POLITYKA INSIGHT | RESEARCH

National Champions

HOW DO THEY SUPPORT THE ENVIRONMENT

2021 edition

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POLITYKA INSIGHT

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- President*
- Headquartered in
- Number of employees
- Added value**
- ROA (%)
- Share of exports in total sales
- Main sector of activity
- 2020 ranking

* as for November 20, 2021

** own calculations. Financial data for 2019.

	Daniel Obajtek	Marcin Chludziński	Adam Góral	Tomasz Cudny	Sebastian Szymanek
Headquartered in	Płock	Lubin	Rzeszów	Jastrzębie-Zdrój	Starogard Gdański
Number of employees	22,337	34,328	26,843	30,629	6,107
Added value**	12,144	10,028	6,524	6,361	1,059
ROA (%)	6.0	3.6	2.2	4.4	12.3
Share of exports in total sales	53%	73%	87%	47%	15%
Main sector of activity	Manufacture of refined petroleum products ropy naftowej	Mining of other non-ferrous metal ores	Computer programming activities	Mining of hard coal	Manufacture of pharmaceutical preparations
2020 ranking	1	2	3	8	5

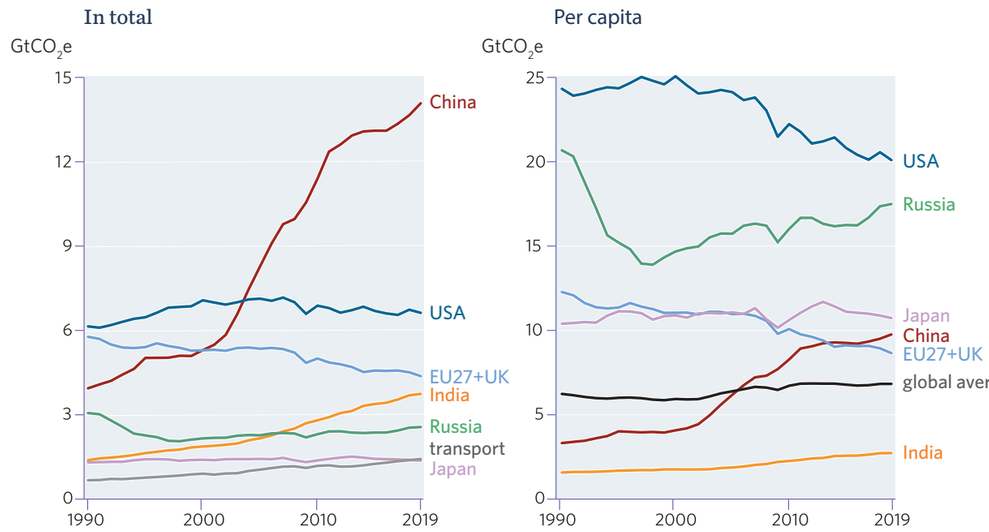
	Paweł Roszczyk	Jacek Michalak	Zbigniew Warmuz	Janusz Filipiak	Tomasz Hinc
Headquartered in	Pieńków	Wrocław	Oświęcim	Kraków	Tarnów
Number of employees	2,019	1,925	3,263	6,348	15,607
Added value**	199	311	1,394	1,050	3,228
ROA (%)	8.0	4.7	8.1	5.7	2.4
Share of exports in total sales	21%	75%	65%	44%	51%
Main sector of activity	Manufacture of pharmaceutical preparations	Manufacture of glues	Manufacture of synthetic rubber in primary forms	Computer programming activities	Manufacture of fertilisers and nitrogen compounds
2020 ranking	12	13	18	8	15

Necessary change in the model of governance

Capitalism, the present economic system, has some drawbacks. These include a tendency towards short-term actions directed at maximizing production, sales and profit. From a global perspective, some of these actions may actually impede long-term stability and growth. Given that the human population is forecast to exceed 9.7 billion in 2050[1], if the world is to continue with the global capitalist system, it will need three times more resources than the planet is able to supply today (European Commission, 2020a).

The excessive exploitation of natural resources exceeds the regenerative powers of the earth and is leading to a climate crisis. The disastrous impact of the climate crisis on the environment, economies, health, humanitarianism and politics are just around the corner. The world is making some attempts to address the impact of such exploitation by, for example, the 2015 Paris Agreement. The resulting commitments have been bolstered in recent months by the leaders of the G20 countries, which are also among the top greenhouse gas emitters in the world (United Nations Environment Programme, 2020).

GRAPH 1. THE TOP GREENHOUSE GAS EMITTERS



Source: Eurostat 2018 r.

1 UN Forecasts.

All 193 UN member states have declared that development should be sustainable, i.e. the world should strike a balance between the three dimensions of development: economic, social and environmental. UN member states have adopted the 2030 Agenda for Sustainable Development and set 17 goals. These goals include: ensuring sustainable consumption and production patterns; promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; making cities and human settlements inclusive, safe, resilient and sustainable; protecting, restoring and promoting sustainable use of terrestrial ecosystems.

These efforts are necessary, all the more so as the forecasts are rather gloomy - according to the Economic Forum, **failure to act on the climate crisis is the most severe and the second most likely long-term risk for the world.** Negative effects will include an intensification of extreme weather phenomena and anthropogenic damage to the environment, further loss of biodiversity, and a crisis in natural resources (The Global Risks Report, 2021).

In this situation, it is worth asking key questions:

- How to meet human needs without draining the earth's natural resources?
- How to separate socioeconomic development from the demand for non-renewable resources?
- How to prevent environmental degradation and ecological catastrophe, and consequently a crisis (collapse) of civilisation?

In order to effectively respond to these challenges, it is necessary to take action on:

1. **Going climate-neutral** - reducing CO_2 emissions as much as possible, e.g. in industry, transport and energy, and balancing the emissions that fail to be reduced by increasing absorption, e.g. by planting trees;
2. **Enhancing the circular economy** - keeping raw materials and products in circulation for as long as possible while maximising their value. As a result, less natural resources will be extracted and less waste will be produced, and the processed materials can be reused for production;
3. **Reducing social inequality** - reducing inequalities within and between countries.

In this report, we focus on the first two issues.

Going climate-neutral

The actions taken by the public sector to achieve climate neutrality is visible in the public space (see the next chapter). Nonetheless, the **effectiveness of the green transition depends heavily on another decisive factor - the attitudes of business.** The green transition can be achieved when the private sector sees itself as an influential and proactive actor in the process (WBCSD, 2021). In particular, the bigger players in every market will have the capacity to influence and change consumer behaviour, market segments and the way in which their networks of stakeholders operate. Amongst the actors with this ability are companies considered to be national champions.

There is a need to modify the behaviour of the major market players. It is important that their strategies include environmental issues, which in turn determine long-term success and the stability of these enterprises. As well as this, it is important that the companies are able to use their competences, resources (including financial and human), market position, and the changing regulatory framework to accelerate technological eco-transformation in their industries and sectors of activity. These companies should establish a partnership with other business ventures, governments, local authorities, and NGOs to work towards the goal of climate neutrality, i.e. having zero net GHG emissions.

The foundations for this kind of shift in corporate thinking and operation appear to be increasingly visible, especially as the general public, which is aware of the pressing ecologically issues facing the world, is slowly expecting the change to happen. **The transition to sustainable business practices is thus becoming an existential challenge for companies, on one hand, and a key challenge for their competitiveness and growth prospects, on the other.**

The major market players have to include environmental issues into their strategies for good.

The circular economy

The 'circular economy' is a regenerative economic system that minimises energy emissions and losses, the amount of waste generated and the consumption of raw materials. In the circular economy, closed loop model principles are applied, which enable the use of unwanted materials - such as raw materials - in the production of new products. In this process, the amount of production waste is therefore kept to a minimum (teraz-srodowisko.pl). The transition to the circular economy model is on the official agenda of the European Union. The European Commission (2020b) estimates that the number of jobs related to the circular economy in the EU may reach about 5 million in 2030, and that closed-loop business models could **significantly increase the profitability of companies** by reducing their dependence on raw materials obtained amid fierce global competition. Citizens will also benefit from circular economy mechanisms, which will provide access to high quality functional, durable, repairable and re-usable/recyclable products. The benefits of transitioning to the circular economy strongly encourage private sector decision-makers in Europe to take full advantage of technological, market and human capital (knowledge, skills, jobs) potential provided by the resource-efficient, low- and zero-emission circular economy. **It is highly probable that green transformation initiatives will be welcomed by both public and private sectors, resulting in a synergy that could be very productive.**

Public policies in the service of the green transition

Achieving the goal of climate neutrality requires the strong engagement of public policies, all sectors of the economy, social groups and scientific and educational institutions. In the European Green Deal proposed by the European Commission in 2019, it was suggested that public and private sectors, including institutional investors, banks and equity funds, will be the driving force behind the changes.

These mutual ambitions are transformational for both the economy and society. In practice, what they mean is:

- achieving zero net greenhouse gas emissions by 2050,
- becoming less dependent on the exploitation of natural resources,
- preserving and restoring the natural capital that forms the basis of citizens' health and well-being,
- fair distribution of the costs of the green transformation.

The first milestone in combating climate change will be 2030, when the EU aims to reduce greenhouse gas emissions by 55% compared to 1990 levels. As well as this, the share of RES in total energy consumption is to reach at least 32%. **The implementation of this pro-climate revolution will require significant financial resources (public and private), as well as a new regulatory framework and grassroots work related to raising awareness amongst citizens and changing their consumer behaviour.** Even before the COVID-19 pandemic, the European Commission estimated that implementing the assumptions of the European Green Deal would require investments of 260 billion euro a year, with at least 1 trillion euro of investments to be transferred from the EU budget by 2030.

Actions that public institutions take and could take

Public institutions are **engaging** in the processes of climate transition at multiple levels and are often **taking on a leadership role** in driving climate neutrality changes. This includes establishing an **active partnership with the private sector**. Such partnerships typically involve working on reducing greenhouse gas emissions in power generation, agriculture, construction, transport, and industry (including the development of RES), reduction of demand for natural resources and energy (energy efficiency), reduction of food waste and promotion of responsible consumption, as well as ensuring efficient critical infrastructure, including the ability to anticipate natural disasters and manage crisis situations. An emerging area for increased public-private cooperation is also green hydrogen, which could meet up to nearly 25 percent of global energy demand in 2050 (European Commission, 2020d).

Public institutions **have the opportunity to procure goods, services and infrastructure with a significantly reduced environmental impact through green public procurement or pre-commercial public procurement.** Through these procurements, companies and research and development entities engage in creating innovative solutions to address important environmental and social challenges, whilst coming up with solutions (products) with high market potential. Nevertheless, there is still room for improvement in this area, **given that only 1,300 contracts were entered into in Poland** (which accounts for 0.9 percent of all contracts) with a total value of only PLN 5.9 billion - that is 3.0 percent of the total value of contracts (CSO, 2020).

In 2019 only 1,300 green public procurement were entered into in Poland, which accounts for 0.9 percent of all contracts with a total value of only PLN 5.9 billion.

Climate-friendly changes in the socioeconomic sphere require significant financial resources and a framework to facilitate investment decisions for both the public sector and private investors. **The world's first classification system for sustainable development activities is already being established and is known as 'taxonomy.'** Its main task is to direct capital flows towards environmentally and socially friendly investments and to strengthen the long-term approach to building corporate value. With consistent and unambiguous rules, it will help in comparing investments, in planning the decarbonisation path of activities, and in making investment decisions or formulating more effective public policies.

The rules for the taxonomy have been clarified at EU level in recent months. They are due to become partially applicable at the beginning of 2022. It is estimated that the system will cover around 6,000 large companies and groups in the EU. It will help both public and private investors to understand which companies are building climate resilience by reducing the carbon footprint of human activity, and therefore which companies are acting in line with broader European policies and the Paris Agreement.

It is worth emphasising that the **introduction of the taxonomy will diversify the prospects for operation and development of businesses in the EU**. Many businesses may fail to meet the requirements of the taxonomy, becoming unattractive to investors who seek to reduce the carbon footprint of their portfolios. Credit conditions may also deteriorate for such companies. At the same time, firms that choose to make zero-carbon investments can expect increased interest in buying their shares or bonds. Companies that have not undertaken green investments so far are in yet another situation - they may benefit from lagged rent, implementing the newest and most effective technologies with the support of external funding. In either case, it will be necessary to prepare non-financial disclosures based on complete and reliable data on the climate impact of the company (see the next chapter).

The taxonomy, despite the foreseen difficulties in interpretation and some resistance in implementing it, should bring benefits to public and private entities. It will enable entities to locate themselves on the map of climate-friendly investments, which should become a hallmark of the entire European (including Polish) economy.

The role of businesses in shaping a new economic order

Businesses that follow global trends, looking for new competitive advantages and keen to maintain high quality relations with their stakeholders, engage in reducing the negative environmental impact of their activities. **More and more companies are aware that climate change issues are critical for them, as they impact on their operations and development.** Big corporations are likely to play a crucial role in the green transition. This applies in particular to the most resource-intensive, energy-intensive and emission-intensive sectors (e.g. energy, construction, mobility, the processing industry and food production). It is necessary for these corporations to explicitly integrate climate change into their strategies and business models, including drastically reducing GHG and pollutant emissions and implementing the principles of the circular economy.

What entrepreneurs do

Climate-friendly policies create **new business opportunities and financial benefits** for companies and economic sectors. For example, reducing costs and consumption of resources minimises demand for raw materials and energy, making firms less dependent on volatile prices. Where zero-carbon energy sources can be used, materials can be recycled and secondary and alternative raw materials can be more widely used. Also, the amount of waste can be reduced and supply chain security improved. Another opportunity is provided by **innovative product groups (services)** with a low carbon footprint built with R&D support. This may result in **forming new markets** or **strengthening the competitive (innovative) position** in rapidly growing markets, as well as **attracting highly qualified employees.** Enabling **access to external financing** (EU taxonomy), which is related, among other things, to building the image of the company as climate responsible, is also not without significance.

Despite rising awareness of climate change, there are still three general approaches that companies around the world take to reduce their carbon emissions (decarbonisation):

1. **Passive** means no real action is taken in response to climate change pressures.
2. **Reactive** includes taking elementary (forced) corrective actions to reduce risks, but without focusing on emerging opportunities.
3. **Ambitious** means setting a clear goal: climate neutrality (e.g. Google by 2030) and sometimes even a positive impact on climate (e.g. Microsoft by 2030). This attitude can be observed most often amongst current or emerging market leaders.

Companies seeking to decarbonise and close the loop of the economy are utilising various business models, often integrating them. They choose:

- circular supply chain (RES, biological raw materials),
- resource recovery (e.g. from materials, by-products, and waste),
- extension of product life cycles (through modular design, reparability, remanufacturing and resale),
- exchange platforms (e.g. sharing of production resources),
- product-as-a-service model (paid access without transfer of ownership).

