

TERMS OF REFERENCE: CONSULTANCY FOR THE DEVELOPMENT OF THE UPDATED NATIONAL
IMPLEMENTATION PLAN FOR THE STOCKHOLM CONVENTION



Ministry of Climate Change, Environment and Energy
Republic of Maldives

TERMS OF REFERENCE
(IUL)438-ENV/438/2024/378

**CONSULTANCY FOR THE DEVELOPMENT OF THE UPDATED NATIONAL
IMPLEMENTATION PLAN FOR THE STOCKHOLM CONVENTION**

Requesting for proposal (RFP) Round 2 – Single Envelope

Issued on: 3rd September 2024

**Issued By: “Review and Update of the National Implementation Plan for the Stockholm
Convention on Persistent Organic Pollutants in Maldives” project**

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Section 1

Tender Sheet

Reference No:	Tender Reference		
1	<p><u>Tender Name:</u> CONSULTANCY FOR THE DEVELOPMENT OF THE UPDATED NATIONAL IMPLEMENTATION PLAN FOR THE STOCKHOLM CONVENTION</p> <p>Requesting For Proposal (RFP) Round 2 – Single Envelope</p>		
2	<p><u>Bid queries submission timeline and Address:</u></p> <p>Location: Ministry of Climate Change, Environment and Energy</p> <p>Date: 12/09/2024 (Thursday)</p> <p>Time: 12:00pm</p> <p>Email: procurement@environment.gov.mv</p> <p>CC: (environment@environment.gov.mv)</p> <p>Telephone No: 3018300</p>		
3	<p><u>Bid Clarification Deadline and Address:</u></p> <p>Location: Ministry of Climate Change, Environment and Energy</p>	<p>Date: 12/09/2024 (Thursday)</p>	<p>Time: 12:00pm</p>
4	<p><u>Proposal submission deadline:</u></p> <p>Location: Ministry of Climate Change, Environment and Energy - Reception</p>	<p>Date: 25/09/2024 (Wednesday)</p>	<p>Time: 10:00am</p>
5	<p><u>Submission instruction</u></p> <p>Proposals must be delivered in sealed envelopes titled</p> <p>“Do not Open Before 25th September 2024 at 10:05 hours – “Consultancy for the Development of the Updated National Implementation Plan for the Stockholm Convention - (IUL)438-ENV/438/2024/378” and the submitting party’s name and address</p> <p>Late proposals will be rejected.</p>		
6	<p><u>Submission address</u></p> <p>Procurement Section</p> <p>Ministry of Climate Change, Environment and Energy</p>		

	<p>Green Building, Handhuvaree Hingun, Maafannu Male’, 20392, Republic of Maldives Email: procurement@environment.gov.mv Website: www.environment.gov.mv Project name: “Review and Update of the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in Maldives”</p>	
7	<p><u>Bid Opening:</u> Proposals will be opened in the presence of the proponents’ representatives who choose to be present at the address below at the time of proposal opening.</p>	<p>Time: 10:05am Date: 25/09/2024 (Wednesday)</p>
8	<p><u>Evaluation Criteria on Annex 13</u></p>	
<p><u>Note:</u></p>		

Section 2

Instruction for Bidders

A. General Information

- | | | | | | | | | |
|-----------------------------|--|---|-------|---|-------|--|-------|---|
| 1. Introduction | 1.1 | This bid is opened to parties who can provide the goods/services mentioned in the tender sheet. The requirements of the goods/services have been detailed in the information sheet. | | | | | | |
| 2. Eligible Bidders | 2.1 | This bid is opened to all the registered businesses. | | | | | | |
| | 2.2 | If any other parties, except those mentioned in 2.1, are eligible to propose the bid, it shall be stated in the tender sheet. | | | | | | |
| 3. Bid Document and signing | 3.1 | The bid must comply with Annex 1 and the materials included on the bidder's checklist as one document. | | | | | | |
| | 3.2 | Bids must be typed in English or Dhivehi in an easy-to-read font. Or if written by hand, it should be legible. All pages of the tender shall bear the signature and stamp of the tenderer or his designee. Each page of the tender shall also be numbered in order to indicate the number of pages. | | | | | | |
| | 3.3 | <table border="0"><tr><td style="vertical-align: top;">3.3.1</td><td>For companies, if a person other than the Managing Director signs the bid, a copy of the "Power of Attorney" stating that the person is authorized to sign the bid should be submitted.</td></tr><tr><td style="vertical-align: top;">3.3.2</td><td>For partnerships, if a person other than the managing partner of the partnerships signs the bid, a copy of the power of attorney stating that the person is authorized to sign the bid shall be submitted.</td></tr><tr><td style="vertical-align: top;">3.3.3</td><td>If any person other than the Chairman of the Cooperative Societies signs the bid, a copy of the Power of Attorney stating that the person is authorized to sign the bid shall be submitted.</td></tr></table> | 3.3.1 | For companies, if a person other than the Managing Director signs the bid, a copy of the "Power of Attorney" stating that the person is authorized to sign the bid should be submitted. | 3.3.2 | For partnerships, if a person other than the managing partner of the partnerships signs the bid, a copy of the power of attorney stating that the person is authorized to sign the bid shall be submitted. | 3.3.3 | If any person other than the Chairman of the Cooperative Societies signs the bid, a copy of the Power of Attorney stating that the person is authorized to sign the bid shall be submitted. |
| 3.3.1 | For companies, if a person other than the Managing Director signs the bid, a copy of the "Power of Attorney" stating that the person is authorized to sign the bid should be submitted. | | | | | | | |
| 3.3.2 | For partnerships, if a person other than the managing partner of the partnerships signs the bid, a copy of the power of attorney stating that the person is authorized to sign the bid shall be submitted. | | | | | | | |
| 3.3.3 | If any person other than the Chairman of the Cooperative Societies signs the bid, a copy of the Power of Attorney stating that the person is authorized to sign the bid shall be submitted. | | | | | | | |

- | | | |
|-----------------------------|-----|---|
| 4. Number of Bids submitted | 4.1 | Each bidder may submit 1 (one) bid. If any bidder submits more than one bid, all bids submitted by that bidder will be cancelled. |
| 5. Cost of preparing Bid | 5.1 | All expenses incurred in preparing and submitting the bid shall be borne by the bidder. The ministry shall not be responsible for any expenses incurred in this regard. |
| 6. Other principles | 6.1 | If the bidder is a close relative of an employee who works in the Ministry or any affiliated office under the Ministry the bidder must disclose it in Disclaimer of Conflict of Interest form in annex 12. If such information is not disclosed the tender will be canceled without further notice. |

B. Documents relating to the bid

- | | | |
|---|-------|---|
| 7. Sections of the tender book | 7.1 | Documents related to bid are included in the list below and in amendments. |
| | 7.1.1 | Bid Sheet (Section-1) |
| | 7.1.2 | Instructions to Bidders (Section-2) |
| | 7.1.3 | General and Special Provisions of the Agreement (Section-3) |
| | 7.1.4 | Annex (Section 4) |
| | 7.1.5 | Works Related Information (Section-5) |
| 8. Clarification of information regarding the bid | 8.1 | It is the responsibility of the Bidder to obtain any further information regarding the information contained in this Bid Book or in connection with this Bid. |
| | 8.2 | Amendments issued in accordance with Section 9.1 shall form part of the Bid |
| 9. Changes to the tender | 9.1 | If it is deemed necessary to make a change to the bid before the expiry of the bid opening period, an amendment (deduction/addition) can may be made. |

10. Language used in the tender 10.1 The bidder shall prepare the bid in Dhivehi or English in accordance with the sample given with the bid.

C. Preparation of bids

11. Money used in the bid 11.1 The bidder shall submit the bid price in Maldivian Currency (MVR).

12. Proposing the price 12.1 If it is a GST registered entity, the price should be inclusive of GST. The amount paid for GST should be clearly stated.

13. Duration 13.1 The deadline for work should be submitted in days including holidays except Friday.

- 13.2 The period offered for the work shall be reasonable for the performance of the work.

- 13.3 The expiry date of the bid shall be at least 120 days from the date of submission of the bid.

- 13.4 If the bidder has given more time than the time given by the Ministry for the works specified in the bid, the bid will be rejected.

D. Submission of bids

14. How to close the bid 14.1 The name, address and telephone number of the bidder shall be written on the outside of the envelope.

- 14.2 Bids should be submitted in a sealed envelope addressed as per the bid sheet.

15. Deadline for submission of bids 15.1 The Bid sheet shall state the deadline for bid submission (work or Services)

16. Procedure for late bids 16.1 Bids submitted after the deadline will not be accepted.

- 16.2 Bids sent by email and fax will not be accepted.

E. Bid opening and evaluation

17. Bid opening 17.1 If the date scheduled for opening of bids is fixed as a public holiday by the Government for any reason, the opening of

bids will be held on the deadline specified in the bid sheet of the next official day.

17.2 Any problem with the calculation of qualifying tenders will be corrected as follows.

17.3 If the amount in the bid differs from the amount stated in in words, the correct amount shall be deemed to be the amount in words.

18. Bid Evaluation 18.1 The Ministry reserves the right to reject bids if the required information and documents are not submitted in connection with the notice. The Ministry also reserves the right to reject incomplete bids after acceptance. The Ministry reserves the right to cancel bids if the prices offered are inadequate.

19. Determination of the bidder 19.1 The successful and unsuccessful bidders will be notified in writing. Following this notice, unsuccessful bidders shall be given 3 (three) days to submit a complaint relating to the bid. The reason for the unsuccessful bid shall be stated upon request by the complainant within this period.

19.2 The contract with the successful bidder shall be signed after considering the submissions and answering the questions raised by the unsuccessful bidders within the period specified in 19.1.

20. Selection and notification of the successful bidder 20.1 The agreement shall be signed after addressing the complaints and the questions raised by the unsuccessful bidders that have been submitted within the period specified in Article 19.1.

21. Signing the agreement 21.1 If the work is abandoned after signing the agreement or if the work is not completed after signing the agreement, action will be taken as per Chapter 11 of the Public Finance Regulation.

21.2 If the agreement is not signed within the stipulated time frame as stipulated in Chapter 11 of the Public Finance

Regulation, the decision to award this work will be canceled and action will be taken as mentioned in Chapter 11 of the Public Finance Regulation.

- 21.3 The amount stated in the bid sheet shall be submitted as performance guarantee.

