

THE DIRECT INFLUENCE OF CITIZENS OF THE EUROPEAN COMMUNITY IS A CHANCE TO REDUCE DEPENDENCE ON RUSSIAN ENERGY RESOURCES IN THE EUROPEAN UNION.

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Abstract:

The aim of the article is to present the direct impact of citizens of the European community on reducing dependence on Russian energy resources in the European Union. For this purpose, an analysis was made of the direct impact of EU citizens in reducing media imported from Russia. Next, the possibility of direct action by citizens and the EU, which can influence the reduction of imported energy carriers from Russia, is analyzed on the example of energy consumption in households and passenger transport.

Keywords: Energy, European Union, Eurostat, International Energy Agency

Introduction

Analyzing the reaction of the EU authorities to Russia's aggression against Ukraine and the member states themselves, it can be concluded that a large percentage of the European community will want to take action to help Ukraine after Russia's invasion. A good example is the Polish society, which, according to CBOS research, 57% of them declare that they intend to avoid buying Russian products¹. The example of Poles shows that every EU citizen has a real influence by using less energy. As a consequence, it will allow citizens of EU countries to reduce the costs of energy consumed and the amount of imported raw materials

¹ Badan CBOS statement - Poles towards the Russian invasion of Ukraine https://www.cbos.pl/SPISKOM.POL/2022/K_038_22.PDF

from Russia. In this way, Europeans could show solidarity with the Ukrainian people in line with EC policy and Decision (EU) 2022/313 of the European Parliament and of the Council of 24 February 2022 on providing macro-financial assistance to Ukraine ² and supporting climate action in line with the European Green Deal announced by the European Commission on December 19, 2019 ³.

In addition, the European community, including (EU citizens, non-governmental organizations and governments) could make a positive impact if it works together and decisively. The International Energy Agency (IEA), in cooperation with the EU European Commission, has published recommendations and systemic solutions thanks to which EU citizens will be able to take action to save energy. Good examples are published documents such as the IEA's 10-point plan ⁴ to reduce the European Union's dependence on Russian natural gas and the 10-point plan to reduce oil consumption⁵.

Literature analysis

Therefore, first of all, a review of the literature was carried out using the so-called desk research, among others in popular science databases related to trends and ongoing processes in the context of citizens' influence on reducing the import of raw materials from Russia. In addition, the analysis of the literature provides an interpretation for further research considerations of this problem, which shows that:

The first mention in the literature about the importance of citizens in the energy area appeared in the book entitled *The QUEST in search of energy* by Daniel Yergin - vice president of IHS Markit, energy expert who describes future changes in the energy sector in the coming decades. In turn, a book published by Jeffrey Edward Green entitled *The Eyes of the People: Democracy in an Age of Spectatorship* Oxford University has reopened the conversation about the importance of citizen participation in social life. It should also be mentioned that in the last 3-4 years there has been an increase in publications on the direct impact

2 By Decision (EU) 2022/313 of the European Parliament and of the Council of 24 February 2022 <https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32022D0313&from=PL>

3 The European Green Deal UE - https://ec.europa.eu/info/sites/default/files/european-green-deal-communication_en.pdf

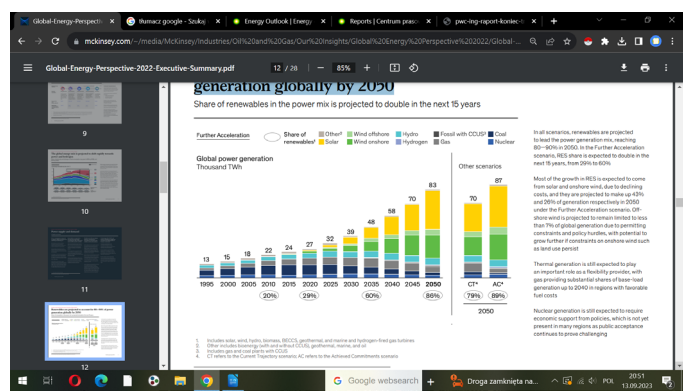
4 A 10-Point Plan to Reduce the European Union's Reliance on Russian Natural Gas - https://iea.blob.core.windows.net/assets/bfc68983-4cf9-47bf-ac00-dd9dbb231010/A10-PointPlanToReduceTheEuropeanUnionsRelianceonRussianNaturalGas_French.pdf

