



HARYANA STATE POLLUTION CONTROL BOARD

C-11, SECTOR-6, PANCHKULA

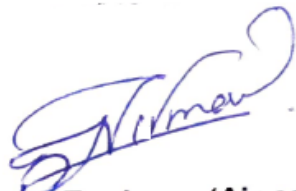
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INVITATION FOR EXPRESSION OF INTEREST (EOI) FOR ENGAGEMENT OF INDEPENDENT VERIFICATION AGENCY (IVA) FOR THE WORLD BANK-FUNDED HARYANA CLEAN AIR AND SUSTAINABLE DEVELOPMENT PROGRAM (HCAPSD)

1. The Haryana State Pollution Control Board (HSPCB) invites Expressions of Interest (EOI) from technically and financially sound organizations of national or international repute to act as an **Independent Verification Agency (IVA)** for the **Haryana Clean Air and Sustainable Development Program (HCAPSD)**. This Program is being implemented by the Government of Haryana with support from the **World Bank under a Program-for-Results (PforR) financing mechanism**. The IVA will be responsible for conducting independent verification of Disbursement Linked Indicators (DLIs) across multiple implementing departments. The engagement shall be for a period of six years (FY 2025–2031).
2. The Board proposes to engage such organizations through an open competitive selection process. Interested entities with proven expertise in monitoring & evaluation, auditing, third-party verification, impact assessment or related domains are hereby invited to submit their EOIs indicating interest and qualifications for undertaking the proposed assignment.
3. The interested organizations may submit their Expression of Interest (EOI) by providing the required information as per the prescribed format, which may be downloaded from the official website of the Board (www.hspcb.gov.in).
4. The duly filled EOI, supported with relevant documents, must reach the office of the **Member Secretary**, Haryana State Pollution Control Board, C-11, Sector-6, Panchkula **on or before 10th July 2025, by 03:00 PM**. The envelope must be clearly superscribed as:
“EXPRESSION OF INTEREST FOR ENGAGEMENT OF INDEPENDENT VERIFICATION AGENCY FOR HCAPSD”
5. The EOI can be submitted through Registered Post / Speed Post / by hand. The Board shall not be held responsible for any postal delay or non-receipt of the EOI within the scheduled date and time.
6. Interested organizations are advised to visit the website before submission. Once the EOI is received, it will be presumed that the applicant has reviewed the Terms of Reference and is fully aware of the prescribed eligibility criteria, scope, and expectations.
7. The HSPCB reserves the right to reject any or all EOIs without assigning any reasons whatsoever.

Pardeep Kumar, IAS
Member Secretary, HSPCB

A copy of the above is forwarded to the Director General, Public Relations and Cultural Affairs Department, Haryana for publishing in leading national newspapers (3 Hindi & 3 English) on or before **26th June 2025** at DAVP-approved rates. Bills may be submitted accordingly.



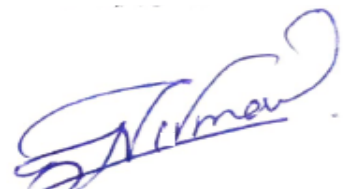
**Sr. Env. Engineer (Air cell)
for Chairman, HSPCB**

Endst. No. HSPCB/Aircell/2025/ 440-446

Dated: 25.06.2025

A copy is forwarded for kind information and necessary action to:

1. The CEO, SPV for HCAPSD and HAIDP
2. The Director, Environment and Climate Change Department, Haryana, Chandigarh
3. Member Secretary, HSPCB-cum-Project Director, HCAPSD
4. The Nodal Officer, IT Branch for uploading the notice & EOI on the official website of the board
5. PS to CPSCM-cum-Chairman, Governing Committee of HCAPSD
6. PS to ACS, Environment
7. PS to Chairman / PA to Member Secretary



**Sr. Env. Engineer (Air cell)
for Chairman, HSPCB**

EXPRESSION OF INTEREST (EOI)
DOCUMENT FOR
ENGAGEMENT OF INDEPENDENT VERIFICATION AGENCY
(IVA)
FOR
THE WORLD BANK–SUPPORTED HARYANA CLEAN AIR
AND SUSTAINABLE DEVELOPMENT PROGRAM (HCAPSD)
(FY 2025–2031)

