

## **NATIONAL QUESTIONNAIRE FOR FUELS AND VEHICLES: EECCA**

**Objectives of the Assessment:** To assess the current state of vehicle fuel quality, vehicle emission standards and other related national-level information in order to develop comparative material, which will enable decision-makers and experts to discuss problems and necessities and define possible solutions at a meeting in 2007.

The questionnaire comprises of 4 main sections:

1. Personal Information
2. Air Quality
3. Fuel Quality
4. Vehicles & Emissions

### **Please read the following instructions before filling in the questionnaire!**

4. We propose that you use **2005 or 2006** as a reporting year, and where asked, please specify the reporting year.\* If data for 2006 is not yet publicized, and the available information is for a previous year, please insert this information and note the particular year in the heading of the table. If 2006 data and updates are available, please provide this data and note the year.
5. You may not find available all required data. Please, fill in the available data:
  - a) If there are data gaps, insert N/A in the respective table cell;
  - b) If such data is not measured, monitored or reported in your country, insert N/R in the respective table cell;
  - c) Please, use the text boxes to present any useful information, which is not covered by the tables or which needs additional description.

### **1. Personal Information**

Reporting year*	2006
Country	Russia
Date report completed	2008
Institution responsible for report	JSC NIIAT
Address of institution	24 Geroev Panfilovtsev St., Moscow
Position/Person responsible for report	V. V. Donchenko, General Director
Telephone No	496 5523
E-mail address or Fax No	donchenko@niiat.ru

## 2. Air Quality

### 2.1 Institutional framework of air quality legislation

Institution name	Departments	Personnel*	Legal acts	Responsibility
Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet)  Federal Service for Ecological, Technological and Nuclear Supervision (Rostekhnadzor)			Federal Laws on: Protection of Environment (№7-ФЗ, dd January 10, 2002); Protection of Ambient Air (№96-ФЗ, dd. May 4, 1999). “Maximal Allowable Concentrations (MACs) of the Pollutants in Ambient Air of Settlements”; Hygienic Norms ГИ 2.1.6.1338-03 “Target Safe Impact Levels of the Pollutants in Ambient Air of Settlements” Hygienic Norms ГИ 2.1.6.1339-03	Responsibility of legal, official and natural persons in compliance with the Administrative Violations Code (AVC) № 196-ФЗ, dd. December 30 2001, Articles 8.21-8.23

## 3. Fuel Quality

### 3.1 Contact Office(s)/Person(s)

Responsible Office(s) and Contact Person(s)	Institution	Responsibility	Contact Information	Email

### 3.2 Institutional framework for fuel quality management

Institution name	Institution type*	Responsibility	Frequency of fuel testing	Number of authorized testing labs
1	2	3	4	5
Interdepartmental	Governmental	Federal ministries	In case of	Interdepartmental

Commission on Access to Production and Use of the Fuels, Oils, Lubricants and Special Liquids			application of new technologies	Commission on Access to Production and Use of the Fuels, Oils, Lubricants and Special Liquids
Department for Technical Regulation and Metrology, Ministry of Industry and Energy	Governmental	Federal ministries		Department for Technical Regulation and Metrology, Ministry of Industry and Energy
Technical Regulations Agency, Ministry of Industry and Energy	Governmental	Federal ministries		Technical Regulations Agency, Ministry of Industry and Energy
Regional Environment Protection Services	Municipal	Regional authorities		Regional Environment Protection Services
Vertically integrated oil companies	Commercial	Company management		Vertically integrated oil companies
Public and scientific-research organizations acting within the framework of the law on protection of consumers' rights	Public	Organization management		Public and scientific-research organizations acting within the framework of the law on protection of consumers' rights
Testing laboratories accrediting in the field of technical competences "Light	Private, Municipal		Identified by the customer, regularly, upon request	Testing laboratories accrediting in the

Oil Products”				field of technical competences “Light Oil Products”
---------------	--	--	--	---

**\*Government; Research/Academic; Private company; NGO; accredited laboratories according the ISO 17025**

### 3.3 Technical Assistance Received for Capacity Building in Fuel Quality Control

--

### 3.4 National Fuel Quality Legislation (please list)

Federal Law on Protection of Consumers’ Rights №2-Ф3; Administrative Violations Code (AVC) №196-Ф3; Federal Law on Technical Regulation №184-Ф3; Federal Law on Protection of Ambient Air №96-Ф3, dd. May 4 1999; Federal Law on Banning Production and Use of Leaded Gasoline in Russian Federation from 01.07.2003 №34-Ф3, dd. March 22, 2003.