5 IEA issues 10-point plan to cut oil use - <https://www.greencarcongress.com/2022/03/20220320-iea.html>

of citizens on energy production. Examples include monographs such as: Local energy. Administrative and legal study or Prosumer on the modern market and logistics, variants in which a scheme for the possibility of participation of local communities in the area of generation and distribution of energy from renewable energy sources is described. In the first position, the logistic process is described in detail, which allows readers to familiarize themselves with the activity and, consequently, may contribute to the creation of local energy communities, which in the long run would reduce dependence on hydrocarbons imported from Russia and would allow the selection of another energy supplier. . Additionally, the Human Energy film prepared by Adam Dzienis presents the participation of the community, which through direct actions can reduce dependence on imported energy resources from Russia.

The literature analysis is complemented by a report published by McKinsey ⁶ from April 2022, which illustrates the growth trends for green energy. According to the data, the volume of renewable energy in 2025 will be 32 TWh, and then in 2030 it will reach 39 TWh, therefore it should be assumed that the development of energy communities will increase every year (see the figure below).

Figure 1. Global Energy Perspective 2022.



Based on the source: Global-Energy-Perspective-2022-Executive-Summary.pdf

The above-mentioned data also encourage the reader of this article to reflect and draw conclusions that will help understand the importance of citizens and energy communities in reducing dependence on Russian energy resources in the European Union and replacing them with local non-fossil energy carriers, accelerating the energy transformation

6 McKinsey - (an American company dealing in strategic management consulting).

Analysis

1. Direct impact of EU citizens in reducing media imported from Russia:

The next research step was to analyze the direct impact of EU citizens in reducing media imported from Russia using the biographical method, which revealed the following data.

For this reason, a research analysis was undertaken to illustrate the impact of citizens on energy reduction. Therefore, at the beginning of the analysis, the publication by Jeffrey Edward Green is cited⁷ *The Eyes of the People: Democracy in an Age of Spectatorship*, which illustrates the importance and influence of society and the history of democratic thought. Drawing on contributions from a wide range of thinkers - including Aristotle, Shakespeare, Benjamin Constant, Max Weber, Joseph Schumpeter and many others. In this way, the above-mentioned publication allows us to outline a new democratic paradigm that is focused on strengthening the people's perspective by forcing politicians to appear in public and inform the community about their intended actions. For example, it is worth mentioning the European Commission, which cooperates with national authorities, companies and non-governmental organizations (society) that support consumer activities and could contribute to greater energy savings in the EU⁸.

Therefore, citizens in democratic countries constitute the subjectivity of the implemented state policy in every area of the state. In addition, they have rights and tools thanks to which societies can influence changes in state models or strategies through their representatives or referenda. Therefore, a consolidated society can have a direct impact on the reduction of imported energy raw materials from the Russian Federation.

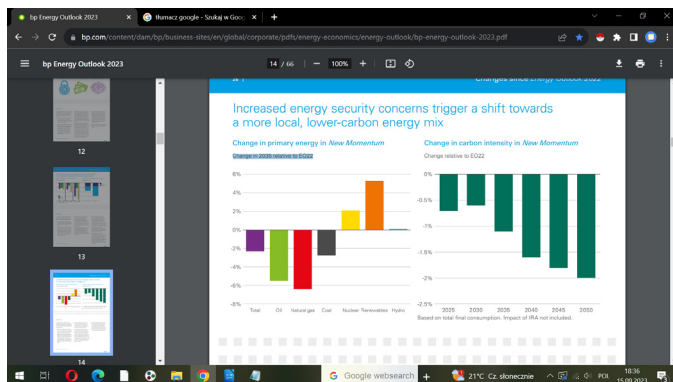
This knowledge is confirmed by the data published in the Energy Outlook 2023 report by the BP concern. According to estimates, in 2035 there will be a decline in energy sources such as crude oil, natural gas and diesel oil, while BP experts point to an increase in natural energies, nuclear energy and hydrogen, as well as an increase in the importance of energy security.

As a result, forecasts indicate that imports of fossil fuels will be reduced in favor of locally produced non-fossil fuels, accelerating the energy transformation and lowering prices. Moreover, statistical calculations indicate that the direct effects of the commodity price shock largely disappear by 2030 despite the war.

