

ACTION PLAN

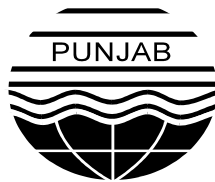
for

ABATEMENT OF AIR POLLUTION

IN

NON-ATTAINMENT CITIES

DERA BASSI



PUNJAB POLLUTION CONTROL BOARD

REGIONAL OFFICE, SAS NAGAR

1.0 Introduction

Dera Bassi is a town and municipal council, falling in the Distt. SAS Nagar in the State of Punjab, India. There are mainly three no. small kasbas/towns namely Zirakpur, Dera Bassi and Lalru, which comprises of many villages and comes under Tehsil Dera Bassi, Distt. SAS Nagar. Dera Bassi is located on the Chandigarh–Delhi National Highway, 20 km from Chandigarh. It is strategically located near the boundary of Haryana and Union territory of Chandigarh.

There are three main towns namely Dera Bassi and, Lalru and Zirakpur in the territorial jurisdiction of Tehsil Dera Bassi. All these three towns are under the jurisdiction of three different local bodies i.e. Municipal Council, Dera Bassi, Municipal Council, Zirakpur and Nagar Panchayat Lalru.

The Dera Bassi area is also an industrial hub and there are various types of industries like Pharmaceutical, Chemicals, Dyeing, Electroplating, Slaughter Houses, Paper Mills, Stone Crushers, Screening-cum-Washing Plants, Refractories, Casting Units, Brick Kilns, Rice Shellers, Bottling Plants etc, situated in these areas. Besides this, there are also residential colony/townships/ area development projects / restaurants / hotels, situated in these area.

2.0 Air Pollution Sources & Pollution Control Status

The main stationary sources of air pollution are the industrial units, which are emitting particulate matter, hydrocarbon, sulphur dioxide, oxides of nitrogen, VOCs and acid mist. As per inventory prepared by this office, there are about 275 air polluting industries in Dera Bassi, which are using fossil / bio mass as fuel, thus, emitting the aforesaid pollutants, besides, emitting process / fugitive emissions. Besides above, non-agricultural activities are going on within the MC limits of Dera Bassi but the area is surrounded by agricultural fields, as such, the burning of rice and wheat straw by the farmers is affecting the ambient air quality of the town. Furthermore, due to erratic supply of power, most of the establishment, residential houses and industries have installed DG sets of various capacities to cater to their power needs, which are emitting uncontrolled emissions into the atmosphere within the city limits. Also, anaerobic digesteion of biomass and garbage within the city limits, is emitting air pollutants like methane etc. Due to all these sources, the quality of ambient air quality of the area is deteriorating. The air polluting industries located in the jurisdiction of Dera Bassi area as under :

S.No.	Category	No. of Industries
1	Dyeing Units	10
2	Pharmaceuticals	17
3	Meat Processing Unit/Slaughter House	07

4	Pulp & Paper	05
5	Distilleries	01
6	Breweries	01
7	Galvanizing Units	05
8	Cupola Furnace	08
9	Induction Furnace	06
10	Plywood / Laminates	07
11	Refractory / Ceramics	03
12	Pesticides Units	01
13	Brick Kilns	56
14	Stone Crushers	94
15	Rice Shellers	04
16	Miscellaneous	50
17	Construction Projects	195

CATEGORY WISE STATUS OF AIR POLLUTION CONTROL

Dyeing Industries :

There are 10 dyeing industries operating within the area of Dera Bassi. The boiler furnaces are generating flue gas emissions, which mainly consist of particulate matter, CO₂, NO_x and SO₂ gases etc. All the industries have installed their air pollution control devices to contain the concentration of various pollutants within the standards prescribed by the Board. A regular monitoring is being carried out of these industries from time to time. In case, any industry found violating the provisions of Air (Prevention & Control of Pollution) Act, 1981, action initiated against the violating industry.

