BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE AT CHENNAI

I.A. No. 70 OF 2024

In

O.A. No. 87 OF 2024

Mr. Krishnan CS

...Applicant

Versus

The State of Karnataka & Anr.

...Respondents

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Dated at Chennai on this the 22th day of July, 2024.

COUNSEL FOR THE APPLICANT

AUTO FUEL VISION AND POLICY 2025

REPORT OF THE EXPERT COMMITTEE

GOVERNMENT OF INDIA

May 2014

PREFACE

The Committee to prepare the Auto Fuel Vision & Policy 2025 was constituted in continuation to the previous Expert Committee chaired by Dr. R.A. Mashelkar in 2003 that had ushered in BS III and BS IV automotive fuels.

I have seen the task of this Expert Committee to first lay down a feasible roadmap for complete and rapid transition across the country to BS IV automotive fuels which with 50 ppm sulphur are able to support a level of after treatment devices that can ensure BS IV emission norms, which have much lower limits than BS III emission standards. Second, to lay down a feasible and early road map for a countrywide shift to BS V automotive fuels (10 ppm sulphur) and therefore to BS V emission norms, which will constitute a qualitative improvement on the present situation.

The primary reason for mandating stringent fuel and emission standards that imply huge investments in refineries on the one hand and in the automobile sector on the other, is the overwhelming concern for public health. It is true that deterioration in ambient air quality is not the sole source of stress on the lives and health of our citizens. Nor is vehicular tailpipe emissions the only source of air borne pollutants. However, vehicular emissions are indeed a large contributor to air borne pollution. And in seeking to shape public policy in a manner that protects human health from the multifarious hazards of modern life, it is vital to resolve these issues one by one, separately and eventually jointly.

The evidence on emission levels in the country shows that there has been a positive impact consequent to the various steps that have been taken in the past to limit emission of air pollutants. But these efforts are being offset by the increase in urban density, in associated road transportation and in consequence of vehicular tailpipe emissions. As the country grows, people will continue to move away from farming as the mainstay of livelihood, urbanisation will intensify, disposable incomes rise and with it will increase the needs of urban transportation.

Across the world over the last many decades, atmospheric air quality has been adversely impacted by emission from automobile tailpipe exhaust, industrial smoke stacks, thermal power plants, construction dust & debris and the other by-products of a crowded and modernised urban existence. Simultaneously the rising incidence of a range of health effects has been recorded and there is compelling evidence of a causative link from the former to the latter, some very direct, some somewhat direct and some in an associated sense along with other factors. That cleaning up the air will be good for citizens' well-being is thus not just a gut feeling, but clearly established in the research literature.

The World Health Organisation (WHO) has consistently red-lined the danger to human health from air pollutants. Findings from the latest systematic study have been published in the Global Burden of Disease (2010). This is the largest ever systematic effort to describe the global distribution and causes of a wide array of major diseases, injuries and health risk factors.

This new analysis identifies especially high risk levels in the developing countries of Asia where air pollution levels are the highest in the world. Overall GBD 2010 estimates that over 2 million premature deaths and 52 million years of healthy life were lost in 2010, due to ambient fine particle air pollution. Among other risk factors studied in the GBD, outdoor air pollution ranked fourth in mortality and health burden in East Asia where it contributed to 1.2 million deaths in 2010, and sixth in South Asia where it is said to have contributed to over 7 lakh deaths in 2010. The analysis found that reducing the burden of disease due to air pollution in Asia will require substantial decreases in the high levels of air pollution in those regions.

There have been attempts to place a monetary value on the health cost of outdoor air pollution. To my mind the evidence of a causative association between high levels of air pollution – both in the form of potentially toxic chemicals and fine particulate matter – and the large magnitude of the health impact is sufficiently compelling for public policy to seek quick reduction in the incidence of air pollution from specific activities, and especially where such reduction is clearly within the domain of technological possibility. Measuring the cost of human life and suffering most often translates into estimates of income foregone. One is acutely

uncomfortable with this view of the value of human life and especially so in the public policy context.

Moreover, that there is harm caused to human health by outdoor air pollution and that automobile tailpipe exhaust is a major contributor is self-evident. Further, we know that the scale of urbanisation will increase and so will the number of automobiles on the road – and that too by a large factor. Reducing the unit emissions – that is per vehicle kilometre travelled – is obviously the only appropriate way to respond to this. Doubtless rolling out of urban mass transit like suburban rail/metro and/or electric buses will help further, but these initiatives will need to be implemented over and above reducing the emissions on per vehicle kilometre travelled.

Therefore, the Expert Committee took the view that the principal objective should be to ensure the nationwide rollout of BS IV emission norms as fast as possible and then the earliest possible rollout of BS V emission norms. That implied that BS IV grade automotive fuels should become available across the country as quickly as possible, followed by the earliest possible rollout of BS V grade fuels.

Accepting this as the paradigm within which the recommendations were to be framed, the next question was to ask how to ensure the most efficient manner of rollout given the technical constraints limiting the output of BS IV and BS V fuels.

It was noted that even at present, the penetration of BS IV motor spirit or gasoline in the domestic market was 24% and that for BS IV grade high speed diesel (HSD) was 16% – even four years after introduction of the BS IV regime in metropolitan cities. Indeed not much headway has been made since 2010-11. The reason for the lower penetration, especially in the case of diesel, was felt to be the fact that in the periphery of the designated BS IV cities, BS III vehicles could be registered; BS IV vehicles (especially heavy duty vehicles) were more expensive and BS III fuel was cheaper than the BS IV equivalent. Thus, the economics tended to subvert the desired course of the statutory mandate.

To address this problem it is recommended that the retail price of BS III fuel should be made equal to BS IV fuel. It has been separately recommended that the quality differential in price as between the two grades of fuel should be 75 paise per

litre; therefore the excess collected by re-pricing of BS III fuel would also be 75 paise per litre. However, this amount should not go to the oil companies but accrue as a cess to the OIDB. The cess may be called "**high sulphur cess**", since that is what it is in fact; and in order to distinguish it from the "**fuel upgradation cess**" that is discussed subsequently. The amounts collected as "**high sulphur cess**" will rapidly decline as the three-phase rollout to complete BS IV standards is completed and will become in early 2017. Assuming it is made effective from July 2014, the total collections before full rollout of BS IV will be of the order of **Rs 10,000 crore**.

If BS IV fuel could be rolled out at one shot across the country within a year that would undoubtedly be the best solution. However, refineries even working to a very tight schedule would take much longer to switch over to complete BS IV output, therefore requiring the changeover to be a graduated process. There is also a problem where if BS IV vehicles are tanked up with BS III fuels, significant damage is possible to the engine and systems.

It was seen that if things move at the "**Business as Usual**" speed the changeover to BS IV will take many years and that to BS V would have taken even more and go up to 2025 or even beyond.

This was not felt to be acceptable. As stated earlier, the mission was seen to be the earliest possible roll out to first BS IV and then to BS V. Could we have leapfrogged nationwide to BS V straightaway without passing through the BS IV stage? Yes, but that would not be technically possible before 2020 and we would then have had to continue for 6 more years hoping that BS IV penetration increases beyond present levels. The course that this Committee has recommended will ensure major increases in BS IV penetration from 2015 onwards and 100% coverage by April 2017. The net benefit to be had would be enormous, even as the changeover to BS V remains on course to be rolled out countrywide between April 2019 and April 2020.

In view of the experience of the last few years, it was felt that the best course of action will be to lock up entire geographies, in stages to the BS IV standard. In this manner the phased transition identified several States at one go, often including neighbouring districts of other States to ensure the greatest integrity to the targeted transition. It would have been convenient had there been more BS IV fuel available in

2015 and 2016, but the plan in order to be feasible had to work within the constraints of the technically feasible space available.

In this way, the transition in the first phase scheduled for 1 April 2015 will cover the whole of North India – Jammu & Kashmir, Punjab, Himachal, Haryana, Uttarakhand, western Uttar Pradesh and several bordering districts of Rajasthan. In the next phase scheduled for 1 April 2016, Kerala, Karnataka, Telangana, Odisha, Goa, several Union Territories and parts of Maharashtra will be converted entirely to BS IV. Finally on 1 April 2017, the entire country will move to BS IV. Then on April 2019, the whole of North India and on April 2020 the rest of the country will switch to BS V automotive fuel and emission regime.

This was the best that could be done given the technical constraints. However, the roadmap that has been made out on the basis of what has been described in the report as the Accelerated Transition Path assumes that the financial constraints which operate in the **Business as Usual** scenario can be substantially relaxed. The oil companies and their refineries have been operating with stretched finances and therefore the financial constraints are operative. It is estimated that the capital costs in terms of new plant & equipment and some refurbishment of existing equipment which the refineries will have to incur in order to be able to switch to 100% BS V automotive fuel by 2019-2020 is of the order of **Rs 80,000 crore**.