7 Jeffrey Edward Green – political theorist at the University of Pennsylvania USA.

8 Yergin Daniel, *The QUEST in search of energy*, Kurhaus Publishing, Warsaw.2014

Figure 2. Energy Outlook 2023.



Based on the source: <https://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html>

It is also worth citing the example of activity in social media or mass media of the European community showing solidarity and opposition to the Russian invasion of Ukraine, making donations or providing direct assistance to refugees. To sum up, citizens living in EU countries, with the help of non-governmental organizations, can influence international organizations that work with key partners, leaders at government and local levels to raise awareness of the benefits of saving energy and present alternative forms of obtaining energy sources in order to reduce import of raw materials from Russia ⁹.

2. Possibilities for direct action by EU citizens that may influence the reduction of imported energy carriers from Russia:

The subject of consideration will be the possibilities of direct action by EU citizens, which may influence the reduction of imported energy carriers from Russia, based on the example of energy consumption in households and passenger transport.

Statistical data conducted by the European Commission in 2021 showed that 96% of survey participants have made changes that counteract the negative effects of the climate by reducing plastics by 75%. and reducing single-use items (59%). In addition, the data also showed that 1/3 of respondents changed their habits by buying organic food (32%) and eating less meat (31%).¹⁰.

9 Rapo Schmid L., *Germany's Energy Transition: a Blueprint for European Energy Security?*, Heinrich Boll Stiftung Berlin 2014.

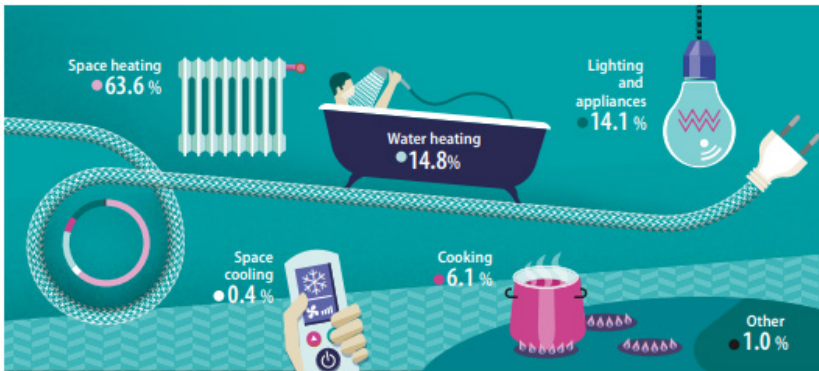
10 Europeans remain very concerned about climate change and support action across the EU - https://ec.europa.eu/clima/citizens/citizen-support-climate-action_pl

It can be assumed that by following all these recommendations, a typical household in the European Union could reduce energy bills by an average of approximately EUR 284 per year.¹¹ This has been proven by the UK, which saved British households on average over \$300 in 2017, which is approximately 20% of their annual energy expenditure.

Therefore, citizens have the opportunity to immediately reduce their energy consumption and lower their fuel bills. However, it is government authorities – from national to regional, city and local levels – who are ultimately best placed to encourage energy saving action.

According to the European Commission, the average heating temperature in homes throughout the European Community is estimated at over 22 °C. Lowering the temperature in households by just 1°C would reduce consumption and saving energy for household heating approximately 7%. At each level at which the heating is reduced, it will be possible to save on average over EUR 70 per year¹².

Figure 3. Energy consumption in households, EU-27, 2018.



Based on the source: European Commission, Energy, transport and environmental statistics edition Brussels 2020.

According to published data published by Eurostat, the main energy consumption of households in the EU is spent on home heating (63.6%). In addition, electricity is used for lighting and most electrical appliances - [14.1%] while the proportion used for water heating is slightly higher, accounting

11 <https://www.iea.org/reports/multiple-benefits-of-energy-efficiency/household-savings>

12 Śnihur Janusz, prosumer on the modern market and logistics, variants no. 5, CD 2 |391—398, Logistyka, Poznań 2013..

for 14.8%. Primary cooking appliances require 6.1% of household energy consumption, while space cooling and other end-uses account for 0.4% and 1.0% respectively. Space and water heating consequently constitutes 78.4% of the final energy consumed by households¹³.

A good example of savings for EU citizens would be reducing the temperature in the air conditioning by 1°C, which could reduce energy consumption by 10%¹⁴. This will allow you to lower the heating and air conditioning temperature when the rooms are not in use, or adjust the temperature to the type of room (you don't have to have the same temperature in the bedroom and bathroom, for example)¹⁵.

