

“How to improve fuel quality in the Energy Community  
– the Albanian experience”

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11th OIL FORUM , Belgrade, 8-9 October 2019

# Fuel Quality Directive

The key documents that lay out the official requirements for the **quality of fuel** sold in the EU, as well as its monitoring and reporting, are the following:

- Directive **98/70/EC** of 13 October 1998 relating to the **quality of petrol and diesel** fuels and amending Council Directive 93/12/EEC;
- **Commission Decision 2002/159/EC** of 18 February 2002 on a **common format** for the submission of summaries of national fuel quality data;
- European Standard **EN 14274:2003** describing the **Fuel Quality Monitoring System** (FQMS) for assessing the quality of petrol and automotive diesel fuel marketed in any of the EU Member States within the European Community;
- **Directive 2003/17/EC** of 3 March 2003 amending Directive 98/70/EC relating to the **quality of petrol and diesel fuels**;
- **Directive 2009/30/EC** of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and **introducing a mechanism to monitor and reduce greenhouse gas emissions** from fuel use, in particular concerning biofuels blends.
- Further provisions in relation to **biofuels** were **introduced in 2015**.

# Fuel Quality Directive- 98/70/EC

## Objectives of the Fuel Quality Directive

- Environmental and health protection by **reducing air pollution** caused by road traffic and non-road mobile machinery.
- Functioning of the **internal market** for transport fuels and vehicles by setting minimum **standard for the quality of transport fuels** and ensuring the **compatibility of such fuel with internal combustion engines**
- Reduction of life cycle **greenhouse gas emissions** from transport fuels

# Fuel Quality Directive- 98/70/EC

## Key provisions 1/3

1. FQD applies to all petrol, diesel and biofuels used in road transport, as well as to gasoil used in non-road-mobile machinery and sets several technical requirements for the content of those fuels that influence the level of atmospheric emissions, particularly concentrations of **lead, sulphur, aromatics and benzene**.
2. **It introduced target values** involving a substantial reduction in pollutant emissions from motor vehicles after the year 2000.
3. **It set the environmental specifications** to be applied (with effect from 1 January 2000 and 1 January 2005) **regarding fuels for vehicles** equipped with positive-ignition engines (**petrol**) and with compression-ignition engines (**diesel**).
  - Firstly, **leaded petrol** was banned from the market from the year 2000 onwards.
  - Secondly, the Directive provided for **progressive improvements in the environmental quality of unleaded petrol and diesel fuel**. The environmental requirements laid down are mandatory with effect from the years 2000 and 2005 successively.
  - The requirements covered **in the case of unleaded petrol**: 18 parameters and, **in the case of diesel fuel** 6 parameters.

# Fuel Quality Directive- 98/70/EC

## Key provisions 2/3

4. Reduced requirements for **gasoil used in non-road mobile machinery** (sulphur, lead, some metallic additives)
  - Requirement that Member States ensure that by 30 January 2003 gas oils intended for use by non-road mobile machinery and agricultural and forestry tractors contain less than 2,000 mg/kg of sulphur; and
  - ensure that the permissible sulphur content of gas oils is reduced to 1,000 mg/kg by 1 January 2008.
5. Blending limits for certain biofuels:
  - Fatty Acid Methyl Ester (FAME) generally limited to 7% in diesel
  - Ethanol limited to 10% in petrol

# Fuel Quality Directive- 98/70/EC

## Key provisions 3/3

6. National **fuel quality monitoring systems** are required on the basis of common procedures for sampling and testing and report thereon in a common format. They present information on the following four aspects:
- **Country details:** responsible organisations, country size, summer period, a description of the FQMS used and the location of sampling;
  - **FQMS information**, including a description of the sampling undertaken, FQMS administration, national legislation that transposed the FQD and reporting periods;
  - **Fuel sales information**, including details of fuel sales by fuel type, bioethanol contents, the number of samples taken in winter and summer periods, and the number of technical parameters measured;
  - **Exceedances of the fuel quality limits**, including a summary of the parameters for which exceedances were reported for the fuel grades measured.

# Impact assessment of implementation of the FQD in the En Community

-Study focuses on **costs from refineries** in Energy Community parties implementing FQD technical requirements and **costs from monitoring compliance**

-The **main benefits** are derived from the **reduction in emissions of air pollutants from motor vehicles** using the fuels covered by the FQD.