It is proposed to levy a "special fuel upgradation cess" of 75 paise per litre on all gasoline and diesel sold in the country for seven years up to 2021. Assuming that this cess can be made effective from 1 July 2014, then over the course of the next seven years a total of **Rs 64,000 crore** would be collected assuming a modest rate of annual growth in domestic consumption. This cess will accrue to the OIDB which will make the funds available to the oil companies for investments which are necessary to achieve the upgrading of quality of fuel produced. After seven years, this cess will be discontinued.

The collections to the OIDB on account of both the "special fuel upgradation cess" and the "**high sulphur cess**" will thus be of the order of **Rs 74,000 crore**, which comes close to the estimate of Rs 80,000 crore referred to above required to meaningfully relax the financial constraints that can enable the refineries to proceed

on the accelerated transition path. These funds will be extended for use to the refineries in terms of the OIDB's mandate and rules. The Committee has recommended that it is desirable, considering the financially stretched conditions of the oil companies and the statutory nature of the investment obligation, that the Ministry of Petroleum & Natural Gas make the funds available from OIDB on relatively easy terms, both in respect of interest cost and repayment period.

The retrofitting of catalytic after-treatment devices on the stock of older commercial vehicles has to be energetically pursued. Commercial vehicles come up for renewal of licences. Once an area is switched over entirely to BS IV, the existing stock of commercial vehicles, especially heavy duty diesel units, should be directed to compulsorily get after-treatment devices – that dramatically reduce particulate and NOx emissions – retro-fitted within two years, failing which their licence should not be renewed.

The point has repeatedly been made in the course of the deliberations of the Committee that the vexed issue of pollutant stress on air quality and health cannot be addressed solely through improving fuel quality and emission norms. This is entirely true. Long traffic jams and slow moving traffic are regular phenomena in our cities. In these conditions emissions will be higher than with smoothly flowing traffic. Urban mass transit reduces the passenger load on roads and is also a great convenience to the citizens of the country.

It is imperative that Government at all levels address itself ever more energetically to building by passes, over passes and expressways that can ease traffic flow.

There are several other constructive avenues that should be pursued with vigour. One is to put electric trolley buses on the roads – as in the case of many cities in the developed world. Another is to encourage hybrid personal cars. However, these tend to be expensive but there are cheaper hybrid options that have the further virtue of being able to be retrofitted to existing vehicles. At the overall level, policy must encourage the rapid development of mid-sized cities and large towns to ease the pressure on the metropolises as part of a broader strategy of urbanisation.

It is my sincere hope and I am sure all of my colleagues on the Committee, who have given so generously of their time and effort over the past two years, that the recommendations of this Expert Committee will lead the country on a rapid path of transition to lower emissions from road traffic and in consequence will help all of our fellow citizens to breathe easier.

I must thank the Ministry of Petroleum & Natural gas on the behalf of members of the Committee and on my own behalf for entrusting this very important task to us.

My thanks are due to all the members of the Committee, particularly to the Chairpersons of the various Working Groups that were constituted, who have given so generously of their time and effort to the deliberations and progress of this Committee. Special mention is due to S/Shri L N Gupta and R K Singh, who were sequentially the two member secretaries to this Committee; to Shri B.D. Ghosh, CHT and his team S/Shri R. Krishnamurthy and A. K. Agarwal in CHT for their massive effort in the finalisation of the work of this Committee; to Shri Rajkumar Ghosh, IOC; to Dr. S.C. Sharma in the Planning Commission for his unremitting patience and diligence; to Dr. B. Sengupta and Dr. Leena Srivastava who articulated the health and environmental concerns so well and helped lend depth to the quality of deliberations; to Prof Shantanu Roy who lent clarity to technical issues; to Shri Ashok Dhar, RIL who gave freely of his vast experience of the field; to S/Shri K.K. Gandhi and Atanu Ganguli of SIAM, Shri I.V. Rao, Maruti Suzuki who put in so much effort; Shri P. Harsha Sivaji, IOC and his colleagues for the huge job of working out the logistics detail which has made the rapid rollout of BS IV and BS V a possibility; to Shri Susobhan Sarkar, IOC and technical officers of the other oil companies who gave so generously to the workings of this Committee; to senior management of the two and three wheeler industry who gave freely of their time and effort in giving final shape to this report; to S/Shri B.K. Namdeo, K. Anand Rao and V. Ratanraj in HPCL and S/Shri Prasad Panicker, C.K. Soman, Thomas George and others in BPCL, Kochi and Shri P. P. Upadhya, MRPL who helped me better understand the contours of the challenges involved in accelerating the transition; to Shri C.F. Dias and his colleagues at Emitec Emission Control Technologies who helped me better understand how after treatment devices work. I am also indebted to S/Shri Alan Lloyd, Michael Walsh and A. Bandivadekar of

the International Council of Clean Transportation (ICCT) who spent time and effort to interact with the Committee and some of the Working Groups. My thanks are also due to the two and three wheeler manufacturers who spent time with the Committee to explain their situation and took a constructive approach to problem resolution.

My personal staff needs a special word of appreciation, especially Shri Sanjay Vasnik who has bravely worked through completing this report on time, even if it has meant very late nights and foregone weekends.

Finally, I would like to place on record my deep sense of gratitude to Shri B.K. Chaturvedi, Member, Planning Commission, who is the best sounding board any person can ever hope for.

SAUMITRA CHAUDHURI
Member, Planning Commission and
Chairman, Auto Fuel Vision & Policy 2025

Dated: 2nd May 2014, New Delhi

8.12.4 Emission Norms for Heavy Duty Vehicles > 3.5 T GVW

Europe moved to Euro IV standards in 2005, to Euro V standards in 2008/2009 and to Euro VI in 2013 (**Chart 8.5**). In India, where 50 pm sulphur fuel is available, the applicable emission regime is BS IV, which was notified in February 2009 under the Central Motor Vehicle Rules.

Table 8.14

Emission Norms for Diesel Engines > 3.5 Tonnes GVW

Emission, g/KWH	Driving Cycle	CO	HC	NO_x	NH_3 ppm	PM	Smoke (m-1)	PM No. / KWH
		gms per KWH						
BS IV	ESC/ELR	1.5	0.46	3.5	---	0.02	0.50	
BS V (Euro V)	ESC	1.5	0.46	2.0	---	0.02	0.50	---
BS VI (Euro VI)	WHSC	1.5	0.13	0.4	10	0.01	---	$8X10^{\wedge 11}$

Table 8.15

Emission Norms for CNG or LPG Engines > 3.5 tonnes GVW

Emission	Driving Cycle	**CO**	**NMHC†**	**CH_4**	**NO_x**	**NH_3** ppm	**PM** g/KWH	**PM No.** /KWH
		gms per KWH						
BS IV	ETC	4.0	0.55	1.1	3.5	---	0.03	...
BS V (Euro V)	ETC	4.0	0.55	1.1	2.0	---	0.03	---
BS VI (Euro VI)	WHTC	4.0	0.16	0.5	0.46	10	0.01	$6X10^{\wedge 11}$
				CNG only			For diesel only	

Note: † The manufacturer may choose to measure the mass of total hydrocarbons (THC) instead of measuring the mass of non-methane hydrocarbon (NMHC). In this case, the limit for mass of THC should be same as for NMHC

Table 8.16

Fixed Deterioration Factors for Heavy Duty Vehicles (alternative to DF based on service accumulation)

Emissions	Driving Cycle	CO	THC‡	NMHC†	CH_4†	NO_x	PM	P No.
BS V (Euro V)	ESC/ETC	1.1	1.05	1.05	1.2	1.05	1.10	---
BS VI (Euro VI)	WHTC/WHSC	1.3	1.3	1.4	1.4	1.15	1.05	1

Note: ‡ Applicable for only Compression Ignition Engines

CHAPTER 12

CONCLUSIONS AND RECOMMENDATIONS

12.1 APPROACH

The report has discussed in detail, the present and prospective availability of BS IV and BS V gasoline and diesel from refineries. There is not enough BS IV fuel to meet the entire needs of the country, but this objective can be achieved by timely completion of ongoing projects and initiating and completing some others. However, in order to be capable of meeting the country-wide needs for BS V automotive fuel, significant additional investment are needed to be initiated and completed to a tight time line. The total investment that has been made and will have to be made in the future in order to achieve the requisite BS V production capability is in the region of **Rs 80,000 crore.**

The vehicle technology – present and prospective – is expected to be able to meet the stated emission norms in the context of availability of BS IV/BS V fuels in the time frame that is being recommended. The geography wise and block wise transition is also expected to ease the transition for the automobile industry. The emission norms for passenger cars, light & heavy commercial and goods vehicles have been adapted from European emission norms for these categories.

