Abstract

The regulation of biofuels is such an interface of energy law and agricultural law having regard to the aspects of climate protection, for which the significance of legal regulation is steadily increasing in these days. In 2020 the ratio of bioethanol and bioester mixed to the fuels increased to 10%. In this article, I undertake to collect the area’s most important sources of international, European Union and domestic regulations in order to get a clear picture about the current situation of the interface of energy law legislation and climate protection.

Keywords: biofuels, energy law, climate protection, sustainability certification, bioethanol.

1. The international legislation of biofuels

The involvement of the biofuels to the production among the rules of land use change, as a special instrument of the reproduction of carbon stocks, appeared among the assets of Kyoto Protocol. According to the rules of the Protocol, the member states, which carry out deteched carbon-dioxide absorbing activity in the given period, with their activities (afforestation, reafforestation, arable and pasture farming), the member states may increase their emission quotas. However the climate borne activities (deforestation, carbon-dioxide emission of agricultural machines) required by the agricultural sector must be deducted from the growth.

The protocol categorised the land use change-related investments into two groups. The first group contains the increase of carbon stocks accompanied with carbon-dioxide absorbing, the other group contains the substitution of carbon with renewable raw materials arisen from production in this case.

In the original version of Kyoto Protocol, only the afforestation and reafforestation, so the increase of carbon stocks became mandatory and applicable elements by the member states.
Since 2011, according to the agreement concluded in Durban, for the developed states, which are in Annex I of Kyoto Protocol, the absorbing carbon-dioxide derived from forest, arable and pasture farming may be involved. The member states calculate the margin of the carbon-dioxide’s emission and absorbing from the amount of the products calculated from logging, the acres of areas affected by human interventions dealt with natural habitats and the margin of the flooding and draining of water habitats.4

2. The EU legislation of biofuels

The international obligations, however affect several member states, do not involve obligations at EU level and there is not any legislative pressure. Based on the Communication no. 94 issued by the European Commission in 20125 prepared for the next decade, the carbon dioxide emission absorbing ability of agriculture will radically decrease. The amount of the change is 60 tonnes, which is equal to the overall greenhouse gas emission of Bulgaria, Denmark, Ireland and Sweden. Beside such level of growth, the failure of EU’s legislation could not be a realistic alternative. One alternative of the legislation is that the European Union establishes the effort sharing sector to control the emission of non-industrial areas. To this sector, beside the land use legislation, the service, household and waste management sectors are also included. In this round, the union design calculates steadily decreasing emission. This calculation, regarding the legislation of sectors concerned, this plan is not realistic. Therefore, the distribution sector must continue to share into ESD (Effort Sharing Decision) sector, which summarizes the service and household emissions, and the abovementioned land use system (LULUCF, which means land use, land-use change and forestry).6

In the EU legislation, the land use changes have two forms. On the one hand, when the parcel of biomass extends to an other, non-agricultural area. This is so-called direct land use change. The other change is a kind of land use change, when the agricultural land use replaces a much larger carbon absorbing capacity area (forest, wetland).7

After such political background, Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (hereinafter referred to as RED or Directive) was issued, which contains the following provisions regarding biofuels.

The generally defined goals of RED: increased use of energy from renewable sources, reduce of greenhouse gas emissions, reduce its dependence on imported oil in the transport sector, achievement of economic growth through innovation and growth of employment.

7 Ibid. 329–330.
Among the specific goals, the RED primarily provides 20% use of energy saving and 10% mix rate in connection with biofuels and bioliquids. So the Directive determines different goal to the transport sector among the renewable energy sources. Naturally, behind this purpose, the reduce of greenhouse gas emission can be found, as an overall purpose, which points back to the sustainable development. The reduce of greenhouse gas emission is fulfilled not only to foresee the 10% mix rata, but also with the gradual increase of the mandatory greenhouse gas emission saving appeared in the sustainability criterias, which increases from 35% to 60%.

The Directive determines such criterias, on the basis of which the biofuel is qualified as sustainable. Only this kind of biofuels can be taken into account in case of measuring compliance with the requirements of this Directive concerning national targets, measuring compliance with renewable energy obligations, eligibility for financial support for the consumption of biofuels and bioliquids, which meet the requirements determined in Article 17 (2)–(6).

