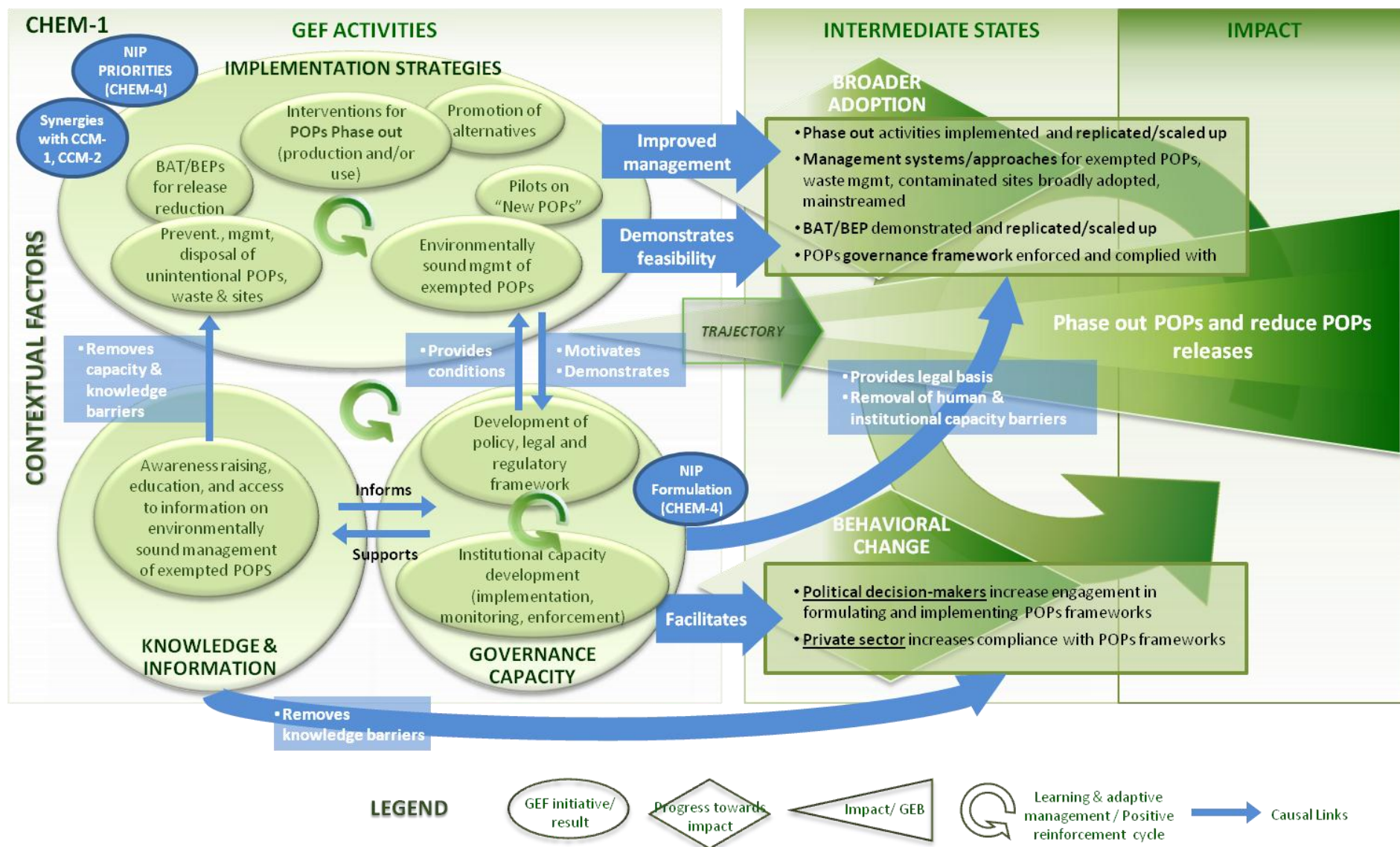


Figure 4: Elements and causal links of CHEM-1

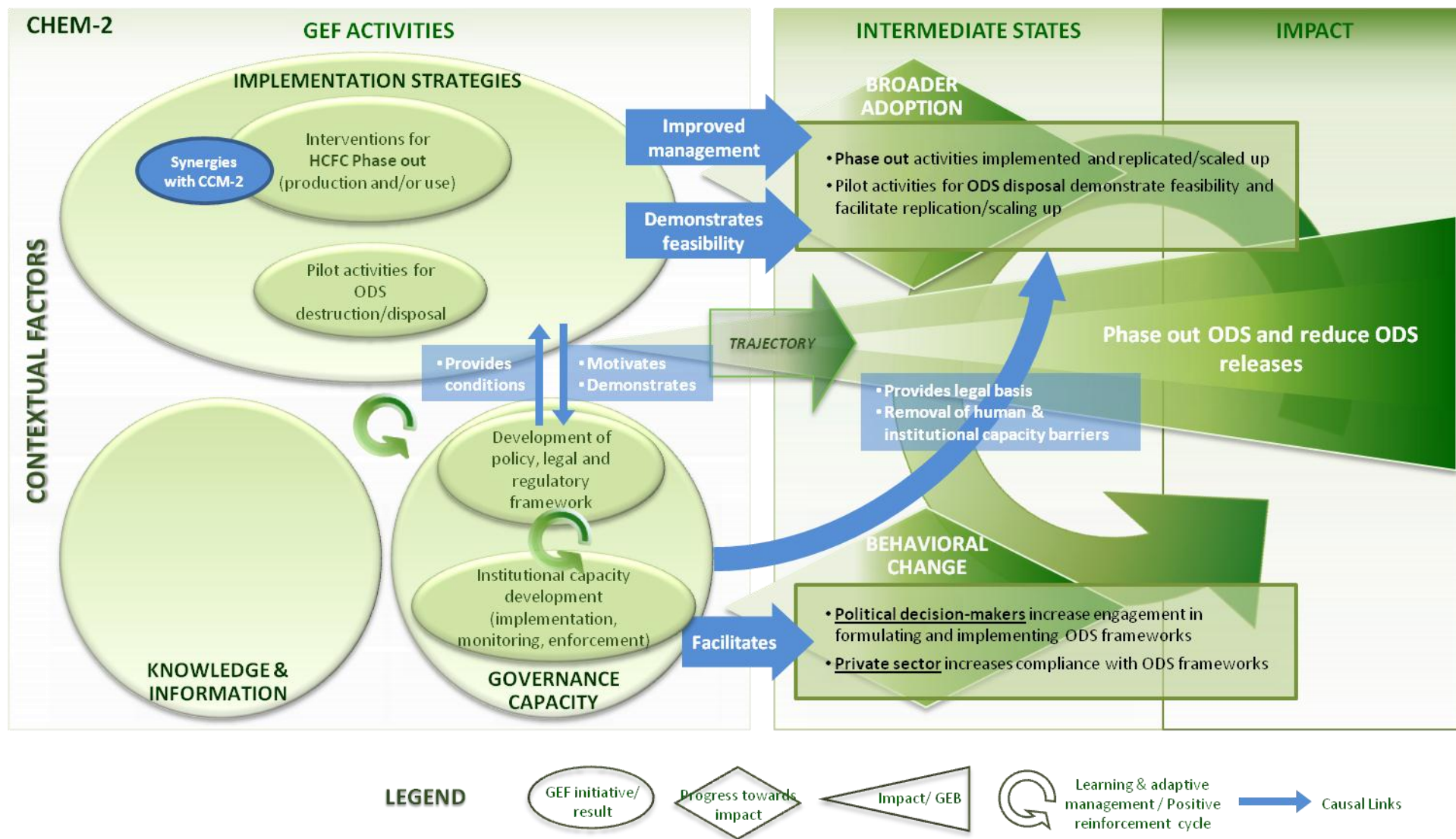


Figure 5: Elements and causal links of CHEM-2

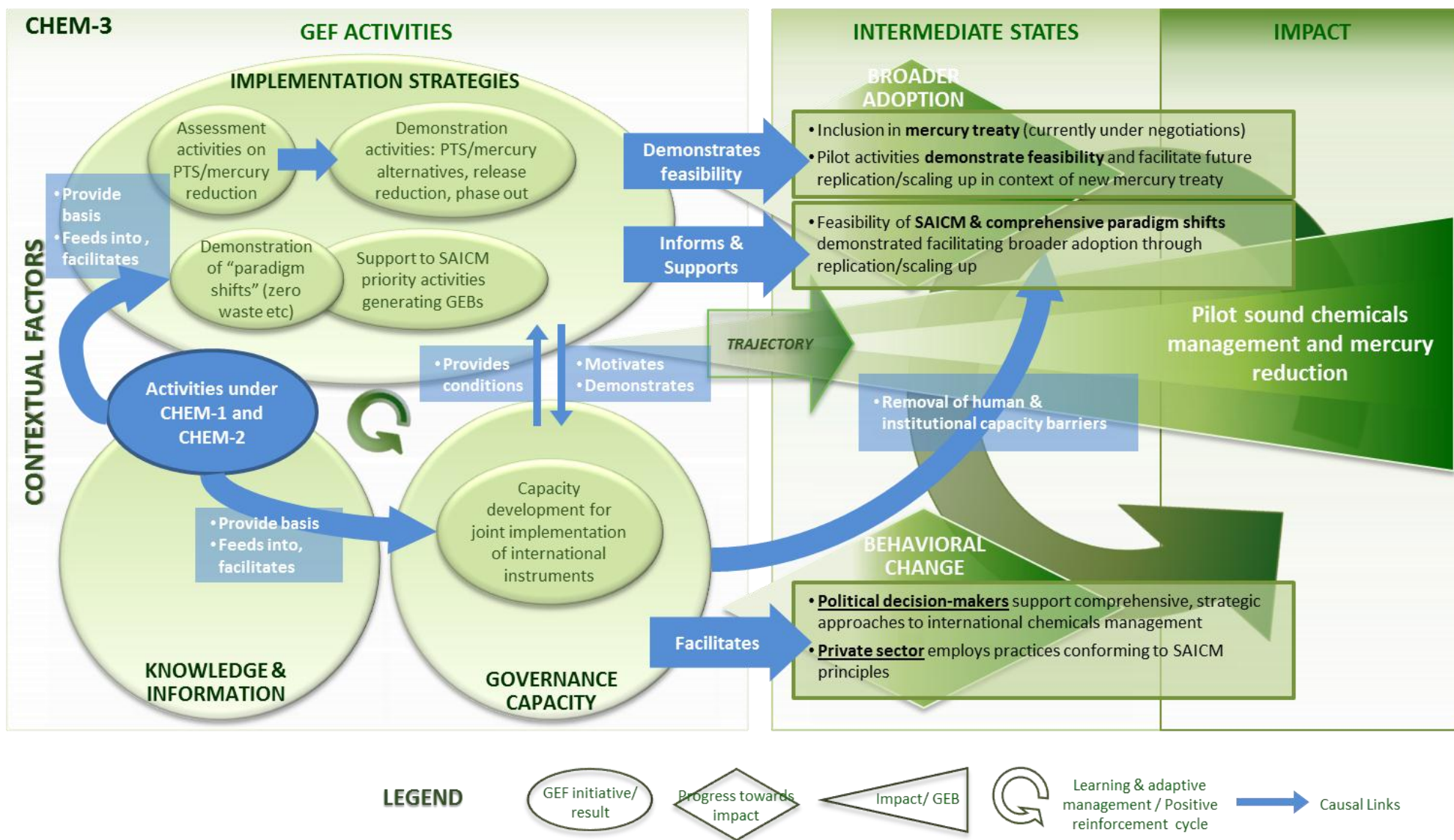


Figure 6: Elements and causal links of CHEM-3

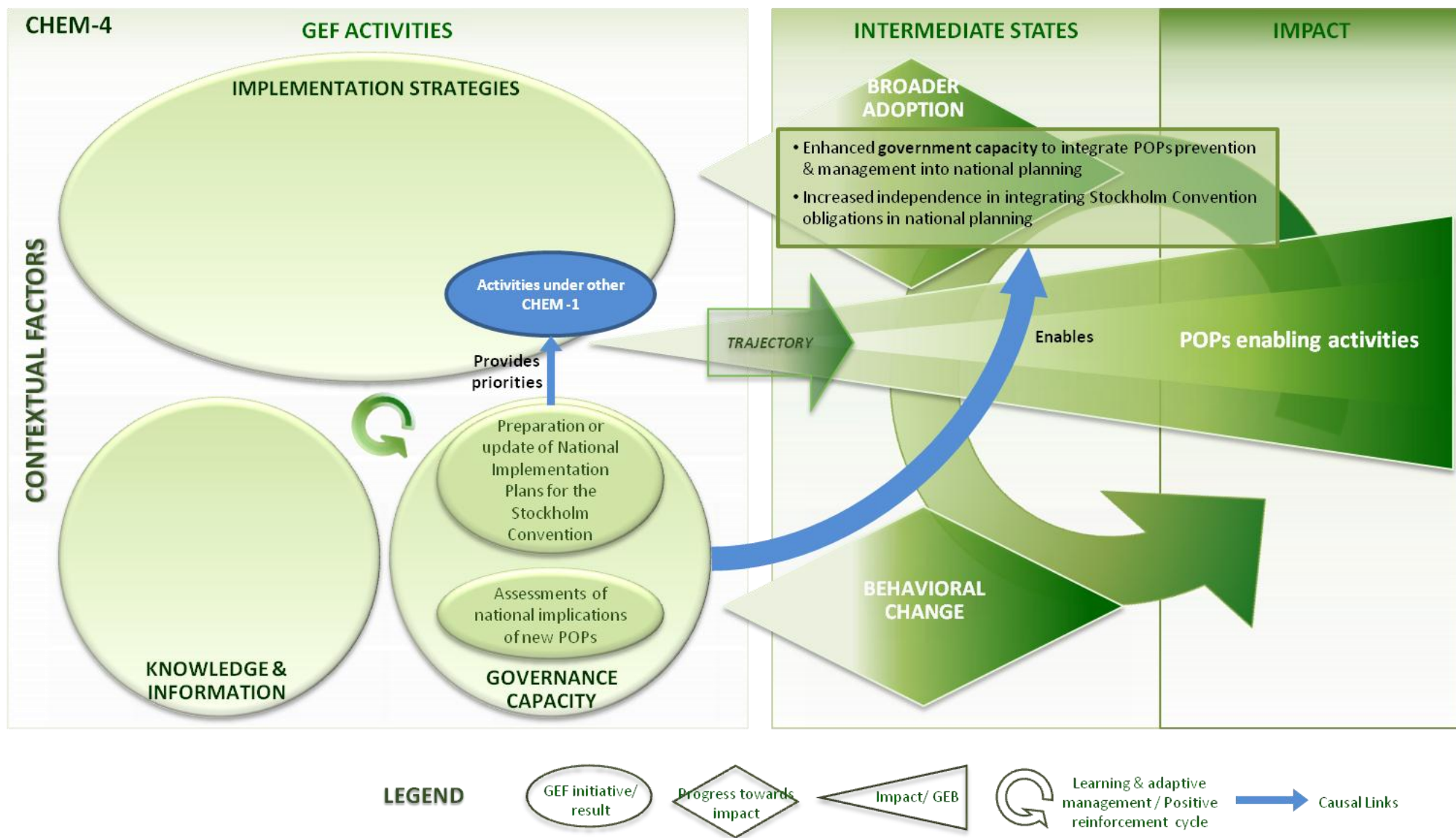


Figure 7: Elements and causal links of CHEM-4

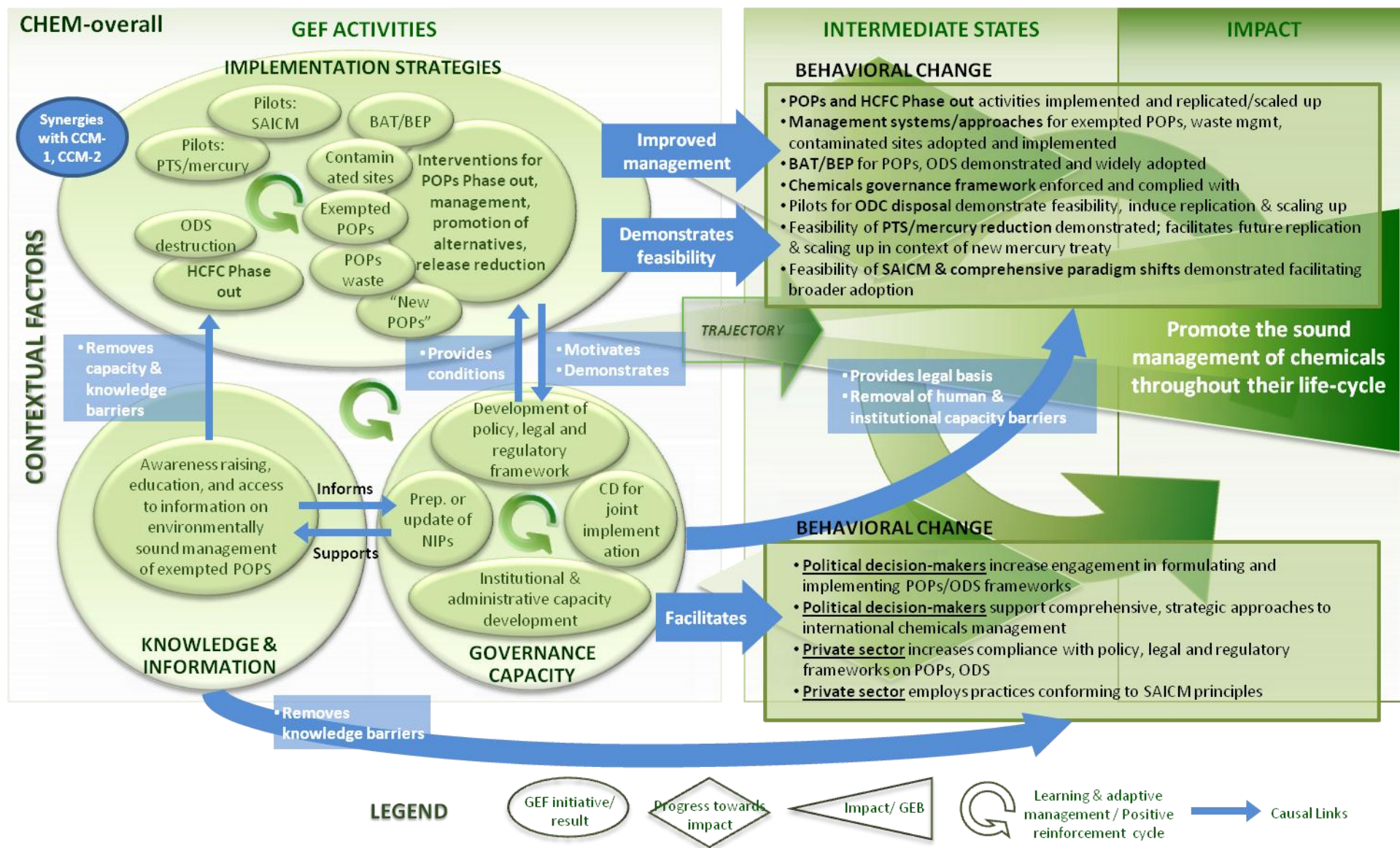


Figure 8: Elements and causal links of GEF-5 Strategy for Chemicals

3. ANALYSIS OF CONVENTION GUIDANCE

3.1 Approach to convention guidance

One factor that influences the characteristics of the GEF Focal Area Strategies is the guidance the GEF receives from the Conference of the Party (COP) of international conventions. The influence of convention guidance on the GEF Focal Area Strategies is particularly important in the context of international conventions the GEF serves as financial mechanisms, namely the CBD, UNFCCC, UNCCD and the Stockholm Convention. Accordingly, the analysis of convention guidance