Such actions are supported by digital, physical and biological technologies, enabling, for example, energy storage and recovery, the reduction of resource wastage, and other ways to lower production costs and to reduce pressures on the environment.[1]

Catalysts for change

The green transition in firms is being triggered by several factors. These include putting climate neutrality at the heart of strategy; engaging key process owners in jointly defining projects that are part of the circular economy (e.g. reducing energy, emissions or material intensity); and engaging suppliers, subcontractors and customers in the process of reducing carbon footprints. It is worth noting that the internal price of CO_2 emissions may become an effective tool to check the decarbonisation initiatives implemented by companies. It is an indicator that helps to compare and target planned investments towards the most effective low-carbon solutions to support the building of resilient supply chains and competitive advantages, on one hand, and to allay possible concerns of shareholders, on the other.

Brakes and traps for change

There are a number of factors that prevent companies from taking eco-friendly actions. External entities that strive to maintain their market position and minimise financial costs are said to be responsible for upholding the regulatory *status quo* and thus posing barriers to the green transition. There are also barriers already existing within firms, such as a corporate culture that values the attainment of short-term goals. The green transition is also being put in jeopardy by the costs of transformation coupled with the lack of tough business leaders who could be heralded as champions of change. The costs of transformation will undoubtedly be very high and should therefore be comprehensively valued and openly communicated. Unfortunately, they are too often perceived negatively (as a necessary expense). Nevertheless, these costs are largely pro-development in nature and generate specific economic, social and environmental benefits (and opportunities).

The materialisation of climate risks (e.g., the increasing frequency of extreme weather events and natural disasters, rising sea levels, mass migration of people, rising food prices, new pandemics, armed conflicts) **can mean, in practice, among other things, a decrease in production capacity and demand, rising costs, and reduced access to essential resources (e.g. water).**

Sticking to a conventional development model, in which climate issues do not play a significant role, can be a death trap for many companies. Serious threats are looming on the horizon, such as:

- **legal and regulatory risks** (e.g. emissions pricing, product performance requirements and litigation);
- **market risks** (e.g. emergence of technologies/products offering significantly lower costs and emissions, changing customer behaviour and preferences, excessive empowerment of suppliers and increasing raw material costs);
- **reputational risks** (e.g. associated with sectoral stigma or investor concerns).

Awareness of expectations

A survey of 1,200 companies in 18 EU countries was conducted by Deloitte (2019). The study found that nearly half of the companies were facing **pressure from customers, employees, governments, investors, banks, competitors and the general public to take action on climate change**. Investors, banks and insurers alike frequently ask about the climate risks associated with various types of business. They are aware of the risks associated with climate change, so they expect clear information from companies. This interest, among other things, has led to an **increase in the importance of non-financial reports, also known as ESG reports** (Environmental, Social, Governance).

Such reports include information on water and energy consumption, emissions, revenues from low-emission products, the focus on investment policy and long-term climate goals. In the reports, companies are also asked to define the physical risks that disrupt their operations (e.g. severe weather events or chronic environmental changes such as drought) and the transformational risks (regulatory, technological, market or reputational). The gathered data are then used to assess the future health and value of a given company in relation to the effects the firm has on the environment (climate) and also how the climate affects the firm's business model and continuity of business.

ESG reports include information on water and energy consumption, emissions, revenues from low-emission products as well as long-term climate goals of the companies.

Companies that do not start this type of reporting will be left behind. As a result, non-financial reporting is now on the rise on a global scale. According to a study conducted by KPMG (2020), non-financial reporting becomes common practice for large and even medium-sized companies. In their reports, 40 percent of companies acknowledge climate-related financial risks and more than two-thirds disclose their CO_2 reduction targets, with companies in the automotive, mining, utilities, technology and telecommunications industries the most widely represented.

Non-financial reporting is now common practice in the Americas. In EU member states, non-financial reporting began to be on the rise with the transposition of the EU directive into national law. In Poland, the obligation has so far covered no more than 160 listed companies employing more than 500 people (Green Finance in Poland, 2020).

A great challenge is that ESG reporting - while difficult and involving a great deal of knowledge and experience - does not follow agreed standards. It is troublesome to compare results reported by different companies. Therefore, there is an expectation that the reporting standard will be in place at the EU level soon. It is highly probable that the obligation to report non-financial data will be extended to medium-sized companies. The content of reports is likely to be grounded in the realities of the climate crisis and the risk of further biodiversity loss. These measures will benefit investors, regulators (e.g. central banks and governments), and consumer groups and the general public, especially when dealing with business sectors that have a critical impact on climate and nature.

It is worth emphasising that **non-financial reports should also be of value to the company itself.** The report would significantly help to advance management of climate risks and build resilience. As well as this, it would help to identify strategic markets and development directions and improve financial or operational management processes.

Situation of companies in Poland

Reports analysing the situation of the firms listed on the Warsaw Stock Exchange revealed that a high proportion of firms **do not have great awareness of climate change issues** (Biernacki and Stalmach, 2017-2019). However, positive changes can be noticed from year to year. A group of leaders is also emerging.[2] Companies often include climate impact management in their strategies (13% of them did so in 2019, compared to 9% in 2017) or set targets to reduce greenhouse gas emissions (32% in 2019, compared to 11% in 2017).

The national champions do not fare much better in this respect. In this year's edition of our survey, many companies chose not to fill in the environmental part of the questionnaire, and some refused to participate in the survey because of the questions on environmental impact. What is positive, however, is that the entities that decided to fill in the questionnaire showed a high level of commitment to climate transformation.

Amongst the significant eco-friendly measures taken by champions are:

- ✓ widespread use of environmental management methods and non-financial reporting,
- ✓ high priority in the structure for environmental and sustainable development issues, usually expressed by delegating these issues to persons at a senior level,
- ✓ a high percentage of waste sent for recycling (often above 80%).

There are also warning signs, such as:

- ✗ a very low share of energy consumption and heat from renewable sources,
- ✗ relatively low awareness of the need to study the carbon footprint of corporations,
- ✗ little pressure on suppliers to meet environmental criteria.

Inspiration for companies in Poland

The non-financial reports that we have mentioned can promote good business practices. The dissemination of information presented in these reports can inspire others and accelerate the climate transformation of a given sector or even the economy of a given country. Below are some examples.

Corporations that demonstrate strong awareness of trends, risks and global competition are already using **innovative solutions** to reduce production costs, while also taking care of the environment. One example is the practice of replacing fossil resources with renewable resources in operations[3] or applying circular economy principles to production and significantly reducing the number of resources used.[4]

There are also examples of establishing partnerships. One of them is the Climate and Clean Air Coalition Oil & Gas Methane Partnership,[5] which draws attention to the high methane emissions from oil and gas extraction.[6] The partnership takes responsibility for researching the main sources of methane emissions and for evaluating technologies that can help reduce these emissions.

2 According to the recent reports, in 2019, companies such as MOL Magyar Olay, LPP S.A., LUG S.A., JSW S.A., CCC S.A., Orange Polska S.A. were among leaders as far as awareness of climate change is concerned.
3 Example: BASF which uses biofuels and biogases.
4 Example: DSM, which has developed a technology that makes fully recyclable floor covering with zero water consumption and 90% energy savings during production.
5 Climate and Clean Air Coalition Oil & Gas Methane Partnership -https://www.ccacoalition.org/en/activity/ccac-oil-gas-methane-partnership.
6 It includes, among others such world giants as BP, Shell and Statoil.

Among the actions taken by Polish national champions, it is worth highlighting good practices, such as limiting the amount of waste and reusing products. National champions engage employees in generating ideas and implementing eco-friendly solutions. They also implement technologies that help reduce negative environmental impact.

Best practices in Poland

Since 2017, LPP has used 570 tons of plastic less in packaging. Simultaneously, since 2018, the company has gathered and reused 5.3 tons of clothes.

Polpharma has established the Green Process Award to recognise employees' ideas that contribute to reducing the company's negative impact on the environment. In the years 2009-2018, employees submitted 129 such initiatives, thanks to which the company generated benefits of PLN 18 million.

Jastrzębska Spółka Węglowa reduces the impact on the environment, among others by implementing the technology of separation of hydrogen from coke oven gas and thanks to the economic use of methane. Currently 60% of the captured gas is used for energy purposes, which contributes to reducing greenhouse gas emissions and improving the work safety of miners.

Is the Polish economy ready for the green revolution?

A decreasing volume of greenhouse gas emissions marks a major step in the progress that Poland has made towards climate neutrality since 1990. In 2018, the volume of greenhouse gas emissions was more than 13 percent lower than 40 years earlier. It is worth highlighting, however, that over the same period, GHG emission across the EU fell by more than 25 percent. **Poland ranks 3rd in the EU in terms of emissions relative to GDP** (Enge et al., 2020). As well as this, **GHG emissions in Poland have been increasing for several years,** and Poland remains one of the member states with highest emissions *per capita*. In addition, emissions from sectors not covered by the EU ETS (i.e. transport, buildings, agriculture) have increased significantly, offsetting reductions achieved in e.g. power generation and industry.

Greenhouse gas emissions in Poland are concentrated in a number of sectors. Transport is responsible for about 15 percent of emissions, buildings (over their entire life cycle) for 38 percent, and agriculture for about 8 percent (with an increasing trend). The energy sector, on the other hand, is responsible for about 34 percent of emissions, with the largest industrial emissions coming from fuel, cement, chemicals and steel production processes (Bajczuk, 2020).

In the past 20 years, the growth rate of total energy consumption in Poland has been lower than the GDP growth rate. **This suggests that the correlation between economic growth and energy consumption is becoming less significant.** Nonetheless, energy intensity, which is one of the indicators of technological advancement of the economy, is very high in Poland. In Europe, there are only seven countries that have higher energy intensity levels than Poland. **Germany, for example, requires twice as much energy as Poland for every euro of GDP generated** (Eurostat, 2019). Despite the fact that Poland is improving the efficiency of energy and fuel use, in the past 10 years the country recorded an increase of approximately 35 percent, it may take several decades to catch up with the EU average.

In 2018, the transport sector was the largest energy consumer (32.4 percent), followed by households (27.7 percent), industry (23 percent), services (11.3 percent), and agriculture (5.6 percent). The most significant decrease was recorded in industry in 2000 (by 8.7 p.p.), as a result of restructuring and the introduction of energy-saving technologies. The greatest increase took place in the transport sector (by 15.4 p.p.). Although there is a strong trend towards decreasing the share of coal in electricity production (about 70 percent in 2020), there is still room for RES - its share increased to about 18 percent in 2020 (GUS, 2020b).

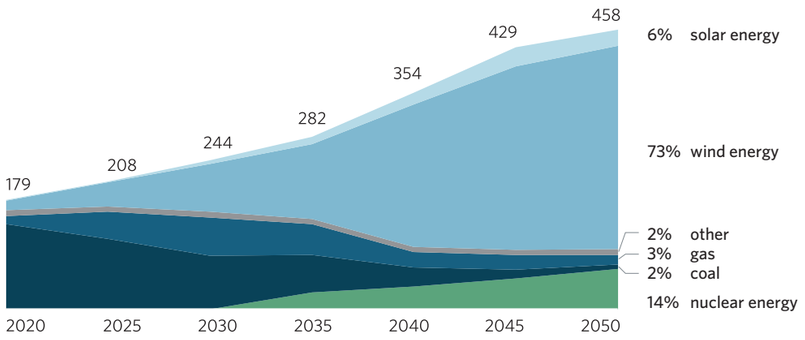
The total of raw materials used for the needs of the Polish economy increased by more than 30 percent in 2019 compared to 2000. This puts Poland in a disadvantageous position in terms of raw material intensity (24th place in the EU). As well as this, water consumption for industrial purposes decreased by more than 17 percent compared to 2000, and the amount of industrial waste recycled in 2019 did not exceed 50 percent. (CSO, 2020b).

In addition, Poland ranked 24th in the EU in terms of the value of the eco-innovation index, coring below 85 percent of the average (Ecoinnovation Scoreboard, 2019).

Costs and benefits

It is crucial that public, private and non-governmental sectors work together to achieve climate neutrality by 2050, given that electricity demand is forecast to increase 2.5-fold (see Graph 2). The focus should be placed on **reducing energy intensity and replacing fossil fuels with carbon-free energy sources.**

GRAPH 2. POTENTIAL CHANGES IN POLAND'S ENERGY MIX UNTIL 2050



Source: Prepared on the basis of Enge et al. 2020.

McKinsey reported that achieving net zero emissions in the Polish economy will **require additional investments of EUR 380 billion over the next 30 years** (1-2 percent of Poland's GDP annually). Investments should focus on areas such as renewable energy sources, electrification of heat generation, reduction of energy intensity in companies, electrificationof transport, thermo-modernisation and low-carbon heat sources for buildings, low-carbon fuels in agriculture, absorption of CO_2 (i.e. afforestation, agroforestry, capture and storage facilities) (Enge et al., 2020).

There are numerous potential benefits of **reducing carbon dioxide emissions**. These include savings (lower operating costs), reduced dependence on imported fossil fuels, the development of new branches of the economy, the creation of new jobs, and a higher investment rate. This should also shows improvement in Poland's trade balance. Overall, reducing carbon dioxide emissions should result in additional economic growth.

Government plans for decarbonisation

Decision makers at national level have started to adopt new approaches to achieving climate neutrality. The Polish government decided to allocate PLN 260 billion of EU and Polish (public and private) funds to help accelerate the green transition and promote low-emission energy on a national scale, as stated in the Polish Energy Policy (PEP) 2040.

According to the PEP, Poland is to achieve a 30 percent reduction in greenhouse gas emissions by 2030 compared to 1990. The share of renewable energy sources in gross energy consumption is to reach 23 percent, and energy efficiency is to be 23 percent higher than in 2020. Cities with populations over 100,000 are to have zero-emission public transport, and the share of coal in the energy mix is not to exceed 56 percent. In the longer term, the entire power system will be based on low- and zero-emission sources. Such sources will eventually cover heating needs and residential buildings will undergo total thermomodernisation (and new buildings will be zero-emission). In addition, there will be an expansion of offshore wind energy and civic energy based on RES. Innovative solutions in the RES segment will be supported, including energy storage technologies, smart metering and energy management. There will also be electrification of transport supported by developed hydrogen technologies and a mature hydrogen market.

This is only a small selection of plans included in the PEP. The plans described above give a sense of the **enormous scale of the investment, regulatory and coordination** (public-private-social) initiatives that need to take place in order to reach the goal of climate neutrality. External factors should enable the green transition - **a significant portion of EU funds for Poland in the next 5-10 years will be directed towards the green transformation, in turn also increasing the competitiveness of the Polish economy.**

Opportunities provided by the new EU budget

Under the **EU Cohesion Policy 2021-2027, Poland will receive EUR 66.8 billion.** The preparation of relevant operational programmes is currently underway. Funds from Cohesion Policy for the energy sector and enterprises will be directed at the development of green technologies, improvement of energy efficiency, RES, smart energy networks, climate change adaptation, transformation of companies towards the green economy (GOZ), as well as eco-friendly digital solutions and automation. Also, the development of low- and zero-emission transport is planned, together with the development of green skills. Separate support is the **Fair Transformation Fund** (about EUR 3.5 billion), dedicated to areas dependent on fossil fuels or high emission industries. The funds will be directed towards creating jobs in clean sectors, supporting new enterprises, reclamation of post-mining and post-industrial areas, as well as improvement of air quality, development of GOZ or reduction of threats to the environment.