This means, when the member states reports about the fullfillment of its undertakings, only the biofuels, which meet the requirement, can be taken into account to the calculation of greenhouse gas emission saving. If the member state does not pay sufficient care to the operatibility of its national sustainability system, it may cause serious consequences. Since the biggest influence on the fullfilment of undertakings and as its result on the acquirement of financial supports can be only caused by good and well organised national sustainability system.

The mandatory requirements to be fullfilled were defined by RED and these are the following: minimum 35% greenhouse gas emission saving, from 1 January 2017 it is 50% and from 1 January 2018 it is 60% in installations in which production started on or after 1 January 2017.

In case of the detailed prohibitions regarding the areas from which the raw material originates, the RED determines the defined areas (highly biodiverse grassland) and prohibits to use raw material obtained from land with high carbon stock, furthermore prohibits to use raw material obtained from land that is peatland, only in very exceptional circumstances.

In case of the production of the agricultural raw material used as biofuels, shall be respected the environmental protection compliance criterias and the minimum requirements for good agricultural and environmental condition.

The RED Directive, in order to promote the use of waste, among the abovementioned requirements, requires only the fullfilment of the provision on the
greenhouse gas emission saving in case of biofuels and bioliquids produced by waste and residues.\textsuperscript{17}

The fullfilment of sustainability requirements shall be proven by the economic operators in case of final product.\textsuperscript{18} The proving of it is possible only in such a way, that the adherence of standards is also proven to the raw materials and intermediate as the part of production process. So the information on raw materials and intermediate products shall be connected to the final product, which is possible with the supply-chain.\textsuperscript{19}

The fullfilment of the requirements can be proven credibly, if there is a well-organised and established control and certification body. The RED also determines detailed requirements for the member states.

The Directive determines the control of compliance with the criterias defined in Article 17. The method of this control is contained by Article 18. The economic operators shall prove, that they meet the requirements defined in Article 17. This shall be verified by the member states. The method is the use of mass balance system, which detailed provisions are defined by Article 18 (1) Points a)–c).

The verifying of compliance is possible in three methods: in the frame of national certification system; in the frame of voluntary certification system or based on bilateral or multilateral agreements with third countries approved by the Commission.\textsuperscript{20} So the sustainability of biofuels can be proven and verified only in the framework of the abovementioned systems.

The Directive also determines, that the obligation of member states with the certified data covers:\textsuperscript{21} the robustness of the information provided by economic operators; availability of data based on the aforementioned information; and an independent audit and in case of this audit, it shall be verified whether the systems used by economic operators are accurate, reliable and protected against fraud and it shall evaluate the frequency and methodology of sampling.


\textsuperscript{17} Ibid. Article 17 (1).
\textsuperscript{18} Bányai 2014, 184.
\textsuperscript{19} Ibid.
\textsuperscript{20} Ibid.
\textsuperscript{21} RED Article 18 (3)
Regarding the assessment of the quality of petrol and diesel, ILUC requires to mix bio-ethanol in petrol and such fatty acid methyl ester derivaties in diesel, which the quality of fuel is not reduced, however its sustainability with the removal of the greenhouse gas used with its cultivation from the atmosphere increases. The EU countries assign the liability of the annual verifying and reporting regarding greenhouse gas emission calculated for the full life cycle deriving from the fuel to the fuel suppliers.

Fuel suppliers shall reduce as gradually as possible life cycle greenhouse gas emissions per unit of energy from fuel and energy supplied by up to 10% by 31 December 2020, compared with the fuel baseline standard.\textsuperscript{23} This reduce involves 6% national binding target, which shall be achieved until 31 December 2020 and an indicative 2% binding target, which shall also be achieved until 31 December 2020 with the type of the energy carrier tranported for the purpose of transport and/or the application of any technology, which is able to reduce the quantity of greenhouse gas emitted during the full life cycle of fuel compared with energy carrier derived from the fuel or the unit of delivered energy carrier. Furthermore it contains a 2% indicative reduce binding, which shall be achieved until the abovementioned deadline with the purchase of auctioning allowances based on the clear development mechanism of Kyoto Protocol.\textsuperscript{24}

