

State aid for excise duty refund of fuels used in agriculture in Bulgaria in the context of the common European green policy

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Abstract

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This study analyzes the tax relief for fuels used in agricultural production in EU member states, the Organization for Economic Co-operation and Development (OECD), and other countries. Primary attention is paid to the state aid for excise duty refund of the fuels used in agriculture in Bulgaria. Previous researches prove that fossil fuel subsidies are inefficient. According to UNDP research, for every dollar pledged to tackle the climate crisis for the world's poor, four dollars are spent on fossil fuel subsidies that keep the climate crisis alive. These circumstances require a different approach and a solid need to reform fossil fuel subsidies.

The main goal of the research is to identify the possibilities for the practical application of alternative approaches for economic impact in different aspects based on research and analysis of the tax policy regarding the fuels used by agriculture.

Reforming energy subsidies remains a major political challenge as societies and economies experience tensions from the Covid-19 pandemic. But the prospects for recovery after the crisis are inextricably linked to the proper alternative mechanisms, especially if subsidy reform is combined with a broader range of political and economic measures to create a more stable, secure, and sustainable agricultural sector.

Keywords: excises; fossil fuels; subsidies; agriculture; Bulgaria

Introduction

Climatologists and other scientists warn that the accumulation of carbon dioxide and other greenhouse gases will likely lead to global warming, more significant changes in the temperature and rainfall, increased extreme weather events, sea-level rise, and other considerable climate changes in the next century. In 2009 the G20 committed to removing the inefficient subsidies for fossil fuels that promote wasteful consumption (Van de Graaf et al., 2018). Meanwhile, the Paris Agreement obliged signatory countries to sustain global warming significantly below 2 degrees by limiting greenhouse gas emissions (UNFCCC, 2015). The European Commission has adopted a set of proposals to make European Union (EU) climate, energy, transport, and taxation

policies suitable for reducing net greenhouse gas emissions by at least 55% by 2030 compared to 1990 (2030 Climate Target Plan, 2020). As part of the European Green Deal, the Commission proposed on 4 March 2020 the first European Climate Law sets the goal of climate neutrality by 2050 (European Climate Law, 2021).

Fossil fuel subsidies are applied in many countries worldwide (Economics of Climate Change, 2021). Their introduction is fundamental – making energy available to different parts of the population, i.e., pursuing social goals. (Rentschler & Bazilian, 2017). In practice, it turns out that subsidies are poorly designed. They create risks to government budgets, encourage wasteful use of fossil fuels, do not benefit the neediest, and increase greenhouse gas emissions. It is estimated (Jewell et al., 2018) that reforming fossil fuel

subsidies could provide a quarter of the emission reductions promised in the Paris Agreement. According to other authors, removing fossil fuel subsidies will reduce emissions by 1 to 23% (Burniaux & Chateau, 2011; Coady et al., 2019). Reducing emissions would be even more significant if savings from reforms are focused on renewable energy (Jacob et al., 2015; Schmidt, 2017). There is a view that the energy price below the market levels leads to excessive energy intensity. It can harm the productivity (Corneli & Funkhauser, 2004; Hang & Tu, 2007; Skovgaard, 2019). Previous researches prove that fossil fuel subsidies are inefficient. According to UNDP research, “for every dollar pledged to tackle climate crisis for world’s poor, four dollars are spent on fossil fuel subsidies that keep the climate crisis alive”. These circumstances require a different approach and a solid need to reform fossil fuel subsidies.

A significant part of the energy subsidies, in particular for the consumption of fossil fuels, is directed to the agricultural sector. According to Eurostat (Agri-environmental indicator – energy use, 2021), agriculture is a significant consumer of energy (Figure 1). Energy consumption from agriculture accounted for between 3.3 and 3.7% of final energy consumption in the European Union in the period 2009-2019 (Figure 2). Although energy consumption in agriculture in the EU decreased by 8.1% between 1999 and 2019, in the European Union, just over half (55%) of total energy consumption in agriculture in 2019 is petroleum and petroleum products (excluding biofuels), which are the primary fuel in most countries (Figure 3).

