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State aid for biofuels in Poland

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Abstract: State aid is one of the instruments through which a state can interfere in the economy. Therefore, state aid is a particular instrument of implementing policy. One of the objectives of environmental policy of the European Union is to hold up a climate change. This can be achieved, among others, by an increase in the production of biofuels and an increase in their share in the use of fuel. Therefore, state aid to support the production of biofuels is an instrument through which has come to increase the production of this type of fuel. The aim of this article is to demonstrate the importance of state aid for an increase in the production and use of biofuels in Poland. Indicated the legal basis for granting state aid in the area of biofuels. After were analysed the aid programmes which were implemented in Poland. The article introduces what effect was achieved by the implementation of these programmes.

Keywords: state aid, biofuels, sustainable development, renewable energy

1. Introduction

State aid is one of the instruments through which a state can interfere in its economy. This interference may lead to an imbalance in the market. Therefore, providing state aid is allowable only for the purposes that are defined in the regulations adjusting a grant of state aid. These objectives have been defined by the European Commission and are a reflection of an economic policy implemented at the level of the European Union. Thus, state aid becomes an instrument to support this policy. One of the areas where it is allowed to grant state aid is the area of environmental protection. As a part of it, a very important place is for the support of renewable energy. Increasing the share of energy produced from renewable sources is one of the objectives of the European Union. One of the instruments to achieve this is state aid itself.

The purpose of this article is to show how state aid can be allocated to support biofuels. What conditions must be met for biofuels to be seen as compatible with the concept of

sustainable development. One made an attempt to show how state aid has contributed to an increase in the production and consumption of biofuels in Poland.

2. The concept of state aid

Contemporary economic reality is so complicated that it is difficult to imagine the functioning of the market mechanism in isolation from the state. One of the instruments through which the state can interfere in a market economy is state aid. It shall be considered part of the state interference in economic, which aims to stimulate positive economic developments or prevention of negative processes (Modzelewska, Pełka, Stasiak, 2001: 33). This aid can be considered as a tool in the hands of public authorities, which is used to achieve different objectives and tasks of social and economic policy. Governments grant state aid for many reasons: economic, social, political and strategic ones (Hancher, Ottervanger, Slot, 2012: 30). Despite the widespread occurrence of the phenomenon of state aid, there is no legal (normalized by law) definition of this term.

Issues concerning the admissibility of state aid are governed by Art. 107-109 of the Treaty on the Functioning of the European Union [Consolidated version of the Treaty]. Article 107, paragraph 1 indicates only that “save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market”. Analysis of the provisions of this article allows to conclude that it would be prohibited to provide aid if the conditions referred to therein are together fulfilled. For these circumstances include the transfer of state resources, obtaining economic benefits, the selective nature and occurrence of the effect on competition and trade. In Article 107, paragraph 2, one can read that compatible with the internal market:

- a) aid of social character, granted to individual consumers, provides that such aid is granted without discrimination related to the origin of the products concerned;
- b) aid to make good the damage caused by natural disasters or exceptional occurrences;

- c) aid granted to the economy of certain areas of the Federal Republic of Germany affected by the division of Germany, in so far as such aid is required in order to compensate economic disadvantages caused by that division.

While, Art. 107, Paragraph 3 indicates the types of aid that may be considered to be compatible with an internal market. This includes:

- a) aid to promote economic development of the areas where the standard of living is abnormally low, or where there is serious underemployment, and of the remote regions referred to in Article 349¹, in the view of their structural, economic and social situation;
- b) aid to promote the execution of an important project of a common European interest or to cure a serious disturbance in the economy of a Member State;
- c) aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to a common interest;
- d) aid to promote culture and heritage conservation where such aid does not affect trading conditions and competition in the Union to an extent that is contrary to a common interest;
- e) such other categories of aid as may be specified by decision of the Council on a proposal from the Commission.

Support which objectives are renewable energy are awarded to the exclusion defined in Art. 107, Paragraph 3 point c, based on guidelines on state aid for environmental protection.

