

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

OA No. 159 of 2021 (SZ)

BETWEEN

Kankana Das,
Kolkata

...Petitioner

AND


Union of India,
Through Secretary,
MoEF&CC and Ors.

...Respondents

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09.12.2024	Additional report filed by Bindhu Radhakrishnan, Chief Environmental Engineer, Kerala State Pollution Control Board on behalf of respondent 11 in the matter of OA No.159/2021 in respectful compliance of the order dated 2110 2024 of the Hon'ble NGT	1
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Dated at Chennai on 10th day of December, 2024



REMA SMRITHI VK
Standing Counsel for KSPCB
Respondent 12

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI IN

Original Application No. 159 of 2021 (SZ)

ADDITIONAL REPORT FILED BY BINDHU RADHAKRISHNAN, CHIEF ENVIRONMENTAL ENGINEER, KERALA STATE POLLUTION CONTROL BOARD ON BEHALF OF RESPONDENT 11 IN THE MATTER OF O.A NO.159/2021 IN RESPECTFUL COMPLIANCE OF THE ORDER DATED 21.10.2024 OF THE HON'BLE NGT

I, Bindhu Radhakrishnan, D/o. M.P Krishnan kutty (Late), aged 55 years, am the Chief Environmental Engineer of Kerala State Pollution Control Board and I am duly authorised to file this report.

The Hon'ble NGT in its Order dated 15.03.2023 in OA No. 159/2021, had directed the State of Kerala to prepare State Action Plan (SAP) on air pollution as per the template prepared by the Central Pollution Control Board (CPCB) and to furnish a copy of the SAP to CPCB. Accordingly, the SAP was submitted to CPCB vide letter no. A3/27/2023 - ENVT dated 13.04.2023. The State Action Plan of Kerala revised as per the common guidelines of CPCB was submitted to CPCB as per letter dated 19.09.2024. The copy of the same is produced herewith and marked as **Annexure R11 (A)**.

As per the common guideline of CPCB, the Air Quality Monitoring Committee under the chair of Secretary, Environment Department and Steering Committee under the chair of the Chief Secretary were constituted as per Government Order no. G. O. (Rt) No. 84/2024/ENVT dated 26.10.2024. The copy of the same is produced herewith and marked as **Annexure R11 (B)**.



The first meeting of the Air Quality Monitoring Committee was held on 18.11.2024 and the minutes of the meeting is produced herewith and marked as **Annexure R11 (C)**. As per the decision in the 1st AQMC meeting, the modifications are currently being made in the SAP by the concerned departments and the same will be presented before the Steering Committee.

All that stated above are true to the best of my knowledge, information and belief.

Dated this the 9th day of December 2024.



Bindhu Radhakrishnan
Chief Environmental Engineer

On behalf of Respondent No. 11 in OA no. 159/2021

BINDHU RADHAKRISHNAN
Chief Environmental Engineer



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KERALA STATE POLLUTION CONTROL BOARD

കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004

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KSPCB/135/2023-CEE

Date: 19-09-2024

From

The Member Secretary

To

The Member Secretary,
Central Pollution Control Board,
Parivesh Bhavan, East Arjun Nagar
Delhi -110032

Sub: O.A. no. 159/2021 - State Action Plan of Kerala - forwarding of – reg.

Ref: Order dated 03.09.2024 of the Hon'ble NGT in O.A. no. 159/2021.

Sir,

This has reference to the above. The Hon'ble NGT vide order cited above had directed SPCBs to give their response to the revised guidelines issued by CPCB. The State Action Plan of Kerala as per the common guidelines of CPCB is enclosed in respectful compliance of the order of the Hon'ble NGT. The Committees as prescribed in the guidelines are being constituted at the Government level and on its constitution, the same will be placed before the Committees. This is for your kind information and further necessary action.

Yours faithfully

Signed by

Sheela A M

Date: 19-09-2024 20:58:32

MEMBER SECRETARY

Indicative template for STATE ACTION PLAN - KERALA

1. Industrial Emissions

S. No.	Activities	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
1.	Policy for permitting new industries in Critically Polluted Areas (CPAs) -KSPCB	No Critically Polluted Areas in Kerala	NA	NA	NA	NA	NA
2.	Guidelines for laying city gas distribution network -Oil companies, PESO etc.,	The code of practice for Quality of service for city or local Natral Gas Distribution Networks vide G.S.R 720(E) dated 1.9.2010 and further amendment on 15.3.2018 was issued by Petroleum and Natural gas Regulatory Board	Being Utility project, these are ongoing projects. However timelines prescribed by the Petroleum & Natural Gas Regulatory Board (PNGRB) shall be adhered to.	Coverage as per the Minimum Work Program prescribed by the Petroleum & Natural gas Regulatory Board (PNGRB)	No financial implication to State Govt	Project funded by Company. Total Project Cost for 8 years is approx Rs. 5000 Crs	Approx. Rs. 850 Crs have been spent on the project
3.	Policy for replacement of heavy oil (eg., furnace oil, diesel etc.) based industries to alternate energy sources (CNG/ PNG/ Electricity) - Industries department/ EMC/ KSPCB etc.,	National policy will be followed.	Ongoing	100%	Industries will incur to expenditure for clean fuels.		
		KSRTC Dispose the used oil/ heavy oil through sucessfull bidders in MSTC auctions possessing valid registration of Central & State pollution control board.	Ongoing	100%	No	NA	NA
		This policy is for the purpose of prohibiting / regulating the use of furnace oil to reduce air pollution and its impact on the environment. BPCL Kochi Refinery is using Low Sulphur fuel / furnace oil in heaters / boilers to reduce SO2 emission. In addition to the above, Kochi Refinery is using low hydrocarbon fuel for reducing load of emission.	Continuous	100%	Company's own fund		

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4.	Policy for restriction on usage of Pet coke for industrial use (Industries department)	<p>The Hon'ble Supreme Court vide order dated 24-10-2017 in WP(C)13029/1985 banned use of pet coke and furnace oil in National Capital region states as these fuels emit more sulphur dioxide compared to conventional fuels.</p> <p>The Hon'ble NGT vide order dated 16-5-2017 in OA 471/16 directed all State Governments to take decision as to whether pet coke is an approved fuel or not. Hon'ble NGT vide order dated 4-7-2019 directed that Petcoke and furnace oil may not be allowed in terms of reports of CPCB dated 15-3-2019 as follows. " Considering the various directions and orders of hon'ble Supreme Court regarding use of pet coke and furnace oil containing higher sulphur, it is required that states, to formulate fuel policies regarding use of pet coke and furnace oil in the light of Supreme /court order dated 24-10-2017(banning use of petcoke and FO in NCR and 17-11-2017(suggesting states to take similar measures) and further Hon'ble supreme Court order dated 13-12-2017, 5-2-2018 and 26-7-2017 allowing use of pet coke in industries /processes which pet coke and furnace oil either as feed stock (Calcine Pet coke units, Aluminium industries) or where they get absorbed along with product in manufacturing process(cement, lime kiln, calcium carbide industries). It is relevant to mention that use of raw petroleum coke in CPC units has been allowed with condition of 90% recovery of SO2 emission. The instruction of CPCB to use petcoke in lime kiln will be followed and monitoring will be done for compliance.</p>	Ongoing	100%	NA	NA	NA

Indicative template for STATE ACTION PLAN - KERALA

1. Industrial Emissions

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5.	Rules and Regulations on uninterrupted power supply in State/ UT(KSEB)	Notification of Ministry of Power is followed. No separate regulations, specifically for Uninterrupted Power Supply is currently notified in Kerala. SOP notified vide No.1/1/KSERC -2015 dated 15 .12. 2015	Total installed capacity of power in the State as on September 2023 is 3765.32 MW, of which, hydel power contributed the major share of 2173.77 MW (57.73 per cent); while 696.34 MW (159.96MW - KSEBL +536.38 MW-Private –IPP & CPP) was contributed by thermal projects (18.49 per cent), 824.94MW (21.91 per cent) from solar and 70.28 MW from wind (1.87 per cent).	98%	No	NA	NA
7.	Policy for use of DG sets (KSPCB)	Regulations of DG sets in the State are as per the notification of Ministry of Environment and Forests and Climate Change. Kerala SPCB issued order No. PCB/HO/SEE3/Tech/82/2019 dated 9-12-2020 and 26-3-2021 on retrofitting of emission control devices/equipments in DG sets of capacity of 500 KVA and above in the State of Kerala	Continuously implemented	100% wherever applicable	NA	NA	NA
		Board has installed CAAQMS Stations: 9 no.s (Plamoodu, Kariavattom, Kollam, Thrissur, Kannur, Eloor Ernakulam, MG Road Ernakulam, Vytilla Ernakulam, Palayam Kozhikode) Proposed CAAQMS Stations: 4 no.s (Idukki, Malappuram, Alappuzha, Palakkad)	9 Installed 4 Proposed : 1 Year	Around Kerala	Yes	Rs. 1 crore approx. is required for each CAAQM station. State fund is being utilized for the same.	

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8.	Policy regarding installation of CAAQMS based on the emission potential or capacity of air polluting industries.	<p>Central Pollution Control Board issued direction B-29016/04/06PCI-I/5401 dated 5-2-2014 for the providing of CAAQMS in the State. There are 16 number of 17 category units. Out of which 15 industries are complying with environmental standards.</p> <p>Besides the above, three units have provided CAAQMS.</p> <p>CAAQMS installed by Industries: Online data from all the AAQMS is transmitted to CPCB on a continuous basis. The ambient air quality information is also communicated to general public through an electronic display board. In addition to the above, a third party monitoring system is also being maintained which is accredited by NABL Lab to ensure emission and ambient conditions are well within prescribed limits.</p>	Continuous	100%	Company's own fund		
9.	Mechanism to be devised for expansion of OCEMS to air polluting industries are not covered currently (such as emission from utility stacks in 17 categories, etc.)	<p>17 category industrial units have provided OCEMS.</p> <p>Besides the above, 21 industrial units have provided OCEMS.</p> <p>Guidelines for bringing industries under OCEEMS (Online Continuous Effluent & Emission Monitoring System) has been issued by the Board vide PCB/HO/SEE-3/TECH/136/2021 dated 28-2-2022.</p>	On going In 2 years	100%	NA	NA	NA
		<p>In the Consent to operate/establish issued by the Board, condition for controlling fugitive emission is included. The standards for ambient air quality with respect to particulate matter is prescribed for the industrial units especially crushers. The compliance of consent condition is also checked.</p>	Continuous	100%	NA	NA	NA

