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THE EU ENVIRONMENTAL TAXATION INFLUENCE ON A SUSTAINABLE DEVELOPMENT

European policy and environmental taxation may have a significant impact on promoting sustainable development in the whole world and Europe in particular. Although, properly designed strategic plans and a set of wide policy measures should be shaped to meet national needs and capabilities. Sustainable development refers to a way of achieving economic growth and societal progress that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. It recognizes that economic, social, and environmental considerations are interconnected and that sustainable development requires a balance between these three pillars. The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) adopted by the United Nations (UN) in September 2015, lay down as an intrinsic part of the European Commission's work programme, are the roadmap for achieving a sustainable future. The framework for sustainable development embraces poverty reduction, zero hunger, good health, education, clean water, affordable and clean energy, decent work and economic growth, reduced inequalities, sustainable cities, responsible consumption, climate action, gender equality, life below water, life on land, peace, justice and strong institutions, partnerships for the goals. The European Green Deal and the common agricultural policy (CAP), set ambitious goals for reducing greenhouse gas emissions and promoting renewable energy and circular economy practices. On the other hand, environmental taxation remains an important tool for promoting a "green" future. Taxes on carbon emissions, for example, can incentivize companies and individuals to reduce their carbon footprint and shift towards cleaner energy sources. Similarly, taxes on single-use plastics can discourage their use and promote more sustainable alternatives. Also, the revision of the Energy Taxation Directive (ETD) supports the EU's climate targets by ensuring that the taxation of motor and heating fuels and electricity in the EU reflects their impact on the environment and our health. Overall, the combination of well-thought and revised EU policies along with environmental taxation can create a more sustainable economic model. By incentivizing companies and individuals to adopt sustainable practices, and by setting ambitious targets for reducing emissions and promoting sustainable development, European countries can help build a more sustainable future for generations to come.

Keywords: *environmental taxation; sustainable development; European Green Deal; Energy Taxation Directive (ETD); Common Agricultural Policy (CAP); CO_2 emissions; energy intensity; renewable energy.*

Fig.: 12. References: 28.

Introduction. Addressing challenges that affect humanity, such as climate change, water scarcity, inequality, and hunger, necessitates global solutions that foster sustainable development. This involves a dedication to social progress, environmental equilibrium, and economic growth. To achieve this, the United Nations has adopted a new sustainable development roadmap called the 2030 Agenda, which outlines the Sustainable Development Goals. These goals urge everyone, including individuals, businesses, administrations, and countries across the globe, to take part in protecting the planet and ensuring the well-being of all people. Cooperation and participation at all levels are crucial to achieving these shared objectives. Human activity is exacerbating temperature rises, which is having adverse effects on people, ecosystems, and the economy. The interconnected effects of climate change include rising sea levels, warming oceans, crop damage from desertification, and increasing water scarcity, among others. Climate change is the most significant threat to life on our planet as we know it today. CO_2 emissions have surged by around 50% since 1990, leading to a global temperature rise that jeopardizes the Paris Agreement's objective of keeping global warming below 2°C.

Analysis of recent research and publications. There have been numerous works from both foreign and domestic scientists dedicated to studying the theoretical aspects of using environmental taxation and other policy instruments as the means of addressing global sustainable problems. Some of these foreign scientists include W. Baumol [1], H. Vollebergh [2], A. L. Bovenberg [3], D. Fullerton [4], A. Pigou [5], and A. Sandmo [6], while domestic scientists such as N. V. Novytska [7], V. L. Andrushchenko [8], Y. V. Samusevych [9], V. A. Lukyanikhina [10], O. P. Maslyukivska [11], L. S. Hryniv [12] have also contributed. Despite the considerable amount of literature on the practical implementation of environmental taxation and the movement towards sustainable development, there is still an open question regarding the determination of the impact of financial and economic policies and measures on environmental change, as well as the prospects of EU and domestic taxation systems for improving the quality of environmental tax performance.

The purpose of the article. This work is mainly devoted to a deeper analysis of the current European policies**,** directives revision and impact of environmental taxation on sustainability while exploring a rationale for enhancing the domestic system of environmental preservation.

Results and discussions. At the environmental level, sustainability involves safeguarding and responsibly using nature's resources instead of exploiting them without limit. Contributing factors include environmental conservation, investment in renewable energy, water conservation, supporting sustainable mobility, and innovation in sustainable construction and architecture. These efforts work together to achieve environmental sustainability on multiple fronts. Social sustainability, on the other hand, can promote the development of people, communities, and cultures, ultimately achieving a reasonable and fairly-distributed quality of life, healthcare, and education across the globe. Gender equality, especially in

developing countries, will be a critical aspect in the coming years. Sustainability also aims to promote equal economic growth that benefits everyone without harming the environment. Investing in and equitably distributing economic resources will strengthen the other pillars of sustainability for holistic development.

In September 2015, the UN General Assembly (UNGA) adopted the "Transforming our world: the 2030 Agenda for Sustainable Development" document. At the core of the 2030 Agenda is a list of 17 SDGs (see Fig. 1) and 169 related targets to end poverty, protect the planet and ensure prosperity and peace. The Agenda also calls for a revitalised global partnership to ensure its implementation. The SDGs are unprecedented in terms of significance and scope and go far beyond the UN Millennium Development Goals by setting a wide range of economic, social and environmental objectives and calling for action by all countries, regardless of their level of economic development.

Among other initiatives, several major policy documents have shaped the EU's approach to implementing the SDGs. A communication from 2016 "Next steps for a sustainable European future: European action for sustainability" [14] announced the integration of the SDGs into the European policy framework. As a consequence, the EU has been monitoring the implementation of the SDGs since 2017 via annual SDG monitoring reports. In addition, a reflection paper "Towards a Sustainable Europe by 2030" from 2019 [15] highlighted the complex challenges the EU is facing and identified the competitive advantages that implementing the SDGs would offer the EU.

Fig. 1. The UN Sustainable Development Goals [13]

Another important EU policy update is The European Green Deal, adopted in December 2019, which is the EU's new growth strategy and aims to transform the Union into a climate-neutral society while leaving no one behind (see Fig. 2). It aims to create a modern, resource-efficient and competitive economy where

there are no net emissions of greenhouse gases by 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital and to protect the health and well-being of citizens from environment-related risks and impacts. It is also an integral part of the Commission's strategy to implement the 2030 Agenda and the SDGs.

In March 2020, a new Circular Economy Action Plan [17] was adopted by the European Commission, introducing measures along the entire life cycle of products. The new Plan focuses on design and production for a circular economy, to ensure that the resources used are kept in the EU economy for as long as possible. In May 2020, another important initiative that lies at the heart of the European Green Deal was adopted — the Farm to Fork Strategy [18]. The strategy aims to make food systems in the EU fair, healthy and environmentally friendly by ensuring sustainable food production, processing, distribution and consumption and by minimising food loss.