F. Securities to be Submitted

- | | |
|--|---|
| 22. Bid Security
(Excluding
consultancy
services) | 22.1 The bid security of the unsuccessful bidders will be returned to them within 7 (seven) days from the date of notification to the successful bidder. |
| | 22.2 If a bidder withdraws from the bid after the opening of the bid or if the successful bidder cancels the bid after receiving the certificate of success, the bid security submitted by the bidder will be forfeited to the State. |
| 23. Advance and
Advance payment
guarantee | 23.1 If an advance is requested, the advance may be issued in accordance with the Public Finance Regulation. |
| | 23.2 Advance will be issued if the total value of the procurement exceeds MVR 250,000 (Two Hundred and Fifty Thousand Rufiyaa) |
| | 23.3 The party shall request for advance payment within 45 (forty-five) days of signing the contract. |
| | 23.4 If the advance is requested for, a security or guarantee issued by a government recognized bank or financial institution established in Maldives shall be submitted as advance payment guarantee. |
| | 23.5 The advance shall not exceed 15% (fifteen percent) of the total contract price. The advance payment will be retained from the bills submitted during work or service performance in proportion to the total value of the contract. |

- | | | |
|---|------|--|
| 24. Performance guarantee (Excluding consultancy services) | 24.1 | If the bid price is exceeding MVR.500,000/-, the successful bidder shall submit as performance guarantee a security or guarantee issued by a Government recognized bank or financial institution established in Maldives, excluding consultancy service. |
| | 24.2 | If the successful bidder fails to submit the performance guarantee within the timeframe specified, the decision to award the work will be reversed and the bid security submitted by the bidder will be forfeited to the State. |
| 25. Case filing and case investigation | 25.1 | Pursuant to Public Finance Regulation 11.02 filing and investigating of complaints against irregularities in a tender shall be submitted under the finance regulation circular number 13-K/CIR/2018/01 annex 17 through form PR-14. |
| | 25.2 | As mentioned in Rule 11.02 of the Public Finance Regulation, irregularities in a tender shall be submitted in PR-14 form "Bidder Complaint Form-First Stage" in annex 18 of Finance Circular No. 13-K/CIR/2018/01. |
| | 25.3 | Upon submission of irregularities in a tender as per Rule 11.02 of the Public Finance Regulation, within 14 (fourteen) days from the date of filing of the complaint, the matter shall be decided and the decision shall be sent to the complainant in writing under circular number 13-K/CIR/2018/01 annex 19 reply shall be prepared and notified in the PR-14 form (Response of Procurement Officer to the Tender Issue). |
| 26. Submitting for Independent Review Committee for reconsideration | 26.1 | In submitting to the Independent Review Committee for administrative review of a tender as mentioned in Chapter 11.02 of the Public Finance Regulation, the tender issue shall be referred to in annex 21 of Public Finance Circular No. 13-K/CIR/2018/01 The complaint may be submitted to the Independent Review Committee through Form PR-16 (Appeal stage). |

Section 3

General and special provisions of the agreement

27. Definitions

- 27.1 "Owner of the Work" means a place within the jurisdiction of the Ministry required to carry out the Work.
- 27.2 "Contractor" means the person submitting the tender for the performance of the work.
- 27.3 "Work" means the service or works described in the tender sheet.
- 27.4 "Work Price" means the amount paid to the Contractor upon completion of the Work in accordance with the Agreement.
- 27.5 "Agreement" means the agreement between the Employer and the Contractor regarding the work.

28. Exchange of documents

- 28.1 The parties to this Agreement shall give all notices to each other in connection with this Agreement, generally in the Dhivehi and English language, in writing.
- 28.2 Documents sent from one party to the other shall be sent by hand or by registered post, or to the designated email address specified in the bid.
- 28.3 If the parties to the agreement wish to change the address in this Agreement, either party must notify the other party in writing.

29. Assignment of work to a third party

- 29.1 No assignment under this Agreement may be assigned to another party.

30. Taking over of goods and services

- 30.1 The date and time of delivery of the materials to the Ministry shall be notified to the Contractor before the materials are delivered to the Ministry.
- 30.2 Once the materials are brought to the Ministry, the contractor will take over the quantity of the materials.

30.3 The owner of work will check that the goods/services have been received as per the agreement after the Ministry takes over. If the work is completed in accordance with the specification after checking the quality, the goods/services will be deemed to have been received in accordance with the agreement. The service/goods provided in violation of the agreement will be returned.

31.Contract Duration

31.1 The goods/services shall be delivered within the period specified in the agreement

31.2 The parties shall submit a request for contract extension before expiration of the contract, in the event of force majeure or manufacturing related matter.

31.3 Even if an extension is requested for any reason, the extension will be granted in accordance with the Finance Rules.

32. Penalty and cancellation of agreement

32.1 If the work or services (excluding consultancy) are not completed within the agreed period, liquidated damages will be deducted in accordance with Article 10.65 of the Financial Rules.

32.2 If the total value of the bid is below MVR.5,000,000/-, the deduction shall be equal to the total value multiplied by 0.005 multiplied by the number of days exceeding the period.

$$\text{Liquidated Damages} = \text{CP} * 0.005 * \text{LD}$$

If the total value of the tender exceeds MVR. 5,000,000/-, the deduction shall be equal to the total value multiplied by 0.0025 multiplied by the number of days overdue.

$$\text{Liquidated Damages} = \text{CP} * 0.0025 * \text{LD}$$

CP (Contact Price): Total contract value

LD (Late Duration): days beyond the term of the contract

32.3 If the Contractor is required to pay for the period of delay, the bill submitted by the Contractor shall be paid for the remaining amount after deducting the amount specified in the bill.

32.4 The Ministry reserves the right to terminate the contract if the liquidated damages exceed 15% of the total cost of the work.

33. Termination of the Agreement

33.1 The Ministry reserves the right to cancel the contract in whole or in part if it is found that the work is not being carried out as specified in the contract.

33.2 If the agreement terminates for whatever reason within 3 (three) working days, both parties must sign a statement detailing the completed and unfinished work. A list of all the contractor's items on the work site must be taken within 3 (three) days. The Ministry will not be held liable for any issues with any of these matters after this period.

34. Other things

34.1 If, after signing the Agreement, the parties become aware that any law or regulation of the Government conflicts with this Agreement or if such law or regulation is enacted, this Agreement shall not be null and void. If such a provision becomes incorporated into this Agreement, both parties agree to maintain this Agreement without termination, albeit by amending such provision.

35. Taxes and other fees

35.1 Taxes, customs duties, import license fees and any other fees payable in connection with this work shall be paid by the contractor.

36. Modification of the agreement (Amendments)

36.1 Any provision of this Agreement may be modified only by agreement signed between the parties.

37. The law applicable to the agreement

37.1 This Agreement shall be governed by, and enforced in accordance with, the laws and regulations of the Republic of Maldives.

38. Dispute

38.1 If any dispute arising out of this Agreement cannot be resolved by negotiation between the parties, the matter shall be submitted to a court of law in Maldives.

38.2 Any deficiencies in this Agreement shall be resolved by negotiation between the parties. If not resolved, the case shall be referred to a court of law in Maldives.

Section 4

Annex 1

Documents and checklist to be submitted by the bidder

The following related documents shall be submitted for the bids to be considered sufficiently responsive.

Applicants should submit their proposals containing the following documents and applicable Technical Proposal – Standard Forms and Financial Proposal – Standard Forms under ANNEX 1.

#	Documents to be submitted	✓/ ✕	Page No:
Technical Proposal			
1	Proposal submission form - (Annex 2 -Tech Form 1) (signed by the owner of the entity or person with power of attorney to sign)		
2	Approach, Methodology and Work Plan – (Annex 3 - Tech Form 2)		
3	A summary of the work plan must be presented in the format in Work Schedule (Annex 4 - Tech Form 3) showing in the form of a bar chart the timing proposed for each activity.		
4	Curriculum Vitae (CV) of the identified key Experts (Consultant). Copy of academic certificates and reference letters demonstrating experiences listed in this TOR (required experiences and other experiences relevant to this TOR must be specified clearly or highlighted) – (Annex 5 -Tech Form 4)		
5	Completed Letter of Commitment (signed by the Team Leader and Team members) – (Annex 6 -Tech Form 5 & 6)		
6	Cooperative Profile Sheet issued by the Ministry of Economic Development Profile taken from website: www.business.egov.mv		
7	Tax Clearance Report		
8	Experience Letter – (Business)		
9	Documentation of conflict or non-conflict of interest – (Annex 12)		
Financial Proposal			
10	Financial Breakdown Form – (Annex 7 -Form FIN – 1)		
11	Details of Financial Situation- (Annex 8- FIN FORM -2)		
12	Financial statements of the business for the year 2023,2022 & 2021		

13	Business entities that have not completed one year (from the date of business registration to date of bid announcement) are required to submit the bank statement of the business's bank account. (Bank statement should be from the date of account opening to date of bid announcement)		
14	Average Annual Turnover – (Annex 9 - FIN FORM – 3)		
15	Line of Credit Letter – (Annex 10 - FIN FORM -4)		
16	Current Contract Commitments / Work in Progress – (Annex 11 -FIN FORM 5)		

Note 01: All bidders should clearly identify **Key Experts** (herein referred to as the ‘Team Leader and Supporting Team Member’) carrying out the task. For bids submitted by Business, the Key Experts signed in Form 5 will be considered for the evaluation process.

Note 02: If bidder fails to submit **any of the above listed document**, their proposal will not be considered for further evaluation.

Annex 2
TECH FORM 1

Proposal Submission Form			
1. Bidder Information			
1.1	Name:		
1.2	Address:		
2. Project Information			
2.1	Project Name:		
2.1	Tender No:		
3. Minimum quantity, price and duration of the goods/services offered			
Detail		Price	Gst (8%)
Duration:			
4. Declaration:			
4.1	After due consideration of the information given for the provision of the above-mentioned works/services and the provisions of the Agreement, I / We hereby tender for the provision of these works or services at the above-mentioned price.		
4.2	I / We agree to accept and comply with this tender for 120 days from the date of submission. If the owner requests to sign the agreement within this period, I agree to sign the agreement and work in accordance with the agreement.		
5. On Behalf			
Name:		Signature	Stamp
Designation			
Date			

Annex 3
TECH FORM 2

Approach, Methodology and Work Plan

[Technical approach, methodology and work plan are key components of this Proposal. the Consultant is suggested to submit Proposal with the following areas clearly described:

- a) Methodology for each activity,*
- b) Work Plan*

a) Technical Approach and Methodology

[In this chapter the Consultant should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.]

b) Work Plan

[In this chapter the Consultant should highlight the main activities and sub-activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan.]