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA – 134109
www.hspcb.gov.in
Email: hspcbSrscientist@gmail.com

To

The Member Secretary,
Haryana State Pollution Control Board,
C-11, Sector-6, Panchkula – 134109

Sub: Expression of Interest for Engagement of Independent Verification Agency (IVA) for the World Bank-supported Haryana Clean Air and Sustainable Development Program (HCAPSD)

Sir,

I/We hereby submit our Expression of Interest (EoI) in the prescribed format, in sealed cover, for consideration of our organization for the above-stated assignment.

We affirm that the information furnished as part of our submission is true and complete to the best of our knowledge and belief.

Yours faithfully,

Signature

Name:

Designation:

Organization Name:

Seal & Address:

GUIDANCE DOCUMENT FOR SUBMISSION OF EXPRESSION OF INTEREST (EOI)
FOR ENGAGEMENT OF INDEPENDENT VERIFICATION AGENCY (IVA)
UNDER THE WORLD BANK–SUPPORTED HARYANA CLEAN AIR AND SUSTAINABLE
DEVELOPMENT PROGRAM (HCAPSD)

1. Purpose

The purpose of this terms of reference is to appoint an administratively technical and financially autonomous Independent Verification Agency (IVA) to undertake verification of performance of the HCASDP starting FY 25-31.

2. Program Overview

The World Bank is supporting the Department of Environment, Forest, and Wildlife (DoEFWL), Government of Haryana (GoH), in the implementation of the 'Haryana Clean Air and Sustainable Development Program (HCASDP). The total budget of the program is US\$438 million, with International Bank for Reconstruction and Development (IBRD) financing US\$300 million, the Government of Haryana financing US\$128 million & US\$10 million will be in the form of Grants. The Program objective is to strengthen airshed management and reduce emissions from priority sectors to reduce air pollution in Haryana.

3. The Program activities are organized around three results areas (RA) as outlined below:

- (i) *Result Area 1: Strengthening State Capabilities for Air Quality Management and Planning*
- (ii) *Result Area 2: Advancing Sector Interventions*
- (iii) *Result Area 3: Indo Gangetic Plain (IGP) Airshed Cooperation*

4. Program Implementation

The program will be executed through a Special Purpose Vehicle (SPV) that will be constituted to serve as an umbrella entity for all externally aided World Bank-funded projects in Haryana. It will include two dedicated PMU verticals—for AI and Environmental Management(HCAPSD).

For HCAPSD, In the top tier, the Governing Committee will be chaired by the Chief Principal Secretary to the CM (CPSCM) and will also include the administrative secretaries of all the implementing departments as members. In the second tier, the steering committee will be led by the ACS, Environment, with directors of the following implementing departments as members.

In the third tier, a Haryana Clean Air Project for Sustainable Development Implementation Cell (HCAPSD cell) will work for driving implementation of the project. The cell will be headed by the Project Director, ie, Member Secretary, HSPCB or by any other officer appointed by the government. For implementation of sector-wise initiatives, the HCAPSD Implementation Cell will coordinate with the concerned officers (Deputy coordinating officers) designated at the departments. A full-time program management unit (PMU) will work with the HCAPSD Implementation cell to drive implementation of the project. The PMU will have three major arms namely - (i) the Strategy & Programme Implementation team placed in the implementing departments, (ii) the Sector experts' team at HSPCB, and (iii) the Program Administrative team.

5. Program Verification

The HCASDP program focus is on strengthening the results-based focus based on five principles (i) integrated multi sector approach to AQM planning (ii) alignment with and value add to government programs (iii) building on policy and institutional reforms (iv) technical merits (v) ability to incentivize results and achievement of the DLI.

A key element of the project is the adoption of a results-based financing approach with ‘Disbursement Linked Indicators (DLIs)’, wherein financing by the World Bank is based on the achievement of the DLIs under the key result areas by the GoH and not inputs to implement the above listed activities. The program aims to support GoH in achieving the 7 DLIs under the three aforementioned Result Areas. These have been identified and agreed in consultation with the Department of Environment, and other nodal departments. Each DLI milestone has been assigned a Dollar (\$) value and when the milestone is met, a third party verifies its achievement, after which, the value of the indicator is disbursed to the Government.