All EU member states are obliged to give information about their national fuel quality and the reduce of greenhouse gas intensity of petrol and diesel ensured to vehicles, and non-road mobile machinery until 31 August each year in a report, wherein the member states summarize all relevant data of the previous calendar year. The EU member states collect data, in accordance with the relevant European standards, in the system crated for the purpose of verifying the quality of fuel. All member states are obliged to give information in accordance with the Directive 98/70/EC Article 8 (1) and (7a) until 31 August each year. Article 8 (1) determines the summary of the data regarding fuel quality control, which were collected between 1 January to 31 December of the previous calendar year. The Article 7a obliges the fuel suppliers to reduce the intensity of greenhouse gas ensured to the energy carriers for the purpose of road transport.\textsuperscript{25}

The member states are obliged to give information about their progression until 31 December each year.\textsuperscript{26}

3. The elements of domestic legislation

The domestic legislation of biofuels and bioliquids are regulated by an act and a governmental decree, furthermore a Ministry of National Development decree on greenhouse gas emission. The act contains the general statements and definitions. This act can be considered as a fremawork regulation, which authorises to create the detailed rules of the relevant areas. The governmental decrees and the Ministry of National Development decree contain these mentioned detailed rules.

\textsuperscript{24} De Vera 2016.
\textsuperscript{25} See on the sustainability criterias: Bányai 2013, 45–57.
The act is the Act CXVII of 2010 on the promotion of the transport purpose usage of renewable energy renewable and the reduce of greenhouse gas emission used in transport (hereinafter referred to as Act). This act was amended by Act LV of 2017 from 1 September 2017.

In connection with the decree, we can speak about two decrees. The first is the Governmental Decree no. 343/2010 (XII.28.), which regulated the sustainability requirements of energy carriers until 23 September 2017. The other one is the currently valid Governmental Decree no. 279/2017 (IX.22).

The Ministry of National Development decree is the Ministry of National Development Decree no. 39/2017 (X.9.) on the calculation of the avoidance of greenhouse gas emission regarding the compliance with the sustainability requirements of the biofuels and bioliquids.

We can see that the legislator chose such method that it modified the Act, which is considered as lex generalis, in order to give a new frame to the practise. This amendment is very considerable at first sight and it seems to completely override the previous legislation. However, with a close examination, it can be seen that the changes are very important, but they are smaller, what they appeared at first glance.

Why was it necessary to transform the Act and the sustainability and follow-up system? The transformation of the Act and the establishment of a sustainability certification system were necessary based on two reasons. On the one hand the previous act did not meet all requirements laid down in Directive 2009/28/EC. On the second hand, the European Parliament and the Council adopted a new directive in 2015, which was the Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources. This directive modified RED Directive.

The deficiencies of the RED’S implementation did not cause serious risk until 1 January 2017, because the 35% saving threshold could be achievable by the default greenhouse gas emission values defined by BioGrace. The problem was arisen, when the saving threshold increased 50%, which could not be achievable by the default values in case of all biomass regarding the production of biofuels and bioliquids. It can be achievable with unique calculated value. The previous domestic legislation completely prohibited to use unique values in the biofuels greenhouse gas emission system. This was caused by the lack of the audit system. It has become clear to the market participants that the system is unusable to the certification of the sustainability of rapeseed-biodiesel from 1 January 2017. They turned away from the domestic national voluntary system and chose international voluntary certification system in order to certify the sustainability of their products.

The task was double for the legislator. On the one hand, it had to modify the provisions of RED, which were not satisfactorily implemented earlier. On the second hand, it had to implement the provisions of the new directive to the domestic law.
4. The most important changes

4.1. Act CXVII of 2010

Among the explanatory notes of the Act, some new definitions appeared and some definitions were changed. It is necessary to examine such definitions, which effect the change of the regulatory system.

At first, it should be mentioned that the Act introduces some new definitions and also modifies some of the existing ones. The definition of 'biofuel', as a commonly used category has been changed slightly. The part of 'products used as blending component' was omitted and materials produced from 'biomass' and not 'typically biomass' are under the definition.