Technical Regulations on Requirements for Emissions of Hazardous (Polluting) Substances by Vehicles Used on the Territory of Russian Federation, 2005.

Ministry of Industry and Energy submitted to government the draft technical regulations on Requirements for Vehicle and Aircraft Gasoline, Diesel Fuels and Furnace Oils regulating fuel quality, according to which, the Euro-3 standard for production of gasoline and diesel will be introduced in Russia from January 1, 2009, Euro-4 – from January 1, 2010, and Euro-5 – from January 1, 2013. the draft envisages three-year transition period, during which production and use of gasoline with octane numbers 80 and 92 is allowed. During the five years, the use of the gasoline produced prior to the adoption of Technical Regulations is allowed.

### 3.5 Parameters for Market Fuels Used in Vehicles with Spark Ignition Engines (petrol) (\* insert reporting year)

Parameter	Unit	Analytical and statistical results						Limiting value	
		No. of samples	Taken where	Min.	Max.	Mean	Standard deviation	National specification	
Minimum	Maximum								
Research octane No		40	Moscow and Moscow Oblast	94	98	95,8	0,8	95 (95)	
Motor octane No				83,5	86,4	85,2	0,8	85 (85)	
Requirement of motor to octane No.				92	98	95			

Vapor pressure, DVPE	kPa		48	84	69,7	8	45 (35)	95(90)
Distillation:								
- Evaporated at 100°C	%(v/v)		43	69	54	9	46(40)	71(70)
- Evaporated at 150°C	%(v/v)		76	92	83	14	75	
Hydrocarbon analysis:								
- Olefins	%(v/v)		0,5	15	7	3,3		21
- Aromatics	%(v/v)		30	51	39	5,5		42
- Benzene	%(v/v)		0,8	3,4	2,1	0,5		1 (5)
Hydrogen content			-	-	-	-	-	
Oxygenates:								
- Ethers with five or more carbon atoms per molecule	%(v/v)		0	14,7	5,8	4,7		15(15)
Sulphur content	mg/kg		50	250	130	50		150(500)
Lead content	g/l		0	10				0,005(0,010)

**3.6 Are there any other additives in the fuel? If so, what are they and what quantity?**

**3.7 Parameters for Market Fuels Used in Vehicles with Compression Ignition Engines (diesel) (\* insert reporting year)**

Parameter	Unit	Analytical and statistical results						Limiting value	
		No. of samples	Where Taken	Minimum	Maximum	Mean	Standard deviation	National specification	
								Minimum	Maximum
Cetane No		25	Moscow and Moscow Oblast	45	54	50,5	3	51 (45)	
Density at 15°C	kg/m <sup>3</sup>			818	859	834	13	820 (N/A)	845 (860)
Distillation – 95% Point	15°C			318	359	342	13,5		360
Polycyclic aromatic hydrocarbons	%(m/m)			2	10	6	2		11 (N/A)
Sulphur content	mg/kg			20	1250	320	300		10;50;350 (2000)

**Table 3.8 Number of samples in month (diesel) (\* insert reporting year)**

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Quality control is implemented by the producers, interdepartmental commission, regional and public inspections; periodicity not identified												

**3.9 Fuel quality standards** (Please, shortly describe your domestic standards and any planned standards and the anticipated deadlines for their adoption, etc.)