- ⇒ *Thus, under this approach, measurement of achievement of results is key, as when (and only when) the results are verified to be fully achieved, funds are disbursed to the Government.*
- ⇒ ***The role of the IVA is to provide an independent, credible and coherent verification of prior Results and disbursement Linked Indicators (DLI) as detailed below. Specifically, the IVA will carry out the following activities based on the specific Disbursement Linked Indicators pertaining to the Program. These will include desk reviews and phone based and in person verification of results.***

PROCESS

- ✓ **The verification must be independent, transparent and objective** such that it provides robust evidence for release (or non-release) of funds. To support the DLI results verification process, the Department of Environment will identify an Independent Verification Agency for programmatic indicators.
- ✓ **The IVA will develop an Inception report** by detailing the methodology and protocol for verification of priors and DLIs. (Before verification is initiated)
- ✓ Whenever the Executive body will reflect on the achievement of a certain DLI through the claim process, **the World Bank will communicate to the IVA for the verification of claimed DLI.**
- ✓ **After getting the satisfactory report from IVA, the World Bank will further process the submitted claim** by the Executive body.

The table below lists the DLIs and associated funding allocations:

Results Area and DLI ¹	Implementing Agency	Allocated Amount (US\$ millions)	
		World Bank	GoH
DLI 1: Advancing State Air Quality Planning process	DoEFCC	12	5
DLI 2: Airshed management decision support system in operation and use	DoEFCC	18	8
DLI 3: Accelerated transition to cleaner public transport through electric buses in the State	DoT	80	34
DLI 4: Reduction in crop residue burning (active fire locations) in targeted geographies.	DoA	45	19

¹ To be updated based on final approved project design

DLI 5: Improving management of livestock waste in select clusters	DoRD	45	19
DLI 6: Creating value chain for C&D waste	DoUDD	45	19
DLI 7: Phasing out of old heavy-duty trucks to promote fleet renewal.	DoT	25	10

6. Full DLI table: *Refer to Annex 2*

7. Methodology of Verification: *Refer to Annex 3*

8. Contract Duration:

The program duration is 6 years. Accordingly, the IVA will be contracted for six years.

9. Scope of Work

The IVA will be responsible for annual/semiannual (case by case) verification of the program DLIs 1-7. The scope of the IVA includes but is not limited to the following:

- (i) To develop detailed methodology including sample size for surveys, frequency and periodicity of verification, etc., and prepare and submit work plan along with the assessment and survey tools and processes for approval.
- (ii) To collect data through surveys or verification of data and documents, desk reviews in accordance with agreed work plan (sample size or physical verification shall be minimum 10%) to support IVA report on achievement of agreed results against each DLI.
- (iii) To coordinate with DOE FCC and participating line departments on achievement of agreed results against each DLI.
- (iv) Develop an assessment checklist to be used by the participating line departments for carrying out assessment to support IVA
- (v) Develop checklist for annual surveys/reviews (interviews) shall include (i) interview formats for community staff and management (ii) questionnaires for internet-based surveys (iii) web based interactive system as necessary.
- (vi) Generate tables, maps and charts, analysis showing progress of achievement of DLIs and DLRs in the verification report.
- (vii) Conduct physical verification or witness events in the field wherever necessary to confirm achievement of agreed results by implementation of activities under each results area
- (viii) Submit verification reports to DOE FCC/SPV/PMU detailing the level of achievement against each DLI as per agreed formats
- (ix) Prepare midterm report with critical assessment of achievements and IVA methodology including suggesting corrective actions where necessary and a final completion report at the end of the program
- (x) IVA shall report if any implementing agency has included items from the negative list in the PAD as part of progress/ expenditure
- (xi) Any other work as directed by the Project Director.