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10.	Mechanisms to control fugitive emissions sources - KSPCB, Industries department	<p>Various measures are taken and maintained by industries to minimise VOC emissions from storage, transport, and effluent handling facilities.</p> <ul style="list-style-type: none"> - Double seal floating roofs ensure low vapourisation and avoids escape of hydrocarbon vapours. - Double mechanical seals are provided for pumps - Closed loop sample points are employed for sampling. - Fixed VOC meters are provided in Petrochemical complex. - In addition to the above, a third - party monitoring system accredited by NABL Lab is also being done periodically (LDAR Program) - In addition, VOC control and treatment system are installed in ETP for VOC vapours generated in the effluent treatment area. 	Continuous	100%	No	NA	NA
11.	Regulations for conversion of brick kilns to clean technologies-KSPCB	<p>Kerala PCB vide circular no. KSPCB/122/2022-SEE-3 dated 31-8-2022 issued direction that the standards for particulate matter in stack emission and minimum stack height specified in the notification of Ministry of Environment and Climate Change shall be strictly addressed to.</p> <p>All new brick kilns shall be allowed only with zig zag technology or vertical shaft or use of piped natural gas as fuel in brick making. The existing brick kilns which are not following as above shall be converted to, within a period of two years.</p> <p>In accordance with MoEF & CC notification, the consent of existing temporary or seasonal brick kilns can be renewed up to 22.02.2025 subject to compliance of all the conditions in notification and prevailing circulars.</p> <p>Since Kerala is mainly having temporary/ seasonal brick kilns, CPCB has also been addressed for advice in the case of temporary or seasonal brick kilns.</p>	In 2 years	100%	No	NA	NA

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12.	<p>Regulations for Emission Trading Scheme (ETS)-KSPCB, Industries department, Energy Management Centre</p>	<p>Ministry of Power, Government of India published draft Carbon Credit Trading Scheme (CCTS). They requested comments from the stakeholders on the draft CCTS and not yet finalised.</p> <p>The State Government has declared its ambitious carbon neutral target to be achieved by 2050 and is keen to formulate an action plan for carbon neutrality. To facilitate this, the State has constituted a Working Group as per G.O (Rt) No. 81/2021/Envt dated 10.11.2021, with Additional Chief Secretary, Environment as the Chairperson to draw up an action plan for achieving carbon neutrality by 2050. The Directorate of Environment and Climate Change (DoECC) is leading the initiatives for the formulation of the Carbon Neutral Framework for the State in coordination with all the major stakeholder departments/agencies. In this regard, the DoECC has partnered with Vasudha Foundation, an independent not- for-profit policy research institution, working in the areas of climate policy and clean energy, for the development of a Carbon Neutral Pathway and a detailed Greenhouse Gas (GHG) inventory for the State of Kerala. The GHG inventory is being prepared for the period 2005 to 2021, accounting carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions. This inventory will cover all four sectors - Energy, IPPU (Industrial Processes and Product Use), AFOLU (Agriculture, Forestry & Other Land Use) & Waste, and all relevant sub-sectors in the State that contribute to GHG emissions, as given in the methodology guidelines developed by the Intergovernmental Panel on Climate Change. Currently, the Directorate is in the stage of finalization of the GHG inventory Report for the State in consultation with all Stakeholder departments. On finalization of the GHG Inventory, the Carbon Neutral Pathway for the State will also be developed. In addition to this, the State Action Plan on Climate Change (SAPCC) 2.0 (Approved in principle by the State Govt as per G.O. (Rt)No 4/2023/Envt dated 21.01.2023) also devised strategies and interventions for adaptation and mitigation for the 2023-30 period. The planned mitigation strategies devised in SAPCC 2.0 for the 2023–30 period could avoid ~ 57000 kt CO₂ in 2030 from various sectors</p>	<p>In the stage of finalization of GHG Inventory report. Carbon Neutrality by 2050.</p>	<p>100% wherever applicable</p>	<p>NA</p>	<p>NA</p>	<p>NA</p>

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13.	Policy to set up e-waste recycling unit in industrial areas in compliance with e-waste management rules-KSPCB, Industries department	E-Waste Management Rules, 2016 is followed in the State. E-waste inventory has been prepared for the State through NIIST by the Kerala PCB. In Kerala, two dismantling units are in operation. Consent to establish for a recycling unit attached to the operational dismantling unit at Idukki by the independent private unit (M/s. Sahya Solutions Group) started functioning. Consent to operate and EPR registration issued. Govt. has taken initiatives to provide more units.	Completed Ongoing	North and South Kerala	No	NA	NA
14.	Any other Policy / Rules/ Standards/ Guidelines pertaining to industrial emissions-KSPCB	Board issued guidelines for controlling emission from hot mix plants, rendering plants. Local Self Government in Kerala issued guidelines for rendering plants	On going (in 2 years)	100%	NA	NA	NA
15.	Number of industries in the state complying emission standards -KSPCB	15 out of 16 operational 17 category industries are complying emission standards. 19 out of 21 operational GPI are complying emission standards.	Completed	100%	NA	NA	NA
16.	Inventory of fuel consumed in the industries (type and quantity) -Oil companies, Industries dept	Apr-Mar'23 consumption of various types of fuel & qty on industry basis is as below: (Data extracted from industry Y2 file). MS (Petrol): 1784.78 TMT HSD (Diesel): 2639.26 TMT SKO (Kerosene): 24.08 TMT LPG: 1135.37 TMT FO (Furnace Oil): 422.64 TMT Bitumen: 219.28 TMT Lubes/Greases: 41.31 TMT CNG: 29.03 TMT	NA	NA	NA	NA	NA

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		KSRTC: Consumption of various types of fuels & quantity on the period of April 2023 to December 2023 is as below: HSD (qty in ltr) : 10,04,44,995 CNG (qty in ltr) : 53,388	NA	NA	Yes	NA	Diesel - Rs.9,63,71,01,055 CNG-Rs. 44,44,419
17.	Shifting of industries/ commercial units to gaseous fuels (CNG/ PNG/ CBG) -oil companies, Industries dept	<p>Pipeline network of natural gas is available at / near all the major industrial hubs in the districts of Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur and Kasaragod.</p> <p>However there is no policy / Guideline for shifting of industries from using pollutant fuels to PNG. Policy is to be issued by the industries department.</p> <p>Major industries are extensively using solid fuels and FO especially those located in Ernakulum city.</p> <p>Pipeline network is being laid to provide Natural Gas from LCNG located in DIC Kochuveli, which will cater to major industries in Trivandrum, further network is being developed in Alappuzha & Kollam for CNG & PNG</p> <p>Industries and entities are still using briquettes, and need to shift to PNG as pipeline network is available in DIC Kochuveli, Trivandrum Dist. Kollam & Alappuzha</p>	31-3-2024	100%	NA	NA	NA

2. Vehicular Emissions

S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
1.	Notification for phasing out old vehicles (Commercial: 10 years; Private: 15 years) -Transport, MVD etc.,	Notification of the Ministry is followed. All the 15 year old vehicle registered under Central Govt, State Govt, LSGD,public sector has been phased out. The Registration of those vehicles remain cancelled in VAHAN software.	Ongoing	100%	No	Nil	Nil
2.	Policy for scrapping old vehicles -Transport, MVD etc.,	Kerala State Road Transport Corporation own 5526 buses as on 01.01.2024 including 110 electric buses. 360 buses below 5 years; 2046 buses of age 5 -10 years; 2612 buses of 10-15 years and 508 buses of 15 years and above. As per the Government order no GO (P No 11/2023/FIN Dated 31.01.2023, Stage Carrage and other category type vehicles having age more than 15 years has to be removed from the existing fleet. At present KSRTC have 508 stage carriage buses and 155 other vehicles which are having age more than 15 years by 01.01.2024. Govt has entrusted KSRTC to set up Scrapping Centres (RVSF) through GO (P) No: 100/2023/TRANS dated 9/3/2023. All the 15 year old vehicle under the ownership of Govt (Central, State) related departments shall be scrapped through RVSF. The decision for the same has been taken GO (P) No: 17/2023/TRANS. The scrapped vehicles can use the Certificate of Deposit to buy new vehicle with reduced tax. This direction being given through GO(P) No: 18/2023/TRANS. As per State Government orderNo.162/2023/Trans dt: 28.04.2023. The validity of scrapping of KSRTC vehicles which completed 15 years of age has been extended up to 30.09.2024. At present KSRTC have 1277 vehicles which are going to be completed 15 years of age on 30.09.2024. The process of the implementation of Registered Vehicle Scrapping Facility is under PPP model with KSRTC is under process.	Ongoing	100%	Yes (The estimated cost for procuring new vehicles in place of vehicles to be scrapped is Rs.440.5 crore approximately) Yes (For RVSF)	Nil	Rs.1,13,205/- (Utilized for RVSF tender advertisement in News papers) (own fund)
3.	Policy/ Plan for Li-battery waste management from scrapped vehicles -KSPCB	MoEF &CC notified Battery waste Management Rules 2022 including the plan for Li Battery waste management from scrapped vehicles.This rule is followed.	On going	100%	No	Nil	Nil

2. Vehicular Emissions

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4.	Policy / Scheme for Eco-Friendly Mass Rapid Transport Systems -Transport, MVD etc.,	<p>Kochi Metro Rail Limited (KMRL) is a centre-state joint venture company entrusted with the implementation of Kochi Metro Rail Project and Kochi Water Metro Project.</p> <p>The Phase I of Kochi Metro Rail Project extending from Aluva to Petta over a length of 25.20 km with 22 stations is fully operational currently. The Phase I extension of Kochi Metro Rail Project extending from Petta to Thripunithura over a length of 3 km and 3 stations is partially commissioned (2 stations and 1.8km).</p> <p>The Union govt. had approved the Phase II corridor of Kochi Metro Rail Project, extending from JLN Stadium to Infopark via Kakkanad over a length of 11.2 km with 11 stations, in September 2022, and the project implementation has commenced currently. According to the funding plan, the Centre government and State government will give Rs. 274.90 Crore each as equity share in the project.</p> <p>The Kochi Water Metro Project which is a first of its kind water transport project in India using electric boats is also in the implementation stage. It is a 76 km long integrated transport system connecting 10 islands with mainland Ernakulam city through a network of 16 routes comprising 38 stations. For enhancing first and last mile connectivity electric vehicles have been exempted from availing permits (STA/RTA) separately.</p> <p>As a part of promoting green energy KSRTC has introduced 130 electric buses to augment city circular service. The financial implications are mentioned in SI No.12.</p>	Implemented	Presently at Kochi	Yes	Nil	<p>a) Rs.46,21,99,300/- (50 buses from PMI through 2021-22 KIIFB fund)</p> <p>b) Rs.18,37,79,680/- (20 buses from PMI through Smart City Trivandrum Ltd)</p> <p>c) Rs.56,09,83,500/- (60 buses from VE Commercial through Smart City Trivandrum Ltd)</p> <p>d). Rs.24,75,602/- Utilized for purchasing new CNG engines.</p> <p>e) Rs.6,27,200/- utilized from plan fund for converting one CNG bus.</p> <p>f) Rs.25,08,800/- utilized for converting 4 CNG buses using KSRTC's own fund.</p>

