DIRECTIVE ON THE QUALITY OF WATER intended for human consumption

NEW RULES IN A NUTSHELL





A FEW WORDS OF INTRODUCTION

Water is the gift of life. Without it, a man could not survive. The quality standards for water intended for human consumption are regulated by legislation. Their fulfilment is conditioned by the safety and protection of the entire water supply chain, from the supply area, through water intake, its treatment, storage, distribution, ending with the consumer's tap and any products intended to come into contact with water intended for consumption. On the other hand, the responsibility lies with many different entities and institutions, starting with the national and self-governing authorities, through the bodies carrying out supervision in the field of water management and health care, the water supply and sewage industry, ending with the citizens themselves.

There are many challenges ahead of entities supplying and controlling water intended for human consumption which aim to ensure that everyone has access to safe water. Improving the health security of water by adapting the list and values of the examined parameters to current technical and scientific progress, as well as improving access to adequate water quality, especially for vulnerable and marginalised groups, is a key objective of the new European Union Directive on the quality of water intended for human consumption. It entered into force in January 2021. The deadline for the implementation of its provisions to the national legal system was set until January 2023, at the same time specifying transitional periods up to 2029.

The preparation and implementation of optimal legal provisions adapted to the Polish reality will enable the implementation of the provisions of the Directive and ensure access to clean and healthy water throughout the country. The development and implementation of optimal legal provisions adapted to Polish realities will enable the implementation of the directive and ensure access to clean and healthy water throughout the country. It will also require many investments, primarily in water supply and sewage infrastructure, but also in the research

and control system, as well as information campaigns and training. This brochure presents in a synthetic way the implementation of its provisions into Polish law. The first part of the publication was devoted to the issues of water quality and its importance for human health and life. The second part of the publication is focused on the actions that need to be taken to implement the directive not only from a legal but also a practical point of view.

WATER QUALITY AND HUMAN HEALTH AND LIFE



water is an invaluable substance that gives life



without water life on Earth would be impossible



it is our duty to strive to improve the quality of water and to manage its resources wisely

Water intended for human consumption is primarily water in its original state or after treatment, intended for drinking, preparing food or other domestic purposes, regardless of its origin and whether it is supplied from a distribution network, tankers, bottles or containers. Such water contains no harmful microorganisms and substances, but there are certain natural minerals and basic elements instead. However, it should be borne in mind that the content of minerals cannot show aggressive and corrosive properties. Long-term consumption of demineralised water or water with a very low level of basic elements, such as calcium and magnesium, can pose a health risk.

>70% of the Earth's surface is occupied by water



people, mostly from the world's poorest regions, have limited access to drinking water or does not have it at all

2.5%

of water resources on Earth is fresh water 0.6%

of water resources on Earth is drinking water

1.5–2.5 litre per day is the human demand for water

Statistic data shows that not all people all over the world have access to safe drinking water. The percentage of the world's population using safe drinking water distribution rose from 64 % in 2005 to more than 70 % in 2017.

Global population using safe drinking water in % of the total population (Central Statistical Office data for 2022)



Parameters and parametric values which should be met by drinking water:







In the context of access to safe drinking water, an extremely important parameter is water loss – i.e. the amount of water that leaked from the water supply network as a result of its leakage or failure (Central Statistical Office definition):

- » apparent losses do not constitute actual leakages, are the result of measurement errors
- » actual losses actual water leakages resulting from the condition of the equipment, corrosion of pipes, leaks of joints and fittings



Water consumption in Poland

The problem is not only the lack of access to drinking water, but also its pollution, including pharmaceuticals and microplastics.



Microplastics are found in more than **90%** of bottled water and more than **72%** of tap water samples.



Microplastics contain Bisphenol A and phthalates, compounds deregulating endocrine system. They cause, among others, problems with fertility, breast cancer, prostate cancer or obesity.



TAP WATER IS CHEAPER AND LESS EXPOSED TO MICROPLASTICS

Bottled water can cost **150** to **1000** times more per litre than tap water, according to a UN think tank report.

POLAND

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average cost of 1 litre of bottled water is about **2 PLN** average cost of 1 litre of tap water is about **0.005 PLN**

In Poland, the most important document regarding drinking water quality standards is the Regulation of the Minister of Health on the quality of water intended for human consumption.

