



## FINAL REPORT ON CIRCULAR ECONOMY IN SLOVAKIA

### CONTENT

INTRODUCTION.....	2
METHODOLOGY.....	3
EXPERIENCIES OF COMPANIES.....	4
RONA LEDNICKÉ ROVNE.....	5
U.S.STEEL KOŠICE.....	9
VEOLIO ENERGIA SLOVENSKO.....	14
SEZ SLOVAKIA.....	18
INTERCABLE SLOVENSKO.....	22
CONCLUSIONS .....	25
KEY POINTS.....	29
LITERATURE.....	30



## INTRODUCTION

The project under the title *Addressing industrial relations towards circular economy in metal, chemical, textile, energy and construction sectors* (Project acronym: *TURN*) is dealt within the framework of in the context of the *Circular Economy Action Plan (CEAP)*, which is a comprehensive strategy aimed at promoting a more sustainable and circular economy in the European Union. Launched in March 2020 as part of the *European Green Deal*, the *CEAP* aims to reduce environmental impacts, promote sustainable growth and ensure long-term competitiveness.

The *Circular Economy Action Plan* promotes the design of products with longer life, greater durability and ease of repair, reuse and recycling. It also introduces requirements to improve the environmental performance of products throughout their life cycle. *The Action Plan* increases transparency and provides consumers with accurate information on the durability and reparability of products.

The *Circular Economy Action Plan* also promotes the use of environmental criteria in public procurement processes and encourages circularity in the value chains of key products. It focuses on extending the life cycle of electronic equipment and reducing e-waste, and promotes improved circularity in batteries and the automotive sector. It aims to ensure that all packaging can be reused or recycled by 2030, promotes sustainable production and recycling of textiles, reduces food waste and promotes resource efficiency in agriculture and food production. The plan also pays attention to waste management and aims to improve waste management systems, promote recycling, reduce the use of landfills and improve energy from waste processes.

The *TURN* project, following on from *this Action Plan*, aims, at the level of individual companies, to contribute to improving expertise and knowledge of industrial relations through analysis and research on the circular economy in industry sectors and from an international comparative point of view. The *TURN* project aims to mobilize the social partners and make employees aware that the production system is environmentally and nature friendly, and to provide them with the skills and information to engage in dialogue with the company's management.

Based on research reports from the participating countries, the project identifies convergences and divergences in the responsiveness of industrial relations systems established in EU Member States and candidate countries, which will contribute to the development and strengthening of the quality and effectiveness of industrial relations structures and processes in Member States and in Europe as a whole.

The submitted report on situation in Slovakia is structured as follows: The first part briefly describes the objectives of the survey and its methodology. The second part presents a case study analysis of the five firms in Slovakia that were sampled. The third section presents a synthetic summary of the findings, according to the research questions addressed by the project.



## METHODOLOGY

The objectives of the research were as follows:

- ✓ To ascertain the current status and identify the existence and extent of circular economy and environmental management in Slovak companies.
- ✓ To highlight examples of good practice that can serve as inspiration for other companies.
- ✓ Promote cooperation, encourage other companies to implement similar strategies by sharing positive examples and experiences.

The methodology of the research was based on qualitative analysis, which was carried out in three steps:

The first step was an online questionnaire. Trade unions in all companies cooperating with the *Confederation of Trade Unions in Slovakia (Konfederácia odborových zväzov, KOZ)* were contacted. The questionnaire contained three questions aimed at ascertaining the presence of circular economy and environmental management strategies in individual companies. Responses were received from the 46 companies surveyed. This list provided an initial overview of current status of circular economy/environmental management practice and strategies.

The second step was the narrower selection of companies for the research sample. From the 46 responses, we selected 17 companies that, according to the questionnaire responses, exhibited the most comprehensive and advanced strategies in the area of circular economy and environmental management.

The third step was the selection of the top 5 companies for in-depth research. Out of the 17 companies, we selected those five that not only had comprehensive environmental policies but also had good industrial relationships, which could serve as an example for the others.

We conducted in-depth interviews with union representatives in these five companies. The interviews were conducted online via Microsoft Teams and by phone and lasted approximately 30 minutes to an hour. These interviews provided deeper insight into the specific practices and experiences of the companies in question. Findings from these interviews have been incorporated into the case studies we present below. To get a comprehensive picture of the situation in the company, the interviews were supplemented with information about the company from publicly available sources. In several cases, information about the companies was supplemented by short interviews with actors, at national level, who were familiar with the current measures and policies in the field of the environment (actors from the Ministry of the Environment).

This systematic approach helped to ensure that the survey was representative and provided good quality and relevant information about circular economy and environmental management practice.

The companies selected for qualitative analysis included: U.S. Steel Košice; Intercable Slovakia a.s.; Veolia Energia Slovensko a.s.; SEZ Krompachy a.s. and RONA. a.s.



## **EXPERIENCIES OF COMPANIES (CASE STUDIES)**

In the following section, we present an analysis of a case study of five firms in Slovakia, giving weight to the perspective of trade union representatives in the analysis. The analysis delves into various aspects of companies' operations and outcomes related to their transition towards sustainability and circular economy practices.

By examining these firms in detail, we aimed to highlight their individual approaches to mainstreaming the green strategies, the challenges they faced, the successes they achieved, and the lessons learned from their experiences. This case study analysis not only provides valuable insights into the specific practices and innovations adopted by these firms but also offers a broader understanding of how Slovakian enterprises are contributing to the European movement towards more sustainable and environmentally-friendly business practices.



## RONA LEDNICKÉ ROVNE

<b>Name of company</b>	RONA LEDNICKÉ ROVNE
<b>Sector</b>	chemical
<b>Main activity</b>	manufacturer of lead-free crystalline drinking glass
<b>Number of employees (app.)</b>	1,000
<b>European Work Council</b>	No

### INFORMATION ABOUT THE COMPANY

The glassworks in Lednické Rovne is one of the world's leading producers of lead-free glass known as crystalline. The RONA glassworks trades with a wide range of customers from all over the world and provides them with services related to the development, production and servicing of beverage glass for households, hotels, restaurants, as well as for airline and shipping companies. Machine and handmade cups and glasses cover the core of the product range.

The glassworks were founded in 1892 by the entrepreneur Jozef Schreiber as the last and largest glassworks of the Viennese company Schreiber und Neffen, which had the most modern technical equipment for its time. The glassworks in Lednické Rovne is the most successful Slovak glassworks in history.

In 1896, the glassworks in Lednické Rovne introduced the pantograph etching technology, following the example of English production, as the first on the continent. In the 1940s, the glassworks cooperated with professional artists Vincent Hložník and Martin Benka in the creation of decors.

From the beginning, the glassworks' product range was very wide and varied. It included as if historical often richly decorated pieces, while the functionalist period saw the development of simple, elegant glasses and shapes, which were mainly made of clear, plain glass and which were completely in keeping with the principles of this minimalist style. These lines were further emphasized and developed with the patenting of a new handmade technology, the so-called drawn foot, in 1956, which is still one of the iconic features of Lednické Rovne glassware. In 1998, the composition of the glassware changed to lead-free crystalline and an automatic line for the production of vases, decanters and bowls using machine-blown technology was put into operation. In 2009, the manual production was modernized by building 3 new cells for manual production and connecting them to the melting unit for the automatic line, which maintains the energy efficiency for the company's manual production in the future.

