SOCIAL GREEN DEAL – Role and prospects for industrial relations and social dialogue in green transition management of local economic systems

National baseline report: Croatia

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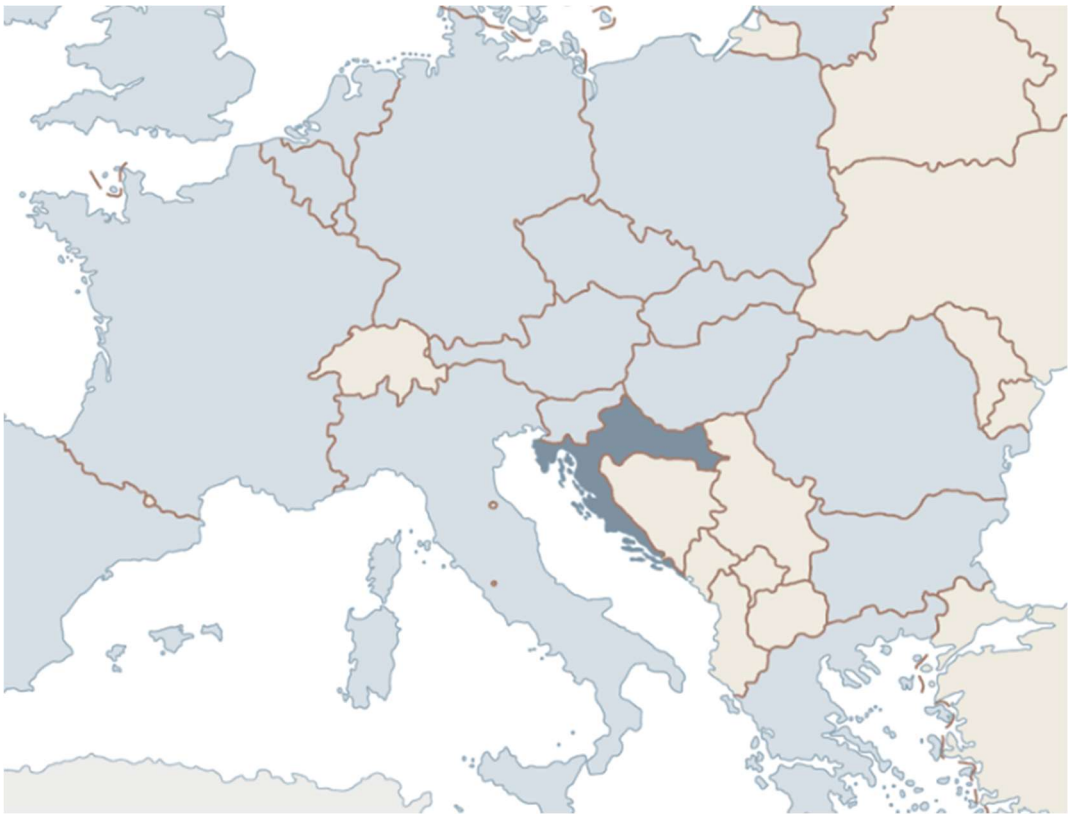
Summary:

1. General information about the country

Croatia (official name: Republic of Croatia) is a European country, in the geopolitical sense a Central European and Mediterranean country, and is geographically located in the southern part of Central Europe and in the northern part of the Mediterranean Sea. It borders Slovenia and Hungary to the north, Serbia and Bosnia and Herzegovina to the east, Montenegro to the south and Italy to the west. With a land area of 56,542 km² and a seacoast of 31,067 km², Croatia is one of the medium-sized European countries.

Graph 1. Location of the Republic of Croatia on the map of Europe



Source: https://croatia.eu/index.php?view=article&id=6&lang=1

The territory is administratively divided into municipalities, cities and 20 counties, as well as the city of Zagreb, which has the special status of a city and a county. The capital is Zagreb, the political, economic, cultural and scientific centre. Other major cities are Split, Rijeka, Zadar, Osijek and Pula.

The climate in the interior of Croatia is temperate continental, in the Croatian foothills and mountains, in the coastal area Mediterranean (with dry and hot summers and humid and mild winters), and in the hinterland sub-Mediterranean (with slightly colder winters and warmer summers).

In addition to its abundance of water, Croatia has a particularly well preserved natural environment with hundreds of endemic plant and animal species, and almost 10% of its territory is protected in 11 nature parks, 8 national parks and two strict reserves.