The COVID-19 pandemic resulted in the need to launch a number of reforms and investment packages. **The Recovery and Resilience Facility** was created, which is to supplement the Cohesion Policy intervention with EUR 750 billion (in Poland, EUR 58 billion in the form of grants and loans). These funds will be allocated to anti-crisis measures, comprehensive investment programmes and strengthening the socioeconomic resilience of the EU after the crisis. Proposals for targeting these funds in Poland are presented in the draft National Plan for Reconstruction and Increasing Resilience from April 2021.

The EU funds described above will be directly related to the objectives of the European Green Deal, paving the way for the EU's zero-emission development plan, also directly supporting the **green transformation of enterprises and entire sectors of the European economy.**

Positive pressure from customers

The Polish public appears to be ready to accept profound transformations in the way the economy operates. A survey by Innogy (2021) shows that for 82 percent of the Polish population, issues of climate change and environmental degradation are important or very important. The majority of those surveyed see climate change as a real threat. **79 percent of respondents believe that companies and public institutions should finance eco-friendly solutions**, and the scale of the challenge is so great that without their involvement, the effects will be unnoticeable. Interestingly, Poles agree that eco-friendly solutions would positively affect public health (71 percent), take into account the interests and rights of future generations (68 percent), and bring about economic progress and monetary savings (31 percent).

When examining the situation in Poland, it is difficult to specify which social groups (e.g., citizens, public administration, businesses) are best prepared for the green transition. Nonetheless, Poland is gradually (probably too slowly for many) approaching a defining moment of introducing public policies that would support systemic (zero-carbon) transformations in business that could be coupled with proactive (verifying, enforcing and based on high awareness) action made by NGOs.

Global pandemic as a fresh impetus to the green transition

The Ecological Debt Day (EDD) is a calendar day on which global consumption exceeds the planetary regenerative powers for natural resources in a given year. The first overshoot day was on 23rd October 1987, whereas two years ago EDD fell on 29th July. Last year, thanks to the COVID-19 pandemic, EDD was observed later, on 22nd August. Each year, the human population takes out a loan that future generations will need to repay.

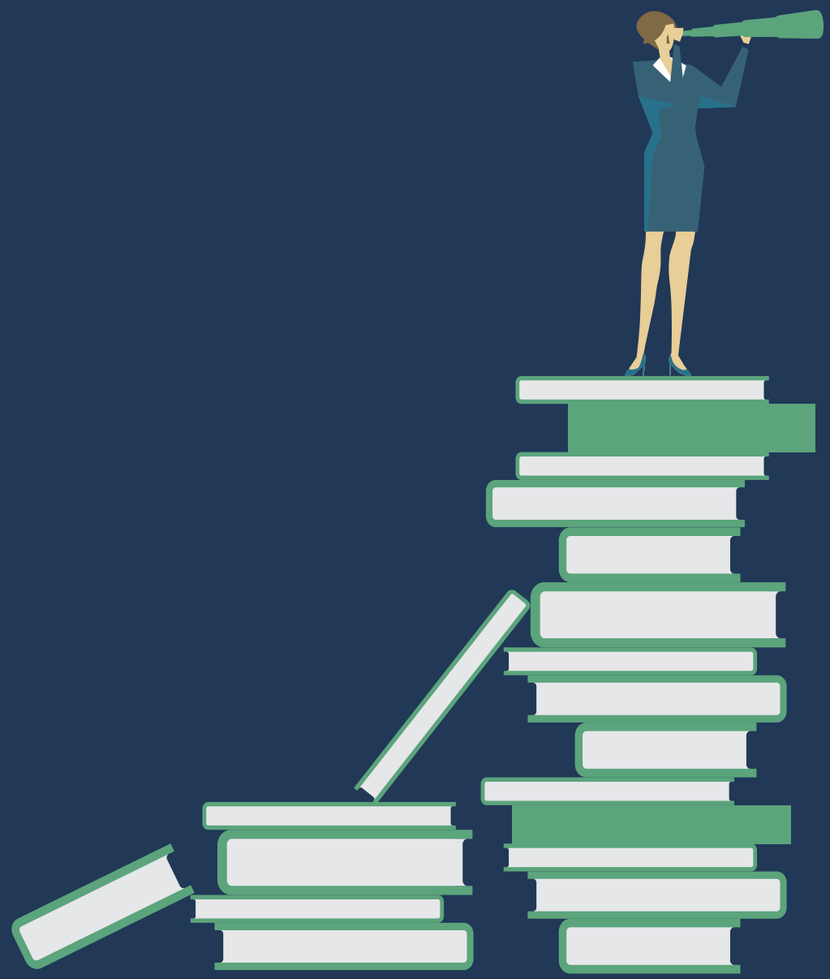
The environmental improvement reported in the past year is temporary, and the pandemic has exposed the weaknesses of the present economic system. There is an urgent need to reduce dependence on external supplies of strategic raw materials and to become resilient to future shocks. **Paradoxically, the pandemic may become an impetus for launching a profound transformation, enabling the world to get out of the rut of development at the expense of the environment, which humanity has been following for at least the last few decades.**

Throughout the pandemic, businesses are facing challenges they have never encountered before. These include lockdowns, healthy workplaces, remote working, disrupted supply chains, and the urge to accelerate digital transformation. CEOs around the world are building awareness of the key risks they see: pandemics and other health crises, changing customer behaviour, volatile energy costs, climate change, and environmental damage. In a survey conducted in early 2021, 53 percent of CEOs of large companies in Poland (and 68 percent globally) admit that they have already considered pandemic and health crises in their risk management strategy, and 22 percent of them (40 percent globally) indicate that they have considered climate change and environmental damage when analysing risks. However, when looking at the actual steps taken by companies, it is clear that these are often insufficient and provide management boards with a misleading sense of confidence (PWC, 2021).

During the pandemic, the need arose for firms to reassess their strategic goals and organisational structures. Companies realised the importance of taking eco-friendly initiatives – redefined business models, new markets and technological advances should provide firms with opportunities to rebound. Nonetheless, raising awareness of the necessary changes and consumption models amongst the public remains crucial. Likewise, continuous skill development is very much needed to adjust to upcoming environmental events. CEOs in the post-COVID world plan to invest more in sustainable growth and ESG initiatives. There is still a significant difference in the approach between Polish and foreign companies (Poland 35 percent, the world 60 percent) (PWC, 2021). Plans for accomplishing sustainable transformation are complex. They are the result of taking advantage of investment packages, searching for savings in operations, and building awareness of global risks that generate economic, technological and reputational pressures related to the risk of missing out on the markets of the future (The Global Risks Report, 2021).

The outbreak of the **COVID pandemic has changed economic forecasts** worldwide and demanded urgent responses and adjustments to support instruments and budgetary mechanisms. The post-COVID recovery and rescue packages put forward in numerous countries include a strong component aimed at climate (and digital) transformation (OECD, 2020). This provides firms with an opportunity and encouragement to meet the goal of going climate neutral, easing the tension between long-term global challenges and short-term financial gains. This opens up a great opportunity, although there are no guarantees of success.

Summary and recommendations



Going climate neutral will not be possible without the engagement of the private sector, especially of the biggest companies. Firms that plan to act on their own and with purely economic interests in mind will not achieve much in terms of actual decarbonisation. Sustained, multi-sector, cooperation with public institutions, businesses and NGOs is needed. **The world is about to experience a major technological transformation and a systemic (and cultural) shift in the way socioeconomic structures function.**

Actions that the public sector can take

The processes of the green transformation discussed in this report are focussed on the energy transition. **The energy transition** should be seen as an opportunity to modernise and improve the competitiveness of the entire economy. It **should become a pivot of public policy**, focusing on net zero emissions, energy efficiency (energy conservation), and the circular economy (reducing dependence on primary raw materials). To achieve the energy transition there are a number of recommendations that the public sector could consider implementing:

- shaping a stable regulatory environment for the decarbonisation of the economy that would be supported by promoting green and pre-commercial public procurement, effective enforcement of the 'polluter pays' principle, and an efficient system for combating environmental crime;
- launching a long-term plan to make the energy system independent of coal and giving priority to activities aimed at the generation objective, entitled "100% renewable energy";
- launching a comprehensive support system for eco-innovation, energy efficiency and renewable energy sources in enterprises, public entities, and NGOs;
- launching a strategic programme for the development of low-carbon, energy-efficient and climate-resilient infrastructure (including in the energy, water, telecommunications and transport sectors);
- systemic empowerment of consumers to provide them with better access to reliable information on the carbon footprint of products, companies and public organisations;
- regular assessment and information on risks that may arise from climate change, strengthening the warning and crisis management system.

Necessary reviews in the private sector

The activities of the public sector in the area of climate neutrality should be coupled with the activities of business. The following changes, among others, in the behaviour of enterprises are needed:

- long-term investment in knowledge that allows for a better understanding of the scale and consequences of one's own impact on the environment along the entire value-building chain, that also inspires courageous actions;
- dissemination of a new model of leadership, in which the ability to define ambitiously the environmental responsibility of the company and systemic thinking that takes into account the broad (global) context of its operations is key;
- regular implementation of innovative solutions that reconcile care for the environment with the possibility of building one's own value and market position;
- move away from the focus on limiting environmental damage in favour of activities that may also create positive transformations in ecosystems;
- breaking up with apparent, often short-term, projects aimed primarily at the image effect (green washing);
- strengthening corporate resilience and building the ability to adapt to climate change, including creating the so-called business continuity plans.

The social need for reliable knowledge

Consumers willingly accept eco-solutions, for which they are increasingly prepared to pay more, if they know that in this way they are contributing to an improvement of the environment. Therefore, in the future, **full access to high-quality environmental information for citizens will be crucial, as well as effective and trusted channels for the transmission of inspiring knowledge and skills** (education). It will be important to promote sustainable consumption patterns among the population, for which experts and institutions of unquestionable authority should be responsible. The idea is to raise awareness of the dangers, challenges and opportunities associated with climate change. Such heightened awareness will, in turn, favour the permanent and widespread involvement of the private, social and public sector in the creation and implementation of many joint - often comprehensive and long-term - projects to improve climate security, also on a local or regional scale.

Below, we also present a set of examples of issues in which companies of various sizes and business profiles can develop their potential, build their value or change their operating model, while favouring the decarbonisation of the economy:

zero-emission and plus--energy construction, thermal modernisation of buildings and other facilities

systems for product regeneration (including e.g. batteries), recycling and recovery of raw materials (so-called 'reverse logistics')

production of components for electric vehicles and charging network equipment

industrial (company) and civic (prosumer) RES installations

energy storage (development of technologies and modern operating systems)

reducing waste of raw materials and food

energy-saving equipment for industry

the use of green hydrogen in an energy-intensive industry

construction and operation of wind farms, mainly offshore

CO_2 capture, productive use and storage in industrial plants

electric and low-emission machinery and reduction of water consumption in agriculture

low-emission heating / cooling solutions (including large-scale heat pumps)

electrification of transport, including the dissemination of hydrogen (mainly in the case of buses, freight and delivery vehicles, car fleets, rolling stock, shipping, aviation)

The Marks of a National Champion

The majority of company listings published in Poland focus solely on the size of a company or of a corporate group, measured by basic macroeconomic indicators such as income, profits, exports or number of employees. This is, however, but one of the many aspects on which the public puts an emphasis when talking about national champions. Next to the size, what matters is a company's efficiency, its position in the industry, international presence, and innovation and development investments.

The top ranking of Polish National Champions

The results of the ranking of companies is presented below. As with previous rankings, we prepared a list based on a proprietary indicator for national champions (hereafter: the NC indicator). The indicator reflects the average result for each company across four key categories: **economy, industry, international presence and innovation**. We gathered publicly available data (2019) on business activities of Polish non-financial capital groups that hire at least 100 employees and generate revenues of over PLN 1 billion. Moreover, in the process of classifying the companies, we used questionnaires that were specifically prepared for the study and were completed by parent companies. The method of calculating individual indicators was described in detail in the appendix. Based on the calculations performed, we singled out 45 Polish companies that can be considered national champions. We grouped them into four categories: **International Champions, National Champions, Aspiring National Champions and Local Champions**.

	PKN ORLEN	KGHM	ASSECO POLAND	JASTRZĘBSKA SPÓŁKA WĘGLOWA	POLPHARMA	ADAMED PHARMA	SELENA FM	SYNTHOS	COMARCH	GRUPA AZOTY	BORYSZEW	GRUPA LOTOS	LPP	PGNiG	STALPRODUKT
	87	85	73	62	61	60	59	59	58	58	57	57	57	56	56
Economy	85	89	84	87	50	39	40	47	57	69	53	69	70	84	50
Industry	84	82	36	52	47	37	61	58	26	62	38	34	28	65	60
International Presence	95	90	100	42	60	82	98	46	97	40	93	63	97	4	85
Innovation	84	80	71	67	87	81	39	87	52	62	45	59	34	71	31

International Champions (NC indicator: >75 points)

This group is made up of large innovative companies, which also operate abroad and are leaders in their industries, both domestically and regionally. The ranking result was identical to the previous edition. PKN Orlen strengthened its leadership position, with 87 out of 100 possible points (85 points the previous year), the best result in the history of the ranking. Orlen's success stems from a slight improvement in each category that we analysed. - the significance of the company for the economy rose, its position in the industry and in the international arena improved, and activity in the field of innovation increased. The runner-up, KGHM Polska Miedź, did better than the previous year, with an increase from 84 to 85 points. Both International Champions hold a firm position in each of the four categories.

National Champions (NC indicator: 56-75 points)

Companies in this group meet most of the criteria of a National Champion, but there is room for improvement to become an International Champion. For example, they have too little impact on the economy, sometimes too small a share of their own industry and sometimes are too weakly presented abroad. For the second year in a row, Asseco Poland held top spot in this group of companies (at the same time it rose to 73 points from 64 points a year earlier). The company is therefore close to our threshold of 75 points, after which it would fall into the International Champion category. The consistent rise of Asseco in our ranking is the result of its increasing expenditure on innovation and its rising international recognition. Other National Champions also occupy high positions in each of the four categories analysed - some of them, such as JSW and PGNiG, are very large, although this is not a prerequisite. Some of the National Champions rank in the third ten in terms of economic impact (Selena FM, Stalprodukt, Polpharma). In this edition of the ranking, the status of National Champion was achieved by a record-breaking group of companies - 13, four more than in the previous year. Some Aspiring Champions from the previous study have joined the group: Adamed, Selena FM, Synthos, LPP, and Grupa Azoty. Only Ciech, which oscillated around the lower threshold, lost its status as a National Champion, scoring 54 points (vs 56 points year-on-year).