The Act determines 'bioliqueds' as a new definition, which are liquid fuels, but they are not used for transport purposes, but they are produced from biomass, too.\textsuperscript{27} Maybe in this case, the name of propellant can be more accurate instead of fuel.

Beside the biofuels, the valid Act determines three other categories regarding fuels. The first is the ‘alternative fuel’\textsuperscript{28}. Inter alia, electricity used for transport was also taken to this category. The second is the ‘non-biological origin, liquid or gaseous fuels derived from renewable energy sources’\textsuperscript{29}, which are not produced from biomass, but they are used as fuels. The third category is the ‘renewable fuel’\textsuperscript{30}. The materials derived from non-biological origin renewable energy sources, which are excluded because of the omitted 'typically' part from the definition of 'biofuel', are also taken to this category beside the biofuels meet the sustainability requirement. So it has become a collection category for the fuels derived from renewable energy sources, without taking account of the type of the source. With this way, the definition of 'biofuel', which functioned as an umbrella concept earlier, received a restrictive interpretation and compared with its previous content, it includes the materials, which are under the scope of the Act, in a smaller round and it was changed by the definition of 'renewable fuel'. The legislator took the materials excluded from the category under new definitions, which made the opportunity to establish a more differentiated regulatory system. In parallel, the valid Act expanded the scope of the definition of 'fuel'\textsuperscript{31}, as compared with the previous content (motor gasoline, diesel gasoil, compressed natural gas (CNG), liquefied natural gas (LNG)), the definition also includes the biofuels, synthetic and paraffinic fuels, natural gas, including biomethane, in gaseous form (compressed natural gas (CNG)) and liquefied form (liquefied natural gas (LNG)), and liquefied petroleum gases.

\textsuperscript{27} Act CXVII of 2010 1. § Point 11.
\textsuperscript{28} Ibid. 1. § Point 2: ”alternative fuels means fuels or power sources which serve, at least partly, as a substitute for fossil oil sources in the energy supply to transport and which have the potential to contribute to its decarbonisation and enhance the environmental performance of the transport sector. They include, inter alia: electricity, hydrogen, biofuels, synthetic and paraffinic fuels, natural gas, including biomethane, in gaseous form (compressed natural gas (CNG)) and liquefied form (liquefied natural gas (LNG)), and liquefied petroleum gas (LPG).”
\textsuperscript{29} Ibid. 1. § Point 23.
\textsuperscript{30} Ibid. 1. § Point 20.
\textsuperscript{31} Ibid. 1. § Point 17.
gas (LPG). It is important, that according to the new regulation, the biofuel is not a separate category, it is one group of the fuels within the renewable fuels.

In addition to the abovementioned, among the explanatory notes, the Act also introduces a new definition, which was necessary because of the implementation of ILUC. This definition is the 'processing residue'\textsuperscript{32} The processing residue is a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it. This definition is worth to examine a little more. According to the valid Hungarian regulation (Act CLXXXV of 2012 on Waste, hereinafter referred to as Waste act) a substance or object, resulting from a production process, may be regarded as being waste\textsuperscript{33} or byproduct.\textsuperscript{34} The Waste act regulates, that a substance or object, resulting from a production process, the primary aim of which is not the production of that item, may be regarded as not being waste, but as being a by-product if all of the conditions of the Waste act are met.\textsuperscript{35} Otherwise, it shall be regarded as a waste. So the Waste act does not know other categories regarding these materials only the aforementioned categories (waste or byproduct). Such materials have a waste or byproduct status.\textsuperscript{36} So according to valid Act and ILUC, the materials resulting from a production process of biofuels are 'processing residue', but there is no adequate legislation regarding the use, sales and possible registration of these materials. In my opinion, because of the relative status with byproduct, the legislation would be advisable to create to the Waste act. Until this happens, this concept remains only a definition without the opportunity of practical use. This is also proven by the fact, that the Governmental Decree no 279/2017 (IX.22) 9. § (3) Points 4 b) and c) only determines 'final product', 'byproduct' and 'waste', it does not mention 'processing residue'. In this three distributions, the processing residue can not be found. Neither as a separate status, nor under an existing status.\textsuperscript{37}

The Act also determines the definition of Biofuel Greenhouse Gas Emission, which was not defined in the previous regulation.\textsuperscript{38} So the Biofuel Greenhouse Gas Emission System is a national voluntary sustainability system, which was obvious earlier, but the Act did not include it explicitly.