Annex 4
TECH FORM 3

Work Schedule

Consultancy for the Development of the Updated National Implementation Plan for the Stockholm Convention																
Deliverables	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 52
Deliverable 1																
Deliverable 2																
Deliverable 3																
Deliverable 4																
Deliverable 5																
Deliverable 6																
Deliverable 7																

Annex 5
TECH FORM 4

Curriculum Vitae		
1.	Name of Consultant:	
2.	Education:	<i>[Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment]:</i>
3.	Membership of professional associations	
4.	Other Training	
5	Countries of work experience	<i>[List countries where the Consultant has worked in the last ten years]:</i>
6	Languages	<i>[For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing]:</i>
7	Experience/ employment record	<i>[Starting with present position, list in reverse order every employment held the Consultant since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]</i> From [Month/Year] – To [Month/Year]: Employer: Positions held: Job description:
8	Summary of projects / assignments undertaken / role	Name of project/ assignment: Experience classification: General / specific Scope of project/ assignment: From [Month/Year] – To [Month/Year]: Positions held:
9	Past commitments in projects with the	Name of the Contract/Project: From [Month/Year] – To [Month/Year]:

TERMS OF REFERENCE: CONSULTANCY FOR THE DEVELOPMENT OF THE UPDATED NATIONAL IMPLEMENTATION PLAN FOR THE STOCKHOLM CONVENTION

	Ministry of Climate Change, Environment and Energy	Positions held: Summary of role
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Annex 6
TECH FORM 5

Letter of Commitment

(Team Leader)

[Location, Date]

To: [Name and address of Client]

Ref no: _____

Dear Sir/Madam,

I am writing to confirm my availability to provide services as **Team Leader** for the “**Consultancy for the Development of the Updated National Implementation Plan for the Stockholm Convention**” - for the Ministry of Climate Change, Environment and Energy.

I undertake, if this proposal is accepted, to complete and deliver the whole of the services assigned to me in the scope of services.

I undertake, if this proposal is accepted upon receipt of the Ministry of Climate Change, Environment and Energy’s notice, to commence performance of the services with due expedition and without delay.

Yours sincerely,

Name:

ID card No:

Date:

Signatory:

Note: CV should be submitted along with the supporting documents.

TECH FORM 6

Letter of Commitment

(Team Members)

[Location, Date]

To: [Name and address of Client]

Ref no: _____

Dear Sir/Madam,

I am writing to confirm my availability to provide services as the **Supporting Team Member** for the “**Consultancy for the Development of the Updated National Implementation Plan for the Stockholm Convention**” - for the Ministry of Climate Change, Environment and Energy

I undertake, if this proposal is accepted, to complete and deliver the whole of the services assigned to me in the scope of services.

I undertake, if this proposal is accepted upon receipt of the Ministry of Climate Change, Environment and Energy’s notice, to commence performance of the services with due expedition and without delay.

Yours sincerely,

Name:

ID card No:

Date:

Signatory:

Note: CV should be submitted along with the supporting documents.

Annex 7
FIN FORM 1

Financial Breakdown Form

Date:

Reference No: (generated by the proponent)

Payment No.	Description	Price/Unit (MVR)	Total
1	Deliverable 1 – Facilitate National Coordination Mechanism (NCM) Meetings. (10%)		
2	Deliverable 2 - Develop the country profile and POPs inventory reports [Refer to <u>Section 6</u> for methodology provided by the Stockholm Convention for Deliverable 2]. (40%)		
3	Deliverable 3 - Facilitate one national priority validation workshop. (10%)		
4	Deliverable 4 – Develop report on priority assessment and objective setting. (10%)		
5	Deliverable 5 - Produce the final updated draft NIP in English. (10%)		
6	Deliverable 6 - Obtain endorsement from government agencies on the updated NIP. (5%)		
7	Deliverable 7 - Conduct trainings of POPs management for stakeholders. (15%)		

Total:	
GST 8%	
Total with GST	

The quotation is valid for 120 days from the date of bid opening.

Indicate the total cost with detail cost to be paid in **Maldivian Rufiyaa (MVR)**.

Note: The total contract price should be quoted inclusive of Goods and Services Tax (GST) or any applicable axes as per the Tax Legislation and must be shown in the breakdown.

Authorized Signature and Stamp

Annex 8

FIN FORM 2

Details of Financial Situation

If the business has been registered for more than a year bidder must fill in this form

Financial Data for Previous 3 Years [MVR Equivalent]			
	Year 2023	Year 2022	Year 2021

Information from Balance Sheet

Total Assets			
Total Liabilities			
Net Worth			
Current Assets			
Current Liabilities			
Working Capital			

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

❑ Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three years, as indicated above, complying with the following conditions.

- All such documents reflect the financial situation of the Bidder.
- Historic financial statements must be complete, including all notes to the financial statements.

- Historic financial statements must correspond to accounting periods

Annex 9

FIN FORM 3
Average Annual Turnover

Each Bidder must fill in this form

Annual Turnover Data for the Last 3 Years		
Year	Amount Currency	MVR Equivalent
2023		
2022		
2021		
Average Annual Turnover		

The information supplied should be the Annual Turnover of the Bidder in terms of the amounts billed to clients for each year for contracts in progress or completed at the end of the period reported.

Annex 10

FIN FORM 4

Line of Credit Letter

[letterhead of the Bank/Financing Institution]

[date]

To:*[Name and address of the Contractor]*

Dear,

You have requested {name of the bank/financing institution) to establish a line of credit for the purpose of executing {insert Name and identification of Project}.

We hereby undertake to establish a line of credit for the aforementioned purpose, in the amount of {insert amount}, effective upon receipt of evidence that you have been selected as successful bidder.

This line of credit will be valid through the duration of the contract awarded to you.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Annex 11

FIN FORM 5

Current Contract Commitments/Works in Progress

Tenderers and each partner to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

No	Name of contract	Employer, contact address/tel/fax	Value of outstanding work (current MVR equiv)	Estimated completion date	Average monthly invoicing over last six months (MVR/month)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

Annex 12
DISCLAIMER FOR CONFLICT OF INTEREST
Each Applicant must fill in this form

Tender Name:	Click here to enter text.		
Advertisement No:	Click here to enter text.		
Advertisement Date:	Click here to enter text.		
<p><i>I/We, the undersigned as the bidder, submitting the tender in respect of call for captioned tender, confirm:</i></p> <ul style="list-style-type: none"> • <i>that should I/We have any “close relative” or “close associate” working at Ministry of Climate Change, Environment and Energy, I/We will disclose that information with this form. In this instance “close relative” and “close associate” represents the meaning stated in Section 19 of Regulation Number: 2023/R-158 (Public Finance Regulation);</i> • <i>that I/We will disclose any conflict of interest in connection to the contract with this form. A conflict of interest may arise in particular as a result of economic interests, political or national affinities, or any other relevant connection or shared interest;</i> • <i>that I/We will inform the at Ministry of Climate Change, Environment and Energy, without delay, of any situation constituting a conflict of interest or could give rise to a conflict of interest;</i> • <i>that I/We have not made, and will not to make, any offer of any type whatsoever from which an advantage can be derived under the contract;</i> • <i>that I/We have not granted, sought, attempted to obtain or accepted and will not grant, seek, attempt to obtain, or accept any advantage, financial or in kind, to or from any party whatsoever, constituting an illegal or corrupt practice, either directly or indirectly, as an incentive or reward relating to the award of the contract;</i> • <i>that I/We understand that the at Ministry of Climate Change, Environment and Energy reserves the right to verify this information and that I am/We are aware of the consequences which may derive from any false declaration in respect of the information required by the awarding body as a condition of participation in the contract procedure.</i> 			
<input type="checkbox"/> YES , I/We have “close relative” or “close associate” please find the Details below. Name of the Staff(s): NID Card No.: Relationship with the Staff:			
<input type="checkbox"/> NO , I/We do not have “close relative” or “close associate”			
Details of the Bidder			
Name of the Bidder:		Stamp of the Bidding Company	
Signature of the Bidder:		Date:	

Annex 13

Criteria to be used for evaluation of bids

Technical Score	
The following criteria will be applied during the evaluation of the proposals and attention should be paid while preparing the proposals. Points will be awarded only for assignments with supporting documents.	
(A) Business:	
Business Profile Provide here a brief description of the background and organization of your Business, and – in case of a joint venture	40
No. of similar project / assignments <i>20 points for each documented assignment, up to a maximum of 3.</i>	60
Total A=	100
(B) Project Team:	
Qualifications and experience of the Lead Expert: Team Leader	60
a) Academic Qualification <ul style="list-style-type: none"> • [20] Points for minimum Master’s Degree in a subject related to Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field. 	[20]
b) General Professional Experience <ul style="list-style-type: none"> ❖ [15] Points for minimum 2 years of relevant work experience in a field such as Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field. ❖ [01] Points for each additional year up to 5 years. 	[20]

<p>c) Other Experiences:</p> <ul style="list-style-type: none"> • [5] Points for experience in managing multi-disciplinary teams, especially in chemical management/pollution control/waste management. • [5] Points for demonstrated experience in developing inventory reports • [10] Points for demonstrated experience in conducting training sessions/awareness programmes, especially in chemical management/pollution control/waste management. 	[20]
<p>2. Qualifications and experience of the Supporting Team Member</p>	[40]
<p>a) Academic Qualification</p> <ul style="list-style-type: none"> ❖ [15] Points for minimum Bachelor’s Degree a subject related to Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field. ❖ [05] Additional points for Master’s Degree in a subject related to Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field. 	[20]
<p>b) General Professional Experience</p> <ul style="list-style-type: none"> • [15] Points for minimum 1 year of demonstrated experience in a field such as Environmental Science, Environmental Management, Chemical Management, Chemistry Sustainable Development, Waste Management or a relevant field. • [01] points for each additional year up to 5 years. 	[20]
<p>Total B=</p>	100
<p>(C) Approach, methodology and work plan</p>	
<p>Approach and Methodology</p> <p><i>a) Demonstration of an understanding of the objective of the assignment in the context of the project - 30 points</i></p> <p><i>b) Proposal on methodology on carrying out the activities - 30 points</i></p>	60

<p>Work Plan</p> <p><i>a) Proposed main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client and delivery dates of the reports - 10 points</i></p> <p><i>b) Work plan being consistent with proposed Technical Approach and Methodology – 20 points [Note: Refer to <u>Section 6</u> for methodology provided by the Stockholm Convention for Deliverable 2]</i></p> <p><i>c) Work schedule – 10 points</i></p> <p>{Please outline the plan for the implementation of the main activities/tasks of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and tentative delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing your understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents (including reports) to be delivered as final output(s) should be included here. The work plan should be consistent with the Work Schedule Form. }</p>	<p>40</p>
<p>Total C=</p>	<p>100</p>
<p>Technical Score:</p> <p>The number of points to be assigned to each of the above positions or disciplines shall be determined considering the following three sub criteria and relevant percentage weights for each position. Only Specialists who meet the minimum qualification requirements will be qualified for technical evaluation.</p> <p>Technical score (St) = A/100*[W1] + B/100*[W2] + C/100*[W3]</p>	
<p>Note: Only the proposals that will obtain a minimum of 60% out of 100 obtainable points will be qualified for the financial evaluation.</p>	

Financial Score:

The formula for determining the financial scores is the following:

$S_f = 100 * F_m / F$, in which S_f is the financial score, F_m is the lowest price and F is the price of the proposal under consideration.

