

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITIES

1. Name of the city: **Ludhiana**
2. Air Pollution concerns: **PM₁₀, PM_{2.5}, NO₂, SO₂**
3. Air pollution levels: PM₁₀ = 122-211, NO_x = 24-31, SO₂ = 8-10 mg/NM³(24-hourly average), PM₁₀ = 159.5 mg/NM³, NO_x = 26.55 5 mg/NM³, SO₂ = 10.6 mg/NM³; (annual average for past five years)
4. Months with high air pollution levels: **April, October & November**
5. Action plan:

Source group**	Action	Implementation period(short/mid/long-term)	Time target for implementation *	Responsible agency(ies)	Any other information
Vehicles	1. Launch extensive drive against polluting vehicles for ensuring strict compliance.	Short Term	Within a week & continue as regular activity	State Transport Authority(STA)	Widespread traffic checking is being conducted by the Transport office along with Traffic Police in Ludhiana City. Vehicles found without pollution certificate are challaned. In year 2017-18, around 5093 no. of vehicles are challaned which are without pollution certificate. Besides this, new pollution check centers for both diesel and petrol vehicles has been established in Ludhiana city. Pollution check centers already established in city were being checked by the team of transport office at regular intervals. All machineries were also inspected so that proper checking of vehicles can be conducted in future also.
	2.Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	Within a week & continue as regular activity	STA &Traffic Police	Awareness camps in connection to traffic control, safe driving and traffic discipline are a regular feature of Traffic Police. Traffic Police conducts such awareness camps in various parts of cities at regular intervals. Special camps are being organized in different school and proper guidance in connection to road sense is being given to school children, drivers and conductors of school transportation. Board of inspection for vehicles is constituted and Motor Vehicle Inspector of the transport office inspect number of vehicles per month and give fitness certificate only to those transport vehicles which pass the norms of fitness. Moreover, in year 2017, 10199 challans have been issued to the vehicles without pollution control certificates and 1217 challans have been issued to the vehicles for using pressure horn. Similarly, in Jan 2018, 1160 challans have been issued to the vehicles without pollution control certificates and 102 challans have been issued to the vehicles for using pressure horn.

3. Prevent parking of vehicles in the non-designed areas.	Short Term	Within a week & continue as regular activity	Urban local bodies & Police Dept.	Traffic Police, Ludhiana intimated that the Traffic Police is regularly toeing the vehicles wrongly parked through a private toeing toe tac service and all the toed vehicles is being shifted to Traffic Complex, Police Line, Ludhiana. Moreover, in Ludhiana 25 traffic beat motorcycles are being used for initiating action under Motor vehicle Act for wrong parking of vehicles.
4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Mid Term	---	STA	Being a policy matter, required steps must be taken at the level of State Transport Commissioner, Punjab, Chandigarh.
5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	--	Representative of Petroleum product distributor companies	The point be referred to Ministry of Petroleum of Natural Gas, Govt. of India.
6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Short Term	90 Days	Public works Dept.,(PWD) & Urban local bodies	Underpasses at congestion sites. I.e. Sarabha Nagar railway crossing, Bharat Nagar chowk, bus stand pedestrians are required and Govt. funds for these activities. Widening of high traffic density roads is already in progress.
7. Prepare plan for construction of expressways/bypass to avoid congestion due to non-destined vehicles.	Mid Term	180 Days	Public works Dept., NHAI & SHAI	Construction of flyovers across the city has been started from Ferozpur Road and will end at Chandigarh Road thereby carrying all the heavy traffic across the city without disturbing the local traffic.
8. Install weigh in motion bridges at the borders of cities/towns and states to prevent overloading of vehicles.	Mid Term	--	Urban local bodies & Coal mines authority	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
9. Synchronise traffic movements /introduce intelligent traffic systems for lane-	Mid Term	180 Days	Traffic Police	Traffic Police Ludhiana are doing efforts to follow the lane system while running the public on the road by installing sign board 500 meter before each traffic lights/signals. Further, awareness in public is being spread about traffic rules with the help of various private NGOs,. Moreover, traffic police Ludhiana, through the traffic education cell are spreading awareness