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REVIEW OF LEGAL ACTS EU AND NATIONAL LEVEL

DIRECTIVE (EU) 2020/2184 - HISTORICAL CONTEXT

The basic document at the European Union level governing the quality of water intended for human consumption is DIRECTIVE (EU) 2020/2184 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2020 ON THE QUALITY OF WATER INTENDED FOR HUMAN CONSUMPTION (JOURNAL OF LAWS EU L 435, 23.12.2020, P. 1)

This Directive is a revision of the First Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (Journal of Laws EC L 330 of 05.12.1998, p. 32, as amended), which concerned the provision of healthy and clean drinking water and protecting health from the effects of its contamination.

Reasons for updating the 1998 Directive:



- » scientific and technological progress, new methods of research and the need to take account of previously absent pollutants
- » increased demand for water, including drinking water
- The Regulatory Fitness and Performance Assessment of the 1998 Directive (the so-called REFIT study), which identified four areas for improvement: list of parametric values for water quality, limited use of a risk-based approach, imprecise and unclear provisions on information to be provided to consumers, discrepancies between approval systems for contact with water intended for human consumption and their impact on human health
- » general lack of awareness of water spills caused by underinvestment in the maintenance and renewal of water supply infrastructure
- » Right2Water initiative (full name "Access to water and sewerage is a human right! Water is a public good, not a commodity!) registered on May 10, 2012

Right2Water was signed by nearly 1.8 million EU citizens



- » first European Citizens' Initiative on access to water and sanitation
- » pointed out that part of the population, especially the poorest, has no access to water intended for consumption
- » thanks to the initiative the European Commission launched an EU public consultation and verified the content of the 1998 Directive

ASSUMPTIONS AND OBJECTIVES OF DIRECTIVE (EU) 2020/2184

- » improving water health safety through adaptation lists and values of tested parameters to current technical and scientific progress
- » ensuring universal access to water and use of necessary measures to improve population access to water intended for human consumption, in particular for sensitive people and marginalized social groups without access to drinking water
- » informing the public about the quality of water intended for human consumption, the price of water and the amount of used water via electronic communication or information on the invoice
- » water management in accordance with the principles of sustainable development
- adding new drinking water quality parameters (interfering substances functioning of the endocrine system, medicinal products and microplastics on the watch list, i.e. bisphenol-A, chlorates, chlorites, haloacetic acid, sum of PFAS
 – fluorinated organic compounds) and their adaptation to the current state of knowledge and scientific and technological progress
- » extension of the scope of requirements regarding drinking water quality parameters, by adapting the list and values of the tested parameters to the current state knowledge and scientific and technical progress and modifications of conduct monitoring water quality and checking compliance with quality requirements
- » innovative approach to drinking water safety based on risk assessment and its management in the water supply chain (from the supply area, through consumption, treatment, storage, distribution, up to the consumer's tap):
 - in areas supplying water intakes intended for human consumption
 - in the supply system
 - in internal water supply systems
- » unification of the certification system for materials and products in contact with water intended for human consumption and requirements regarding water treatment chemicals and filter materials in contact with water intended for human consumption

- » determining the impact of the quality of materials in contact with water on human health intended for consumption
- » promoting drinking tap water, increasing citizens' trust in this water and possibly reducing bottled water consumption
- » assessment and reduction of water losses in water supply networks (including through leakage reduction requirement
- » environmental protection by reducing the use of plastic

IMPORTANT DEADLINES UNDER DIRECTIVE (EU) 2020/2184



IMPLEMENTATION OF DIRECTIVE (EU) 2020/2184 TO THE NATIONAL LEGAL SYSTEM

NECESSARY CHANGES IN POLAND

Directive (EU) 2020/2184 is binding for all the Member States to which it is addressed in relation to the result to be achieved, but leaves the choice of form and means to national authorities. Poland is required to introduce regulations primarily regarding obligations for water suppliers (including water supply companies), bodies of the State Water Holding – Polish Waters (Państwowe Gospodarstwo Wodne Wody Polskie) (hereinafter PGW WP), bodies of the State Sanitary Inspectorate, local self-government units, owners or managers of multi-family buildings and priority facilities and ministers competent for water management and health matters.

The implementation of the directive requires the introduction of numerous changes to the existing approach to the supply chain, risk assessment, control of water quality or its safety.