Pharmaceutical Industries :

There are 18 pharmaceutical industries located in the Dera Bassi area. All the pharmaceutical industries have installed their air pollution control devices to contain the various pollutants within the standards prescribed by the Board. The pharmaceutical industries are generating flue gas emissions and process emissions, which mainly consists of particulate matter, CO₂, NO_x and SO₂ gases etc. All the industries have installed scrubbers (Water / Caustic) to control the process emissions. Out of 18 industries, 4 industries are lying closed. A quarterly monitoring of all the pharmaceutical industries is being carried out. The status of pollution control of pharmaceutical industries is given as under;

Sr. No.	Name of Industry	Type of Industry	APCD status	Present Operating Status
1)	M/s Nectar Lifesciences Ltd (Unit-1), Village Saidpura, Dera Bassi Bassi, Distt Dera Bassi Nagar	Bulk Drug/Pharma	Twin cyclone with the boilers Scrubbers to control the process emissions.	In operation
2)	M/s Vardhman Chemtech Ltd., Village Nimbuan, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	Multi cyclone Scrubbers to control the process emissions.	Closed
3)	M/s Vardhman Chemtech Ltd., D-5, Focal Point, Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	Cyclone Scrubbers to control the process emissions	Closed
4)	M/s Nectar Lifesciences Ltd., Village Saidpura, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	ESP with the boilers Scrubbers to control the process emissions.	In operation
5)	M/s Parabolic Drugs Ltd., Village Chhachhrauli, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	Cyclone.	Closed
6)	M/s Panacea Bio-Tech Ltd., Village Samalheri, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Pharma	FO fired boilers with stack of adequate height.	In operation
7)	M/s Essix Bio-Sciences Ltd., D 4-5, Focal Point, Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	Cyclone followed by water scrubber with boiler. Caustic scrubber to control the process emissions.	In operation
8)	M/s Parabolic Drugs Ltd., Village Sundran, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	Cyclone with boiler. Caustic scrubber to control the process emissions	In operation
9)	M/s Dera Bassi Swift Laboratories Ltd., Vill. Bhagwanpura, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug/Pharma	ESP with the boiler, cyclone followed by caustic scrubber for incinerator and caustic scrubber to control process emissions.	In operation
10)	M/s Allychem Laboratories (P)Ltd., E 68-69, Focal Point, Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Bulk Drug / Pharma	Cyclone with boiler. Caustic scrubber to control the process emissions	In operation
11)	M/s Kudos Chemie Ltd., Village Kuranwala, Tehsil Dera Bassi Bassi,	Chemical Unit	Closed	Closed

	Distt. Dera Bassi Nagar.			
12)	M/s Punjab Chemical & Crop Protection Ltd., Village Samalherir, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Pharma Division	Twin cyclone with the boiler, caustic and water scrubber to control the process emissions	In operation
13)	M/s G.G. Chemical & Pharmaceuticals (P) Ltd., Village Bhagwanpura, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	Chemical Unit.	Cyclone with the boiler and caustic scrubber to control the process emissions	In operation
14)	M/s Saurav Chemicals Ltd (Unit-I), Village Saidpura, Dera Bassi Bassi, Distt Dera Bassi Nagar	Bulk Drug / Pharma	Cyclone with the Boiler and caustic scrubber to control the process emissions	In operation
15)	M/s Saurav Chemicals Ltd. (Unit-III), Village Bhagwanpura, Dera Bassi Bassi, Distt Dera Bassi Nagar	Bulk Drug / Pharma	Cyclone with the boiler, cyclone followed by caustic scrubber for incinerator and caustic scrubber to control process emissions.	In operation
16)	Cad Chem Laboratories Pvt. Ltd., Village Jaula Kalan, Dera Bassi Bassi, Distt. Dera Bassi Nagar	Bulk Drug / Pharma	Cyclone followed by two stage alkali scrubber	In operation
17)	Infinity Laboratories Pvt. Ltd., Village Behra, Dera Bassi Bassi, Distt. Dera Bassi Nagar	Bulk Drug / Pharma	Cyclone with the boiler and caustic scrubber with the incinerator.	In operation
18)	Anuja Healthcare Pvt. Ltd., Focal Point, Dera Bassi Bassi.	Bulk Drug / Pharma	Cyclone with the boiler	In operation

Besides above, the following pharmaceutical industries have installed incinerators to incinerate their hazardous waste. All these industries have installed necessary pollution control devices, the details of which is given as under :

Sr. No.	Name of industry & address	No. of incinerator and its capacity
1.	M/s Vardhman Chemtech Ltd., Village Nimbuan, Tehsil Dera Bassi Bassi, Distt. Dera Bassi Nagar.	01, 100 kg/hr.
2.	M/s Nectar Lifesciences Ltd., Unit-II, Village Saidpura, Tehsil Dera Bassi Bassi.	01, 525 kg/hr.
3.	M/s Panacea Biotech Ltd., Village Samalheri, Tehsil Dera Bassi Bassi.	03, 100 kg/hr, 100 kg/hr & 40 kg/hr.
4.	M/s Punjab Chemical & Crop Protection Ltd., Village Bhankharpur, Tehsil Dera Bassi Bassi.	01, 250 kg/hr.