Moreover, adjusting the thermostat makes a difference not only in homes, but in all types of buildings - companies and public institutions should consider implementing this measure in offices as well. And in many homes and workplaces, default boiler settings can often be adjusted to increase efficiency and save up to 8% of the energy used for space and water heating if you have a condensing boiler. Properly setting your boiler can save you around €409 per year¹⁶.

Thanks to the development of technology and building materials, you can easily modernize and modernize your household, thanks to which the building will be energy-efficient. This idea is confirmed by the regulations introduced in Poland on April 28, 2023, which oblige apartment owners to have a building energy certificate. These changes are aimed at achieving energy savings in buildings. Thanks to the information contained in the certificate, the owner, tenant or user of the building can determine the approximate annual energy demand and, therefore, the maintenance cost related to energy consumption. In addition, there is a growing number of organizations across the European Union offering energy advice to households through national programs or local initiatives. Based on the above results, an analysis was also made to reduce the use of hydrocarbons imported from Russia, e.g. in transport to work.

Based on Eurostat data, travel to the place of employment accounts for approximately ¼ of the oil consumed by cars in the European Union, and the average one-way car journey is approximately 16 kilometers. Moreover, more than 1/3 of jobs in the EU can be done from home. Employers should encourage teleworking: every time you work from home you save money and avoid burning fuel because working from home 3 days a week can reduce your household fuel

13 European Commission, Energy, transport and environment statistics edition Brussels 2020.

14 Śnihur Janusz, prosumer on the modern market and logistics, variants no. 5, CD 2 |391—398, Logistyka, Poznań 2013.

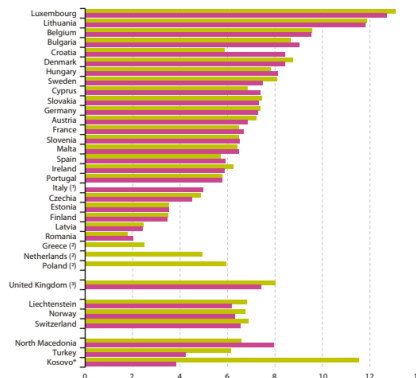
15 Ibidem.

16 <https://heatable.co.uk/boiler-advice/how-to-reduce-your-gas-bill-tricks-to-save-as-much-as-350-a-year>

bill by around €35 per month, even after taking into account the increased energy consumption at home¹⁷.

Moreover, it should be mentioned that traveling by car within the European Community takes place with one passenger. Therefore, combining car trips with neighbors or co-workers saves fuel and money. Turning your car's air conditioning down by 3°C will also result in an immediate improvement in fuel economy. These combined actions can save money on your household budget. approximately EUR 100 per year. For example, it is worth providing data from the Energy, transport and environmental statistics 2020 edition report, which presents, among others: passenger car renewal rate, 2017 and 2018 (% share of first registrations in the total number of registrations) (see Figure 4).

Figure 4. Passenger car renewal rate, 2017 and 2018 (% share of first registrations in the total number of registrations).



Based on the source: European Commission, Energy, transport and environment statistics edition Brussels 2020.

The data shows that in 2018, the passenger car renewal rate (the ratio of first registrations to all passenger cars) in the EU ranged from 2.0% in Romania to 12.7% in Luxembourg. In most cases, renewal rates have shown a downward trend in EU Member States since 2009, but an increase can be seen in some countries since 2017¹⁸.

As a result, it contributes to the increase in hydrocarbon imports from Russia. To this end, every EU citizen should reduce their traveling speed on motorways by 10 kilometers per hour. Thanks to such actions, household fuel bills would be

¹⁷ Ibidem.

¹⁸ European Commission, Energy, transport and environment statistics edition Brussels 2020.

reduced by approximately EUR 60 per year, with the average driving distance in the European Union being approximately 13,000 kilometers per year.

Leaving your car at home for short trips, especially if it's a large car, can save a significant amount of fuel. On average, about 1/3 of car journeys in the European community are less than 3 kilometers. By using other modes of transport, air pollution will be reduced and you will save money - potentially €568 per year¹ per household per year - by walking, cycling or using micro-mobility (such as an electric scooter) for short journeys. Fourteen EU countries have at least one tax break or subsidy for the purchase of bicycles.