With an average of 2,600 hours of sunshine a year, the Adriatic coast is one of the sunniest in the Mediterranean, and the average sea temperature in summer is between 25°C and 27°C, making Croatia an attractive tourist destination.

2. Population

2.1. General information about the population

Population is the most important determinant of a country's social and economic development. Continuous investment in human resources and careful planning of their development form the basis for long-term sustainable development of individual activities, the economy and society as a whole. According to the 2021 census, there were approximately 3.8 million people living in Croatia, of which 2.0 million were women and 1.8 million were men.

Table 1. Population trends in Croatia from 1953-2021. years

Census Yea	Number of population	Men	Female
1953.	3,936,022	1,861,229	2,074,793
1961.	4,159,696	1,986,204	2,173,492
1971.	4,426,221	2,139,048	2,287,173
1981.	4,601,469	2,226,890	2,374,579
1991.	4,784,265	2,318,623	2,465,642
2001.	4,437,460	2,135,900	2,301,560
2011.	4,284,889	2,066,335	2,218,554
2021.	3,871,833	1,865,129	2,006,704

Source: Central Bureau of Statistics, Census 2021, https://www.dzs.hr/

The average age of the population in 2021 is 44.3 years (45.9 years for women and 42.5 years for men). According to forecasts, by 2050, the population of Croatia will decrease to 3.4 million and the average age of the population will increase to 51.3 years.
In the second decade of the 21st century, Croatia recorded negative net migration, i.e. the number of emigrants from Croatia was greater than the number of immigrants. According to the National Statistics Office, net migration has a negative sign from 2009 to 2021.

Table 2. External migration of the population of Croatia (2009-2021 selected years)

Description / Year	2009.	2011.	2013.	2015.	2017.	2019.	2021.
Immigrated from abroad	8,468	8,534	10,378	11,706	15,553	37,726	35,912
Emigrated abroad	9,940	12,699	15,262	29,651	47,352	40,148	40,424
Migration balance	-1,472	-4,165	-4,884	-17,945	-31,799	-2,422	-4,512

Source: Central Bureau of Statistics, Statistics in a series: Migrations (7.2.2.), https://www.dzs.hr/

As Table 2. shows, the negative migration balance has been occurring for many years. With the problem of a small number of births and a large number of deaths, the trend of emigration is a major problem for Croatia.
In the Republic of Croatia, the labour contingent (or labour capacity) includes the population aged 15 to 64. The size of the labour contingent is influenced by natural (birth rate, mortality) and mechanical (emigration and migration) demographic flows.

Table 3. Population in Croatia by age groups according to census (1953-2021.)

Year	Number of population	0–14	15–64	65 and more
1953.	3,936,022	27 %	66 %	7,0 %
1961.	4,159,696	27,2 %	65,3 %	7,5 %
1971.	4,426,221	22,6 %	67,2 %	10,2 %
1981.	4,601,469	20,9 %	66,9 %	12,2 %
1991.	4,784,265	19,4 %	67,5 %	13,1 %
2001.	4,437,460	17,1 %	67,2 %	15,7 %
2011.	4,284,889	15,2 %	67,1 %	17,7 %
2021.	3,888,529	14,3 %	63,3 %	22,5 %

Source: Statistical Chronicle of the Central Bureau of Statistics, Zagreb 1994, Population Census 2001 and 2021, State Bureau of Statistics, Zagreb, 2012.

According to Table 3. the proportion of the working age population did not fluctuate significantly in these census years, but after the last census, there was a significant decrease in the proportion of the working age population.

The Republic of Croatia has been facing a negative demographic trend for many years, due to negative natural growth and negative net migration. Especially the young and educated population is leaving Croatia. These movements bring with them a whole range of economic and social problems: structural disproportions in the labour market due to the mismatch between supply and demand, a possible reduction in national productivity given the existing economic structure and, consequently, an increase in the risks to the future sustainability of the Croatian pension and health care systems, public finances and macroeconomic stability.