7. Deliverables/Reports

Below given are the reports to be submitted to DOE FCC by the IVA within the timeframe provided against each deliverable:

Deliverable	Contents	Timelines
Inception Report	Outline methodology, workplan, with periodicity for collection of data	Within 2 weeks of signing contract

IVA Methodology document	Detailed methodology, work plan along with suggested tools formats, templated periodicity etc for collection of data and submit work plan reporting formats for verification reports.	Within 2 months of signing contract
Verification Assessment report	Report must cover, but not limited to the following (i) Background (ii) Methodology adopted (iii) Finding and data analysis provided for each DLI (iv) Achievement of DLIs/DLRs and program Actions (PAP) (v) Achievement target values of DLIs in RF (vi) Disbursement amounts recommended against each DLI	To be conducted at agreed timelines
Midterm report	(i) Three-year progress report on achievements (ii) Issues faced and gaps under achievement of DLIs (iii) Critical assessment of program and activities resources mobilized quality of interventions and sustainability. (iv) Suggestions for improvement of the program implementation and methodology.	At the end of Y3
Final report	Annotated outline as agreed with DOEFCC with Analysis of performance of each DLI, line departments efforts in achieving the DLI along with recommendations for sustainability of the interventions undertaken in the Program.	At the end of Y6 after closure of the program

8. Terms of Payment

The following are the terms of payment against each deliverable submitted and approved.

Deliverable	Timeframe	Payment
Inception report	Within 2 weeks of signing contract	7%
IVA methodology report	Within 2 months of signing contract	
Verification assessment report (VAR)	To be conducted annually/semiannually at agreed timelines for total of 7 DLIs	9% per DLI, subject to achievement of the respective DLI based on the VAR outcome
Midterm report	At the end of Y3	15%
Final report	At the end of Y6 after closure of the program	15%

9. Expertise and Qualifications

The IVA should have prominent and demonstrable experience in the design and carrying out relevant targeted assessments and studies, impact assessments and implementation of verification protocols for results based financing or similar approaches. The IVA should be able to mobilize a team of experts in Monitoring & Evaluation, Quantitative and qualitative research design, organizational and operational management, process evaluation auditing or similar skills. In addition, the IVA should have:

1. Demonstrated experience in managing large scale assessments, impact evaluations program monitoring and public program policies.
2. Availability of teams with skills and competencies demonstrated experience in planning and executing assessments, logistics, data management and statistical analysis for large scale surveys, assessments.
3. Experience advising IFI/donor organizations and governments on the design and report of results in a collaborative, multisector environment is essential.

Preference will be given to institutions that have undertaken assignments of a similar nature and/or have previously worked on World Bank-supported programs.

10. Suggested team composition

Given the nature of the assignment and its periodic verification cycles, the Independent Verification Agency (IVA) is not required to deploy personnel throughout the year. The scope of work, verification activities, and field processes can be planned and completed within 2 to 5 months each year, depending on the schedule of Disbursement Linked Indicator (DLI) claims and availability of supporting documentation.

Accordingly, the team size need not be large. A composition of 4 to 8 experts, comprising both key and non-key personnel, is likely to be sufficient to carry out the assignment effectively. This estimation takes into account the support that will be extended by HSPCB and the Program Management Unit (PMU) in terms of coordination with implementing departments and access to field data.

Firms are advised to plan their personnel deployment and financial quotation accordingly. However, the composition and engagement plan proposed herein is indicative in nature, and bidders may propose alternate staffing models based on their professional judgment and experience, while ensuring compliance with the Terms of Reference.

Table 1 Minimum Qualification and Indicative Experience of Key (K) and non-key (NK) experts (Suggestive)

S. No.	Key Position	No. of Experts	Minimum Qualification and Indicative Professional Experience Desired
Key Experts			
1	Team Leader	1	Master's in economics, management, statistics, or equivalent with 10+ years' experience in multisector program design, monitoring & evaluation (M&E); must have experience in results-based program management and verification frameworks.
2	Environment and Sector Specialist	1	Master's in environmental engineering/management/economics or related field with 8–10 years' experience in environmental assessments, preferably with prior work in World Bank or government-led programs.
3	M&E and Data Specialist	1	Master's in statistics/data science/social sciences with strong expertise in survey tools, sampling, MIS, and data validation. Experience in third-party verifications and large-scale data management.