Agriculture is a direct consumer of energy using machinery and heating of agricultural equipment. It uses energy indirectly to produce agrochemicals, fertilizers, fodder, agricultural machinery, and buildings. As an energy consumer, agriculture contributes to the depletion of nonrenewable energy resources and global warming through energy-related emissions (such as CO₂ emissions from fossil fuel combustion). In this sense,

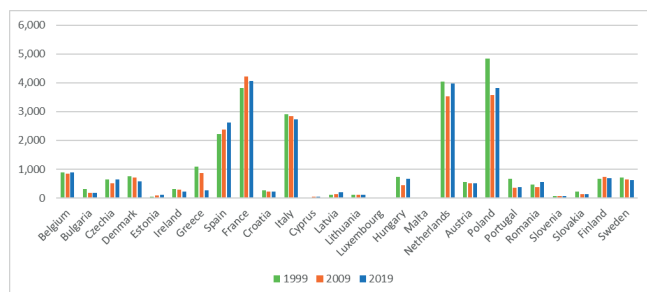


Fig. 1. Energy consumption by agriculture (1000 tonnes of oil equivalent)

Source: Author’s interpretation according to Eurostat data

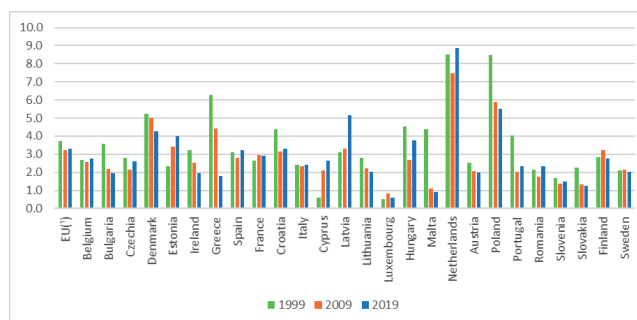


Fig. 2. Share of energy consumption by agriculture in final energy consumption, %

Source: Author’s interpretation according to Eurostat data

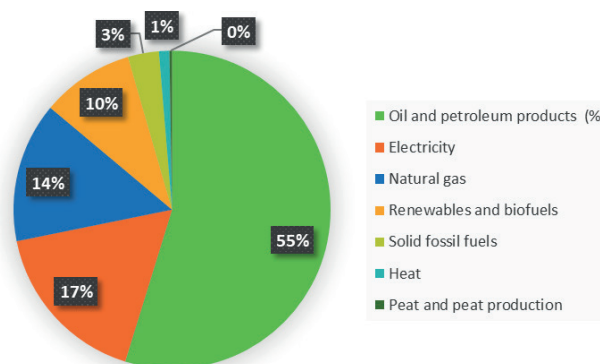


Fig. 3. Share of fuel type in energy consumption by agriculture, EU, 2019

Source: Author’s interpretation according to Eurostat data

the state’s support for the production and consumption of fossil fuels is contrary to reducing greenhouse gases.

The state’s support for the production and consumption of fossil fuels pursues economic, political, environmental, and social goals. In some countries, this support aims to ensure equal access to energy, while in others, it seeks to provide a competitive advantage to local industries. Ambitions for environmental protection require reforming government policies related to fossil fuel subsidies and phasing them out.

Based on the research and analysis of the tax policy regarding the fuels used by agriculture, the main goal of the investigation is to identify the possibilities for the practical application of alternative approaches for economic impact.

Materials and Methods

This study analyses the tax relief for fuels used in agricultural production in EU member states, the Organization for Economic Co-operation and Development (OECD), and other countries. Special attention is paid to the state aid for

excise duty refund of fuels used in agriculture in Bulgaria. Researching the problems related to the tax relief of fuels used in agriculture requires the systematization of a wide range of literature and the legislation governing tax policy in the European Union and the Republic of Bulgaria (RB).

The development of this study is based on data from the European Statistical Institute (EUROSTAT), OECD, the National Statistical Institute of the Republic of Bulgaria, officially published information from the Ministry of Finance and the Ministry of Agriculture, Food and Forestry, the Strategic Plan for Agriculture and Development of rural areas for the period 2023 – 2027 of the Republic of Bulgaria, Integrated energy and climate plan of the Republic of Bulgaria 2021-2030, National Recovery and Resilience Plan of the Republic of Bulgaria. Logical methods are applied, such as induction and deduction, analysis and synthesis, the abstract-logical approach, the method of comparative analysis, the historical method, tabular and graphical presentation of individual trends, and the resulting conclusions.