The weights given to the Technical and Financial Proposals are:

$T = [0.6]$, and $F = [0.4]$

FINANCIAL SITUATION EVALUATION

To be eligible the financial statements of the bidding party must show, minimum annual turnover of **MVR 185,040.00**, for the year 2023, 2022 and 2021. (**Form FIN – 3 Annual Turnover**)

(OR)

To be eligible the financial statements of the bidding party must show, Minimum value of MVR **185,040.00**, for liquid asset, for the year 2023, 2022 and 2021. – (**Form FIN - 2: Financial Situation**)

(or)

Business entities that have not completed one year (from the date of business registration to date of bid announcement) are required to submit the bank statement of the business's bank account. (bank statement should be from the date of account opening to date of bid announcement). To be eligible the business's bank statement must show a credit balance of minimum **MVR 185,040.00**

(or)

If bidding party is unable to meet any of the above requirement they shall submit 'Line of Credit Letter' As per the template in fin form 4. Credit limit shall be no less than **MVR 185,040.00** – (**Form Fin -4: Line of Credit Letter**)

PRIORITY TO MSME'S

Below MVR 2,500,000

Among bidders who pass the technical and financial evaluation, Micro, Small and Medium Enterprises (MSME's) will be assessed accordingly: The bidder with the highest ranking with a proposed price that doesn't exceed 15% of the price of the bidder with the overall highest ranking will be awarded.

Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a), bidders who belong to the same island as the project is carried out will be assessed accordingly: The bidder with the highest ranking with a proposed price that doesn't exceed 10% of the price of the bidder with the overall highest ranking will be awarded.

Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a) and (b), bidders who belong to the same atoll as the project is being carried out is checked and assessed accordingly: The bidder with the highest ranking with a proposed price that doesn't exceed 5% of the price of the bidder with the overall highest ranking will be awarded.

Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a), (b) and (c), all Maldivian bidders will be checked and assessed accordingly. The bidder with the highest ranking with the lowest proposed price will be awarded

Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a), (b), (c) and (d) all bidders will be assessed accordingly. The bidder with the highest ranking with the lowest proposed price will be awarded

Above MVR 2,500,000 – MVR 5,000,000

(a) Among bidders who pass the technical and financial evaluation, those bidders who belong to the same island as the project is carried out will be assessed accordingly: The bidder with the highest ranking with a proposed price that doesn't exceed 10% of the price of the bidder with the overall highest ranking will be awarded

(b) Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a), bidders who belong to the same atoll as the project is being carried out is checked and assessed accordingly: The bidder with the highest ranking with a proposed price

that doesn't exceed 5% of the price of the bidder with the overall highest ranking will be awarded.

(c) Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a) and (b), all Maldivian bidders will be checked and assessed accordingly. The bidder with the highest ranking with the lowest proposed price will be awarded.

(d) Among bidders who pass the technical and financial evaluation if there is no bidder as described in (a), (b) and (c), all bidders will be assessed accordingly. The bidder with the highest ranking with the lowest proposed price will be awarded.

CRITERIA ON CLASSIFYING REGIONAL BASED BUSINESS

a) Check the bidders permanent address, if the bidder is a sole proprietorship

b) Check the island to which the business is registered, if the bidder is not a sole proprietorship

c) The bidder will be considered as a business working in one certain area, as per (a) and (b) accordingly:

- If the bidder is a sole proprietorship, the bidder's registered permanent address as of 1st January of the year the invitation for bid was issued will be considered OR

- If the business had been registered before the year in which the invitation for bid was issued, the island to which the business was registered as of 1st January of the year the invitation for bid was issued will be considered

OR

If the business had been registered within the year in which the invitation for bid was issued, the island to which the business was first registered will be considered.

ADDITIONAL INFORMATION

Ministry of Climate Change, Environment and Energy has overall responsibility for the management of the contract and contractual reporting obligations.

Documents and data provided by the government for the purpose of this assessment which is not of public nature shall be considered confidential and should not be disclosed to any other party.

All outputs and materials produced as part of this TOR shall be handed over to the project at the end of the contract and will become the sole property of Ministry of Climate Change, Environment and Energy.

Obtaining any necessary visa and documents are the responsibility of the proponent. MoCCEE will only provide a visa facilitation letter if necessary.

For the workshop and trainings: invitations, catering and venue will be financed directly by the project. This cost should NOT be included in the price quotation.

For domestic travel: land and sea travel (as per the schedule provided and agreed upon) will be directly financed by the project. **This does not include the DSA.**

Section 5
Details of services/materials/work required

Introduction and Background

The Government of the Republic of Maldives ratified the Stockholm Convention (SC) on Persistent Organic Pollutants (POPs) on 17th October 2006. Currently, the 5-year GEF funded project, approved in 2019 titled “Eliminating POPs through Sound Management of Chemicals” is working to address the sound management of POPs in the country at a national level. Under Article 7 of the SC, Parties are required to develop and endeavour to implement national implementation plans (NIPs) to demonstrate how the obligations under the SC will be implemented. The Stockholm Convention is dynamic, in that Parties regularly add chemicals to the lists in Annexes A, B and/or C to the Convention. Parties are required under Article 7 to review and update, as appropriate, their NIPs on a periodic basis. The first NIP from the Maldives was transmitted to the SC secretariat in 2017. As Maldives endeavors to comply with the obligations under SC, the review and update of the initial NIP is a high priority. For this NIP update project, funding for the Republic of Maldives has been approved by the SC. The total budget of the project is USD 281,700.00.

The purpose of the ‘Review and Update of the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in Maldives’ project is to provide the first update of the Maldives National Implementation Plan. This project has been signed between the Government of Maldives represented by its Ministry of Climate Change, Environment and Energy and Basel Convention Regional Centre China / Stockholm Convention Regional Centre for Capacity-building and Transfer of Technology in Asia and the Pacific (BCRC China/SCRCAP) on 12th November 2023. The duration of the project is 2 years from 12th November 2023.

Objective

The main objective of this project is to provide the review and update of the national implementation plan for the Stockholm Convention on Persistent Organic Pollutants in Maldives submitted in 2017.

The objective of this consultancy is to provide technical guidance, expertise and support to the project in achieving its objectives and related outcomes. The focus is on enhancing technical capacity of MCCEE in addressing hazardous chemicals and waste safety and environment pollution, with a specific emphasis on POPs analysis, inventory and related treaty obligations.

Scope of Assignment

The main purpose of this consultancy is to enhance technical capacity and facilitate stakeholder engagement in reviewing and updating the NIP of Maldives. The Consultant shall carry out the work in accordance with the terms of reference outlined in this document and shall report to the lead International NIP expert, Project Coordinator and the Chemicals Management Unit at MCCEE.

Requirements for Experience and Qualifications

Lead Expert: Team Leader

Academic Qualification:

- ❖ Minimum Master's Degree in a subject related to Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field.

General Professional Experience:

- ❖ Minimum 2 years of relevant work experience in a field such as Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field.

Other Experiences:

- ❖ Experience in managing multi-disciplinary teams, especially in chemical management/pollution control/waste management.
- ❖ Demonstrated experience in developing risk assessments
- ❖ Demonstrated experience in conducting training sessions/awareness programmes, especially in chemical management/pollution control/waste management.

Supporting Team Member

Academic Qualification:

- ❖ Minimum Bachelor's Degree a subject related to Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field.

Or

- ❖ Master's Degree in a subject related to Environmental Science, Environmental Management, Chemical Management, Chemistry, Sustainable Development, Waste Management or a relevant field.

General Experience:

- ❖ Minimum 1 year of demonstrated experience in a field such as Environmental Science, Environmental Management, Chemical Management, Chemistry Sustainable Development, Waste Management or a relevant field.

Other Experiences:

- ❖ Experience in working with multi-disciplinary teams, especially in chemical management/pollution control/waste management.

Indicative Tasks

Under the supervision and in close cooperation with the Chemical Management Unit, the Consultant is responsible for aiding in the implementation of the following tasks to be carried out by the MCCEE. In executing these tasks, the Consultant is expected to follow the lead international NIP expert and contribute their knowledge, experience and unique skills to ensure global best practices and innovation are utilized to the fullest extent:

1. Facilitate the National Coordination Mechanism (NCM) meetings. (10%)

The NCM meetings will be organised and arranged by the project team. The role of the national NIP experts is to attend these meetings and provide progress updates and use the meetings to gain input for the workplan.

2. Coordinate with the lead international NIP expert and collect available information of POPs in Maldives and develop country profile and POPs inventory reports. (40%)

The information includes but is not limited to health and environmental impacts of POPs, level of information and awareness on POPs, existing programmes for monitoring POPs releases and environmental and human health impacts, and relevant activities of NGOs on POPs in Maldives, technical infrastructure for POPs assessment, measurement, analysis, alternatives and prevention measures, research and development, technical infrastructure for POPs management and destruction, existence of relevant system for the assessment and listing of new chemicals, existence of relevant system for the assessment and regulation of chemicals already in the market. The draft country profile and POPs inventory reports will be submitted to UNEP for review and to the NCMs for comments and approval.

3. Facilitate one national priority validation workshop to validate the proposed criteria, national objectives and priorities for POPs management. (10%)

The workshop will be organised by the project team. The role of the national NIP experts is to attend the workshop and present the findings of the POPs inventory, validate the criteria, and gain information on national objectives and priorities. Based on the POPs profile developed, the NCM will develop criteria for prioritizing the mitigation (and where feasible, the elimination) of the health and environmental impacts of POPs.

4. Develop report on priority assessment and objective setting under the guidance of the lead International NIP expert. (10%)

Based on the POPs profile developed, the NCM will develop criteria for prioritizing the mitigation (and where feasible, the elimination) of the health and environmental impacts of POPs. Based on these criteria, priority issues to address the management of new POPs and a set of objectives to guide preliminary country-specific activities relevant to new POPs will be developed by the national expert with input from the international expert.