Among the changes, it should be mentioned that in accordance with the abovementioned changes of definition, beside the definition of 'fuel', the definition of 'bioliquid' was also added to the legislation.

\textsuperscript{32} Ibid. 1. § Point 10.
\textsuperscript{33} Act CLXXXV of 2012 2. § (1) Point 23: "waste shall mean any substance or object which the holder discards or intends or is required to discard."
\textsuperscript{34} Ibid. 8. § "A substance or object, resulting from a production process, the primary aim of which is not the production of that item, may be regarded as not being waste, but as being a by-product if all of the following conditions are met."
\textsuperscript{35} Ibid. 8. § Points a)–e).
\textsuperscript{36} Tőth 2017, 211–215.
In case of the determination of 'greenhouse gas emission calculated to the full life cycle', the legislator removed the marketed fuel and its mixed ingredients from the text. This constraint is revealing when taking into account the material scope of the Act.

There is an interesting change in the text of the Act. The 2. § determines that the 10% share of the transport purpose energy use produced from renewable energy sources shall be achieved from 2020, but the valid text determines that it should be achieved in 2020. In my opinion, the new text version also raises interpretation questions. However, it can be said that, that in the Hungarian version of RED Directive, both versions can be found, and the expression of "in" appears typically more times. Furthermore, in the Hungarian text of ILUC, we can experience it, too. In the English language text, we can see a more varied picture, because we can find the expressions of 'by', 'for', 'until' and 'in'.

A new part was added to the Act as follows: "Monitoring the origin of bioliquids, biofuels, intermediate products and their raw materials." The previous legislation did not contain any provision in connection with monitoring, it was added to the Act as a new element. The obligation of monitoring is mandatory for biomass trader, the biomass processor and the fuel supplier. They can fulfill their obligation via public electronic registration operated by the agricultural administrative body. This registration's Hungarian name is BIONYOM (hereinafter referred to as BIONYOM).

The change of the regulatory system significantly affects the provisions of the sustainability certification. In the third chapter (the sustainability requirements of bioliquids, biofuels and intermediate products) 3. § (3)-(4), the legislator foresees a fine from HUF 100,000 to HUF 1,000,000, if the obliged person does not comply with the provisions defined in the Act or its implementing decree. This fine can be imposed in case of two obligation groups, separately: 1. obligation of monitoring; 2. obligations regarding sustainability certification. From these groups, the fine regarding monitoring obligation was not the part of the previous regulation. This is a new element of the legislation and it is fully in line with the establishment of the new, mandatory registration system.

4.2. Governmental Decree no. 279/2017 (IX.22.)

In the Act, the legislator authorizes the Government to determine the scope of the biofuels and bioliquids; requirements regarding the sustainable production of biofuels and bioliquids; the detailed registry, certification and monitoring rules of the production, process and distribution; the designation of the authority responsible for the qualification, registration and control; and the control of data which are necessary for the submission of the certificate or evidence confirming the sustainable production.

Based on the authorisation, the Government prepared the Governmental Decree no. 279/2017 (IX.22) (hereinafter referred to as Decree), which has repealed the previous regulatory contained by Governmental Decree no. 343/2010 (XII.28).

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39 Act CLXXXV of 2012 1. § Point 15.
40 RED introduction (13), Article 3 (4); Annex I; Annex VI.
41 Act CLXXXV of 2012 13. § (1).
The biggest innovation of the Decree is, that in order to ensure the monitoring (follow-up), it introduces the concepts of ‘BIONYOM registration’ and ‘BIONYOM customer’. The concept of ‘BIONYOM customer’ was added by the Decree in its 1. § Point 8), which means the biomass trader, the biomass processor and the fuel supplier, who has registry number from the monitoring registration of biofuels and bioliquids. The ‘BIONYOM registration’ is the monitoring registration, which is detailed by the legislator in the Act 8/A. §. The extended definition is determined by the Decree.42