In the case of emission norms for 2 and 3 wheelers, there is a sizeable difference between the extant Euro IV and BS IV proposed norms in this report. However, the latter is tighter than what has been proposed by the industry and notified for public comment, vide Gazette notification, 14 March 2014. The hiatus between the notified Euro IV emission norms and that being proposed in this report is still large. However, given the status of technology and economic dynamics of the industry which so far has been conforming to

BS III emission norms, it is felt that the industry perhaps needs some time to be able to come into line with Euro IV norms with convergence to Euro IV being possible only at the time of roll out of BS V emission norms in April 2020.

A roadmap for the transition to BS IV in the entire country has been laid out in detail beginning April 2015 and completion with effect from April 2017. The transition to BS V is slated to take place and completed by 1 April 2020 in the entire country. The BS VI emission norms are expected to come into effect from April 2024.

This is an undoubtedly ambitious transition trajectory. If all of the constraints were to be preserved as presently perceived, this trajectory would not have been possible.

The "**Business as Usual**" path would have meant a roll out beginning 2019 for BS IV and to BS V five years after that, that is, by 2024.

The Committee has sought to relax many of the constraints, particularly the financial compulsions, evaluated the entire logistics chain for severe tightening in defining what has been called "Accelerated Transition Path".

While the "**Business As Usual**" trajectory may have been a more comfortable path for both refinery and automobile stakeholders, it would have failed the test of public interest. The objective of the Committee (as it sees it) is primarily to deliver to the citizens of this country the best possible solution in terms of emission norms in the shortest possible time frame. After all, the primary objective that is sought to be protected is public health.

The report has also proposed encouraging the use of alternative fuels, including CNG, Auto LPG, Bio-diesel, and electric/hybrid vehicles. It is felt that provisions of fiscal support is critical to the success of urban mass transit systems which in the longer run is one of the most powerful instruments for protecting the quality of ambient air. Mass transit systems also have the greatest ability to use electricity as the source of energy – both in rail cars and in electric bus trolleys/trams.

12.10 PHASING OUT OF IN-USE VEHICLES

There should be a policy for the phasing out of older commercial vehicles (15 years subject to MoRT&H judgement). Vehicles that are used as personal transport cover progressively less and less distance with age. This is not the case with commercial vehicles. It is therefore necessary to have a clear process through which older commercial vehicles, especially those which are clearly unable to meet extant emission norms be phased out of service.

12.10.1 Retrofitting NO_x Control Devices – Selective Catalytic Reduction

Selective Catalytic Reduction after treatment device for NO_x emission reduction in diesel trucks and buses poses new enforcement challenges. To keep the SCR function working as designed, vehicle operators need to regularly replenish urea – a reductant to convert NO_x into nitrogen and oxygen. For this, the urea availability is to be ensured.

In India there are certain areas of regulatory concern on the use of Urea for purposes other than agriculture.

- There is a Fertiliser Control Order by Government of India in place.
- As per the order, Urea cannot be sold to industries other than specified. Therefore, marketing, trading and retailing of Urea is restricted.
- Urea manufacturers in India cannot sell the same in open market.
- Proper license for import and/or handling of urea would be required.

The main concern of the Department of Fertilisers is that subsidised urea should not find its way into non-agricultural use. There is no reason why Government will not permit the sale of urea for the purpose of use in after treatment devices at full cost and without one paise of subsidy. This matter needs to be taken up with the Ministry concerned and a satisfactory solution to the problem can be found. Given that at the margin India is a net importer

of Urea, the import restrictions ought to be used for this end use or domestic sales transactions should be permitted.

12.10.2 Retrofitting of Particulate Emission Control Devices

There are four primary PM exhaust after treatment technologies, namely, crankcase filters, diesel oxidation catalysts, partial flow filters and diesel particulate filters (DPFs). All four may be used in both new and retrofit applications. However, DPFs is considered to be the best available control technology for heavy duty diesel PM control.

12.10.3 Time-bound Retro Fitting Requirement for Commercial Vehicles

Retro-fitting is a particular area of concern for the existing stock of BS III medium and heavy duty commercial vehicles which run on diesel. BS III vehicles do not have adequate after treatment devices and particulate filters. It is recommended, that once a geography is fully converted to BS IV grade fuel, commercial vehicles are required by law to get the retro-fitting of catalytic converters and particulate filters done within a period of two years for the extension of their operating licence under the Motor Vehicles rules.

12.11 Vapour Recovery System

OMCs will be encouraged to implement vapour recovery system for gasoline to minimise benzene emission in larger cities where sales are high and the cost can be recovered. This can be gradually expanded.

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ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board
"ಪರಿಸರಭವನ", 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ನಂ.49, ಚರ್ಚ್‌ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ
"Parisara Bhavana", 1st to 5th Floor, # 49, Church Street, Bengaluru - 560 001, Karnataka, INDIA

No. PCB/CMO/2014 3485

Dated: 10.10.2014

16 OCT 2014
ರವಾನಿಸಲಾಗಿದೆ.

To.

The Commissioner,
Transport & Road Safety,
1st Floor, 'A' Block,
BMTC Complex,
Shanthinagar,
Bangalore – 560 027.

Sir,

Sub: Diesel Retrofit policy for emissions compliance – reg.

Ref: A letter of Clean Air Technology India Pvt. Ltd., address to Hon'ble Chief Minister of Karnataka and copies given to the KSPCB on 25.9.2014.

-/-/-/-

Please find herewith enclosed the copy of the letter cited under reference above, it is claimed that, there are technologies to reduce emissions from old diesel vehicles by retrofitting devises to reduce the fuel consumption and also to reduce emissions upto 40%.

The above technology can be examined by Transport Department and State can adopt a suitable policy for reducing the emissions from old vehicles not complying with Bharath - III & IV norms which will enable to improve ambient air quality.

Yours faithfully

(DR.VAMAN ACHARYA)
CHAIRMAN

KSRTC Field Test Summary Report

Diesel Emissions Control System (DECS)

Emissions Field Test Data Summary

Emissions were reduced by **40.76%** - consistent with certified tests.
Results indicate a profit over cost from fuel savings of Rs 7 crores.

Assumed Fuel Price per liter over 18 months								
59.35								
Days year	Ltrs Day	Annual	8.00%	RS / ltr	Annual savings	7,500	Less Cost	Net savings
350	85	29,750	2,380	59.35	1,41,253	105,93,97,500	98,88,00,000	7,05,97,500

Field Test Purpose:

To determine if the product can achieve similar results to that of many certified tests presented reflecting reductions in fuel consumption in the 8% to 10% range and reductions in regulated emissions of 25% to 50%. The Technical Director of KSRTC determined a single unit test was sufficient for these purposes given the wide range of certified tests conducted on the product over the last 15 years.

Conclusion:

Product type, installation location and field test data reflects no meaningful risk to the product's use on buses and since there is no engine modification there is no risk to the engine warranty with the product's use. Post installation overall data, different drivers / routes, yielded 5.76% km/ltr improvement with a revenue increase over baseline of 4.4% km/ltr during the test period. Emissions were reduced by 40.76%. Comparing same driver / route, there was a 6.92% km/ltr improvement from the baseline carrying the 4.4% additional Rs/km revenue load. The average fuel consumption on the 435 km route after DECS removal was 91.67 liters per day compared to 83.07 liters per day during DECS use. That reflects a 9.4% fuel savings from current consumption levels. Factoring in the additional load of 4.4% Rs/km revenue increase during the test over baseline figures a similar fuel savings to 9+% with DECS use was indicated.

Product Summary:

The DECS technology is a non engine-modifying retrofit recommended to be installed post air filter and pre turbo. Documentation provided with the product reflects TUV certification to Euro standards and test reports reflect 8% to 12% fuel savings and emissions reductions of 30% to 50% with the product's use from baseline data in certified engine dynamometer tests using Euro (ECE) engine dynamometer test protocols.

Testing period:

Six months; two months baseline, two months installed, two months post-removal data tracking.

Test Process Summary:

The first installation (KA-40 F-500) on 7 October was post turbo charger which is not recommended but not prohibited by the manufacturer. The bus ran fine for 4 days with no change in fuel consumption or smoke then driver reported acceleration issues and increased fuel after other issues on the route were experienced. In order to determine the true issue at hand, power to the DECS was disconnected on 11 October but the entire installation left in place to determine if the DECS unit itself was the issue. The problems and increased fuel consumption continued for 6 more days without the DECS unit operational. The entire DECS installation was removed on 24 October and everything was replaced to the same state as it was prior to the installation. The acceleration problem and fuel consumption continued to increase. By changing only one item at a time and gathering stable data after each change it is safe to assume DECS and / or its install did not cause the issues experienced.