5. Collaborate with the lead international NIP expert and produce the final updated draft NIP (10%)

6. Facilitate a one-day endorsement workshop for all relevant governmental bodies and stakeholders to review and endorse the final updated draft NIP. (5%)

The workshop will be organised by the project team and the role of the national NIP experts will be to present the final updated NIP for review, and then update the NIP based on their review.

7. Collaborate with the lead international NIP expert and assist in holding multiple national inventory workshops/trainings within the project duration. (15%)

Duration of the Consultancy

Duration of the assignment is 12 calendar months (including holidays) upon signing the contract.

Remuneration

The total remuneration for this assignment is MVR 925,200.00 and payment will be made on the deliverable submission basis mentioned as above.

Proposals exceeding the allocated budget will not be considered for further evaluation. Please refer to TOR Clause 18.1 for further financial evaluation.

Deliverables & Payment Schedule

No.	Deliverables	Details	Duration/ timeline	Activity breakdown	Payment Schedule	Output
1	Facilitate the National Coordination Mechanism (NCM) Meetings	The NCM consists of the stakeholders relevant to POPs. The NCM will meet virtually and physically as needed for the project or minimum, twice a year. The NCM will assist in establishment of working groups with assignment of responsibilities among government	Frequency as scheduled by the PMU – tentatively twice a year (in person and virtual combined) and emergency	<p>A. <i>Prepare meeting materials and presentations for the NCM</i></p> <p>B. <i>Identification of relevant stakeholders and focal points from different regions of the country</i></p> <p>C. <i>Facilitating the NCM meeting components as</i></p>	10%	<ul style="list-style-type: none"> ▪ Detailed meeting minutes in English. ▪ An executive summary/report summarizing findings and propose recommendations from all the meetings highlighting key points made by

		departments, assist in establishment of a mechanism for the continuous identification of other relevant project stakeholders, assist to evaluate and assess the progress of the project; and provide advice, policy and institutional guidance to the project.	meetings if needed	<i>assigned by the PMU</i>		stakeholders in English.
2	Develop the country profile and POPs inventory reports in English	<p>A. Collect available information of POPs in Maldives via site investigations, sampling and analysis.</p> <p>B. Develop country profile and POPs inventory reports. The information includes but not limited to:</p> <ul style="list-style-type: none"> a. health and environmental impacts of POPs, b. level of information awareness on POPs, c. existing programmes for monitoring POPs releases and d. environmental and human health impacts, and e. relevant activities of 	31 January 2025	<p><i>Develop a workplan for endorsement of the PMU, which includes but not limited to:</i></p> <ul style="list-style-type: none"> - <i>Identifying relevant stakeholders throughout the country</i> - <i>defining the scope of the inventory</i> - <i>Choosing the data collection method</i> - <i>Assessment of the initial NIP and identifying the extent of implementation of the recommendations in the NIP and the gaps left</i> 	5%	<ul style="list-style-type: none"> ▪ Workplan document typed in English

		<p>NGOs on POPs in Maldives,</p> <ul style="list-style-type: none"> f. technical infrastructure for POPs assessment, measurement, analysis, alternatives and prevention measures, g. research and development h. technical infrastructure for POPs management and destruction, i. existence of relevant system for assessment and j. listing of new chemicals, k. existence of relevant system for the assessment and regulation of chemicals already in the market. <p>Please refer to Section 6 for methodology provided by the Stockholm Convention also available online via link <u>Guidance (pops.int) (name: General guidance on POPs inventory development (June 2020))</u></p>				
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				<p><i>Organise data collection for the following:</i></p> <ul style="list-style-type: none"> <i>a) Production of the POP or chemical preparations containing it</i> <i>b) Import of the chemical or formulations containing the chemical</i> <i>c) Import products/articles consisting of, containing or contaminated with the POP</i> <i>d) Industries and other professional users in the country...</i> <i>e) Industries in the country manufacturing products and articles containing the POP...</i> <i>f) Waste streams for POPs</i> <i>g) Methods in practice for the disposal and elimination of POPs/its wastes</i> <i>h) Contaminated sites</i> 	10%	<ul style="list-style-type: none"> ▪ Raw data collection completed and shared with PMU
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				<p><i>Organize and carry-out inventory data collection:</i></p> <ul style="list-style-type: none"> - Existing obsolete pesticides, pesticides imported, and pesticides in use (pesticide inventory including pesticides with and without POPs) - Inventory of industrial chemicals with POPs that are being imported and used in the country <p><i>Inventory of other POPs products imported and used in the country</i></p>	15%	<ul style="list-style-type: none"> ▪ Raw data for POPs inventory completed and shared with PMU
				<ul style="list-style-type: none"> - Preparing the inventory report and finalizing the final draft 	10%	<ul style="list-style-type: none"> ▪ Country POPs profile and POPs inventory reports in English
3	Facilitate one national priority validation workshop	Facilitate one national priority validation workshop to validate the proposed criteria, national objectives and priorities for POPs management.	19 February 2025	<ul style="list-style-type: none"> - Prepare meeting materials and presentations and present in the meeting 	5%	<ul style="list-style-type: none"> ▪ One national priority validation workshop organized; ▪ Detailed meeting minutes in English
				<ul style="list-style-type: none"> - Acquire stakeholder comments and feedback on the first draft 	5%	

4	Develop report on priority assessment and objective setting.	<ol style="list-style-type: none"> 1. Based on the POPs profile developed, the NCM will develop criteria for prioritizing the mitigation (and where feasible, the elimination) of the health and environmental impacts of POPs. 2. Based on these criteria, Priority issues to address the management of new POPs and a set of objectives to guide Preliminary country-specific activities relevant to new POPs will be developed. 	30 April 2025	<ul style="list-style-type: none"> - <i>Conduct stakeholder consultation meetings as needed for priority assessment and objective setting</i> - <i>Incorporate the priority assessment and objectives into the draft NIP and the recommendations (from the stakeholder engagement meetings and the priority validation workshop)</i> - <i>Complete the 2nd NIP draft after incorporating stakeholder comments and the priority assessment</i> 	10%	<ul style="list-style-type: none"> ▪ Report on priority assessment and objective setting in English
5	Produce the final updated draft NIP in English		31 July 2025	<i>Incorporate stakeholder comments and draft the final NIP for endorsement of the PMU/Ministry</i>	10%	<ul style="list-style-type: none"> ▪ Formulation of the final updated draft NIP
6	Obtain endorsement from government agencies on the final	Attend a one-day endorsement workshop for all relevant governmental bodies and stakeholders and present the NIP for	31 August 2025	<ul style="list-style-type: none"> - <i>Prepare presentations for the meeting</i> - <i>Facilitate a 1-day endorsement workshop for all</i> 	5%	<ul style="list-style-type: none"> ▪ One-day endorsement workshop organized

	updated draft NIP	their review and endorsement of the final updated draft NIP.		<i>relevant stakeholders</i> - <i>If further comments are received, update the NIP based on this</i>		<ul style="list-style-type: none"> ▪ Detailed meeting minutes in English
7	Conduct trainings of POPs management for stakeholders	Conduct a. National inventory workshop / training 1 b. National inventory workshop / training 2	Frequency as scheduled by the PMU	- <i>Prepare presentations for trainings</i> - <i>Hold the trainings for relevant stakeholders (sector-based training sessions)</i>	15%	<ul style="list-style-type: none"> ▪ Trainings organized ▪ Detailed training minutes in English ▪ An executive summary/report summarizing findings and propose recommendations from all the trainings highlighting key points made by stakeholders in English
Total:					100%	

Section 6

General Guidance on Pops Inventory Development

A. MAKING AN INVENTORY

This chapter presents the process for developing an inventory that is principally applied in the detailed inventory guidance documents. As the inventory approaches for POPs pesticides are partially different from industrial POPs, the guidance differentiates these approaches, where necessary.

Collecting background information on the production and use

In the beginning of the process, the background information available for the POP should be compiled to get a general understanding on its production and use. These data are often not country-specific, but give guidance on which sectors the chemical is potentially used in. Most POPs are or have been produced in relatively few countries, which may help identifying the sources and stakeholders.

All “new POPs”, i.e. those that have been listed in 2009 and thereafter, have gone through the process for listing of chemicals in Annexes A, B and/or C in accordance with Article 8, during which the POPs Review Committee has collected the information available at the time. The POPs Review Committee’s *Risk Profiles* and *Risk Management Evaluations*, available on the Stockholm Convention website, provide a scrutinized overview of the chemical properties, production, uses, releases and risks related to the POP. These documents may help identifying the need for an inventory and the relevant industries and stakeholders, focusing the further collection of information at the national level, and refining the scope of the inventory.

Following the listing, the relevant bodies of the Basel Convention prepares technical guidelines for the environmentally sound management of POPs waste, available on the Basel Convention website. These guidelines provide updated information on production and use, overview of the waste streams relevant for the substance, as well as define the destruction technologies that can be considered environmentally sound in line with the provisions of Article 6 of the Stockholm Convention.

Further background information can be found in the specific inventory guidance documents, which have been prepared for a few POPs, as well as open literature, and possible BAT/BEP guidance documents prepared by the Secretariat. In addition, the possible national registers on chemical products and pesticide registers may contain relevant information in an easily accessible form.

STEP 1: INITIATING THE INVENTORY DEVELOPMENT PROCESS

The first priority is to define the scope of the inventory and identify the relevant sectors in the country based on the background information collected. The scope can be further refined when new information (such as different uses and their scale) becomes available.

It is also important to clearly assign the responsibility for developing the inventory. The national focal point of the Stockholm Convention could initiate the inventory process in cooperation with the potential Steering Committee established for updating the NIP.

1.1 Establishing a national inventory team

Consider establishing a national inventory team to oversee the inventory work, define the scope, and develop the final report. The inventory team may consist of government agencies, academia, advisory bodies, industries, waste management, commerce, NGOs etc. that have knowledge on the production and use of the POP or products/articles consisting of, containing or contaminated with the POP. The composition of the inventory team depends largely on whether the POP

is a pesticide or an industrial chemical, or both. Special attention should be paid to ensure participation of industries that operate in areas for which acceptable purposes or specific exemptions have been identified.

For inventories on POPs pesticides, the inventory team could include representatives of pesticide registration authorities, municipal authorities, agricultural advisory bodies, pesticide industry and trade association, customs service, relevant universities or research institutes, organized labour and trade unions, farmers and consumer associations, among other NGOs.

For inventories on industrial POPs, the inventory team could include the authorities in the field of chemicals management, chemicals registries,⁷ the customs service, representatives from larger stakeholders involved in the production of the POP (if taking place), representatives from the industrial sectors using the POP in manufacture, organized labour and trade unions, universities and research institutes, the relevant NGOs.