Aspiring National Champions (NC indicator: 36-55 points)

Companies from this group operate highly efficiently and have many features of National Champions. Nevertheless, they need to improve their metrics in many areas in order to get promotion and meet all the requirements to receive the title of National Champion. Most of them are low-impact, low-capital or low-wage organisations with a small number of employees. However, they have a high percentage of export sales, are active in innovation and usually do better in their industry than Local Champions. Nevertheless, the group of Aspiring National Champions was joined this year by more companies that had a strong impact on the economy, and that were classified only as Local Champions (Gdańsk Shipyard, Inter Cars and LOT Polish Airlines). Aspiring National Champions have a good chance of becoming full-fledged National Champions in the coming years, especially since companies that have obtained this status in recent years continue to develop via vertical integration (e.g. Cyfrowy Polsat) and improved efficiency (e.g. Poczta Polska).

		NC Index	Economy	Sector	International Presence	Innovation
16	POLSKIE LINIE LOTNICZE LOT S.A.	**55**	43	73	80	25
17	CIECH S.A.	**54**	45	52	91	27
18	GRUPA KĘTY S.A.	**53**	47	40	89	34
19	AMICA S.A.	**52**	45	25	90	50
19	WIELTON S.A.	**52**	42	28	91	45
21	CERSANIT S.A.	**51**	51	36	99	17
21	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**51**	62	49	74	19
23	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**50**	89	44	0	66
24	FAMUR S.A.	**47**	46	24	68	48
24	POCZTA POLSKA S.A.	**47**	64	81	16	25
26	CCC S.A.	**44**	49	26	86	14
27	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**41**	37	26	80	21
28	MLEKOVITA	**40**	41	7	80	34
29	TAURON POLSKA ENERGIA S.A.	**39**	74	29	1	50
30	ENEA S.A.	**38**	76	47	0	29
30	INTER CARS S.A.	**38**	45	24	62	23
32	CYFROWY POLSAT S.A.	**37**	71	49	0	26
33	KRUK S.A.	**36**	47	34	42	21

Local Champions (NC indicator: 25-35 points)

These are usually industry leaders that have a lot of influence on the economy. However, in most cases, they focus solely on the domestic market and their business position depends on the state of their industry. As a result, they tend to have the worst results in terms of overseas expansion and innovation. This group mainly includes large state-owned companies, from energy sector to transport industry companies, as well as several private service companies (e.g. IMPEL, Agora, Benefit System). Local Champions do not usually aspire to become full-fledged National Champions, as they tend to focus on core business and the local market. In order to move up to a higher rank, they would have to leave their market segment or take a leading position in their industry globally. Energy companies would have to make foreign acquisitions and publishers would have to go beyond Poland.

		NC Index	Economy	Sector	International Presence	Innovation
34	AGORA S.A.	**35**	44	47	10	40
35	POLSKA GRUPA GÓRNICZA S.A.	**34**	72	34	3	26
36	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	67	42	1	24
36	SANOK RUBBER COMPANY S.A.	**33**	40	36	44	14
38	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**32**	57	37	0	33
38	PKP CARGO S.A.	**32**	60	39	20	10
40	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**31**	60	21	3	39
41	IMPEL S.A.	**28**	45	57	2	9
42	BENEFIT SYSTEMS S.A.	**27**	45	30	10	22
43	POLIMEX-MOSTOSTAL S.A.	**26**	43	25	16	21
43	POLSKA GRUPA ZBROJENIOWA S.A.	**26**	57	28	0	19
45	PKP INTERCITY S.A.	**25**	46	40	1	13

Other large companies (NC index: <25 points)

These cover over 80 other enterprises with revenues above PLN 1 billion and employing over 100 people, but with insufficient potential to have a major impact on the economy. Some of them, however, have found a niche and became 'hidden champions' - known under foreign brands or under the brand of their products, often as local monopolists for European retail chains. Importantly, this group of companies has grown once again and, as a result, the current ranking includes as many as 126 capital groups that meet the criteria for participation in the survey. This increase was boosted by a very strong economic situation in Poland, an increase in companies' investment activity, as well as the increasing recognition of Polish brands abroad.

		NC Index	Economy	Sector	International Presence	Innovation
46	ERBUD S.A.	**23**	44	12	12	22
46	TELEWIZJA POLSKA S.A.	**23**	50	17	0	28
48	DINO POLSKA S.A.	**20**	53	18	0	11
49	PELION S.A.	**19**	42	16	4	13
50	POLREGIO SP. Z O.O.	**18**	41	21	0	8

Comparison to the previous edition of the ranking

The average value of the NC indicator in the 2021 ranking increased from 40 to 45 points, which is the largest increase in the history of the study. This shows that the difference between the leaders - KGHM and PKN Orlen - and other companies in each of the analysed groups - is narrowing. The number of National Champions, which were joined by five private Polish companies, increased, as did the number of Aspiring National Champions, which reached a record 18. One new company joined this group, Kruk. A year earlier its revenues had been too low to be included. This change shows that Polish private companies benefited from the robust economy at home and abroad, which allowed them to compete with the largest firms managed by the state treasury and often supported by the government.

The list of 50 National Champions includes three newcomers (Kruk, Sanok Rubber Company, BENEFIT Systems), two companies that returned to the top after a period of poorer results (Agora, Wielton), and two entities that after a break began to provide data again on the details of their activities (Cersanit, Polska Grupa Zbrojeniowa). This group of newcomers shows that Polish companies have used the period of prosperity well. Entities from many industries, from finance to fitness, take advantage of economic growth. Entrepreneurs invest in new production technologies, develop their customer base in Poland and abroad, and consequently increase revenues and profits. However, an important test for newcomers will be the pandemic and whether they will be able to repeat such good results next year.

Compared to 2020, seven entities fell out of the list of 50 companies with the greatest importance for the economy, including two from the energy sector: Energa and Polenergia. The weakening of some energy companies stemmed from the transformation of the sector and changes in the distribution of competitive advantages between companies. Acquisitions also played a part - Energa merged into PKN Orlen, which will strengthen its position in the sector. Of the remaining companies that lost their place in the top 50, three are from last year's newcomers group (Unibep, Cognor Holding and Żegluga Polska). These changes suggest that some enterprises find it difficult to maintain a steady growth trajectory and that one-year successes do not always translate into a permanent strengthening of operations. Therefore, it is worth assessing the companies included in the ranking of National Champions over a period of several years.

In 2021, we made a change to the method that we used to calculate the indicator. We updated data on intangible assets, i.e. the number of patents and trademarks that a company owns. Thanks to access to a new database, we were able to have a greater insight into the innovative activity of the Polish companies and more precisely define the innovation index for each of them.

1	◆	PKN ORLEN S.A.
2	◆	KGHM POLSKA MIEDŹ S.A.
3	◆	ASSECO POLAND S.A.
4	▲	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.
5	◆	POLPHARMA S.A.
6	▲	ADAMED PHARMA S.A.
7	▲	SELENA FM S.A.
7	▲	SYNTHOS S.A.
9	▼	COMARCH S.A.
9	▲	GRUPA AZOTY S.A.
11	▼	BORYSZEW S.A.
11	▼	GRUPA LOTOS S.A.
11	▲	LPP S.A.
14	▼	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.
14	▼	STALPRODUKT S.A.
16	▲	POLSKIE LINIE LOTNICZE LOT S.A.
17	▼	CIECH S.A.
18	▼	GRUPA KĘTY S.A.
19	▼	AMICA S.A.
19	✹	WIELTON S.A.
21	✹	CERSANIT S.A.
21	▼	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE
23	▲	PGE POLSKA GRUPA ENERGETYCZNA S.A.
24	▼	FAMUR S.A.
24	▲	POCZTA POLSKA S.A.
26	▼	CCC S.A.
27	▲	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.
28	▼	MLEKOVITA
29	▼	TAURON POLSKA ENERGIA S.A.
30	▲	ENEA S.A.
30	▼	INTER CARS S.A.
32	▼	CYFROWY POLSAT S.A.
33	✹	KRUK S.A.
34	✹	AGORA S.A.
35	▼	POLSKA GRUPA GÓRNICZA S.A.
36	▼	PKP POLSKIE LINIE KOLEJOWE S.A.
36	✹	SANOK RUBBER COMPANY S.A.
38	▼	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.
38	▼	PKP CARGO S.A.
40	▼	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.
41	▼	IMPEL S.A.
42	✹	BENEFIT SYSTEMS S.A.
43	▼	POLIMEX-MOSTOSTAL S.A.
43	✹	POLSKA GRUPA ZBROJENIOWA S.A.
45	▼	PKP INTERCITY S.A.
46	▼	ERBUD S.A.
46	▼	TELEWIZJA POLSKA S.A.
48	▼	DINO POLSKA S.A.
49	▼	PELION S.A.
50	◆	POLREGIO SP. Z O.O.

International Champions
National Champions
Aspiring National Champions
Local Champions
Other large companies
▲ increase in the ranking
◆ same place in the ranking
▼ drop in the ranking
✹ new in the ranking

Classifications of champions **in individual categories**

Economy

This category reflects the contribution of a company to Poland's economic growth. PGE remains the leader in the economy category. This year, however, it had to share this position with the leader of the 2019 ranking - KGHM. Other companies from the energy and fuel industries (JSW, PKN Orlen, PGNiG, ENEA, Tauron and PGG) also ranked in the top ten. This group of companies has been at the forefront of this category since the first edition of the survey. Their success is due to high positions across all subcategories. This is the result of economies of scale in their industries, the large size of single enterprises, as well as the high capital intensity of the energy industry, resulting in high levels of fixed assets and investment.

In the economic ranking, relatively high positions were taken by companies from the group of Local Champions. This is due to their large scale of operations and high barriers to entry set by the state, which gives them a quasi-monopolistic position in their business sectors. As a result, the dominance of state-owned companies, especially in the energy sector, is clearly visible. Consequently, as in previous years, only two private companies were in the top ten in the economy category: Asseco Poland (the Polish leader in IT services)and Cyfrowy Polsat (the largest media and communication concern). The list of 50 companies with the strongest influence on the economy is concluded with Aspiring National Champions and companies that were only recently ranked: Adamed Pharma and the Sanok Rubber Company.

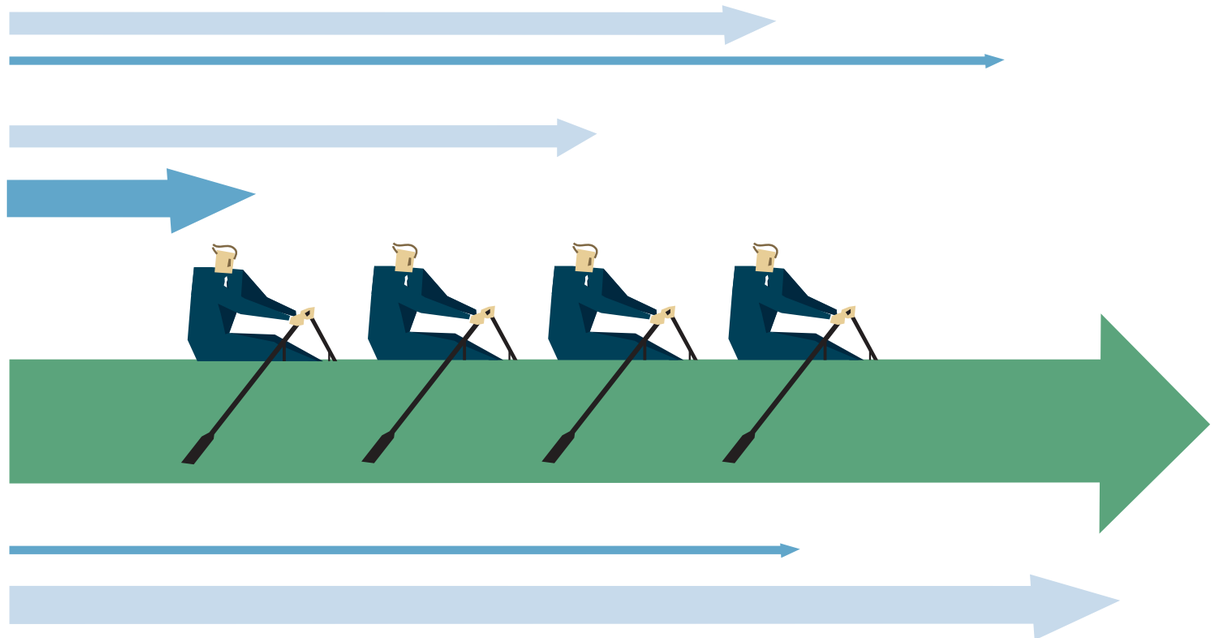
International Champions
National Champions
Aspiring National Champions
Local Champions

		Economy	Value-Added	Employment	Average salary	Payroll budget	Liquidity and solvency	Contribution to the state budget	Investments and fixed assets	Capitalisation
1	KGHM POLSKA MIEDŹ S.A.	**89**	95	88	100	55	52	100	94	100
1	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**89**	100	91	83	43	57	100	100	100
3	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**87**	86	86	100	80	55	100	78	100
4	PKN ORLEN S.A.	**85**	99	81	85	24	69	100	96	100
5	ASSECO POLAND S.A.	**84**	86	84	100	81	97	100	38	100
5	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**84**	93	83	79	36	79	100	97	100
7	ENEA S.A.	**76**	79	77	57	42	87	95	79	100
8	TAURON POLSKA ENERGIA S.A.	**74**	82	83	56	55	61	51	88	100
9	POLSKA GRUPA GÓRNICZA S.A.	**72**	87	90	43	64	51	57	66	36
10	CYFROWY POLSAT S.A.	**71**	81	64	79	17	61	98	65	100
11	LPP S.A.	**70**	69	83	39	85	53	100	51	57
12	GRUPA AZOTY S.A.	**69**	72	76	63	56	67	71	53	100
12	GRUPA LOTOS S.A.	**69**	75	60	85	19	61	100	59	100
14	PKP POLSKIE LINIE KOLEJOWE S.A.	**67**	78	90	0	60	12	53	100	75
15	POCZTA POLSKA S.A.	**64**	78	100	0	92	2	57	54	13

Industry

Companies that are in a winning position of the industry ranking are varied both in terms of industry and ownership. Firms with monopolistic powers (PKN Orlen, KGHM, Poczta Polska, and PLL LOT) have taken the lead in the championship table. They often have these monopolistic powers thanks to state support. However, private companies that do not receive support from the state are also able to become a monopolist or a leader in their industry. Such positive examples include: Synthos, Selena FM, and IMPEL (IMPEL ranked 10th this year).