The fuel consumption on KA-40 F-500 continued to rise from the baseline of 97.6 ltrs/day, averaged 101.82 ltrs/day after installation of DECS, increased to 103.73 ltrs/day 10 days after complete DECS removal and as of early March 2013 is averaging 112.92 ltrs/day. All data from a carefully managed process indicates there is a mechanical issue with KA-40 F-500 not related to DECS use.

A new test bus (KA 40 F 377) was assigned 6 November with stable baseline figures for fuel consumption, revenue per kilometer and emissions with the regular driver on the regular route documented. Installation of the same DECS unit as on KA-40 F-500 was performed on KA 40 F 377. The installation was post air filter but pre turbo per manufacturer recommendation. Monitoring post installation did confirm the certified engine dynamometer test data supplied. Post installation overall data through 4 January 2013, comprising different drivers and different routes, yielded 5.76% fuel savings with a revenue per kilometer increase of 4.4% from baseline data. Emissions were reduced by 40.76%. On the normal route with the regular driver km/ltr improved by 6.92% from the baseline figures with the additional load. The 2 month average fuel consumption on the 435 km route after complete DECS removal was 91.67 liters per day compared to 83.07 liters per day during DECS use. That is a 9.4% fuel savings from current consumption levels. Factoring in the additional load during DECS use over baseline figures, a similar fuel savings to 9.4% with DECS use compared to baseline data is indicated.

KMS / Fuel BUS: KA 40 F 377			
Date	KMs run	Fuel LTRS	KM / LTR
01.09.2012	435	86	5.06
02.09.2012	435	85	5.12
03.09.2012	435	89	4.89
04.09.2012	435	88	4.94
05.09.2012	435	84	5.18
06.09.2012	435	83	5.24
07.09.2012	435	89	4.89
08.09.2012	435	85	5.12
09.09.2012	435	89	4.89
10.09.2012	435	86	5.06
11.09.2012	435	87	5.00
12.09.2012	435	83	5.24
13.09.2012	435	NA	
14.09.2012	435	NA	
15.09.2012	435	85	5.12
16.09.2012	435	91	4.78
17.09.2012	435	84	5.18
18.09.2012	435	86	5.06
19.09.2012	435	85	5.12
20.09.2012	435	NA	
21.09.2012	435	81	5.37
22.09.2012	435	86	5.06
23.09.2012	435	88	4.94
24.09.2012	435	86	5.06
25.09.2012	435	84	5.18
26.09.2012	435	86	5.06
27.09.2012	435	83	5.24
28.09.2012	435	86	5.06
29.09.2012	435	84	5.18
30.09.2012	435	88	4.94
01.10.2012	435	87	5.00
02.10.2012	435	88	4.94
03.10.2012	435	88	4.94
04.10.2012	435	84	5.18
05.10.2012	435	91	4.78
06.10.2012	NA	NA	
07.10.2012	435	89	4.89
08.10.2012	435	90	4.83
09.10.2012	435	87	5.00
10.10.2012	435	86	5.06
11.10.2012	435	88	4.94
12.10.2012	435	85	5.12
13.10.2012			
14.10.2012			

15.10.2012	Bus sent for FC					
16.10.2012						
17.10.2012						
18.10.2012						
19.10.2012	435	85		5.12		
20.10.2012	435	86		5.06		
21.10.2012	435	90		4.83		
22.10.2012	435	87		5.00		
23.10.2012	435	86		5.06		
24.10.2012	435	94		4.63		
25.10.2012	435	86		5.06		
26.10.2012	435	91		4.78		
27.10.2012	435	88		4.94		
27.10.2012	627	125	Extra trip	5.02		
28.10.2012	435	81		5.37		
29.10.2012	435	82		5.30		
30.10.2012	435	93		4.68		
31.10.2012	537	115		4.67		
01.11.2012						
02.11.2012	701	146	Data of 1st and 2nd together	4.80		
03.11.2012	594	107		5.55		
04.11.2012	777	173	Extra trip	4.49		
05.11.2012	435	86		5.06		
06.11.2012	435	87		5.00		60 day
07.11.2012	435	83		5.24		KM/LTR
08.11.2012	435	86	install	5.06	**Average until install**	**5.02**
09.11.2012	435	81	original dvr/rte	5.37	km/ltr day	
10.11.2012	435	80		5.44	km/ltr day	
11.11.2012	435	83		5.24	km/ltr day	
12.11.2012	435	84		5.18	km/ltr day	9th-13th
13.11.2012	435	82		5.30	km/ltr day	5.31
14.11.2012					km/ltr day	
15.11.2012	870	172	14th, 15th together	5.06	km/ltr day	
16.11.2012	435	85		5.12	km/ltr day	
17.11.2012	435	88		4.94		
18.11.2012	435	86		5.06	km/ltr day	
19.11.2012	435	90		4.83	km/ltr day	
20.11.2012	NA	NA			km/ltr day	pink shade
21.11.2012	350	83		4.22	km/ltr day	
22.11.2012	NA	NA			km/ltr day	
23.11.2012	551	119		4.63	km/ltr day	
23.11.2012	600	90		6.67	km/ltr day	
24.11.2012	594	118		5.03	km/ltr day	
25.11.2012	NA	NA			km/ltr day	
26.11.2012	499	114		4.38	km/ltr day	
26.11.2012	594	98		6.06	km/ltr day	
27.11.2012	NA	NA			km/ltr day	

28.11.2012	787	160			4.92 km/ltr day	
29.11.2012	NA	NA			km/ltr day	
30.11.2012	NA	NA			km/ltr day	
01.12.2012	NA	NA			km/ltr day	
02.12.2012	900	124			7.26 km/ltr day	
03.12.2012	435	85			5.12 km/lt	5.25 overall
04.12.2012	435	80	original dvr/rte		5.44 km/lt	5.26 overall
05.12.2012	435	82	main driver off		5.30 km/ltr day	overall
06.12.2012	435	82	main driver off		5.30 km/lt	5.27 overall
07.12.2012	435	77	original dvr/rte		5.65 km/lt	5.28 overall
08.12.2012	435	79	original dvr/rte		5.51 km/lt	5.29 overall
09.12.2012	435	84	original dvr/rte		5.18 km/lt	5.29 overall
10.12.2012	435	84	replaccement		5.18 km/lt	5.28 overall
11.12.2012	435	86	original dvr/rte		5.06 km/lt	5.28 overall
12.12.2012	435	80	replacement		5.44 km/lt	5.28 overall
13.12.2012	435	82	regular		5.30 km/lt	5.28 overall
14.12.2012	435	89	regular		4.89 km/lt	5.27 overall
15.12.2012	435	86	regular		5.06 km/lt	5.26 overall
16.12.2012	435	85			5.12 km/lt	5.26 overall
17.12.2012	435	84	replacement		5.18 km/lt	5.26 overall
18.12.2012	435	84	replacement		5.18 km/lt	5.25 overall
19.12.2012	435	84	replacement		5.18 km/lt	5.25 overall
20.12.2012	435	82	regular		5.30 km/lt	5.25 overall
21.12.2012	435	91			4.78 km/lt	5.24 overall
22.12.2012	435	80			5.44 km/lt	5.24 overall
23.12.2012	435	83			5.24 km/lt	5.24 overall
24.12.2012	435	82			5.30 km/lt	5.25 overall
25.12.2012	435	81			5.37 km/lt	5.25 overall
26.12.2012	435	82			5.30 km/lt	5.25 overall
27.12.2012	435	82			5.30 km/lt	5.25 overall
28.12.2012	435	79			5.51 km/lt	5.26 overall
29.12.2012	435	83			5.24 km/lt	5.26 overall
30.12.2012	435	86			5.06 km/lt	5.25 overall
31.12.2012	435	85			5.12 km/lt	5.25 overall
			83.06896552			

BUS NO: F377				
Date	Total KMs r	Fuel consumption in LTRS		
15.02.13	NA	NA		
16.02.13	455	90		
17.02.13	435	90	90	4.83
18.02.13	517	107		
19.02.13	445	90	90	4.94
19.02.13	445	90	90	4.94
21.02.13	480	113		
22.02.13	614	131		