Along with the national standards set for gasoline and indicated in Table 3.7, the fuels were produced in accordance with number of technical conditions: “Vehicle Gasoline for Export – TY 38.001165-2003”, “Vehicle Gasoline Unleaded with Improved Ecological Properties (city type) – TY-38.401-58-171-96” – with stricter norms for benzene and aromatic contents than in case of ГОСТ P51105-97; TY 38.401-58-350-2005 (Евро-4 gasoline); “Vehicle Diesel Fuels – TY 38-401-58-296-2001” – (quality parameters and testing methods are equal to those of EH-590 (Euro-4)); diesel fuel Lukoil-Euro -4, TY 0251-018-00044434-2002 Lukoil EH-590.

The draft Technical Regulations on Requirements for Gasoline, Diesel Fuel and Certain Lubricants is planned for adoption in 2008 (Euro-2, -3, -4)

**3.10 Fuel production, import, export and consumption for 2006 (\* insert reporting year)**

Fuel grade	Production (1000 m <sup>3</sup> /year)	Import (1000 m <sup>3</sup> /year)	Export (1000 m <sup>3</sup> /year)	Consumption** (1000 m <sup>3</sup> /year)
1	2	3	4	5
<b>Total leaded petrol</b>	<b>Production and use of leaded gasoline is prohibited by the law</b>			
<b>Total unleaded petrol</b>	<b>34,1</b>		<b>6(straight-run and vehicle)</b>	<b>28,1</b>
RON:	10,6			7,5
RON:	18,8			16,8
RON:	4,56			3,7
	0,14			0,1
<b>Total diesel</b>	<b>64</b>		<b>37</b>	<b>~15</b>
<b>Total LPG</b>				<b>0,68</b>
<b>Other fuels (please specify)</b>				<b>КПГ-286 mln.m<sup>3</sup></b>

\*Vehicle transport only (rail and marine transport excluded)

### 3.11 Fuel production by producers (\* insert reporting year)

N/A

### 3.12 Fuel distribution

Fuel distributors	Number of filling stations
Rosneft	738
TNK	1600
Lukoil	920
PTK	134
MTK	300
Neste SP	35
Slavneft	30
Sibneft	455
Russneft	95
Gazpromneft	900
Shell	15

Over 20,000 gas stations are existing in Russia in total, 7,344 of them are working under the trademark of oil companies, the rest are

independent retail operators
------------------------------

**3.13 Promotion of environment friendly fuels** (incentives, programs for unleaded petrol, low-sulphur petrol and diesel, biodiesel, bioethanol, LPG, etc.)

Measure	Details
Ban on leaded gasoline №34-ФЗ, dd. 22.03.2003	Production and use of leaded gasoline was banned
Decision of Government of Moscow №952, dd. 28.12.2004	The stricter requirements for sulphur, benzene, aromatic hydrocarbons contents in the fuels sold in Moscow were set.
Program of Government of Moscow on Use of the Alternative Fuels (Natural Gas, synthetic, etc.) and Development of Filling Stations for Such Fuels.	City targeted program for use of the alternative engine fuels in city vehicles
Tax differentiation	N/A
Application of subsidies	-
Planned Measures	-

## 4. Vehicle Emissions

### 4.1 Contact Office(s)/Person(s)

Responsible Office(s) and Contact Person(s)	Institution	Responsibility	Contact Information	Email