Implementation

of the Directive

introduction of new management solutions, selection of tools and control methods

implementation of a number of investments

undertaking large-scale training and information activities

> amendment of legislation

comprehensive approach, cooperation and precise segregation of duties between local governments (water suppliers and water supply and sewage enterprises), State Inspection Sanitary and Inspection of Environmental Protection and owners and managers of priority objects and residential buildings

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Implementation of the directive into the Polish legal system means the need for legal changes:

ACTS:

- » to the greatest extent an amendment to the Act of June 7, 2001 on collective water supply and collective sewage disposal (Journal of Laws of 2023, item 537, as amended)
- » to a lesser extent, amendments to acts:
 - Act of March 14, 1985 on the State Sanitary Inspection (Journal of Laws of 2023 pos. 338, as amended. d.)
 - Act of July 20, 2017, Water Law (Journal of Laws of 2023, item 1478, as amended)
 - Act of July 7, 1994 Construction Law (Journal of Laws of 2023, item 682, as amended)
 - Act of April 27, 2001, Environmental Protection Law (Journal of Laws of 2022, item 2556, as amended. d.)
 - Act of August 25, 2006 on food and nutrition safety (Journal of Laws of 2023, item 1448)

IMPLEMENTING ACTS

- » loss of force of the current Regulation of the Minister of Health of December 7, 2017 on the quality of water intended for human consumption (Journal of Laws 2017 pos. 2294)
- » issuing new regulations (including determining priority facilities, for which risk assessment will be performed in the internal system water supply; quality of water intended for human consumption; assessing the size of water leaks in the water supply network; defining the procedure issuing certificates for materials and products in contact with water intended for human consumption; appointing a certification body for issuing certificates certifying that materials or products come into contact with water intended for human consumption meet the appropriate requirements; defining the procedure for issuing certificates for materials and products for contact with water intended for human consumption or chemical substances and filter materials for water treatment intended for human consumption)

As part of the transposition of Directive (EU) 2020/2184 it is envisaged introduction of statutory regulations in the form of an amendment to the Act of June 7, 2001 on collective and collective water supply sewage disposal and some other acts, such as:

- » defining the obligations of water suppliers, including water quality tests intended for human consumption in terms of internal quality of water control
- » clarification of the competences of the State Sanitary Inspectorate bodies and procedures in the field of supervision over the quality of water intended for human consumption
- » regulating the obligations of water suppliers (especially water supply and sewage enterprises, PGW WP authorities and the competent minister for water management in the scope of assessing leaks of water intended for human consumption (volume of water leakage) and development of plans actions to reduce water leaks
- » obliging water suppliers to carry out risk assessments in supply areas, water intakes and water supply systems and taking actions to manage this risk; determining the competences of the PGW WP bodies in terms of giving opinions on risk assessments and carrying out activities for risk prevention
- » obligation of property owners or managers to perform risks assessments in internal water supply systems, regulation of procedures of acquiring authorization to perform these assessments
- » determining the competences of competent authorities to issue assessments or consents regarding the use of materials or products for distribution or water treatment; defining the rules for authorizing the use of materials and construction products that come into contact with water intended for human consumption, taking into account the mechanism of the European positive list, and materials and products used for water treatment
- » establishing procedures and imposing obligations on authorities or other organizational entities aspects of the commune in terms of identifying deprived people or population groups with limited access to water intended for human consumption and, in cooperation with water suppliers, actions to ensure or improve access to water for these people/groups intended for human consumption
- » detailed regulation of water suppliers' obligations in terms of informing consumers about water quality, prices and consumption and defining measures transmitting this information
- » defining the competences of the competent authorities in the field of development data sets and reports for the purpose of meeting reporting obligations regarding the activities referred to in points 2-5 and 7, towards the European Commission, the European Agency Environment and the European Center for Disease Prevention and Control

RIGHTS AND OBLIGATIONS FROM DIRECTIVE (EU) 2020/2184

The transposition of Directive (EU) 2020/2184 entails imposing a number of obligations on those responsible for the supply of water intended for human consumption at every stage of the process. It should be taken into account that water suppliers are not only water supply companies, but all suppliers of drinking water, also supplying large non-residential facilities and large public utilities and food businesses.