In 2016, automatic quality control was introduced on the automatic lines, which ensures the increase of quality standardization for the benefit of the customer. At present the company is undergoing a process of modernization and decarbonization and with the support of 28 million from the state, it is to implement various projects between 2023 and 2030.



## **RELATIONSHIP BETWEEN TRADE UNIONS AND COMPANY MANAGEMENT**

RONA Inc., which is engaged in the research, development, production, refining and sale of utility glass, is characterized by good relations between management and the trade unions. This aspect is very important for the overall working climate and efficiency of the enterprise. Good relations between management and the trade unions mean that there is effective communication, cooperation and problem-solving, which can contribute to increased employee satisfaction and motivation, as well as to the stability and productivity of the enterprise.

At RONA Inc., the trade unions have approximately 150 members, which represents about 15% of the total 1,000 employees. Membership indicates a certain level of employee interest in the union and collective bargaining. While this is not a high proportion, it still provides a sufficient base for unions to effectively represent their members and bargain with management. Good relations between management and the union suggest that even a smaller number of trade unions members can have a strong influence. This can be the result of effective and constructive dialogue between the two parties. Union membership also provides protection and support for employees, which is important for solving work problems, protecting working conditions and negotiating wages and benefits.

The company's trade unions are a member of the KOVO trade union. The KOVO union is one of the largest trade unions in Slovakia, representing employees working in a variety of industries, including metalworking, engineering and others. Membership in this union gives employees access to support and protection of their rights.

The RONA enterprise's trade union is not a part of the European Works Councils (EWCs), which are permanent bodies that facilitate information and consultation with employees, focusing on transnational issues, as provided for in the 1994 European Works Council Directive (Directive 94/45/EC, updated by Directive 2009/38/EC). EWCs are the bodies at European level that represent the interests of employees at enterprise level.

We have mentioned that RONA Inc., can be characterized by good relations between the company and the trade unions. Good relations between management and the trade union bring several benefits - they reduce the risk of labor conflicts, strikes and other destabilizing events. Satisfied employees are often more productive, which can have a positive impact on overall business performance.

In summary, good relations between management and the union at RONA Inc. are a key factor in maintaining a positive working atmosphere in firm and ensuring the long-term success of the business.

## **TOWARDS GREEN POLICIES IN THE COMPANY**

The company Rona Inc. has ISO 9001 & ISO 14001 management systems. The scope of certification is applied to research, development, production, refining and sale of utility glass. ISO 9001 and ISO 14001 are two of the most well-known and widely used international



standards for management systems. These certifications ensure that the company meets internationally recognized standards for quality and environmental management.

ISO 9001 is the standard for quality management systems (QMS). The main objective of ISO 9001 is to ensure that organizations deliver products and services that meet customer and legislative requirements, while at the same time striving for continuous improvement of their processes.

ISO 14001 is the standard for environmental management systems (EMS). It aims to help organizations minimize the negative impact of their activities on the environment and comply with applicable legislation. The main elements of ISO 14001 include an organization's commitment to environmental protection, identification of environmental aspects and impacts, setting objectives and programs, and implementing procedures and controls to achieve the set objectives.

The scope of certification for RONA Inc., which is involved in the research, development, manufacture and sale of utility glass, means that all of these activities are covered by quality and environmental management systems that are certified to ISO 9001 and ISO 14001. This means that the company has established quality management systems in place at all stages of its activities, from research and development to sales. Certification to these standards helps to increase customer and partner confidence in the company's ability to deliver quality products while being environmentally responsible.

At a very practical level, the company RONA Inc., had switched to lead-free crystalline glass in 1998, eliminating environmentally damaging production that used a lot of acids, while production waste had to be neutralized with lime and the effluent had to be exported.

The company had several other green projects in the 2020s:

Project Reduction of energy consumption in RONA Inc. - Phase II of the project. The aim of this project has been to reduce energy intensity at RONA Inc. through the implementation of two measures: Reconstruction and Modernization of the Lighting System and the Modernization and Reconstruction of the Outdoor Lighting Systems of the Industrial Areas.

The project Reduction of energy consumption in RONA Inc. Stage 3 aims at the insulation and reconstruction of facades and roofs of administrative buildings and the production hall.

The project Reduction of energy consumption in RONA Inc. 3rd stage Logical unit 2 aims at increasing the energy efficiency of compressed air production.

## **CIRCULAR ECONOMIC POLICY IN THE COMPANY**

The issue of energy and energy efficiency is key for the company. Since year 2022 the company has had special workplace and an energy office, which covers everything related to energy savings regarding electricity, lighting, heating but also construction systems. In 2023, the company converted the lighting operation to a less energy-intensive one.

In terms of the company's circular economy, the company operated a system to heat a local housing estate using waste heat from the company. However, the costs were quite high and the municipality no longer wanted to participate, so this cooperation ended about 15 years ago.





At the same time the company switched from solid fuel (coal) to gas. The cooperation with the municipality in the field of waste heat has therefore come to an end.

The company's standard recycling of waste takes place in the form of separate collection of waste in separate collection bins. The company has also set up a waste sorting centre and employs an expert technician to handle the sorting. The trade union is also involved in the control of waste sorting as part of the occupational safety measures.

The company uses waste material - glass shards - as input material for further production. The company recycles these shards and, in addition, supplies those shards that are not consumed for further production to other companies, even abroad, in France.

## **THE FUTURE OF GREEN POLICIES IN THE COMPANY**

From a trade union point of view, a green policy is a good thing, especially because of the climate change that is happening and that is being felt by all workers. There are enormous temperatures in the glassworks and, especially at the furnaces, the temperature can reach up to 74 degrees Celsius. Workers who load raw materials into the furnace are exposed to health risks as a result of these high temperatures. The trade union is therefore also advocating measures to reduce temperatures in the workplace, for example by promoting the installation of green roofs. Improving working conditions is therefore directly linked to green strategies and green energy management.

Green technologies and new technologies will not result in job cuts from a trade union perspective. Some of the products that the company produces are made as in the 19th century, because the traditional old glass production was based on manual labour. The company produces utility glass, which could be described as a product in the upper-middle-class segment. This means that cheap products from China or Turkey do not directly threaten the company's competitiveness, because its products are of higher quality and are deliberately produced using more traditional processes.

However, new automatic machines are now being used in the glass-grinding process, which used to be carried out manually in the past. There has also been some modernization, for example in the way products are packaged, where robots are used.

The company's costs are not increasing because of green projects, but rather because of various unpredictable geopolitical situations. Currently, for example, ships carrying goods have to avoid the Red Sea because of pirates and have to circumnavigate Africa, which increases shipping costs. Green projects protect the environment but do not compromise a company's competitive position.

Ordinary workers in the company do not feel threatened by new environmental technologies, quite the opposite. Some of these jobs are based on heavy manual labor, the company has a four-shift operation, and although it offers various benefits to workers, it is quite difficult to require workers to work on Saturdays, Sundays and holidays. So new technologies could only make work easier. However, the production process can only be robotized to a certain extent because the company operates in the manual product manufacturing segment.



<b>Name of company</b>	U.S. STEEL KOŠICE
<b>Sector</b>	metallurgy
<b>Main activity</b>	mainly steel and sheet metal are produced
<b>Number of employees (app.)</b>	7, 600
<b>European Work Council</b>	Yes

## INFORMATION ABOUT THE COMPANY

United States Steel Corporation is a global steel producer that combines the technologies of an integrated blast furnace, basic oxygen furnace, and recycling mills to produce steel products. U. S. Steel Košice is the largest integrated steel producer in Central Europe.