primarily focuses on GEF support in the areas of Biodiversity, Climate Change, Land Degradation and the parts of the Chemicals strategy relating to the Stockholm Convention. In order to assess the way in which Focal Area Strategies reflect convention guidance the *Evaluation of GEF Focal Area Strategies* conducted a full review of convention guidance issued by the COPs. The review includes the identification of guidance relevant to the GEF, a quantitative analysis of guidance over time, and a qualitative classification of each individual item of COP guidance. The full compilation of COP guidance can be found in Technical Paper 8.

Based on the guidance review, the *Evaluation of GEF Focal Area Strategies* conducted a “Guidance-Strategy-Mapping” identifying the links between guidance and Focal Area Strategies. The mapping illustrates how topics raised by the convention are reflected in the strategies and how the strategies in turn are shaped by different kinds of guidance. Stakeholder interviews, especially with the GEF Secretariat and convention secretariats, provided additional information for the analysis of the relationship between Focal Area Strategies and convention guidance.

3.2 Quantitative summary of Stockholm Convention guidance

Note: One “item” of guidance is defined as a distinguishable piece of information within a COP decision, usually a paragraph or sub-paragraph.²

Classification of SC guidance to the GEF by themes

Table 6: SC COP guidance to the GEF

Theme	COP-1	COP-2	COP-3	COP-4	COP-5	TOTAL
I. OVERALL						
General	1			1		2
Funding principles	1					1
Eligibility Criteria	1	1				2
II. FUNDING PRIORITIES						
Funding priorities (general)	1					1

² On counting COP guidance: The table summarizing convention guidance to the GEF presented in OPS4 counts the number of Articles in COP Decisions directed to the GEF. The numbers presented in figure 7, which will also be used for OPS5, count all items of guidance defined as a “distinguishable piece of information within a COP decision” (usually a paragraph or sub-paragraph). Accordingly, the reported number is significantly higher than in OPS4.

Capacity for effectiveness evaluation		1				1
National reporting & National implementation plans	1		3	2	1	7
DDT	2	1	1	1	1	6
Scientific and technical capacity		1				1
Regional centers			2	1	1	4
BAT/BEP			1			1
Global Monitoring Report			1	2	1	4
Clearing-House mechanism				1		1
Polychlorinated biphenyls elimination network					1	1
Newly listed chemicals					1	1
Elimination of unintentional releases of POPs					1	1
Collection of data on indicators					1	1
Technical assistance and technology transfer					1	1
III. OPERATIONAL ISSUES						
GEF reporting & information provision	7	2	1		3	13
Review of the Financial Mechanism				1		1
Resource mobilization		1		1		2
Resource allocation		1		1		2
Resource approval and disbursement procedures		1	1			2
Incremental costs		2				2
Co-financing			1			1
Institutional cooperation	4					4
Implementation of COP guidance	4	1				5
TOTAL	22	12	11	11	12	68

