

# GOVERNMENT OF THE REPUBLIC OF CROATIA

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Pursuant to Article 38 Paragraph 2 of the Air Protection Act (Official Gazette 178/2004), at its session on 24 November 2005 the Government of the Republic of Croatia passed the

## REGULATION ON THE QUALITY OF BIOFUELS

### Article 1

This Regulation lays down the limit values for the quality features of biofuels placed on the domestic market, the method of determining the quality of biofuels and the method of proving compatibility.

### Article 2

This Regulation aims at placing biofuels and other renewable fuels of prescribed quality to replace diesel or petrol for transport purposes on the domestic market, with a view to contributing to objectives such as meeting climate change commitments, security of supply of environmentally friendly energy and promoting renewable energy sources.

### Article 3

For the purpose of this Regulation:

- "biofuels" means liquid or gaseous fuel for transport produced from biomass;
- "biomass" means the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste;
- "other renewable fuels" means renewable fuels, other than biofuels, which originate from renewable energy sources as defined in Directive 2001/77/EC and used for transport purposes;
- „energy content" means the lower calorific value of a fuel;
- „supplier“ means the producer and/or importer or fuel trader;
- „shipment“ means a specified quality of biofuel delivered by tank lorry, railway lorry or ship from the supplier to the sales point.

### Article 4

The following products shall be considered biofuels:

- bioethanol: ethanol produced from biomass and/or the biodegradable fraction of waste, to be used as biofuel;
- biodiesel: a fatty acid methyl-ester (FAME) produced from vegetable or animal oil, of diesel quality, to be used as biofuel;

- biogas: a fuel gas produced from biomass and/or from the biodegradable fraction of waste, that can be purified to natural gas quality, to be used as biofuel, or woodgas;
- biomethanol: methanol produced from biomass, to be used as biofuel;
- biodimethylether: dimethylether produced from biomass, to be used as biofuel;
- bio-ETBE (ethyl-tertio-butyl-ether): ETBE produced on the basis of bioethanol. The percentage by volume of bio-ETBE that is calculated as biofuel is 47 %;
- bio-MTBE (methyl-tertio-butyl-ether): a fuel produced on the basis of biomethanol. The percentage by volume of bio-MTBE that is calculated as biofuel is 36 %;
- synthetic biofuels: synthetic hydrocarbons or mixtures of synthetic hydrocarbons, which have been produced from biomass;
- biohydrogen: hydrogen produced from biomass, and/or from the biodegradable fraction of waste, to be used as biofuel;
- pure vegetable oil: oil produced from oil plants through pressing, extraction or comparable procedures, crude or refined but chemically unmodified, when compatible with the type of engines involved and the corresponding emission requirements.

#### Article 5

Biofuels to be placed on the domestic market are:

- eurodiesel containing up to 5 % (v/v) of biodiesel and complying with the prescribed limit values for the quality features according to the standard HRN EN 590;
- biodiesel made available as pure biofuel or blended in liquid oil fuel at high concentration, and complying with the prescribed limit values for the quality features according to the standard HRN EN 14214;
- petrol with blended biofuel at low concentration and complying with the prescribed limit values for the quality features according to the standard HRN EN 228;
- bioethanol blended in liquid oil fuel in a percentage of up to 85% and complying with the prescribed limit values for the quality features according to the document CWA 15293:2005;
- biogas complying with the prescribed limit values for the quality features as per Article 9 of this Regulation;
- pure vegetable oil complying with the limit values for the quality features as per Article 10 of this Regulation;
- liquids obtained from biofuels, such as ETBE (ethyl-tertio-butyl-ether), in which the percentage of biofuel is as indicated in Article 4 subparagraph 6 of this Regulation.

#### Article 6

Biofuels from Article 5 of this Regulation, which are blended in liquid oil fuels and exceed the limit value of 5% of fatty acid methyl esters (FAME) or 5% of bioethanol, shall be labelled appropriately at all sales points when placed on the domestic market.