The company has a history that dates back to the middle of the 20th century. On the basis of a government decision of socialist Czechoslovakia, the founding deed establishing the national enterprise Východoslovenské železiarne was signed on 1 April 1959. On 4 January 1960 the construction of the metallurgical combine began. In 1965, one of the largest investment actions was completed - the construction of blast furnace No.1, which melted the first iron on 2 June. In the following decades, the company became one of the largest steel producers in Central Europe.

From 15 November 1990 the enterprise became a joint stock company and in 1991-1992 Východoslovenské železiarne was part of the 1st wave of coupon privatization. After the political and economic changes in the 1990s, Východoslovenské železiarne encountered financial problems and had to look for a strategic partner. In 1995, Východoslovenské železiarne Inc. became an associate member of Eurofer - the European Confederation of Iron and Steel Producers. On 24 November 2000, United States Steel Corporation became the 100-percent owner of the Košice Iron and Steel Works.

Since then, U.S. Steel Košice has continued to modernize production, investing in new technologies and environmental projects to ensure the competitiveness and sustainability of production. The company plays an important role in the regional economy and employs thousands of people.

U. S. Steel Košice is also one of the founding members of the Business Leaders Forum, an informal association of companies which has been systematically promoting the principles of corporate social responsibility in Slovakia since 2004. The extensive ethics and compliance program, which builds on that of parent company United States Steel Corporation, is based on the S.T.E.E.L. principles and promotes a strong ethical culture characterized by transparency, accountability, fairness and respect.



## RELATIONSHIP BETWEEN TRADE UNIONS AND COMPANY MANAGEMENT

The trade unions in U. S. Steel Košice, which are formally called the Basic Organization of the Trade Union KOVO (OZ KOVO) of U. S. Steel Košice, are part of OZ KOVO. This membership enables them to benefit from the benefits and support of OZ KOVO and also to participate actively in the activities and decision-making within this trade union.

OZ KOVO is the largest trade union in Slovakia, which brings together trade unions operating in various sectors of industry, including metallurgy, engineering and other sectors of the metalworking industry.

The Trade Union KOVO of U. S. Steel Košice is formally divided into 12 organizations, with 12 union presidents, which are governed by what is known as a Union Council. Not all union presidents are exempt for the performance of their Trade Union duties, according to *The Labor Code*. Five are not exempt but the others are exempt, that is, they are inactive employees. In addition to the Trade Union KOVO there are independent Christian Trade Unions in the company, with which there is very constructive cooperation. The two unions always go into social bargaining together.

The relations between the company management and the trade unions can be described as constructive and good. U.S. Steel Košice currently has 7 800 active employees and 62 % of these employees are organized in the Trade Unions. This means that the company has an extremely strong union organization, even in international comparison. The Trade Union commitment of the employees stems from history, labor traditions and is also the result of promotion of the trade union work. This means that the Trade Union is a respected social partner and negotiations with management are always conducted with all the tools available under the Collective Bargaining Act. Thus, the primary role of the Trade Union in the company is to do constructive social dialogue.

European works councils (EWCs) are standing bodies that facilitate the information and consultation of employees with a focus on transnational issues. They are intended for multinational companies and employing at least 1 000 employees.

U. S. Steel Europe has a European Works Council where, indirectly, Slovak employees are represented. OZ KOVO U. S. Steel Košice can be therefore be considered part of the EWC body, which ensures that employees are informed and consulted on company-wide issues at European level. Participation in the EWCs enables the union to receive timely and relevant information on the company's plans and strategies that may affect employment and working conditions. This participation enables employees at U.S. Steel Košice to be better informed and involved in consultations at European level, which is important for the protection of their rights and the improvement of working conditions.

One of the negative processes associated with the transformation of the economy is the decline in the number of employees and this also means a decline in the union membership base. When the investor U. S. Steel arrived in 2000, there were 16 600 people directly employed in the steel mills. From 2000 to 2019 the job reduction was gradual and the number of workers fell to 12 000 As a result of accelerated transformation, decarbonization and digitalization, the job reduction has accelerated since 2019 and only 7 600 workers are employed at U. S. Steel Košice in 2023.



As an illustration of how the process of job cuts is taking place, let us take the following example. At the entrance to the factory site there is a reception desk where four-member security personnel used to work. Two staff members were behind the counter, one staff member manned the ramp people could get in, and one staff member made the rounds of the buildings that were part of their job duties. Today there is only one security staff employee because the gate is automated and there are ubiquitous cameras installed everywhere.

Digitalization, however, is important for a company's competitiveness and there are also forms of cost reduction that take place directly in metallurgical production, and this means that digitalization will certainly be reflected in production processes over time and might further reduce the number of jobs.

## TOWARDS GREEN POLICIES IN THE COMPANY

The issue of environmental protection was and is one of the basic strategic goals of U. S. Steel Košice. Historically, the environmental management system (SME) according to ISO 14001, which includes all activities and requirements to achieve the set objectives, has played an important role in this respect.

An environmental management system (SME) is a structured framework that organizations use to manage and improve their environmental performance. It is designed to help organizations identify, manage, monitor and control their environmental performance and to ensure compliance with relevant environmental laws, regulations and other requirements.

Simultaneously with the adoption of ISO 14000 series standards into the standardization system of the Slovak Republic, activities for the application of the SME model according to ISO 14001 were initiated at Východoslovenské železiarne Inc. as early as in 1996 with the aim of its gradual international certification. Compliance with international standards, after the takeover of the company by U.S. Steel Corporation, confirmed by a certificate, makes the reputation of U.S. Steel and contributes significantly to the satisfaction of its own employees.

The QMS Department and the GM Environmental Department play an important role in the construction, development and certification of SME, carrying out lecturing, consulting and auditing activities in the field of QMS and SME.

U. S. Steel Košice is currently drawing funds from *the Operational Program Environmental Quality* of the *European Structural and Investments Funds* for several projects to improve the quality of the environment:

Emission Control for Ore Bridges; Dust-Reduction of Agglomeration; Dust-Reduction of OC2 - out-of-furnace desulphurization; Dust-reduction of coke service VKB1; Dust-Reduction of ends of chopping belts; Dust-Reduction of Coal Preparation Plant.

For example, the aim of the project *Emission Control for Ore Bridges* is to significantly reduce the emissions of particulate pollutants discharged from the stacks of the Ore Bridges, the Sintering Station of the Sintering Plant and the Ore and Coke Sorting Plant, thus achieving even a higher level of environmental protection than the standards set by the European Union as described in *the Best Available Technology (BAT) Conclusions*, which will contribute to a significant improvement in air quality. At present, dust from these large sources of air pollution is extracted and collected in five electrostatic precipitators, each with a separate stack to



discharge the cleaned air. The sources in question comply with both Union and Slovak Republic standards, such as the requirements for a structurally enclosed building and the extraction of dusty air into a filtration plant. However, the current technical solution does not allow further significant reduction of particulate emissions and their elimination to such an extent that it would contribute to the improvement of the emission situation of the Košice region. Therefore, the basic objective of the project is to achieve an even higher level of environmental protection than the BAT Conclusions. Through the implementation of the proposed project, a significant annual reduction of emissions will be achieved. The ultimate benefit of the project will thus be an improvement in the quality of the environment, an improvement in the living conditions of the inhabitants in the affected region and an improvement in the health status of the inhabitants of Košice and the adjacent region.