Results and Discussion

Council Directive 2003/96/EC on restructuring the Community framework for the taxation of energy products and electricity was adopted in 2003. As tax has a significant share in the final price of products, the purpose of the Directive is to create conditions for the proper functioning of the domestic market of each country. Differentiation in taxation is allowed and required depending on the purposes for which the product is used. Standard minimum rates of energy products are introduced to relieve excise duty taxation. These are products for: 1 – heating, 2 – agricultural needs. According to Article 8, minimum taxation levels of products used as motor fuel in agricultural, horticultural, and fish farming activities and forestry are determined (Table 1).

The Organization for Economic Co-operation and Development's 2019 Fossil Fuel Support Report identifies, documents, and evaluates 1200 support measures for fossil fuels in 44 countries – 36 OECD countries, Argentina, Brazil, the People's Republic of China, Colombia, India, Indonesia, Russia and South Africa (Fossil fuel support data and Country Notes – OECD, 2019).

According to the report, OECD countries generally provide most of their support for fossil fuels through their tax systems. This support can be done in two ways – either through direct payments from the budget or through the so-called tax expenses. Tax expenditures represent about 77% of the support. The rest, 33% is implemented through direct budget transfers. In the G20, direct costs are more common as an instrument of transferring funds to producers to sell their products below market prices or to provide money to households for their fossil fuel costs. Some specifics distinguish direct payments from tax expenditures. The latter represents that part of the state's tax revenues, which it fails to collect as a result of introduced reliefs. Another significant difference, especially for Bulgaria, is that direct payments, unlike tax expenditures, are strictly controlled, monitored, and analyzed (Tax Expenditure Report, 2007-2019). The lack of such control is partly because tax expenditures are not concentrated in one regulatory document but multiple ones, making it even more challenging to control them. Bulgaria has not adopted its definition of tax expenditure. Still, it uses the one imposed by the OECD – “a transfer of public resources that is achieved by reducing tax obligations concerning a benchmark tax, rather than by a direct expenditure” (Tax Expenditures in OECD Countries, 2010).

Let's analyze the measures taken by individual countries for excise duties reliefs on energy products used in agriculture.

Table 1. Comparison of minimum levels of taxation applicable to motor fuels used in agriculture according to Council Directive 2003/96 / EC and levels of taxation for motor fuels in Bulgaria

Motor fuels	Minimum levels of taxation applicable to motor fuels used in agriculture	Minimum levels of taxation applicable to motor fuels 2004/2011	The tax rate for motor fuels in Bulgaria
Gas oil (in euro per 1000 l) CN codes 2710 19 41 to 2710 19 49	21	302/310	330.3
Kerosene (in euro per 1000 l) CN codes 2710 19 21 and 2710 19 25	21	302/330	330.3
LPG (in euro per 1000 kg) CN code 2711 12 11 to 2711 19 00	41	125/125	173.8
Natural gas (in euro per gigajoule gross calorific value) CN code 2711 11 00 and 2711 21 00	0.3	2.6/2.6	0.43

Source: Interpretation of authors under Directive 2003/93 / EC

In Belgium, energy products used in agricultural activities – oil, kerosene, heavy fuel oil, propane-butane, natural gas, electricity, coal, coke are exempt from excise duty. There are exemptions or reductions in provincial fuel taxes and exemptions from carbon taxes on fossil fuels used in agricultural machinery in Canada. In Chile, farmers may demand tax relief on fuel used for agricultural machinery. No excise tax is charged on the so-called blue diesel fuel used in agriculture, fisheries, and aquaculture in Croatia. In the Czech Republic, 40% of the excise duty on the diesel used for crop production, forestry, and fisheries and 40 to 87% of the excise duty on the diesel used for animal husbandry are refunded. In Denmark, farmers pay 1.8% of the standard energy tax. The tax rebate has a fair value of 5million euros a year.

In Estonia, the excise duty on fuel used for agriculture is reduced by 73%. Finland also applies lower rates of excise duty on diesel and fuel oil used in agriculture. The total value of the tax rebate is approximately EUR 30 million per year. France has also reduced the tax on energy products used for agricultural machinery and vehicles on farms. Taxes are also being reimbursed for compensating for the increase in the tax on contributions to climate change. These tax expenditures in 2018 amount to EUR 825 million and account for 60% of the tax expenditures. In Germany, the refunds for agricultural diesel amounted to 450 million euros in 2018. Excise duty on the diesel used in agriculture is being reimbursed in Hungary. The reimbursement varies from 82% to 83.5% depending on the world price of oil but no more than 97 litres per hectare. In Ireland, on the one hand, farmers benefit from a tax credit to increase the hydrocarbon tax on agricultural diesel.