23.02.13	445	90					
24.02.13	465	90					
25.02.13	445	90					
26.02.13	445	90					
27.02.13	445	90					
28.02.13	504	124					
01.03.13	604	103					
02.03.13	475	103					
03.03.13	435	94	94		4.63		
04.03.13	455	95					
05.03.13	445	96					
07.03.13	435	85	85		5.12		
07.03.13	435	103					
08.03.13	435	92	90		4.73		
09.03.13	435	93	93		4.68		
10.03.13	NA	NA					
11.03.13	890	204					
12.03.13	455	95					
13.03.13	435	95	95		5.12		
14.03.13	435	95	95		4.58		
15.03.13	NA	NA		92	4.84	test km/ltr	5.25
			Test	83			
			Improvement	10%			

Fuel Consumption details for BUS no: KS 40 F 500				
01.10.2012	485	100		
02.10.2012	485	97		
03.10.2012	485	97		
04.10.2012	485	97		
05.10.2012	485	97	97.6	
06.10.2012	NA	NA		
07.10.2012	485	97	Installed date	
08.10.2012	485	97		
09.10.2012	485	99		
10.10.2012	485	97		
11.10.2012	485	100	Fuse to DECS removed - unit off.	
12.10.2012	485	105	Driver report incident / pulling problem	
13.10.2012	NA	NA		
14.10.2012	485	107		
14.10.2012	485	103		
15.10.2012	NA	NA		
16.10.2012	485	108		
16.10.2012	485	97		
17.10.2012	NA	NA		
18.10.2012	485	110	uninstalled date	101.8182
19.10.2012	485	105		
20.10.2012	NA	NA		
21.10.2012	485	107		
22.10.2012	485	105		
23.10.2012	485	103		
24.10.2012	485	100		
25.10.2012	NA	NA		
26.10.2012	485	109		
27.10.2012	485	105		
27.10.2012	485	104		
28.10.2012	NA	NA		
29.10.2012	485	106		
29.10.2012	485	94		
30.10.2012	485	103	103.7272727	

BUS NO: F500				
15.02.13	528	113		
16.02.13	639	115		
17.02.13	594	113		
19.02.13	485	113	113	
19.02.13	510	110		
20.02.13	505	108		
21.02.13	594	112		
22.02.13	NA	NA		
23.02.13	594	114		
24.02.13	485	118	118	
25.02.13	1035	232		
26.02.13	NA	NA		
27.02.13	505	110		
28.02.13	485	111	111	
01.03.13	485	117	117	
02.03.13	505	111		
03.03.13	485	110	110	
04.03.13	485	121	121	
05.03.13	485	113	113	
06.03.13	485	113	113	
07.03.13	485	110	110	
08.03.13	485	115	115	
09.03.13	485	110	110	
10.03.13	485	112	112	
11.03.13	505	112		
12.03.13	485	110	110	
13.03.13	505	111		
14.03.13	510	115		
15.03.13	NA	NA	Feb/Mar av	113.3077

INDEX

TRANSPORT DEPARTMENT

ANNUAL REPORT OF THE TRANSPORT DEPARTMENT FOR THE YEAR 2022-23

1. INTRODUCTION

The Department of Transport was constituted by Government Order No.T6811:6865 RT :53-54:10 Dated 03-03-1955 vide Notification 4285-98 MV-23-56-57 Dated 27-08-1956. Then it was named as Motor Vehicles Department. Thereafter, the Department was re-named as TRANSPORT DEPARTMENT. The primary thrust areas of the Department are enforcement of Motor Vehicles Act and Rules and collection of Tax. Transport system play an important role in the development of any Country.

VISION, MISSION, OBJECTIVES AND FUNCTIONS :

VISION : To enable safe, eco-friendly and quality transport facilities to everyone.

MISSION: To provide a safe, aggregate, legal, eco-friendly transport services to the citizens of Karnataka, in view of overall development of the State.

OBJECTIVES

- Road Safety assurance.
- To reduce vehicular pollution.
- Improving the quality of services.
- Revenue Collections.
- Insertion and development of the basic infrastructure facilities and capacity building.

FUNCTIONS

- Registration of Vehicles.
- Collection of Motor Vehicles Taxes.
- Issue of Driving Licenses.
- Issue of permits to the transport vehicles.
- Implementation of Motor Vehicles Act and Rules.
- Awareness and Road safety related programs.
- Controlling pollution level of vehicles.
- Development and maintenance of Human Resource Development and Management.
- E-governance program for the better administration.

The Department is mainly responsible for regulation of the use of Motor Vehicles in the State and collection of tax on Motor Vehicles, Road Safety, Control of Air and Noise pollution in accordance with the provisions of the following Acts and Rules:

1. The Motor Vehicles Act 1988 (Central Act 59 of 1988)
2. Central Motor Vehicles Rules, 1989
3. The Karnataka Motor Vehicles Rules, 1989
4. The Karnataka Motor Vehicles Taxation Act 1957 (Karnataka Act 35 of 1957)
5. The Karnataka Motor Vehicles Taxation Rules, 1957.
6. The Karnataka On Demand Transportation Technology Agree gaters Rules-2016
7. The Karnataka Road Safety Rules -2017.

25.2 STATEMENT SHOWING MOTOR VEHICLES REGISTERED IN KARNATAKA AS ON 31-03-2023

Sl. No.	CATEGORY OF VEHICLES	TOTAL VEHICLE AS ON 31-03-2022	NEWLY REGISTERED IN THE YEAR 2022-23	TOTAL VEHICLE AS ON 31-03-2023
	NON TRANSPORT VEHICLE			
1	Two Wheelers	20163255	1090599	21253854
2	Cars	4137587	265974	4403561
3	Omni Buses	16779	103	16882
4	Tractors	678968	55241	734209
5	Trailers	352065	15741	367806
6	Construction Moving Equipment	10514	3421	13935
7	Private Service Vehicle	1663	90	1753
8	Other Vehicles	103697	7287	110984
	TOTAL NON TRANSPORT VEHICELES(A)	**25464528**	**1438456**	**26902984**
9	**TRANSPORT VEHICLE**			
a.	Multi Axled/Articulated Vehicle	20047	670	20717
b.	Trucks and Lorries	505026	20113	525139
	TOTAL	**525073**	**20783**	**545856**
10	**LIGHT GOODS VEHICLES**			
a.	Four Wheeler	599232	44904	644136
b.	Three Wheeler	209647	7850	217497
	TOTAL	**808879**	**52754**	**861633**
11	Buses	265396	5366	270762
	TOTAL	**265396**	**5366**	**270762**
12	TAXIES			
a.	Motor Cabs	343327	15275	358602
b.	Maxi Cabs	115715	1783	117498
c.	Others	305	0	305
	TOTAL	**459347**	**17058**	**476405**
13	**LMV PASSENGER**			
a.	Three Seater(A/R)	744541	28830	773371
14	Other Vehicles	156688	11226	167914
	TOTAL	**901229**	**40056**	**941285**
	TOTAL TRANSPORT(B)	**2959924**	**136017**	**3095941**
	TOTAL (A)+(B)	**28424452**	**1574473**	**29998925**