## **CIRCULAR ECONOMIC POLICY IN THE COMPANY**

U. S. Steel Košice, as one of the largest steel mills in Central Europe, is taking various steps to implement a circular economy in line with the intentions of the Circular Economy Action Plan (CEAP) of the European Union. The circular economy focuses on minimizing waste and maximizing the use of resources through recycling, reuse and recovery of materials. CEAP is the European Union's strategic plan to promote the transition to a circular economy in order to reduce the environmental impact of production and consumption.

U. S. Steel Košice recycles a significant amount of steel products. Steel is one of the most recyclable materials and the company focuses its efforts on maximizing the recycling of scrap steel within its production process. The union officially supports these recycling and circular economy policies within the Company.

U. S. Steel Košice strives to optimize its production processes to reduce energy consumption. In doing so, it contributes to reducing greenhouse gas emissions and improving the sustainability of its operations. The company is also implementing measures to minimize waste generated during steel production. This waste is often treated and reused in other contexts. U.S. Steel Košice also uses by-products from steel production, such as slag, which can be used in construction or cement production. The company invests in research and development of new technologies that promote resource efficiency and reduce environmental impact. This includes new methods of recycling and waste treatment.

Although U.S. Steel Košice is making significant steps towards a circular economy, it still faces challenges related to the costs of implementing new technologies and adapting to strict environmental regulations. To fully comply with the CEAP's intentions, the company intends to continue to invest in innovation and collaboration with regulators and industry partners.

## **THE FUTURE OF GREEN POLICIES IN THE COMPANY**

According to the Trade Union representatives, the steel market is insufficiently protected in the EU. One of the main problems is the import of cheap steel from outside the EU, especially from China. China has excess production capacity and often exports steel at prices below the cost



of production, which is called dumping. These dumped imports can seriously harm domestic steel producers in the EU, which cannot compete with such low prices.

EU steel producers thus face higher production costs due to strict environmental and safety regulations. The EU places great emphasis on reducing CO<sub>2</sub> emissions and protecting the environment, which increases the cost of steel production. These costs can be lower for producers in other countries, thus putting European steel at a competitive disadvantage.

Ambitious EU climate targets, such as the Green Deal, can increase costs for industry, including steel production. The implementation of technologies to reduce emissions and switch to cleaner energy sources is costly and may create further competitive disadvantages for producers in countries where such measures do not exist.

One of the problems is the slow flow of information and the fact that the European Union receives industrial information quite late, 'off-line' and not in real time 'online', and this is the big problem. The EU does impose anti-dumping tariffs and other protective measures, but these may be insufficient or come too late. Also, the approval process for these measures can be lengthy and bureaucratic, allowing importers to exploit loopholes in market protection.

Trade relations between the EU and other countries, such as the US or China, are often the subject of political disputes and trade wars. Uncertainty in trade policy and unpredictable changes in tariffs or quotas can have a negative impact on the stability of the steel market.

These factors contribute to making the EU steel market vulnerable and insufficiently protected against external pressures. A comprehensive and coordinated effort by the European institutions is needed to address these problems, including strengthening safeguards, promoting innovation and streamlining regulatory processes.

However, U. S. Steel Košice is ready for the decarbonization process, and has prepared the so-called integrated plant process, i.e. it is modifying the production processes so that iron ore is not used as a basic raw material. This process has been prepared administratively, the European Commission and the government have both approved the process and allocated EUR 660 million from the euro funds, but the process has now been interrupted because the purchase of the steelworks by a company from Japan is being negotiated. The Japanese companies interested in buying out U.S. Steel Košice are considering strategic advantages such as expanding their operations in Europe, gaining access to new markets and technologies, and synergies with their existing operations. Decarbonization is therefore a complex process that requires significant financial, technical and administrative resources. For companies such as U.S. Steel Košice, therefore, drawing down large financial resources for this decarbonization purpose is associated with a number of challenges and obstacles to overcome.



## VEOLIA ENERGIA SLOVENSKO

<b>Name of company</b>	VEOLIA ENERGIA SLOVENSKO
<b>Sector</b>	energy
<b>Main activity</b>	water management, waste management and energy management
<b>Number of employees (app.)</b>	660
<b>European Work Council</b>	No

### INFORMATION ABOUT THE COMPANY

Veolia Energia Slovensko, a member of the French multinational group Veolia, is a leading company in Slovakia in the provision of energy services. Veolia Energia is a leader in providing services in the following areas: water management, waste management and energy management. The French company Veolia is a 100% shareholder of Veolia Energia Slovensko. Thanks to this strong shareholder, Veolia Energia Slovensko benefits from a number of joint activities in the areas in which the Group operates.

Veolia has a 160-year tradition and is a global leader in optimized resource management. It provides water, waste and energy management solutions that contribute directly to sustainable development and competitiveness. It helps to develop access to, conservation and replenishment of resources through the aforementioned strategic business areas. In Slovakia, Veolia Energia Group companies are among the main leaders in the operation of central heat supply systems, in the production of electricity using cogeneration technology and in the provision of energy efficiency projects aimed at saving energy for both the public and private sectors. An important part of their portfolio is multi-services for industrial clients and the provision of industrial services linked to the production of vehicles.

Veolia Energia Slovensko, a. s. and its subsidiaries, which together form the Veolia Energia Group, have been operating in Slovakia since 1993. It has a total of 663 employees and supplies heat to 22 Slovak towns and municipalities. It also provides services in 6 industrial zones.

Compliance with ethical and legal standards, zero tolerance of corruption, discrimination and anti-competitive behavior are consistently among Veolia Group's priorities, as they are the basis of the trusting relationship Veolia maintains with its employees, shareholders, partners and customers, as well as with all its stakeholders.

### RELATIONSHIP BETWEEN TRADE UNIONS AND COMPANY MANAGEMENT





Within the Veolia Energia Slovensko there are several subsidiaries and five basic trade union organizations, which are represented by the OZ KOVO Trade Union, one of the largest trade unions in Slovakia, representing employees working in various industrial sectors. These individual basic organizations then negotiate with the management of the company on working and social conditions in a unified manner. Five union presidents negotiate with the company management.

The relations between the management of Veolia Energia Slovensko and the Trade Union organizations can be considered good and constructive.

Until 31 December 2023, the trade unions were part of the European Works Council (EWC). As the number of employees has fallen below the designated limit, they currently have no representative in the EWC.

## **TOWARDS GREEN POLICIES IN THE COMPANY**

As far as environmental management in the company is concerned, this is covered by the QHSE department. Communication in the company is mostly by e-mail or through the company newsletter. The trade unions do not deal directly with environmental issues or circular economy and waste recycling, they leave it to the employer as they think that the company management is sufficiently involved.

On a regular basis in June, there is always an Eco-Week, in which an interesting topic is chosen. Information is emailed to the employees and this education is combined with an outing.

The company tries to reduce emissions by buying the boilers with the latest emission technologies. The company has boiler houses that are even already below the standard required by current legislation, so the company is prepared for the strictness of any possible laws on emission standards.

Veolia Energia Slovakia has defended the certification of quality management systems according to ISO 9001, environmental management according to ISO 14001, occupational health and safety management according to ISO 45001, energy management according to ISO 50001 and anti-corruption management system according to ISO 37001. In addition to these management systems, the company has been certified for the processing and protection of personal data in accordance with the General Data Protection Regulation (GDPR).