Minister responsible for water management

- » legislative works on amendments to the Act related to the implementation of the Directive
- » approval of a report sent to the European Commission on assessments of leakage rates and measures taken to improve access and promote the use of drinking water
- » in the event of exceeding the threshold for the volume of water leaks specified by the European Commission, developing a national action plan to reduce leaks water in water networks



Minister of health

- » legislative work related to the implementation of the Directive
- » identification of priority facilities for which risk assessment will be carried out in the internal water supply system
- » designation of a laboratory performing water quality tests
- » designation of a body issuing certificates attesting that the materials or articles having contact with drinking water meet the requirements
- » determination of the procedure for issuing attestations for materials and products having contact with drinking water or chemical substances and filtration materials for treatment



National Water Management Board of the State Water Holding – Polish Waters

- » keeping a record of management of register and water leaks assessment in water supply networks
- » cooperation with the Minister responsible for water management (developing a plan to reduce leakages when their size exceeds the set threshold)
- » collecting information about activities of local government units improving access to water and popularising its use by people (including development of a database and updating it every six years)
- » sending to the European Commission measures taken to improve access and promote the use of drinking water



State Sanitary Inspectorate

- » control of compliance with regulations defining hygiene and health requirements of drinking water and monitoring of its quality
- » new analytical methodologies
- » assessment of water suitability for consumption
- » area assessment of water quality and supervision of deviations
- » encouraging owners of public and private facilities to assess the risk and its elimination or reduction in internal water supply systems
- » preparation of water quality data, granted derogations and assessments risk (priority facilities and facilities for which risk has been demonstrated)



Regional Water Management Boards of PGW WP

- » assessment, prevention and risk management in supply areas
- » collecting information on actions taken by local government units to improve access to drinking water



Water suppliers, including water and sewerage companies

- » meeting standards for established water quality parameters
- » monitoring of parameters with innovative analytical methods and modern laboratory research
- » improving water treatment technology
- » assessing the amount of water loss, water leakage management and reduction of leakages
- » providing laboratory equipment, new analytical methodologies and water treatment processes



Local governments (voivodeships, mayors, city presidents in cooperation with water suppliers)

- » improving or maintaining universal access to drinking water
- » informing about the possibility of connecting to the water supply network
- » informing about alternative ways to access water
- » identifying groups without access to water, identifying causes and remedies, collecting data and information to be sent to the authorities of PGW WP on the percentage of population having access to drinking water
- » encouraging owners of public and private facilities to assess risks in internal water supply systems and carrying out consumer-oriented activities to eliminate or mitigate the risks associated with internal distribution in all internal water supply systems

OBLIGATION TO APPLY AN APPROACH TO THE HEALTH SAFETY OF DRINKING WATER BASED ON RISK ASSESSMENT AND MANAGEMENT IN INDIVIDUAL ELEMENTS OF THE WATER SUPPLY CHAIN:

Risk assessment and risk management in water supply areas

Risk assessment and risk management in water supply systems Risk assessment in internal water supply systems

Risk assessment and risk management in water supply areas

- » Risk assessment is carried out by water suppliers.
- » The risk assessment takes into account:
 - identification of significant anthropogenic impacts and assessment of their impact on the status of surface or groundwater and assessment of their impact on the status of surface or groundwater covering the area supplying the water intake
 - results of monitoring of surface or groundwater used to assess the status of surface waters and assess the status of groundwater covering the area supplying the water intake
 - test results for parameters covered by the watch list established under Directive (EU) 2020/2184¹
 - assessment of whether surface waters meet the requirements for surface waters used to supply water intended for human consumption to the population
 - risk analysis for water intake
 - information on the establishment of a water intake protection zone
- » Measures to prevent and control risk implemented by the directors of the regional water management boards of PGW WP.
- » Important dates:



and then every **6 years** – water suppliers provide the risk assessment or its update to the relevant director of the regional water management board of PGW WP and the relevant state district or border sanitary inspector



and then every **6 years** – directors of the regional water management boards of PGW WP provide the risk assessment or its update and a list of risk prevention and risk control measures to the Director of PGW WP



and then every **6 years** – the Director of PGW WP provides the European Commission, the European Environment Agency and the European Center for Disease Prevention and Control with access to the risk assessment or its update and to the list of risk prevention and control actions risk.