Therefore, it should encourage EU citizens to use public transport to work instead of using a car, consequently reducing diesel consumption. Additionally, peak-time public transport capacity varies from country to country or city to city.

However, there is usually spare capacity available during off-peak periods that can be used to "spread" the peak if employers allow flexible working hours. In turn, local leaders can play an important role in shaping low-emission attitudes of local communities by reducing fees, among others, for public transport. When the distance is less than 1,000 km, high-speed trains are a good solution for business because they are low-emission and the existing European railway infrastructure allows for fast travel from point A to point B within the EU.

Additionally, urban agglomerations should feel obliged to promote a low-emission lifestyle through emission-free days. For example, it is worth giving emission-free days in European cities such as Brussels or Edinburgh, thanks to which a healthy lifestyle is promoted¹⁹. A good example was the European Mobility Week in 2021, in which 3,000 cities reported their participation.

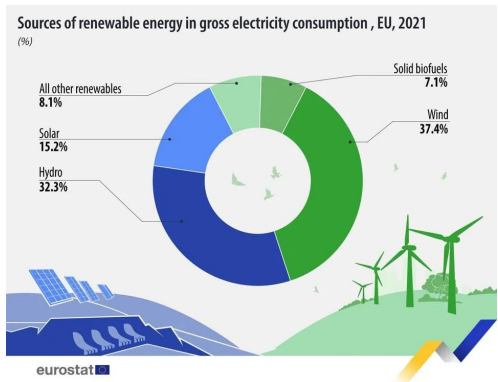
Additionally, it should be mentioned that in the last 4 years we can observe the involvement of EU citizens in establishing energy communities, thanks to which the importance of energy prices and the choice of suppliers is increasing. Additionally, direct energy production by citizens has a direct impact on reducing the import of natural resources from Russia. Moreover, greater energy awareness, in turn, allows citizens, as consumers, to have greater choice and purchase new low-emission installations. This translates into lower demand for the above-mentioned raw materials from Russia. In addition, the EU's participation is best illustrated by the film *Human Energy* by Adam Dzienis, which presents the participation of a community that has a direct impact on reducing dependence on imported energy resources from Russia.

Moreover, data from Eurostat (<https://e-magazyny.pl/zdrowie-wiadomosci/>

¹⁹ <https://www.nalepkaekologiczna.pl/strefy-ekologiczne-w-paryzu/>

eurostat-w-ue-juz-37-energii-pochodzi-z-odnawianych-zrodel/) confirm the increase in photovoltaic installations mounted in households and the share of renewable energy sources, details in the photo below.

Figure 5. Share of renewable energy in the energy sector.



Based on the source: Bar chart: Share of energy from renewable sources in gross electricity consumption, percentage. by country, EU, 2021

The data shows that the share of renewable energy in the energy sectors in individual EU Member States is increasing every year. According to Eurostat data, EU countries are increasingly using renewable energy sources from year to year. In 2020, renewable energy reached 37%, an increase compared to 34% in 2019. The above-mentioned data allows us to assume that this is the result of increased citizen participation in electricity generation.

Comment

The analysis shows that EU citizens can have a direct impact in reducing carriers imported from Russia by reducing energy consumption. Additionally, as citizens of democratic countries, they have a number of rights and tools that influence the development and policy of the state. A good example is the development of energy communities in Germany and Denmark, where each resident can generate electricity from their home and resell it to a neighbor or obtain a service in return, e.g. free transport to work or public facilities. This attitude allows for raising awareness and educating local communities in order to quickly change the habits of EU citizens towards energy saving and changing their lifestyle, which encounters economic, local and distributional obstacles. These

actions will be able to encourage authorities and international organizations to look for appropriate solutions that will reconcile various social interests. For example, we can distinguish the actions of the European Commission, the European Parliament and the Council (EU), which allowed the creation of the European Green Deal - The European Green Deal containing appropriate goals and regulations for the coming decades for the European community.

Attention should also be paid to the involvement of citizens in individual EU Member States in establishing energy communities, which increases the influence on energy prices offered and gives consumers the opportunity to choose another energy supplier. In addition, society's energy awareness will allow for greater choice and purchase of new low-emission installations, which may translate into a direct impact and reduce the import of natural raw materials from Russia.

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