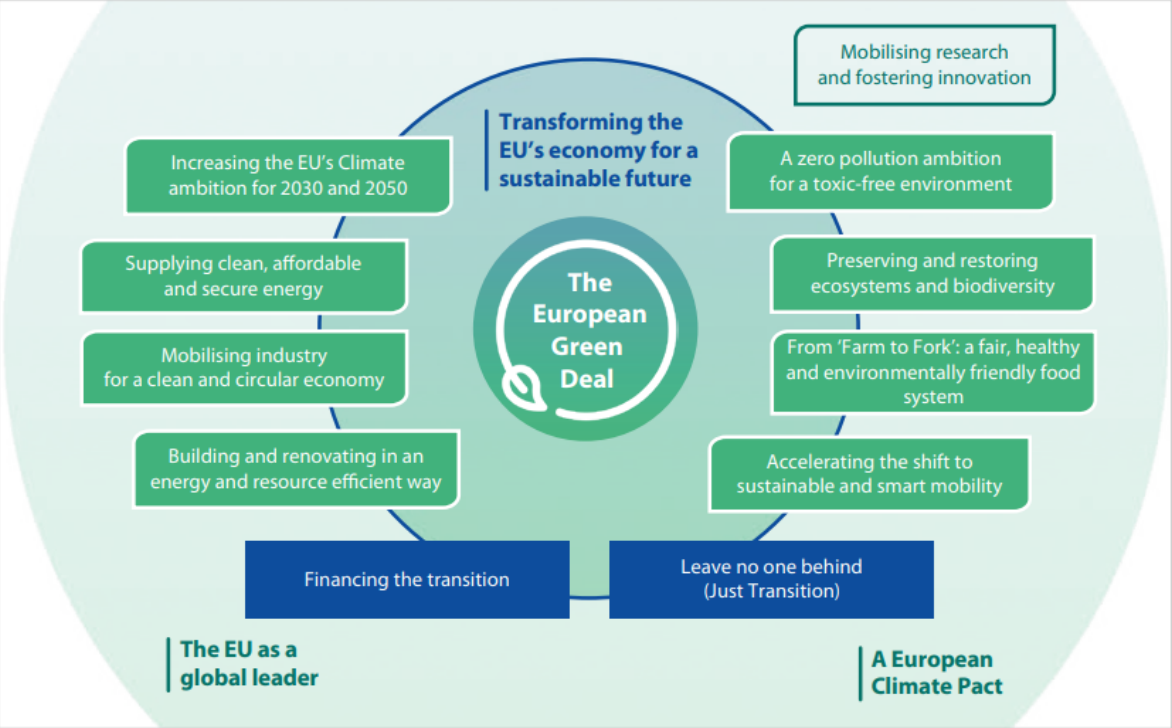


Fig. 2. The European Green Deal [16]

The EU Biodiversity strategy for 2030 [19], also adopted in May 2020 as a part of the Green Deal, aims to put Europe's biodiversity on a path to recovery by 2030 and contains specific actions and commitments, such as establishing a large EU-wide network of protected areas on land and at sea, launching an EU nature-restoration plan and introducing measures to tackle the global biodiversity challenge. There are main ten key objectives for the period 2023-27 (see Fig. 3) of the well-adopted EU common agricultural policy (CAP) that stands as a part of the European Green Deal.

Fig. 3. Key policy objectives of the new CAP for 2023-27 [20]

The main objectives are as follows**:**

- support the agricultural sector throughout the EU by promoting viable farm income and resilience, leading to long-term food security and agricultural diversity, as well as ensuring the economic sustainability of agricultural production;
- increase farm competitiveness both in the short and long term by improving market orientation and placing greater focus on research, technology, and digitalization;
- improve the position of farmers in the value chain;
- contribute to climate change mitigation and adaptation by reducing greenhouse gas emissions and enhancing carbon sequestration, promoting sustainable energy;
- supporting sustainable development and efficient management of natural resources such as water, soil, and air (e.g. reducing chemical dependency);
- help to halt and reverse biodiversity loss, enhance ecosystem services, and preserve habitats and landscapes;
- attract and retain young and new farmers while facilitating sustainable business development in rural areas;
- promote employment, growth, and gender equality, including the participation of women in farming, social inclusion, and local development in rural areas;
- improve the response of EU agriculture to societal demands on food and health, including high-quality, safe, and nutritious food produced sustainably;
- modernize agriculture and rural areas through the fostering and sharing of knowledge, innovation, and digitalization, and by encouraging their uptake by farmers through improved access to research, innovation, knowledge exchange, and training.

On the other hand, The Energy Taxation Directive (ETD) of the EU came into effect in 2003, establishing structural regulations and minimum excise duty rates for energy products used in motor fuel, heating fuel, and electricity taxation. Member States can set their rates, but they must respect the minimum rates specified in the directive. Most Member States tax energy products and, in some cases, electricity, above the ETD minimum rates.

However, the directive is outdated and does not align with the EU's climate and energy policies, nor its legal obligation to reduce greenhouse gas emissions by 55% by 2030 and achieve a climate-neutral continent by 2050. There is no connection between the minimum tax rates of fuels and their energy content or environmental impact. The directive has not kept up with the development of alternative fuels such as cleaner and sustainable biofuels and hydrogen. It's design and structure do not promote energy efficiency, cleaner and sustainable alternative fuels, or investment and innovation in clean technologies and sustainable energy. Moreover, the real value of the minimum rates has declined over time, and a complex array of exemptions and reductions has emerged across Member States, leading to an uneven playing field in the Single Market [21].

The proposed update of the EU's ETD focuses on two main areas of reform that will have a significant impact on achieving common green goals. The first area of reform involves introducing a new tax rate structure that reflects the energy content and environmental performance of fuels and electricity, instead of the current volume-based system. Minimum rates will be based on the energy content of each product, and energy products and electricity will be grouped into general categories according to their environmental impact. This will ensure that the most polluting fuels are taxed the highest, providing clear price signals to encourage cleaner and more energy-efficient choices. In addition to this, the taxable base will be expanded to include energy products and uses that had previously been exempt from the EU's energy taxation framework, such as mineralogical processes. Some national exemptions and rate reductions will be removed, but reduced rates will still be possible for renewable energy products and primary sector industries. Kerosene and heavy oil used in the aviation and maritime industries will no longer be fully exempt from energy taxation for intra-EU voyages, and the minimum tax rates for these fuels will gradually increase over ten years. This measure is vital for reducing energy consumption and pollution in these sectors. The proposed minimum rates will be adjusted to reflect the most recent prices and will be automatically adjusted annually based on Eurostat consumer price figures. Current minimum rates were set in 2003 and have not been updated to reflect current prices. The update provides clearer price signals to businesses and consumers, encouraging them to make more climate-friendly choices [21].

Man-made greenhouse gases, with carbon dioxide (CO_2) as the largest contributor, have disrupted the earth's radiative balance by adding to the atmosphere. This disturbance impacts the balance between the solar energy absorbed

by the earth and the energy radiated back into space. Consequently, the earth's surface temperature is rising, causing various effects on climate, sea level, and global agriculture.

As could be observed in figure 4, the main emitter of carbon dioxide equivalent emissions from energy, process emissions, methane and flaring is the Asia Pacific with the majority held by China. It is worth noting that only China in 2021 emitted CO_2 amounted to a total of Africa, the Middle East, CIS (Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Uzbekistan) and Europe.

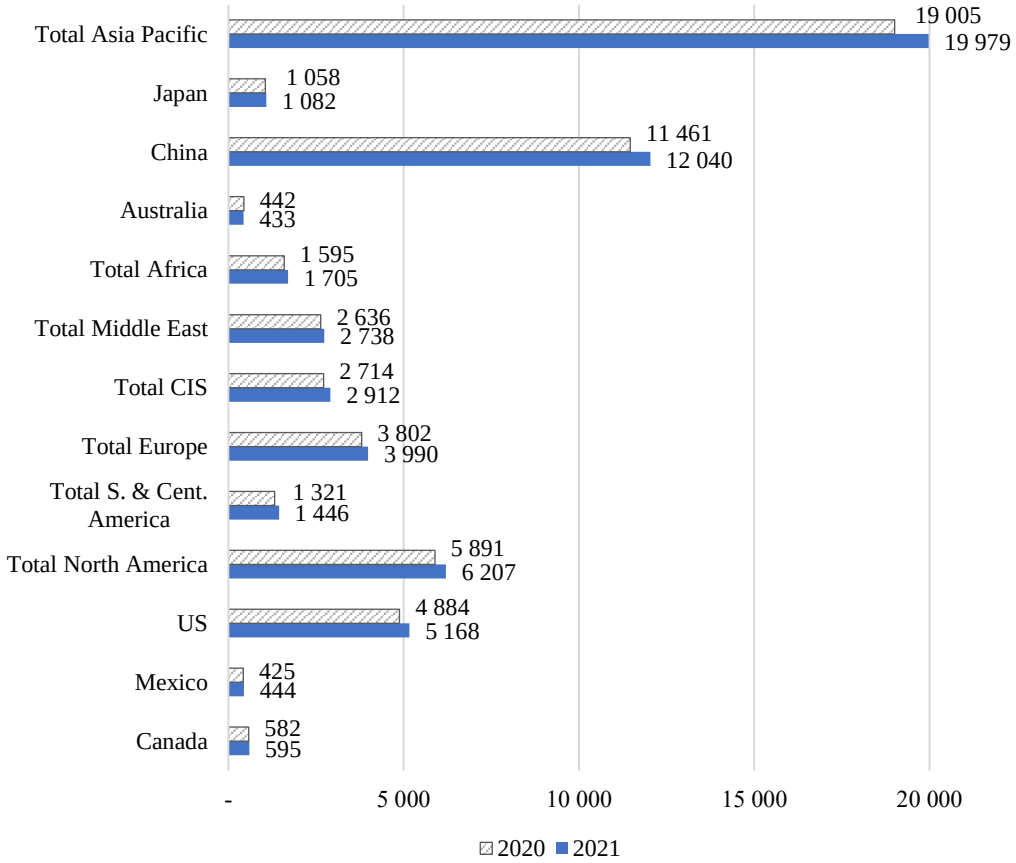


Fig. 4. Carbon Dioxide Equivalent Emissions from Energy, Process Emissions, Methane, and Flaring in 2020-2021, Million tonnes of carbon dioxide equivalent [22]