	driving.				in public by organizing camps in various unions, school, colleges and general public.
	10. Steps for promoting battery operated vehicles.	Mid Term	120 Days	State Transport Authority(STA)	Battery operated vehicles being named e-rickshaw are registered by this office. A handsome number of vehicle agencies are in operation who sell such vehicles. Promotional and awareness campaigns about battery operated vehicles is a regular feature of these companies. Ludhiana city is gradually being shifted to battery operated e-rickshaws and diesel auto rickshaws are being replaced by these vehicles though replacing pace is yet slow but in coming time these battery operated autos will become major modern of transportation.
	11. inspection /maintenance to all BSII & BS III commercial vehicles	Mid Term	---	STA & Traffic Police	As already stated earlier, Board of inspection for vehicles is constituted by this office and Motor Vehicle Inspector regularly inspects all such transport vehicles whether these are covered under BSII or III norms. Only those vehicles are passed and get fitness certificate which fulfills all the necessary norms of fitness. Besides this during Traffic checking if such unfit vehicles are found, plying on road, these types of vehicles are impounded.
Road Dust	1. Preparation plan for green buffers along the traffic corridors.	Mid Term	90 Days	NHAI,PWD, &Urban local body	Space available along newly constructed roads/bypasses for plantations, Matter discussed with Forest department
	2.Maintain potholes free roads for free flow of traffic	Mid Term	90 Days	NHAI,PWD, &Urban local body	Estimates for various road maintenances already submitted. Work will start as funds are available.
	3.Greening of open areas, gardens, community places, schools and housing societies	Mid Term	--	Urban local body	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
	4. Blacktopping metaled road including pavement of road shoulders.	Mid Term	180 Days	NHAI,PWD, &Urban local body	Work already in progress. More funds required for improvement over conventional methods.
	5. Road design improvement	Short term	---	NHAI,PWD, &Urban local body	New scientific methods are being implemented.
	1. Introduce water fountain at major traffic	Mid Term	---	Urban local body	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.

	intersection wherever feasible				
Biomass and garbage burning	1.Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	Short Term	---	Urban local body	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
	2. Regular check and control of burning of municipal solid waste.	Short Term	---	Urban local body	Regular inspections are being carried out by the PPCB from time to time to check & control of open burning of municipal solid waste in different areas of the city. In the past where the MSW was found under fire, fine has been imposed on the M.C. in light of NGT order dated 10.12.2015.
	3. Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening.	Short Term	90 days	Urban local body	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
	4. Construction of advanced waste management Site.	Mid Term	---	Urban local body	The AWMS already in operation at Tajpur Road, Ludhiana. However, steps are being taken to increase its capacity to cater the complete load of the city.
	5.Digging of Compost pit in the selected park /green belts and collection of dry leaves and plant matter from adjoining parks/green belts of Ludhiana city.	Short	90 days	Urban Local Body	List of the Parks where compost pits are dug attached.
	6.Brick work of the pits which are dug in various parks /Green Belts.	Short	120 Days	Urban Local Body	List of the Parks where compost pits are dug attached.

	.On site composting from dry waste (dry leaves and plant matter) in selected parks/green belts of Ludhiana city.	Short	180 days	Urban Local Body	List of the Parks where on site composting is in progress attached.
Industries	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	It is a regular activity	State Pollution Control Board	The Punjab Pollution Control Board is carrying regular visits to the brick kilns to check the compliance of consent conditions and to pursue them to shift to induced draught technology by December, 2018.
	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	---	State Pollution Control Board	There is no brick kiln within the M.C. limits of Ludhiana. However, all the brick kilns in Distt. Ludhiana have been persuaded to convert from BTK to High draught technology with zig zag brick stacking.
	3. Action against non-complying industrial unites	Short Term	It is a regular activity	State Pollution Control Board	The industrial units are being visited from time to time to check the compliance of various pollution control laws and action against the defaulting units is being taken
	4. Promoting cleaner production in industries.	Mid Term	---	State Pollution Control Board	Punjab Pollution Control Board is carrying out a proactive role in guiding the industries to adopt cleaner fuels/technologies for productions and is continuously making plans in consultation with PSCST.
	5. Fugitive emission control	Short Term	It is a regular activity	State Pollution Control Board	All the air polluting units have been installed with APCDs and are being continuously monitored by the Board. The induction furnace units are being asked to provide proper hoods for suction of emissions so as to rule out escaping of emissions from the collection hood into the atmosphere. The Board has got installed proper APCDs in the rice shellers to control the process emissions.
	6. Installation/ upgradation of air pollution control system	Mid Term	---	State Pollution Control Board	The industrial units falling under Ludhiana have installed air pollution control devices. However, if any unit is found not meeting with the emission standards, the same is being pursued to upgrade the APCD or to switch over cleaner technology.
Mining	1. Efforts for good mining practices	Mid Term	It is a regular activity	State Pollution Control Board,& Coal mines authority	The PPCB and all other departments are doing regular checking of mining sites as per directions of District Administration and the F.I.R is filed against the violators.