6.	M/s Saurav Chemicals, Unit-III, Vill. Bhagwanpura, Barwala Road, Dera Bassi Bassi.	01, 100 kg/hr.
7.	Parabolic Drugs Ltd., Village Sundran, Tehsil Dera Bassi Bassi.	01, 200 kg/hr.
8.	Dera Bassi. Swift Lab Ltd., Vill. Bhagwanpura, Tehsil Dera Bassi Bassi.	01, 400 kg/hr.
9.	Chatha Foods Ltd., Samalheri, Dera Bassi	01, 50 kg/hr.

Meat Processing / Slaughter House Unit :

There are 07 meat processing / slaughter houses located in the Dera Bassi area. All these units have installed adequate and appropriate air pollution control devices to control the air pollution. All the slaughter houses installed bio-filter in the rendering section to control the emissions containing odour.

Pulp & Paper Mills :

There are 05 pulp & paper mills located in the Dera Bassi area. All these units have installed adequate and appropriate air pollution control devices to control the air pollution.

Distillery Unit :

There is only one distillery unit falling in the Dera Bassi area i.e. Rajasthan Liquors (Distillery unit) Pvt. Ltd., Village Saidpura. This unit has installed Electrostatic precipitator (ESP) with the boiler as APCD, which is adequate to achieve the standards prescribed by the Board / MoEF.

Brewery Unit :

There is only one brewery unit falling in the Dera Bassi area i.e. Molson Coors Pvt. Ltd., Village Bhankharpur. This unit has installed adequate and appropriate APCD with the boiler to achieve the standards prescribed by the Board.

Galvanizing Unit :

There are 05 galvanizing units located in the Dera Bassi area. All these units have installed adequate and appropriate air pollution control devices to control the air pollution.

Cupola Furnace :

There are 08 cupola furnaces located in the Dera Bassi area. All these units have installed adequate and appropriate air pollution control devices to control the air pollution.

Induction Furnace :

There are 06 induction furnaces located in the Dera Bassi area. All these units have installed adequate and appropriate air pollution control devices to control the air pollution.

Plywood / Laminate :

There are 07 plywood / laminates industries located in Dera Bassi area. All these industries have installed Air Pollution Control Devices with the boiler as well as in the sanding section to contain the concentration of particulate matter within the standards laid down by the Board.

Refractory / Ceramics :

There are 03 refractory / ceramic industries located in Dera Bassi area. All these industries have installed Air Pollution Control Devices with the boiler as well as in the grinding section to contain the concentration of particulate matter within the standards laid down by the Board / MoEF.

Pesticides Unit :

There is only one pesticide unit falling in Dera Bassi area i.e. M/s Punjab chemicals & Crop Protection Ltd. (Agro Division) at village Bhankharpur. The industry has installed cyclones at the boilers as APCDs. The industry has installed caustic scrubber with the incinerator. The industry has installed caustic scrubbers to control the process emissions.

Brick Kilns :

There are 56 brick kilns falling in the jurisdiction of Tehsil Dera Bassi. All the brick kilns have installed their gravity dust settling chambers as APCD which are either designed by CBRI, Roorkee or PSCST, Chandigarh.

Stone Crushers :

There are 94 stone crushing units falling in the jurisdiction of Tehsil Dera Bassi. All the stone crushers have adopted code of practice framed by the Punjab Govt. to control the dust emissions generated during crushing of the river bed material or due to the vehicular movement.

Rice Shellers :

There are 04 rice shelling units located in Dera Bassi area. All these units have installed adequate and appropriate air pollution control devices to control the air pollution. All the units have adopted code of practice framed by the Punjab Govt. for rice shellers.

Miscellaneous :

There are about 50 other air polluting industries under the miscellaneous category such as chemical units, pickling units, corrugated boxes units, formulation units, Chlorinated paraffin wax units, formaldehyde units, lead smelting unit, aluminium smelting units, formulation, heat treatment, powder coating, spray painting units, spinning units etc. All these industries have already installed individual air pollution control devices, which are monitored by the officers of the Board from time to time to ensure the concentration of various pollutants may not exceed from the prescribed standards laid down by the Board / MoEF.