## **CIRCULAR ECONOMIC POLICY IN THE COMPANY**

Veolia Energia actively participates in the European Union's commitment to ensure the use of renewable energy sources up to 20% of total primary fuels by 2020, to save 20% of CO<sub>2</sub> production and to reduce energy intensity by 20%. Renewable energy sources are part of the solution in the effort to increase the energy and environmental efficiency of thermal installations. Renewable sources contribute to energy self-sufficiency, reduced dependence on natural gas supplies, the creation of new jobs in the region and, last but not least, a positive impact on the environment through reduced CO<sub>2</sub> emissions. The company is committed to waste minimization or the effort to use waste as if from one process to another process.





Most of the company's heat production to date has been via gas but it is currently switching to new alternatives.

In 2010, Veolia Energia Slovensko in cooperation with the Bratislava-Petržalka municipality, launched a pilot project for the use of solar energy to preheat domestic hot water in solar collectors. 70 solar panels are installed on the roof of a primary school building in Slovakia's largest housing estate Petržalka, supplying heat to 309 surrounding apartments connected to the circuit.

Veolia Energia started burning biomass in 2004. Currently, biomass is used for heat and hot water production in the Lúky housing estate in Vráble and in Žiar nad Hronom. In Eastern Slovakia Veolia Energia operates 14 biomass boiler houses burning wood chips and sawdust. The wood chips and sawdust come from wood residues, cuttings, coppice, from own production of fast-growing trees and from damaged wood.

Veolia Energia uses cogeneration units in its energy plants. Cogeneration (combined heat and power) is a technology that enables the efficient use of fuels by simultaneously producing electricity and heat, leading to higher energy efficiency and reducing greenhouse gas emissions.

CHP units achieve higher efficiency compared to traditional stand-alone electricity and heat generation plants because they use heat that would otherwise be lost. Efficient use of fuels leads to lower emissions of CO<sub>2</sub> and other harmful substances. Combined heat and power generation can reduce operating costs and increase the economic efficiency of energy systems.

Veolia Energia Slovensko operates several cogeneration units in various locations in Slovakia. These units are part of their commitment to improving the energy efficiency and sustainability of their operations. CHP systems are often used in industrial parks, hospitals, residential complexes and other facilities where a stable and efficient source of heat and electricity is needed.

Veolia operates cogeneration units within its Bratislava operations, providing heat and electricity to city districts and industrial zones. In Košice, Veolia has also implemented CHP units to improve energy efficiency and ensure a reliable energy supply.

Veolia's plants can not only produce heat, but also generate electricity, which they feed back into the grid for the Western Slovakia Power Company. At the same time, the company is now switching to a heat pump system.

## **THE FUTURE OF GREEN POLICIES IN THE COMPANY**

The introduction of green technologies in the energy sector, where Veolia Energia Slovensko operates, can have diverse impacts on employment. While there are concerns that the transition to more sustainable and efficient technologies may lead to job losses, the reality can be much more complex.

The transition from traditional energy sources such as fossil fuels to new technologies such as heat pumps may mean a reduction in the demand for jobs associated with the operation and maintenance of older facilities.



On the other hand, new technologies create new jobs in areas such as the development, production, installation and maintenance of renewable energy sources, energy efficiency and smart grids. The transition to green technologies often requires new skills and qualifications, which can lead to new training and career development opportunities for existing employees, but also to a demand for new specialized employees. This is also evident in Veolia's transition to heat pumps.

Due to the specificity of Veolia's activities, also employees and trade unions do not feel worried in the context of competition from countries such as China or other Asian countries. Heat production, but also other activities of the company, is always tied to a specific location, which cannot be changed.

The introduction of green technologies in the energy sector, where Veolia Energia Slovensko operates, can bring both positive and negative impacts on employment. While some traditional jobs may be at risk, new opportunities are emerging in areas related to renewable energy, energy efficiency and innovation. It will be key for Veolia and employees to be prepared for these changes through training and adaptation to new technologies.



## SEZ KROMPACHY

<b>Name of company</b>	SEZ KROMPACHY
<b>Sector</b>	energy
<b>Main activity</b>	electrical equipment & controlling electrical circuits
<b>Number of employees (app.)</b>	300
<b>European Work Council</b>	No

### INFORMATION ABOUT THE COMPANY

SEZ Krompachy Inc. with 76 years of tradition, is a manufacturer of complex low and high voltage electrical equipment for fusing and controlling electrical circuits, including protection against electric shock.

SEZ Krompachy was founded in 1950. Its original activity was focused on the production of electrical equipment. After the fall of state socialism in 1989 and during the privatization process, the company was transformed into a joint stock company and continued to modernize its production facilities and product portfolio.

SEZ Krompachy specializes in the manufacture of various types of electrical equipment and components, including circuit breakers and fuses. It manufactures various types of protective devices to interrupt the electric current in case of overload or short circuit.

It focuses on the production of electrical switchgear, enclosure systems for power distribution, control and signaling equipment, indicators used in industrial applications, connectors and accessories, and components for connecting and joining electrical circuits.

The company has its own manufacturing capabilities, which include advanced technologies for the production of metal components, plastic parts, moulds and tools, as well as surface treatment, welding and assembly technologies.

The in-house development capacities, the company's testing room and cooperation with universities provide the prerequisite for permanent innovation of products according to the needs of customers and in accordance with the requirements of international standards.

SEZ Krompachy supplies its products mainly to the Slovak market, where it has a stable position. The company also exports its products to several countries, thus ensuring its international presence and diversification of its business activities.

### RELATIONSHIP BETWEEN TRADE UNIONS AND COMPANY MANAGEMENT



SEZ Kropachy employs a significant number of workers in the region and contributes to the development of the local economy. The company also focuses on social responsibility and sustainable development, supporting various community and charity projects.

The company employs approximately 300 employees, of which about 30% are members of a trade union. The union is part of the KOVO union. The proportion of trade unionists is slowly decreasing because young workers are not so interested in union work. The level of membership fees also plays a role, especially for low-income groups of employees. Relations between management and the trade union at SEZ Kropachy could be described as very good even exemplary. These are key to the overall success of the enterprise.

There is good communication and cooperation between management and the union and employees feel more supported. This leads to better morale and higher engagement. As unions play a key role in ensuring safe working conditions, working with management on these issues reduces the number of workplace accidents and illnesses. Open and effective communication between management and unions in the company also leads to faster problem solving and improved work processes.

Trade unions contribute to innovation and improvement, including in the area of waste recycling, by providing suggestions and feedback directly from employees working on production lines or providing services.

Trade unions and management work together on a long-term strategy for the company that takes into account the interests of both employees and owners, ensuring sustainable growth and stability. As a result, SEZ Kropachy a.s., with good relations between management and the trade unions, has a good reputation, which attracts new employees.

Good relations between management and the trade union are the basis for creating a positive working environment that promotes productivity, efficiency and long-term stability of the company. These relationships are based on trust, communication and cooperation, and investing in building and maintaining them is therefore essential to the success of the business.

## **TOWARDS GREEN POLICIES IN THE COMPANY**

The company has consistently adhered to strict environmental management protocols to ensure compliance with environmental regulations and to promote sustainable practices. This comprehensive approach includes rigorous monitoring and controlling of emissions to minimize air and water pollution, implementing effective waste management systems to reduce landfill contributions and enhance recycling efforts, and optimizing resource utilization to ensure efficient use of materials and energy. These measures collectively help the company to mitigate its environmental footprint and contribute to long-term sustainability goals.