Overall amount of guidance

Figure 9: Overall amount of guidance to the GEF by SC COP

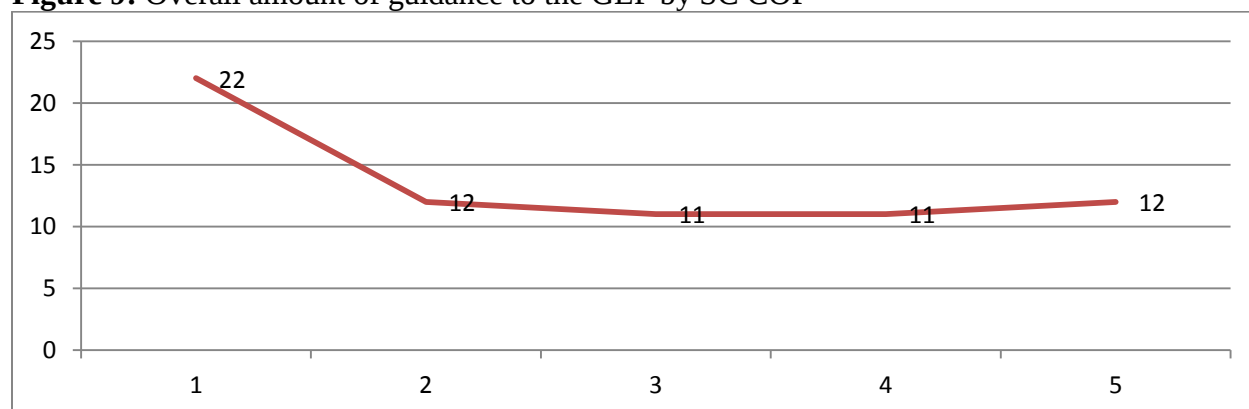
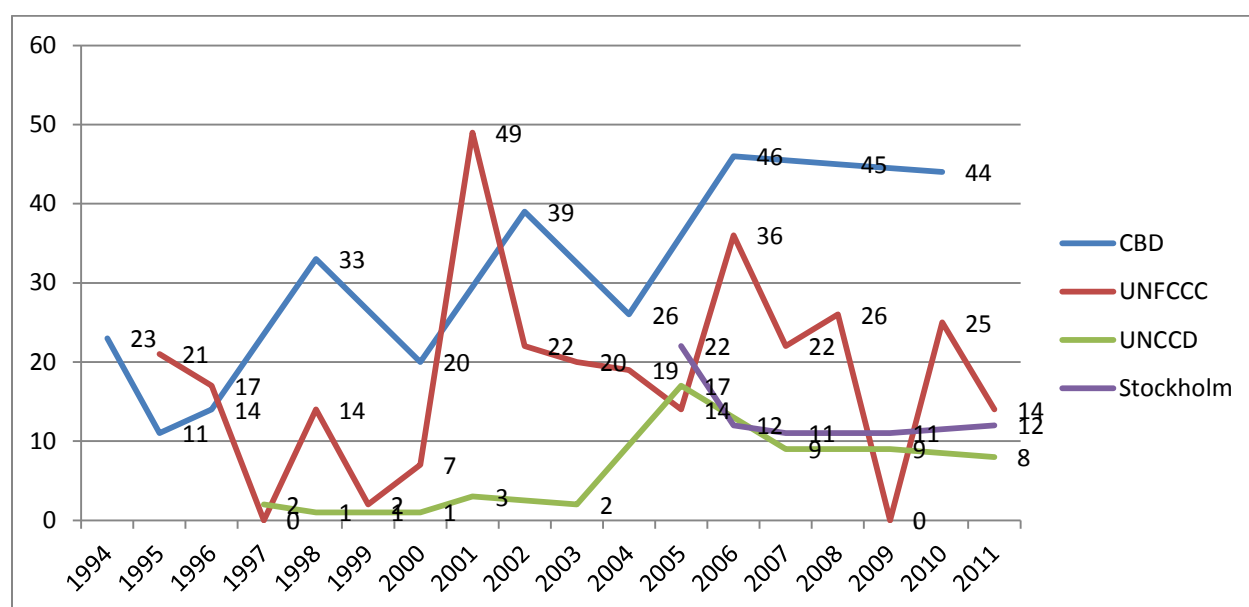


Figure 10: Overall amount of UNCCD guidance in comparison with other conventions



Convention	CBD	UNFCCC	UNCCD	Stockholm
Time period	1994-2010	1995-2011	1997-2011	2005-2011
Cumulative items of Guidance	301	308	53	68

First COP mentioning of different program priorities

Table 7: Chronology of SC COP guidance to the GEF

Theme	COP-1	COP-2	COP-3	COP-4	COP-5
General	x				
Funding principles	x				
Eligibility Criteria	x				
Funding priorities (general)	x				
National reporting & implementation plans	x				
DDT	x				
GEF reporting & information provision	x				
Institutional cooperation	x				
Implementation of COP guidance	x				
Capacity for effectiveness evaluation		x			
Scientific and technical capacity		x			
Resource mobilization		x			
Resource allocation		x			
Resource approval and disbursement procedures		x			
Incremental costs		x			
Regional centers			x		

BAT/BEP			x		
Global Monitoring Report			x		
Co-financing			x		
Clearing-House mechanism				x	
Review of Financial Mechanism				x	
Polychlorinated biphenyls elimination network					x
Newly listed chemicals					x
Elimination of unintentional releases of POPs					x
Collection of data on indicators					x
Technical assistance and technology transfer					x

3.3 Guidance-Strategy Mapping

In the following mapping of convention guidance to the GEF-5 Strategy, only convention guidance is included that was issued before the GEF-5 Strategies went into effect on 1 July 2010. The mapping includes all topics of convention guidance that are to be addressed by the Focal Area Strategies. Operational issues concerning the overall procedures of the GEF (project cycle, co-financing, resource allocation etc.) as well as topics addressed by special GEF policies (gender, private sector engagement etc.) are addressed through channels other than the FA Strategies and are therefore not included in the Guidance-Strategy Mapping.