The relatively low position of most Local Champions is also worthy of note. This in many cases is the result of unfavourable comparison with average profitability and the profitability of other companies operating in their industry. However, this is nothing special - large state-owned enterprises especially have lower profitability than small private companies in the same industry. However, one can find positive examples, such as Polska Grupa Górnicza - which, after a period of restructuring, has gradually rebuilt its financial position - also in this group. Companies from markets with very high levels of competition - food production, retail, and wholesale trade and transport - are also doing quite poorly in this category.



International Champions
National Champions
Aspiring National Champions
Local Champions

		Industry	Share in the value-added of all sectors and in the employment of the main sector	Profitability and earning power against the main industry	Main sector of activity (PKD/NACE code)	Other important business sections
1	PKN ORLEN S.A.	**84**	100	35	C19.2.0 – Manufacture of refined petroleum products	5
2	KGHM POLSKA MIEDŹ S.A.	**82**	93	50	B7.2.9 – Mining of other non-ferrous metal ores	1
3	POCZTA POLSKA S.A.	**81**	100	26	H53.1.0 – Postal activities under universal service obligation	5
4	POLSKIE LINIE LOTNICZE LOT S.A.	**73**	92	17	H51.1.0 – Passenger air transport	0
5	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**65**	72	42	D35.2.3 – Trade of gas through mains	1
6	GRUPA AZOTY S.A.	**62**	66	50	C20.1.5 – Manufacture of fertilisers and nitrogen compounds	2
7	SELENA FM S.A.	**61**	64	50	C20.5.2 – Manufacture of glues	7
8	STALPRODUKT S.A.	**60**	63	50	C24.4.3 – Lead, zinc and tin production	2
9	SYNTHOS S.A.	**58**	61	48	C20.1.7 – Manufacture of synthetic rubber in primary forms	4
10	IMPEL S.A.	**57**	59	50	N81.2.2 – Other building and industrial cleaning activities	5
11	CIECH S.A.	**52**	52	50	C20.1.3 – Manufacture of other inorganic basic chemicals	4
11	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**52**	48	64	B5.1.0 – Mining of hard coal	4
13	CYFROWY POLSAT S.A.	**49**	48	50	J60.2.0 – Television programming and broadcasting activities	3
13	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**49**	32	100	H52.2.3 – Service activities incidental to air transportation	0
15	AGORA S.A.	**47**	47	50	J59.14 – Motion picture projection activities	5
15	ENEA S.A.	**47**	43	57	D35.1.1 – Production of electricity	7
15	POLPHARMA S.A.	**47**	30	97	C21.2.0 – Manufacture of pharmaceutical preparations	2

International presence

The Asseco capital group remained at the forefront of the ranking in the international presence category - it scored a perfect 100 points. Throughout the history of our research, Asseco has been the most dynamically developing company on the international market with a recognised position in many countries - from the Middle East to South America. However, there are also many other organisations that do well in this category. The industrial processing companies, Cersanit, Selena FM, and LPP, are runner-ups in the ranking. Another IT company, Comarch, took 5th spot.

The international presence ranking is closed by Local Champions. Their low rank in this category gave its name to the whole group of companies. Local Champions are mostly oriented towards the local market - they do not own companies abroad and do not sell their products outside Poland. Many companies in our ranking do not provide data on the export of goods or services at all, because they are usually of minimal importance for the group's activities, which is why we assigned them zero points in this category. The highest score in the group of Local Champions was given to this year's newcomer, the Sanok Rubber Company, which is gradually increasing its share of foreign markets. As a result, it will probably follow in the footsteps of the Inter Cars group, which was at the forefront of the Local Champions group last year, and advanced to Aspiring National Champion.

Innovation

A slight expansion of the data sources that were included in the innovation ranking meant a reshuffle at the top of the list. The winners were Polpharma and Synthos, scoring 87 points apiece. This strong showing indicates that Polish National Champions are committed to innovation, not only in industries traditionally focused on research and development, such as IT (Asseco came 6th this year), but also in manufacturing. PKN Orlen ranked high, in 3rd place, and last year's winner in the innovation category, KGHM, came 5th. Both International Champions achieved such good results due to high R&D expenditure and the employment of many research workers, but also due to the high number of registered patents and very high labour productivity (i.e. added value generated per employee).

It is worth noting that while International Champions and National Champions ranked high on the list in this category, companies from other groups are also mixed into the ranking. This shows that the degree of innovation does not depend so much on industry, shareholding or international activity, but on the attitude of the management board and the operating strategy of a given capital group. Unfortunately, many entrepreneurs have not yet understood how important it is to invest in research and development and human capital, in its broad understanding. Without this, however, no Polish company will have the opportunity to become a full-fledged National or International Champion.

As in previous years, many companies do not report or collect data on this subject and often do not have information on how many employees are involved in the development of innovative products in the company. Hence, the ranking indicates that only a few large Polish companies stress innovation and are interested in development of new technologies. This is one of the shortcomings of Polish champions, which should be characterised not only by high productivity per employee, but also constant investment in the development of their productivity. Therefore, companies that do not collect and report this type of data have been assigned a zero rating in the research and development subcategory in the ranking.

		International presence	International activity	Export
1	ASSECO POLAND S.A.	**100**	100	100
2	CERSANIT S.A.	**99**	96	100
3	SELENA FM S.A.	**98**	88	100
4	COMARCH S.A.	**97**	84	100
4	LPP S.A.	**97**	84	100
6	PKN ORLEN S.A.	**95**	73	100
7	BORYSZEW S.A.	**93**	67	100
8	CIECH S.A.	**91**	57	100
8	WIELTON S.A.	**91**	53	100
10	AMICA S.A.	**90**	48	100
10	KGHM POLSKA MIEDŹ S.A.	**90**	49	100
12	GRUPA KĘTY S.A.	**89**	47	100
13	CCC S.A.	**86**	71	90
14	STALPRODUKT S.A.	**85**	23	100
15	ADAMED PHARMA S.A.	**82**	66	86

		Innovation	Intellectual property	R&D activities	Business & science cooperation	Work efficiency
1	POLPHARMA S.A.	**87**	84	100	100	57
1	SYNTHOS S.A.	**87**	88	77	86	100
3	PKN ORLEN S.A.	**84**	100	68	68	100
4	ADAMED PHARMA S.A.	**81**	87	91	100	34
5	KGHM POLSKA MIEDŹ S.A.	**80**	82	41	100	100
6	ASSECO POLAND S.A.	**71**	15	100	100	85
7	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**71**	87	b.d.	100	100
8	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**67**	50	48	100	72
9	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**66**	76	65	29	100
10	GRUPA AZOTY S.A.	**62**	100	b.d.	71	72
11	GRUPA LOTOS S.A.	**59**	64	38	43	100
12	COMARCH S.A.	**52**	52	b.d.	100	58
13	AMICA S.A.	**50**	88	b.d.	43	64
13	TAURON POLSKA ENERGIA S.A.	**50**	73	b.d.	57	70
15	FAMUR S.A.	**48**	89	b.d.	29	71

International Champions National Champions Aspiring National Champions

Local Champions Other large companies

Classifications of champions **according to the main sectors of the economy**

In the top 50 ranking of National Champions, most (19) were industrial processing companies - two more than in the previous edition. This number included one International Champion, eight National Champions, and eight Aspiring National Champions. Their average NC index is 53 - only mining and quarrying companies scored better in the industry ranking. This means that the competitive advantage of the Polish economy is based on industry, which, in turn, is highly oriented towards foreign activities - industrial processing companies had an average index in the Foreign category of 73 points, the second largest trade was only 50 points.

On average, the highest score (60 points) was achieved by mining and quarrying companies, which was due to the strong results of KGHM and Jastrzębska Spółka Węglowa, which were in the top ten. Only Polska Grupa Górnicza and PSE achieved a lower point value and also received the title of Local Champion. Capital groups involved in mining and quarrying had the best results in the Economy category, even beating energy champions.

The worst results were again achieved by capital groups in construction and assembly production. These had the worst results in the Economy and Industry categories; in the international presence category they were only ahead of energy and real estate companies, and in the Innovation category were only slightly better than commercial, real estate, and transport groups. It is also worth noting that the number of construction companies in the ranking fell to two, which indicates that this industry did not take advantage of the good economic situation, especially in the housing segment, to develop and is gradually being pushed out of the Polish market by foreign competition.

Trading companies, which generate the majority of Polish GDP, have a large representation in the top 50 National Champions. There were five capital groups (one less than last year) specialising in retail (Dino, LPP, CCC) and wholesale and retail (Pelion, Inter Cars). They sell various goods, from FMCG products to coal and car parts. The average score of these enterprises was relatively low (they obtained 36 out of 100 possible points), but for the second year in a row the increase was almost 10 percent, which indicates continued dynamic development in this industry. The companies involved in transport performed similarly - from pipelines, through rail, to air transport and postal services. Most of them received the status of Local Champion, as they rarely invest in foreign development or research and development. As a result, this group tends not to improve its results and its position in the ranking is relatively lower.

Ranking by the key sectors

	Number of companies	NC Index	Economy	Sector	International Presence	Innovation
Industrial processing	19	**53**	50	41	73	47
Transport	8	**37**	55	48	24	20
Energy	5	**43**	77	41	2	51
Retail	5	**36**	52	22	50	19
Information and telecommunications	5	**45**	61	35	42	43
Mining and extraction	3	**60**	82	56	45	57
Other services	3	**30**	46	40	18	17
Construction	2	**25**	44	19	14	22

International Champions National Champions Aspiring National Champions
Local Champions Other large companies

Processing and construction

		NC Index	Economy	Sector	International Presence	Innovation
1	PKN ORLEN S.A.	**87**	85	84	95	84
2	POLPHARMA S.A.	**61**	50	47	60	87
3	ADAMED PHARMA S.A.	**60**	39	37	82	81
4	SELENA FM S.A.	**59**	40	61	98	39
4	SYNTHOS S.A.	**59**	47	58	46	87
6	GRUPA AZOTY S.A.	**58**	69	62	40	62
7	BORYSZEW S.A.	**57**	53	38	93	45
7	GRUPA LOTOS S.A.	**57**	69	34	63	59
9	STALPRODUKT S.A.	**56**	50	60	85	31
10	CIECH S.A.	**54**	45	52	91	27
11	GRUPA KĘTY S.A.	**53**	47	40	89	34
12	AMICA S.A.	**52**	45	25	90	50
12	WIELTON S.A.	**52**	42	28	91	45
14	CERSANIT S.A.	**51**	51	36	99	17
15	FAMUR S.A.	**47**	46	24	68	48
16	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**41**	37	26	80	21
17	MLEKOVITA	**40**	41	7	80	34
18	SANOK RUBBER COMPANY S.A.	**33**	40	36	44	14
19	POLIMEX-MOSTOSTAL S.A.	**26**	43	25	16	21
19	POLSKA GRUPA ZBROJENIOWA S.A.	**26**	57	28	0	19
21	ERBUD S.A.	**23**	44	12	12	22

Mining and power generation

		NC Index	Economy	Sector	International Presence	Innovation
1	KGHM POLSKA MIEDŹ S.A.	**85**	89	82	90	80
2	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**62**	87	52	42	67
3	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**56**	84	65	4	71
4	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**50**	89	44	0	66
5	TAURON POLSKA ENERGIA S.A.	**39**	74	29	1	50
6	ENEA S.A.	**38**	76	47	0	29
7	POLSKA GRUPA GÓRNICZA S.A.	**34**	72	34	3	26
8	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**31**	60	21	3	39

Trade and transport

		NC Index	Economy	Sector	International Presence	Innovation
1	LPP S.A.	**57**	70	28	97	34
2	POLSKIE LINIE LOTNICZE LOT S.A.	**55**	43	73	80	25
3	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**51**	62	49	74	19
4	POCZTA POLSKA S.A.	**47**	64	81	16	25
5	CCC S.A.	**44**	49	26	86	14
6	INTER CARS S.A.	**38**	45	24	62	23
7	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	67	42	1	24
8	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**32**	57	37	0	33
8	PKP CARGO S.A.	**32**	60	39	20	10
10	PKP INTERCITY S.A.	**25**	46	40	1	13
11	DINO POLSKA S.A.	**20**	53	18	0	11
12	PELION S.A.	**19**	42	16	4	13
13	POLREGIO SP. Z O.O.	**18**	41	21	0	8

Professional services

		NC Index	Economy	Sector	International Presence	Innovation
1	ASSECO POLAND S.A.	**73**	84	36	100	71
2	COMARCH S.A.	**58**	57	26	97	52
3	CYFROWY POLSAT S.A.	**37**	71	49	0	26
4	KRUK S.A.	**36**	47	34	42	21
5	AGORA S.A.	**35**	44	47	10	40
6	IMPEL S.A.	**28**	45	57	2	9
7	BENEFIT SYSTEMS S.A.	**27**	45	30	10	22
8	TELEWIZJA POLSKA S.A.	**23**	50	17	0	28

International Champions · National Champions · Aspiring National Champions

Local Champions · Other large companies

Classifications of champions **according to company ownership**

For the first time in the history of our ranking, there was a clear change in the ownership structure of companies from the top 50 list of National Champions. The number of privately-owned companies rose by two to 28, at the expense of state-controlled companies (down to 22). This means that private business, which was able to optimally use growing domestic and foreign demand, benefited from the boom.

This division of private and state groups remained unequal in individual categories of champions. The title of International Champion was again awarded only to companies controlled by the state treasury, but the advantage of companies controlled by private capital in the groups of National Champions and Aspiring National Champions increased to 9 vs. 4 and 12 vs. 6, respectively. On the other hand, in the group of Local Champions, companies controlled by the state treasury won out - there were 8 of them compared to 4 controlled by private capital.

The results of the ranking show that the state has decided to develop a few international champions that enjoy special political support and gain a better position in the ranking year on year. At the same time, the remaining state-owned companies receive increasingly less support, becoming the subject of political games and consolidation, for example with takeovers of the two largest groups: if PKN Orlen merges with Grupa Lotos then an International Champion will be created, whose leading position in the ranking will probably remain unchallenged for many years.

28
Private

22
State-owned

Ownership	State-owned	Private
International Champions	**2**	**0**
National Champions	**4**	**9**
Local Champions	**6**	**12**
Aspiring National Champions	**8**	**4**

Special index: Green Champions

Considering the theme of this year's edition of the ranking, we decided to create a special category - Green Champions. Therefore, we asked all 126 capital groups classified as potential National Champions to answer additional questions presenting easy-to-compare measures of companies' commitment to care for the environment. Based on the answers, we constructed the Green Champions (GC) index, which consists of three subcategories:

1. **green awareness** - this shows how much data a given capital group holds about its and its contractors' impact on the environment, whether it publishes annual reports taking into account ESG elements, and whether it undertakes soft actions to make employees aware of the importance of environmental responsibility.
2. **green management** - thus reflects whether the organisational structure and processes of a given company meet ISO environmental standards, as well as the persons responsible for the development of environmental aspects in the organisational structure, and whether the company uses green financing to execute the necessary investments limiting its impact on the environment.
3. **circular economy** - this measures the extent to which the business model of the capital group is circular, i.e. the extent to which it uses its own renewable energy sources, how many pollutants it emits into the air and water, how much waste it generates, and to what extent it can be reused used in the production process, and how many non-renewable raw materials it consumes.