2. Vehicular Emissions

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5.	Policy for augment e-vehicles Industries, Transport, MVD, EMC, ANERT etc.,	<p>An Electric Vehicle Policy (GO No:24/2019/TRANS- EV Policy of the State) is in place for the State of Kerala. The policy aims at enhancing e mobility activities such as promotion of Electric Vehilces, development of resilient charging infrastructures etc. Registration fee for electric vehicle has been exempted in the State. As per GO (P) No: 12/2021/TRANS dated 23/2/2021, 50% (fifty percentage) tax reduction for a period of five years with effect from the 1st day of April, 2021 has been provided on the rate of tax levied for Electric Transport Vehicles. Also tax has been exempted for first five years in the case of electric 3 Wheelers. For the Non Transport Vehicle Category a consolidated tax percentage of 5% of the invoice price is levied in the place of 10 to 20 % of invoice price.</p> <p>As part of E Mobility awareness and E Mobility promotion the following schemes were implemented. The year wise components and the expenditures for those are given below. E Mobility promotion fund has started from the year 2019. And till now the total expenditure under the E Mobility awareness plan fund is Rs 3794.19 lakhs. The detailed programs and its expenditures are given below. We are conducting E Mobility conference and Expo named EVOLVE since 2021. Two versions of the event were already conducted one at Eranakulam and the other at Trivandrum. The program intended to have a state of art knowledge of recent developments and opportunities in E Mobility. It also helps in enhancing the awareness on E Mobility area. E Subsidy is being given to electric three wheelers at a rate of Rs 30000 per vehicle. More than 2600 subsidies have been distributed till now. The financial details ae consolidated in a separete table.</p>	On going	100% wherever applicable			
			On going and developing each year	100% wherever applicable	Yes.		Expenditure from E Mobility Promotion Fund (Govt. of Kerala) : Rs. 3794.19 Lakhs

2. Vehicular Emissions

S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
6.	Notification and enforcement of PUC norms - Transport, Motor Vehicles department	Notified and the updated pollution norms are in place. Vehicles complying BS6 pollution norms only can be registered in the State from 1/04/2020. Pollution testing centres are now directly linked to Parivahan system. The pollution testing centres, testing of vehicles and pollution under control certificate issued by the centre are now being monitored centrally by the Motor Vehicles Department. All the two wheelers with BS4 pollution norms are mandated with a PUC validity of 6 months instead of one year validity.	on going	100%	No.		
7.	Online monitoring of PUC implementation-Transport, MVD	Pollution testing centres are now directly linked to Parivahan system. The pollution testing centres, testing of vehicles and pollution under control certificate issued by pollution testing centres are now being monitored centrally by the Motor Vehicles Department. Each enforcement can digitally monitor the status of pollution certificate for a particular vehicle in field itself.	on going	100%	No.		
8.	Mechanism for centralized record maintenance of PUC checks, certification and cross check by the concerned transport authorities to be incorporated - Transport, Motor Vehicles department etc.	Notified and the updated pollution norms are in place. Pollution testing centres are now directly linked to Parivahan system. The pollution testing centres, testing of vehicles and pollution under control certificate issued by the centre are now being monitored centrally by the Motor Vehicles Department. Department is ensuring the calibration of testing equipments through the provisions of parivahan system.	on going	100%	No.		
		Kollam- alappuzha bypass	ongoing				
		Under the scheme Development of Urban links NH fund allocation is Rs. 226.53 Lakhs, expenditure is Rs.31.66 Lakhs	ongoing	100%	Yes	2.26	0.31
		Traffic safety measures at NH urban links Fund allocation is 1647.45Lakhs,Expenditure is 532.59	ongoing	100%	Yes	16.47	5.33

2. Vehicular Emissions

S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
9.	Construction of bypass / ring roads- Highways, PWD, NATPAC	CRF Roads (Ordinary Allocation) Fund allocation is 5094.72 Lakhs, Expenditure is 2421.57 Lakhs	ongoing	100%	Yes	50.95	24.22
		CRF Bridges ,Fund allocation is 6.52 Lkahs,Expenditure is 6.52 Lakhs	ongoing	100%	Yes	0.065	0.065
		Construction of Bypass in NH	Ongoing	100%	Yes	0.0083	0
		Construction of bylanes in selected town along NH Fund allocation is 101.03Lakhs,Expenditure is 80.44 Lakhs	on going	100%	Yes	1.01	0.8
		Roads of economic importance (CSS) having 50%,Fund Allocation is 0.83 Lakhs,Expenditure is 0	Ongoing	100%	Yes	0.0083	0
		Elevated Highway in Wayanad-bandipur of NH 212 (Cost sharing with NHAI)	Ongoing	100%	Yes	0.0083	0
		Investigation and planning	Ongoing	100%	Yes	0.5	0
		Land Acquisition C,Fund Allocation is 1000Lakhs,Expenditure is 121.6Lakhs	Ongoing	100%	Yes	10	1.22
		Land Acquisition V, Fund Allocation is 100 Lakhs, Expenditure is 0	Ongoing	100%	Yes	1	0
10.	Re-filling Stations retrofitted with Vapor Recovery System -Oil companies	Direction of Central Pollution Control Board are followed. 31 vapour recovery system alreadyprovided	On going	100% wherever applicable	No		
11.	Incentive of setting up R&D facilities related to EVs- Industries, MVD	NA					

2. Vehicular Emissions

S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
Assessment of the number of vehicles which are more than 15 year old has been taken							

E-MOBILITY PROMOTION FUND: 2019-20	
Components	Expenditure (in lakhs)
Kerala EV Expo 2019	189.45
UK visit of delegates	18.13
E-Mobility symposium organized jointly by Transport Department and Sree Chitra Thirunal College of Engineering	5
Installation of charging stations by KSEB	Nil
E-auto subsidy	1.2
Total	213.79

E-MOBILITY PROMOTION FUND: 2020-21	
Components	Expenditure (in lakhs)
E-auto subsidy	33.9
Installation of charging stations by KSEB	500
Project on Establishment of Hydrogen Generator and Dispensing unit by Sree Chitra Thirunal College of Engineering	966
Total	1499.9

E-MOBILITY PROMOTION FUND: 2021-22	
Components	Expenditure (in lakhs)
Charging stations in public places through ANERT	In progress
Conversion of diesel mini buses and auto rickshaw into electric vehicles by SCT College of engineering	30
E-auto subsidy	366.6

2. Vehicular Emissions

S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
		KTDFC –for purchasing 30 numbers of e-auto rickshaws	85				
		Payment towards KSEB Nilayakal EV charging station for KSRTC	12.32				
		Total	493.92				

E-MOBILITY PROMOTION FUND: 2022-23	
Components	Expenditure (in lakhs)
E-mobility awareness and Expo	65.22
Charging stations in public places through ANERT	500
E-auto subsidy	269.7
EV charging stations at 20 MVD offices	In progress
EV charging stations at 15 MVD offices	In progress
Subsidy through ANERT for 2w/3w EV charging stations	nil
Installation and commissioning of EV charging stations at KSRTC Trivandrum city depot	200
Setting up of Centre of Excellence for EV at SCT College	In progress
Financial assistance to CET for developing electric 4w driven All-Terrain Vehicle	In progress
Financial assistance to Govt. Engineering College, Barton Hill	In progress
Balance	
Total	1039 (67%)

E-MOBILITY PROMOTION FUND: 2023-24	
Components	Expenditure (in lakhs)
ELAMS proposals 2022-23	
e-auto subsidy	110.4
e- mobility awareness and Expo	65.47
EVCS at 15 MVD offices	135
Subsidy for 2/w/3w charging stations	Nil
Financial assistance to Barton College of Engineering	23.4

2. Vehicular Emissions

S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
		Financial assistance to College of Engineering	2.99				
		ELAMS Total	337.26	(21.69%)			
		Plan 2023-24					
		e-auto subsidy	196.8				
		EVCS at 20 MVD offices	Nil				
		Centre for Excellence for EV	Nil				
		E-mobility awareness and expo	0.2				
		Conversion of peat gas to hydrogen	Nil				
		EV performing testing	Nil				
		EVS 36 expo – travel expenses	13.32				
		Plan 2023-24 total	210.32				
		Total	547.58				

3. Emissions from burning of waste							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage / Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
1.	Notification and Enforcement of municipal solid waste (MSW) management rules	Notification Done. Enforcement of SWM Rules Ongoing. Vide G.O.(Rt)No. 673/2023/LSGD Dated 21.03.2023 Enforcement squad has been formed for monitoring and penalizing the violators against implementation of SWM rules, 2016	Completed	100%	No	NIL	NIL
2.	Policy for MSW management	Kerala Solid Waste Management Policy notified in 2018. GO(P) No: 65/2018/LSGD dated 13.09.2018	Completed	100%	No	NIL	NIL
3.	Policy for legacy waste management at dumpsites	Policy approved for remediation of legacy sites . Process of Biomining completed at 22 sites and process ongoing at 9 locations. Work order has been given to 3 sites and tender proceedings are ongoing in another 5 sites. Tender process is initiated in 19 sites. Vide G.O.(Rt)No.2629/2022/LSGD Dated 29/10/2022, Government has approved guidelines for Remediation of Legacy Waste Dumpsites through Bioremediation.	22-completed 9 - ongoing	100%	No		

3. Emissions from burning of waste							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage / Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
4.	Policy for implementation of ban on single use plastics	Ban on Single Use Plastics notified by Government of kerala. 1. G.O.(Rt) No.06/2020/ENVt. dated 11.05.2020 2. G.O.(Rt) No.04/2020/ENVt. dated 16.02.2020 3. G.O.(Ms)No.2/2020/Envt. dated 27.01.2020 4. G.O.(Ms)No.8/2019/Envt. dated 19.12.2019 Two Enforcement teams formed; (a) LSGD (23 teams) and (b) Vigilance squad (14 teams) Enforcement team formed for monitoring open dumping, open burning, open littering. Training for Haritha Karma Sena and Enforcement team conducted. Swap shops, Eco alternative products expos have been conducted by Kudumbasree mission and other SHGs in the state. IEC activities are being carried out through Print-dailies in state.	Ongoing	100%	No		
		Assessment of alternatives to plastic in the state of Kerala. DATA REPOSITORY	Completed	100%	No		
5.	Policy for development and Construction of Waste to Energy Plants	Draft guidelines for engaging private agencies for implementation of waste management projects is being prepared and submitted to government.					
	(a) non-recyclable / combustible dry waste	(a) Cogo Ecotech Solutions Private Limited (10 TPD) plant in Thiruvananthapuram is planned. (b) Bio CNG plant (150 TPD) is Brahmapuram is planned.	2025-26	80%	Yes		

3. Emissions from burning of waste							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage / Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
	(b) Bio- methanation / Bio CNG	Recycling plants are planned. 9 Waste to Energy plants are proposed.					
	(c) Composting plant etc.	Kozhikode Palakkad					Rs. 358 Cr Rs. 120 Cr
6.	Any other Policy / Rules/ Standards/ Guidelines pertaining to MSW Management	Policy for Domestic Hazardous Waste approved and is being implemented. Policy for management of Construction and Demolition waste approved and the process to be started.	2025	100%	No		
		Policy for EPR (Extended Poluuter Responsibility)	2024	100%	No		