Emissions are the release of carbon dioxide (CO_2) into the atmosphere from burning oil, coal, natural gas, and waste materials for energy production. Deforestation and some industrial processes, like cement production, also contribute to atmospheric CO_2 levels, but their share is relatively small and not included in global emissions estimates. Carbon dioxide emissions have more than doubled since 1971, with an average increase of 2 % per year. In 1971, OECD countries accounted for 67 % of the world's CO_2 emissions, but their contribution fell to 37 % in 2013 due to the rapidly rising emissions in developing countries,

especially in Asia. China's CO_2 emissions from fuel combustion have increased by an average of 6 % per year between 1971 and 2013, primarily due to increased coal use, resulting in over tenfold growth in emissions. OECD CO_2 emissions declined twice following the oil shocks of the mid-1970s and early 1980s, and emissions from economies in transition decreased in the 1990s, offsetting the OECD's increase between 1990 and the present. However, emissions continued to grow in developing countries, and the global economic crisis in 2008/2009 led to a 2% decline in world CO_2 emissions in 2009. Despite this decline, emissions rebounded, increasing by 1 % in 2012 and 2 % in 2013 [26].

Emissions estimates show significant variations within individual sectors, with the combined share of electricity and heat generation and transport shifting from one-half to two-thirds of the total between 1971 and 2013. The respective fuels' share in overall emissions also changed significantly during the period, with the share of oil decreasing from 48% to 34%, natural gas increasing from 15% to 20%, and coal increasing from 38% to 46%. Fuel switching, including the penetration of nuclear energy and other non-fossil energy sources, reduced the CO_2/total primary energy supply ratio by only 6% over the past 40 years [26].

Figure 5 shows the dynamics of sectoral shares of all GHG emissions in EU-27 member states. The most changing (-29.2%) was energy supply, with a shortage from 1190244.4 to 842906.7 kt CO_2 equivalent in 2020 since 2015, while agriculture sector dynamics almost remain the same.

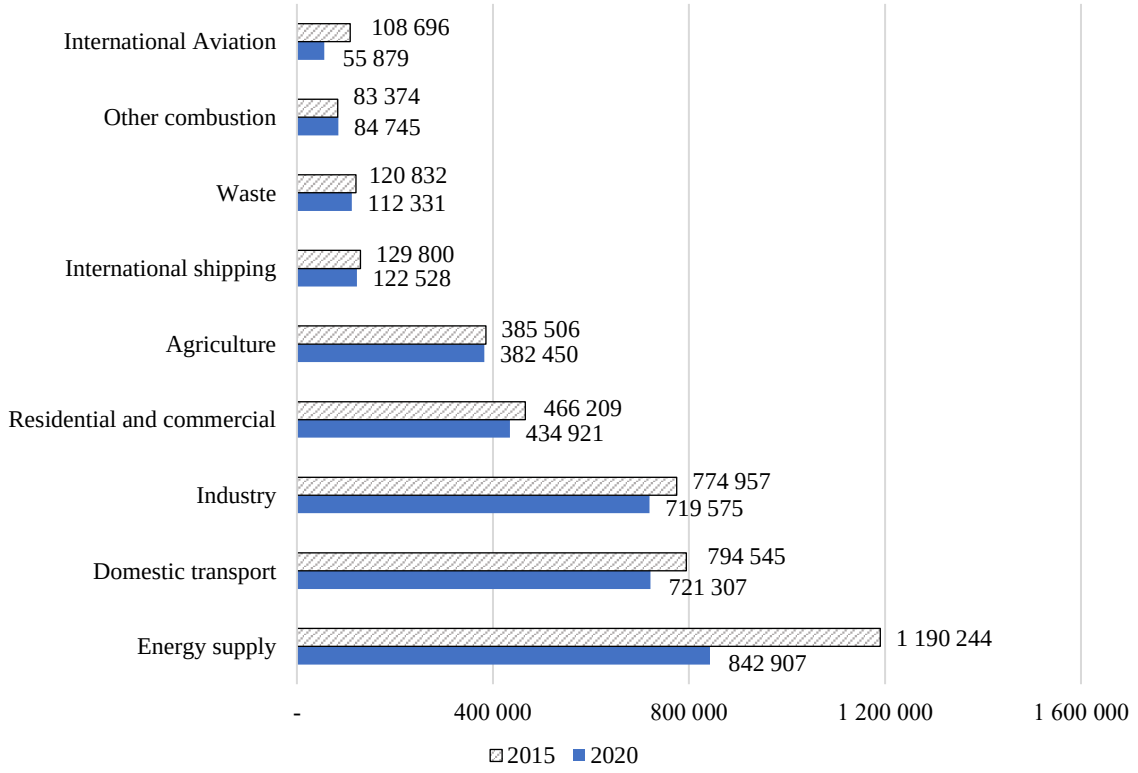
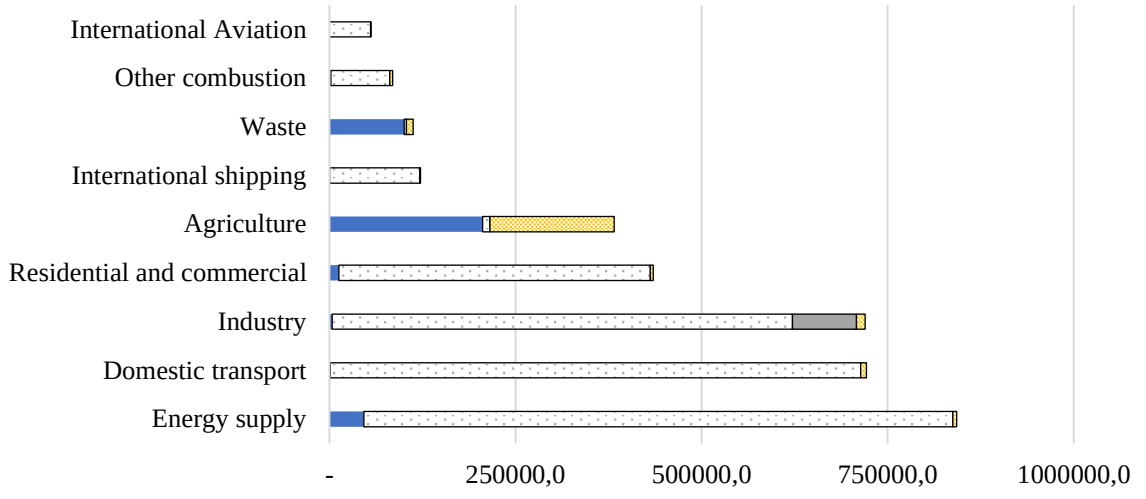


Fig. 5. EU-27 sectoral shares of all GHG emissions (kt CO_2 equivalent), 2015-2020 [23]

Among the sectoral decomposition of EU-27 GHG emissions in 2020 (Fig. 6), we may observe the absolute dominance of CO_2 in energy supply, domestic transport, industry, residential and commercial, international shipping and aviation. The only sector is agriculture with stress at CH_4 and N_2O as the dominant GHGs.