The national focal point for the Stockholm Convention could serve as leader of the team and convene the meetings. National and/or international consultants with relevant expertise could be hired to do the work and report to the team. The team could also sub-divide into smaller sector-specific groups, once the information becomes available, to focus on smaller parts of the inventory.

The national focal point should brief and educate the team on the Stockholm Convention's mandates, obligations and the new POPs.

The knowledge in the inventory team can help identifying the production and supply of the POP and the relevant areas of industrial and professional use, making the inventory as practical and effective as possible. The industries involved in the production, import, and use of the POP should be involved in the discussion on the scope of the inventory (see Chapter 2.2.3), as they may be able to estimate historical and current amounts in different applications.

1.2 Identifying relevant stakeholders

Based on the tentative information on production and use of the POP in the country, the team should identify relevant stakeholders, who will be contacted for the information in the process. The detailed inventory guidance documents contain lists of suggested stakeholders, which are dependent on the chemical in question and its uses.

Generally, however, it could be considered that for developing inventories of **POPs pesticides**, the following stakeholders likely have relevant information: pesticide industry and/or importers, environmental authorities, pesticide registration authorities (as appropriate), pesticide trade associations and individual traders, agricultural advisory organisations, agricultural research and educational institutions, farmers associations, municipalities, and environmental NGOs. Waste issues are very relevant, especially for banned pesticides.

For **wood preservatives**, the list would include wood preservation industry, user organisation (such as utility pole users i.e. energy and telephone companies), manufacturers, importers and traders, registration authorities (as appropriate), research and educational institutions, and environmental NGOs.

For **industrial POPs**, the stakeholders could include the producers and/or importers, environmental authorities, chemicals registration authorities (as appropriate), chemicals trade and associations and relevant industry associations, manufacturers and users' organizations and larger enterprises using the POP, relevant research and educational institutions, and consumer and environmental NGOs. All areas with continued use should be included.

Especially with industrial POPs used in the production of materials, equipment, products/articles, or those sold for household use, the information on uses and amounts may only be available from the relevant industry and trade. Therefore, special effort should be put to list all relevant stakeholders in the country who might have information on the POP. Identifying stakeholders that produce, import and use the chemical can be used in the future for direct outreach when regulations change etc.

A list of potential stakeholders in Table 3-1 and appendix 2 of the detailed inventory guidance for PFOS (UNEP, 2017b) can be used as guidance when identifying the relevant key stakeholders and the defining of the inventory's scope.

1.3 Defining the scope of the inventory

Defining the scope of the inventory means identifying the relevant national sectors to be investigated in the process, planning the use of resources, and the extent of the activities needed. The inventory process is tiered and the scope will likely need to be adjusted as information on the situation in the country becomes available.

The following considerations are important for defining the scope of the inventory:

- (a) Obligations of the Stockholm Convention, including the possible acceptable purposes and specific exemptions;
- (b) Objectives of an inventory (see Chapters 1.1 and 1.3);
- (c) Available resources and capacity (financial and human resources, analytical capacity);
- (d) Life-cycle of the POP;
- (e) National priorities (e.g. developing NIPs).

During the planning stage, it may be more efficient to contact and consult only a small number of stakeholders, such as main manufacturers, national industrial/agricultural associations and the customs service.

Depending on the availability of resources and information (at this point possibly there are only international sources and information from the inventory team), decide whether to develop an overall inventory of production, use, stockpiles, products/articles in use and waste, or whether there are some sectors that can be excluded from the inventory.

The inventory should always address the whole life-cycle of the POP, addressing potential production or import, different industrial uses, stockpiles, use in the production of products/articles as well as their service life, including waste management.

It should also be considered to what extent potential contaminated sites should be included in the workplan.

For POPs pesticides, the key question is whether the pesticide is still in use in the country, or should the work focus completely on waste inventory.

The members of the inventory team may have important country specific information, which could help focusing the inventory, identifying the applications to cover and stakeholders that should be approached for further enquiries.

It is also recommended to consider early in the process whether there are any synergistic approaches that could be taken to increase the cost effectiveness and efficiency in developing inventories. For instance, it is more efficient to develop a full obsolete pesticide waste inventory (or at least all POPs pesticides) in one go instead of just an inventory focused on one chemical. Similarly, it is more efficient to combine inventories on certain sectors, for example as both HBCD and POP-BDEs have been used in electric and electronic appliances, their inventories could be carried out simultaneously in common sectors of use.

When planning the degree and depth of the inventory it may be useful to consult the Chapter 2.3 on data collection and Chapter 2.4 on collecting and compiling data, and consider the resources needed for an inventory in relevant national sectors using a tiered approach. Minor uses could be excluded from the inventory and prioritize the use of time and resources in collecting information in more significant categories only.

1.4 Developing a workplan

The national inventory team should develop a workplan for the inventory including:

- (a) Inventory strategy;
- (b) Data collection methodologies to be used;
- (c) Activities needed;
- (d) Resource allocation including responsibility and budget;
- (e) Timeline and milestones.

The data collection methodologies are in tiered approach, as described in Chapter 2.3. The degree and depth of the inventory depend on the objectives chosen and have to be determined based on the availability of resources and capacity. A detailed inventory may not be possible for all sectors without conducting chemical analyses. Collecting basic inventory-related information, however, is the minimum requirement for the inventory to identify the main sources of the POP.

1.5 Contacting the stakeholders

Stakeholders will likely need to be contacted several times in the course of the inventory. It may be useful to contact them at the beginning of the inventory to inform them about its background and scope. This can give them a better understanding of the aim of the inventory and an opportunity to communicate their views and questions, and to identify more relevant stakeholders. Early stakeholder feedback can also help focus the inventory, thus making it as practical, effective and accurate as possible.

In the initial contact, it may also be helpful to explain the purpose of the Stockholm Convention, present the NIP and explain the globally agreed and national restrictions for the chemical. Examples of information that could be shared in the initial contact can be found in the annexes of detailed inventory guidance documents.

Depending on the circumstances, it may also be useful to organise stakeholder group meetings, where many stakeholders in the same sector are invited. For example, in an inventory on fire-fighting foams the many professional users from different areas (airports, fire-brigades, oil-refineries, chemicals industry etc.) across the country could be invited. The inventory of waste streams may also involve a range of stakeholders at different levels.

On pesticide inventories, the stakeholders could be contacted in the context of other agricultural events.

It is also important at this point to communicate the arrangements for treatment of confidential business information (Chapter 1.5), as it will improve the cooperation and facilitate disclosing the information without commercial losses.

STEP 2: CHOOSING DATA COLLECTION METHODOLOGIES

There are a number of different approaches that have been used for gathering information for POPs inventories. The methodologies can be divided into three groups:

- (a) **Indicative method:** desk study of existing information, workshops and interviews provide initial information for further planning of the inventory depending on the amount of resources (i.e. human and financial situation). This method is quick and does not require significant human and financial resources. This method is normally used in the initial assessment (Tier I).
- (b) **Qualitative method:** use interviews, questionnaires (see detailed guidance documents for examples) and literature surveys to obtain more specific data. Estimations are based on information on quantities of POP used and production volumes in manufacture of products/articles. Workshops may also be helpful in obtaining data from the industry. This method is normally used in Tier I and II.

- (c) **Quantitative method:** collecting specific in-depth information from interviews, site visits and chemical analyses. This is an advanced stage of the inventory that includes detailed interviews with industry and associations where also questionnaires (see detailed guidance documents) can support the survey and possibly site inspection. The quantitative methods include use of chemical analyses to fill-in gaps in the information needed for inventory. This could, for example, include analysing POP content of products/articles imported or on the market. Chemical analyses are expensive, require specific expertise and are normally not used for the in-depth inventory for specific sectors only. This method is normally used in Tier III.

Examples of different data collection methodologies:

Desk study of existing information

Gathering information about existing past and current national data on the production and use of the POP, and on products/articles consisting of, containing or contaminated with the POP. This information can be obtained from the industry and commerce, permit authorities, customs services, national bureau of statistics and national central bank, published literature in scientific journals, technical reports or notes, research reports, phone books and Internet searches. Information on pesticide waste could be collected by regional and municipal agricultural and environmental authorities. The information should be compiled, evaluated and verified to the extent possible, and a gap analysis of the data could be undertaken as well. Desk studies are usually carried out in the initial assessment phase (Tier I).

National awareness raising/inventory workshop on the Stockholm Convention and new POPs

A national workshop can involve stakeholders from all sectors that are/were using the POP or products/ articles consisting of, containing or contaminated with the POP. The importance of their cooperation in the inventory work to meet the Country's commitments to eliminate POPs could be emphasized. Treatment of confidential business information should be agreed upon to ensure that the information required can be received, and appropriately shared e.g., in aggregated form (without possibility to trace information of an individual company) or in ranges. Breakout sessions and group meetings can be organized during the workshop to ensure that all sectors in which the POP has been used are adequately covered as well as to get consensus on how best to collect and compile data.

Questionnaires

Questionnaires are valuable instruments for primary data collection in inventory programs. Based on contact and consultation meetings with stakeholders, questionnaires with explanatory notes can be developed and sent to the relevant stakeholders to gather the information needed to compile data for a Tier II or Tier III assessment. Treatment of confidential business information is vital.

Questionnaires can be administered through various outreach mechanisms, including electronic distribution, post; supply chain distribution; distribution via trade unions, NGOs, local governments and community leaders. Questionnaires might also be used for one-on-one interviews or in the frame of a stakeholder workshop. For examples on questionnaires, see the chemical-specific detailed inventory guidance documents.

Site inspection, sampling and analysis

Samples of products/articles can be collected during on-site visits of relevant facilities, shops, recycling facilities, and waste disposal/storage facilities. The screening and analysis of POPs and HBCD containing products/articles is described in the *Guidance on Sampling, Screening and Analysis of Persistent Organic Pollutants in Products and Articles* (UNEP, 2017g). The following studies may be referred to: An initial screening of HBCD has e.g. been performed in Japan for curtains¹ (Kajiwara et al., 2008, 2009) and textiles in vehicles (Kajiwara et al., 2014). A preliminary monitoring of HBCD in extended polystyrene (EPS) and extruded polystyrene (XPS) has been performed in South Korea for packaging (Rani et al., 2014) and for buoy (Hong et al. 2013) detecting HBCD at different levels.²

¹ The life span of quality curtains is more than 20 years (Wreys, 1997). Therefore, HBCD in curtains treated the last decades are to a considerable share still in use.

