

ENVIRONMENT

**TABLE 9.14 : MASS EMISSION STANDARDS FOR PETROL DRIVEN VEHICLES
(As on 1st April)**

(In Grams/km)

Category	1991	1996	1998	2000 (Euro II)	2005 (Euro III)	2008
1	2	3	4	5	6	7
Petrol Vehicles						
Two-wheelers*						
(a) Carbon Monoxide	12-30	4.5	4.5	2.0	1.5	1.0
(b) Hydrocarbon	8-12	-	-	-	-	-
(c) Hydrocarbon and Oxide of Nitrogen	-	3.6	3.6	2.0	1.5	1.0
Three-wheelers*						
(a) Carbon Monoxide	12-30	6.75	6.75	4.0	2.25	1.25
(b) Hydrocarbon	8-12	-	-	-	-	-
(c) Hydrocarbon and Oxide of Nitrogen	-	5.40	5.40	2.0	2.00	1.25
Four-wheelers						
Passenger vehicle						
(a) Carbon Monoxide	14.3-27.1	4.34-6.20** 8.68-12.40***	-	2.72	2.2	-
(b) Hydrocarbon	2.0-2.9	-	-	-	-	-
(c) Hydrocarbon and Oxide of Nitrogen	-	1.50-2.18** 3.00-4.36***	-	0.97	0.5	-
Diesel vehicle						
A : Gross Vehicles Weight >						
3.5 ton (Heavy Duty Vehicles)-in grams/kWh						
(a) Carbon Monoxide	14.0	11.2	-	4.5	4.00	-
(b) Hydrocarbon	3.5	2.4	-	1.1	1.10	-
(c) Oxides of Nitrogen	18.0	14.4	-	8.0	7.00	-
(d) Particulate matter > 85 KW/g/KWh	-	-	-	0.36	0.15	-
(e) Particulate matter < 85 KW/g/KWh	-	-	-	0.61	0.15	-
B : Gross Vehicles Weight <						
3.5 ton (Light duty Vehicles)#-in grams/km						
(a) Carbon Monoxide	14.3-27.1	5.0-9.0	-	2.72-6.90	1.06	-
(b) Hydrocarbon and Oxide of Nitrogen	2.7-6.9	2.0-4.0	-	0.97-1.70	0.71	-
(c) Oxides of Nitrogen	-	-	-	-	0.57	-
(d) Particulate matter	-	-	-	0.14-0.25	0.08	-

**Source: 1. Association of Indian Automobile Manufacturers
2. Report of the Expert Committee on Auto Fuel Policy, 2002
3. The Energy and Resources Institute**

Note:

*: Indian driving cycle with warm start for the year 1996, 1998 and 2000 and Bharat II & III norms for the years 2005 & 2006 respectively

** : With Catalytic converter

*** Without Catalytic converter

#: The test cycle is as per 13 mode cycle or a chassis dynamometer.

Euro I w.e.f. 1-6-99 and Euro II w.e.f. 1-4-2000 for private (non-commercial) vehicles in National Capital Region.