In order not to undermine the commensurability of our overall NC index, this category had no impact on the overall ranking.

The winner of the GC ranking is one of the most dynamically developing National Champions - Selena FM, which obtained 65 out of 100 possible points and received high results in all three subcategories. Right behind it was Mlekovita - a company from the food industry, which is not generally recognised as a leader of the green transformation. It is also worth noting the high position of two companies from the mining industry: KGHM (3rd) and JSW (5th, with Polpharma). A high score indicates that despite operating in an industry with a relatively negative impact on the environment, these companies strive to reduce their carbon footprint by using various protective measures and minimising the external effects of their business.

The top five companies also included one company from outside the top 50 National Champions - Alumetal. This proves the growing environmental awareness of smaller companies, especially in the industrial processing sector. However, it was only a relatively small (smaller than in previous editions) percentage of companies that decided to provide us with answers regarding their impact on the environment. This also applies to several companies in the top ten of the ranking. This indicates that the topic of environmental responsibility is a sensitive topic for Polish National Champions, and many of them do not take sufficient action and are afraid that poor results compared to their competition might expose them to negative social assessment.

		GC Index	Green Awareness	Green Management	Circular Economy
1	SELENA FM S.A.	**65**	73	50	71
2	MLEKOVITA	**57**	52	75	48
3	KGHM POLSKA MIEDŹ S.A.	**54**	79	75	31
4	ALUMETAL SA	**53**	73	50	46
5	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**49**	75	38	46
5	POLPHARMA S.A.	**49**	54	50	46

Full Results

		NC Index	Economy	Sector	International	Innovation
1	PKN ORLEN S.A.	**87**	85	84	95	84
2	KGHM POLSKA MIEDŹ S.A.	**85**	89	82	90	80
3	ASSECO POLAND S.A.	**73**	84	36	100	71
4	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**62**	87	52	42	67
5	POLPHARMA S.A.	**61**	50	47	60	87
6	ADAMED PHARMA S.A.	**60**	39	37	82	81
7	SELENA FM S.A.	**59**	40	61	98	39
7	SYNTHOS S.A.	**59**	47	58	46	87
9	COMARCH S.A.	**58**	57	26	97	52
9	GRUPA AZOTY S.A.	**58**	69	62	40	62
11	BORYSZEW S.A.	**57**	53	38	93	45
11	GRUPA LOTOS S.A.	**57**	69	34	63	59
11	LPP S.A.	**57**	70	28	97	34
14	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**56**	84	65	4	71
14	STALPRODUKT S.A.	**56**	50	60	85	31
16	POLSKIE LINIE LOTNICZE LOT S.A.	**55**	43	73	80	25
17	CIECH S.A.	**54**	45	52	91	27
18	GRUPA KĘTY S.A.	**53**	47	40	89	34
19	AMICA S.A.	**52**	45	25	90	50
19	WIELTON S.A.	**52**	42	28	91	45
21	CERSANIT S.A.	**51**	51	36	99	17
21	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**51**	62	49	74	19
23	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**50**	89	44	0	66
24	FAMUR S.A.	**47**	46	24	68	48
24	POCZTA POLSKA S.A.	**47**	64	81	16	25
26	CCC S.A.	**44**	49	26	86	14
27	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**41**	37	26	80	21
28	MLEKOVITA	**40**	41	7	80	34
29	TAURON POLSKA ENERGIA S.A.	**39**	74	29	1	50
30	ENEA S.A.	**38**	76	47	0	29
30	INTER CARS S.A.	**38**	45	24	62	23
32	CYFROWY POLSAT S.A.	**37**	71	49	0	26
33	KRUK S.A.	**36**	47	34	42	21
34	AGORA S.A.	**35**	44	47	10	40
35	POLSKA GRUPA GÓRNICZA S.A.	**34**	72	34	3	26
36	PKP POLSKIE LINIE KOLEJOWE S.A.	**33**	67	42	1	24
36	SANOK RUBBER COMPANY S.A.	**33**	40	36	44	14
38	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**32**	57	37	0	33
38	PKP CARGO S.A.	**32**	60	39	20	10
40	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**31**	60	21	3	39
41	IMPEL S.A.	**28**	45	57	2	9
42	BENEFIT SYSTEMS S.A.	**27**	45	30	10	22
43	POLIMEX-MOSTOSTAL S.A.	**26**	43	25	16	21
43	POLSKA GRUPA ZBROJENIOWA S.A.	**26**	57	28	0	19
45	PKP INTERCITY S.A.	**25**	46	40	1	13
46	ERBUD S.A.	**23**	44	12	12	22
46	TELEWIZJA POLSKA S.A.	**23**	50	17	0	28
48	DINO POLSKA S.A.	**20**	53	18	0	11
49	PELION S.A.	**19**	42	16	4	13
50	POLREGIO SP. Z O.O.	**18**	41	21	0	8

Places 51-75
(Alphabetic order)

- 4WORKERS SP. Z O.O.
- AGATA S.A.
- BLACK RED WHITE S.A.
- CEDROB S.A.
- COGNOR HOLDING S.A
- ELEKTRIM S.A.
- EURO NET SP. Z O.O.
- FABRYKI MEBLI FORTE S.A.
- FARMACOL S.A.
- GRUPA MASPEX SP. Z O.O.
- MESKO S.A.
- NEUCA S.A.
- OT LOGISTICS S.A.
- P P H U SPECJAL SP. Z O.O.
- PERN S.A.
- POLSKA ŻEGLUGA MORSKA PRZEDSIĘBIORSTWO PAŃSTWOWE
- PRESS GLASS S.A.
- SOLID SECURITY SP. Z O.O.
- SPÓŁDZIELNIA MLECZARSKA MLEKPOL W GRAJEWIE
- TELE-FONIKA KABLE S. A.
- TORPOL SA
- UNIBEP SA
- VRG S.A.
- WEGLOKOKS S.A.
- ZJEDNOCZONE PRZEDSIĘBIORSTWA ROZRYWKOWE S.A.

Places 76-100
(Alphabetic order)

- AB SA
- ACTION SA
- ALUMETAL SA
- AUTO PARTNER SA
- BEMO MOTORS SP. Z O.O.
- ENTER AIR S.A.
- FERMY DROBIU WOŹNIAK SP. Z O.O.
- FIDELTRONIK POLAND SP. Z O.O.
- FRAPO-DYSTRYBUCJA SP. Z O.O.
- IGLOTEX S.A.
- INDYKPOL S.A.
- KRAJOWA SPÓŁKA CUKROWA S.A.
- LERG S.A.
- MARTES SPORT SP. Z O.O.
- OKRĘGOWA SPÓŁDZIELNIA MLECZARSKA W PIĄTNICY
- POJAZDY SZYNOWE PESA BYDGOSZCZ S.A.
- POLENERGIA S.A.
- PRZEDSIĘBIORSTWO USŁUG TECHNICZNYCH INTERCOR SP. Z O.O.
- PRZEDSIĘBIORSTWO USŁUGOWO - HANDLOWE CHEMIROL SP. Z O.O.
- RAINBOW TOURS SA
- ROLMEX S.A.
- SUPERDROB S.A.
- TORUŃSKIE ZAKŁADY MATERIAŁÓW OPATRUNKOWYCH S.A.
- UNIMOT S.A.
- WIPASZ S.A.

Places 101-126
(Alphabetic order)

- AGROLOK SP. Z O.O.
- AMPOL - MEROL SP. Z O.O.
- ANWIM S.A.
- BIOAGRA - OIL S.A.
- BOWIM S.A.
- CITRONEX I SP. Z O.O.
- GRAAL S.A.
- GRUPA PSB HANDEL S.A.
- HURTAP S.A.
- KOLPORTER SP. Z O.O.
- KOMAGRA SP. Z O.O.
- KOMPUTRONIK SA
- KONSORCJUM STALI S.A.
- MOTO-PROFIL SP. Z O.O.
- NEONET S.A.
- NOVA TRADING S.A.
- NOWA ITAKA SP. Z O.O.
- OKRĘGOWA SPÓŁDZIELNIA MLECZARSKA W ŁOWICZU
- OSADKOWSKI S.A.
- PHUP GNIEZNO SP. Z O.O. HURTOWNIA SP.K.
- POLMAX S.A. S.K.A.
- POLMLEK SP. Z O.O.
- POLOMARKET SP. Z O.O.
- PRUSZYŃSKI SP. Z O.O.
- PRZEDSIĘBIORSTWO DYSTRYBUCJI FARMACEUTYCZNEJ SLAWEX SP. Z O.O.
- X-KOM SP. Z O.O.

International Champions · National Champions · Aspiring National Champions · Local Champions · Other large companies

Economy

- International Champions
- National Champions
- Aspiring National Champions
- Local Champions
- Other large companies

		Economy	Value-Added	Employment	Average salary	Payroll budget	Liquidity and solvency	Contribution to the state budget	Investments and fixed assets	Capitalisation
1	KGHM POLSKA MIEDŹ S.A.	**89**	95	88	100	55	52	100	94	100
1	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**89**	100	91	83	43	57	100	100	100
3	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**87**	86	86	100	80	55	100	78	100
4	PKN ORLEN S.A.	**85**	99	81	85	24	69	100	96	100
5	ASSECO POLAND S.A.	**84**	86	84	100	81	97	100	38	100
5	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**84**	93	83	79	36	79	100	97	100
7	ENEA S.A.	**76**	79	77	57	42	87	95	79	100
8	TAURON POLSKA ENERGIA S.A.	**74**	82	83	56	55	61	51	88	100
9	POLSKA GRUPA GÓRNICZA S.A.	**72**	87	90	43	64	51	57	66	36
10	CYFROWY POLSAT S.A.	**71**	81	64	79	17	61	98	65	100
11	LPP S.A.	**70**	69	83	39	85	53	100	51	57
12	GRUPA AZOTY S.A.	**69**	72	76	63	56	67	71	53	100
12	GRUPA LOTOS S.A.	**69**	75	60	85	19	61	100	59	100
14	PKP POLSKIE LINIE KOLEJOWE S.A.	**67**	78	90	0	60	12	53	100	75
15	POCZTA POLSKA S.A.	**64**	78	100	0	92	2	57	54	13
16	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**62**	53	60	100	62	96	75	37	34
17	PKP CARGO S.A.	**60**	67	82	3	67	69	55	47	58
17	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**60**	60	49	51	16	78	100	74	75
19	COMARCH S.A.	**57**	49	62	83	78	98	55	17	34
19	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**57**	55	51	100	30	51	68	45	75
19	POLSKA GRUPA ZBROJENIOWA S.A.	**57**	51	77	9	100	73	63	35	52
22	BORYSZEW S.A.	**53**	54	71	15	68	53	66	30	40
22	DINO POLSKA S.A.	**53**	57	80	0	54	51	62	32	41
24	CERSANIT S.A.	**51**	51	65	41	66	65	58	26	12
25	POLPHARMA S.A.	**50**	48	62	79	76	52	15	31	12
25	STALPRODUKT S.A.	**50**	46	63	13	56	99	63	29	52
25	TELEWIZJA POLSKA S.A.	**50**	43	50	100	63	53	53	21	5
28	CCC S.A.	**49**	59	76	0	55	5	51	34	36
29	GRUPA KĘTY S.A.	**47**	47	58	31	47	66	59	26	39
29	KRUK S.A.	**47**	44	52	56	42	100	55	6	44
29	SYNTHOS S.A.	**47**	54	52	43	24	72	60	32	11
32	FAMUR S.A.	**46**	46	58	18	41	100	61	21	40
32	PKP INTERCITY S.A.	**46**	50	66	0	48	52	56	38	25
34	AMICA S.A.	**45**	35	51	56	60	65	55	18	34
34	BENEFIT SYSTEMS S.A.	**45**	37	40	100	38	52	55	25	31
34	CIECH S.A.	**45**	48	54	41	37	60	28	39	44
34	IMPEL S.A.	**45**	49	75	0	89	83	1	11	28
34	INTER CARS S.A.	**45**	43	53	36	41	65	57	23	45
39	AGORA S.A.	**44**	35	48	55	50	59	62	24	34
39	ERBUD S.A.	**44**	28	30	100	79	80	52	9	28
41	POLIMEX-MOSTOSTAL S.A.	**43**	33	57	17	76	82	50	18	32
41	POLSKIE LINIE LOTNICZE LOT S.A.	**43**	35	43	100	47	8	55	28	5
43	PELION S.A.	**42**	49	69	0	50	2	54	26	5
43	WIELTON S.A.	**42**	31	51	46	68	55	53	17	29
45	MLEKOVITA	**41**	30	54	18	72	92	51	17	9
45	POLREGIO SP. Z O.O.	**41**	36	63	0	76	57	52	21	5
47	SANOK RUBBER COMPANY S.A.	**40**	27	53	15	75	78	53	14	30
47	SELENA FM S.A.	**40**	23	44	48	65	93	53	10	29
49	ADAMED PHARMA S.A.	**39**	14	45	25	89	100	69	16	14
50	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**37**	20	47	32	83	85	52	5	2