On the other hand, farmers can deduct agricultural diesel as an income tax expense, which leads to a double tax deduction. Italy has a lower excise tax on fuel used in the agricultural sector. In addition, a 22% reduction in the state tax on mineral oils is applied to a certain amount of fuel used during the year in agriculture. In 2017, the tax savings result of the reduced excise duty on fuels amounted to about EUR 990 million or 40% of the total amount of agricultural tax expenditures.

In Japan, the agricultural business is exempt from the tax on diesel used for agricultural machinery and greenhouses. The agricultural sector is exempt from transport, energy, and environmental taxes on gasoline, diesel, and other petroleum fuels in Korea. The lost tax revenues from this relief in 2017 amount to about 1.1 million USD. In Latvia, the excise duty on fuels used in agriculture is up to 15% lower than the standard excise duty rate. Depending on the harvest, a volume limit is applied with a reduced rate for the purchased diesel.

The natural gas used for heating oranges and poultry farms uses a reduced excise tax. In Lithuania, farmers who do not exceed the maximum gas oil consumption in agricultural production can also benefit from reduced excise duty on gas oil. There are tax credits for excise duty on diesel and gasoline used as raw materials in agriculture in Mexico. Farmers with annual incomes below a specific limit can reimburse excise duty in cash, subject to a maximum reimbursement per month. The Netherlands has also reduced the tax rate on gas used to heat greenhouses. In New Zealand, excise duties on fuel, excluding diesel, are reimbursed to owners of agricultural vehicles. In Norway, diesel used in agricultural machinery is exempt from excise duty.

In Poland, discounts on excise duty on fuel are significant and amount to about 216 million euros in 2018. In Slovenia, 70% of excise duties paid on fuel used in agriculture in a limited annual amount depending on agricultural activity are reimbursed. In Spain, taxes on diesel used for tractors and agricultural machinery have been reduced from 96.71 euros per ton (2019), compared to the usual 331 euros per ton (2019). Farmers using agricultural diesel are entitled to a tax refund of EUR 63.71 per ton (2019). In Switzerland, the tax on mineral oil levied on fuel used in agricultural production is reimbursed on a lump sum calculated based on fixed production indicators. In the United Kingdom, lower excise duty rates are applied to agricultural fuel of £ 0.66 billion a year. Horticultural workers can refund excise duty on heavy heating oil. In the United States, farm fuel is wholly or partially exempt from federal and state excise taxes or fuel sales taxes. No tax is charged on painted diesel fuel for agriculture. Farmers can apply for a tax refund or tax credit for petrol and uncoloured diesel used in agriculture.

Bulgaria is one of the most carbon-intensive countries among the EU member states. Although declining over the years, the country's greenhouse gas emissions are four times higher than the EU average. (Recovery and Resilience Plan for Bulgaria, 2021) (Figure 4).

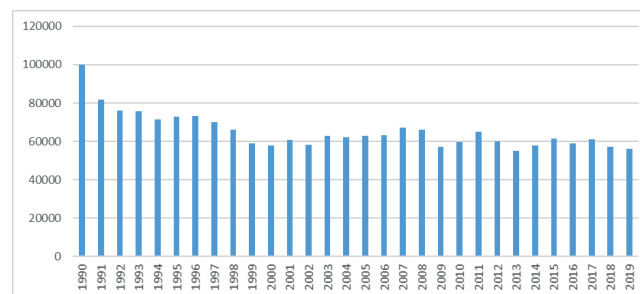


Fig. 4. Greenhouse gas emissions in Bulgaria -tonnes of CO₂ equivalent, thousands

Source: Author's interpretation based on data from stats.oecd.org

Agriculture in Bulgaria as a direct energy consumer has about 2% of final energy consumption in the country. (Figure 5 and Figure 6) Agriculture contributes 10.69% of total greenhouse gas emissions. (Strategic Plan for Agricultural and Rural Development for 2023 – 2027, 2021.) They result from activities and processes related to the production and processing of agricultural products, fertilization of soils, treatment of animal waste. The sector is a significant source of nitrous oxide emissions (about 87% of the country's emissions). The Integrated Energy and Climate Plan of the Republic of Bulgaria 2021-2030 (Integrated Energy and Climate Plan of the Republic of Bulgaria 2021-2030, 2020) for the agricultural sector set targets for reducing emissions from agricultural machinery, methane emissions from biological fermentation in animal husbandry, optimizing the use of manure and crop residues, application of water-saving technologies on farms, etc.