The Guidance-Strategy mapping illustrates that the GEF-5 Focal Area Strategy on Chemicals largely reflects guidance of the Stockholm Convention. Regarding the strategy's responsiveness, two aspects should be noted:

- a) **Support for Stockholm Convention Regional Centers:** Prioritization of GEF support to activities of the SC Regional Centers has been requested by COP-3 and COP-4³. While the importance of the regional level of intervention is generally recognized by the GEF-5 strategy, the regional centers are not explicitly mentioned. This gap has also been highlighted by the SC Secretariat which raised concerns about the availability of financing for the regional centers and the limited channels of GEF support.
- b) **Information Exchange and Clearing-House Mechanism:** GEF support for information exchange in general and the Clearing-House Mechanism in particular has been requested by COP-4. While overarching efforts on awareness raising and information provision on POPs are included under CHEM-1 of the GEF-5 Strategy, specific activities on information exchange mechanisms are not explicitly included in the strategy. The Clearing-House Mechanism is not mentioned in the GEF-5 strategy on Chemicals.

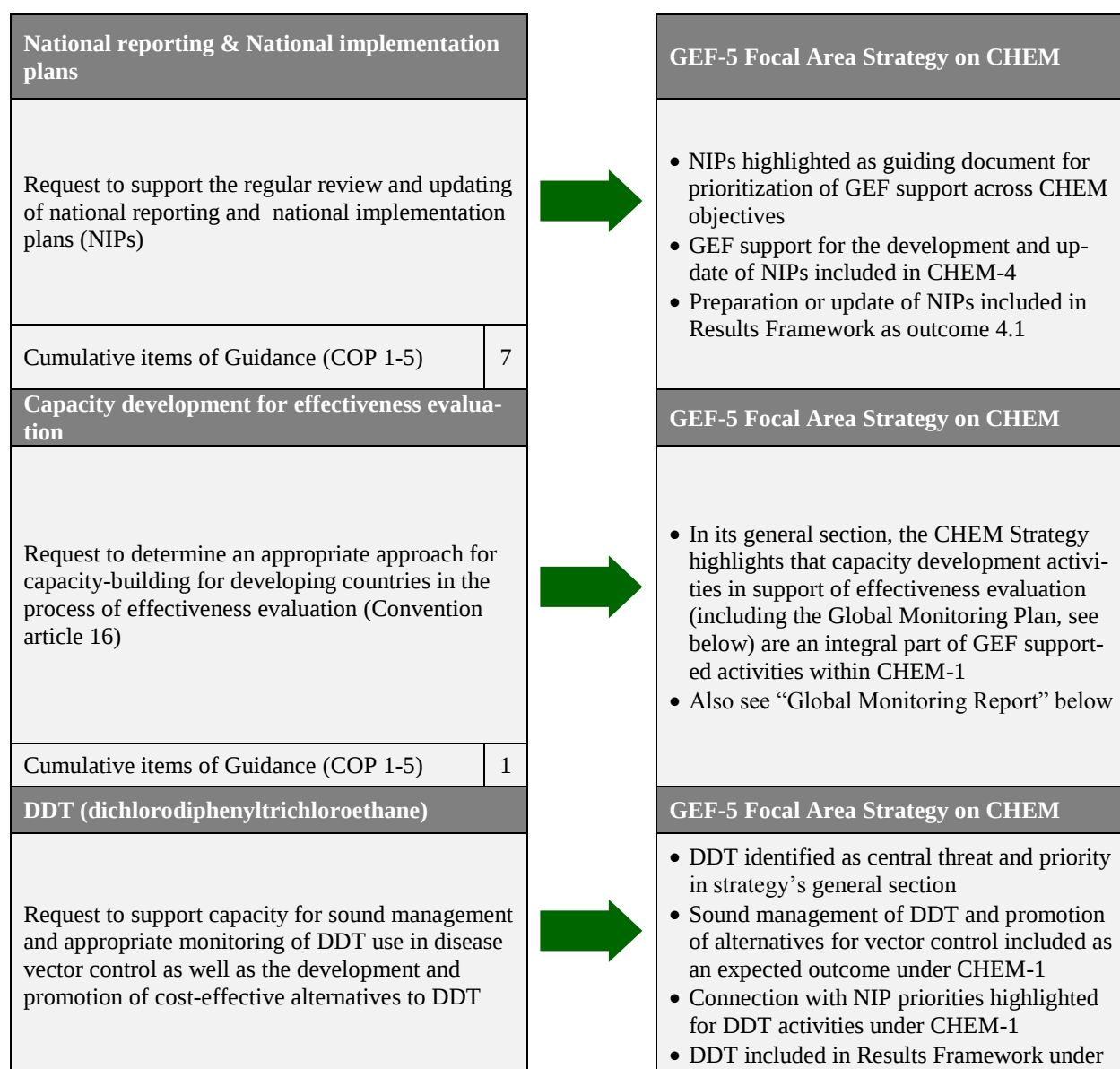
In addition, the SC Secretariat highlighted concerns about the **GEF overall approach to the support of capacity development**, in particular the absence of structural support for institutional capacity development. Capacity development, including support for institutional capacity, is included in the GEF-5 Strategy as it is formulated. The perceived lack of support appears to be

³ The request was reiterated by COP-5 after the GEF-5 Strategy went into effect.

primarily an issue of the implementation of the GEF-5 Strategy. This issue, which is in fact echoed by other convention secretariats, will therefore be examined in greater detail in the context of the upcoming Fifth Overall Performance Study (OPS5) as well as in the ongoing Enabling Activities Evaluation.