Wood Revised Final Report	Costs FQD	Benefits FQD
Albania	€ 52,210,000	€ 60,870,000
Bosnia and Herzegovina	€ 26,160,000	€ 26,080,000
Kosovo*	€ 52,190,000	€ 32,430,000
FYROM	€ 50,000	€ -
Georgia	€ 80,000	€ 195,950,000
Moldova	€ 50,000	€ 290,000
Montenegro	€ 20,000	€ -
Serbia	€ -	€ -
Ukraine	€ 480,000	€ -
Total	€ 131,240,000	€ 315,620,000

**Albanian experience on transposing and  
implementation the Fuel Quality Directive- 98/70/EC**



# TRANSPOSITION

- Directive 98/70/EC is **fully transposed** into Albanian legislation through DCM no. 147, date 21.03.2007 "On the quality of fuel, petrol and diesel";
- Starting from 1 January 2009, only the diesel and gasoline fuel that meet the requirements of the Albanian **standards S SH EN 590 (gasoline) and S SH EN 228 (diesel)**, is permitted to be placed into the market and used in road vehicles

# TRANSPOSITION

- All fuel sale points have to advertise, clear and visible to buyers compliance with environmental parameters;

## **Gasoline:**

- Starting on 1 January 2009 the content of sulphur in gasoil is decreased five times (from 50 mg/kg, to 10mg/kg);
- lead content greater than 0,005 g/l is prohibited

## **Diesel:**

- from 1 January 2009 to 31 December 2010, the content of sulphur in diesel fuels decreased by almost six times (from 2000 mg/kg, to 350 mg/kg).
- from 1 January 2011, the content of sulphur in diesel fuels decreased by 35 times (from 350 mg/kg to 10 mg/kg).

- Minister Orders: on quality control; on secretion of samples
- Minister guidelines: on public information; and inter-institutional cooperation

# Implementation

1. Currently, the system for control of the fuel quality **from the environmental point of view** is in place. Fuel quality is regularly monitored through annual monitoring Programme;
2. The establishment of biofuels market, system for GHG emission reductions from transport, system to verify sustainability of biofuels and calculate the life cycle of GHG emissions from biofuels is yet to be established
3. The **Oil and Gas Control Laboratory** is a structure within **State Technical and Industrial Inspectorate (STII)** and responsible for:
  - Conducting laboratory analysis of fuel samples taken from STII from imported and domestic market, by applying the methods and standards in force.
  - Issuing the quality certificate of fuel products;
  - Conducting laboratory testing of fuel samples of various products brought for analysis by and for third;

# Implementation

- The activity of this laboratory is carried out in accordance with the requirements of the standard **EN ISO / IEC 17025**, which makes it possible to increase the accuracy and reliability;
- Fuel sampling is carried out by STII in accordance with S SH EN ISO 3170 : 2005.
- The Laboratory was re-accredited on June 2016 with registration number LT 055 as **Testing Laboratory**.
- Constantly the laboratory has the technical assistance from foreign experts for calibration, maintenance and services. Devices are monitored with certified standards to increase the accuracy of the reported result.

# Implementation

During the first half of 2019, were analyzed 4408 samples in total;

## Compliance of fuel quality during the period 2010-2018

YEAR	Gasoline		Diesel	
	Total samples analyzed	Non compliance	Total samples analyzed	Non compliance
2010	2520	108	3370	228
2011	2581	89	3424	267
2012	2061	38	2441	220
2013	1216	23	1533	160
2014	1988	91	3326	194
2015	2047	141	2816	141
2016	2380	13	2866	65
2017	3873	1	4444	28
2018	2641	5	3009	13

# Enforcement

DCM on fuel quality determines:

1. **State Technical and Industrial Inspectorate (STII)** is the competent authority for inspection and control of fuel quality;
2. enforcement measures such as sanctions and sequestration in case of non compliance, after January 1, 2009.
  - **During 2018**, 88 administrative measures has been imposed with a value of 34,626,416 ALL;
  - **During 2019**: 5355 ton diesel and 2373 ton gasoline from Ballshi Refinery are not certified .

**Non compliance cases** are related to: for gasoline : **vapour pressure, aromatics and benzene, sulphur** for diesel: **cetane number, sulphur**

## Challenge:

1. Cases of forgery data from refineries or importers
2. The addition of contaminants that may occur during distribution is difficult to identify unless they are carefully monitored and analyzed.
  - During 2019, STII has implemented a very ambitious/strong control program focused on refineries, importers and their testing laboratories.
  - **Inspection and laboratory testing** for each batch of petroleum by-products, **constitute additional steps to verify the tests** carried out by the oil refineries and the countries of origin of the products.