3. The production of biofuels in the context of sustainable development

The issue of biofuel production with the principles of sustainable development has been repeatedly raised at the level of the European Union. For example, the European Council in March 2008 indicated that it was very important to develop and respect the sustainability criteria for biofuels. In June, the same year, the European Council again raised the issue of sustainable development and the need to develop second-generation biofuels. It was also claimed that it is necessary to make an assessment of the possible impacts of biofuel production on the

¹ For remote regions include French Guiana, Guadeloupe, Martinique, Réunion, Saint-Barthélemy, Saint-Martin, the Azores, Madeira and the Canary Islands

environment and society (European Parliament). The impact of biofuels on sustainable development should be assessed in two stages. First, acquiring of raw materials for the production of biofuels should be assessed. Second, the expected reduction level of greenhouse gas emissions from biofuels in comparison with fossil fuels production should be assessed. It shows, that the first stage is to assess the influence on both environmental and social sphere, and the second one is to put a particular emphasis on environmental sphere. Conducting such an assessment is very important because, according to Food and Agriculture Organization of the United Nations (FAO) support of biofuels production caused more damages through driving up food prices than the benefits by reducing greenhouse gas emissions. Campaign activists camp against hunger, forecast an increase in major agricultural products prices - wheat, rice, beans, rapeseed, soybean, sunflower seed, palm oil and sugar. Therefore, biofuels production growth exposes a bigger group of people to hunger and makes it necessary to provide them with food aid. Another issue concerns the diversion of arable land. In order to "feed" with ethanol one car throughout the year, about 4 hectares of agricultural land is needed. For one inhabitant of our planet it is 0.12 hectares of cereal crops, and it is predicted that in 2020 it will come to only 0.1 hectare (Zeigler, 2009). Growing crops for biofuels has a large impact on water resources and biodiversity. The areas with highly diversified environment are used for production. In many cases, increased emissions caused by a change of use are likely to counterbalance or even exceed savings gathered in greenhouse gas emissions by replacing fossil fuels with biofuels. The cultivation of oilseeds results in soil sterilisation and degradation of environment. Opponents of biofuel production argue that land and water should be used for food production rather than fuels. Representative of the UN for Food matters, Jean Ziegler said directly: the production of biofuels is a crime against humanity. However, the head of the European Commission, Jose Manuel Barroso argues that there are many reasons for an increase in food prices, but the impact of biofuel production is small. Supporters of biofuels and sustainable development argue that in the light of this idea, the introduction of biofuels seems to be not only a necessity, but it also constitutes a natural order of things. If sustainable development means a better life for present and future generations, there is a need for necessary fundamental changes in the understanding of production, consumption, material needs and the associated progress, respecting the limits set by natural environment (Clarke, 2000: 69-90; Dołęgowska, 2008: 120). Therefore, to meet biofuel sustainability criteria, they may not come from the area of primary forest and other wooded lands,

conservation areas, areas of rare or endangered ecosystems, grasslands and areas with high carbon and peat bogs. However, referring to environmental sphere it is required to reduce greenhouse gas emissions by at least 35% by the end of 2016, and by at least a half from January 2017 (European Parliament, 2009). In a report published by the OECD (OECD, 2008) indicates that the most effective biofuels in savings GHG are ethanol from sugar cane where GHG savings (CO₂ equivalent) are from 70% to 90%. The least effective are methanol from maize where savings are from 20% to 50%.

4. Admissibility of granting state aid in the area of biofuels

Since 1st July 2014 the European Union has set new guidelines for state aid in the area of environmental protection and energy (European Commission). The rationale for granting state aid in the biofuels is the need to achieve at least a 10% share of biofuels in the total consumption of petrol and diesel in transport by 2020. Therefore, state aid is one of the instrument supporting biofuel production.

These guidelines within support of the energy production from renewable sources, allow to provide investment and operational aid.

Investment aid can be granted only for advanced biofuels. An exception takes place in the case of capacity's excess in the market of biofuels produced from food, the European Commission will consider investment aid to be unjustified if it would be for new and already existing productive ability in the sector of biofuels, which are produced from food. However, investment aid, which would serve to transform food-based biofuel plants into advanced biofuel production plants, is allowed to cover the costs of such transformation. Aid intensity was estimated to be at 45% in the case of large enterprises, 55% for medium and 65% for small ones. Eligible costs are the additional ones, which have to be taken by beneficiary, with the comparison of a conventional power plant or conventional heating system, with the same efficiency in terms of the effective energy production.

Operational aid for the production of energy from renewable sources can be justified in order to cover the difference between the cost of producing energy from renewable sources, and the market price of this type of energy. These provisions relate to the production of energy from renewable sources, both to its subsequent sale in the market, as well as for the company's own.