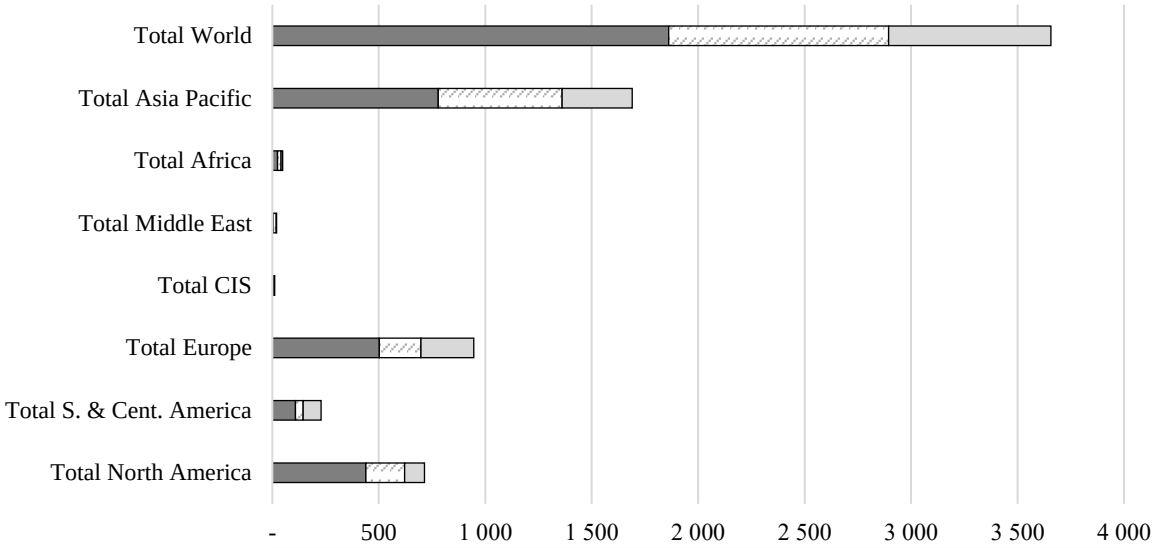
	Energy supply	Domestic transport	Industry	Residential and commercial	Agriculture	International shipping	Waste	Other combustion	International Aviation
CH4	46052,0	1085,7	3468,7	12784,7	205897,3	289,5	100576,1	2087,9	9,3
CO2	791355,9	712447,6	618827,4	418223,7	9722,2	121012,4	2926,2	79121,1	55390,0
Fluorinated gases			85868,42						
N2O	5498,79	7774,1	11410,39	3912,85	166830,26	1226,44	8828,61	3535,933	480,06

Fig. 6. EU-27 sectoral decomposition structure of GHG emissions (kt CO2 equivalent), 2020 [23]

Renewable energy refers to energy derived from natural sources that are constantly replenished at a rate faster than they are consumed. Sunlight and wind are examples of such sources that are readily available to us. Renewable energy sources are abundant and ubiquitous. In contrast, fossil fuels like coal, oil, and gas are non-renewable resources that take millions of years to form. When fossil fuels are burned to generate energy, they emit harmful greenhouse gases, such as carbon dioxide. Renewable energy production results in significantly lower emissions than burning fossil fuels. The transition from fossil fuels, which currently contribute the majority of greenhouse gas emissions, to renewable energy is critical in addressing the climate crisis. Renewable energy is now more affordable than fossil fuels in most countries and creates three times more jobs.

Figure 7 shows the international efforts toward a “green” future and renewable energy use.

The absolute majority of continents in 2021 are striving to use wind as a main renewable energy source. In total, Europe is accounting for 25,9 % of world renewables, Asia Pacific 46,2 %, North America 19,5 %, and South and Central America nearly 6.3 %. Other renewables include geothermal energy, hydropower, ocean energy and bioenergy.



	Total North America	Total S. & Cent. America	Total Europe	Total CIS	Total Middle East	Total Africa	Total Asia Pacific	Total World
Wind	440	108	503	05	03	24	779	1 862
Solar	182	37	196	04	15	17	582	1 033
Other renewables	92	84	248	01	00	08	329	763

Fig. 7. Renewable energy in 2021. Generation by source, Terawatt-hours [22]

Wind power captures the kinetic energy of moving air by employing large wind turbines on land (onshore) or in bodies of water (offshore). While wind energy has been utilized for centuries, recent advancements in onshore and offshore wind technologies have resulted in taller turbines and larger rotor diameters to optimize electricity generation. Figure 8 shows the installed wind turbine capacity in 2021 for global continents. Although average wind speeds vary significantly by location, the technical potential for wind energy surpasses global electricity production. Most regions of the world possess ample potential to facilitate substantial wind energy utilization.

Despite strong wind speeds in many regions, the most suitable locations for generating wind power are sometimes remote. This obstacle can be overcome with offshore wind power, which offers enormous potential for energy production.

Asia Pacific region is the global leader in wind renewable energy capacities with China as a main contributor (nearly 83,5% of total Asia Pacific generation in 2021). While Europe takes second place in 2021, it accounts for capacity more than Africa, the Middle East, CIS, South and Central America, North America, Japan and Australia in total. Also, dynamic shows a powerful increase in 2021 for China (14,2%), Europe (6,8%), North America (10,2%) and South and Central America (18,1%).

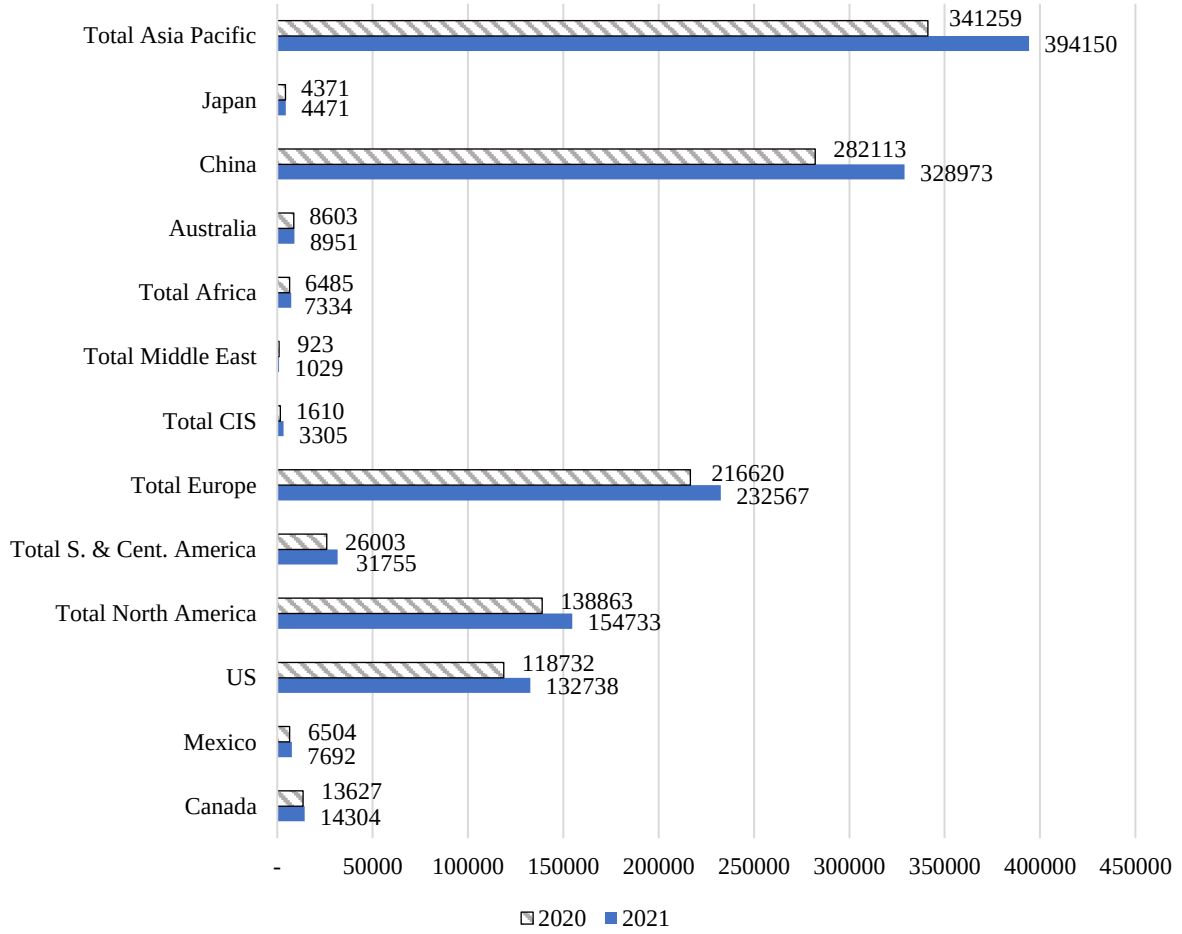


Fig. 8. Renewable energy in 2020-2021 - wind (installed wind turbine capacity, Megawatts) [22]

Installed photovoltaic (PV) power of solar renewable energy in 2020-2021 illustrated in figure 9. Solar power is a highly abundant and versatile energy resource that can be harnessed even in cloudy conditions. The amount of solar energy absorbed by the Earth is around 10,000 times greater than the total energy consumption of human beings. Solar technology offers various applications, including heating, cooling, natural lighting, electricity generation, and fuel production. This technology converts sunlight into electrical energy through photovoltaic panels or mirrors that focus solar radiation. Although solar energy availability varies between countries, every nation can potentially benefit from direct solar energy contribution to their energy mix. The manufacturing cost of solar panels has drastically reduced in the past decade, making them not only affordable but also often the most cost-effective electricity source. Additionally, solar panels have a lifespan of approximately 30 years and come in different colours depending on the manufacturing material used.