² The levels were partly below HBCD levels used for flame retarding PS (Rani et al., 2014; Hong et al., 2013) indicating that some of the PS were produced from recycling.

STEP 3: COLLECTING AND COMPILING DATA

The main data that should be collected in the inventory, taking into account the whole life-cycle of the POP:

- (a) **Production of the POP or chemical preparations containing it.** This could mean e.g. chlordecone and the formulations containing it (pesticides with chlordecone as an active ingredient), or PFOS and formulations containing PFOS (such as fire-fighting foams and hydraulic fluids);
- (b) **Import of the chemical or formulations containing the chemical.** Most countries do not produce POPs themselves but import them as chemicals or chemical preparations;
- (c) **Import of products/articles consisting of, containing or contaminated with the POP.** These could include e.g. pallets treated with the POP pesticide, impregnated utility poles, textiles and upholstery, insulation materials, plastics, leather and apparel, synthetic carpets, and electronic and electrical articles and devices, depending on the chemical;
- (d) **Industries and other professional users** in the country using the POP as a chemical and their stockpiles of the POP;
- (e) **Industries in the country manufacturing** products and articles containing the POP and their stockpiles of the POP;
- (f) **Products/articles consisting of, containing or contaminated with the POP on the consumer market and in service** in the country. This could include e.g. insulation materials, electric and electronic devices, cars etc.;
- (g) **Existing obsolete pesticides** storage facilities;
- (h) **Waste streams** containing the POP and information on their management;
- (i) **Contaminated sites** as information becomes available.

The following quantitative information is sought:

- (a) Quantity of the chemical used in industrial processes and manufacture of products/articles;
- (b) Quantities of stockpiles;
- (c) Quantity of the chemical in products/articles in service;
- (d) Quantity of chemical manufactured in the country and/or imported;
- (e) Quantities of waste consisting of, containing or contaminated with the POP, as appropriate (see Basel technical guidelines for environmentally sound management of POPs waste for more information).

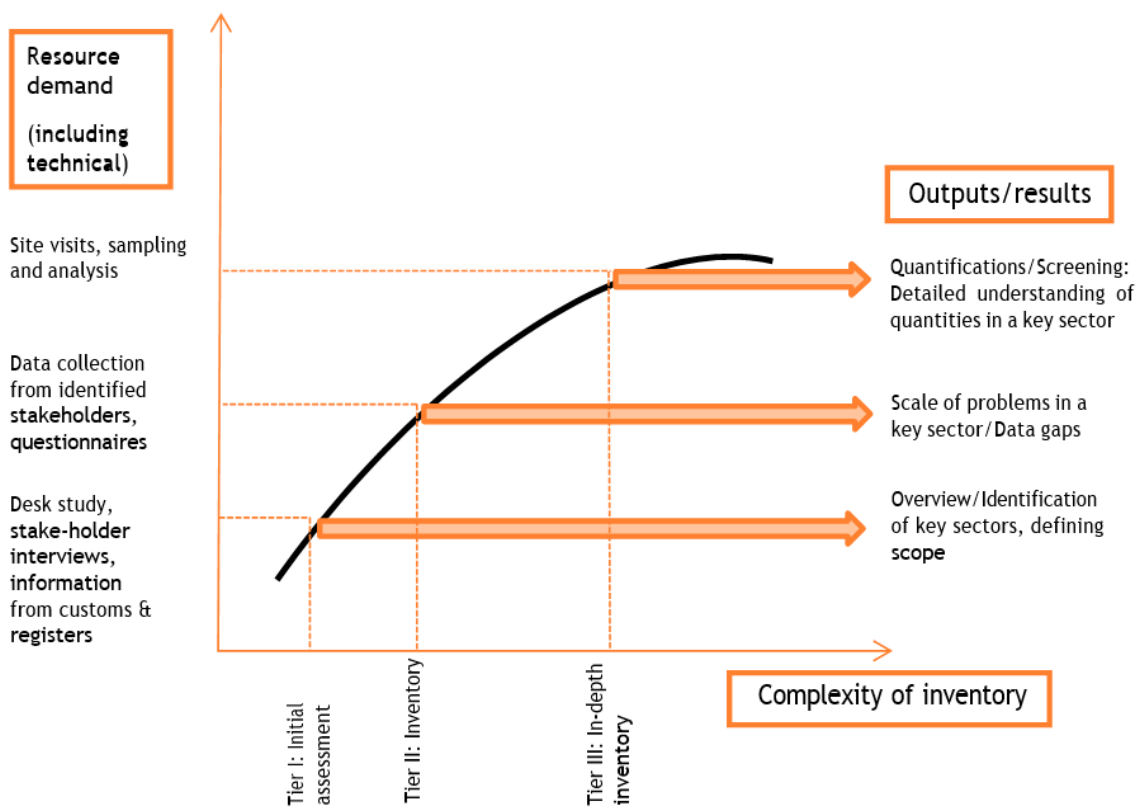
Collecting inventory-related data is a multi-step process that can be based on a tiered approach (Figure 1). This approach provides flexibility to Parties with varying priorities and capacities and allows for scaling of the work according to the findings.

An initial assessment (Tier I) is carried out to obtain an overview of the relevant uses and stakeholders to be contacted in the key sector under investigation. Tier I methods usually rely on available literature and statistics in combination with calculations based on already existing information, such as risk profiles and risk management evaluation documents adopted by the POPs Review Committee.

Main inventory (Tier II) will follow to generate data on the main sectors through interviews and questionnaires to the national stakeholders, and further identify missing information. This would also include actions such as desk study on pesticides storage facility contents.

If needed and resources are available, a more **in-depth inventory (Tier III)** can be initiated after evaluation of the data gathered in the main inventory. Higher tier methods involve more resource-intensive data collection activities and often also yield more accurate results. For some applications country- or region-specific actions could be considered e.g. in cooperation with regional centres.

Figure 1: The tiered inventory approach



3.1 Tier I: Initial assessment

The initial assessment relies on collecting “low-hanging fruit”, i.e. existing information, desk studies, literature searches, interviews etc. First priority is to get an overview of the present and historical use of the chemical and its life-cycle in the country for refining the scope and planning the inventory process:

- (a) Production;
- (b) Uses;
- (c) Waste management and potential recycling of materials containing the chemical;
- (d) Waste storages (mainly in case of obsolete pesticides);
- (e) Understanding the life cycle of POP and the potential for emissions.

Pesticide inventories

In the first step, the inventory team should clarify whether the pesticide is still produced and/or used, or would the inventory be only on waste. The team should screen the available information on the pesticide production and use in literature and information from national institutions working on plant protection and pesticides, pesticide industry and industry associations, pesticide trade, and internet searches using CAS numbers and trade names. The pesticide registry, potential food residue studies and all possible previous inventories should be reviewed. Although the existing inventories are unlikely to be sufficiently detailed for identifying the POPs, they may give information on the scale and location of waste sites.

If the pesticide is still in use, there might be production or import and even export, on which the national customs may have information. Further information should be sought by contacting the manufacturers, traders and marketers as appropriate.

Industrial chemical inventories

In the case of an industrial chemical, the inventory team can screen the available literature and information from national statistical institutions, published literature in scientific journals, technical reports or notes from industry and industry associations, commissioned research reports, and internet searches. An initial assessment should include national standards and regulations related to the chemicals in various applications. This could include, e.g. assessment of flammability standards for different applications in textiles such as transport seating, upholstery, carpets, curtains.

In the second step, the inventory team should contact the major stakeholders (larger companies, industry associations) to obtain initial information on whether the POP was or is used in the country. Special attention should be paid to those sectors where use may continue according to the Stockholm Convention provisions. The ministry of environment and the ministry in charge of industry, as well as the Stockholm Convention Regional Centers may have relevant information.

Information on the import of the chemical might be available from customs service, or industries using the chemical or their related industry associations. Information on both current and historic import and export should be sought. When contacting the stakeholders for the information, also information on the related uses should be asked.

Making rough estimations of the quantities used in any of the applications, e.g. the total volume of materials in a sector (e.g. vehicles), or a specific application (e.g. furniture upholstery) could be helpful to prioritize actions. Further information could be collected in Tier II and Tier III for verification.

The HS codes used by the customs are normally not specific enough to address a specific chemical or chemical in products/articles (Korucu et al., 2014). HS codes are likely not applicable for assessing import/export of certain POPs or products/articles containing them. CAS numbers and trade names should be used. For more information, see the *Guidance for the Control of the Import and Export of POPs* (UNEP, 2017g).

If information on import, manufacture and export of products/articles containing POPs are available, the net consumption can be calculated using the template below (separately for different sectors if preferable):

$$\text{Net consumption of products in [country]} = \text{manufacture} + \text{import} - \text{export}$$
$$\text{Net consumption of POP in [country]} = [\text{manufacture} + \text{import} - \text{export}] \text{ of POP containing products or articles} \times \text{POP content}^*$$

** In the absence of other values, please consult Risk Profile, Risk Management Evaluation adopted by the POPs Review Committee and the Basel Convention Technical Guidelines on ESM of waste for information on typical contents used in products/articles.*

For further examples, please see detailed POP inventory guidance documents.

Statistics on the manufacture of articles may not be detailed. The production statistics may not necessarily follow the same product codes as import and export. It may only cover some of the existing companies in the country. It is also expected that some statistical data on the manufacturing activities is confidential and not available. Therefore, the calculations based on the statistics must be carefully interpreted.

Authentic product information received from major companies, interviewed by the inventory team, in each relevant use sector is expected to be of a better quality and need to support the quantitative information from the statistics.

Based on these data, the team should assess the relevance of defined scope and whether the right stakeholders have been identified, before proceeding to the next Tier.

The data collected can be compiled using the compilation template in the appendix to the present guidance.

3.2 Tier II: Main inventory

It is likely that many questions will remain open after the initial assessment and the main body of information for the inventory will be achieved in the phase. The next Tier in the inventory focuses on specific sectors of interest identified based on the initial assessment. In Tier II, new and more detailed information is collected from the stakeholders through interviews, surveys and site visits.

Possible site visits and further studies could focus on the sites of production, use, and disposal of the POP in the country:

- (a) Current and former production sites;
- (b) Current and former disposal sites (such as pesticide storage facilities);
- (c) Users of the POP and products containing the POP;
 - (a) Waste collection centres and recyclers;
 - (b) End-of-life vehicles treatment facilities, if relevant;
 - (c) Storage and disposal locations of materials containing the POP.

Information on the amount of production waste and the historic management and deposition of waste from these productions could be addressed in the inventory (including associated landfills).