#### Article 7

(1) Limit values for the quality features of biodiesel containing up to 5% (v/v) of biodiesel and testing methods for such features shall comply with the requirements set forth in the standard HRN EN 590. The testing method HRN EN 14078 shall be applied to determine the quantities of fatty acid methyl esters (FAME) in fuel.

(2) Limit values for the quality features of biodiesel made available as pure biofuel or blended in liquid oil fuel at high concentration, and testing methods for determining the prescribed limit values for the quality features shall comply with the requirements set forth in the standard HRN EN 14214.

(3) Limit values for the point of filterability for biofuels and the testing method referred to in Paragraph 2 of this Article shall be as follows:

Quality feature	Unit	Limit value	Testing method
Point of filterability for the period:	°C	maximum	HRN EN 116
– from 16/4 until 30/9		0	
– from 1/10 until 15/11		-10	
– from 1/3 until 15/4		-10	
– from 16/11 until 29/2		-15	

#### Article 8

Limit values for the quality features of bioethanol blended in liquid oil fuel in a percentage of up to 85% shall comply with the requirement set forth in the document CWA 15293:2005.

#### Article 9

Limit values for the quality features of biofuels and testing methods shall be as follows:

Quality feature	Testing method	Unit	Limit value	
			minimum	maximum
Relative density	HRN EN ISO 6976	–	0.55	0.70
Calorific value*	HRN EN ISO 6976	MJ/m <sup>3</sup>	30.2	47.2
Wobb index *	HRN EN ISO 6976	MJ/m <sup>3</sup>	46.1	56.6
Particles P	–	–	technically pure	

\* valid at temperature of 288.15 K and pressure of 101325 kPa

#### Article 10

(1) Limit values for the quality features of pure vegetable oil and testing methods shall be as follows:

Quality feature	Testing method	Unit	Limit value	
			minimum	maximum
Density at 15 <sup>0</sup> C	HRN EN ISO 3675 HRN EN ISO 12185	kg/m <sup>3</sup>	900	930
Ignition point	HRN EN ISO 2719	K	493	–
Calorific value	HRN DIN 51 900 – 3	MJ/kg	35	–
Cinematic viscosity at 40 <sup>0</sup> C	HRN EN ISO 3104	mm <sup>2</sup> /s	–	38
Coke residue quantity	HRN EN ISO 10370	% (m/m)	–	0,40
Iodine number	HRN EN 14111	g/100 g	100	120
Sulphur quantity	HRN EN ISO 20884 HRN EN ISO 20846	mg/kg	–	10
Total impurities	HRN EN 12662	mg/kg	–	25
Acid number	HRN EN 14104	mg KOH/g	–	2,0
Oxidation stability at 110 <sup>0</sup> C	HRN EN 14112	h	5,0	–
Phosphorus quantity	HRN EN 14107	mg/kg	–	15,0
Ash quantity	HRN EN ISO 6245	% (m/m)	–	0,01
Water quantity	HRN EN ISO 12937	% (m/m)	–	0,075

#### Article 11

(1) Biofuels referred to in Article 5 of this Regulation and placed on the domestic market shall be accompanied by the Statement of Compatibility with the prescribed limit values for

the quality features of biofuels (hereinafter referred to as: „the Statement of Compatibility“).

(2) The supplier shall enclose the Statement of Compatibility on TBG-1 form to a biofuel shipment.

(3) With the Statement of Compatibility the supplier provides a written guarantee that the biofuel in question complies with the limit values for the quality features of biofuel as prescribed by this Regulation.

(4) The original of the Statement of Compatibility shall accompany the shipment, whereas a copy shall be retained by the supplier.

(5) The original and a copy of the Statement of Compatibility shall be kept for a period of one year from the date of issuance.

#### Article 12

(1) The supplier issues the Statement of Compatibility referred to in Article 11 Paragraph 1 of this Regulation on the basis of a report on testing carried out in an accredited laboratory according to the requirement set forth in the standard HRN EN ISO/IEC 17025.