### 4.2 National Fuel Quality Legislation (please list)

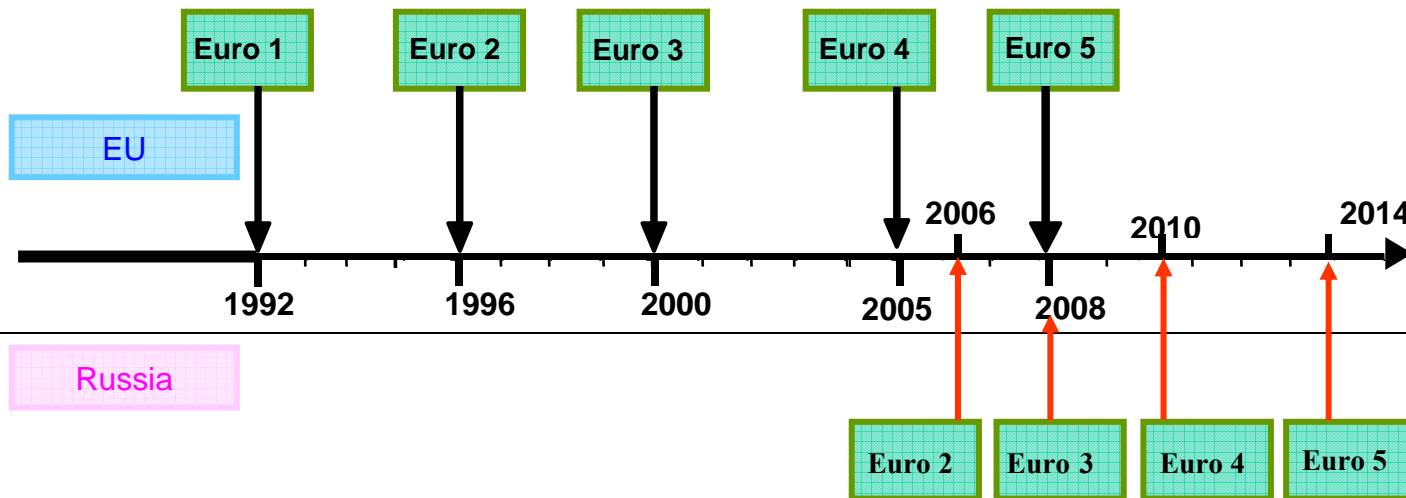
Decree of Government of Russian Federation № 609, dd. October 12 2005, on Approval of Special Technical Regulations on Requirements for Emissions of Hazardous (Polluting) Substances by Vehicles Used on the Territory of Russian Federation (the Regulations set ecological classification and schedules for introduction of norms on locally produced and imported vehicles)

Euro-2 from 23.04.2006

Euro-3 from 01.01.2008

Euro-4 from 01.01.2010

Euro-5 from 01.01.2014



## 4.3 Vehicle fleet structure

Year: (* 2006)	Total number of vehicles	Passenger Cars		LDV		HDV		Buses	
		Petrol*	Diesel*	Petrol*	Diesel*	Petrol*	Diesel*	Petrol*	Diesel*
Number (000s)	32546	26793		1361		3467		824	
% of the total vehicle fleet	100	26643	150	1055	306	958	2509	546	278
		81,9	0,5	3,2	0,9	2,9	7,7	1,7	0,9

\*If data for 2005 is not available, insert older data and indicate the year

Table 4.4 Share with catalytic converters

Year: (* 2006)	Vehicles with Catalytic Converters	
	Passenger cars*	All vehicles
Number (000s)	4000-5000	N/A
%	15-20	N/A

\*Estimates

Table 4.5 Newly-registered passenger cars

Year	Total number	Passenger cars			
		New		Second hand	
			%		%
1995	N/A				
2005	N/A				

\*If data for 2005 is not available, insert older data and indicate the year

**Table 4.6 Vehicle aging**

Only cars registered in year 2005, in total, not in categories

<b>Year: 2005*</b>	<b>0-5 years</b>		<b>6-10 years</b>		<b>11-15 years</b>	<b>16-20 years</b>	<b>&gt;20 years</b>
Total:	16428	100%	49313	100%	>10 years		
Passenger cars	21,6	27,7	50,7	21,6	27,7		
LDV **	14,0	23,5	62,5	14,0	23,5		
HDV	26,2	26,8	47	26,2	26,8		
Buses	20,6	27,0	52,4	20,6	27,0		

**Table 4.7 Domestic vehicle production (if any)**

<b>Type</b>		<b>2003</b>	<b>2005</b>	<b>2006</b>
Passenger cars	,000	1010	1069	1173
	%	78,6	78,9	78,2
HDV	,000	194,4	207	248
	%	15,1	15,4	16,5
Buses	,000	80	78	79
	%	6,2	5,7	5,3
Total	,000	1284,4	1354	1500
	100	100	100	100

\* 2003 is included in order to see the trend. If data is available, any previous year can be included too.