Construction Projects :

There are about 15 construction projects falling in Dera Bassi area. There is no other kind of significant air pollution from the construction projects except the air pollution and noise pollution from the DG sets, provided by the promoter companies as a power back up. For this following compliance is being ensured from the promoter companies;

- i) The project proponent shall not consume any fuel except HSD in DG set for burning purposes without the prior written permission of the Board.
- ii) The project proponent shall comply with the noise limits prescribed by the Ministry of Environment & Forests (MoEF), New Delhi vide notification No.GSR-371(E) dated 17.5.2002 as amended from time to time.
- iii) The project proponent shall comply with the stack emission standards prescribed by the MoEF vide notification No.GSR-520 (E) dated 1.7.2003 as amended from time to time or GSR-489(E) dated 7.9.2002 as amended from time to time, whichever is applicable to the applicant.
- iv) The height of the stack with the D.G. set shall be in accordance with the norms prescribed by the Board vide notification No. Admn/A-4/F.No.160/87/14744 dated 14.9.1987.
- v) The project proponent shall only operate the DG set, which is equipped with canopy.

3.0 Online Surveillance of the industries

As all the industrial units are required to install and regularly operate the pollution control devices so as contain the concentration of various pollutants within norms prescribed by the Board. It was observed that the industrial units have provided the pollution control devices but they are not regularly operating them due to which the purpose of pollution control and abatement get defeated. The officials have to use lot of their time on surveillance of such units. Therefore, Punjab Pollution Control Board got installed CCTV cameras along with DBR in highly polluting industries to

monitor the regular operation of their pollution control devices both for checking air pollution. In the first phase following categories were covered;

1. Distilleries
2. Pharmaceuticals/bulk drug manufactures
3. Paper Mills
4. Sugar Mills
5. CETP for electroplating industries at Ludhiana.
6. Meat Plants
7. Dyeing Units (Large & Medium scale)

The following industries of Dera Bassi and Lalru have provided CCTV cameras along with DBR in the first phase;

Sr. No.	Name of Industry	Category
1	M/s Ind Swift Laboratories Ltd., Village Bhagwanpur, Tehsil Dera Bassi, Distt. SAS Nagar	Pharmaceutical
2	M/s Punjab Chemical & Crop Protection Ltd. (Agro Division), Village Bhankarpur, Tehsil Dera Bassi, Distt. SAS Nagar	Pesticide
3	M/s Punjab Chemical & Crop Protection Ltd. (Pharma Division), Village Samalheri, Tehsil Dera Bassi, Distt. SAS Nagar	Pharmaceutical
4	M/s Nectar Lifesciences Ltd. (Unit-II), Village Saidpura, Tehsil Dera Bassi, Distt. SAS Nagar	Pharmaceutical
5	M/s Vishal Papertech India Ltd., Village Mubarikpur, Tehsil Dera Bassi, Distt. SAS Nagar	Paper Mill
6	M/s Saurav Chemicals Ltd. (Unit-III), Village Bhagwanpura, Tehsil Dera Bassi, Distt. SAS Nagar	Pharmaceutical
7	M/s Essix Bioscinces Ltd., B-4 & 5, Focal point, Dera Bassi, Distt SAS Nagar	Pharmaceutical
8	M/s A.P Paper Mills Ltd., Village Bhagwanpura, Dera Bassi, Distt. SAS Nagar	Paper Mill
9	M/s Nachiketa Paper Ltd., Village Mubarikpur, Tehsil Dera Bassi, Distt. SAS Nagar	Paper Mill
10	M/s Mirha Exports Pvt Ltd., Village Jaula Khurd, Lalru, Tehsil Dera Bassi, Distt SAS Nagar	Meat Plant
11	M/s M.K Overseas Pvt Ltd., Village Samgouli, Tehsil Dera Bassi, Distt. SAS Nagar	Meat Plant
12	M/s Abbott Cold Storage Pvt Ltd., Village Samgouli, Tehsil Dera Bassi, Distt. SAS Nagar	Meat Plant
13	M/s Molson Coors Pvt. Ltd., Village Bhankarpur, Tehsil SAS Nagar Bassi, Distt SAS Nagar Nagar	Brewery
14	M/s Nahar Industrial Enterprises Ltd. (Process Unit-1), Village Jalalpur, Lalru, Dera Bassi	Dyeing
15	M/s Nahar Industrial Enterprises Ltd. (Process Unit-2), Village Jalalpur, Lalru, Dera Bassi	Dyeing
16	M/s Panacea Biotech Ltd., Village Samalheri, Dera Bassi	Pharmaceutical
17	M/s T.C. Terrytex Ltd., Village Jharmari, Dera Bassi	Dyeing
18	M/s Bhandari Export Industries Ltd., Village Jharmari, Dera Bassi	Dyeing

These industries are being monitored on the internet and if found violating, then action under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 is being initiated against those industries.

