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**INSTRUCTIONS FOR AUTHORS**

**(14 pt bold, CAPITAL LETTERS)**

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**Abstract (10 pt):** This work represents a review of biodiesel production in the world. European Union (EU) policy and aims are to reduce increased emission of gases, CO2 in particular, which cause greenhouse effect due to increase in demand and use of fossil fuels. Studies which are made for biodiesel, show that the total energy balance is positive. Regulations and aims directed to increase in production of biodiesel are also shown as well as possibilities for obtaining and use of this ecological fuel.

**Key words:** biodiesel, production, energy fuel (10 pt)

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**INTRODUCTION (Heading 1, 11 pt, bold, capital letters)**

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Because of a lower supplies of fossil energy sources in the present time, a growing interest in other energy sources is expressed. Such energy sources are alternative energy sources, or renewable energy sources. This group consists of energy sources: wind energy, sun energy, waterpower, geothermal energy, wave energy and energy obtained from biomass.

The most important energy of 20th century was oil. In the world's primary energy consumption oil has participated with about 35%, coal with about 24%, gas with about 18%, renewable energy with about 17% and nuclear energy with about 6%, [1].

One of the most important renewable energy sources, if not the most important is biomass as for amount of energy periodically renewed and the relatively small cost of production, and collection. The great advantage of biomass is reflected in obtaining ecological alternative fuels, as one of the possible solutions more imposing is biodiesel, fuel that origins on plant processing and waste oils, [2].

For sustainable economic development depends on the sufficient amount of energy, and increased use of energy sources is inevitable.

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**MATERIAL AND METHODS**

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**Global production of biodiesel (Heading 2, 11 pt, bold)**

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The desire for progress and development of existing technology of getting biodiesel has led many countries in the world to discovering new raw materials from which it is possible to get this ecological fuel. In addition to the basic raw material for obtaining biodiesel worldwide are used: palm oil, coconut, sugar cane and wood jatrofa, vegetable [3]. All these advances in the development of technology production of biodiesel carry with them some difficulties. Because of seizing working areas, i.e. growing plant culture to obtain a higher degree of biodiesel, in the world, notably in the eastern countries of the world, there is a problem of lack of surface for planting wheat and other crops that are necessary factor of human life, [4,5]. Using food crops to produce biodiesel is increasing the world food problem. According to FAO there are more than 1,02 billion hungry people. For these reasons, the production of biodiesel has a limiting factor.

In 2007. year total production in the world amounted to seven million tons of biodiesel, which is a approximately 2.9 million tons produced Germany, as shown in Fig. 1.

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***Fig. 1.*** *Figure caption**(10 pt, italic, centered)*

¶ (11 pt.)

Energy balance of oilseed rape is shown in Table 1, where the total energy entry includes (processing of land, fertilizer, agro-chemical, seed, storage, transportation, processing-production), and the total energy output includes (biofuel, unleavened cake, stalks).

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|  |  |
| --- | --- |
| $$∆C\_{b}=\frac{C\_{t1}-C\_{t2}}{t\_{2}-t\_{1}}$$ | (1) |

¶ (11 pt.)

***Table 1.*** *Table caption (10 pt, italic, centered)*

|  |  |
| --- | --- |
| **The parameters** | **Values** |
| Grain yield (t/ha) | 2,5 |
| The total energy input (MJ/ha) | -35.045 |
| Total energy output (MJ/ha) | 87.900 |
| Net energy balance (MJ/ha) | 52.855 |

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**Ecological aspects**

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Complete assessment of the energy balance of fuel cycle includes not only the energy content of biodiesel and energy is spent in the production, but also energy that is absorbed welcome by all the necessary process to reach the final product.

Amounts of emissions are becoming a growing problem of industrial developed countries. It is known that engines with internal combustion are big air pollutants. According to different authors, from (68 to 85) % of total air pollution, causing engines with internal combustion. Car Exhaust gases contain about 200 different substances, of which a particularly toxic can be distinguished as follows: CO2, CO, NOx, CH, Pb and its compounds. …

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**RESULTS AND DISCUSSION**

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In Europe, biodiesel is most used in transportation, agriculture, forestry and construction and due to their bio-degradability characteristic and less emission of harmful gases in a comparison to the classic fuel.

Germany is world champion in the production of eco-fuels. The factory "Horen industries, in the German city Freiburg will soon begin production of biodiesel generation. As raw materials, in addition to traditional biomass, will be used agricultural wastes-stem, straw and pulverous straw. Until now, for the production of biodiesel only crop of family agricultural was suitable.

Obstacle to the wider introduction of alternative energy sources makes his undurability, because bio-fuel quickly loses its quality and becomes a cause premature of engine fatigue. To the rapid deterioration of the biological product oxygen contributes, which is his ingredient.

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**CONCLUSION**

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Production and use of biodiesel is a trend that is very present in the whole of Europe and in the world. The use of biodiesel is very important and is present in energetics and ecology.

Technically, the undeniable fact is that the sources of fossil fuel are still limited. Liquid fuels for starting the engines and all kinds of mobile systems are in that measure applied in practice that is totally unrealistic to expect any quick preorentiation to other fuels. Investment in research and exploitation of new oil sites from year to year are increasing, and therefore the price, of liquid fossil fuels grows. A special problem is to provide a safe supply of oil from the region with rich deposits.

Biodiesel in the economic sense has significant advantages. Degradability in water and soil is relatively fast and complete. In car exhaust gases there are much less harmful substances. From the standpoint of carbon dioxide, biodiesel is neutral, because all the amount of biodiesel combustion that overhangs in the atmosphere engines throughout photosynthesis in plants from which is again re-produced biodiesel.

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>>> IMPORTANT DATES <<<

|  |  |
| --- | --- |
| September 20, 2023 | Deadline for paper submission |
| October 1, 2023 | Deadline for registration and full payment |
| October 1, 2023 | Presentation submission (for oral presenters) |
| October 5-6, 2023 | Conference days |

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