Another concern raised by the SC Secretariat addresses the overall setup of the GEF-5 Focal Area Strategy, which combines GEF activities relating to GEF's role as the financial mechanism of the Stockholm Convention on POPs with several other areas of GEF support, most importantly GEF activities on ODS as well as mercury. Especially the increasing focus on GEF's role on mercury raises concerns about a potential "watering down" of GEF's responsibilities as the SC financial mechanism. Subsequent analyses in the context of OPS5 will assess evaluative evidence with regard to these concerns.

Figure 11: Guidance-Strategy Mapping for GEF-5 FA Strategy on Chemicals



Cumulative items of Guidance (COP 1-5)	6		Output 1.2.1
Regional centers			GEF-5 Focal Area Strategy on CHEM
Requests to give consideration to the proposals developed by nominated Stockholm Convention regional centers in the context of GEF support for the delivery of technical assistance on a regional basis			• Regional level generally recognized as an important level of activity for GEF support by the CHEM strategy • Prioritization of Regional Center activities not elaborated on in the strategy itself
Cumulative items of Guidance (COP 1-5)	4		GEF-5 Focal Area Strategy on CHEM
BAT/BEP			GEF-5 Focal Area Strategy on CHEM
Request to incorporate best available techniques and best environmental practices and demonstration as one of the priorities for providing GEF support			• Implementation and demonstration of BAT/BEP for release reduction of unintentionally produced POPs included as core outcome under CHEM-1 • Demonstration of BAT/BEP also included in CHEM-3 for PTS and mercury release reduction
Cumulative items of Guidance (COP 1-5)	1		GEF-5 Focal Area Strategy on CHEM
Global Monitoring Report			GEF-5 Focal Area Strategy on CHEM
Invitation to incorporate activities related to the global monitoring plan and capacity-building as priorities for providing GEF support. Request to provide sufficient financial support for further step-by-step capacity enhancement to sustain the new monitoring initiatives			• Capacity development activities in support of Global Monitoring Program are explicitly integrated in CD activities und CHEM-1 (also see above) • The Global Monitoring Program, is identified as basis for indicators of Results Framework
Cumulative items of Guidance (COP 1-5)	4		GEF-5 Focal Area Strategy on CHEM
Sound Management of Chemicals			GEF-5 Focal Area Strategy on CHEM
Request to give special consideration to those activities relevant to the sound management of chemicals identified as priorities in national implementation plans when deciding on the funding of activities			• SMC at the core of the overall goal articulated by the CHEM strategy • Sound management of POPs in a wide spectrum of areas core aspect under CHEM-1 • Positive impact of activities under CHEM-1 on overall SMC beyond POPs is a core assumption of the CHEM strategy and also elaborated under CHEM-3
Cumulative items of Guidance (COP 1-5)	1		GEF-5 Focal Area Strategy on CHEM
Information Exchange			GEF-5 Focal Area Strategy on CHEM
Request to provide the financial resources necessary to carry out projects aimed at improving information exchange at the regional and national levels and to set up clearing-house mechanism nodes			• CHEM-1 identifies “awareness raising, education, and access to information for government and local authorities, civil society, and the private sector” as an outcome • Mechanisms for information exchange (CHM) are not explicitly elaborated in the CHEM strategy
Cumulative items of Guidance (COP 1-5)	1		
Guidance issued after GEF-5 Strategy came into effect			

Polychlorinated biphenyls elimination network			GEF-5 Focal Area Strategy on CHEM
Request to provide financial support for country-driven training and capacity-building activities related to activities of the polychlorinated biphenyls elimination network			Guidance issued after GEF-5 Strategy came into effect.
Cumulative items of Guidance (COP 1-5)	1		
Newly listed chemicals			GEF-5 Focal Area Strategy on CHEM
Request to support activities in respect of newly listed chemicals			Guidance issued after GEF-5 Strategy came into effect
Cumulative items of Guidance (COP 1-5)	1		
Elimination of unintentional releases of POPs			GEF-5 Focal Area Strategy on CHEM
Request to provide funding to parties to enable them to implement best available techniques and best environmental practices to support the reduction or elimination of unintentional releases of persistent organic pollutants			Guidance issued after GEF-5 Strategy came into effect
Cumulative items of Guidance (COP 1-5)	1		
Collection of data on indicators			GEF-5 Focal Area Strategy on CHEM
Request to provide financial support to permit further step-by-step capacity enhancement to enable the collection of data on all indicators stipulated in the effectiveness evaluation framework			Guidance issued after GEF-5 Strategy came into effect
Cumulative items of Guidance (COP 1-5)	1		
Technical assistance and technology transfer			GEF-5 Focal Area Strategy on CHEM
Request to provide funds necessary to facilitate technical assistance and technology transfer to eligible countries			Guidance issued after GEF-5 Strategy came into effect
Cumulative items of Guidance (COP 1-5)	1		

4. RESULTS OF REAL-TIME DELPHI PROCESS

4.1 Real-Time Delphi approach

The Delphi method was originally developed at the RAND Corporation in the late 1950's as a method for collecting and synthesizing expert judgments. The Delphi methodology has since become a widely recognized technique of expert consultation. The Delphi methodology requires anonymity of participants to ensure equal weight of each participant's responses and reduce the bias caused by perceived authority of renowned experts. The original Delphi process features repeated rounds of responses from experts on a questionnaire with each expert receiving feedback on her/his peers' responses between rounds. This time-intensive method was further developed into a "round-less", online-based process that allows for asynchronous input and makes expert answers available to the entire group in real time eliminating the need for round-to-round feedback. Thereby communication time is considerably shortened. This form of a Delphi process is called Real-Time Delphi (RTD).

Seven online questionnaires, one for each Focal Area Strategy, were formulated by the Evaluation Team with extensive input from the Scientific and Technical Advisory Panel and embedded into a RTD online platform. Each question required a quantitative as well as qualitative response covering the central aspects of each Focal Area Strategy. The invitation to participate in the RTD process was distributed widely among environmental scientist using the international network of the International Council for Science and other scientific networks. Efforts to mobilize participants were implemented throughout the process.