4.0 Ambient Air Quality Monitoring Status

The Board is monitoring ambient air quality of Dera Bassi area for which two no. stations have been installed at M/s Punjab Chemicals & Crop Protections Ltd., Village Bhankharpur, Tehsil Dera Bassi and M/s Winsome Yarns Ltd., Village Kuranwala, Tehsil Dera Bassi under the National Ambient Air Quality Scheme. The trend of SO₂, NO_x and SPM in the ambient air shows that the concentration of these parameters is on decreasing trend as compare to previous years, this may be due to regular monitoring of air polluting units carried out by the Punjab Pollution Control Board.

Comparative Values of RSPM, SO₂&NO_x µg/m³
For the years 2013-2017
Station Name: M/s PCPL, Dera Bassi.

Month	RSPM (µg/m ³)					NO _x (µg/m ³)					SO ₂ (µg/m ³)				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
January	149	105	126	108	91	32	18	17	12	12	10	8	6	5	5
February	126	121	101	106	86	20	13	15	13	12	7	5	5	5	5
March	101	113	96	105	90	18	16	15	12	11	8	5	6	5	5
April	175	125	92	111	93	18	16	14	13	12	9	6	6	6	6
May	125	109	104	105	88	22	14	19	12	12	9	5	6	5	5
June	103	107	91	91	84	25	13	20	13	11	6	5	5	5	6
July	91	109	100	93	83	18	18	18	14	11	6	5	5	6	6
August	108	156	156	82	68	16	18	18	12	11	5	7	7	5	6
September	139	162	75	76	65	23	16	14	11	11	6	6	5	5	6
October	183	125	87	102	135	26	18	12	12	15	9	7	5	6	7
November	142	125	116	101		27	20	14	11		11	6	5	6	
December	122	113	109	96		21	14	13	11		6	5	5	6	
Annual Avg.	130	123	104	98		23	16	16	12		8	6	6	5	

Station Name: M/s Winsome Yarns Ltd., Barwala Road, DeraBassi.

Month	RSPM (µg/m ³)					NO _x (µg/m ³)					SO ₂ (µg/m ³)				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
January	136	110	115	110	93	28	17	14	14	11	8	6	5	5	6
February	149	97	89	94	100	19	12	14	13	12	7	4	4	5	6
March	124	97	82	94	91	16	13	12	12	11	7	5	4	5	5
April	136	107	90	100	97	23	12	13	12	11	9	5	4	5	5
May	130	108	91	106	89	23	14	13	12	11	9	6	4	5	5
June	96	98	94	104	87	18	12	12	13	11	6	5	4	5	5
July	88	94	86	90	72	16	14	14	12	10	6	5	4	5	5
August	108	110	78	76	62	14	15	18	11	10	5	5	5	5	6
September	148	98	79	74	69	17	12	19	13	11	6	5	6	5	6
October	146	117	88	105	136	18	19	18	14	15	5	7	6	5	6
November	147	119	113	116		18	19	14	12		7	6	4	6	
December	125	108	106	93		20	15	13	12		6	4	5	6	
Annual Avg.	128	105	93	97		19	15	15	13		7	5	5	5	

5.0 Implementation of straw burning notification

Air pollution caused by the burning of left over straw leads to eye irritation, respiratory diseases like bronchitis, asthma etc. increasing individual disease mitigation expenses and also affecting one's working capacity. In addition, open burning in the field affects the life of animals, birds and other insects below and above the earth and also causes poor visibility and increases the incidence of road accidents. The Govt. of Punjab, Department of Science, Technology and Environment under the provisions of the Air (Prevention & Control of Pollution) Act, 1981 vide notification dated 22/10/2013 has imposed prohibition on indiscriminate burning of left over paddy and wheat straw/ stubble in open agricultural fields in the State.