4	Public Finance / Institutional Expert	1	Master's in public finance/economics/public administration with experience in evaluating government budget systems, DLI-linked financing, and program costing. Experience with IFIs preferred.
Non-Key Experts			
5	Field Coordinators / Surveyors	2–3	Graduate in social sciences/management/environmental studies with minimum 3 years' experience in field-level data collection, verification, and beneficiary interviews.

11. Confidentiality of Data

All information, reports, and plans, both print and electronic as well as systems that may have been designed specifically for the assessment will belong to DOE FCC and shall be strictly confidential. The IVA may not use the data for their own research purposes and do not license/authorize data to be used by others. Ethical considerations will be followed by IVA including non-disclosure of personal data and information of respondents, freedom to not participate in the survey, use of local language and other considerations to protect respondents.

12. Reporting

The IVA shall carry out the assignment under the overall supervision of the Executive body in the DoEFCC. The DoEFCC will appoint a senior officer (contract manager) during contract negotiation who will monitor and coordinate the study activities of the IVA. The designated officer will closely follow up with IVA and provide necessary guidance during the assignment based on their coordination with other line departments as required. The designated officer would provide all the necessary support to IVA and ensure access to all relevant line departments.

Annex 1: Summary of interventions under HCAPSD

Sector Name	Name of dept	Detail of interventions	Intervention-wise budget (cr)	Total budget (cr)
Transport	GMDA/ FMDA/SMDA	Deploy 500 e-buses in Gurugram, Faridabad, Sonipat & Jhajjar	1107	1,282
	Transport Dept.	Set-up 200 charging stations in NCR	20	
		Identify & phase out old/unclean vehicle fleet through Automated Testing Stations	10	
	Dept. of Industries & Commerce	Provide incentives for purchase of new 20,000 3-wheeler electric vehicles	100	
		Provide incentives for replacement of 30,000 3-wheeler older fleets with EV	45	

Industries	Directorate of MSME	Provide financial incentive for purchase of 1000 boilers running on PNG	200	597
		Promote use of 2400 cleaner DG sets across industries	330	
	HSIIDC	Pilot 2 common boilers across industrial clusters in the state	30	
	HSPCB	2 tunnel kiln-based brick manufacturing units in Non-NCR	4	
	HSPCB	Incentives to installation of CEMS devices in 300 industries	33	
Urban	Directorate of Urban Local Bodies	Streamline C&D waste collection, processing and reuse	289	994
		Create 500 Kms of “dust –free roads” in NCR	699	
		Build Capacity within ULBs for dust and waste management	6	
Agriculture	Dept. of Agriculture & Farmers Welfare	Ensure 0 stubble-burning incidents by 2030	65	317
		Research on impact of use of decomposers on air quality	4	
		Set-up ‘Secondary Emission Monitoring Center’ at DoA	35	
	Rural Dev & Animal Husbandry Dept.	Implement clean manure management practices and strengthen O&M of CBG plants	214	
Household	Food & Civil Supplies Dept.	IEC activities for adoption of clean cooking practices	34	34
Institutional Strengthening	Haryana Pollution Control Board	Strengthen lab infrastructure (4 labs, 1 state-of-the-art lab, 12 mini labs, 22 digital stack monitoring kits, 1 supersite)	107	423
		Deployment of 10 CAAQM stations	73	
		Deployment of 2 mobile vans	28	
		Set-up a CCC for data backed decision-making	50	
		Expand satellite-based air quality monitoring in the state	6	
		Constitute 20-member program management unit at HSPCB	72	
		Implement district-level fellowship for project implementation	42	
		Undertake expansive trainings and workshops for the officials	16	

		Driving citizen engagement & IGP coordination	29	
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Annex 2: Full DLI Table