Agriculture in Bulgaria benefits from several state aids and benefits. The main goal of this government aid is to help the sector overcome the competition of European agricul-

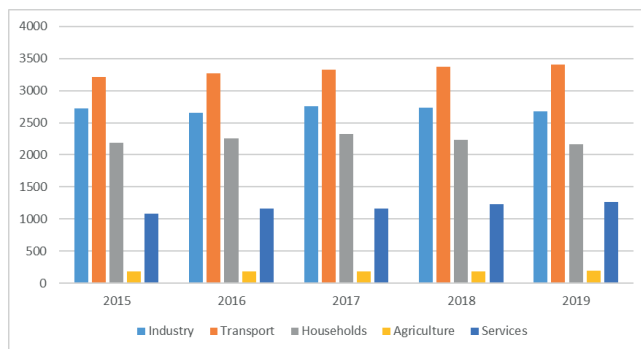


Fig. 5. Final energy consumption by sectors in Bulgaria in the period 2015–2019 in thousands of tons of oil equivalent

Source: Author's interpretation based on data from nsi.bg

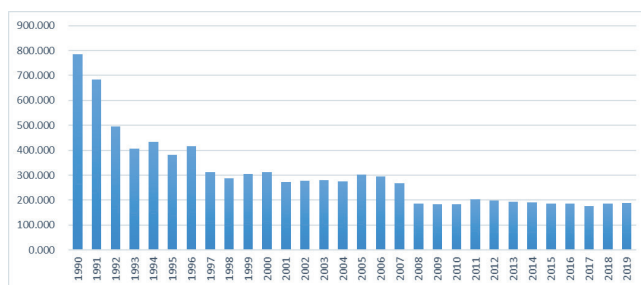


Fig. 6. Direct energy consumption in agriculture in Bulgaria in the period 1990–2019 Tonnes of oil equivalent (toe), thousands

Source: Author's interpretation based on data from stats.oecd.org

tural products and create highly productive and highly efficient agriculture. The state aid for refunding excise duty on fuels is essential for Bulgarian farmers. At the same time, a contradiction arises with the policy of economic use of natural resources and sustainable development of agricultural holdings. This contradiction explains the frequent changes in this government aid that sometimes exists in our legislation, sometimes disappears in other years. Our tax policy has chosen to support the agricultural sector in tax expenditures rather than direct payments. They have been applied since 2006 and occupy the highest share in the excise tax expenses. In the period 2010–2013, the measure was repealed. In 2014 it was restored in a particular order for deduction of excise duty on fuel vouchers. The state aid is applied in this form until June 2016, cancelled. Since June 2019, the measure has been implemented in the form of state aid, "Special procedure for remittance of excise duty on purchased gas oil used in primary agricultural production", regulated by the Agricultural Producers Support Act and the Excise Duties and Tax Warehouses Act.

0.9% -2.23% of total excise revenues are reimbursed in the form of excise duty on purchased gas oil used in the primary agricultural production of Bulgarian taxpayers in the period 2007–2009 and 2014–2019. As an absolute amount, the reimbursed excise duty marked a positive trend over the years. This trend proves that tax preference is becoming increasingly popular among taxpayers (Table 2).

The reimbursed excise duty on purchased gas oil used in primary agricultural production occupies the most significant relative share (between 42 and 64%) in the tax expenditures under the Excise Duties and Tax Expenditures Act (Figure 7).