4. Municipal Solid Waste								
S. No.	Activities/ Action plan	Status of activity (Completed/ ongoing/ To be Started)	Target Number (No.)/ (%)	Total Capacity (TPD) / Coverage (Acres)	Funds Allocated (Rs. crore)	Timeline for completion	Target Completed as on date	Funds Utilized as on date (Rs crore)
1.	Waste collection status in the city (%)	Data of each ULB consolidated in a separate sheet. Waste Generated = 3472 TPD Waste Collected/ treated = 3231 TPD	100%	Coverage: 19,505 wards	-	12 months	84.83%	Total SBM Expenditure : Rs. 54.90 Cr
2.	Waste segregation status in the city (%)	Data of each ULB consolidated in a separate sheet.	100%	Coverage: 19,505 wards				
3.	Material Recovery Facility	MCF functional in all ULBs. 223 proposed projects of MRF under SBM (U) having Rs 37.1 crore fund. Already 1191 MCF and 174 RRF existing in Kerala.	223	228.5	Total cost Rs 37.1 crore under SBM (U). Rs 8.26 crore central share.	2023-26	1149 Functional MCFs 31/03/2024	To be implemented through KSWMP
4.	Waste to Energy plants	9 Waste to Energy plants proposed: 1. Thiruvananthapuram - land not yet identified 2. Kollam - Biomining of legacy waste completed 3. Kochi - Biomining of legacy waste completed 4. Thrissur - land not yet identified 5. Palakkad - Land take over by KSEB Ltd 6. Malappuram - Land identified 7. Kozhikode - Work awarded 8. Kannur - Work awarded 9. Munnar - Work awarded	9	200 TPD each	PPP model	2026	-	-
5.	Waste to compost plants	Existing Decentralised Aerobic Thumboormuzhi (2150 BINS) in all ULBs , projects yet to be started under SBM(U) 2.0	809	717.4	140.97 SBM(U) 2.0	2026	nil	-

4. Municipal Solid Waste								
S. No.	Activities/ Action plan	Status of activity (Completed/ ongoing/ To be Started)	Target Number (No.)/ (%)	Total Capacity (TPD) / Coverage (Acres)	Funds Allocated (Rs. crore)	Timeline for completion	Target Completed as on date	Funds Utilized as on date (Rs crore)
6.	Remediation of dumpsites in the city	18 Urban Dumpsites cleared. Process ongoing at 11 sites and Remaining 15 LSGIs are at planning stage .	44	66233 T	93.94 SBM 2.0	2025	22	13.7
7.	Control open burning of MSW	Executive Directive No. 9/2016 instructing the Special drive for take penal actions against the waste dumping and burying has been issued from the DGP& State Police Chief. Notification No. G.O.(Rt)No. 673/2023/LSGD Dated 21.03.2023 has been issued on formation of Enforcement squad. Enforcement Squads and Night Squads are conducting frequent inspections..IEC activities and campaigns ongoing.	100%	NA	NIL	2026		
8.	Any other activity/ project pertaining to MSW Management	5 Mechanized road sweepers are proposed under SBM(U) 2.0 projects	5	-	3.2	2026	-	-

5. Construction & Demolition Waste and Road Dust Management							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
1.	Policy for development of projects/ plants for C&D waste management	Construction and Demolition Waste Management Rules 2016 is followed in the State. Kerala Government vide GO(Ms) No. 168/2022/LSGD dated 30-7-2022 published "Guidelines for managing construction and demolition waste in Kerala" and vide GO (Rt) No. 811/2020/LSGD dated 1-5-2020 published integrated waste management -strategy document.The CPCB has already published 'Guidlines on Environmental Management of Construction & Demolition Wastes' and "Guidlines on dust mitigation measures in handling construction material and C & D wastes"	Ongoing	100%	No	NA	NA
2.	Policy for use of C&D waste in laying and construction of State highways. - PWD	Construction and Demolition Waste Management Rules 2016 is followed in the State. vide GO(Ms)No. 168/2022/LSGD dated 30-7-2022 published "Guidelines for managing construction and demolition waste in Kerala".The Building Materials and Technology Promotion Council (BMTPC) IN 2016 released infrastructure in housing schemes of the Government ".The construction & demolition (C&D) waster guidlines pertain to building industry.The Central Public Works Department (CPWD),the PART IV:Guidlines on reuse and recycling of construction and demolition (C&D)waste is available in CPWD's Guidlines for Sustainable Habitat (March 2014)-also address the building sector	Ongoing	100% wherever applicable	No		

5. Construction & Demolition Waste and Road Dust Management							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
3.	Demand creation for C& D waste and alternative use of C& D waste material	Usage of C&D waste and demand creation for the material is incorporated in the "Guidelines for managing construction and demolition waste in Kerala" . IS: 383(2016) Indian Standard COARSE AND FINE AGGREGATE FOR CONCRETE – SPECIFICATION. Utilisation of C&D waste permitted in various concrete works by IS: 383(2016).National Building Code (NBC-CED 46) of India 2005 : Part 11 of NBC 2005 on ‘Approach to Sustainability’ states the reuse of recycled construction materials. Building Materials and Technology Promotion Council (BMTPC) in 2016 released “Guidelines for utilization of C & D waste in construction of dwelling units and related infrastructure in housing schemes of the Government”. d. The PART IV of Central Pubic Works Division (CPWD): The “Guidelines for Sustainable Habitat (March 2014)” discusses ‘Guidelines on reuse and recycling of Construction and Demolition (C & D) waste’. e. Indian Road Congress has permitted the use of produce of C&D waste processing and has issued IRC: 121-2017 “Guidelines for use of construction and demolition waste in road sector”.	2025	100% wherever applicable	No		
4.	Schemes for development of green belt/ open spaces and street sides greening on State highways - PWD	No activity					
5.	Penalty provisions for non-compliance of C&D waste management rules at construction sites	Report of the CPCB in-house Committee on Methodology for assessing environmental compensation and action plan to utilize the fund by CPCB for evaluating Environmental compensation associated with Construction and demolition rules.	To be implemented continuously	100% wherever applicable	No	Nil	

5. Construction & Demolition Waste and Road Dust Management							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
6.	Maintenance, repair and paving of State highways - PWD	Roads are being maintained by various agencies in Kerala, like Local Governments, Public Works Department (PWD) (Roads and Bridges) and National Highways, Municipalities, Corporations, Irrigation, Forests, Railways etc. Total road length in Kerala is 2,38,773.02 km. This includes classified and non-classified roads as stipulated by Indian Road Congress. Road density in Kerala is 548km per 100 sq. km, which is roughly three times the national average. The length of road per lakh population is 993.54km and almost 90 per cent of the road network is single lane. The National Highways, considered to be the primary network, carries 40 percent of the total traffic, and the State Highways and Major District Roads (MDRs) - the secondary road network – carries another 40 percent of the road traffic. Thus around 12 per cent of the road network handles almost 80 per cent of the traffic in the State.	Ongoing	100%			
		Maintenance, repair and paving of roads: Completed and ongoing	6 months to 18 months	100%	Yes	61.77	61.68
7.	Monitoring of road dust especially in and around hotspot areas and in the vicinity of State highways	Action plan for setting up Mechanical Road Sweepers got approval under SBM(U)2.0 for Thiruvananthapuram and Kochi corporations	2026	100% wherever applicable	No		
8.	Mechanism for development and maintenance of road infrastructures for industrial states and clusters	NA					

5. Construction & Demolition Waste and Road Dust Management							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
9.	Any other Policy / Rules/ Standards/ Guidelines pertaining to C&D waste and Road dust management	Construction and Demolition Waste Management Rules 2016 is followed in the State. Kerala Government vide GO(Ms)No. 168/2022/LSGD dated 30-7-2022 published "Guidelines for managing construction and demolition waste in Kerala" and vide GO (Rt) No. 811/2020/LSGD dated 1-5-2020 published integrated waste management -strategy document. The CPCB has already published 'Guidlines on Environmental Management of Construction & Demolition Wastes' and "Guidlines on dust mitigation measures in handling construction material and C & D wastes"	Continuously monitored	100%	No		
10.	C&D waste processing plants	- Consent to Establish certificate issued to two private companies for setting up C&D waste plants - C&D waste processing plant of capacity 100-150 TPD is proposed to be constructed in a total area of 2 acres of land under PPP mode in Edayar Industrial Area, Ernakulam.	2026	133 TPD		7.98	
11.	Any other activity/ project pertaining to C&D waste and Road dust management	Kerala PCB published the standard operating procedure of siting requirements and pollution control measures CPCB published "Guidelines on dust mitigation measures in handling construction materials and C&D wastes and Guidelines for environment management of C&D waste. Action plan for setting up Mechanical Road Sweepers got approval under SBM(U)2.0 for Thiruvananthapuram and Kochi corporations	completed	Trivandrum Corporation-1 Vehicle Kochi Corporation- 4 Vehicles		3.2	

6. Household Emissions							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for Completion	Target (Coverage/ Percentage)	Financial implications (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date
1.	Schemes for use of LPG/ PNG for cooking fuels	PMUY Phase 1 and PMUY Phase 2 IOAGPL has made PNG infrastructure ready for over 50,000 houses in the districts of Ernakulam, Thrissur, Palakkad, Malapuram, Kozhikode, Waynad, Kannur & Kazargod. AGP City Gas has made PNG infrastructure ready for over 20,000 houses in the districts of Trivandrum & Alappuzha.	3/1/2020 for Phase 1	100%	1600/- Per connection	NA	NA
2.	Amendments to the building by-laws for “Indoor air quality management”	National rule will be followed		100%	No		
3.	Any other Policy / Rules/ Standards/ Guidelines pertaining to Household emissions						

7. Emissions due to burning of agro residues							
S. No.	Activities/ Action plan	Status of activity (Completed/ Ongoing/ To be Started)	Timeline for completion	Target (Coverage/ Percentage)	Financial implication s (Yes/ No)	Funds Allocated (Rs crore)	Funds Utilized as on date (Rs crore)
1.	In-situ treatment of biomass residues for management of stubble burning						
a)	Schemes for procurement of agriculture machinery	Burning of crop residues /stubble burning is not practised in Kerala. The crop residue is usually ploughed back to the field after the harvest of crop.					
b)	Assistance for establishment of farm machinery banks/ custom hiring centres						
c)	Use of decomposer for in-situ Crop residue management.						
2.	Ex-situ treatment of biomass residues for management of stubble burning						
a)	Schemes for balers/ pellet/ briquette machines, etc.	Nil					
3.	Biomass projects with respect to the hotspots of crop residue burning						