Industry

		Industry	Share in the value-added of all sectors and in the employment of the main sector	Profitability and earning power against the main industry	Main sector of activity (PKD/NACE code)	Other important business
1	PKN ORLEN	**84**	100	35	C19.2.0 – Manufacture of refined petroleum products	5
2	KGHM POLSKA MIEDŹ S.A.	**82**	93	50	B7.2.9 – Mining of other non-ferrous metal ores	1
3	POCZTA POLSKA S.A.	**81**	100	26	H53.1.0 – Postal activities under universal service obligation	5
4	POLSKIE LINIE LOTNICZE LOT S.A.	**73**	92	17	H51.1.0 – Passenger air transport	0
5	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**65**	72	42	D35.2.3 – Trade of gas through mains	1
6	GRUPA AZOTY S.A.	**62**	66	50	C20.1.5 – Manufacture of fertilisers and nitrogen compounds	2
7	SELENA FM S.A.	**61**	64	50	C20.5.2 – Manufacture of glues	7
8	STALPRODUKT S.A.	**60**	63	50	C24.4.3 – Lead, zinc and tin production	2
9	SYNTHOS S.A.	**58**	61	48	C20.1.7 – Manufacture of synthetic rubber in primary forms	4
10	IMPEL S.A.	**57**	59	50	N81.2.2 – Other building and industrial cleaning activities	5
11	CIECH S.A.	**52**	52	50	C20.1.3 – Manufacture of other inorganic basic chemicals	4
11	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**52**	48	64	B5.1.0 – Mining of hard coal	4
13	CYFROWY POLSAT S.A.	**49**	48	50	J60.2.0 – Television programming and broadcasting activities	3
13	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**49**	32	100	H52.2.3 – Service activities incidental to air transportation	0
15	AGORA S.A.	**47**	47	50	J59.14 – Motion picture projection activities	5
15	ENEA S.A.	**47**	43	57	D35.1.1 – Production of electricity	7
15	POLPHARMA S.A.	**47**	30	97	C21.2.0 – Manufacture of pharmaceutical preparations	2
18	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**44**	51	24	D35.1.1 – Production of electricity	2
19	PKP POLSKIE LINIE KOLEJOWE S.A.	**42**	56	0	H52.2.1 – Service activities incidental to land transportation	0
20	GRUPA KĘTY S.A.	**40**	21	100	C24.4.2 – Aluminium production	0
20	PKP INTERCITY S.A.	**40**	54	0	H49.1.0 – Passenger rail transport, interurban	0
22	PKP CARGO S.A.	**39**	35	50	H49.2.0 – Freight rail transport	0
23	BORYSZEW S.A.	**38**	44	18	C24.4.2 – Aluminium production	5
24	ADAMED PHARMA S.A.	**37**	31	54	C21.2.0 – Manufacture of pharmaceutical preparations	5
24	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**37**	33	50	H49.5.0 – Transport via pipeline	0
26	ASSECO POLAND S.A.	**36**	32	50	J62.0.1 – Computer programming activities	2
26	CERSANIT S.A.	**36**	32	50	C23.31 – Manufacture of ceramic tiles and flags	1
26	SANOK RUBBER COMPANY S.A.	**36**	32	47	C20.1.7 – Manufacture of synthetic rubber in primary forms	2
29	GRUPA LOTOS S.A.	**34**	34	33	C19.2.0 – Manufacture of refined petroleum products	1
29	KRUK S.A.	**34**	25	62	N82.91 – Activities of collection agencies and credit bureaus	2
29	POLSKA GRUPA GÓRNICZA S.A.	**34**	40	18	B5.1.0 – Mining of hard coal	0
32	BENEFIT SYSTEMS S.A.	**30**	23	50	S96.09 – Other personal service activities not elsewhere classified	2
33	TAURON POLSKA ENERGIA S.A.	**29**	39	0	D35.14 – Trade of electricity	3
34	LPP S.A.	**28**	20	50	G47.7.1 – Retail sale of clothing in specialised stores	0
34	POLSKA GRUPA ZBROJENIOWA S.A.	**28**	38	0	C25.40 – Manufacture of weapons and ammunition	0
34	WIELTON S.A.	**28**	29	27	C29.20 – Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	1
37	CCC S.A.	**26**	19	50	G47.7.2 – Retail sale of footwear and leather goods in specialised stores	0
37	COMARCH S.A.	**26**	18	50	J62.0.1 – Computer programming activities	2
37	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**26**	34	4	C33.1.5 – Repair and maintenance of ships and boats	2
40	AMICA S.A.	**25**	8	77	C27.5.1 – Manufacture of electric domestic appliances	0
40	POLIMEX-MOSTOSTAL S.A.	**25**	33	0	F42.2.2 – Construction of utility projects for electricity and telecommunications	6
42	FAMUR S.A.	**24**	13	56	C28.9.2 – Manufacture of machinery for mining, quarrying and construction	0
42	INTER CARS S.A.	**24**	15	50	G45.3.1 – Wholesale trade of motor vehicle parts and accessories	0
44	POLREGIO SP. Z O.O.	**21**	28	0	H49.1.0 – Passenger rail transport, interurban	0
44	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**21**	18	30	D35.1.2 – Transmission of electricity	0
46	DINO POLSKA S.A.	**18**	3	61	G47.1.1 – Retail sale in non-specialised stores with food, beverages or tobacco predominating	0
47	TELEWIZJA POLSKA S.A.	**17**	22	0	J60.2.0 – Television programming and broadcasting activities	0
48	PELION S.A.	**16**	8	40	G46.4.6 – Wholesale of pharmaceutical goods	0
49	ERBUD S.A.	**12**	17	0	F41.2.0 – Construction of residential and non-residential buildings	2
50	MLEKOVITA	**7**	9	0	C10.5.1 – Operation of dairies and cheese making	0

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International presence

		International presence	International activity	Export
1	ASSECO POLAND S.A.	**100**	100	100
2	CERSANIT S.A.	**99**	96	100
3	SELENA FM S.A.	**98**	88	100
4	COMARCH S.A.	**97**	84	100
4	LPP S.A.	**97**	84	100
6	PKN ORLEN S.A.	**95**	73	100
7	BORYSZEW S.A.	**93**	67	100
8	CIECH S.A.	**91**	57	100
8	WIELTON S.A.	**91**	53	100
10	AMICA S.A.	**90**	48	100
10	KGHM POLSKA MIEDŹ S.A.	**90**	49	100
12	GRUPA KĘTY S.A.	**89**	47	100
13	CCC S.A.	**86**	71	90
14	STALPRODUKT S.A.	**85**	23	100
15	ADAMED PHARMA S.A.	**82**	66	86
16	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**80**	0	100
16	MLEKOVITA	**80**	0	100
16	POLSKIE LINIE LOTNICZE LOT S.A.	**80**	0	100
19	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**74**	0	92
20	FAMUR S.A.	**68**	17	80
21	GRUPA LOTOS S.A.	**63**	0	79
22	INTER CARS S.A.	**62**	52	64
23	POLPHARMA S.A.	**60**	38	66
24	SYNTHOS S.A.	**46**	3	57
25	SANOK RUBBER COMPANY S.A.	**44**	47	43
26	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**42**	0	53
26	KRUK S.A.	**42**	71	34
28	GRUPA AZOTY S.A.	**40**	51	37
29	PKP CARGO S.A.	**20**	0	25
30	POCZTA POLSKA S.A.	**16**	0	20
30	POLIMEX-MOSTOSTAL S.A.	**16**	5	18
32	ERBUD S.A.	**12**	24	9
33	AGORA S.A.	**10**	1	12
33	BENEFIT SYSTEMS S.A.	**10**	52	0
35	PELION S.A.	**4**	0	5
35	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**4**	9	3
37	POLSKA GRUPA GÓRNICZA S.A.	**3**	0	3
37	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**3**	2	3
39	IMPEL S.A.	**2**	3	1
40	PKP INTERCITY S.A.	**1**	0	1
40	PKP POLSKIE LINIE KOLEJOWE S.A.	**1**	0	1
40	TAURON POLSKA ENERGIA S.A.	**1**	1	1
43	CYFROWY POLSAT S.A.	**0**	2	0
43	DINO POLSKA S.A.	**0**	0	0
43	ENEA S.A.	**0**	0	0
43	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**0**	0	0
43	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**0**	0	0
43	POLREGIO SP. Z O.O.	**0**	0	0
43	POLSKA GRUPA ZBROJENIOWA S.A.	**0**	0	0
43	TELEWIZJA POLSKA S.A.	**0**	0	0

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Innovation

		Innovation	Intellectual property	R&D activities	Business & science cooperation	Work efficiency
1	POLPHARMA S.A.	**87**	84	100	100	57
1	SYNTHOS S.A.	**87**	88	77	86	100
3	PKN ORLEN S.A.	**84**	100	68	68	100
4	ADAMED PHARMA S.A.	**81**	87	91	100	34
5	KGHM POLSKA MIEDŹ S.A.	**80**	82	41	100	100
6	ASSECO POLAND S.A.	**71**	15	100	100	85
7	POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO S.A.	**71**	87	b.d.	100	100
8	JASTRZĘBSKA SPÓŁKA WĘGLOWA S.A.	**67**	50	48	100	72
9	PGE POLSKA GRUPA ENERGETYCZNA S.A.	**66**	76	65	29	100
10	GRUPA AZOTY S.A.	**62**	100	b.d.	71	72
11	GRUPA LOTOS S.A.	**59**	64	38	43	100
12	COMARCH S.A.	**52**	52	b.d.	100	58
13	AMICA S.A.	**50**	88	b.d.	43	64
13	TAURON POLSKA ENERGIA S.A.	**50**	73	b.d.	57	70
15	FAMUR S.A.	**48**	89	b.d.	29	71
16	BORYSZEW S.A.	**45**	39	b.d.	100	43
16	WIELTON S.A.	**45**	67	b.d.	57	53
18	AGORA S.A.	**40**	23	72	0	75
19	POLSKIE SIECI ELEKTROENERGETYCZNE S.A.	**39**	41	b.d.	29	100
19	SELENA FM S.A.	**39**	42	61	0	56
21	GRUPA KĘTY S.A.	**34**	68	b.d.	0	70
21	LPP S.A.	**34**	14	87	0	40
21	MLEKOVITA	**34**	49	30	14	40
24	OPERATOR GAZOCIĄGÓW PRZESYŁOWYCH GAZ-SYSTEM S.A.	**33**	32	b.d.	14	100
25	STALPRODUKT S.A.	**31**	47	b.d.	29	51
26	ENEA S.A.	**29**	35	b.d.	0	94
27	TELEWIZJA POLSKA S.A.	**28**	25	b.d.	0	100
28	CIECH S.A.	**27**	27	b.d.	0	95
29	CYFROWY POLSAT S.A.	**26**	21	b.d.	0	100
29	POLSKA GRUPA GÓRNICZA S.A.	**26**	35	b.d.	14	57
31	POCZTA POLSKA S.A.	**25**	46	b.d.	29	19
31	POLSKIE LINIE LOTNICZE LOT S.A.	**25**	17	b.d.	0	100
33	PKP POLSKIE LINIE KOLEJOWE S.A.	**24**	31	b.d.	29	39
34	INTER CARS S.A.	**23**	21	b.d.	0	82
35	BENEFIT SYSTEMS S.A.	**22**	8	b.d.	0	100
35	ERBUD S.A.	**22**	7	b.d.	0	100
37	GDAŃSKA STOCZNIA REMONTOWA IM. J. PIŁSUDSKIEGO S.A.	**21**	33	b.d.	14	40
37	KRUK S.A.	**21**	9	b.d.	0	90
37	POLIMEX-MOSTOSTAL S.A.	**21**	46	b.d.	0	38
40	POLSKA GRUPA ZBROJENIOWA S.A.	**19**	10	b.d.	43	25
40	PRZEDSIĘBIORSTWO PAŃSTWOWE PORTY LOTNICZE	**19**	9	0	0	82
42	CERSANIT S.A.	**17**	22	0	0	53
43	CCC S.A.	**14**	22	b.d.	0	38
43	SANOK RUBBER COMPANY S.A.	**14**	21	b.d.	0	38
45	PELION S.A.	**13**	18	b.d.	0	37
45	PKP INTERCITY S.A.	**13**	11	b.d.	0	48
47	DINO POLSKA S.A.	**11**	18	b.d.	0	27
48	PKP CARGO S.A.	**10**	7	b.d.	0	39
49	IMPEL S.A.	**9**	13	b.d.	0	25
50	POLREGIO SP. Z O.O.	**8**	7	b.d.	0	30

Methodological Appendix

The National Champion Index (NC Index) is an arithmetic average of points obtained for the four indices in the following categories: Economy, Sector, International Presence, and Innovation. The NC Index was calculated for the top 50 corporate groups (interchangeably called "companies") in the Economy category. This index was, in turn, calculated for 126 Polish-owned corporate groups that had over PLN 1 billion in revenue in 2019, over 100 employees, and over PLN 100 million in capital. We used the dataset consolidated for the entire corporate group. For each company, the NC Index was rounded to an integer.

Index: Economy

The index is calculated based on eight subindexes, each representing another aspect of the company's influence on the economy:

The value-added generated by a company in 2019 is calculated based on the consolidated data from the company or – if there is no data available – as the product of the sum of the added value quotients and the income for all relevant departments and PKD codes of a given company's activity and its revenue. The value of the subindex is then calculated using the formula:

$$G_i^1 = 100 * \frac{\log(10*VA_i)}{\log(10*VA_{MAX})}$$

where VA_i is the added value of the i-th company, and VA_{MAX} is the highest added value from all companies surveyed (in billion PLN). Moreover, whenever we mention the notion of logarithms in this Appendix, we refer to base ten logarithm, unless stated otherwise.

The staff count is the total number of people employed at a given company at the end of 2019 in full-time equivalents from its annual report. The value of the subindex is then calculated using the formula:

$$G_i^2 = 100 * \frac{\log(10*E_i)}{\log(10*E_{MAX})}$$

where E_i represents the employment at an i-th company, and E_{MAX} the highest employment at all the companies surveyed (in thousands of people).

The average salary is calculated based on the average annual gross salary in the company, provided in the survey received from companies. If a company provides data on employee-related expenditure, the quotient of this data and the number of employees is calculated. In the absence of data, we use the average remuneration paid in the sector (according to the main PKD section). The value of the subindex is then calculated using the formula:

$$G_i^3 = \begin{cases} 100 & jeżeli\ w_i \geq 2\bar{w} \\ 100 * \frac{w_i - \bar{w}}{\bar{w}} & jeżeli\ w_i \in (\bar{w}; 2\bar{w}) \\ 0 & jeżeli\ w_i \leq \bar{w} \end{cases}$$

where w_i is the average salary at the i-th company and w is the annual average salary in the enterprise sector in Poland in 2019.

The payroll fund is calculated based on employment, salary, and value-added data using the formula:

$$G_i^4 = Min\left\{100 * \frac{E_i * w_i}{VA_i}; 100\right\}$$

The contribution to the state budget is calculated based on data on taxes paid by a given company in 2018 obtained from surveys sent to the companies or, if there was no response, from the data included in its consolidated financial report for 2019, as the difference between gross profit and net profit (after tax deduction) plus sectoral taxes paid by the company. The subindex is thus calculated using the formula:

$$G_i^5 = 50 * Min\left\{10^3 * \frac{Tax_i}{BTAX}; 1\right\} + 50 * 1_{PL}(Reg_i)$$

where Tax_i is the tax paid by the i-th company, B_{TAX} is the state budget's total tax revenue in 2019 in thousands of zloty, 1_{PL} is a one-element set consisting of Poland, and Reg_i the country of registration of the dominant entity in the i-th corporate group.

Fixed assets are calculated based on data for late 2019 obtained from the consolidated financial reports for 2019, and investments based on data on gross spending on fixed assets in 2019 collected from the survey distributed to enterprises or, if there was no response, based on an estimate analogous to that used to calculate the added value. The subindex is then calculated using the formula:

$$G_i^6 = 0{,}5 * Min\left\{10^4 * \frac{GFCF_i}{GFCF}; 100\right\} + 0{,}5 * Min\left\{100 * \frac{\log(10 * K_i)}{\log(10 * K_{MAX})}; 100\right\}$$

where $GFCF_i$ is spending on fixed assets at the i-th company, GFCF is the value of gross fixed assets in the national economy, K_i the fixed assets of the i-th company, and K_{MAX} the highest K among the surveyed companies.