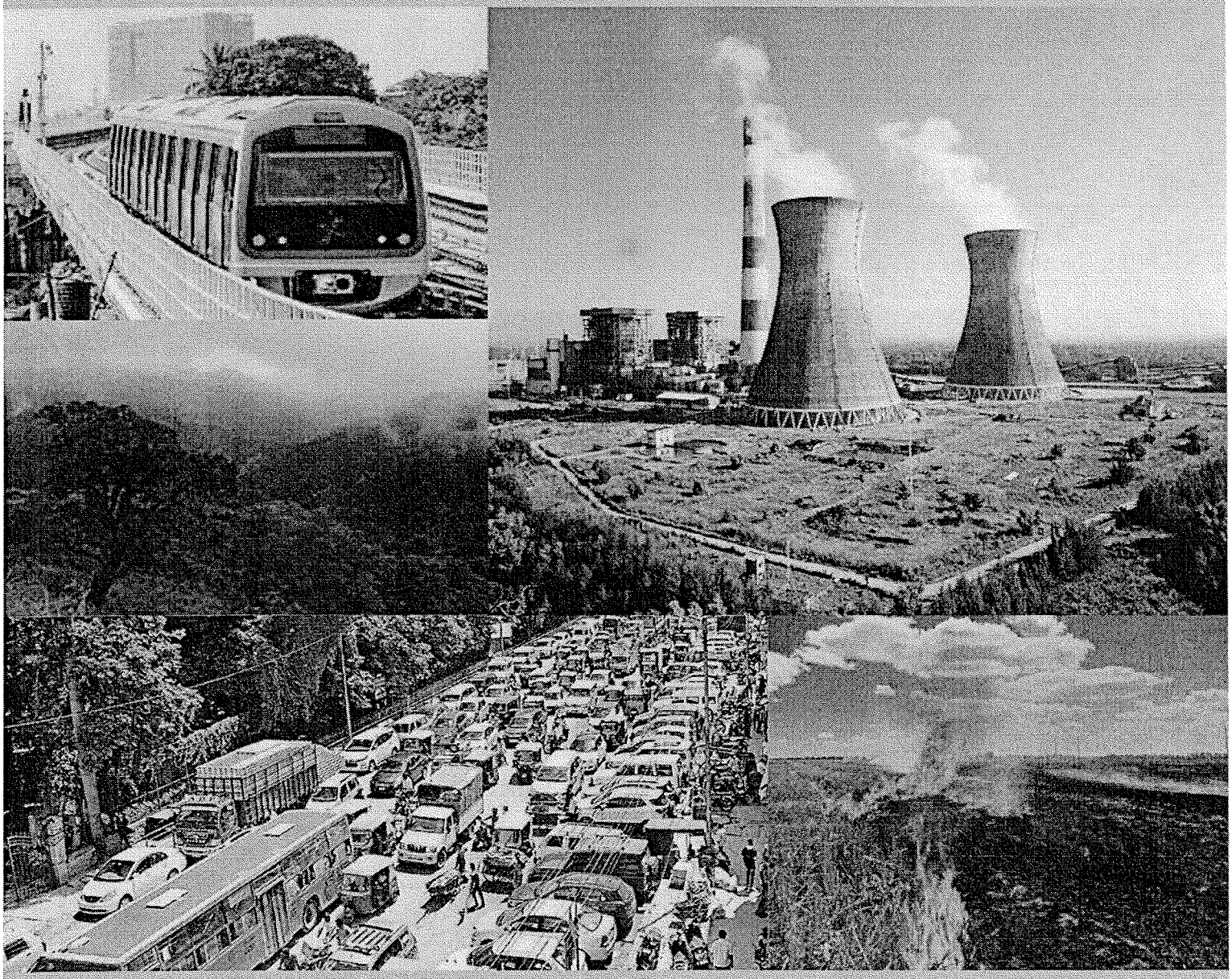
Source : The statistical details collected from VAHAN-4 Data base & maintained by NIC-GoI

State Action Plan on Air Pollution for Karnataka (SAPAP-K)

Environmental Management and Policy Research Institute
Department of Forest, Ecology & Environment,
Government of Karnataka

November 2022

STATE ACTION PLAN ON AIR POLLUTION FOR KARNATAKA (SAPAP-K)



Environmental Management and Policy Research Institute, Bengaluru

Vehicular Emissions

Notification for phasing out old vehicles (Commercial: 10 years; Private: 15 years)

As per the Government notification TD 187 TDO 2020, dated 03-02-2022, the Renewal of Fitness certificate for 2-stroke auto rickshaw plying in Bengaluru has been restricted. The notification can be found in **Annexure V.**

Table 16: The details of more than 15 years old vehicles in Karnataka State as on 31.03.2022

Sl. No	Category of Vehicle	Karnataka State
	NON TRANSPORT VEHICLE	
1	Two-wheelers	51,94,956
2	Cars	12,53,062
3	Omni Buses	18,903
4	Tractors	1,99,299
5	Trailers	1,25,948
6	Construction Moving Equipment	165
7	Private Service Vehicle	470
8	Other Vehicles	22,325
	TOTAL NON TRANSPORT VEHICELES(A)	**68,15,128**
9	**TRANSPORT VEHICLE**	
a	Multi-Axled/Articulated Vehicle	8,724
b	Trucks and Lorries	2,74,621
	TOTAL	**2,83,345**
10	**LIGHT GOODS VEHICLES**	
a	Four Wheeler	2,61,861
b	Three Wheeler	77,816
	TOTAL	**3,39,677**
11	**Buses**	61,045
	TOTAL	**61,045**
12	**TAXIES**	
a	Motor Cabs	67,147
b	Maxi Cabs	47,540
c	Others	01
	TOTAL	**1,14,688**
13	**LMV PASSENGER**	

a	**Three Seater (A/R)**	31,00,02
14	Other Vehicles	84,357
	TOTAL	**3,94,359**
	TOTAL TRANSPORT(B)	**11,93,114**
	TOTAL (A)+(B)	**8,00,8242**

(Source: 2021-22 Annual Report of Transport Department)

Policy of scrapping the old vehicles

Ministry of Road Transport and Highways (MoRTH), New Delhi has issued a notification vide GSR 653 (E), dated: 23-09-2021. For the State, the policy is under finalization for the establishment of RVSF (Registered Vehicle Scrapping Facility).

Karnataka State Road Transport Corporation (KSRTC) as a public sector has adopted the scrapping Policy as below:

For ordinary vehicles: 09 lakh km

For Corona seater: 10 lakh km

For Corona sleeper: 11 lakh km

For Volvo vehicles: 13 lakh km

Bengaluru Metropolitan Transport Corporation (BMTC) as a public sector has adopted the scrapping policy of 8.5 lakh kilometres or 11 years whichever is earlier.

Policy/Scheme for Eco-Friendly Mass Rapid Transport Systems[5]

Metro rail is a vital component of the transformation of the urban transport scenario in India. With the urban population continuously growing, there is a need for green solutions. Mass Rapid Transit Systems are fast, safe, and comfortable to travel. This alone will encourage people to switch from personalized vehicles to public transport.

Bangalore Metro Rail Project Phase-1

Metro services have been in operation 56 Km on the East-West corridor - 25.6 km long, starting from Baiyappanahalli in the East and terminating at Kengeri Terminal in the West and on 30.4 km North-South corridor commencing at Nagasandra in the North and terminating at Silk Institute in the South.

Bangalore Metro Rail Project Phase-2

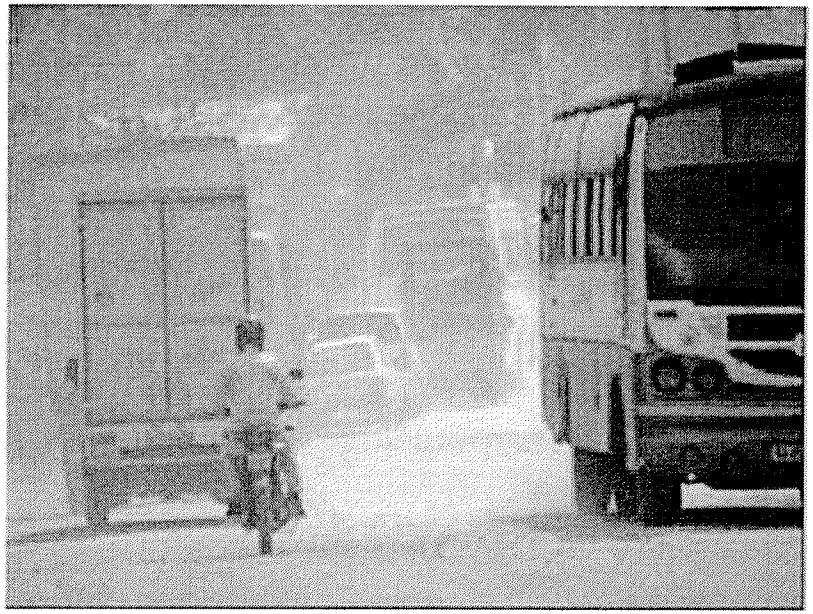
Phase 2 of the Bangalore Metro Rail Project was sanctioned by GoI in February 2014. The Project consists of Four Extensions to the existing lines and two New Lines. The total length

[5] BMRCL Annual Report, 2021-22

Printed from
THE TIMES OF INDIA

Spike in chronic cough cases among kids due to air pollution: Study

TNN | Aug 1, 2018, 06.41 AM IST



BENGALURU: A recent study by a senior pulmonologist has revealed that the city's air pollution is resulting in rising incidence of chronic cough among children.

Dr H Paramesh, a senior paediatric pulmonologist, has found that air pollution was to blame for 21% of the chronic cough cases in children below 18 years in 2017-end, up from 8% in 1999. The over 160% increase in the incidence was arrived at after analysing children's cases in Bengaluru hospitals over nearly two decades.

TimesView

The pulmonologist's study delves deep into what has been stated earlier — how air pollution is taking a toll on children's health. Already deprived of a clean environment due to shrinking lung spaces in concrete jungles, kids today are invariably exposed to toxic air, especially on the road. In such a scenario, initiatives like the C-40 City Air Quality Network are much needed. While it's heartening to know that Bengaluru is spearheading the campaign along with London, it'll take sustained efforts by all stakeholders, including citizens themselves, and tough policies and strict implementation to help kids breathe a little easier.