Before the Governmental Decree entered into force, only the registration to the Biofuel Greenhouse Gas Emission System registration was mandatory for the biomass trader, the biomass processor and the fuel supplier. The new regulation adds the ‘BIONYOM registration’ to it. The establishment of the new regulation ensures more precise determination of the quantity of biomass, biofuels or bioliquids produced, marketed or mixed in Hungary, because not only the quantities certified in the Hungarian national voluntary sustainability system, but also the quantities certified in any other national voluntary or international voluntary systems appear in the registration, furthermore the quantities certified based on a document issued in accordance with a national agreement concluded between the European Commission and a third country also appear in it.

There is a change, which is necessary to examine here, although during the analysing of the Act, it is also arisen. I examine here, because this Decree is, which establishes the sustainability requirements. The change is the full exclusion of the auditors and the audit system from the new regulation.

The credibility and reliability of the sustainability certification system depend on that the data, values and documents appeared in the system be real and verified. In my opinion, this is only achievable with well-trained and registered auditors. Furthermore, in case of the fullfillment of the requirements in connection with the saving of greenhouse gas emission determined in RED Directive, only real data shall be provided.

The RED Directive expressively requires for the member states that the member states shall take measures to ensure, that the economic operators submit reliable information.43 The genuine control is not be reached only with a registration without a real physical control. In order that that the member state is able to achieve this physical control, trained and registered auditors employed by the member state are necessary. Until this control is achieved, the member states does not fully fulfill its obligation. Furthermore without this control, the real certification of the 50% avoidance of greenhouse gas emission required from 1 January 2017 can not be imagined.

The current system tries to solve the problem in such a way, that it uses administrative solution in the Ministry of National Development Decree no. 39/2017 (X.9.) on the rules of the calculation of the elusion of greenhouse gas emission in connection with the compliance with the sustainability requirements of biofuels and

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42 Governmental Decree 279/2017 (IX.22) 10. § (1): "BIONYOM registration shall mean an electronic administrative registration operated by the agricultural administrative body, which purpose is the monitoring of biomass – including cultivated and uncultivated biomass –, intermediate products, biofuels and bioliquids produced, collected, processed, marketed at the area of Hungary and imported to Hungary and exported from Hungary."

43 RED Article 18. cikk (3).
bioliquids.\textsuperscript{44} In this decree, the individual greenhouse gas emission value shall be proven by the economic operator with a declaration. Regarding the declaration, the governmental decree only determines 'declaration countersigned by an independent expert.'\textsuperscript{45} The expression of independent expert is not defined closely by the decree.

The requirement of the economics operator’s declaration is not equal to the genuine control. The method of calculation is regulated by the Ministry of National Development Decree Annex I, but the reality of the values used for the calculation is not controled by anybody, because there is not any trained and established apparatus for this purpose. It is not sufficient because it is not clarified in a regulation what this declaration may contain exactly and as I mentioned earlier, the determination of the independent expert, who can countersign the document grounding the declaration, is not in any relevant regulations.

5. Summary

Overall the new legislation is a step forwards compared with the old one. In case of the follow-up, which is an important factor of sustainability aspect, the legislation took a big step forward, but there are some gaps in case of several important things.

The first is that ensure a real content and place for the definition of 'processing residues' in the legislation, with a categorisation under the existing statuses (product, byproduct, waste) or an establishment of a separate and satisfactorily determined in detail new status and insertion of it to the current legislation.

The other important thing is that an establishment of an expert apparatus – whatever it is called – is necessary in order that our national sustainability voluntary system records and attests credible, reliable and verified data. It is well-known that the establishment and maintaining of such an expert organisation entail considerable costs. If there is not adequate financial resources for this purpose, an establishment of at least one independent expert registration is necessary, wherein the independent expert may request his or her accession to the registration in case of the fullfillment of the objective and well-defined conditions.

\textsuperscript{44} Ministry of National Development Decree no. 39/2017 (X.9.) 3. §.
\textsuperscript{45} Governmental Decree 279/2017 (IX.22) 9. § (3) Point 4 i).
Bibliography