Table 2. Share of remittance of excise duty on purchased gas oil used in primary agricultural production and in absolute amount 2007–2009/2014–2019

Year	Amount, euros	% of Tax Revenue from Excise Duties
2007	32 273 153	1,90
2008	41 332 579	2,00
2009	43 889 502	2,23
2014	22 093 085	1,07
2015	20 741 599	0,90
2016	37 111 506	1,51
2017	42 940 618	1,69
2018	42 941 439	1,61
2019	42 730 488	1,52

Source: Author's interpretation based on data from Ministry of Finance

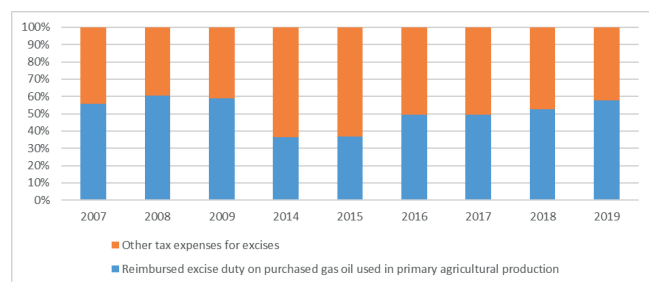


Fig. 7. Refunded excise duty on purchased gas oil used in primary agricultural production as a percentage of excise tax expenditures for the period 2007-2019

Source: Author's interpretation based on data from Ministry of Finance

The discount for a litre of gas oil in the last few years is calculated by a particular methodology. It provides for the setting of separate individual quotas for each farmer in the Crop and Livestock sectors. The lower value of the presented invoices or the maximum allowable amount of gas oil, determined according to the methodology depending on the owner's type of crops or animals, is accepted. The rate per litre of gas oil is determined later depending on the state aid budget and the sum of the individual annual quotas of farmers. For 2020, its value is BGN 0.43 (EUR 0.22) for each litre of gas oil used for mechanized activities in primary agricultural production.

According to Regulation (EU) 651/2014 of the EC on declaring specific categories of aid compatible with the internal market and application of Articles 107 and 108 of the Treaty on the Functioning of the EU, Article 44, aid schemes in the form of tax reductions for environment compliant under Council Directive 203/96 / EC are compatible with the internal market if at least the minimum rates of taxation set out in Directive 2003/93 / EC are paid and are based on a reduction the applicable environmental tax rate or a lump sum payment. More and more farmers benefit from the state aid "Special procedure for remittance of excise duty on purchased gas oil used in primary agricultural production". The state aid budget from 2016 to 2019 is BGN 84 million, and from 2020 it has been increased to BGN 100 million. (Table 3) The deadline for implementation of state aid is 31.12.2023

Nowadays, the reforms of national tax systems must provide reasonable protection of the national revenues and support the ecological and digital transition. The tax burden is shifting from conventional taxes on labour to activities that negatively impact the environment, such as resource use or pollution. The level of taxation must be determined according to the damage that the energy product causes to the environment, for example, taking into account the carbon content.

Table 3 State aid budget and number of farmers benefiting from aid

Year	Number of farmers	Budget aid in million euros
2016	6716	42.95
2017	8250	42.95
2018	9597	42.95
2019	10734	42.95
2020	11634	51.13
2021	12131	51.13

Source: Author's interpretation based on data from Ministry of Agriculture, Food and Forestry

The European Green Deal places agriculture among the sectors with the highest expectations for protecting natural resources and the protection of human health and well-being. This protection is a severe challenge for Bulgarian agriculture. Its low liquidity has further deteriorated in the context of the COVID-19 pandemic. It is a sensitive sector of the economy, the maintenance of which is related to the competitiveness of economic entities and the support of rural areas. The state support should be not so much aimed at reducing the cost of natural resources as an incentive to introduce environmentally friendly technologies. The governments can provide agribusiness with an alternative to fossil fuel subsidies through unique alternative mechanisms that better suit its interests. There are several ways to achieve this goal.

The first goal set in the National Recovery and Resilience Plan is to increase the awareness and knowledge of farmers about the benefits and ways to implement environmental practices and solutions based on Nature, opportunities to apply the principles of the circular economy.

It turns out that farmers can optimize the use of natural resources if they have the information and knowledge to do so. For example, reducing fuel consumption is one of the most critical factors for sustainable agriculture, which, in addition to significant savings for farmers, also positively impacts the environment. Poje (Poje et al., 2017), analyzing the fuel consumption in agriculture of Croatia and Slovenia based on the request for refund of excise duty on fuels, concludes that farmers' awareness of the management of the agricultural park can lead to a significant reduction of fuel costs. According to him, activities are required to raise farmers' understanding of the importance of reducing fuel consumption, but this depends on their knowledge and experience. An indisputable fact is that lower fuel consumption produces less carbon dioxide and fewer greenhouse gases that worsen climatic conditions and raise air temperatures. At the same

time, by reducing fuel consumption, farmers reduce their production costs, hence the production cost. Fuel consumption is influenced by the regular maintenance and service of the machine, the operation of the tractor at optimum engine speed, the alignment of the implement, the experience of the tractor driver, etc. In this sense, the application of an onboard fuel indicator installed in the tractor can measure fuel consumption reduction.