A cough that persists for two weeks or more is known as chronic cough in the Indian context. The study says rising levels of respirable suspended particulate matter (RSPM) in the air is the reason for chronic cough, and students who are stuck in traffic while commuting to school end up becoming the victims.

Dr Paramesh revealed this on the sidelines of the first meeting of C-40 City Air Quality Network, a global effort to tackle air pollution in urban areas across the world. His research paper titled 'Air Pollution and Allergic Airway Diseases: Social Determinants and Sustainability in Control and Prevention' was published in the April issue of Indian Journal of Pediatrics and in an American Medical Journal as well. "Chronic cough cases among children have multiple side-effects as they lose sleep and aren't able to focus on studies. It has also been observed that more than 40% of parents in such cases refer to at least five medical consultants/doctors as they fail to find relief for their kids," he explained.
The study points out that the impact of air pollution among children is spread across the social strata, though the number of victims from the economically weaker section, like those from slums, is more. The expert arrived at the findings after analysing children's cases in Bengaluru hospitals over the years.

Dr Paramesh, who has conducted studies on other effects of air pollution on human health and published several medical papers, said even adults are not spared of the ill-effects. "While asthma and other respiratory problems are already common, we are increasingly finding air pollution being the cause of heart ailments, dementia and diabetes as well," he said.

"We need clean air policies with standard norms and have to overcome challenges such as rapid urbanisation, lack of multi-sectoral policy-making and lack of finance for research and development," he added.

3k children affected per yr

*Study says over 3,000 children suffer from chronic cough a year in the city

*This is causing major psycho-socio-economic health burden to the country

* Air pollution due to slow-moving traffic is among the major causes of increased prevalence of allergic airway diseases among children

* Kids who spend time on the road negotiating heavy traffic while commuting to school suffer more

* Such respiratory problems are common in kids from lower socio-economic background

* Urban children hit more than their rural counterparts

* Other associated clinical features present with chronic cough are snoring (42.4%), breathing through mouth (43.4%), conjunctivitis (27.3%), bruxism or involuntary grinding of teeth (16.9%) and sleep-disordered breathing (27.3%)

Source: Study by Dr Paramesh, senior paediatric pulmonologist
WHAT AILS B'LURU: CAUSES OF POLLUTION

42%: Vehicular emissions

20%: Road dust

14%: Construction activities

14%: Industrial emissions

7%: Diesel generator sets

3%: Domestic emissions and others

Source: Karnataka State Pollution Control Board

BangaloreMirror

SIGN IN

Thu ,Jul 18, 2024 MUMBAI MIRROR | PUNE MIRROR

Wheels of transformation

By Sridhar Vivan / Updated: Aug 18, 2023, 04:15 IST

File photo of refurbished KSRTC buses during the 62nd Foundation Day of the corporation at Shanti Nagar depot

KSRTC renovates 528 old buses for road use; commuters oppose this move

The Karnataka State Road Transport Corporation (KSRTC) has undertaken a cost-saving initiative by refurbishing old buses, which were originally destined for the scrap yard, at a total cost of Rs 206 crore. Normally, buses that have completed 10 lakh km of travel are 'retired' and sent to the scrapyard. In a bid to optimise resources, KSRTC has refurbished 528 buses in the first phase and put them back on the roads. However, many commuters have opposed the move, saying that these refurbished buses are being operated on rural routes and wonder why the rural commuters who pay the ticket like their urban counterparts are forced to use refurbished buses.

An official said, "KSRTC faced significant losses during the covid-19 pandemic and subsequent lockdown. Still recovering from these losses, the transport corporation lacked funds to purchase new buses. Therefore, the decision was made to refurbish old buses, which are usually mandated to run for 15 years according to central government rules. The buses selected for refurbishment are around 11–12 years old and have been certified for performance by the Regional Transport Offices (RTOs) before being released for service. These updated buses exhibit high fuel efficiency, providing a mileage of 5.20 km per litre of diesel compared to newly purchased buses that achieve a maximum of 5 km per litre."

Each updated bus is expected to cover 1 lakh km per year, making it capable of travelling up to 5 lakh km over 5 years. The rehabilitated buses are also road safety certified, ensuring passenger safety during their service.

The official explained, "The cost-saving benefits of this initiative are substantial. KSRTC has not purchased any new buses in the last five years, and the organisation would have spent Rs 42 lakh for each new bus. However, with the renovation of old buses costing only Rs 3 lakh per bus, a total of Rs 15.84 crore was spent to upgrade 528 buses, saving the organisation around Rs 222 crore, the estimated cost of buying 528 new buses."

They added that with Rs 206 crore collected from the recovery of old buses, KSRTC's needs are met within a reduced budget. Following KSRTC's successful rehabilitation plan, Kalyan Karnataka and Northwest Karnataka Transport Corporations have decided to adopt a similar approach.

The bus refurbishing process includes various steps such as removing rusty and damaged parts, installing new body fittings, undertaking flooring and panelling work, applying new sheet metal to the exterior, and replacing windows and windshields. The buses also receive new seat cushions and covers and undergo attractive colour coatings to enhance their appearance.

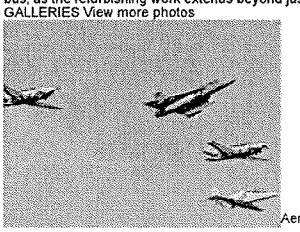
KSRTC faced significant losses during the covid-19 pandemic and subsequent lockdown. It is still recovering from these losses
– an official

For this purpose, regional workshops in Bengaluru and Hassan are dedicated. KSRTC has a current fleet of 8,100 buses near KSRTC.

However, not many are happy with this plan. They said that the old engine are forcing them to have a bumpy ride. "While the new buses are being deployed in Bengaluru, the rural areas are being given a raw deal where we have to still ride in the old buses. Even though the new buses have been given a cosmetic new look by refurbishing, the old engine and poor maintenance are forcing commuters to have a bumpy ride," said Chandrashekar, a regular traveller.

In response to this, a spokesperson from KSRTC stated, "In fact, the majority of passengers are pleased because the engine has also been reconditioned, ensuring no noise, sound, or discomfort. It's almost like a new bus, as the refurbishing work extends beyond just a facelift, encompassing the entire bus except for the chassis."

GALLERIES View more photos



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Banning old vehicles: 15 years and polluting

Rasheed Kappan DHNS

Last Updated : 31 August 2019, 14:01 IST

Representational image

In dire straits after a dramatic slide in vehicular sales, the automobile industry has pinned its hope on an old, yet hardly enforced rule: A ban on 15-year-old vehicles. Fearing an outcry, the State has so far played it safe and targeted only passenger vehicles exceeding six seaters.

Can stricter enforcement of the ban be a win-win for both the industry and the city's environment? Or will a multi-phase policy eventually covering all private personal vehicles and commercial trucks be too hot for the government to handle?

Stretching the city's limited road infrastructure several times beyond capacity, the vehicular population currently stands at a mindboggling 82.5 lakh. An estimated 22% of these vehicles have crossed the critical age of 15 years.

High emission

Why does this matter? Vehicles contribute a staggering 42% of the pollutants in the Bengaluru air, as the Karnataka State Pollution Control Board (KSPCB) informs. Older vehicles spew out almost twice the volume of toxic fumes as compared to new vehicles.

For years, the state government has been articulating the need to phase out all the polluting vehicles. But despite repeated directives by the KSPCB, implementation has largely remained on paper.

"The State has only banned old six-seater passenger vehicles. Lorry and bus owners associations went to court and obtained a relief that they could ply as long as the vehicles are fit," a KSPCB official elaborates, preferring anonymity.

Beyond green tax

Last year, the Supreme Court's directive to the Delhi government to seize petrol vehicles over 15 years of age and diesel vehicles more than 10 years of age, had offered a ray of hope for Bengaluru.
But beyond a green tax collection from old vehicles, nothing much has moved on the policy front.

The State Transport Department collects this tax when the owners of vehicles that are over 15 years old show up for registration certificate renewal. On paper, the collected tax had to be used only to curb air pollution. But the revenue is diverted for other projects, as many complainants allege.

Is there a way to track older vehicles? The Department paints a red coloured band on such vehicles to easily identify them. Officials say these are forced to undergo stringent checks for emission. But what about vehicles that do not turn up for registration renewal?

Build quality concerns

Beyond pollution concerns, the build quality of old vehicles deteriorate. This had come to the fore strongly in November last year, when an old private bus plunged into a canal claiming 30 lives in Pandavapura taluk of Mandya district. Among the victims were several children.