	2. Green Belt for activity zone and the buffer zone for each mining area	Mid Term	----	GMDIC & Coal mines authority	GMDIC, Ludhiana has verbally issued the directions to the lease holders for providing green belt for activity zone and buffer zone on each mining area.
Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Within one month and continue as regular activity	Urban Local Bodies	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.	Short Term	Within one month and continue as regular activity	State Pollution Control Board, Urban Local Bodies	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
	3. Ensure Carriage of construction material in closed / covered vessels.	Short Term	Within one month and continue as regular activity	State Pollution Control Board, Urban Local Bodies	The information has not been supplied by MC, Ludhiana despite of regular e-mails and telephonic messages.
Other Steps	1. Air Quality Index to be calculated and disseminated to the people through website and other media.	Mid Term	It is a regular activity	State Pollution Control Board	The PPCB has installed ambient Air Quality stations. The awareness is given to the people regarding Air Quality Index through seminars and also through website of the Board.
	2. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Mid Term	----	State Govt.	THE PNG supply line has already been started at Mandi Gobingarh. The proposal for extending it up to Ludhiana is under process.

	3. Monitoring of DG sets and action against violations.	Short Term	It is a regular activity	State Pollution Control Board	The PPCB is constantly monitoring the DG sets. Action against the violators who have installed DG set without acoustic enclosures is carried out in accordance with the environmental laws.
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* Time target for implementation taken from action plan submitted by another non-attainment city, for your reference. Kindly modify according to your city in consultation with respective stakeholders.

** Source group is based on local understanding, in future this may be strengthened with emission inventory/source apportionment

List of the Parks where on site composting and collection of Horticulture waste (Bio-Mass) and its disposal is In progress.

Sr. No.	Zone-A	No. of Pits
1	Children Park near civil Hospital ward No. 39	2
2	Park near Jalandhar bye pass chowk ward No. 25	1
	Total	3

Zone-B Focal Point

1	Main park puda road store park jeewan nagar.	2
2	Opp. Veer palace tanki wala park chandigarh road.	2
3	Opp. Indian petrol pump chandigarh road.	2
4	Park Khera Phulwari park comm. Near Jamalpur lights.	2
5	Welfare society park management committee-3 back side near Sr. Dupty Mayor House.	1
6	Ekta Park Welafare society park.	1
7	Near Convent School Shaheed Sukhdev welfare socociety	1
8	Apna park dekh bhal comm. 291-C Tanki wala park.	1
9	Society of Park 1056 Sector-39	1
10	Urban estate welfare society 1616 Sector-39	1
11	Park Pye tools private limited focal point	1
12	Park opp. Sighaniaya Enterprises	2
	Total	17

Zone-B Cheema Chowk

1	Mini Rose Garden Kidwai nagar	2
2	Main park Kidwai Nagar	1
3	Park opp. Arun Gas	1
4	Cheema Chowk Statue wala park	1
5	Park opp. Chawla Ferniture.	1
	Total	6

Zone-C

1	Main Basant Park	4
2	Main Vishkarma Park opp. Cular factory	4
3	Makkar Colony Park	1
4	Park opp. Military Camp near Sherpur Chowk.	1
5	Park near partap Chowk opp. Allahabad Bank.	1
6	Park Near Suwidha Centre Adj. Mini Rose Garden Giaspura	1
	Total	12

Zone-D

1	Main Nursery	12
2	Leisure Valley Part -2	1
3	Rose Garden Civil Line	1
4	Green Belt Lodhi Club Road	4
5	Leisure Valley Part -1	1
6	Model Town Extension	1
7	Green Park Dugri	2
8	Green Belt Dugri phase-2 (Manu Green Society)	1
9	Mini Rose phase-2 Dugri Urban estate	1
10	Nili Mohar society Park	1
11	Green belt Lodhi club opp. Sectret heart convent school	1
	Total	26
	G. Total	64