4.	Use of biomass / crop residue based pellets mass blending with coal and its co-firing in thermal power plants with blending ratio which needs no modification in boilers						
5.	Policy for supply chain mechanism for in-situ and ex-situ management of stubble						
6.	Supply chain for crop residues to cow shelters						
7.	Development of effective protocol for monitoring of fire incidents including crop area consideration and crop fire area data						
8.	Collaboration with ISRO and preparation of Satellite based maps for monitoring of fire incidence						
9.	Any other scheme/ program that may help in reducing air pollution						

Additional Informations:	
<p>• Topography and Geography of the state:</p>	<p>For Kerala is concerned, on the eastern side, Western ghats exist and on the western side, there is Arabian sea. Hence there is restriction on the flow of air from neighbouring states namely Tamil Nadu and Karnataka.</p> <p>In Kerala, the extent of paddy fields is very less and is located only on a few parts of Kerala. In those areas, hay will be used as feed for cattle and stubble is burnt. In order to avoid illegal waste burning, door to door collection by authorised agencies like Haritha Karma Sena has been provided and efforts are being taken to collect non biodegradable waste from source itself and this will in turn reduce the illegal waste burning operations. Regarding forest fires, localised action plan will be collected from the Forest department.</p>
<p>• Identification of prominent air polluting sources: Inventory of air pollution sources in State/UT including hotspots or areas of concern pertaining to air pollution should be carried out.</p>	<p>As per the Hon'ble NGT Order dated 14.07.2021 in OA 76/2017, 259/2017 & 260/2017, it was directed to conduct Source Apportionment Studies in Kochi & Thiruvananthapuram cities in Kerala. The Environment Department, Govt. of Kerala was directed to conduct the study and the Committee appointed by the Hon'ble Tribunal to provide necessary guidance for the study. As per the direction from Government of Kerala, Expression of Interest was invited from institutions approved by the project steering committee of CPCB. Actions are being taken to evaluate the revised proposals submitted by the institutions for conducting Source Apportionment Study.</p>
<p>• Hotspots of air pollution: Hotspots with respect to air pollution (such as stubble burning, illegal waste burning, un-authorized operations, cluster activities, forest fires etc.) should be identified and localised action plan for mitigation of the same should be prepared.</p>	
<p>• Categorization of industrial zones into red, orange, and green sectors has already been implemented so states may choose to permit or ban an industry depending on the state of the environment in their state or zones, for example- in TTZ some industries are banned. A similar strategy could be adopted by other states.</p>	<p>In Kerala, there are only a few industrial units having emission potential. Control measures are insisted in these units through conditional consent issued.</p>

<p>• Augmentation and Strengthening of Air Quality Monitoring Network: Plan to get access to available air quality monitoring stations in the State/UT operated by both public and private agencies. Quantification of improvement in existing air quality.</p>	<p>In Kerala there are nine continuous ambient air quality stations and the same with air quality index is available in the website of the KSPCB. The quality is being assessed. There are 41 no.s of NAMP stations and 6 no.s of SAMP stations.</p>
<p>• Awareness on Air Quality:</p>	<p>Awariness programs are arranged with the stakeholders for assesing the progress of implementation of action points in pollution control. - Training programme on Climate change and decarbonisation was organised by KSPCB on 18.11.2023, to Stakeholders of Dept. of Environment and Climate change, Directorate of Industries and commerce and various industries.</p>
<p>• Public grievance redressal mechanism at State Level:</p>	<p>1. CMO Portal: Government has composed the CMO portal by consolidating then existed grievance redressal systems. The portal mainly considers either the petitions which remain unresolved for a long term before the concerned officers of hierarchically lower offices or the applications in which those offices can't make a decision. The Primary concern of the CMO portal is to hand over the received petition to the concerned officer in no time. It is assured that proper expedition has been made on the matters mentioned in the petition and the petitioner gets informed accordingly. The Office of the Chief Minister can make a full length scrutiny from beginning to the conclusion stage of the petition. When the petition gets disposed it is ensured that the petitioner gets a detailed reply. Tenure of 2 weeks is allowed to dispose the petition. If it needs more time for disposal, petitioner will get a comprehensive interim reply. The Department Secretaries and Directors are entrusted to ensure the disposal of petitions in a time bound manner. It is also ensured that the petitions are scrutinized at the appropriate levels. Thus the CMO portal ensures a transparent scrutiny and appropriate decision in each and every petition received, by which we are advancing to a more people centric and efficient Civil Service.</p>

	<p>2. KSPCB Complaint Cell: The Board is also maintaining a dedicated complaint cell for addressing the complaints and grievance of the public. The complaints can be submitted via email or through telephonic communications. Actions will be initiated upon the receipt of the complaint.</p>
<p>• Air Quality Data and Information System: To develop Mobile App / Online portal for dissemination of air quality as well as to take complaints on local air pollution.</p>	<p>National programme (NAMP Stations) - 41 established State programme (SAMP Stations) - 6 Continuous Ambient Air Quality Monitoring (CAAQM Stations) – 9</p> <p>Integrated web portal (online web portal) is being prepared for the dissemination of air quality to the public. Ambient air quality data from continuous and manual air quality monitoring stations are available in the website of the Board for the public. Air Quality directory published in website and articles related to Air Pollution are also shared.</p>
<p>• Review and approval mechanism:</p>	<p>As per the common guideline of CPCB for the preparation of State Action Plan, an Air Quality Monitoring Committee (AQMC) under the chair of the Principal Secretary, Environment Department shall be constituted for the preparation of the SAP and the SAP shall be approved by the Steering Committee constituted under the Chair of Chief Secretary. AQMC shall periodically monitor the progress of implementation of the State Action Plan and report to the Steering Committee which shall review the progress and give necessary guidance in the matter.</p>

<p>Implementation of GRAP in State in case of air pollution emergencies:</p> <p>GRAP (Graded Response Action Plan) is a set of emergency action plan implemented in four stages depending on the severity of the air pollution - which is determined by the air quality index (AQI).</p>	<p>In Kerala the air quality varies from Good to Satisfactory.</p> <ul style="list-style-type: none"> - The first stage of GRAP is imposed when the overall air quality is in the ‘poor’ category. Under this stage, the government imposes a heavy fine on garbage burning and sweeping without sprinkling water, ensuring proper implementation of guidelines on dust mitigation measures, ensuring regular lifting of municipal solid waste, construction and demolition waste, and hazardous wastes from dedicated dumping sites, and enforcing guidelines for use of anti-smog guns at construction sites. - The second stage of GRAP is imposed when the air quality enters the ‘very poor’ category. This necessitates a ban on diesel generators, use of coal or firewood in hotels, restaurants, and open eateries, increased parking fees, and increased bus and metro frequency. The government also issues an advisory for children, the elderly, and those with respiratory problems under this stage. - The third stage is imposed when the air quality breaches the 'severe' category. Under this stage, the government imposes a strict ban on construction and demolition activities, hot mix plants, brick kilns, and stone crushers. - The fourth and final stage of the GRAP is enforced when the air quality is in the ‘severe plus’ category. This stage entails stopping entry of trucks except for LNG/CNG trucks and those involved in essential services, imposing a ban on diesel-operated Medium Goods Vehicles (MGVs) and Heavy Goods Vehicles (HGVs)
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SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
1	Trivandrum	Trivandrum corporation	179	112.8	28.9
2	Trivandrum	Attingal	0	0	0
3	Trivandrum	Varkala	31	7	1.17
4	Trivandrum	Nedumangad	45	4.5	0.925
5	Trivandrum	Neyyatinkara	23	2.8	0.46
6	Kollam	Kollam Corporation	0	0	0
7	Kollam	Punalur	8	1.2	0.56
8	Kollam	Karunagappally	3	0.15	0.066
9	Kollam	Kottarakara	10	0.2	0.088
10	Kollam	Paravur	3	0.15	0.063
11	Pathanamthitta	Thiruvalla	1	6	1.08
12	Pathanamthitta	Adoor	1	5	0.675
13	Pathanamthitta	Pathanamthitta	1	6	1.08

SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
14	Pathanamthitta	Pandalam	2	4	0.74
15	Alappuzha	Alappuzha	18	9	1.26
16	Alappuzha	Kayamkulam	12	2	0.4
17	Alappuzha	Mavelikkara	2	4	0.6
18	Alappuzha	Cherthala	1	6	0.9
19	Alappuzha	Chenganoor	2	4	0.68
20	Alappuzha	Haripad	5	1	0.256
21	Kottayam	Kottayam	6	23	2.645
22	Kottayam	Changanacherry	9 locations-120 aerobic bins	3	0.8362
23	Kottayam	Pala	5	2	0.5596
24	Kottayam	Vaikom	16	1	0.3802
25	Kottayam	Erattupetta	8	5	1.7736
26	Kottayam	Ettumanoor	1	1	0.35
27	Idukki	Kattappana	2	4.5	0.7015
28	Idukki	Thodupuzha	1	6	0.9

SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
29	Ernakulam	Kochi Corporation	1	225	45
30	Ernakulam	Perumbavur	10	1	0.2
31	Ernakulam	North Paravoor	1	6	0.7
32	Ernakulam	Aluva	1	0.5	0.12
33	Ernakulam	Kothamangalam	1	5.5	0.6325
34	Ernakulam	koothatukulam	1	0.5	0.2
35	Ernakulam	Kalamassery	0	0	0
36	Ernakulam	Maradu	0	0	0
37	Ernakulam	Thrikkakara	1	9.5	1.0925
38	Ernakulam	Eloor	0	0	0
39	Ernakulam	Muvatupuzha	3	3.6	0.87
40	Ernakulam	Piravom	21	6	1.15
41	Ernakulam	Angamaly	0	0	0
42	Ernakulam	Tripunithura	20	4	3
43	Thrissur	Thrissur Corporation	68	11.3	5.085

SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
44	Thrissur	Kodungallur	2	2.5	0.29
45	Thrissur	Chalakkudy	1	5	0.75
46	Thrissur	Chavakkad	0	0	-
47	Thrissur	Irinjalakkuda	14	1.4	0.32
48	Thrissur	Kunnamkulam	1	1	0.25
49	Thrissur	Wadakkancherry	1	4	0.46
50	Thrissur	Guruvayur	0	0	-
51	Palakkad	Palakkad	1	3	0.555
52	Palakkad	Chittur Tathamangalam	1	1.5	0.2775
53	Palakkad	Cherpulassery	1	8	1.48
54	Palakkad	Pattambi	10	1.5	0.39
55	Palakkad	Shornur	6	1	0.26
56	Palakkad	Mannarkkad	1	8	1.48
57	Palakkad	Ottappalam	1	5	0.925
58	MALAPPURAM	MALAPPURAM	1	16.5	1.8975

SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
59	MALAPPURAM	MANJERI	19	10	1.15
60	MALAPPURAM	THIRURANGADI	3	6	0.69
61	MALAPPURAM	PONNANI	5	10	1.15
62	MALAPPURAM	KONDOTTY	1	7	0.805
63	MALAPPURAM	KOTTAKKAL	6	4	0.46
64	MALAPPURAM	NILAMBUR	1	9	1.035
65	MALAPPURAM	PARAPPANAGADI	3	5	0.575
66	MALAPPURAM	TIRUR	3	7	0.805
67	MALAPPURAM	PERINTHALMANNA	2	3	0.345
68	MALAPPURAM	TANUR	3	7	0.805
69	MALAPPURAM	VALANCHERI	2	4	0.46
70	Kozhikode	Kozhikode Corporation	24	1.2	0.6
71	Kozhikode	Koduvally	23	1.15	0.575
72	Kozhikode	Payyoli	34	1.7	0.85
73	Kozhikode	Mukkam	19	0.95	0.4751

SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
74	Kozhikode	Ramanattukara	16	0.8	0.4
75	Kozhikode	Vatakara	8	0.6	0.36
76	Kozhikode	Feroke	22	1.1	0.55
77	Kozhikode	Koyilandy	18	0.9	0.45
78	Wayanad	Kalpetta	1	4.5	0.6783
79	Wayanad	Mananthavady	5	10.7	1.7249
80	Wayanad	Sulthan Bathery	4	6.2	0.97394
81	Kannur	Kannur Corporation	1	20	3
82	Kannur	Anthoor	1	2	0.3
83	Kannur	Kuthuparamba	1	3	0.45
84	Kannur	Mattannur	1	6	0.9
85	Kannur	Payyannur	1	4	0.6
86	Kannur	Sreekandapuram	2	6	0.9
87	Kannur	Taliparamba	1	3	0.45
88	Kannur	Iritty	1	3	0.45

SI No.	District	ULB Name	As per Approved Action Plan		
			No. of units	Capacity (TPD)	Cost (Cr)
89	Kannur	Panoor	1	8	1.2
90	Kannur	Thalassery	1	5	0.75
91	Kasaragod	Kanhangad	0	0	0
92	Kasaragod	Kasaragod	20	2	0.508
93	Kasaragod	Nileshwaram	1	1	0.115
			809	717.4	140.97434

			As per SLTC Approved Action Plan	
SI No.	District	ULB Name	Legacy waste quantity proposed in action plan (MT)	Proposed Cost (Cr.)
			As per SLTC Approved Action Plan	
SI No.	District	ULB Name	Legacy waste quantity proposed in action plan (MT)	Proposed Cost (Cr.)
1	Trivandrum	Trivandrum corporation	1,600	0.152
2	Kollam	Kollam Corporation	104,907	11.8545
3	Alappuzha	Alappuzha	30,102	3.7025
4	Kottayam	Kottayam	80,000	7.6
5	Kottayam	Changanacherry	7300	0.6935
6	Kottayam	Erattupetta	8000	0.76
7	Idukki	Kattappana	8,000	0.76
8	Idukki	Thodupuzha	28000	2.66
9	Ernakulam	Kochi Corporation	496713	27.3192
10	Ernakulam	North Paravoor	18565	1.0211
11	Ernakulam	Kothamangalam	4000	0.44
12	Ernakulam	koothatukulam	2500	0.2625
13	Ernakulam	Muvatupuzha	76000	7.98

SI No.	District	ULB Name	As per SLTC Approved Action Plan	
			Legacy waste quantity proposed in action plan (MT)	Proposed Cost (Cr.)
14	Thrissur	Thrissur Corporation	54,000	5.13
15	Thrissur	Kodungallur	1,600	0.088
16	Thrissur	Chalakkudy	4,918	0.2705
17	Thrissur	Chavakkad	5,040	0.2772
18	Thrissur	Irinjalakkuda	24,000	1.32
19	Thrissur	Kunnamkulam	24,660	1.3563
20	Thrissur	Wadakkancherry	60960	3.3528
21	Palakkad	Palakkad	57,960	5.4098
22	Palakkad	Ottappalam	20000	1.866
23	MALAPPURAM	MANJERI	15433	1.7594
24	MALAPPURAM	TIRUR	1010	0.1
25	Kozhikode	Kozhikode Corporation	24,720	1.3596
26	Kannur	Thalassery	56783	5.3944
27	Kasaragod	Kanhangad	5,600	0.45
28	Kasaragod	Kasaragod	11000	0.605
			1,233,371	93.9443

		CONSOLIDATION OF SWM PROJECTS AS ON MARCH 2023										
District	Name of ULB	Total No. of Projects			Completed Projects							
		DPC Approved	Completed	Ongoing	Cost of Project		Total Cost of Project	Expenditure		Total Expenditure	SBM Expenditure Status	Percentage
					SBM Share	ULB Share		SBM Share	ULB Share			
THIRUVANANTHAPURAM	ATTINGAL (M)	12	7	5	7075960	2246773	9322733	6026560	831138	6857698	0.735588802	73.56%
THIRUVANANTHAPURAM	NEDUMANGAD (M)	7	3	4	1335070	954930	2290000	1529353	52863	1582216	0.690924017	69.09%
THIRUVANANTHAPURAM	NEYATTINKARA (M)	7	1	6	1888920	1351080	3240000	1755908	1251080	3006988	0.928082716	92.81%
THIRUVANANTHAPURAM	THIRUVANANTHAPURAM	11	4	7	9328000	6672000	16000000	17023600	5504400	22528000	1.408	140.80%
THIRUVANANTHAPURAM	VARKALA (M)	9	3	6	2915000	2085000	5000000	386605.956	276526.044	663132	0.1326264	13.26%
TOTAL		46	18	28	22542950	13309783	35852733	26722026.96	7916007.04	34638034	0.966119766	96.61%
KOLLAM	KARUNAGAPALLY	3	0	3	0	0	0	0	0	0		
KOLLAM	KOLLAM	15	5	10	9441688	11157252	20598940	4012334	5162237	9174571	0.445390442	44.54%
KOLLAM	KOTTARAKKARA	9	4	5	1770831	1423219	3194050	1132200	976783	2108983	0.660284905	66.03%
KOLLAM	PARAVOOR (M)	6	1	5	1865600	1334400	3200000	1050000	0	1050000	0.328125	32.81%
KOLLAM	PUNALUR (M)	1	1	0	1279685	915315	2195000	1279685	0	1279685	0.583	58.30%
TOTAL		34	11	23	14357804	14830186	29187990	7474219	6139020	13613239	0.466398645	46.64%
PATHANAMTHITTA	ADOOR (M)	6	2	4	2232189	1596607	3828796	879867	488774.7	1368641.7	0.357460074	35.75%
PATHANAMTHITTA	PANDALAM											
PATHANAMTHITTA	PATHANAMTHITTA (M)											
PATHANAMTHITTA	THIRUVALLA (M)	7	3	4	4186596	2994530	7181126	2946393.27	2424634.73	5371028	0.747936744	74.79%
TOTAL		13	5	8	6418785	4591137	11009922	3826260.27	2913409.43	6739669.7	0.612145091	61.21%
ALAPPUZHA	ALAPPUZHA (M)	9	3	6	12842000	9185444	22027444	9831294	6472064	16303358	0.740138438	83.75%
ALAPPUZHA	CHENGANNUR (M)	3	2	1	1591590	1138050	2729640	1517438	1085372	2602810	0.953535997	95.35%
ALAPPUZHA	CHERTHALA (M)	10	3	7	6546896	4664647	11211543	4579349	2082707	6662056	0.594214017	85.40%
ALAPPUZHA	HARIPAD	10	7	3	5481335	3821497	9302832	4717535	3582127	8299662	0.892165096	89.22%
ALAPPUZHA	KAYAMKULAM (M)	7	3	4	2236680	1599821	3836501	2615354	1555076	4170430	1.087039988	82.41%
ALAPPUZHA	MAVELIKKARA (M)	5	2	3	1859275	1314489	3173764	1859275	1314489	3173764	1	100.00%
TOTAL		44	20	24	30557776	21723948	52281724	25120245	16091835	41212080	0.788269339	87.35%
KOTTAYAM	CHANGANASSERY (M)	5	1	4	979323	700477	1679800	979323	700477	1679800	1	100.00%
KOTTAYAM	ERATTUPETTA	7	5	2	5331418	3813382	9144800	5117301	1198792	6316093	0.690675903	69.07%
KOTTAYAM	ETTUMANOOR	13	7	6	6593016	4535759	11128775	5827704	3622259	9449963	0.849146739	84.91%
KOTTAYAM	KOTTAYAM (M)	2	0	2	0	0	0	0	0	0		
KOTTAYAM	PALAI (M)	5	3	2	1184656	847344	2032000	1082340	774160	1856500	0.91363189	91.36%
KOTTAYAM	VAIKOM (M)	4	3	1	1576141	1127360	2703501	1415757	1127410	2543167	0.940693937	84.90%
TOTAL		36	19	17	15664554	11024322	26688876	14422425	7423098	21845523	0.818525404	80.92%
IDUKKI	KATTAPPANA	6	3	3	4518250	3231750	7750000	2875525	2056765	4932290	0.636424516	63.64%
IDUKKI	THODUPUZHA (M)	10	9	1	11214097	5625552	16839649	4545590	20,00,638	6546228	0.388738981	124.91%
TOTAL		16	12	4	15732347	8857302	24589649	7421115	4057403	11478518	0.46680284	88.36%
ERNAKULAM	ALUVA	2	1	1	78705	56295	135000	78705	56295	135000	1	100.00%

Ongoing Projects						
Cost of Project		Cost of Project Total	Expenditure		Total Expenditure	Percentage
SBM Share	ULB Share		SBM Share	ULB Share		
7750935	8810600	16561535	2500000	0	2500000	15.10%
20923994	14999549	35923543	9170056	9182842	18352898	51.09%
24023681	16243319	40267000	5397000	5053760	10450760	25.95%
305838936	202917314	508756250	62673185	24224475	86897660	17.08%
12429133	8890135	21319268	4172312	3002400	7174712	33.65%
370966679	251860917	622827596	83912553	41463477	125376030	20.13%
12771465	9113535	21885000	11382729	709715	12092444	55.25%
25828735	16283425	42112160	5964892	4216458	10181350	24.18%
2936071	2186032	5122103	1881440	875754	2757194	53.83%
16382300	11717700	28100000	756000	1957544	2713544	9.66%
0	0	0	0	0	0	
57918571	39300692	97219263	19985061	7759471	27744532	28.54%
4064851	2907446	6972297	112839.65	80710.35	193550	2.78%
					0	
					0	
9607065	6870435	16477500	816258.3	583841.7	1400100	8.50%
13671916	9777881	23449797	929097.95	664552.05	1593650	6.80%
29060775	18260099	47320874	8848555	9336791	18185346	38.43%
6296400	4503600	10800000	1641900	2160000	3801900	35.20%
5676088	4059912	9736000	0	0	0	0.00%
2232864	1360845	3593709	1238992	886208	2125200	59.14%
5817874	4161327	9979201	0	738560	738560	7.40%
35,22,304	22,46,829	57,69,133	0	270000	270000	4.68%
52606305	34592612	87198917	11729447	13391559	25121006	28.81%
16684191	11933632	28617823	3706838	1707270	5414108	18.92%
381165	272634	653799	0	0	0	0.00%
4354776	3114823	7469599	1250000	1000000	2250000	30.12%
22730801	12042045	34772846	3199967	1617633	4817600	13.85%
1777840	1271629	3049469	0	0	0	0.00%
2332000	1668000	4000000	2332000	1668000	4000000	100.00%
48260773	30302763	78563536	10488805	5992903	16481708	20.98%
6647632	1067500	7715132	0	0	0	0.00%
3255377	2328373	5583750	0	0	0	0.00%
9903009	3395873	13298882	0	0	0	0.00%
8430180	6029820	14460000	1809632	585968	2395600	16.57%