**Table 4.8 Quantity of imported vehicles\*\***

<b>Тип</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Passenger cars (,000/%)	526/90,4	898,8/92,4	1049/94
LDV/HDV (,000/%)	44,2/7,6	59,5/6,2	54,4/4,9
Buses (,000/%)	11664/2,0	13,8/1,4	12,5/1,1

Total (,000/%)	583/100	972/100	1116/100
----------------	---------	---------	----------

\* 2004 is included in order to see the trend. If data is available, any previous year can be included too.

#### 4.9 Restrictions placed on imported vehicles (age limits, requirements for catalytic converters, installation of emission technology for the HDV, etc.)

From April 22 2006, it is prohibited to introduce vehicles with class lower than Euro-2 to the Russian market, and from 01.01.2008 – lower than Euro-3 (see Technical Regulations on Requirements for Emissions of Hazardous (Polluting) Substances by Vehicles Used on the Territory of Russian Federation). As of October 2002, the import tariffs for the used cars older than 7 years are increased: for natural persons they increased by more than 100%, and for legal persons they rose 3-4 times. In July 2003, the unified import tariffs for imported cars of 3-7 years of age were introduced, and this caused the rise of import taxes paid by natural persons person for import of used vehicles by USD 1-2K.

#### 4.10 Information on retrofitting imported fleets (e.g. bus fleets) with emissions control technologies or cleaner engines

N/A

#### 4.11 Institutional framework for vehicle emission testing

Institution name	Institution type	Personnel	Responsibility	Number of vehicles tested (vehicles/year)	Number of testing sites
1	2	3	4	5	6
State Inspection for Safety of Traffic of Ministry of Internal Affairs of Russian Federation	Governmental			80% of fleet	over 2,000

#### 4.12 Legal and institutional framework of vehicle inspection and maintenance

Federal Law of Russia on Safety of Traffic №196-ФЗ, dd. December 10 1995; Federal Law on Protection of Ambient Air №96-ФЗ, dd. May 4 1999; Decree of Government of Russia on Carrying Out Regular Inspections of Vehicles and other Mobile Means for their Compliance with the Technical Norms of Emissions of Hazardous (Polluting) Substances; Provisions of State Inspection for Safety of Traffic of Ministry of Internal Affairs of Russian Federation for Carrying Out State Technical Inspections of Vehicles and their Trailers №880, dd. July 31 1998.

#### 4.13 Technical Assistance Received for Capacity Building in Vehicle Inspection and Maintenance

N/A

Source: ..... (institution).....(department)

**4.14 National Vehicle exhaust emission requirements (ONLY light duty vehicles/passenger cars)**

<b>g/km</b>	<b>Petrol</b>	<b>Diesel</b>
<b>CO</b>	Euro-2 Euro-3 from 01.01.2008	Euro-2 Euro-3 from 01.01.2008
<b>HC</b>		
<b>NO<sub>x</sub></b>		
<b>HC+NO<sub>x</sub></b>		
<b>PM</b>		
<b>Opacity</b>		

**4.15 Recent Developments/Planned Vehicle exhaust emission requirements, inspection and maintenance**

Source: ..... (institution).....(department)

**4.16 Incentives for alternative fuels and vehicles (e.g. Flexi-fuel/CNG/LPG powered vehicles)**

<b>Incentive</b>	<b>Description</b>
N/A	

**4.17 Promotion of environment friendly vehicles (such as import of only new vehicles, catalytic converters, fuel cells, etc.)**

<b>Measures</b>	<b>Details</b>
1. Ban on the sale of new vehicle not equipped with catalytic converters	-
2. Tax differentiation	-
3. Use of subsidies	-

4. Inspection and maintenance program	-
5. Retrofit program	Procurement of buses not lower than Euro-3 for the municipal enterprises (Moscow program)
6. Accelerated retirement program	-
7. Scrappage programs	-
8. Vehicle age caps	-
9. Other (please add):	Ban on entering the central districts of Moscow for the trucks with emission standards lower than Euro-2 (from April 2008)