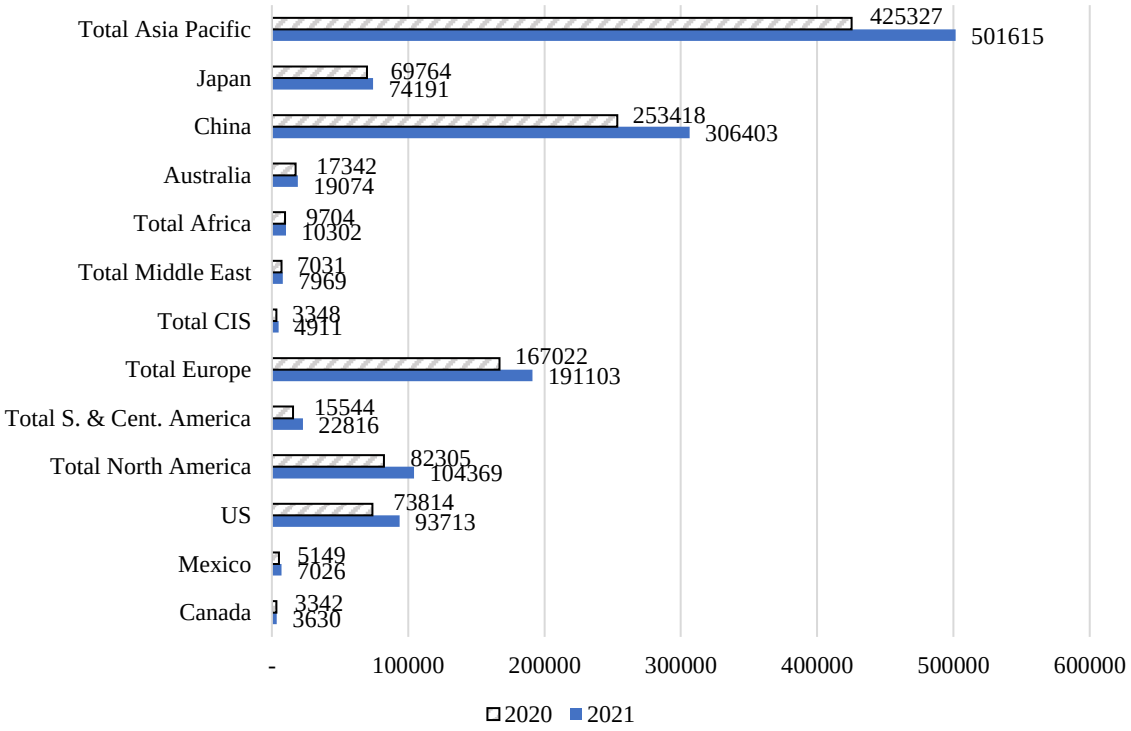


Fig. 9. Renewable energy in 2020-2021 - solar (installed photovoltaic (PV) power, Megawatts) [22]

In solar renewable energy capacities, we may spectate an almost identical situation in 2020-2021. China is the global leader and main contributor to the Asia Pacific region (nearly 61%), while Europe accounts for more than Africa, the Middle East, CIS, South and Central America, North America, and Australia's installed capacities in total.

Energy intensity (figure 10) is defined as the energy supplied to the economy per unit value of economic output (megajoules per constant 2011 purchasing power parity GDP). Throughout history, economic growth has typically led to increased energy consumption, which in turn has put greater pressure on the environment due to energy production and consumption. To assess the extent to which energy consumption and economic growth have been decoupled, an indicator has been developed. If energy consumption grows but at a slower rate than GDP, this is known as relative decoupling. Absolute decoupling, on the other hand, occurs when energy consumption remains stable or decreases while GDP grows. Achieving absolute decoupling is likely to reduce the environmental impacts of energy production and consumption. By decoupling energy consumption from economic growth, it is possible to achieve both economic and environmental goals simultaneously. This can be accomplished by reducing the demand for energy services (such as heating, lighting, passenger, or freight transport) through more efficient energy use, using less energy per unit of economic output, or a combination of the two. Environmental impacts are dependent on the total amount of energy consumption, as well as the type of fuels and technology used for energy generation.

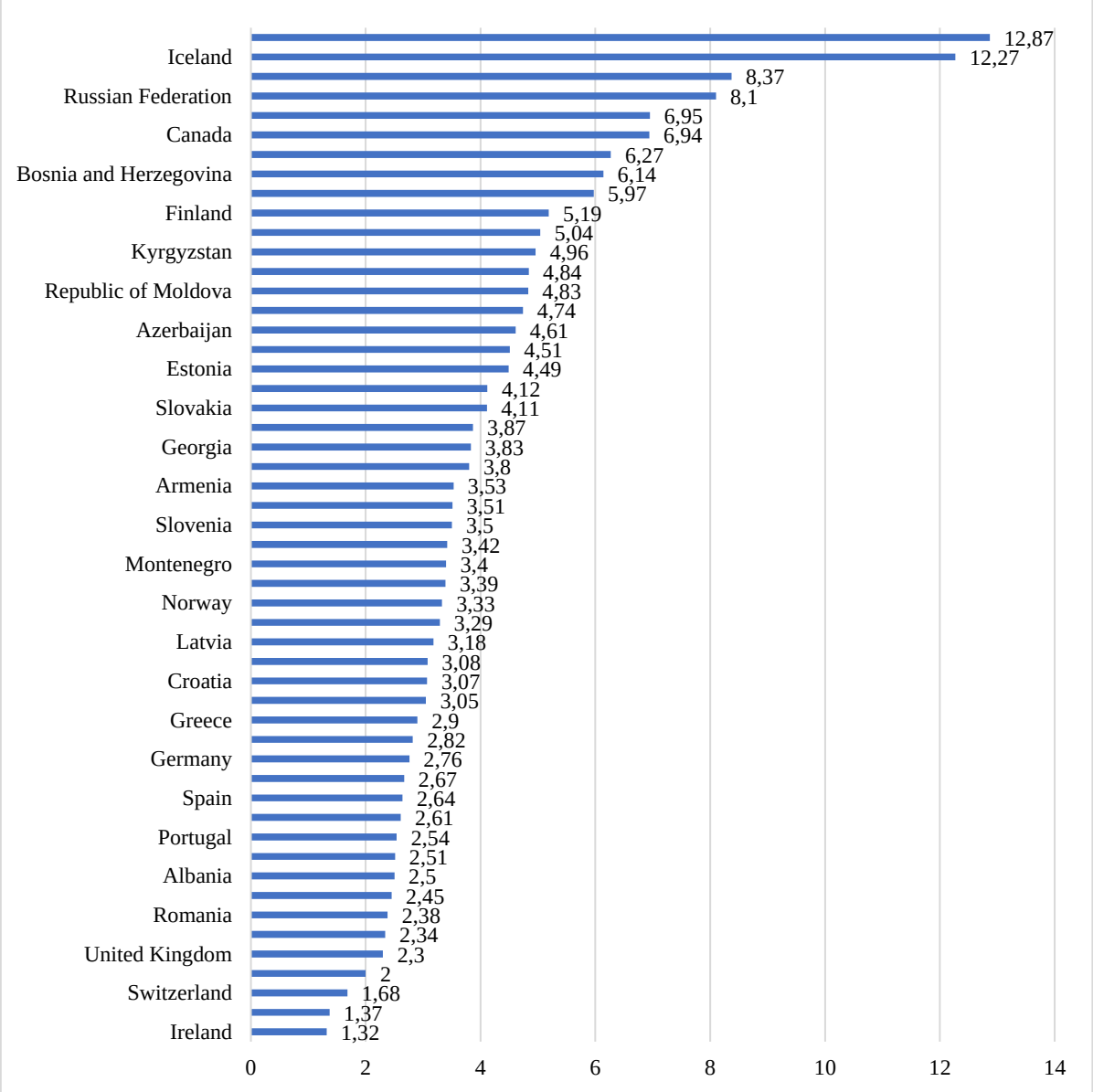


Fig. 10. Energy intensity level of primary energy in 2019, MJ/constant 2011 PPP GDP [24]

One of the biggest analyzed energy intensity levels has Turkmenistan and Iceland (12,87 MJ and 12,27 MJ respectively), while Ireland and Malta have the lowest (1,32 MJ and 1,37 MJ). Ukraine stands somewhere in-between (6,95MJ) close to the Canadian (6,94MJ) economic primary energy intensity.