Commission Implementing Decision (EU) 2022/679 of 19 January 2022 establishing a watch list substances and compounds of concern in relation to water intended for human consumption in accordance with Directive (EU) 2020/2184 of the European Parliament and of the Council (Official Journal EU L 124, 27/04/2022, p. 41).

Risk assessment and risk management in water supply systems

- » Risk assessment is carried out by water suppliers.
- » Risk assessment:
 - takes into account the results of risk assessment and risk management in the area of water supply
 - contains the characteristics of the water supply system
 - identifies hazards and hazardous events in relation to the quality parameters of water intended for human consumption and includes an assessment of the risk they could pose to human health
- » Risk management measures implemented by water suppliers.
- » Important dates:



and then every **6 years** – water suppliers provide the risk assessment or its update to the competent state district or border sanitary inspector

Risk assessment in internal water supply systems

- » Risk assessment is performed by property owners or managers
- » The risk assessment takes into account:
 - general analysis of potential risks related to the internal water supply system and the products and materials used in this system, as well as determining whether these risks affect the quality of water at drinking water intake points in the property
 - test results for Legionella bacteria in hot tap water or test results for lead concentration in water in the internal water supply system - only in the case of priority² facilities, as well as non-priority facilities if the general analysis of potential risks indicates a threat caused by lead or Legionella bacteria.
- » Actions to reduce risk taken by: property owners or managers, State Sanitary Inspection bodies, National Institute of Public Health National Institute of Hygiene – National Research Institute
- » Important dates:



- and then every **6 years** - property owners or managers prepare a risk assessment or update it

- and then every **6 years** - owners or managers of priority facilities and other properties for which threats caused by lead or Legionella bacteria have been identified, provide the relevant state district or border sanitary inspector with a risk assessment or its update as well as information about actions to reduce risk

² Priority facilities will be specified in a regulation issued under the Collective Act water supply and collective sewage disposal.



and then every **6 years** – state district and border sanitary inspectors provide the competent state voivodeship sanitary inspector with a risk assessment or its update as well as information on actions to reduce the risk



and then every **6 years** – state provincial sanitary inspectors provide the Chief Sanitary Inspector with a risk assessment or its update as well as information on activities to reduce the risk



and every **6 years** there after - the Chief Sanitary Inspector provides the European Commission, the European Environment Agency and the European Center for Disease Prevention and Control with access to the risk assessment or its update and to information on risk reduction activities

In the case of a building put into use after June 30, 2028, the owner or property manager will prepare a risk assessment within **6 months** from the date of putting the building into use.

IMPROVING PEOPLE'S ACCESS TO DRINKING WATER

- » Actions to improve or maintain universal access to drinking water are taken by:
 - commune head, mayor or city president
 - to some extent also owners or managers of public buildings
- » The commune head, mayor or city president:
 - identifies people and groups of people without or with limited access to water, in particular among people, families and groups of people at risk of poverty, marginalization and social exclusion
 - assesses the possibilities of improving access to water for these people or groups of people (in cooperation with water suppliers, mainly water and sewage companies)
 - informs these people or groups of people about the possibilities of connecting to the water supply network or about alternative ways of obtaining access to water (in cooperation with water suppliers, mainly water and sewage companies)
- » The commune head, mayor or president of the city (in cooperation with water suppliers) or the owner or manager of a public building provides publicly accessible drinking water collection points - if in his opinion it is technically possible and there is a need for such measures

» Important dates:



and then every **6 years** – commune heads, mayors and city presidents provide to the appropriate director of the regional management of PGW WP information on activities aimed at improving or maintaining universal public access to drinking water



and then every **6 years** – directors of regional management of PGW WP provide information on actions to improve or maintain common access of the population to drinking water to the Director of PGW WP



and then every **6 years** – the Director of PGW WP assures the Commission European access to information on improvement actions or maintaining universal access to drinking water for the population (after their approval by the minister responsible for water management)

ASSESSMENT OF THE AMOUNT OF WATER LEAKS IN THE WATER SUPPLY NETWORK

In accordance with Directive 2000/60/EC, Member States shall ensure that so that when assessing the volume of water leaks in their territory and the possibilities improvement in terms of leakage reduction, was used the infrastructure index leakage (ILI) or other appropriate method.