Operational aid may be granted in three different ways. In the first situation, you may grant operational aid to compensate for the difference between the cost of producing energy from renewable sources, including depreciation of extra investments for environmental protection, and the market price of such energy. In additional conditions are indicated that operational aid may be granted to full-time depreciation and additional energy produced by the plant is not eligible for support. If aid is granted on the basis of the above mentioned principles, it helps to determine production costs of operational aid, which must be reduced by investment aid, that is provided for received. Certain solutions are used in relation to the biomass. Biomass production is closely connected with the relatively low investment costs but high operational costs. Because of that, one can receive operational aid exceeding the amount of investment, where a Member State will be able to indicate and the total costs incurred by the company after plant's depreciation are still higher than the market energy price. The second option allows to grant aid to support renewable energy sources by using market mechanisms such as green certificates or tenders. These mechanisms allow all producers of renewable energy to benefit indirectly from guaranteed demand for energy produced by them, at a price higher than the market price of conventional energy. Price of green certificates is not fixed in advance, but depends on supply and demand. In a situation, where these mechanisms take place, state aid can be considered to be compatible with a common market if a Member State demonstrates that aid is a critical factor to ensure the viability of renewable energy sources and, ultimately, will not lead to overcompensation, and will not discourage energy producers of renewable sources to become more competitive. In the third option, aid may be granted in the case of gradual reduction in the first year to 100% of additional costs, falling to 0 until at the end of the fifth year. In a situation, where there will be a gradual reduction, its intensity must not exceed 50% of additional costs.

The rationale for the provision of such support, may be the lack of mandatory Community standards relating to the share of energy gained from renewable sources for individual companies.

5. Polish aid programs

In order to increase the amount of biofuels produced in Poland both investment and operational aid programmes were implemented.

Programme through which investment aid was provided, was N434/2008 scheme of aid for infrastructures to produce bio-components and liquid bio-fuels (European Commission, 2008). The beneficiaries of this scheme could be all companies regardless of their size. The duration of this programme was the period 2009-2013. The budget was 91,479 million euro. Programmes accomplishment was to encourage entrepreneurs to build a plant for the production of bio-components and liquid biofuels, which in turn would contribute to the development of biofuel production in Poland. The programme also contributed to a better and more rational use of renewable energy sources, contributed to ensure continuity of fuel supplies needed to meet a current demand, to increase energy efficiency and the diversification of fuels production.

Another example of the operational programme may be a programme for the reduction of excise duty on biofuels (European Commission, 2005). The aim of programme's accomplishment was to dispose excise duty on produced biofuels. The programme was implemented in 2007-2011, with a budget set at almost 1.2 million euros.

The excise tax discounts for petrol and diesel blended with biofuels and for biofuels used as pure fuels, illustrates table 1.

Table 1. The excise tax discounts for petrol and diesel blended with biofuels and for biofuels used as pure fuels are as follows

fuels	Normal rate	discount
Biofuels blends with:	In PLN per 1000 litre	
petrol	1565	1500
diesel (<0,005% sulphur content)	1180	1000
low sulphur (>0,001%≤0,005%)	1099	
zero sulphur (≤0,001%)	1048	
Biofuels used as pure fuels	1882	1680

Sources: European Commission, 2005.

These programmes complement each other and their accomplishment would help to increase the amount of biofuels produced in Poland, as well as to increase their participation in fuel consumption.

Evaluation of the effectiveness of these programmes can be made on the basis of production and consumption of biofuels in Poland.

Table 2 shows the consumption of transport fuels in the period 2000 to 2012, and the share of biofuels consumption. The data shows that from year to year a fuel consumption in

transport decreased, and diesel consumption increased. At the same time, consumption of esters and bioethanol went up.

Table 2. The share of bio fuels used in transport in the period 2000-2012

year	Consumption in transport (thous. tonnes)				
	gasoline	diesel	bioethanol	esters	the indicator according to the calorific value (%)
2000	4841	2343	40,6	0	0,35
2001	4484	2562	52,4	0	0,46
2002	4109	2940	65,3	0	0,57
2003	3941	3606	60,1	0	0,49
2004	4011	4303	38,3	0	0,29
2005	3915	5075	42,8	17,1	0,47
2006	4048	6042	84,3	44,9	0,92
2007	3997	7212	70,8	37,3	0,68
2008	4109	10069	185,6	479,9	3,66
2009	4125	10387	232,2	635,8	4,63
2010	3885	10903	238,0	893,1	5,94
2011	3647	11437	238,3	972,7	6,24
2012	3700	11424	304,6	671,8	b.d.

Sources: Ministerstwo Gospodarki 2012, 2013, 2014.