6.0 Vehicular Pollution Control

In order to control the air pollution caused due to vehicular emissions, the Department of Transport and Municipal Council, Dera Bassi and Lalru will be pursued to take the following actions:

- (a) To check traffic congestion in the bazaars, yellow line marking for parking area shall be done, so that the traffic moves un-interrupted and without unnecessary stoppages. The traffic lights installed on the main roads of the area shall be so programmed that there is minimum required stoppage of the vehicular traffic on those roads.
- (b) The Department of Transport would be requested to ensure that Pollution Under Control (PUC) certificates of the vehicles are checked during routine traffic checking. At the time of passing of vehicles also, it shall be ensured that the pollution check certificates are examined and the vehicles found without PUC certificate shall be asked to obtain the same before these are passed.
- (c) The Department of Transport would be requested to take necessary steps to phase out all the commercial transport vehicles which are 15 years old.
- (d) The Municipal Council, Dera Bassi and Lalru shall be requested to undertake a special drive to identify the areas and make plantation for increasing the green belt in and around the industrial areas, residential areas and road sides etc. in collaboration with the Department of Forests.

7.0 Noise Pollution Control

The following steps are proposed to be taken to control the noise pollution in Tehsil Dera Bassi :

- (a) The Department of Transport would be requested to ensure that the ban imposed by the Govt. on the operation of pressure horns is strictly enforced, so as to mitigate the problem of noise pollution created by the vehicles.
- (b) The Board will conduct surprise check of marriage palaces in association with the officers of the District Administration to ascertain the noise levels in the marriage palaces whenever any marriage function takes place and appropriate action as per the provisions of the Noise Pollution (Regulation & Control) Rules, 2000 will be taken against the defaulting marriage palaces.
- (c) The industrial units which have not provided canopies on their D.G. sets would be asked by the Board to provide the same in a time bound manner.

GRADED RESPONSE ACTION PLAN

The ambient air quality data for the last one & half year shows that the AQI for SO₂ & NO_x parameter falls in good category, as such no action is required as far as improvement ambient air quality with respect of both these parameter is concerned. However, the annual average value of PM₁₀ in the ambient air quality of Patiala city falls in the range of 65-135µg/m³(satisfactory to moderately polluted) for most of the months, as such, the graded response action plan to eradicate the problem is given as under: -

1. Name of the city **Dera Bassi**
2. Air Pollution concern: **PM₁₀, SO₂ & NO_x**
3. Air pollution levels: Range of 24-hourly average concentration values of PM₁₀, SO₂ & NO_x for the period 2016-17 with AQI enclosed .
4. Months with high air pollution levels: During wheat harvesting season i.e. March, April and during paddy harvesting season i.e. 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 campaign against polluting vehicles for ensuring better air quality in the area.	Short Term	Continuous and regular activity	RTA, Traffic Police	
	2. Public awareness campaign should be carried out for air pollution control, vehicle maintenance, minimizing use of personal vehicle, vehicle pooling, etc.	Mid Term	Continuous and regular activity	STA & Traffic Police	
	3. Prevent parking of vehicles at non designated areas	Short Term	Continuous as regular activity	Municipal council & Traffic Police	
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are	Mid Term	---	RTA	

	available.				
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	Continuous and regular activity	Deptt. of Food & Civil Supplies.	
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Long Term	Continuous and regular activity	Public works Deptt.,(PWD, Mandi Board & municipal committee/council	
	7. Prepare plan for construction of expressways/bypass to avoid congestion due to non-destined vehicles.	Long term	---	NHAI/PWD	Chandigarh-Ambala National Highway Road has already been widened.
	8. Install weigh in motion bridges at the borders of cities/towns and states to prevent overloading of vehicles.	Long Term	Continuous and regular activity	RTA, Traffic Police	
	9. Synchronize traffic movements /introduce intelligent traffic systems for lane-driving.	Long Term	Continuous and regular activity	Traffic Police	
	10. Steps for promoting battery operated vehicles.	Long Term		State Transport Authority(STA)	Policy matter
	11. Installation of remote censor based PUC system	Long term	Continuous and regular activity	State Transport Authority(STA)/ RTA	Policy matter
Road Dust	1. Preparation plan for green buffers along the traffic corridors.	Mid Term	Regular activity	NHAI, PWD, & Municipal Council	
	2.Maintain potholes free roads for free flow of traffic	Mid Term	Regular activity	NHAI, PWD, & Municipal Council	
	3.Greening of open areas, gardens, community places, schools and housing societies.	Mid Term	Regular activity	Municipal Council/Forest department/ Horticulture/PWD	
	4. Blacktopping metaled road including pavement of road shoulders.	Mid Term	Regular activity	NHAI, PWD, Mandi Board & Municipal Council	
	5. Road design improvement	Long term	---	NHAI, PWD, Mandi Board & Municipal Council	
	6.Introduce water fountain at major traffic intersection wherever feasible	Mid Term	---	Municipal council	
	7. Wall to wall stabilization	Mid term	---	PWD, Mandi Board & Municipal Council	Continuous and regular activity
Biomass and garbage	1.Launch extensive drive against open burning of bio-	Short Term	Continuous and regular activity	Distt. Administration,	Continuous and regular activity