RTD Questionnaire for Focal Area Strategy on Chemicals

Question 1

Goal and objectives: To what extent do the four objectives of the Chemicals Focal Area Strategy adequately and sufficiently address the strategy's goal in a way that corresponds to current scientific understanding of how the goal can best be achieved? Include considerations on the extent to which can this goal and objectives contribute to reducing the risks to human health and the environment posed by the unsafe production and use of chemicals.

Question 2

CHEM1 - POPs: To what extent does current scientific understanding support the strategy's focus on the phasing out and reducing of POPs [Objective 1]? Consider if/how the expected "key expected outcomes and indicators" [Results Framework, p. 67-69] reflect what current scientific understanding suggests regarding appropriate measures towards the achievement of the objective.

Question 3

CHEM2 – ODS: To what extent does current scientific understanding support the strategy's focus on phasing out and reducing of ODS [Objective 2]? Consider if/how the expected "key expected outcomes and indicators" [Results Framework, p. 67-69] reflect what current scientific

understanding suggests regarding appropriate measures towards the achievement of the objective.

Question 4

CHEM3 - Sound management of chemicals and mercury: To what extent does current scientific understanding support the strategy's focus on the sound management of chemicals and mercury reduction [Objective 3]?

Consider if/how the expected "key expected outcomes and indicators" [Results Framework, p. 67-69] reflect what current scientific understanding suggests regarding appropriate measures towards the achievement of the objective.

Question 5

Support beyond POPs and ozone depleting substances: To what extent does the Chemicals focal area strategy address support to chemicals problems beyond those identified in the Stockholm Convention and Montreal Protocol?

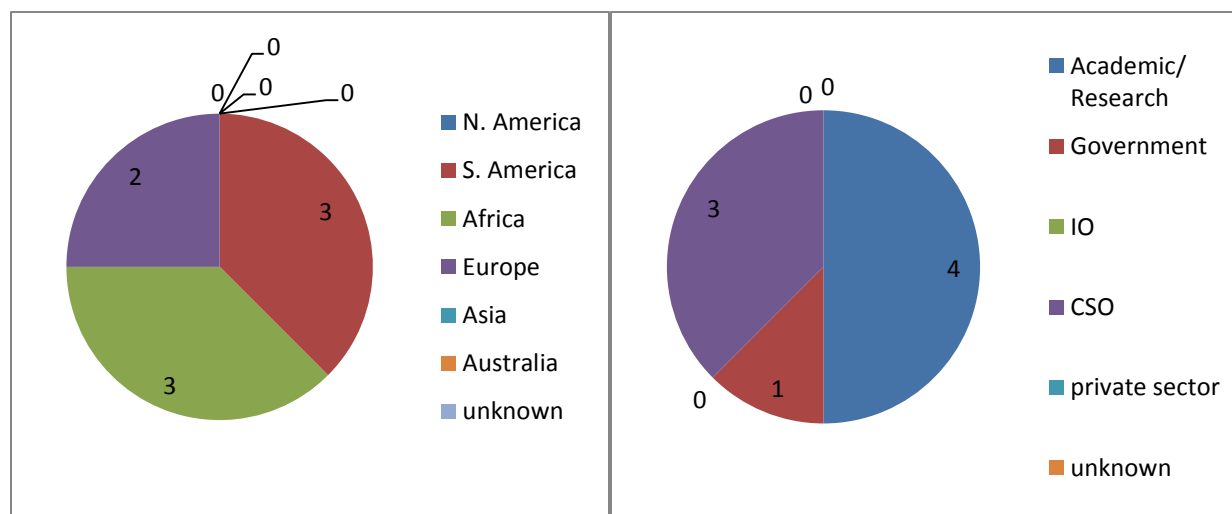
Are there priority issues that could have been included in the FA strategy that are at least as important as those mentioned? Please specify which issues could have been more important.

Question 6

What other issues not covered by the previous questions could be addressed by the CHEM Focal Area Strategy to better reflect and utilize current scientific understanding?

Demographic information on participants in CHEM RTD

Figure 12: Demographic information on participants in CHEM RTD



4.2 Summary of quantitative results from RTD on Chemicals

A major caveat to the quantitative responses presented in table 6 is the low number of experts that provided input on the Focal Area questionnaires for Chemicals. Unfortunately, only eight experts participated in the process. **The quantitative data therefore does not constitute a sufficient basis for findings or conclusions.**

Rating scale: 1 to 10, where 1=not at all; 2=hardly; 3=slightly; 4=partly; 5=somewhat; 6=fairly; 7=considerably; 8=very; 9=highly; 10=fully (use “0” for “no answer”).

Table 8: Quantitative results from RTD on Chemicals

Chemicals Focal Area Strategy – RTD quantitative responses				Participants: 8	
Question #	Mean	Min	Max	Median	Std. Dev.
#1 Overall goal and objectives	5.75	5	8	5	0.649
#2 Objective 1: “Persistent Organic Pollutants”	6.5	5	8	6.5	1.06
#3 Objective 2: “Ozone depleting substances”	6	5	7	6	0.707
#4 Objective 3: “SAICM and mercury”	5.5	5	6	5.5	0.353
#5 Objective 4: “CHEM beyond Stockholm/Montreal”	6	5	7	6	0.707
#6 Links with other FAs	6	5	7	6	0.707

4.3 Summary of qualitative results from RTD on Chemicals

As a consequence of the low number of participants in the RT Delphi process for Chemicals, no expert discussion developed among the participants. The only issue raised in the qualitative answers was “increasing concerns about residues originating from the disposal of high tech products (computers, mobiles)” which was identified as an additional priority/aspect to be taken into account by future Chemicals strategies.