Table 3 provides information on fuel consumption in Poland in the period 1994-2012, and the consumption of bioethanol. Gasoline consumption is characterized by a downward trend, while bioethanol consumption trend is growing. From year to year fuel consumption is reduced by approx. 2%, while bioethanol consumption increased by over 14%. It is worth emphasizing the systematic increase in the share of bioethanol consumption in gasoline consumption.

Table 3. The use of bioethanol in gasoline over the period 1994-2012

year	consumption of gasoline (thous. m ³)	including bioethanol (thous. m ³)	% share of volume
1994	7325	27	0,37
1995	8332	63	0,76
1996	6174	100,9	1,63
1997	6691	110,6	1,65
1998	6672	99,8	1,5
1999	7770	83,2	1,07
2000	6808	51,4	0,75
2001	6233	66,4	1,07
2002	5645	82,8	1,47
2003	5453	76,2	1,4
2004	5564	48,5	0,87
2005	5151	54,2	1,05
2006	5326	106,8	2,01
2007	5434	89,6	1,65
2008	5742	234,6	4,08
2009	5806	293,6	5,05
2010	5495	301	5,48
2011	5176	301,3	5,82
2012	4929	304,6	6,18

Sources: Ministerstwo Gospodarki 2012, 2013, 2014.

The analysis showed that the accomplishment of aid programmes for the promotion of biofuels contributed decisively to increase their production, and increased their use. In the case of biofuels, a significant increase in their consumption can be observed since 2008, since the time when a programme for operational aid came into life. The vast majority of support was granted as operational aid. Information on the provided support on the basis of particular aid programmes illustrates Table 4.

Table 4. The value of state aid granted in the field of biofuels in 2008-2012 (euro)

specification	2008	2009	2010	2011	2012
N580/2005 Excise duty reduction for biofuels	854,67	918,0	-	-	
N434/2008 Scheme of aid for infrastructures to produce bio-components and liquid bio-fuels.	-	-	-	66,96	
N57/2008 Operational aid for biofuels	-	276,18	1420,04	570,05	
N436/2008 Aid scheme for new investments within industry development for the renewable energy sources, bio-components and liquid fuels	-	-	-	-	53,08

Sources: Office of Competition and Consumer Protection 2011, 2012, 2013.

With nearly 1 040 million state aid granted in the area of biofuels, only 30 million were granted as investment aid.

Presented values show that far more important for the development of the Polish market for biofuels would be aid granted in the form of tax reductions and exemptions.

6. Conclusion

The analysis showed that state aid can be an instrument contributing to an increase in biofuels use. On the basis of Poland one can observe that since state aid is granted to support biofuels, there is a significant increase in the number of produced and consumed biofuels. Potential producers of biofuels need incentives which would encourage them to manufacture biofuels. Legal regulations allow to grant two types of aid. However, the analysis showed, that greater importance is the operational support, and so aid granted in the form of relief in excise duty. It can be concluded than, that there are not anyone interested in entering the market for the production of biofuels, and support goes straight to current producers and aims to improve the economic efficiency of their production.

Therefore, it has to be assumed that by granting state aid Poland will be able to achieve a level of its indicators on biofuels in a total fuel consumption.

We should however remember that the promotion of the production of biofuels results in the appearance of negative externalities. These effects relate to the sphere of social, environmental and economic. The main problem lies in the seizure of the land previously used for food production to produce energy which contributed to the increase in food prices.

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Pomoc publiczna dla biopaliw

Streszczenie

Pomoc publiczna jest jednym z instrumentów, za pomocą którego państwo może ingerować w gospodarkę. Pomoc publiczna jest więc instrumentem realizacji określonej polityki. Jednym z celów polityki ochrony środowiska Unii Europejskiej jest powstrzymanie zmian klimatycznych. Osiągnięte to może zostać między innymi poprzez zwiększenie produkcji biopaliw a także zwiększenie ich udziału w wykorzystaniu paliw. Pomoc publiczna udzielana na wsparcie produkcji biopaliw jest więc instrumentem dzięki któremu ma dojść do zwiększenia produkcji tego rodzaju paliwa. Celem artykułu jest pokazanie znaczenia pomocy publicznej dla

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zwiększenia produkcji i wykorzystania biopaliw w Polsce. Wskazano, jakie są podstawy prawne udzielania pomocy publicznej w obszarze biopaliw. Poddano analizie programy pomocowe realizowane w Polsce. Pokazano, jaki efekt osiągnięto dzięki ich realizacji.

Słowa kluczowe: pomoc publiczna, biopaliwa, zrównoważony rozwój, energetyka odnawialna