(2) Confirmation of testing reports issued abroad shall be carried out by an accredited legal person complying with the requirement of the standard HRN EN 45004, A type.

#### Article 13

(1) The supplier shall keep records of the quantity and type of biofuels, either pure or in blends, to be placed on the domestic market.

(2) Data from the records relating to the preceding year shall be communicated on TBG-2 form to the central state administration bodies competent for environmental protection and energy supply by 31 January of the current year.

#### Article 14

(1) With a view to ensuring a market with a minimum proportion of biofuels and other renewable fuels for transport for environmental purposes, it is the national indicative target to place biofuels accounting for up to 5.75% of total fuels on the domestic market by 31 December 2010.

(2) The proportion of biofuels referred to in Paragraph 1 of this Article shall be calculated on the basis of the energy content of all petrol and diesel in line with Table 1 of this Regulation.

#### Article 15

With a view to achieving the national indicative target referred to in Article 14 Paragraph 1 of this Regulation, the annual proportion of biofuels in all fuels and the annual quantity of biofuels to be placed on the domestic market shall be determined by the Government of the Republic of Croatia upon a harmonised proposal of the central state administration bodies competent for energy supply, agriculture and environmental protection.

#### Article 16

(1) Pursuant to the decision of the Government of the Republic of Croatia referred to in Article 15 of this Regulation and in line with the previously obtained opinion of the central

state administration body competent for environmental protection, the central state administration body competent for energy supply shall adopt the annual Plan for placing biofuels on the domestic market, which lays down the obligatory annual quantity of biofuels that shall be placed on the domestic market by the supplier.

(2) The first year for which the Plan referred to in Paragraph 1 of this Article will be adopted shall be the year 2007.

#### Article 17

(1) By 31 January of the current year the supplier shall communicate to the central state administration body competent for energy supply a report on the execution of commitments from the Plan for placing biofuels on the domestic market referred to in Article 16 Paragraph 1 of this Regulation for the preceding calendar year.

(2) If it is established on the basis of the communicated report from Paragraph 1 of this Article that the supplier has not fulfilled the commitment indicated in the Plan for placing biofuels on the market for the preceding calendar year, the central state administration body competent for energy supply shall pass a decision obliging the supplier to place a specified quantity of biofuels on the market in the current year, increased by the difference of biofuel quantity which has not been placed on the market in the preceding calendar year.

#### Article 18

Data on the availability of biofuels and their placing on the domestic market shall be published on the web sites of the central state administration bodies competent for environmental protection and energy supply.

#### Article 19

Table 1 and TBG-1 and TBG-2 forms, together with the appropriate contents, shall be published along with this Regulation and constitute an integral part thereof.

#### Article 20

By the entry into force of this Regulation Article 8 Paragraphs 3 and 4 of the Regulation on the quality of liquid oil fuels (Official Gazette 83/2002, 100/2004, 117/2004, 159/2004 and 98/2005) shall cease to apply.

#### Article 21

This Regulation shall be published in the Official Gazette and shall enter force on 1 January 2006.

Class: 351-01/05-01/09

Reg. No.: 5030115-05-1

Zagreb, 24 November 2005

The President of the Government

**Ivo Sanader**, *m.p.*

Table 1. AVERAGE ENERGY CONTENT AND AVERAGE DENSITY OF BIOFUELS

TYPE OF BIOFUEL	ENERGY CONTENT		DENSITY	
	value	unit	value	unit
Diesel	42,60	MJ/kg	0,845	kg/l
Biodiesel	36,90	MJ/kg	0,883	kg/l
Pure vegetable oil	35,17	MJ/kg	0,920	kg/l
Petrol	43,85	MJ/kg	0,785	kg/l
ETBE	36,29	MJ/kg	0,744	kg/l
MTBE	34,92	MJ/kg	0,744	kg/l
Bioethanol	26,67	MJ/kg	0,794	kg/l
Biomethanol	18,86	MJ/kg	0,797	kg/l
Gas*	34,08	MJ/m <sup>3</sup>	0,680	kg/m <sup>3</sup>
Biogas*	32,64	MJ/m <sup>3</sup>	0,680	kg/m <sup>3</sup>