Environmental taxes (corresponding tax revenues as % of GDP illustrated in figure 11 and as % of total tax revenue in figure 12) are increasingly recognized as a crucial policy tool for policymakers to influence environmental outcomes and generate government revenue. Their role in internalizing the external environmental costs not factored into market pricing is essential to cost-effective environmental policy. There is broad agreement in the economics literature that environmental taxes are a useful means to achieve environmental effectiveness, economic efficiency, and

social inclusiveness, as long as negative distributional impacts on vulnerable households are addressed through targeted measures. Many countries use environmental taxes in conjunction with other measures to address pollution externalities.

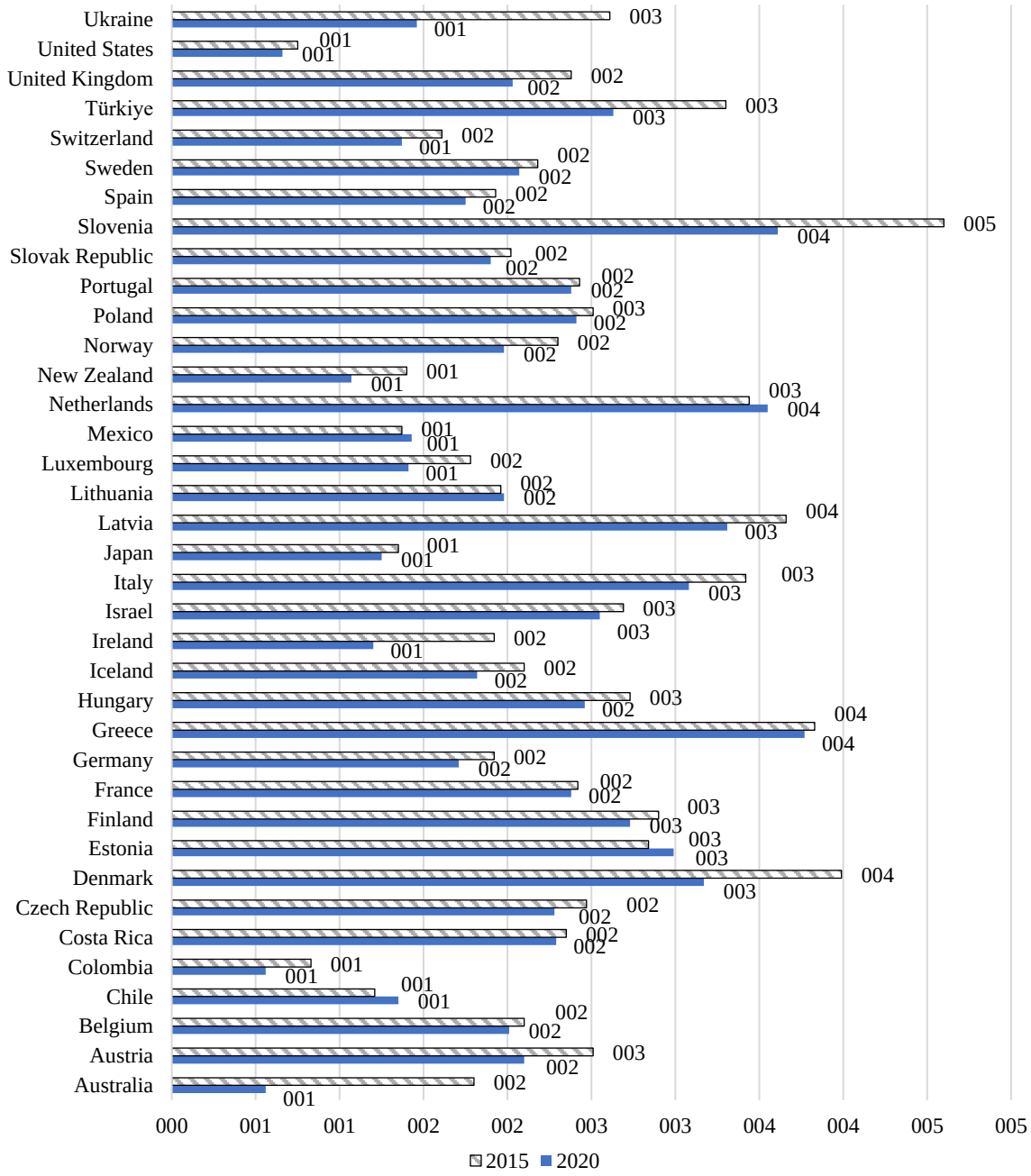


Fig. 11. Environmentally related tax revenue in 2015-2020, % of GDP [25; 28]

The most environmental tax burden was observed in Greece, Slovenia and the Netherlands (3,77%; 3,61 and 3,55 % of GDP in 2020 respectively) and overall it decreased in 2020 compared to 2015. The lowest revenues have the United States, Colombia and Australia (0,66; 0,56 and 0,56% in 2020). Ukraine has a significant shortage in 2020 compared to 2015: - 79.3% although, the revenues of 2020 stayed near Switzerland, Mexico, Luxembourg and Chile.

Environmental taxes aim to internalize externalities by aligning tax rates with marginal external costs or reducing environmentally harmful behaviour. An environmentally related tax base is defined as a physical unit or proxy thereof that has a specific, proven, negative impact on the environment. Ideally, environmentally related tax bases should directly relate to environmental pressures, such as emissions and pollutant concentrations. However, for practical or administrative reasons, tax bases linked to activities closely associated with environmental pressures, such as fuel consumption and car ownership, may be used instead [27].