To validate and enhance its commitment to quality and environmental standards, the company has obtained numerous certificates from independent accredited testing laboratories located in Slovakia, the Czech Republic, England, Ukraine, and Germany. These certifications not only demonstrate the company's dedication to maintaining high standards but also provide assurance to customers and stakeholders about the reliability and safety of its products and processes.



The company holds the prestigious EN ISO 9001:2015 quality management system certificate, which underscores its commitment to delivering products and services that consistently meet customer and regulatory requirements. This certification highlights the company's focus on continuous improvement, operational efficiency, and customer satisfaction.

Additionally, the company is certified with the EN ISO 14001:2015 environmental management system certificate. This certification reflects the company's proactive approach to environmental stewardship, ensuring that its activities and processes are aligned with international standards for environmental protection. The main elements of this certification include the identification and management of environmental aspects and impacts, setting and achieving environmental objectives, and maintaining procedures and controls to minimize negative environmental impacts.

In the opinion of the union representative, certificates are an absolute necessity because the company also has customers abroad.

## **CIRCULAR ECONOMIC POLICY IN THE COMPANY**

SEZ Krompachy has shown a commitment to sustainable practices and the principles of a circular economy. The circular economy concept involves reusing, repairing, refurbishing, and recycling existing materials and products to extend their lifecycle and minimize waste.

SEZ Krompachy aims to minimize waste generation and maximize the reuse of materials within its production processes. This includes utilizing by-products and scrap materials as inputs for further production, thereby reducing the need for raw materials and lowering waste disposal requirements.

The company focuses on recycling materials whenever possible. This includes metal scrap, slag, and other by-products of the metallurgical processes. Recycling these materials helps in conserving natural resources and reducing the environmental impact of production.

SEZ Krompachy implements energy-efficient technologies and practices to reduce energy consumption. Efficient use of energy not only lowers operational costs but also decreases the environmental footprint of the company's operations.

Continuous improvement and innovation in production processes help in enhancing the efficiency and sustainability of operations. SEZ Krompachy invests in research and development to find new ways to utilize waste materials and improve production methods.

SEZ Krompachy integrates circular economy principles into its operations by focusing on waste reduction, recycling, and energy efficiency. By using waste from the production process as an input for subsequent production processes, the company not only improves its environmental performance but also enhances resource efficiency and sustainability. This approach aligns with global trends towards more sustainable industrial practices and contributes to the long-term viability of the metallurgical sector.

## **THE FUTURE OF GREEN POLICIES IN THE COMPANY**



SEZ Kropachy, like many other European metallurgical companies, faces challenges from both the *EU Green Deal* and competition from China. The EU Green Deal is a comprehensive plan aimed at making the European Union climate-neutral by 2050. It involves a range of policies and measures that could impact industries like metallurgy.

The green policies impose more stringent emissions and pollution standards. SEZ Kropachy may need to invest heavily in new technologies and processes to comply with these regulations, which can be costly. This might increase operational costs for SEZ Kropachy if it relies on carbon-intensive processes. While SEZ Kropachy already is implementing circular economy principles, it will need to accelerate and expand these efforts to align with national decarbonization goals.

Regarding the international competition China is a major player in the global metallurgical market, and competition from Chinese producers poses several threats. Chinese companies often have lower production costs due to cheaper labor, subsidies, and less stringent environmental regulations. This allows them to offer steel products at lower prices, making it difficult for SEZ Kropachy to compete on price alone. can erode market share for European producers, this can lead to reduced sales and revenue. However, the company has no problems the influx of cheaper Chinese steel into the European market, such as U.S. Steel.

Chinese products are of inferior quality, as the professional public knows. For example, when technologically demanding constructions, such as high-rise buildings, are built, Chinese components are not used. These are used by individual customers, for a house or a cottage, because it is the end price of the product that is attractive to them, not the quality.

What is important to mitigate threats from competition from Asia is that SEZ Kropachy needs to continuously innovate and maintain high-quality standards to differentiate itself in the market. By investing in cleaner and more efficient technologies, SEZ Kropachy can reduce its environmental footprint and comply with the environmental regulations, potentially gaining access to funding and incentives aimed at green transitions.

Improving operational efficiency and reducing costs through lean manufacturing can help SEZ Kropachy remain competitive against low-cost Chinese imports. Focusing on high-quality, specialized steel products and services can help SEZ Kropachy carve out a niche market where it can compete on factors other than price.

Forming alliances with other European companies, national research institutions (such as Universities and Slovak Academy of Science) can help SEZ Kropachy leverage collective resources and expertise to tackle common challenges posed by the new environmental regulations and global competition. By proactively addressing these challenges, SEZ Kropachy can navigate the complexities of the EU Green Deal and remain competitive in the face of growing Chinese competition.



## INTERCABLE SLOVAKIA

<b>Name of company</b>	INTERCABLE SLOVAKIA
<b>Sector</b>	energy, electrics
<b>Main activity</b>	electronic components for power distribution
<b>Number of employees (app.)</b>	250
<b>European Work Council</b>	No

## INFORMATION ABOUT THE COMPANY

Intercable is a technology company founded in 1972 and headquartered in Bruneck, Italy. The company specializes in the production of electrical and electronic components for the automotive, power distribution, industrial and railway sectors. It has 17 offices worldwide, including Italy, Germany, Austria, Morocco, Tunisia, Slovakia and China, and employs approximately 3,200 people. Intercable is known for its innovative solutions and the high quality of its products

In 1972, Herbert Mutschlechner founded a trading company - the Intercable group of companies was formed. As an originally small South Tyrolean company, the company was able to establish a significant position on the international market. Today, it is one of the most important partners in the electromobility sector and is represented worldwide.

As a family-owned business now in its second generation, the Intercable Group operates in two main areas - in the automotive and charging infrastructure sector with Intercable Tec and in the electrical and tool sector with Intercable Tools. In addition, the Intercable family also includes Intercable Immo, which looks after the Intercable Group's properties and the maintenance of these buildings.

Intercable Slovakia is an APTIV Group, which is known as a global player in the automotive, electrical and electric vehicle sectors. In the high-tech production plant in Kriváň, Slovakia, the company focuses on the development of parts for a major customer in the automotive industry. The company is a safe employer and considers employees and their personal commitment as a success factor.

The Intercable Group employs approximately 3 200 people worldwide. In Slovakia Intercable employs approximately 100 people in Kriváň near Ružomberok. The Intercable trade union is part of OZ KOVO. Relations between the union and the company's management are generally considered to be very good and constructive.

## TOWARDS GREEN POLICIES IN THE COMPANY

The company has an efficient management system according to the requirements of DIN EN ISO 9001, ISO TS 16949 and DIN EN ISO 14001. DIN EN ISO 9001 is the international





standard for quality management systems. This standard provides a framework and a set of principles that ensure a systematic approach to quality management at Intercable.

Certification to ISO 9001 enhances the credibility of an organization and strengthens its reputation in the marketplace. The standard also helps to optimize their processes and improve efficiency, leading to cost savings for the Intercable Group. ISO 9001 certification is a competitive advantage for a company when acquiring new customers or entering new markets.