\* valid at temperature of 288.15 K and pressure of 101.325 kPa

**MINISTRY OF ENVIRONMENTAL PROTECTION, PHYSICAL PLANNING AND  
CONSTRUCTION**

**TBG-1 FORM**

**STATEMENT OF COMPATIBILITY**

- (1) Number:
- (2) Identification number of the supplier:
- (3) Name of the supplier:
- (4)   
Seat:  Street and number:  Town:   
Telephone:  Facsimile:   
Full name of the responsible person in the legal entity/supplier:
- (5) Product name:   
Shipment quantity:   
Dispatch note number and date and/or customs declaration number and date:
- (6) State of biofuel production:
- (7) Biofuel has been tested in the laboratory:  
  
Testing report number and date:
- (8) I herewith declare with full accountability that the quality of biofuel for which this statement is issued is compatible with the requirements stipulated in the Regulation on the quality of biofuels and that the testing has been carried out according to the prescribed standards and testing methods.
- (8) Standard designation and number for the product in question:
- (9) In \_\_\_\_\_ Responsible person:

\_\_\_\_\_  
(signature)

M.P

## INSTRUCTIONS FOR FILLING OUT THE STATEMENT OF COMPATIBILITY

- (1) Each Statement of Compatibility shall have a sequence number.

The following data shall be entered:

- (2) Identification number of the biofuel supplier (manufacturer and/or importer or trader)
- (3) Name and seat of the supplier. Technology unit may be indicated for a larger company, full name of the responsible person in the legal entity/supplier shall be entered.
- (4) Name of the product/biofuel. Shipment quantity and number of the dispatch note and/or customs declaration and their date for a specific product shall be entered.
- (5) State of biofuel production.
- (6) Data on the laboratory, testing report number and date.
- (7) Responsible person confirms that the quality of biofuel for which this Statement is issued is compatible with the requirements stipulated in the Regulation on the quality of biofuels.
- (8) Standard designation and number for the product in question.
- (9) Place and date of issuance, legible full name of the responsible person, signature and stamp of the company shall be entered at the end of the form.

Note:

1. All data shall be entered in capital letters, by hand, type writer or computer.
2. The Statement of Compatibility shall be in A4 format; its copy is to be handed over to the customs service, that is, it is to be retained by the supplier, whereas the original of the Statement of Compatibility shall accompany the shipment to the sales point.

**MINISTRY OF ENVIRONMENTAL PROTECTION, PHYSICAL PLANNING AND  
CONSTRUCTION**

**TBG-2 FORM**

**RECORDS ON THE QUANTITY AND TYPE OF BIOFUELS, PURE OR IN MIXTURES,  
PLACED ON THE DOMESTIC MARKET**

**Part I. Basic data**

Name of the company (supplier):	
Seat of the supplier: Street and number: City:	
Identification number of the supplier:	
Full name of the responsible person in the legal entity/supplier:	
Telephone: Facsimile: E-mail:	
Year for which the data are presented:	

**Part II. Data on the quantity of biofuels placed on the domestic market in the period January – December \_\_\_\_\_ (year)**

Name of biofuel	Percentage of biofuel blended in fuel	January I	February II	March III	April IV	May V	June VI	July VII	August VIII	September IX	October X	November XI	December XII	Total quantity I-XII
(1)														
(2)														
(3)														
(4)														
(5)														
(6)														
(7)														
(8)														

Note: The quantity of biofuels is expressed by volume (per litre at temperature of +15 °C) or by mass (per tonne of net weight)

In \_\_\_\_\_

Responsible person:

\_\_\_\_\_  
(signature)

M.P