The National Recovery and Resilience Plan envisages stimulating investments related to the protection of environmental components and an introduction of innovative products and digital technologies in work processes and investments in facilities and equipment to overcome the effects of climate change for the agricultural sector. In addition to providing grants for projects in new resource-saving and environmentally friendly technologies and equipment, tax relief can be applied in accelerated depreciation for further control and reducing the pollution technique.

The goal of low-carbon agriculture and more efficient use of natural resources is universal and applicable to agriculture. Renewable energy sources such as solar energy, wind energy, geothermal energy, hydropower, ocean energy, biomass, and biofuels are alternatives to fossil fuels. They reduce greenhouse gas emissions, diversify energy dependencies, and reduce energy dependency on changes in fossil fuel markets. According to Momchil Antov (Antov 2011), the future belongs to renewable and alternative energy sources. According to him, a reasonable step would be the introduction of zero excise duty on biodiesel and bioethanol and subsidizing their production. The advantage is that they can be produced in Bulgari, thus reducing dependence on oil imports. Their combustion results in fewer emissions of particles and are harmful to the environment or toxic gases. At the same time, the agricultural sector is expanding with alternative crops for commercial use.

Although the business, including agriculture, is wary of the potential impacts of environmental policy plans, the experience of several countries shows different potential benefits in the short to medium term of improved resource efficiency (Analysis associated with the Roadmap to a Resource Efficient Europe, 2011):

Improved productivity – companies reduce costs and thus improve their competitiveness.

Growth and job creation – the faster pace of technological and organizational change opens up new global markets, supporting new jobs.

Macroeconomic stability – by reducing the security of supply problems, market volatility of essential resources and thus reducing the pressure of asymmetry within the euro area. It can also support fiscal reform

Environmental benefits and sustainability – Improved resource management is an effective way to reduce carbon emissions and address the effects of climate change.

Conclusions

Agriculture is one of the sectors of the economy whose contribution to the production of greenhouse gases is far from being neglected. It's necessary measures to be introduced to reduce carbon emissions through the precise use of artificial and natural fertilizers; introduction of varieties whose cultivation requires less water; direct sowing and better water management; better animal nutrition and improved waste management; expanding the use of biofuels, etc. (Popov, 2011) In these conditions elimination of the subsidies on energy, including fossil fuels is required. Reforming energy subsidies remains a major political challenge as societies and economies experience the consequences of the Covid-19 pandemic. But the prospects for recovery after the crisis are inextricably linked to the proper alternative mechanisms, especially if subsidy reform is combined with a broader range of political and economic measures to create a more stable, secure, and sustainable agricultural sector.

References

- Agri-environmental Indicator – Energy Use** (2021). Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri_environmental_indicator_-_energy_use&oldid=541242.
- Analysis Associated with the Roadmap to a Resource Efficient Europe, Part I** (2011). Retrieved from https://ec.europa.eu/environment/resource_efficiency/pdf/working_paper_part1.pdf.
- Antov, M.** (2011). *Excise duties in the European Union – a source of funds or a means of protection*, Retrieved from <https://www.researchgate.net/publication/314204912> (Bg).
- Burniaux, J. & Château, J.** (2011). *Mitigation Potential of Removing Fossil Fuel Subsidies: A General Equilibrium Assessment*, OECD Economics Department Working Papers, No. 853, *OECD Publishing*.
- Coady, D., Parry, I., Le, N.-P. & Shang, B.** (2019). *Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates*, IMF Working Document.
- Commission Regulation 2014/651 Declaring Certain Categories of Aid Compatible With the Internal Market in Application of Articles 107 and 108 of the Treaty** (2014). Retrieved from <https://eur-lex.europa.eu/legal-content/BG/TXT/PDF/?uri=OJ:L:2014:187:FULL&from=BG>.
- Cornillie, J. & Fankhauser, S.** (2004). *The Energy Intensity of Transition Countries*. *Energy Economics*, 26(3), 283–295.
- Council Directive 2003/96/EC of 27 October 2003 Restructuring the Community Framework for the Taxation of Energy Products and Electricity** (2003). *Official Journal of the Euro-*