Intercable Group is an innovative company committed to the principles of sustainable business - a combination of economic, environmental and social responsibility. Because sustainability is at the core of production it has always been an important theme. The company strives to use resources so that they are available to future generations in the same quality and quantity.

Energy resources are used efficiently, including modern automated production systems, monitoring of the efficiency and utilization of production processes, state-of-the-art, monitored and efficient building technology and regular assessment of the adequacy of consumption values.

Intercable's headquarters in Bruneck is 100% powered by green electricity and produces up to 400 MWh per year via an in-house photovoltaic system. Intercable has various charging stations for electric vehicles at factory site, which are powered by its own photovoltaic system.

The company's trade unions engage in various activities to support the community and improve the living conditions of employees. In cooperation with management, the unions support factory canteens with healthy kitchens, day centers for children and various welfare and training opportunities for workers.

## **CIRCULAR ECONOMIC POLICY IN THE COMPANY**

Intercable is committed to sustainability and has incorporated several circular economy and waste recycling practices into its operations. It aims to reduce the amount of single-use plastics in its packaging where possible and prioritizes paper where possible. In addition, the company promotes the use of electric vehicles among its employees by providing free charging stations powered by 100% green energy on its premises.

A sophisticated waste management system is in place across the Group to help prevent, separate, reuse, recycle and properly dispose of and monitor waste.

Most of the production facilities do not use water and do not produce any hazardous wastewater. In order to reduce water consumption as much as possible and to comply with statutory and official wastewater regulations, all of the Group's plants, including one in Kriváň, have closed water circuits, monitored wastewater treatment and oil separators.

To protect human health and the environment, only chemicals that comply with European directives and regulations are used in the production process. This includes chemicals that are free of carcinogenic and mutagenic substances, as well as the complete exclusion of so-called conflict materials.

In order to avoid single-use plastics and promote environmental awareness, water dispensers have been installed throughout the company, which can be used by anyone free of charge. In addition, to mark the company's 50th anniversary, the union distributed high-quality drinking



bottles. These bottles can be filled with regularly tested and high-quality drinking water from the dispensers.

## **THE FUTURE OF GREEN POLICIES IN THE COMPANY**

Intercable faces challenges and opportunities related to the European Green Deal and competition from Asia. The Green Deal's emphasis on the transition to renewable energy and electric vehicles aligns well with Intercable's focus on electrical and electronic components. This may lead to increased demand for their products.

Challenges may include adapting to stricter environmental regulations and sustainability standards which may require significant investment in R&D and manufacturing processes.

In terms of competition, Asian competitors often benefit from lower production costs, which puts pricing pressure on Intercable. In addition, these competitors are making rapid advances in technology and quality. Intercable's emphasis on high-quality, innovative products helps differentiate itself from cost-driven competitors and maintain a competitive advantage in premium markets.

Intercable's focus on innovation, quality, and strategic positioning in niche markets can help mitigate these threats while taking advantage of new opportunities presented by the Green Deal. Adapting to sustainability trends and maintaining technology leadership will be critical to long-term success.



## CONCLUSIONS

### **SINCE WHEN DID COMPANIES START LOOKING AT THE CIRCULAR ECONOMY AND THE TRANSITION TOWARDS A GREEN ECONOMY?**

All the companies in our sample had already begun to address circular economy principles, waste recycling and recovery, and the transition to greener forms of production well before the European Commission adopted the new Circular Economy Action Plan (CEAP). This proactive approach underscores a significant commitment across these firms to integrate sustainable practices into their core operations.

Most companies in our sample have long supported research, innovation, and investment in circular economy technologies and business models. These efforts have not only fostered advancements in sustainable practices but have also positioned these companies as leaders in the transition towards a more sustainable economic system.

Furthermore, all the firms in our sample had already achieved certification to ISO 9001 and ISO 14001 standards, which are among the most well-known and widely used international standards for management systems. These certifications are crucial as they ensure that a firm meets internationally recognized standards for quality and environmental management. The primary objective of ISO 9001 is to ensure that organizations deliver products and services that meet customer and legislative requirements while continuously striving to improve their processes. ISO 14001, on the other hand, is the standard for environmental management systems (EMS). It aims to help organizations minimize the negative impact of their activities on the environment and comply with applicable legislation. The main elements of ISO 14001 include an organization's commitment to environmental protection, the identification of environmental aspects and impacts, setting objectives and programs, and implementing procedures and controls to achieve the set objectives. This focus on certification ensures that companies can consistently meet the needs and expectations of their customers, thereby enhancing customer satisfaction and operational efficiency.

In addition to these certifications, companies have focused specifically on reducing waste and promoting the sustainable use of resources. They perceived these efforts as not only beneficial for the environment but also as a strategic advantage that could strengthen their position in the market. By reducing waste and optimizing resource use, these companies can achieve cost savings, enhance their reputation, and meet the growing demand for sustainable products and practices.

Overall, it can be said that firms long considered green strategies at the enterprise level as part of a broader strategy towards sustainable production. This approach aligns economic activities with environmental goals, reflecting a holistic view of sustainability that encompasses economic viability, environmental responsibility, and social well-being. By integrating green strategies well before adoption of the new *Circular Economy Action Plan*, companies are not only contributing to environmental protection but are also paving the way for a sustainable future that benefits all stakeholders.



**HAS THIS PATH TOWARD GREEN ECONOMY BEEN INFLUENCED BY REGULATORY DEVELOPMENTS OR HAVE COMPANIES ADOPTED A CERTAIN TYPE OF PROCESSES TOWARDS TRANSFORMATION REGARDLESS OF, OR EVEN BEFORE, THE DEVELOPMENT OF EUROPEAN REGULATION?**

It appears that the companies had already adopted processes towards transformation to more sustainable practices independently of regulatory developments, and in many cases, before the establishment of European regulations like *the Circular Economy Action Plan (CEAP)*. There are several factors that suggest this proactive approach by companies.

The fact that all companies in the sample had started addressing circular economy, waste recycling, and recovery, as well as transitioning to greener forms of production before the CEAP indicates that these firms recognized the importance and benefits of sustainability independently of regulatory requirements.

Moreover, the companies' long-term support for research, innovation, and investment in circular economy technologies and business models shows a strategic initiative driven by potential market advantages, operational efficiencies, and corporate responsibility rather than merely compliance.

The attainment of ISO 9001 and ISO 14001 certifications suggests that these companies were committed to high standards of quality and environmental management on their own accord. These certifications are rigorous and voluntary, indicating a genuine dedication to excellence and sustainability.

Some companies perceived reducing waste and promoting the sustainable use of resources as a means to strengthen their market position. This implies that the motivation was at least partially competitive, focusing on differentiation and leadership in sustainability, which can attract customers, investors, and other stakeholders.

The integration of green strategies at the enterprise level as part of a broader strategy towards sustainable production suggests an intrinsic corporate philosophy that aligns economic activities with environmental goals. This reflects a long-term vision and ethical standpoint beyond mere regulatory compliance.

While regulatory developments such as the CEAP likely reinforced and accelerated these efforts, the evidence suggests that these companies were already on a path toward sustainability independently. Regulations often act as a catalyst, providing a framework and creating a level playing field, but the proactive measures taken by these firms demonstrate a forward-thinking approach to sustainability and corporate responsibility.