ERNAKULAM	ANGAMALY (M)	4	1	3	734371	525269	1259640	565265	413082	978347	0.776687784	77.67%
ERNAKULAM	ELOOR	7	4	3	5091277	2641619	7732896	2711865	625117	3336982	0.431530697	43.15%
ERNAKULAM	KALAMASSERY (M)											
ERNAKULAM	KOCHI											
ERNAKULAM	KOOTHATTUKULAM	2	2	0	1393079	996422	2389501	278616	199284	477900	0.199999916	20.00%
ERNAKULAM	KOTHAMANGALAM (M)	4	1	3	836780	598520	1435300	836254	594000	1430254	0.996484359	99.65%
ERNAKULAM	MARADU(M)	5	4	1	2463292	1761908	4225200	2190137	258540	2448677	0.579541087	57.95%
ERNAKULAM	MUVATTUPUZHA (M)	3	2	1	1339443	958057	2297500	891261	637489	1528750	0.665397171	66.54%
ERNAKULAM	PARAVUR (M)	5	1	4	437290	312779	750069	427689	305911	733600	0.978043353	97.80%
ERNAKULAM	PERUMBAVOOR (M)	4	4	0	2922870	2127755	5050625	459766	293734	753500	0.149189457	14.92%
ERNAKULAM	PIRAVOM											
ERNAKULAM	THRIKKAKARA(M)	2	0	2	728750	521250	1250000	500000	0	500000	0.4	40.00%
ERNAKULAM	THRIPPUNITHURA (M)	6	4	2	1776683	1270799	3047482	1854682	1142400	2997082	0.983461756	98.35%
	TOTAL	44	24	20	17802540	11770673	29573213	10794240	4525852	15320092	0.518039484	51.80%
THRISSUR	CHALAKUDY (M)	6	4	2	14659295	10309308	24968603	10170771	4361857	14532628	0.582036096	58.20%
THRISSUR	CHAVAKKAD (M)	5	1	4	937149	670311	1607460	0	582000	582000	0.362061886	36.21%
THRISSUR	GURUVAYOOR (M)	7	5	2	13546629	9844161	23390790	13520502	8816181	22336683	0.954934955	95.49%
THRISSUR	IRINJALAKUDA (M)	10	8	2	4957371	4176223	9133594	4158694	3126310	7285004	0.797605411	79.76%
THRISSUR	KODUNGALLUR (M)	25	21	4	24195595	16392992	40588587	23057712	14886157	37943869	0.934840846	93.48%
THRISSUR	KUNNAMKULAM (M)	5	5	0	16105165	11519477	27624642	16006466.4	11514972.6	27521439	0.996264096	99.63%
THRISSUR	THRISSUR											
THRISSUR	WADAKKANChERI	14	9	5	11951389	8446254	20397643	9848727.8	6312252.2	16160980	0.792296443	79.23%
	TOTAL	72	53	19	86352594	61358725	147711319	76762873.2	49599729.8	126362603	0.855470008	85.55%
PALAKKAD	CHERPULASSERY	7	7	0	3925339	2807661	6733000	2704562	2348601	5053163	0.750506906	75.05%
	CHITTUR- THATHAMANGALAM (M)	6	3	3	9167222	6557002	15724224	8288075	5762929	14051004	0.893589661	89.36%
PALAKKAD	MANNARKKAD	7	6	1	2377008	1700191	4077199	2151387	1413508	3564895	0.874349032	87.43%
PALAKKAD	OTTAPPALAM (M)	5	5	0	4759303	3404166	8163469	1826983	489529	2316512	0.283765639	28.38%
PALAKKAD	PALAKKAD (M)											
PALAKKAD	PATTAMBI	6	6	0	4890533	2955903	7846436	4064826	2586880	6651706	0.847735966	84.77%
PALAKKAD	SHORANUR (M)	17	17	0	7132869	5101896	12234765	4505481	3559780	8065261	0.659208493	65.92%
	TOTAL	48	44	4	32252274	22526819	54779093	23541314	16161227	39702541	0.724775436	72.48%
MALAPPURAM	KONDOTTY	9	6	3	#####	9831116.32	23575818.00	11457919	8059803	19517722	0.827870405	82.79%
MALAPPURAM	KOTTAKKAL	9	5	4	12076015	8696575	20772590	7515776	7711252	15227028	0.733034638	73.30%
MALAPPURAM	MALAPPURAM (M)	5	3	2	16702950	11947050	28650000	473859	4285629	4759488	0.166125236	16.61%
MALAPPURAM	MANJERI (M)	5	4	1	#####	#####	27208013.00	14480998.00	9725517.00	24206515.00	0.889683308	88.97%
MALAPPURAM	NILAMBUR	8	6	2	3904078.8	789710.18	4693789.01	7247264	2783367.09	10030631.1	2.137000849	213.70%
MALAPPURAM	PARAPPANANGADI	8	8	0	6391934	2988564	9380498	9831455	3211223	13042678	1.39040358	139.04%
MALAPPURAM	PERINTHALMANNA (M)	6	6	0	16553666	11840271	28393937	10851520	10009969	20861489	0.734716323	73.47%
MALAPPURAM	PONNANI (M)	5	3	2	19684995	14073750	33758745	1611195	738744	2349939	0.069609786	6.96%
MALAPPURAM	TANUR	7	5	2	8314230	5477760	13791990	5242950	2340944	7583894	0.549876704	54.99%
MALAPPURAM	TIRUR (M)	6	5	1	10547519	6419348.5	16966867	8830475	2414822	11245297	0.662779817	66.28%
MALAPPURAM	TIRURANGADI	7	6	1	5219616	3017032	8236648	4789620	2312695	7102315	0.862282205	86.23%
MALAPPURAM	VALANCHERRY											
	TOTAL	75	57	18	#####	#####	#####	82333031	53593965.1	135926996	0.630959909	63.10%
KOZIKODE	FEROKE	11	8	3	5348529	3825617.1	9174146.1	4405688	3654042	8059730	0.878526449	87.85%
KOZIKODE	KODUVALLY	7	7	0	12742434	5516707.3	18259141.3	7201406	4900160	12101566	0.66276753	66.28%

7158324	5120106	12278430	9208725	3550893	12759618	103.92%
787050	562950	1350000	391500	0	391500	29.00%
					0	
					0	
0	0	0	0	0	0	
9038482	6464918	15503400	2741760	3545640	6287400	40.55%
2098800	1501200	3600000	600000	1200000	1800000	50.00%
489720	350280	840000	371450	121867	493317	58.73%
3258387	2330613	5589000	1732237	1012209	2744446	49.10%
0	0	0	0	0	0	
					0	
11222750	8027250	19250000	2500000	0	2500000	12.99%
927320	663280	1590600	382075	37560	419635	26.38%
43411013	31050417	74461430	19737379	10054137	29791516	40.01%
7341810	5372550	12714360	1069969	0	1069969	8.42%
9560417	6838240	16398657	3329848	2328820	5658668	34.51%
13287853	9504347	22792200	5802073	6464327	12266400	53.82%
4815049	3444041	8259090	2640953	0	2640953	31.98%
3436785	2458215	5895000	950116	0	950116	16.12%
0	0	0	0	0	0	
					0	
6143761	4348084	10491845	1099645	1932434	3032079	28.90%
44585676	31965476	76551152	14892604	10725581	25618185	33.47%
0	0	0	0	0	0	
3187430	2279860	5467290	2298452	1862671	4161123	76.11%
1175459	840766	2016225	200499	662031	862530	42.78%
0	0	0	0	0	0	
					0	
0	0	0	0	0	0	
0	0	0	0	0	0	
4362889	3120626	7483515	2498951	2524702	5023653	67.13%
3721694	2446187	6167881	0	0	0	0.00%
5727385	4096603	9823988	0	0	0	0.00%
19295546	13801446	33096992	0	0	0	0.00%
0	0	0	0	0	0	
9233212	6604202	15837414	0	0	0	0.00%
1091521	780727	1872248	0	0	0	0.00%
0	0	0	0	0	0	
10937080	7822920	18760000	0	0	0	0.00%
3201528	2290372	5491900	0	0	0	0.00%
0	0	0	0	0	0	
11135302	6932692	18067994	162000	425250	587250	3.25%
					0	
64343268	44775149	109118417	162000	425250	587250	0.54%
5075950	3630653	8706603	1928420	1586750	3515170	40.37%
0	0	0	0	0	0	

53
SWM PROJECTS - Summary

Districts	SUMMARY - Completed Projects					SUMMARY - Ongoing Projects					SBM-(U) Total Expenditure
	Completed Projects	SM share	ULB Share	SM share	ULB Share	Ongoing Projects	SM share	ULB Share	SM share	ULB Share	
		Cost of Projects		Expenditure			Cost of Projects		Expenditure		
TVM	18	27710155.96	17005709.04	26722026.96	7916007.044	28	370966679	251860917	83912553	41463477	110634580
KLM	11	14357804	14830186	7474219	6139020	23	57918571	39300692	19985061	7759471	27459280
PTA	5	6418785	4591137	3826260.27	2913409.43	8	13671916	9777881	929097.95	664552.05	4755358.22
KTM	20	15664554	11024322	14422425	7423098	17	48260773	30302763	10488805	5992903	24911230
ALP	28	30557776	21723948	25120245	16091835	14	52606305	34592612	11729447	13391559	36849692
IDK	12	15732347	8857302	7421115	40,57,403	4	9903009	3395873	0	0	7421115
EKM	25	17802540	11770673	10794240	4525852	19	43411013	31050417	19737379	10054137	30531619
TSR	53	86352594	61358725	76762873.2	49599729.8	19	44585676	31965476.5	14892604	10725581	91655477.2
PKD	44	32252274	22526819	23541314	16161227	4	4362889	3120626	2498951	2524702	26040265
KNR	56	36408499.88	28386158.83	27703230	18083106.5	9	27500238	20659981.5	11523414	3704920	39226644
WYD	4	2793561.68	1998139.32	5380096	3848200	8	11576023	8160477	0	0	5380096
KSD	8	4110879	2940371	2832803	2326732	5	22863833	16353720	8480581	5868006	11313384
MLP	57	129001977.72	86426917.29	82333031	53593965.09	19	64343268	44775149	162000	425250	82495031
KKD	49	84113499	50608509.92	40451001	27230486	9	47096139	34974614	9913363	5136034	50364364
	390	503277246.9	344048917.4	354784879.4	219910070.9	186	819066331	560291199	194253256	107710592.1	549038135



GOVERNMENT OF KERALA

Abstract

Environment Dept. - Hon'ble National Green Tribunal (SZ) - OA. No.159/2021 - State Action Plan for Air Pollution as envisaged by the National Clean Air Program - Steering Committee and Air Quality Monitoring Committee - constituted - orders issued.