Liquidity and solvency are calculated based on the solvency ratio and liquidity ratio data (calculated following the Polish accounting reporting recommendations), obtained from the consolidated financial report for 2019. The subindex is then calculated using the formula:

$$G_i^7 = 50 * \mathrm{F}(x = SR_i, \mu = 20, s = 2) + 50 * \mathrm{F}(x = LR_i, \mu = 1, s = \frac{1}{6})$$

where SR_i is the solvency ratio at the i-th company, LR_i the liquidity ratio index at the i-th company, and $F(\chi,\mu,s)$ the distribution function of the logistic distribution with argument χ and parameters μ and s.

Capitalisation is calculated based on the nominal value of shareholders' equity (million PLN) at the end of 2019 obtained from the company's financial report and information on whether a given company was listed on the stock exchange at the end of 2019. The subindex is then calculated using the formula:

$$G_i^8 = Min\left\{75 * \frac{Funds_i}{Funds_{10}}; 75\right\} + 25 * \mathbf{1}_{GPW}(i)$$

where $Funds_i$ is the value of shareholders' equity of the i-th company, $Funds_{10}$ is the lower limit of 10th decile of the $Funds_i$ wdistribution among all companies studied, GPW represents the set of all companies listed on the Warsaw Stock Exchange's main stock market, and 1_{GPW} the indicator for that set.

The full index in the economy category is the weighted average of the components above using the formula:

$$G_i = 0{,}3 * G_i^1 + 0{,}2 * G_i^2 + 0{,}1 * G_i^3 + 0{,}1 * G_i^4 + 0{,}1 * G_i^5 + 0{,}1 * G_i^6 + 0{,}05 * G_i^7 + 0{,}05 * G_i^8$$

Index: Sector

This index is calculated based on two subindexes, the first of which reflects the company's position in its sector and in other significant sectors, and the other shows its productivity and profitability compared to other companies in the same sector:

Share in the sector is calculated based on data on revenue, employment, and spending on investment from the consolidated financial report for 2019 and based on data on the segments of business activity from received surveys or estimated from companies' annual reports and publicly available information. The subindex is then calculated using the formula:

$$B_i^1 = \mathrm{Min}\left\{60 * \frac{\mathrm{GO_i}}{GO_k} + 20 * \frac{\mathrm{E_i}}{\mathrm{E_k}} + 10 * \frac{GFCF_i}{GFCF_k} + 10 * log_2(j)\right\}$$

where GO_i is the value of the i-th company's revenue from its main activity, GO_k the value of revenue in the k-th PKD class that is the i-th company's main activity, E_i is employment at the i-th company, E_k employment in the k-th PKD class that is the i-th company's main activity, $GFCF_i$ is gross spending on fixed assets at the i-th company, $GFCF_k$ gross spending on fixed assets in the k-th PKD section that is the i-th company's main activity, and j is a set of all other classes of PKD, in which the i-th company obtains at least 1% of its revenue, and $\log_2$ is a logarithm with the base 2. All the above data were collected for 2019.

Profitability in relation to sector is calculated based on data on ROA index (percentage of net profit to asset value) and the gross margin from surveys received from companies or from the consolidated financial report for 2019. The subindex is then calculated using the formula:

$$B_i^2 = Min\{Max\{10 * (ROA_i - ROA_k) \ ; \ 0\} \ ; \ 50\} + Min\{Max\{5 * (GM_i - GM_k) \ ; \ 0\} \ ; \ 50\ ; 100\}$$

where ROA_i is the i-th company's ROA, ROA_k t the ROA in the k-th PKD section that constitutes the i-th company's main activity, GM_i is the i-th company's gross margin and GM_k the gross margin in the k-th PKD section that constitutes the i-th company's main activity.

The full index in the sector category is the weighted average of the components above using the formula:

$$B_i = 0{,}75 * B_i^1 + 0{,}25 * B_i^2$$

Index: International Presence

This index is calculated on the basis of two subindexes, the first of which illustrates the scope of the company's foreign activity, and the second the importance of exports for the company's size:

Foreign activity is calculated based on data on the number of entities from the corporate group registered outside Poland and the share of revenue generated by entities abroad in total revenue, obtained from the survey filled out by companies or, if no information was provided, based on our own estimates from annual reports for 2019 and publicly available information. The subindex is then calculated using the formula:

$$Z_i^1 = 100 * \frac{\log(A_i + 1)}{\log(A_{Max})}$$

where A_{Max} is the highest A value for companies in the top 50 in the ranking of national champions, with A_i counted using the following formula:

$$A_i = 100 * FE_i * FR_i$$

where FE_i is the percentage of a corporate group's entities registered abroad, and FR_i the share of the revenue from foreign entities in a corporate group's total revenue.

The export subindex is calculated based on data on the number of countries to which the goods and services of a given company are exported, obtained from the survey filled out by companies or, if no response was provided, from publicly available data on the company's activity, including the annual report. Data on the share of the revenue from exports in total revenue, obtained from financial reports for 2019, surveys or from publicly available information was also included. The subindex is then calculated using the formula:

$$Z_i^2 = Min\left\{100 * \frac{x_i + \bar{x}}{2\bar{x}} * ER_i \quad ; \quad 100\right\}$$

where x_i tis the number of countries to which the i-th company sells its goods and services, $\bar{x}$ is the median number of countries where companies in the top 50 of the ranking of National Champions sell their goods and services, and ER_i the share of export sales in the i-th company's revenue.

The index in the 'International Presence' category is calculated as a weighted average of these two subindexes using the formula:

$$Z_i = 0{,}2 * Z_i^1 + 0{,}8 * Z_i^2$$

Index: Innovation

This index is calculated based on four subindexes, each illustrating another dimension of innovation in a given corporate group:

Intellectual property is calculated based on data on a given corporate group's current number of patents and trademarks in the Polish Patent Office's database that belonged to the company at the end of 2020. The subindex is then calculated using the formula:

$$I_i^1 = 0{,}75 * Min\left\{100 * \frac{\log(P_i + 1)}{\log(P_{10})} \quad ; \quad 100\right\} + 0{,}25 * Min\left\{100 * \frac{\log(ZT_i + 1)}{\log(ZT_{10})} \quad ; \quad 100\right\}$$

where P_i is the number registered by the i-th company, P_{10} the lower limit of the tenth decile of the distribution of patents registered by companies in the top 50 of the ranking of National Champions, ZT_i the number of trademarks registered by the i-th company, and ZT_{10} the lower limit of the tenth decile of the distribution of trademarks registered by companies in the top 50 of the ranking of National Champions.

R&D activity is calculated based on the number of R&D employees and the company's expenditure on research and development, according to the data from the survey. Missing data was collected from public sources, including annual reports for 2019. Since in the case of many corporate groups, the data were not available, it was assumed in further calculations that that company's R&D subindex is 0. When data were available, the subindex was calculated using the formula:

$$I_i^2 = Min\left\{50 * \frac{\log(E_i^{BR} + 1)}{\log(E_{10}^{BR})}; 50\right\} + Min\left\{50 * \frac{\log(BR_i + 1)}{\log(BR_{10})}; 50\right\}$$

where E_i^{BR} is the number of R&D employees at the i-th company, E_{10}^{BR} the lower limit of the tenth decile of the distribution of the number of R&D staff at companies in the top 50 of the ranking of National Champions, BR_i spending on R&D at the i-th company (in PLN million), and BR_{10} the lower limit of the tenth decile of the distribution of the expenditure on R&D (in PLN million) by companies in the top 50 of the National Champions ranking.

Research is calculated based on data from the National Centre for Research and Development in Poland (NCBiR) concerning the number of research projects carried out by the companies in the corporate group under NCBiR programmes at the end of 2020 and based on data concerning the financing of research units by the companies in the corporate group in 2019 declared in questionnaires received from the companies. In the case of companies which did not send questionnaires, it was assumed that the company's Science index is 0. The subindex was calculated using the formula:

$$I_i^3 = Max\left\{Min\left\{100 * \frac{NCBiR_i}{NCBiR_{10}}; 100\right\}; Min\left\{100 * \frac{\log(Fin_i + 1)}{\log(Fin_{10})}; 100\right\}\right\}$$

where $NCBiR_i$ is the number of research projects carried out by the i-th company, $NCBiR_{10}$ is the lower limit value of the tenth decile of the distribution of the number of research projects carried out by the top 50 companies from the National Champions list, Fin_i is the value of i-th company's expenditure on financing research units in thousand PLN, and Fin_{10} is the lower limit value of the tenth decile of the distribution of spending on financing research units of top 50 companies in the National Champions list.

Labour productivity is calculated based on data on value-added and employment at a corporate group, obtained for the index in the Economy category. The subindex was then calculated using the formula:

$$I_i^4 = Min\left\{100 * \frac{va_i}{va_4} \quad ; \quad 100\right\}$$

where va_i is the value-added per one employee at the i-th company, va_4 tthe lower limit value of the fourth quartile of the value-added distribution per employee at companies in the top 50 of the ranking of National Champions.

The full index in the Innovation category is calculated as a weighted average of the categories above using the formula:

$$I_i = 0{,}3 * I_i^1 + 0{,}25 * I_i^2 + 0{,}25 * I_i^3 + 0{,}2 * I_i^4$$

Special Index: Green Champions

This indicator is calculated based on the weighted average of three sub-indices, each of which reflects a different dimension of the companies' pro-environmental activities. The first reflects the company's level of environmental awareness and is weighted with 20% of the main index:

$$GC_i^1 = 20 * \mathbf{1}_{footer}(i) + 20 * \mathbf{1}_{report}(i) + 20 * \mathbf{1}_{trace}(i) + 20 * \mathbf{1}_{suppliers}(i) + 20 * \frac{D_i}{19}$$

where "footer" is a sample of all the National Champions that reported they have a footer in their business e-mails that suggest the reader not print the e-mail unless absolutely necessary, the "report" is a sample of all National Champions that prepare non-financial reports in accordance with the EU directive 2014/95/EU, "trace" is a sample of all National Champions that have formally decided to study their carbon footprint, and "suppliers" are all National Champions that have tested at least one new supplier against environmental criteria. Respectively: 1_{footer} 1_{report} 1_{trace} $1_{suppliers}$ are indicators of this group. D_i is, in turn, the number of shared data on the environmental impact of the capital group from all the 19 we asked.

The second indicator reflects the inclusion of environmental factors in a company's management model and goes into the main index with a weighting of 30%:

$$GC_i^2 = 25 * \mathbf{1}_{ISO14001}(i) + 25 * \mathbf{1}_{ISO14040}(i) + 25 * \mathbf{1}_{green}(i) + 25 * Z_i$$

where ISO14001 is all National Champions that use environmental management methods in accordance with ISO 14001 or similar, ISO14040 is the set of all National Champions that use LCA methods in accordance with ISO 14040 or similar and "green" is the set of all National champions that have issued green bonds. Respectively, $1_{ISO14001}$ $1_{ISO14040}$ 1_{green} are the indicators for this group. Zi is a qualitative variable showing the importance of the person responsible for the company's environmental impact inside the corporation. It assumes a value of 0 if the company has not specified such a person, 0.5 if the person responsible mainly performs other functions (e.g. CEO of the organisation or head of the PR department), 1 if it is someone at least at directorial level for whom this is their main task (e.g. director of an environmental policy department or head of EHS).

The third indicator reflects the degree to which a given company is close to an ideal/typical circular company. This indicator is included in the Green Champions Index with a weighting of 50%:

$$GC_i^3 = 40 * \left\{\min\left[\max\left(\frac{EE_i}{EE_k} - 0{,}1; 0\right); 100\right] + \min\left[\max\left(\frac{CC_i}{CC_k} - 0{,}1; 0\right); 100\right] + \min\left[\max\left(\frac{WC_i}{WC_k} - 0{,}1; 0\right); 100\right] + \frac{OZE_i^{EE}}{OZE_{max}^{EE}} + \frac{OZE_i^{heat}}{OZE_{max}^{heat}} + \frac{OWN_i}{OWN_{max}}\right\}/6$$
$$+40 * \left\{\min\left[\max\left(\frac{CO2_i}{CO2_k} - 0{,}1; 0\right); 100\right] + \min\left[\max\left(\frac{Waste_i}{Waste_k} - 0{,}1; 0\right); 100\right] + \frac{REC_i}{REC_{max}} + \max\left(1 - \frac{Sewage_i}{Sewage_{max2}}; 0\right)\right\}/4$$
$$+20 * \left\{\max\left(1 - \frac{Tobin_{i2019}}{Tobin_{i2018}}; 0\right) + 1 - \mathbf{1}_{fine}(i)\right\}/2$$

where EE_i is the consumption of electricity per unit of value added to the i of the company, EE_k is the consumption of electricity per unit of value added in the k section of the PKD to which the company belongs, CC_i is the consumption of hard coal and lignite calculated per unit of value added in the i of the company, CC_k is hard coal consumption per unit of value added in the k of the PKD section to which the company belongs, WC_i is water consumption per unit of value added in the i of the company, WC_k is water consumption per unit of value added in the k of the PKD section to which the company belongs, OZE^{EE}_i is the share of electricity obtained from renewable energy sources in the total electricity consumed in the i of the company, OZE^{EE}_{max} is the maximum value of this indicator in the tested sample companies, OZE^{heat}_i is the share of heating energy from renewable energy sources in the total heat consumed in the i of the company, OZE^{heat}_{max} is the maximum value of this indicator in the surveyed sample of companies, OWN_i is the share of electricity in the total thermal energy consumed in the i of the company that is generated within the whole capital group, OWN_{max} is the maximum value of this indicator in the surveyed sample of companies, $CO2_i$ is the emission of carbon dioxide per unit of value added in the i of the company, $CO2_k$ is the emission of carbon dioxide per unit of value added in the k of the PKD section to which the company belongs, $Waste_i$ is the mass of non-municipal waste generated in the company per unit of added value in the i of the company, $Waste_k$ tis the mass of non-municipal waste per unit of value added in the k of the PKD section to which the company belongs, REC_i is the share of waste intended for recycling (including intra-group) in total waste generated in the i of the company, REC_{max} is the maximum value of this indicator in the surveyed sample of companies, $Sewage_i$ is the amount of sewage discharged into the environment in terms of the i of the company, $Sewage_{max2}$ is the second highest value of this indicator in the surveyed sample of companies, $Tobin_{i2019}$ is the sum of all fees for the use of the environment in the i of the company in 2019, $Tobin_{i2018}$ is the sum of all fees for using the environment in the i of the company in 2018, $_{fine}$ is all National Champions that received an environmental penalty in 2019 and 1_{fine} is an indicator of this group.

For these calculations we used data from 2018-2020 based on questionnaires completed by capital groups, as well as Eurostat data on reference values for PKD divisions. In the cases of lack of data, the sub-index for the i of the company was zero.

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