Indicator	Baseline	Prior Action	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
AIRSHED MANAGEMENT DECISION SUPPORT SYSTEM IN OPERATION AND USE Allocation: US\$ 18.00	Air quality data not easily accessible and available for informed decision-making. New labs and monitoring sites to be established (Current baseline 44 CAAQMS; 38 manual Stations and 3 Labs)		(1) DoEFCC approves AQM infrastructure upgradation plan (2) DoEFCC approves DSS development plan	100% AQM infrastructure installed as per plan (scalable)		DSS established and trial run completed		DSS operational with data from upgraded AQM monitoring system and MIS.
			3.00	5.00		5.00		5.00
Advancing state air quality planning process Allocation: US\$ 12.00	State AQM plan 2024 needs strengthening		Updated State Level Emission Inventory report	Development/issuance of an updated State Plan for Control of Air Pollution (with updated baseline and additional measures to reach targets)		Updated State Level emission Inventory report	State Plan adaptive management process established in Haryana, with intermediate updates 2027 and comprehensive update in 2030	
			2.00	3.00		2.00	5.00	
ACCELERATED TRANSITION TO CLEAN PUBLIC TRANSPORT Allocation: US\$ 80.00	575 e-buses deployed in 11 cities including 150 in Gurugram and 50 in Faridabad	0	1) EV transition plan developed for Gurugram and Faridabad and inter-city bus operation (2) Setting-up permanent funding mechanism at State and/or City level to bridge viability gap (3) Staffing positioned are filled in three (#3) implementing agencies (HCBSL, FCTSL, GCBSL)	(1) phased introduction of 1000 buses are introduced on GCC in 2 model cities and Haryana roadway integrated with command and control center and integrated ticketing system (scalable) (2) Women centric infrastructure has been installed in the depots.	Guidelines for sharing of the charging infrastructure at the depots with the private electric vehicle owners are in place	0	0	1000 electric buses operating in 2 model cities and Haryana roadways with robust institutions and sustainable financing and service provisions

		0.00	10.00	60.00	10.00	0.00	0.00	0.00
Reduction in crop residue burning (active fire locations) in targeted geographies Allocation: US\$ 45.00	7 MT of crop residue generated with 3 MT still being burned	0	(1) Implementation of scheme for supply of agriculture machinery for in and ex situ management of crop residue (2) value chains developed in targeted geographies for strengthened market linkages		at least 50 percent of crop residue in targeted geographies put to productive re-use (in-situ and ex situ)		At least 90 percent of crop residue in targeted geographies put to productive re-use	Reduced number in active fire locations by >90 percent in targeted geographies
			10.00	0.00	10.00		25.00	0.00
Improving management of livestock waste in select clusters Allocation: US\$ 45.00	600 livestock clusters need to adopt modern livestock waste management practices	150 livestock clusters identified for extension services on modern livestock waste management practices including biogas production for clean cooking	Package of practice/ SOPs notified, and demonstrations provided	At least 50 Livestock shelters with upgraded designs and adoption of approved waste management practices		Updated package of practice for livestock waste management based on implementation experience (policy)	0	At least 150 Livestock shelters with upgraded designs & adoption of approved waste management practices
		1	3	5		1	0	10
→ Improved access to clean cooking fuels Allocation: 0.00				At least 15 livestock clusters with improved and operational community biogas plants			At least 50 Livestock clusters with operational community biogas plants	10,000 households provided with clean cooking fuels from community biogas plants
				5.00			10.00	10.00
CREATION OF VALUE CHAIN FOR C&D WASTE Allocation: US\$ 45.00	1500 TPD of C&D waste generated (Gurugram and Faridabad 1200 TPD)	0	0	C&D waste management plan prepared and approved in 2 ULBs (incl. fees, roles and responsibilities, storage/processing site identification)	SOPs for C&D waste management piloted/tested in 2 ULBs	ULBs have introduced C&D waste management contracts	0	Percentage of targeted C&D waste reprocessed for beneficial reuse.
				10.00	10.00	10.00	0.00	15.00

PHASING OUT OF OLD HEAVY-DU TY TRUCKS TO PROMOTE FLEET RENEWAL Allocation: US\$ 25.00	No ATS infrastructur e in the state	Notification of revised vehicle fitness testing charges	(1) Plan/Progra m established for scrapping heavy duty vehicles for non-BS , BSI, BS II HDV through a graded incentive and disincentive. (2) Master plan and operating model established for automated testing stations.	Phased Introduction of ATS infrastructur e according to master plan (scalable)				100% ATS established in the state according to master plan
		2.00	3.00	20.00				0.00