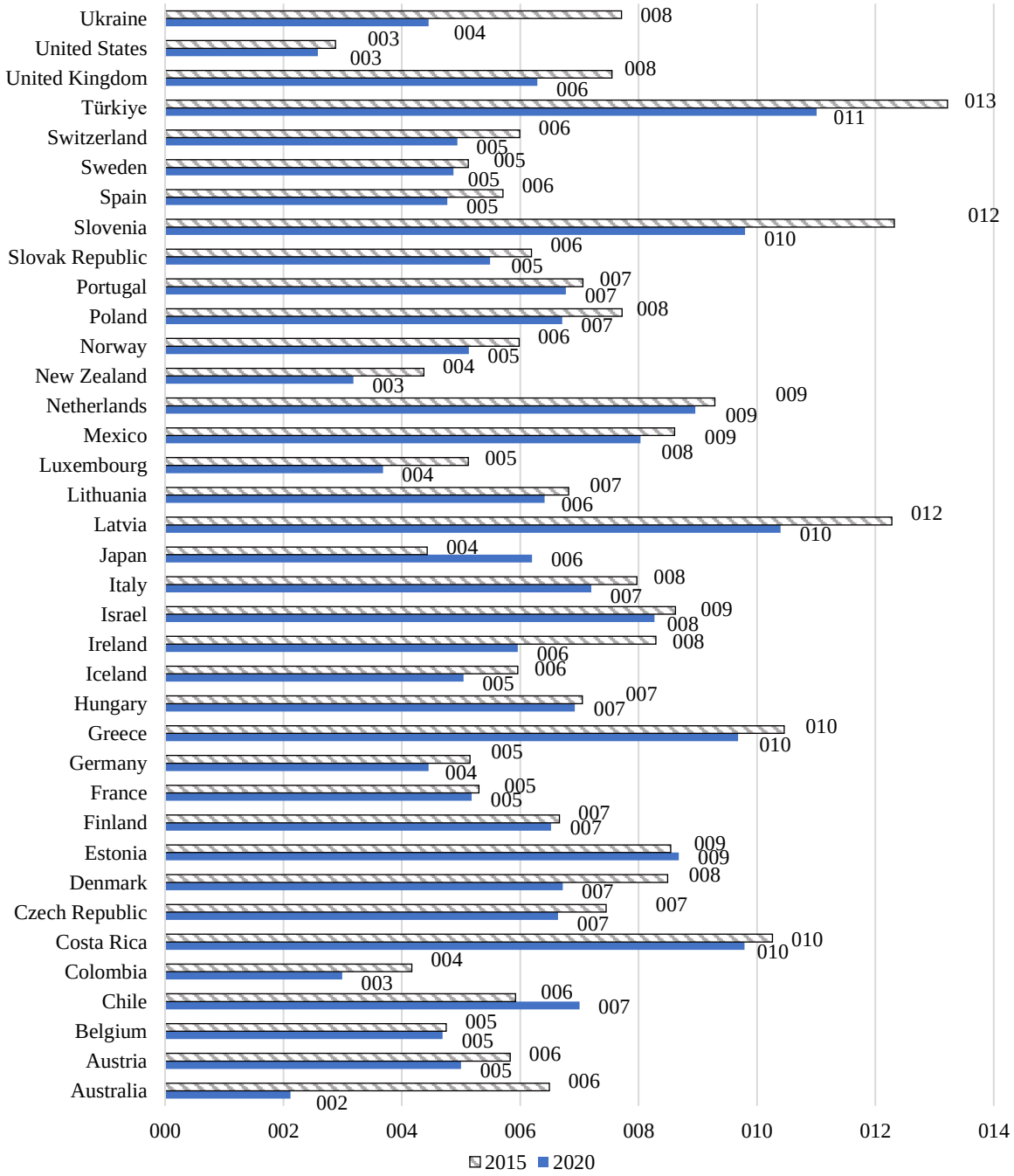


Fig. 12. Environmentally related tax revenue in 2015-2020, % of total tax revenue [25; 28]

While analyzing the environmental tax revenues as a percentage of the total tax burden, Turkey, Slovenia, Latvia, Greece, and Costa Rica (11,01%; 9,8%; 10,4%; 9,68% and 9,79% respectively). Ukraine has a significant shortage of -73,2%, although some sort of decrease can be relevant for almost each analyzed country, except Japan (28,5% increase), Estonia (1,6% increase) and Chile (15,4% increase).

Environmental taxes are often used to incentivize changes in behaviour and generate revenue. However, depending on the tax's design, there may be a trade-off between achieving desired behaviour changes and revenue generation. As a result, caution should be exercised when interpreting revenue figures from an environmental perspective, as they may not fully reflect environmental impacts. Environmental taxes include taxes on energy products (including CO_2 taxes), transport (excluding fuel), and pollution and resources. In 2020, revenue from environmental taxes in the EU-27 accounted for 2.2% of GDP, down from 2.4% in 2019, mainly due to reduced revenue from energy taxes, particularly from fuel consumption in transport. The decline in energy consumption, which dropped by 6% in the EU, could be attributed to pandemic-related mobility restrictions. Despite this decrease, environmental taxes represented 5.6% of total tax revenue in the EU-27, lower than in previous years where the figure was typically around or above 6%. Revenue from other environmental taxes remained stable in 2020 [14].

In summary, environmental taxation can contribute to multiple Sustainable Development Goals (SDGs) beyond climate, such as reducing local air pollution, supporting sustainable cities and communities, and promoting decent work and economic growth. Environmental taxes also improve the efficiency of domestic resource mobilization, generating revenue while increasing economic efficiency and reducing the need for conventional taxes to finance public expenditures. Furthermore, environmental taxes can help developing countries achieve low-carbon transformation while supporting inclusive and equitable growth pathways. However, despite progress, gaps in environmental taxation remain globally, with most carbon prices remaining inefficiently low and global fossil fuel subsidies continuing to negatively impact carbon emissions. An environmental taxation is a powerful tool for improving domestic resource mobilization and promoting sustainable and inclusive growth. However, more needs to be done to address the gaps in environmental taxation and reduce global fossil fuel subsidies [27].

Conclusion. A well-designed environmental taxation system can enhance a country's environmental security. The EU has a modern system of compulsory environmental payments that considers the connection between negative impacts on the environment and tax rates. This contributes to the effectiveness of environmental taxation. A diverse range of environmental taxes can achieve different effects on the environment, forming the foundation for a new concept of environmental taxation in Ukraine. Research indicates that evaluating the correlation between environmental taxes and sustainable development parameters should underpin the development of an environmental policy. This policy should aim to reduce the burden on the natural environment and provide targeted financing for ecosystem protection through revenue from environmental taxes.

References

1. Baumol, W.J., Wallace, E. Oates, Bawa, W. S., David F. (1988). *Bradford. The theory of environmental policy*. Cambridge university press.
2. Van Lerland E. C., van der Straaten J., Vollebergh H. (Eds.). (2001). *Economic Growth and Valuation of the Environment. A debate.* Edward, Elgar.
3. Bovenberg, A.L. De Mooij, R.A. (1994). Environmental levies and distortionary taxation. *American Economic Review, 94*(4), 1085–1088.
4. Fullerton, D., Leicester, A., Smith, S. (2008). *Environmental Taxe. Report of a Commission on Reforming the Tax System for the 21st Century.*
5. Pigou, A.C. (2005). *The economics of Welfare* (Vol. 1). Cosimo Classics.
6. Sandmo, A. (1975). Optimal Taxation in the Presence of Externalities. *The Swedish Journal of Economics, 77*(1), 86–98.
7. Novytska, N.V. (2016). *Ekolohichne opodatkuvannia v Ukraini: stan ta perspektyvy rozvytku [Environmental taxation in Ukraine: state and development prospects]* (Ph.D. Thesis).
8. Andrushchenko, V.L. (2000). *Problematyka derzhavnykh finansiv [Problems of state finances]*. Kameniar.
9. Samusevych, Ya.V., Solodukha, M.V., Tenytska, I.A. (2017). Doslidzhennia vplyvu ekolohichnykh podatkiv na pokaznyky staloho rozvytku suspilstva [Study of the influence of environmental taxes on indicators of sustainable development of society]. *Ekonomika ta suspilstvo – Economy and society, 13*, 938-945.
10. Lukianykhyn, V.A. (2004). *Ekolohycheskyi menedzhment: pryntsypu y metodu [Environmental management: principles and methods]*. Unyversytetskaia knyha.
11. Masliukivska, O.P. (2011). Mekhanizm vprovadzhennia ekoloho-trudovoi podatkovoi reformy v Ukraini [The mechanism of implementing environmental and labor tax reform in Ukraine] (Ph.D. Thesis).
12. Hryniv, L.S. (2010). *Ekolohichna ekonomika [Ecological economics]*. Mahnoliia 2006.
13. Sustainable development in the European Union. Monitoring report on progress towards the SDGs in an EU context. https://ec.europa.eu/eurostat/documents/15234730/15242025/KS-09-22-019-EN-N.pdf/a2be16e4-b925-f109-563c-f94ae09f5436?t=1667397761499.
14. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2016%3A739%3AFIN.
15. Towards a sustainable Europe by 2030. https://commission.europa.eu/publications/towards-sustainable-europe-2030_en.
16. A European Green Deal. Striving to be the first climate-neutral continent. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en.
17. Circular economy action plan. The EU's new circular action plan paves the way for a cleaner and more competitive Europe. https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en.
18. Farm to Fork strategy for a fair, healthy and environmentally-friendly food system. https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en.
19. Biodiversity strategy for 2030. https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en.
20. Key policy objectives of the new CAP. https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/new-cap-2023-27/key-policy-objectives-new-cap_en.
21. Revision of the Energy Taxation Directive (ETD): Questions and Answers. https://ec.europa.eu/commission/presscorner/api/files/document/print/en/qanda_21_3662/QANDA_21_3662_EN.pdf.

22. The Statistical Review of World Energy. https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/co2-emissions.html.