2.2. Education of the population

The prerequisite for the growth and development of any country is a higher level of education, knowledge and skills of its inhabitants. Education is one of the key factors for socio-economic development and increasing international competitiveness.
In Croatia, there are several levels of education. The first level is early and preschool education, which includes education and care for children of preschool age and is achieved through educational programs, upbringing, health care, nutrition and social care for children six months of age from school entry. This is followed by primary education, which is free for all children between the ages of six and fifteen. Secondary education is available to all under

equal conditions and according to their abilities, after completing primary education and education, allows the acquisition of knowledge and the ability to work and continue their education. Higher education is guided by the principles of the Bologna process and is carried out at universities and their components, polytechnics and colleges through college and vocational study programs. Adult education is part of a unique education system and includes adult learning processes aimed at training for better employment and personal development of individuals.

Table 4. shows positive shifts in the educational structure of the population between the two census years. The share of people with low education levels (without a high school diploma, without an elementary school diploma, and with an elementary school diploma) decreased by 23.3%, while at the same time the share of the population with middle and higher education levels increased by 17%.

Table 4. Population 15 years and older according to the level of school completed in 2001 and 2011.

	2001.	**Share**	**2011.**	**Share**
Without school	105,332	2,7 %	62,092	1,7 %
An unfinished elementary school	580,379	15,8 %	286,876	7,8 %
Elementary School	801,168	21,7 %	773,489	21,3 %
high school	1,733,198	47,1 %	1,911,815	52,6 %
College	150,167	4,1 %	212,059	5,8 %
Faculty/Academy/PhD	287,867	7,8 %	383,174	10,6 %
Unknown	24,175	0,8 %	5,965	0,2 %

Source: Population Census 2001 and 2011. Note: Census data 2021 for population structure are not yet publicly available

However, graduates of elementary and secondary schools make up the largest share of the adult population. Through various measures and investments, Croatia is trying to improve the educational structure, i.e., to increase the proportion of the population with higher and high levels of education. Thus, in 2021, 33,415 students graduated, 61% of whom were women. Of the total number of graduates in higher schools, 4% graduated, 13.3% graduated from higher education institutions, 80.5% graduated from polytechnics, and 2.2% of students graduated from art academies. Most students (42.7%) graduated from social sciences, followed by technical sciences (25.6%), biomedical and health sciences (11.6%), humanities (6.4%), biotechnical sciences (5.3%), natural sciences (4.4%), and arts (2.3%). The fewest graduates in the study were from interdisciplinary science fields (1.7%). By years of life, most students who graduated in the study were in the 22-24 age group (46.1%) and the fewest were in the 37-39 age group (1.5%).

Despite the efforts made, Croatia continues to lag behind the EU average in terms of the share of highly educated population, which is 29.5% in the EU in 2021. According to Eurostat, this percentage is 21.8% in Croatia in the same year. Therefore, Croatia needs to take further measures to create more effective, better quality and more accessible education and to raise the awareness of the population about the importance of education.

2.3. Qualitative and quantitative indicators of employment

In the long term, the negative demographic trend is certainly one of the most important limiting factors for Croatia in terms of expansion of economic activities and the internal market, national production and overall development. The labour force and its activity is a very important factor determining the development of the economy. The data on the total number of the working age population and its activity are shown in the following tables.

Table 5. Working capacity of Croatia (2010-2021)

	2010.	**Share of women**	**2021.**	**Share of women**
Working capacity (15+) u 000	3,752	53 %	3,508	52 %
Active population	1,734	46 %	1,816	46 %
Employed	1,432	46 %	1,678	46 %
Unemployed	302	48%	138	48 %
Inactive population (15+)	2,018	54 %	1,692	59 %
Activity rate	46,6%	40,6 %	51,8%	45,8 %
Employment rate	41,1%	35,6 %	47,8%	42,1 %
Unemployment rate	11,8%	12,2 %	7,6%	8,0 %

Source: Active population in the Republic of Croatia in 2021 - average of the year, www.dzs.hr

Table 5. shows that the number of employed and employed persons is increasing, while the number of employed persons is slightly decreasing. The number of unemployed has decreased. The relative employment indicators show positive signs: the labour force participation and employment rates are increasing while the unemployment rate is decreasing. However, the decrease in the total number of unemployed and unemployment rates was also influenced by a significant outflow from Croatia, mainly to the European Union countries. The following table shows the development of the total number of employed persons by type of employment.