Annex 3: Methodology of Verification

DLI 1: Advancing State AQM planning

Description	This indicator tracks the strengthening of the state air quality planning process by integration of better knowledge data, MRV and budget tagging.
Data source	Department of Environment administrative records and data, State emission inventory and State AQM Plans; records of AQM training and skilling.
Verification entity	IVA
Procedure	Year 2: State emission inventory has been developed and technical committee review completed. Year 3: state plan updated and officially approved by the department. Year 5: State emission inventory has been developed and technical committee review completed. Year 6: second update to state plan officially approved by the department

DLI 2: Airshed management decision support system in operation and use

Description	This indicator measures the progress with expansion of the air quality monitoring infrastructure (regulatory and Realtime); feeding data into the project MIS; and using data in the project DSS for decision making
Data source	Policy documentation and government decisions; procurement and financial management record, Contracts/tenders issued by DoEFCC for AQM infrastructure and DSS; DSS reports.
Verification entity	IVA
Procedure	Year 1: (i) AQM infrastructure improvement plan approved, (ii) applicable tender documents prepared, (iii) DSS design document and tender document approved. Year 2-3: IVA to confirm number of contract packages as per AQM infrastructure improvement plan awarded (Scalable) Year 4-6: DSS is established, trial runs completed, staffing in place as per plan. This indicator would be tracked using a scorecard to progressively measure different dimensions of the DSS established, including (and not limited to): Physical data centre and control room established, Internal monitoring platform setup, staff capacity built, MIS to successfully draw from various systems. DSS generated reports are being analysed and used in decision making, and time-bound actions prepared. (Scalable)

DLI 3: Accelerated transition to clean public transport services through electric buses in the State

Description	This DLI tracks award of contracts and effective and efficient operations of electric buses with HCBCL, GCBCL & FCTSL.
Data source	Signed contract between SPV in cities and private operators and payments from VGF mechanism.
Verification entity	IVA
Procedure	Year 1: IVA to confirm EV transition plan is approved by DoT. Year 2: (a) Long-term financing facility set up by the State Govt. and linked with the viability gap (b) Institutional structure of HCBCL, GCBCL & FCTSL is developed and institutional staffing positions in 3 institutions are filled on deputation/ hiring (exclusive with no additional charge and minimum contract duration of 3 years). (c) PMU for day-to-day management & monitoring of the bus operations have been identified (minimum contract duration of 3 years). Year 2-6: (a) Verify signed contract between SPVs and private operators (b) bus depots are ready and designated with minimum civil infrastructure to hand over to private operators (c) women centric infrastructure part of the bus depots. Year 4: Guidelines for sharing of the charging infrastructure at the depots with the private electric vehicle owners have been notified.

DLI 4: Reduction in crop residue burning (active fire locations) in targeted geographies

Formula	N/A
Description	This DLI aims to enable GoH to increase the use of large quantities of crop residue generated as a resource rather than waste, that would otherwise be burned. In general, the crop residue/ paddy straw three uses: as a source of biomass energy for power plants and industry, as SOC when returned to the soil in the farmlands, and for briquetting/pelleting for cooking and heating. This DLI will primarily

	focus on increasing the quantities of paddy straw returned to the soil and put to productive reuse through identified uses thereby avoiding burning. This activity will also contribute substantially to climate change adaptation.
Data source	Department of Agriculture records and administrative data, field-based verification, procurement receipts/records of agriculture machinery.
Verification entity	IVA
Procedure	Year 1: (a) Scheme for agriculture machinery notified and budget provided (b) Geographies and farmer groups to be clustered for select value chains identified, and service providers hired. Year 2-4: (a) Verify the database established by DoA on number of farmers provided with access and extension service for machinery for in-situ and ex-situ management of crop residue (b) on-field assessment to verify access to farm machinery equipment provided to farmers in the select geographies. (b) Volume of crop residue facilitated for productive re-use (ex-situ) (c) Overall change in volume of crop residue managed in-situ (d) reduction in active fire locations (year on year) measured through satellite and ground truthing (on a sample basis).