23. EEA greenhouse gases – data viewer. https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer.

24. The energy intensity level of primary energy. https://w3.unece.org/SDG/en/Indicator?id=24.

25. Environmentally related tax revenue. OECD. https://stats.oecd.org/Index.aspx?DataSetCode=ERTR#.

26. Emissions of carbon dioxide. OECD. https://www.oecd-ilibrary.org/economics/oecd-factbook-2015-2016/emissions-of-carbon-dioxide_factbook-2015-60-en.

27. The Organisation for Economic Co-operation and Development (OECD). https://www.oecd.org.

28. State Treasury Service of Ukraine. https://treasury.gov.ua.

Список використаних джерел

1. Bradford. The theory of environmental policy / W. J. Baumol, Wallace E. Oates, W. S. Bawa, F. David. – Cambridge university press, 1988.

2. Economic Growth and Valuation of the Environment. A debate / Ed. By Van Lerland E. C., van der Straaten J., Vollebergh H. – Cheltenham [etc.] : Edward Elgar, 2001. – 397 p.

3. Bovenberg A.L. Environmental levies and distortionary taxation / A.L. Bovenberg, R.A. De Mooij // American Economic Review. – 1994. – Vol. 94. – № 4. – Pp. 1085–1088.

4. Fullerton D. Environmental Taxes / D. Fullerton, A. Leicester, S. Smith // Report of a Commission on Reforming the Tax System for the 21st Century.

5. Pigou A.C. The economics of Welfare: Volume 1 / A.C. Pigou. – New York : Cosimo Classics, 2005. – 412 p.

6. Sandmo A. Optimal Taxation in the Presence of Externalities / A. Sandmo // The Swedish Journal of Economics. – Vol. 77. – № 1. – P. 86–98.

7. Новицька Н. Екологічне оподаткування в Україні: стан та перспективи розвитку : дис. … канд. Екон. наук / Надія Новицька. – Ірпінь, 2016. – 274 р.

8. Андрущенко В. Л. Проблематика державних фінансів / В. Л. Андрущенко. – Львів: Каменяр, 1999. – 303 с.

9. Самусевич Я. В. Дослідження впливу екологічних податків на показники сталого розвитку суспільства / Я. В. Самусевич, М. В. Солодуха, І. А. Теницька // Економіка та суспільство. – 2017. – № 13. – С. 938–945.

10. Лукьянихин В. А. Экологический менеджмент: принципы и методы : [монография] / В. А. Лукьянихин, Н. Н. Петрушенко. – Сумы : Университетская книга, 2004. – 408 с.

11. Маслюківська О. П. Механізм податкової реформи в Україні : автореф. дис. … канд. екон. наук : спец. 08.00.06 / О. П. Маслюківська ; Державна установа «Інститут економіки природокористування та сталого розвитку Національної академії наук України». – К., 2011. – 21 с.

12. Гринів Л. С. Екологічна економіка / Л. С. Гринів. – Львів : Магнолія 2006, 2010. – 358 с.

13. Sustainable development in the European Union. Monitoring report on progress towards the SDGs in an EU context [Electronic resource]. – Accesed mode: https://ec.europa.eu/eurostat/documents/15234730/15242025/KS-09-22-019-EN-N.pdf/a2be16e4-b925-f109-563c-f94ae09f5436?t=1667397761499.

14. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions [Electronic resource]. – Accesed mode: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2016%3A739%3AFIN.

15. Towards a sustainable Europe by 2030 [Electronic resource]. – Accesed mode: https://commission.europa.eu/publications/towards-sustainable-europe-2030_en.

16. A European Green Deal. Striving to be the first climate-neutral continent [Electronic resource]. – Accesed mode: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en.

17. Circular economy action plan. The EU's new circular action plan paves the way for a cleaner and more competitive Europe [Electronic resource]. – Accesed mode: https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en.

18. Farm to Fork strategy for a fair, healthy and environmentally-friendly food system [Electronic resource]. – Accesed mode: https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en.

19. Biodiversity strategy for 2030 [Electronic resource]. – Accesed mode: https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en.

20. Key policy objectives of the new CAP [Electronic resource]. – Accesed mode: https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/new-cap-2023-27/key-policy-objectives-new-cap_en.

21. Revision of the Energy Taxation Directive (ETD): Questions and Answers [Electronic resource]. – Accesed mode: https://ec.europa.eu/commission/presscorner/api/files/document/print/en/qanda_21_3662/QANDA_21_3662_EN.pdf.

22. The Statistical Review of World Energy [Electronic resource]. – Accesed mode: https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/co2-emissions.html.

23. EEA greenhouse gases – data viewer [Electronic resource]. – Accesed mode: https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer.

24. The energy intensity level of primary energy [Electronic resource]. – Accesed mode: https://w3.unece.org/SDG/en/Indicator?id=24.

25. Environmentally related tax revenue. OECD [Electronic resource]. – Accesed mode: https://stats.oecd.org/Index.aspx?DataSetCode=ERTR#.

26. Emissions of carbon dioxide. OECD [Electronic resource]. – Accesed mode: https://www.oecd-ilibrary.org/economics/oecd-factbook-2015-2016/emissions-of-carbon-dioxide_factbook-2015-60-en.

27. The Organisation for Economic Co-operation and Development (OECD) [Electronic resource]. – Accesed mode: https://www.oecd.org.

28. State Treasury Service of Ukraine [Electronic resource]. – Accesed mode: https://treasury.gov.ua.

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ВПЛИВ ЄВРОПЕЙСЬКОЇ ПОЛІТИКИ ТА ЕКОЛОГІЧНОГО ОПОДАТКУВАННЯ НА СТАЛИЙ РОЗВИТОК

Європейська політика та екологічне оподаткування можуть мати значний вплив на сприяння сталому розвитку в усьому світі та Європі зокрема. Хоча належним чином розроблені стратегічні плани та набір широких політичних заходів повинні бути сформовані відповідно до національних потреб і можливостей. Сталий розвиток означає спосіб досягнення економічного зростання та суспільного прогресу, який задовольняє потреби нинішнього покоління без шкоди для здатності майбутніх поколінь задовольняти власні потреби. Він визнає, що економічні, соціальні та екологічні міркування взаємопов'язані і вимагає балансу між цими трьома складовими. Порядок денний у сфері сталого розвитку до 2030 року та його 17 цілей сталого розвитку (ЦСР), прийняті Організацією Об'єднаних Націй (ООН) у вересні 2015 року, є невід'ємною частиною робочої програми Європейської комісії та дорожньою картою для досягнення сталого майбутнього. Основи сталого розвитку охоплюють скорочення бідності, відсутність голоду, міцне здоров'я, освіту, чисту воду, доступну та чисту енергію, гідну роботу та економічне зростання, зменшення нерівності, стійкі міста, відповідальне споживання, кліматичні заходи, гендерну рівність, життя під водою, життя на землі, мир, справедливість і міцні інституції, партнерство для досягнення цілей. Європейська зелена угода та спільна сільськогосподарська політика (САР) встановлюють амбітні цілі щодо скорочення викидів парникових газів і просування відновлюваних джерел енергії та практики циркулярної економіки. З іншого боку, екологічне оподаткування залишається важливим інструментом досягнення «зеленого» майбутнього. Наприклад, податки на викиди вуглецю можуть стимулювати компанії та окремих осіб зменшувати свій вуглецевий слід і переходити на більш чисті джерела енергії. Подібним чином податки на одноразовий пластик можуть перешкоджати його використанню та сприяти більш стійким альтернативам. Крім того, перегляд Директиви про оподаткування енергії (ETD) підтримує кліматичні цілі ЄС, забезпечуючи, щоб оподаткування моторного і опалювального палива та електроенергії в ЄС відображало їхній вплив на навколишнє середовище та наше здоров'я. Загалом, поєднання добре продуманої та переглянутої політики ЄС разом із екологічним оподаткуванням може створити більш сталу економічну модель. Стимулюючи компанії та окремих людей до впровадження екологічних практик і встановлюючи амбітні цілі щодо скорочення викидів і сприяння сталому розвитку, європейські країни можуть допомогти побудувати більш стійке майбутнє для прийдешніх поколінь.

Ключові слова: *екологічне оподаткування; сталий розвиток; Європейський зелений курс; Директива про оподаткування енергії (ETD); спільна сільськогосподарська політика (САР); викиди CO_2; енергоємність, відновлювальна енергія.*

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