- pean Union, L 283/51, 31.10.2003.
- European Climate Law**, published in the Official Journal on 9 July 2021, in force since 29 July 2021. Retrieved from https://ec.europa.eu/clima/eu-action/european-green-deal/european-climate-law_bg.
- Fossil Fuel Support Data and Country Notes – OECD (2019)**. Retrieved from <https://www.oecd.org/fossil-fuels/data/>.
- 2030 Climate Target Plan (2020)**. Brussels, 17 September 2020, Retrieved from https://ec.europa.eu/commission/presscorner/detail/bg/qanda_20_1598.
- Hang, L. & Tu, M.** (2007). The Impacts of Energy Prices on Energy Intensity: Evidence from China. *Energy Policy*, 35(5), 2978–2988.
- Integrated Energy and Climate Plan of the Republic of Bulgaria 2021-2030 (2020)**. Retrieved from https://www.me.government.bg/files/useruploads/files/national_energy_and_climate_plan_bulgaria_clear_22.02.20.pdf (Bg).
- Jakob, M. & Hilare, J.** (2015). Using Importers' Windfall Savings from Oil Subsidy Reform to Enhance International Cooperation on Climate Policies. *Climatic Changes*, 131(4), 465–472.
- Jewell, J., McCollum, D., Emmerling, J., Bertram, C., Gernaat, D. E. H. J., Krey, V., Paroussos, L., Berger, L., Fragkiadakis, K., Keppo, I., Saadi, N., Tavoni, M., van Vuuren, D., Vinichenko, V. & Riahi, K.** (2018). Limited emission reductions from fuel subsidy removal except in energy-exporting regions. *Nature*, 554(7691), 229–233. *CrossRef Google Scholar PubMed*.
- Poje, T., Jejčić, V. & Sito, S.** (2017). Lower fuel consumption – one of the conditions for sustainable agriculture. *Glasnik Zaštite Bilja*, 40(4), 23, <https://doi.org/10.31727/gzb.40.4.1>.
- Popov, R.** (2011). *The New Challenges for World Agriculture in the Beginning of the Second Decade of the 21st Century*. *Economics and Management of Agriculture*, 56(5), 14–26 (Bg).
- Rentschler, J. & Bazilian, M.** (2017). Principles for designing effective fossil fuel subsidy reforms. *Review of Economics and Environmental Policy*, 11(1), 138–155.
- Recovery and Resilience Plan for Bulgaria 2021 (2021)**. Retrieved from <https://www.nextgeneration.bg/> (Bg).
- Schmidt, V.** (2008). Discursive institutionalism: The explanatory power of ideas and discourse. *Annual Review of Political Science*, 11, 303–326.
- Skovgaard, J.** (2021). The economization of climate change: The G-20, OECD and the IMF address fossil fuel subsidies and climate finance. *Cambridge University Press*, 73–144, <https://doi.org/10.1017/9781108688048>
- Skovgaard, J. & Van Asselt, H.** (2019). The politics of fossil fuel subsidies and their reform: Implications for climate change mitigation, *Wiley Interdisciplinary Reviews: Climate Change*, 10(4), e581, <https://doi.org/10.1002/wcc.581>.
- Strategic Plan for Agricultural Development and Rural Development for the Period 2023-2027. (2021)**. Retrieved from <https://www.moew.government.bg/bg/strategicheski-plan-za-razvitie-na-zemedeliето-i-razvitie-na-selskite-rajoni-za-perioda-2023-2027-g/> (Bg).
- Tax Expenditures in OECD Countries, OECD (2010)**. <https://doi.org/10.1787/9789264076907-en>.
- Tax Expenditure Reports 2007-2019.** (2019). Retrieved from <https://www.minfin.bg/bg/1300> (Bg).
- UNFCCC (2015)**. *Decision 1/CP.21 Paris Agreement. Document FCCC/CP/2015/L.9/Rev.1*.
- Van de Graaf, T. & Blondeel, M.** (2018). Fossil Fuel Subsidy Reform: An International Norm Perspective. *Cambridge University Press*, 83–99.

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