DLI 5: Improving management of livestock waste in selected clusters

Description	This DLI aims to enable GoH to decrease the ammonia emissions from livestock clusters through improved shelter design and livestock handling practices; and increase the quantities of livestock waste collected, safely treated, and recycled into organic fertilizer, biogas/energy generation for cooking. Currently there are no established guidelines for livestock waste management, and livestock waste management activities contribute to substantially reducing Ammonia and GHG emission.
Data source	Department of Rural Development records and administrative data, records from livestock clusters, field-based verification, and surveys.
Verification entity	IVA
Procedure	Year 1: Verify 150 livestock clusters shortlisted through technical and socio-economic criteria for improved waste management practices and bio-gas production, SOPs developed for in-situ and ex-situ practices and demonstrations completed as per agreed plan. Year 2 onwards: (a) verify the number of improved management practices as per SoPs implemented in these clusters by reviewing administrative data, financial statements, and random sampling of batches completed and accepted each year. (b) verify clusters are continuing to implement these practices (c) number of trainings provided to village entrepreneurs and SHGs on biogas plant operations. (d) cumulative quantities of livestock waste collected, treated, and recycled (e) number of biogas plants successfully rehabilitated and in use (f) number of households reached with clean cooking fuels (biogas).

DLI 6: Creation of economic value chains for C&D waste (Text) DLI

Description	This DLI aims to enable GoH (Gurugram and Faridabad) to increase the use of large quantities of C&D waste generated as a resource rather than waste. This DLI will primarily focus on developing systems and market for utilization of recycled C&D products (earthworks and landscaping materials) through a variety of channels including public procurement, development of standards and certification, quality assurance for a viable market and economy for recycled products to develop, allowing the private sector to profitably pursue recycling on its own.
Data source	ULBs (Gurugram and Faridabad) records; C&D waste management facility records.
Verification entity	IVA
Procedure	Year 1: (a) ULBs have hired service provider to prepare C&D waste management SOPs (b) service provider has carried out market assessment and stakeholder consultation for C&D waste and delivered report to the ULB. Year 2: C&D waste management plans developed for Gurugram and Faridabad and adopted by ULB; institutional responsibilities are confirmed and fulfilled. Year 3: SOPs are developed for (a) chemical and mechanical properties of re-processed C&D material that can be sold in the market and (b) Types / applications for re-use (c) Codes and standards for re-processed waste. Year 4: (a) ULBs have introduced clauses for mandatory use of re-processed C&D waste (b) Clauses introduced in public sector infrastructure contracts (c) IVA to review sample tender documents/ procurement packages with clauses. Year 5 and 6:

IVA to confirm in year 5 and year 6 (a) Weight of C&D waste (tonnes) received at facilities to be re-processed and (b) Sale of reprocessed C&D waste products as per the SOPs in both Gurugram and Faridabad plants (tonnes).

IVA to confirm from records and logs at C&D waste processing facility

- a. Quantity of waste that has been received and re-processed (tonnes)
- b. Quantity of re-processed C&D waste that is sold (tonnes)

DLI 7: Phasing out of old heavy-duty trucks to promote fleet renewal

Description	This indicator measures progress in developing the vehicle fitness testing infrastructure to check old vehicles and related regulation to disincentivize the operation of these vehicles.
Data source	Records from ATS on vehicle fitness testing; Department of Transport records.
Verification entity	IVA
Procedure	<p>Year 0: DoT has notified the revised charges for issuance of the fitness certificate for the vehicles. IVA will verify official issuing certificate of revised fitness charges, and dissemination.</p> <p>Year 1: (i) Plan for decommissioning of the old heavy-duty vehicles registered in the State is developed and approved by the DoT. (ii) Master plan for establishment and operating model of Automated Fitness Testing is prepared and approved, including the modalities for private sector participation.</p> <p>Year 2-6: number of ATSs are under operation in the State, established as per the master plan– with staffing, technical positions, record, and data management systems.</p>