**ARE THERE ANY OTHER SPECIFIC INTERESTING PROJECTS RELATED TO COMPANIES?**



All of the firms in our sample are implementing a number of projects aimed at streamlining production inputs, reducing waste, mitigating climate change, or improving the environment and workplace. These projects are in most of the cases financed by the state environmental funds and by the European Structural and Investment Funds, through *Operational Programmes* (e.g. the *Operational Programme on Environmental Quality*).

As a particularly interesting we could mention project *Emission Control for Ore Bridges* implemented by the U. S. Steel Košice that is aimed significantly reduce the emissions of particulate pollutants discharged in the steel mills production process. This project is interesting because it is aimed at achieving even a higher level of environmental protection than the standards set by the European Union. At present, extraction of dusty air into a filtration plant comply with both European Union and Slovak Republic standards. However, the current technical solution does not allow further significant reduction of particulate emissions to such an extent that it would contribute to the improvement of the emission situation of the Košice region. Therefore, the basic objective of the project is to achieve a significant annual reduction of emissions. The ultimate benefit of the project will thus be an improvement in the quality of the environment, an improvement in the living conditions of the inhabitants in the affected region and an improvement in the health status of the inhabitants of Košice region.

#### **WHAT IS THE QUALITY OF RELATIONS BETWEEN THE MANAGEMENT OF ENTERPRISES AND TRADE UNIONS? IS THERE GOOD INVOLVEMENT OF WORKERS OR THEIR REPRESENTATIVES AT NATIONAL OR TRANSNATIONAL LEVEL? IS THE TRADE UNION INVOLVED IN EWCS?**

All enterprises in our sample are characterized by good relations between management and trade unions. Effective communication between management and trade unions fosters a collaborative atmosphere where issues can be addressed proactively.

A harmonious relationship between management and trade unions in these companies lead to a more motivated and productive workforce. Moreover, positive relations between management and trade unions enable more effective resolution of conflicts. Instead of escalating disputes, both parties work together to find mutually acceptable solutions, minimizing disruptions and maintaining a stable work environment.

Good relations with trade unions in most of companies is instrumental in gaining support for strategic initiatives, including those related to sustainability and the circular economy. Maintaining good relations between company management and trade unions in all cases also ensure that the company is compliant with labor laws and ethical standards. Trade unions play a crucial role in monitoring and advocating for the enforcement of labor rights, helping companies avoid legal issues and adhere to best practices.

In summary, the enterprises in our sample benefit greatly from the strong, positive relationships between management and trade unions. These relationships contribute to a productive, satisfied, and stable workforce, which in turn supports the companies' overall goals, including their commitment to sustainability and the circular economy.

With two partial exceptions, the companies in our sample are not members of European works councils (EWCs). Works councils, specifically European Works Councils (EWCs), are bodies set up to ensure the right of employees to be informed and consulted at European Union level.



Their main task is to ensure communication between employers and employees at a transnational level and to deal with issues affecting workers in two or more Member States. They are permanent bodies that facilitate information and consultation with employees, focusing on transnational issues, as regulated by the 1994 Directive on European Works Councils (Directive 94/45/EC, updated by Directive 2009/38/EC).

In one case (Veolia Energia Slovensko) the company was a member of the EWC until 31.12.2023. However, as the number of employees has fallen below the required limit, they now have no EWC representative. In the second case, the Slovak company U.S. Steel Košice is part of the U.S. Steel Europe group, which has its representatives in the EWCs.



## KEY POINTS

- ✓ Companies started with green transformation of their production processes and recycling some time ago, but the adoption of the *Circular Economy Action Plan (CEAP)* has accelerated the process.
- ✓ All companies are currently implementing projects focused on clean production, reduction of energy and raw material inputs and circular economy. These projects are mainly financed by state and European funds, with the companies also contributing to their financing.
- ✓ Trade unions unanimously support and, in most companies, actively participate in the implementation of green measures and recycling.
- ✓ Trade unions and employees of enterprises perceive the transition to a green economy positively and claim that green technologies can significantly reduce work stress and health risks and improve the working environment.
- ✓ Neither companies nor employees foresee any job threats as a result of the introduction of green technologies, robotics and automation and the circular economy. This is also due to the fact that companies operate in a specific segment that relies either on the tradition of manual production (e.g. RONA a.s.) or on specific products/services that require operating in a specific location (Veolia Energia Slovensko a.s., which produces and distributes heat for residential zones).
- ✓ Neither the companies nor the employees are worried about competition from Asian countries because the companies operate in the segment of labor-intensive or semi-manual production (RONA a.s., Intercable a.s., SEZ Krompachy a.s.), which requires specific skills, and they produce products with higher added value or products in the segment of more expensive goods. An exception is U.S. Steel, which considers that the European market is not sufficiently protected against imports of cheap steel from outside the European area.





## LITERATURE

Baláž, V. Nežinský, E., Jeck, T. & Filčák, R. (2020). Energy and Emission Efficiency of the Slovak Regions. In Sustainability, 2020, vol. 12, no. 7, art. no. 2611.

Dorigatti, L., & Pedersini, R. (2021). Industrial relations and inequality: the many conditions of a crucial relationship. Transfer: European Review of Labour and Research, 27(1), 11-27.  
<https://doi.org/10.1177/10242589211007400>

Filčák, R. & Škobla, D. (2023). Towards Achieving Climate Neutrality for Slovakia in 2050: Analysis of the Situation and Key Challenges. In Prognostické práce : PP (FORESIGHT, ANALYSIS AND RECOMMENDATIONS - FAR), 2023, vol. 15, no. 1, pp. 49-64.  
<https://doi.org/10.31577/PPFAR.2023.15.004>

Filčák, R. & Blaško, R. (2023). Zmena klímy: zvyšovanie závažnosti problému a jeho dôsledkov. In Globálne megatrendy v životnom prostredí. Aktualizácia environmentálnych globálnych megatrendov a ich implikácie pre Slovensko. [Climate change: increasing the severity of the problem and its consequences. In Global megatrends in the environment. An update on environmental global megatrends and their implications for Slovakia]. Banská Bystrica : Slovenská agentúra životného prostredia, odbor výskumu a medzinárodnej spolupráce, 2023, s. 34-55. ISBN 978-80-8213-121-8.

Kuntum Melati, K, Jae Nikam, J., & Nguyen, P. (2021). Barriers and drivers for enterprises to transition to circular economy.. Stockholm Environment Institute discussion brief, November 2021

<https://www.sei.org/wp-content/uploads/2021/11/barriers-drivers-enterprises-circular-economy-sei-brief.pdf>

Marcinčin, A. (2024). Demografický vývoj Slovenska a jeho regiónov. KOZ Bratislava  
[https://epracaonline.sk/wp-content/uploads/2024/05/20240311\\_DRSK.pdf](https://epracaonline.sk/wp-content/uploads/2024/05/20240311_DRSK.pdf)

<https://hbr.org/2021/07/the-circular-business-model>

<https://www.sez-krompachy.sk/>

<https://www.ussteel.com/>

<https://vesr.sk/sk>

<https://www.intercable.com/en>

<https://finstat.sk/51015161>

<https://rona.glass/sk/>

<https://iap.unido.org/articles/small-and-medium-sized-enterprises-can-drive-circular-economy>

<https://www.kozsr.sk/>



<https://www.forbes.com/consent/ketch/?toURL=https://www.forbes.com/councils/forbesbusinessdevelopmentcouncil/2021/04/28/the-circular-economy-and-why-its-good-for-business/>