Table 6. Total employed population according to administrative sources and gender in Croatia (2010-2021)

	Ø 2010. total in 000	**Ø 2010. women in 000**	**Share of women**	**Ø 2021. total in 000**	**Ø 2021. women in 000**	**Share of women**
Total employees	1,432	657	45,9%	1.678	729	43,4%
• Employed in legal entities	1,168	540	46,3%	1.465	640	43,6%
• Employed in the craft and free professions	232	103	44,3%	195	83	42,6%
• Employee Insured Farmers	32	14	43,4%	18	6	33,3%

Source: Central Bureau of Statistics, Statistics in a series: Employees - Administrative Sources (9.2.1., 9.2.2.), Https://www.dzs.hr/

In the period 2010-2021. movements in the labour market are reflected in the increase in the number of employees, especially in the right persons, and in the further reduction of the unemployed. The number of employees in crafts and professions and the number of farmers is decreasing. It can also be seen that the share of female employees in the total share and in the place of employment is decreasing.

3. Economy of the country

3.1. Main characteristic of the economy

The main economic sectors in Croatia are determined by natural wealth, but also by technology and industry, and the most important are: agriculture, food industry, textile, wood, metal, chemical, oil, electrical industry, construction, trade, shipbuilding, maritime and tourism.

The development of the Gross Domestic Product (GDP) in Croatia is currently in the context of a long period of crisis, a somewhat more pronounced growth that followed in 2016 to fall again in 2020, but also a relatively poor position compared to the EU average. The beginning of Croatia's emergence as an independent state was marked by the homeland war, the war damages and the loss of the market of the countries of the former Federal Republic of Yugoslavia. As a result, the first years of independence saw a significant decline in GDP, which, according to statistical data, led to a real level of economic activity in 1995. It was about 35% lower than in 1989. Although such a decline seems extremely high, a similar trend can be observed in the EU10 members (former EU transition members), with which Croatia is often compared. In the period from 1995 to 2008 and the global economic crisis, growth in Croatia was strong, with the exception of 1999, which was marked by the consequences of the Kosovo crisis. However, this growth was moderate, or rather low, considering the low level of economic activity in 1995, i.e. the low base. Moreover, country-by-country statistics show that Croatia grew relatively slowly from 1996 to 2008 compared to the EU10 members. Specifically, Croatian GDP grew by 65.5% in real terms during this period, while the average growth in the EU10 countries was 82%.

In the period 2009-2014. the global crisis reveals the weaknesses of the Croatian economy and leads to a six-year decline in GDP. Unfortunately, Croatia was one of the EU member states that experienced the largest decline in the economy during this period. In Croatia, the real decline in GDP, i.e. the decline in economic activity, amounted to 12.6%, which also led to a sensitive decline in the average EU development level. In addition to these negative movements, there are other macroeconomic indicators in Croatia. For example, the level of industrial production in 2014 was 16.9% lower than in 2008, retail trade was realistically 19.7% lower, and the physical volume of construction works was even 46.7% lower. Such trends in the production of goods and services also followed the corresponding decline in the

number of employees, which fell by 14.2% in the observed period, significantly increasing the unemployment rate.

Because of Croatia's accession to the European Union, positive macroeconomic indicators were recorded in 2014. A high growth rate of goods exports is recorded, which makes it possible to remove all barriers to free trade with other EU members and partially rely on the export of goods of foreign origin or increase trade. In 2015, it starts with changes in the income tax system, which increased the tax brackets in individual tax rates and increased the personal deduction. This has already led to an increase in net wages in the first quarter. Due to such movements and the stabilization of the labour market, there is a revival of consumer preference, which is always reduced in times of crisis. The period 2016-2020. denotes a favourable economic cycle with positive macroeconomic indicators. With the onset of the crisis in 2020, Croatia recorded an annual decline in real GDP of 8%, the fourth largest among EU member states. Due to the high share of tourism in the economy (its cumulative effect is estimated by the World Travel and Tourism Council at 25% of GDP), a realistic decline in the value of services of 45.2% accounted for about three quarters of the decline in total domestic and foreign demand. The personal consumption of the population, which depends mainly on the situation in the labour market, the evolution of net wages and other income, the availability of credit and consumption, at the same time has fallen by 6.2%, less than in the 2009 crisis and less than the overall EU level (-7.4%), investment in fixed capital has realistically fallen by 2.9%, only 0.8% of exports, and government consumption has realistically increased by 3.4% at the same time. The demand reduction influenced the reduction of domestic production, but also the reduction of imports of goods and services (-13.8%). By far the largest influence on the decrease in total GDP was exerted by a group of activities that includes trade on a large and small scale, transportation and storage, as well as accommodation of guests, preparation and serving of meals. Gross value added was also reduced in some other service sectors, and a moderate decrease in GDP of 2.8% was recorded in industrial production. The most important indicators for the development of the Croatian economy in the period 2016-2020. years can be found in the following table.