As the accident sparked an uproar, the State Transport Authority had written to the government seeking a ban on 21,000 buses identified as older than 15 years. The objective was clear: To ensure commuters' safety.

The Karnataka State Road Transport Corporation (KSRTC) and the Bangalore Metropolitan Transport Corporation (BMTC) have a rule to scrap vehicles that are older than 10 years. Another qualifying standard for scrapping is operation in excess of one lakh kilometres.

Road-worthiness

Road-worthiness should be the core logic behind banning old vehicles and not business considerations, contends Dr Ashish Verma, Department of Civil Engineering, Indian Institute of Science. "It is not the number of years but the maintenance that should be the factor," he explains.

A well-maintained 15-year-old vehicle could be less polluting than a 10-year-old one in poor shape. "It is about pollution and the risk to road safety. I feel the current slowdown in the auto sector could be good for the future of our cities if it is used as a trigger to transition to more sustainable commute modes," elaborates Verma.

Stringent monitoring

Sathya Sankaran from Citizens for Sustainability (CiFoS) does not see the ban as a solution unless monitoring of all vehicles for pollution is made a continuous process. "We need an accountable, transparent monitoring system, operated by neutral parties, of all vehicles, regardless of their age."

But the truckers have an entirely different perspective on banning older vehicles. "Unlike new vehicles that operate for hundreds of kilometres on a national permit, last-stage vehicles run only 40-50 kms daily, servicing local markets," explains Channa Reddy, president of the Federation of Karnataka Lorry Owners Association (FKLOA)

Economic viability

Purchasing new vehicles for such short distances will not be economically viable for small truck owners. "They operate on small profit margins, employing drivers and cleaners for low wages. They cannot be expected to buy new vehicles, paying EMI of Rs 70,000 to Rs 80,000 every month."

Reddy is convinced that the Society of Indian Automobile Manufacturers (SIAM) cannot hope to boost vehicle sales by banning older vehicles. "The reality is different, the economics will not work out. Any forcible ban will finish off the small operators," he notes.

About five lakh trucks big and small are attached to FKLOA. Reddy estimates that at least 10% will be 10 years or older. "If the government wants to strictly enforce a ban, let them compensate the small players. Those interested will come voluntarily."

So, what about the concerns of pollution and build quality? "The wear and tear are low for vehicles that run only 40-50 kms daily. In any case, national permits are not given for vehicles older than 10 years. Besides, automobile parts can be replaced to extend life. They are not like humans," explains Reddy.

Published 31 August 2019, 00:01 IST

Bengaluru | Air Pollution | Carbon Emission

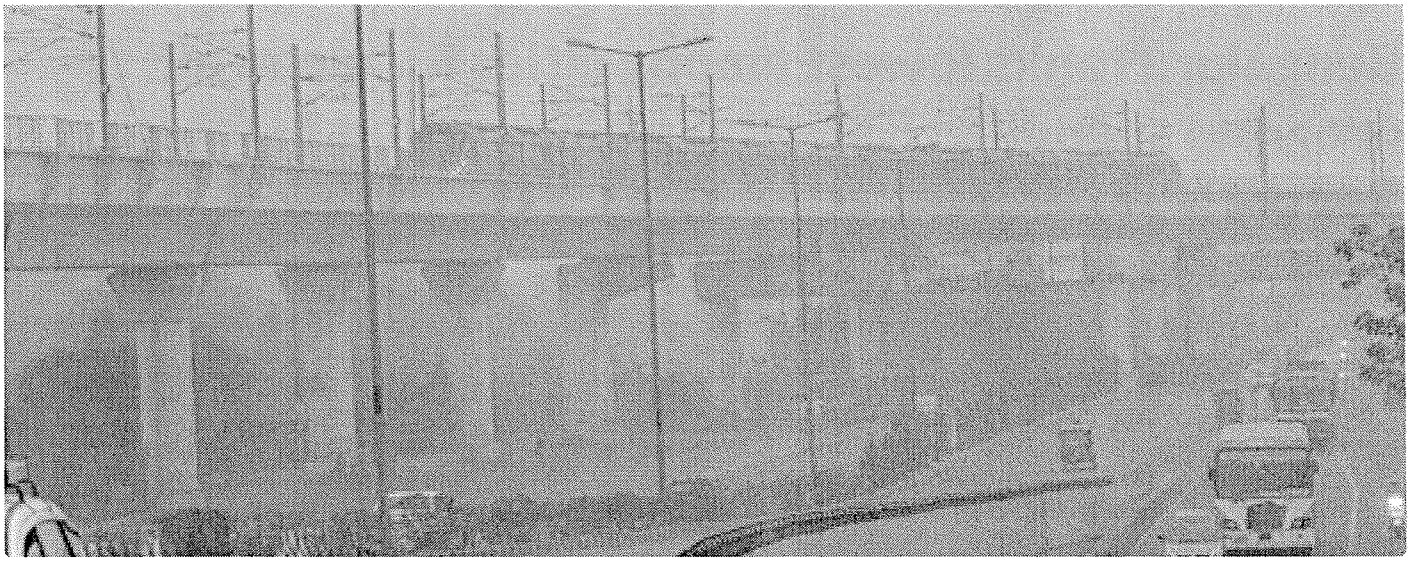
Bengaluru ranks lowest among cities for clean air program spending; Karnataka among worst states: Report

By Yamini C S

Jul 21, 2024 11:45 AM IST

A new report reveals Karnataka is one of the worst states for spending air quality improvement funds, with Bengaluru ranked lowest among 25 cities.

A new report from the Centre for Science and Environment reveals that Karnataka is among the three worst-performing states for spending central government funds allocated for air quality improvement. The report also highlights Bengaluru as the least effective city out of 25 in utilizing funds from the National Clean Air Programme (NCAP), according to the Deccan Herald.



The report shows Bengaluru used just 13 per cent of its National Clean Air Programme (NCAP) funds over the past four years. (Representative image)(PTI)

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Since its launch in 2019, the NCAP has aimed to enhance air quality in 131 large and medium-sized cities by setting targets and providing financial support. However,

The report shows that Bengaluru and Nagpur used just 13 per cent of their NCAP funds over the past four years, while cities like Lucknow, Hyderabad, and Greater Mumbai have utilized up to 72 per cent.

Among Karnataka's cities, Davanagere, Gulbarga, and Hubli-Dharwad are also part of the NCAP. Gulbarga, with only 27 per cent of its funds used, is among the lowest in spending efficiency.

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Overall, from over ₹10,000 crore allocated to 131 cities under NCAP and the Finance Commission, only about ₹6,806 crore has been spent. Most of this money went to road

Next Story

Between and , musician Dhruv Ghanekar is at home with the world

By Anushree Majumdar

Jul 21, 2024 09:00 AM IST

Composer and producer Ghanekar talks to HT on his new solo album Voyage 2, a robust celebration of cultures and collaborations

Once celebrated for its novelty, somewhere down the line, "fusion" became a dirty word. Over the decades, it had found its utterances in jazz, which witnessed the emergence of jazz fusion, a sub-genre in the late 1960s that incorporated instruments and arrangements from rock and funk; and cuisine, where in the 1980s, in Florida, USA, a

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Overall, from over ₹10,000 crore allocated to 131 cities under NCAP and the Finance Commission, only about ₹6,806 crore has been spent. Most of this money went to road dust control, with minimal investment in industrial pollution, vehicle emissions, and biomass burning, the report found.

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Re: IA No. 70 of 2024 in OA No. 87 of 2024 - "Krishnan CS Vs. State of Karnataka & Anr." - NGT, Southern Zone at Chennai

A K Abilash <mail@capitallawchambers.in> Mon, Jul 22, 2024 at 4:19 PM
To: lexregula@gmail.com, darpan.advocate@gmail.com, Rajat Shaw <rajatshaw178@gmail.com>
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Sir / Ma'am,

Please find attached herewith the typed set of papers being filed on behalf of the Applicant in the subject referred Interim Application.

Regards,

A K Abilash

Associate Advocate, High Court of Madras

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Typed Set of Papers filed in I.A. No. 70 of 2024.pdf
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BEFORE THE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE AT CHENNAI

I.A. No. 70 OF 2024
IN
O.A. No. 87 OF 2024

Krishnan CS ...Applicant

-Vs-

The State of Karnataka,
Through the Department of Transport & Anr.

...Respondents

TYPED SET OF PAPERS FILED ON BEHALF OF THE APPLICANT

ANU GANESAN	(MS 1881/2015)
VIGNESH VENKAT	(MS 3587/2012)
A.K.ABILASH	(MS 3409/2023)
RAKSHITA.M	(MS 5392/2021)

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