The legal act introducing the obligation to assess leaks will be: regulation of the Minister of Infrastructure on the method of assessing water leaks in the water supply network for 2024 and the size assessment report of water leaks in the water supply network, issued on the basis of statutory delegation.

- » the obligation applies to suppliers supplying at least 10,000 m³ of water per day or serving 50,000 people
- » the annex to the regulation will specify the size assessment report leaks in the water supply network
- » the assessment will take into account the amount of water pumped into the network and related aspects of public health, environment, technology and economy



BENEFITS RESULTING FROM THE IMPLEMENTATION OF DIRECTIVE (EU) 2020/2184

The implementation of the Directive will benefit all residents of Poland. The most important stakeholder groups are:

water suppliers, in particular water supply and sewerage companies local government units

water consumers

- » The new requirements of the Directive lead to the modernisation of the infrastructure, networks and equipment of the water and wastewater management system. These changes will contribute to improving the functioning of water and sewage companies and bodies responsible for managing the distribution network and reducing leakages.
- » Approval of materials and products for contact with water intended for consumption will reduce their harmful effects on human health.

On the unification of procedures for the hygienic assessment of materials throughout the entire area entrepreneurs will also benefit from the European Union. They will not have to carry out the assessment themselves and bear the costs.

Companies producing and selling contact materials and products with water intended for drinking, after obtaining the required assessments, they will be able to expand the distribution and sales area to the entire territory of the European Union. Will expand sales markets and will increase competitiveness.

Establishing rules for products that come into contact with water intended for consumption will make it easier for water suppliers and consumers to know whether the materials meet health requirements, which will improve protection health and life of citizens.

- » Reducing water losses (reducing leaks) and optimizing the water chain supplies will contribute to reducing the costs of water production.
- » Risk assessment and management throughout the entire supply chain (from the supply area to through collection, treatment, storage, distribution, to the consumer's tap) should be focused on solutions using the most modern ones technologies.
- » This approach will reduce the need for water treatment intended for consumption. In addition, to obtain high-quality treatment it is helpful to achieve good water status in the river basin. That's why it's needed monitoring water quality throughout the entire supply chain.

- » Access to safe drinking water for poor or marginalized social groups will improve (e.g. due to disability or old age). Local authorities will improve or maintain universal access to water where people live and increase access in public places (e.g. construction of water abstraction points, springs and drinking fountains).
- » It is important to ensure easy and consumer-friendly access (also online) information on the quality of drinking water and potential threats resulting from exceeding the parametric values of water. This will increase consumers' trust in tap water and will influence the shaping of attitudes in the spirit of sustainable development and a decline in the consumption of bottled water.
- » By using tap water, consumers will help reduce the amount of plastic waste and reduce the carbon footprint associated with production and storing bottled water and disposing of plastic waste. A huge amount of energy needed for production plastic bottles and water bottling, transport, cooling in stores and recycling will be saved

Benefits for water suppliers, including enterprises water supply and sewage



Benefits for consumers



- » Announcement of the Speaker of the Parliament of the Republic of Poland of 27 January 2023 on the publication of a consolidated text of the Act on collective water supply and collective sewage disposal (Journal of Laws 2023, item. 537)
- » Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (Journal of Laws EU L 435, 23.12.2020, p. 1)
- » Bill amending the Act on collective water supply and collective sewage disposal and certain other acts.
- » https://raportsdg.stat.gov.pl/2020/cel6.html i https://pacjent.gov.pl/aktualnosc/ pij-wiecej-wody
- » https://raportsdg.stat.gov.pl/2020/cel6.html#:~:text=W%20Polsce%20 głównym%20źródłem%20zaopatrzenia,zużyto%208%2C8%20km³%20wody
- » https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5492/10/5/1/ infrastruktura_komunalna_w_2021_r.pdf
- » https://stat.gov.pl/download/gfx/portalinformacyjny/pl/ defaultaktualnosci/5515/1/25/1/maly_rocznik_statystyczny_polski_2023.pdf
- » https://stat.gov.pl/download/gfx/portalinformacyjny/pl/ defaultaktualnosci/5484/1/23/1/ochrona_srodowiska_2022.pdf
- » https://raportsdg.stat.gov.pl/2020/cel6.html i https://sdg.gov.pl/statistics_glob/6-1-1/





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