ENVIRONMENT (A) DEPARTMENT

G.O.(Rt)No.84/2024/ENVT Dated,Thiruvananthapuram, 26-10-2024

Read 1 Order dated 15.03.2023 and 09/05/2023 of the Hon'ble NGT in OA 159 /2021.

2 Letter No.KSPCB/135/2023-CEE dated 22.06.2024 received from the Chairperson, Kerala State Pollution Control Board

ORDER

As per the National Green Tribunal (NGT) Orders read above, the Central Pollution Control Board (CPCB) had framed a common guidelines for preparation of State Action Plan (SAP) based on the indicative template shared by the Ministry of Environment, Forest & Climate Change (MoEF&CC). As per the CPCB guidelines, an Air Quality Monitoring Committee (AQMC) under the chair of Secretary, Environment Department shall be constituted for the preparation of the SAP and the SAP shall be approved by the Steering Committee under the Chair of Chief Secretary. AQMC shall monitor the implementation periodically and report to the Steering Committee which will review the progress of implementation.

2. In the above circumstances, vide letter read as 2nd paper above, the Chairperson, Kerala State Pollution Control Board has

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1.
The Chairperson
KSPCB

pl to be followed
order

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requested to constitute Steering Committee and Air Quality Monitoring Committee for the preparation of State Action Plan (SAP) for Air Pollution as envisaged by the National Clean Air Program.

3. Government have examined the matter in detail and are pleased to constitute Steering Committee and Air Quality Monitoring Committee with the following members;

The Steering Committee.

1. The Chief Secretary, Kerala.
2. The Secretary to Government, Environment Department
3. The Secretary to Government, Finance Department.
4. The Secretary to Government, Industries Department.
5. The Secretary to Government, Transport Department.
6. The Secretary to Government, Local Self Government Dept.
7. The Secretary to Government, Public Works Department.
8. The Secretary to Government, Agriculture Department.
9. The Chairman, Kerala State Pollution Control Board.
10. Dr. John Panicker, E.N.T Specialist, Invitee

Air Quality Monitoring Committee

1. The Secretary to Government, Environment Department.
2. The Director, Directorate of Environment and Climate Change.
3. The Director, Directorate of Industries and Commerce.
4. The Transport Commissioner, Motor Vehicles Department.
5. The Director, Road Safety Authority.
6. The Chairman / Managing Director, Kerala State Road Transport

Corporation.

7. The Director, National Transportation Planning and Research Centre.
8. The Principal Director, Local Self Government, Principal Directorate
9. The Director, Urban Directorate.
10. The Director, Directorate of Panchayat.
11. The Executive Director, Suchitwa Mission.
12. The Director. Agriculture and Farmers welfare Department.
13. The Chief Engineer, Public Works Department
14. The Chairman/ Managing Director, Kerala State Electricity Board.
15. The Chief Executive Officer, Agency for New and Renewable Energy.
16. The Director, Energy Management Centre.
17. The Member Secretary, Kerala State Pollution Control Board.

The **Air Quality Monitoring Committee** shall monitor the progress of implementation of the State Action Plan and shall meet on a monthly basis. The Steering Committee shall provide overall guidance for implementing the SAP and shall review the progress on a quarterly basis.

(By order of the Governor)
DR RATHAN U KELKAR I A S
SECRETARY

To:

1. The Advocate General, Kerala, Ernakulam.
2. The Additional Chief Secretary, Finance Department.
3. The Principal Secretary, Industries Department.

4. The Principal Secretary, Local Self Government Dept.
5. The Principal Secretary, Agriculture Department.
6. The Secretary to Government, Public Works Department.
7. The Secretary, Transport Department.
8. The Director, Environment and Climate Change.
9. The Chairperson, Kerala State Pollution Control Board
10. The Air Quality Monitoring Committee Members (Through Kerala State Pollution Control Board)
11. The Member Secretary, Kerala State Pollution Control Board
12. The Principal Accountant General (A&E/ Audit), Kerala
13. Office copy/Stock file.

Forwarded /By order

Signed by

Dhanya Sadasivan

Section Officer

Date: 28-10-2024 11:02:15

Copy to-

The Private Secretary to Hon'ble Chief Minister
The Staff Officer to Chief Secretary
PA to Secretary, Environment

Minutes

Agenda : Hon'ble NGT (SZ)OA 159/2021 regarding the failure of CPCB to formulate State Action Plan for Air Pollution as envisaged by the National Clean Air Program - The 1st meeting of the Air Quality Monitoring Committee.

Chair : Secretary, Environment Department

Time / Date : 4.00 PM / 18.11.2024 through on line mode

Participants

1. Sri. Suneel Pamidi IFS, Director of Environment and Climate Change.
2. Sri. L.T. Santhosh Kumar, Additional Secretary, Environment Department.
3. Dr. Sheela. A.M, Member Secretary, Kerala State Pollution Control Board.
4. Members of Air Quality Monitoring Committee.
5. Er. Bindhu Radhakrishnan, Chief Environmental Engineer, Kerala State Pollution Control Board.
6. Er. Simi P, Environmental Engineer, Kerala State Pollution Control Board.
7. Sri. Unnikuttan.S.S, Under Secretary, Environment Department.

This is the 1st meeting of the Air Quality Monitoring Committee (AQMC) in which, the Secretary, Environment Department welcomed all the members of the AQMC to the meeting.

The Member Secretary, Kerala State Pollution Control Board apprised the Committee regarding the State Action Plan (SAP) as follows;

Original Application No. O.A. 159 of 2021 was filed by Sri.Kankana Das, Kolkata before the Hon'ble NGT regarding the implementation of National Clean Air Programme (NCAP) which was launched by MoEF&CC in 2019, in the States of Telangana, Tamilnadu & Karnataka. Ministry of Environment, Forest and Climate Change (MoEFCC) launched NCAP in 2019 with an aim to improve air quality in 131 non-attainment cities in 24 States/UTs by engaging all stakeholders.

The Hon'ble NGT had Suo Moto impleaded the State of Kerala as respondent as per the order dated 20.01.2023, in O.A.No.159/2021. As per the Order dated 15.03.2023 in O.A.No.159/2021, the Hon'ble NGT has directed that a State ActionPlan (SAP) on air pollution shall be prepared and forwarded to the Central Pollution Control Board (CPCB). The CPCB had provided a template for the SAP. The same was circulated among the Departments concerned and the draft SAP was forwarded to CPCB by the Environment Department on 13.04.2024 and again the SAP was further revised based on suggestions of CPCB. Then, as per order dated 17.10.2023, the updated SAP of Kerala was forwarded to CPCB on 02.11.2023. The SAP was again modified asper the suggestion of CPCB on 12.12.2023 and modified SAP was sent to CPCB on 19.01.2024.

As per the NGT Order dated 09.05.2024, CPCB had issued common guidelines for preparation of the State Action Plan (SAP) based on the indicative template shared by the MoEF&CC. As per the common guidelines, an Air Quality Monitoring Committee (AQMC) under the Chair of the Secretary, Environment Department shall be constituted for the preparation of the SAP and the SAP shall be approved by the Steering Committee under the Chair of the Chief Secretary. Accordingly, the AQMC and Steering Committee were constituted as per G.O. (Rt) No.84/2024/ENVT dated 26.10.2024. AQMC shall monitor the implementation of the SAP and report to the Steering Committee which shall periodically review the progress of implementation and give necessary guidance to the AQMC.

The State Action Plan involves action on 7 factors viz industrial emissions, vehicular emissions, emissions of burning of waste, municipal solid waste management, construction & demolition waste and road dust management, house hold emissions and emissions due to burning of agro residues. There are action

points under each of these above components are specified by the CPCB as per the direction of Hon'ble NGT. Action points in the SAP were discussed briefly.

The Director, DoECC enquired regarding the most problematic air pollutant of Kerala. Member Secretary informed that KSPCB had established a network of 39 manual air quality monitoring stations and 9 Continuous Ambient Air Quality Monitoring Stations and the air quality of Kerala falls within good to moderate range, Particulate Matter concentrations are showing increasing trend. The Secretary, Env't. Dept. asked regarding the sectors causing the major pollution problem. The Member Secretary replied that the problems happening nearby the industrial clusters in Ernakulam. However vehicular emissions, waste burning are other sources of pollution. Regarding solid waste management, considerable progress has been achieved in providing waste collection facilities like MCF, MRF, disposal of non recyclables in cement plant, etc., improvement in air quality. Emission inventory is also prepared. The Member Secretary added that it is proposed to conduct source apportionment study in Thiruvananthapuram and Kochi for identification and quantification of the different sources and types of pollutants as per NGT Order in OA 259/2017 and re-tendering process is being done. There are no critically polluted areas identified in Kerala by CPCB.

The Secretary, Environment enquired about the expected outcome of the State Action Plan. The Chief Environmental Engineer, KSPCB replied that the NCAP was launched by the Central Ministry with an aim to tackle the air pollution problem and envisaged to attain 40% reduction in the PM levels by 2025-2026 and the action plan aims to achieve these results. KSPCB had established a network of 39 manual air quality monitoring stations for covering all the districts of Kerala and there are 9 Continuous Ambient Air Quality Monitoring Stations across 6 districts. As per the monitoring data, particulate matter, i.e., PM_{2.5} is the prominent

polluting parameter that requires specific attention. The Chief Environmental Engineer added that even though the air quality of Kerala is not affected in the present scenario and is not having any non-attainment cities (NAC), effective steps are to be taken to maintain proper air quality. As air pollution is a trans-boundary phenomenon, the emissions from the neighboring States might also affect the air quality and that is the reason why Kerala and Puducherry were implicated in this case. Environmental Engineer (IT & Project section), KSPCB suggested identification of local hot spots of air pollution such as brick kilns, cashew factories etc. and implementing action plans specific to such areas. The Secretary, Environment suggested to evaluate the overall status of air pollution in Kerala and update the action plan including innovative actions taken by various Departments. The Director, DoECC suggested to evaluate the current air quality with respect to various parameters monitored and the air quality to be achieved and include in the State Action Plan accordingly. The official from NATPAC informed that they are implementing certain innovative methods.

The Secretary, Environment directed the Implementing Agencies to update the details pertaining to their respective Departments in the google spreadsheet within 2 days. The current status shall be evaluated prior to presenting the State Action Plan before the Steering Committee chaired by the Chief Secretary.

The meeting concluded at 5pm.

DR RATHAN U KELKAR I A
SECRETARY