burning	mass, crop residue, garbage, leaves, etc.			police, Agriculture department, Municipal Council and PPCB	
	2. Regular check and control of burning of municipal solid waste.	Short Term	Continuous and regular activity	Punjab Pollution Control Board, & Municipal Council	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	Continuous and regular activity	Municipal Council	
	4. Construction of advanced waste management Site.	Long Term	---	Municipal Council	Policy matter
Industries	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Continuous as regular activity	Punjab Pollution Control Board	The Punjab Pollution Control Board are carrying regular visits to the brick kilns to check the compliance of consent conditions and to pursue them to shift to high draft technology upto 31.3.2019 as per CPCB directions.
	2. Conversion of natural draft brick kilns to induced draft.	Long Term	450 Days	Punjab Pollution Control Board	To pursue them to shift to high draft technology upto 31.3.2019 as per CPCB directions.
	3. Action against non-complying industrial units	Short Term	Continuous and regular activity	Punjab Pollution Control Board	The industrial units are being visited from time to time to check

					the compliance of various pollution control laws and if found violating action initiated under the relevant acts..
	4. Promoting cleaner production in industries.	Long Term	Continuous and regular activity	Punjab Pollution Control Board and Department of industries	The industries are already utilizing the best available technologies for respective production, however, as and when the industry is visited the manufacturing process is studied in depth and the industry is guided to improve the process as and when required.
	5. Fugitive emission control	Mid Term	Continuous and regular activity	Punjab Pollution Control Board	The industries are mandated to install proper APCDs, for eg. Wet scrubbers/ alkali scrubbers/ bag filter house for the control of fugitive emissions.
	6. Installation/ upgradation of air pollution control system	Mid Term	Continuous and regular activity	Punjab Pollution Control Board	The industrial units falling in Derabassi area have installed adequate 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	Short Term	Continuous and regular activity to keep regular check	District Administration, Police and GM DIC	

	2. Green Belt for activity zone and the buffer zone for each mining area	Short Term	Continuous and regular activity to keep regular check	District Administration, Police and GM DIC	
Construction and Demolition activities	1. Enforcement of Construction and Demolition Waste Rules	Mid Term	Continuous and regular activity	Municipal Council/ PWD	In Dera Bassi area, construction activity is being carried out which is being checked by the Municipal Council to ensure the compliance of these rules.
	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.	Mid Term	Continuous and regular activity	Municipal Council/ PWD	-do-
	3. Ensure Carriage of construction material in closed / covered vessels.	Mid Term	Continuous and regular activity	Municipal Council/ PWD	-do-
Other Steps	1. Air Quality Index to be calculated and disseminated to the people through website and other media.	Mid Term	Continuous and regular activity	Punjab Pollution Control Board	As per air quality being monitored by the PPCB at two stations, the air quality index at derabassi.
	2. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Long Term	----	District administration/ Municipal Council/PWD	Policy Matter
	3. Monitoring of DG sets and action against violations.	Short Term	Continuous and regular activity	Punjab Pollution Control Board, District Administration & Municipal Council	
<p>* 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</p>					

8. Monitoring mechanism for implementation

Institutional arrangement for implementation of action plan

An implementation committee shall be formed as follow: -

- Deputy Commissioner SAS Nagar – Chairman
- SSP, Department of Police- Member
- SDM, Dera Bassi-Member
- Punjab Pollution Control Board – Convener
- E.O, Municipal council, Dera Bassi/lalru/zirakpur- Member
- Department of PWD and B & R, NHAI – Member
- Department of Mandi Board - Member
- Department of Transport – Member
- GM, DIC- Member
- Department of food supply- Member