Pesticide inventories

Pesticide inventories consist of identifying the current production and use, stockpiles and waste like with industrial chemicals. However, as many POPs pesticides have been phased out a long time ago, pesticide inventory could consist of just inventory of pesticide waste in the country. FAO has issued thorough guidance under Programme on the Prevention and Disposal of Obsolete Pesticides.

Tier II inventory could be based on available documents at sites of storage. FAO guidance covers all aspects of pesticide management (FAO, 2001; FAO, 2010). However, it should be noted that with regards to the environmentally sound management referred to in Article 6 of the Convention, the technical guidelines by Basel Convention should be adhered to (UNEP, 2017e and the related POP specific technical guidelines).

If the pesticide is in use, information on the flows along the whole life-cycle must be acquired. In case sales data is not available, these data could be collected in Tier II by using targeted questionnaires to or interviews with producers, importers, agricultural advisory bodies, farmers' associations and NGOs.

Inventories of industrial chemicals

Some data collection methodologies were presented in Chapter 2.3. The inventory team could organise separate teams for different industrial sectors and hire consultants as appropriate.

The detailed guidance documents contain examples of questionnaires that could be used for contacting and requesting information from the stakeholders in different sectors that have been identified as relevant nationally in the initial assessment.

All the data formats including questionnaire survey formats should be carefully streamlined to ensure the consistency of the data collection as much as possible. If data conversions and estimations are done by stakeholders (e.g. for the management of confidential data), the inventory team may need to provide training on calculations on the POP content and how to fill out the questionnaire. This will ensure high data quality and consistency.

3.3 Tier III: In-depth inventory

In areas where Tier II search for information falls short from the objectives set for the inventory by the inventory team, focused information could be acquired through more resource-demanding techniques, if resources are available. The in-depth inventory could include using analytical methods to gain information e.g. on uses and concentrations of POPs in products/articles on the market to estimate the total amounts of POPs, prioritize actions and to estimate their costs.

The analytical methods may include measurements using the X-ray fluorescence (XRF) screening as well as laboratory analyses (see UNEP, 2017g). It may also involve detailed inspections of sites mentioned in Tier II. For pesticide inventories, in-depth inventory could entail sampling and analysing unidentified pesticides in storages of obsolete stocks.

STEP 4: MANAGING AND EVALUATING THE DATA

The data need to be assessed for completeness and plausibility, possibly including a comparison with data from other countries in the region. Data gaps may (partly) be filled by extrapolation of available statistical data. If the quality of the data is considered unsatisfactory, additional data collection or screening (Tier III) should be undertaken.

4.1 Data management

Data collection methodologies applied in the data gathering process as described in Chapter 2.3 may vary depending on the legal framework, political organization and economic support for environmental management. Nevertheless, the management of the collected data should be consistent and transparent. During the data processing, all the assumptions and conversion factors adopted as a result of expert judgment, where needed, should be noted/recorded and referenced when the results are presented.

4.2 Evaluation of the inventory

Some challenges may still exist at the end of the inventory including a lack of detailed information on certain activities and applications. An evaluation of the process, strategy used and information collected can take place along with a decision on what further actions are needed to make the inventory more complete.

The evaluation includes identification of the following:

- (a) Gaps and limitations;
- (b) Need for validation of the information compiled in the inventory;
- (c) Actions needed to meet the requirements of the Stockholm Convention.

Important elements in this evaluation step are to identify any gaps and limitations, and the measures needed to make the inventory more complete. Other ways to involve the stakeholders and other data collection strategies (see Steps 2 to 4) could then be considered. A gap analysis in the evaluation of the initial assessment or preliminary inventory could result in the need to contact some of the stakeholders again to get more information or identify other stakeholders to be contacted to help fill the gaps.

For inventory sectors with limited information, information campaigns and stakeholder meetings or workshops may be necessary. In some cases, government regulations may be required to ensure that stakeholders report their holdings and

cooperate with the national authorities and engage in the national inventory. To be noted that drafting a regulation and making it come into force can sometimes require.

Gaps, limitations and necessary actions to complete the inventory will also be valuable information for the NIP, especially for developing countries with need of financial support for their inventory. It is important for developing countries to identify whether and what kind of technical and financial support will be necessary to complete the inventory. Even if the inventory is very incomplete, the NIP is expected to provide information on gaps and the limitations of a country's resources and capabilities — information that is useful to identify appropriate technical and financial needs.

It is also important to consider whether the current situation meets the requirements of the Convention, including the potential actions proposed in the NIP especially with regard to the elimination of the POP and compliance with the acceptable purposes or specific exemptions. Information on BAT/BEP measures may also be useful.

The inventory might also require revision at a later stage when the action plan is updated. This can also be done using the strategies described in this guidance.

Gap analyses conducted in the evaluation of an inventory could result in the need to contact some of these stakeholders again to get more information or identify other stakeholders to be contacted to help fill in the information and data gaps.

STEP 5: PREPARING THE INVENTORY REPORT

The final stage of the inventory is preparation of the inventory report. This report includes results of inventories of all key sectors investigated by the country compiled in a single document.

The essential elements of the report are:

- (a) Objectives and scope;
- (b) Description of data methodologies used and how data were gathered, including all the assumptions and conversion factors adopted as a result of expert judgment;
- (c) Final results of the inventory for each sector considered a priority for the country (using a format to be provided in this guidance, as such or adapted from that format);
- (d) Results of the gap analysis and limitations identified for completion of the inventory;
- (e) Further actions (e.g. stakeholder involvement, data collection strategies) to be taken to complete the inventory and recommendations.

Other information (e.g. stakeholder list) could be included in the report depending on the national preferences.

REFERENCES

- FAO, 2001: FAO training manual for inventory taking of obsolete pesticides. 110 p. http://www.fao.org/fileadmin/user_upload/obsolete_pesticides/docs/train_man_e.pdf.
- FAO, 2010: The Preparation of Inventories of Pesticides and Contaminated Materials. FAO Pesticide Disposal Series 14. 85 p. <http://www.fao.org/docrep/013/i1724e/i1724e.pdf>.
- Kajiwara N, Sueoka M, Ohiwa T and Takigami H.(2008).Determination of flame retardant hexabromocyclododecane diastereomers in textiles. *Organohalogen Comps* 70, 1414-1417. <http://www.dioxin20xx.org/pdfs/2008/08-569.pdf>.
- Kajiwara N, Sueoka M, Ohiwa T, Takigami H. (2009). Determination of flame-retardant hexabromocyclododecane diastereomers in textiles. *Chemosphere* 74, 1485-1489.
- Kajiwara N, Takigami H, Kose T, Suzuki G, Sakai S. (2014). Brominated flame retardants and related substances in the interior materials and cabin dusts of end-of-life vehicles collected in Japan. *Organohalogen Compounds* 76, 1022-1025.
- Korucu M K, Gedik K, Weber R, Karademir A, Kurt-Karakus P B. 2014. Inventory development for perfluorooctane sulfonic acid (PFOS) in Turkey: challenges to control chemicals in articles and products. *Environ Sci Pollut Res*. DOI 10.1007/s11356-014-3924-2.
- UNEP, 2007. Code of practice for the treatment of confidential information in the POPs Review Committee. Decision SC-3/9. <http://chm.pops.int/tabid/345/Default.aspx>.
- UNEP, 2017a. Guidance for Developing a National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants. UNEP/POPS/COP.7/INF/25 (revised 2017). <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2017b. Guidance for preparing inventories of perfluorooctane sulfonic acid (PFOS) and related chemicals listed under the Stockholm Convention on Persistent Organic Pollutants. UNEP/POPS/COP.7/INF/26 (revised 2017). <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2017c. Guidance for preparing inventories of polybrominated diphenyl ethers (PBDEs) listed under the Stockholm Convention on Persistent Organic Pollutants. UNEP/POPS/COP.7/INF/12 (revised 2017). <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2017d. Guidance for preparing inventories of hexabromocyclododecane (HBCD). UNEP/POPS/COP.7/16/HBCD (revised 2017). <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2017e. General technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (adopted by COP.13, May 2017). UNEP/CHW.13/6/Add.1/Rev.1. <http://www.basel.int/tabid/5875/Default.aspx>.
- UNEP, 2017f. Guidance for the control of the import and export of POPs under the Stockholm Convention. <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2017g. Guidance on Sampling, Screening and Analysis of Persistent Organic Pollutants in Products and Articles. UNEP/POPS/COP.7/16/analysis (revised 2017). <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2019a. Summary guidance for preparing inventories of perfluorooctane sulfonic acid (PFOS) and related chemicals listed under the Stockholm Convention on Persistent Organic Pollutants. UNEP/POPS/COP.9/11/PFOS. <http://chm.pops.int/tabid/7730/Default.aspx>.
- UNEP, 2019b. Summary guidance for preparing inventories of hexabromochclododecane (HBCD). UNEP/POPS/COP.9/11/HBCD. <http://chm.pops.int/tabid/7730/Default.aspx>.

UNEP, 2019c. Guidance for preparing inventories of hexachlorobutadiene (HCBD). UNEP/POPS/COP.8/INF/18 (revised 2019). <http://chm.pops.int/tabid/7730/Default.aspx>.

UNEP, 2019d. Guidance for preparing inventories of polychlorinated naphthalenes (PCNs). UNEP/POPS/COP.8/INF/19 (revised 2019). <http://chm.pops.int/tabid/7730/Default.aspx>.

UNEP, 2019e. Guidance for preparing inventories of pentachlorophenol (PCP) and its salts and esters. UNEP/POPS/COP.8/INF/20 (revised 2019). <http://chm.pops.int/tabid/7730/Default.aspx>.

Risk profiles and risk management evaluations adopted by the Persistent Organic Pollutants Review Committee. <http://chm.pops.int/tabid/243/Default.aspx>.

❖ EXAMPLE OF A TABLE COMPILING THE BASIC INVENTORY INFORMATION

Relevant parts depend on the chemical.

Production, import and export				
	kg/year		Historical total	
Production of the chemical in the country				
Import of chemical				
Export of chemical				
Industrial use of the chemical in the country				
	kg/year		Historical total	
Application A				
Application B etc.				
Stockpiles in the industry using the chemical for industrial use				
	kg			
Company A Application B etc.				
Use in production of products and articles containing the POP				
	kg/year	Concentration % w/w	Articles kg	Historical total
Article A/Company A Article B/Company B etc.				
Stockpiles in the industry using the chemical for industrial use				
	kg			
Company A Application B etc.				
Amounts of products and articles in service (estimate for future waste management)				
	Total kg			
Article A/Company A Article B/Company B etc.				
Amount of waste annually				
	kg		Management	
Article A Article B... etc.				