Table 7. Main macroeconomics indicators of economy of Republic of Croatia in period 2016-2021.

Indicator	Units	2016	2017	2018	2019	2020	2021
Real gross domestic product	Mln, EUR	47.331	49.516	51.933	54.784	50.451	58.207
Real gross domestic product per capita	In EUR	11.339	12.005	12.704	13.476	12.464	15.006
Change in real GDP	%	3,6	3,4	2,8	3,4	-8,6	13,1
Inflation – (Consumer price index)	Index	-1,1	1,1	1,5	0,8	0,1	2,6
Unemployment rate	%	13,1	11,2	8,4	6,6	7,5	7,6
Employment rate	%	44,6	45,8	46,9	47,7	47,2	47,8
Export goods and services (as share in BDP)	%	47,0	49,7	50,2	51,5	41,5	50,0
Import goods and services (as share in BDP)	%	45,8	49,0	51,1	51,8	48,6	52,7
Debt (as a share in GDP)	%	95,2	88,6	82,4	74,1	81,8	81,1

Source: https://www.hnb.hr/statistika/glavni-makroekonomski-indikatori

As the table shows, by 2020, all indicators are mostly positive. However, with the onset of the COVID crisis, Croatia's macroeconomic movements begin to change. In order to maintain the good indicators of the Government of the Republic of Croatia, it has implemented a number of measures to maintain economic activity and, in particular, to maintain jobs. Thus, from March 2020 to mid-January 2021 630,000 jobs were preserved for job preservation, and the measures were directed at 107,000 companies. As much as EUR 1.094 billion was paid for this during, the period observed. This naturally had significant negative consequences for public finances and the development of public debt, but a similar scenario played out in other EU countries and members.

3.2. Application of the green economy

Croatia will have EUR 22 billion available in the period 2021-2027. of which EUR 9.4 billion in the Fund for Future Generations and EUR 12.7 billion in the European multi-annual budget. Projects financed from the European multi-annual budget must be based on the green economy, circular economy and digitalization. The above data is because the application of the green economy in Croatia is currently still very modest. The success of the

implementation of the green economy in Croatia can be expressed by several groups of indicators, such as environmental and resource productivity, natural resource base, environmental dimension of quality of life, economic opportunities and policy responses, socio-economic context. Some of these indicators are listed in the following table.

Table 8. Main indicators of the application of green economy in Croatia in the period 1990-2020. years

Variable	1990	1995	2000	2005	2010	2015	2020	Growth rate / falls
Environmental and resource productivity								
Production – based CO_2 intensity, energy – related CO_2 per capita (tonnes)	4,26	3,21	3,79	4,62	4,25	3,67	3,56	-0,59%
Production based CO_2 emissions, Index 2000 = 100	121,24	88,39	100,00	118,63	108,76	91,99	85,91	-1,14%
Total primary energy supply, index 2000 = 100	112,99	93,28	100,00	116,12	111,73	99,94	98,25	-0,46%
Natural asset base								
Forest resource stocks (Cubic meters)	31,034	-	360,13	-	409,90	414,94	427,22	10,7%
Environmental dimension of quality of life								
Percentage of population exposed to more than 10 micrograms / m^3 (percentage)	99,85	99,85	99,84	99,44	99,38	99,36	-	-0,02%
Percentage of population exposed to more than 35 micrograms / m^3 (percentage)	13,51	13,18	6,50	5,54	2,85	1,53	-	-8,34%
Economic opportunities and policy responses								
Development of environment – related technologies, inventions worldwide, Percentage	11,66	2,70	9,21	5,89	9,64	12,06	-	0,1%
Environmentally related taxes, % GDP	-	2,49	3,44	3,82	3,56	3,97	3,91	1,82%
Environmentally related taxes, % total revenue	-	6,11	8,85	10,61	9,96	10,81	10,53	2,2%
Marine protected area, % total exclusive economic zone (percentage)	0,95	0,97	0,97	0,98	1,23	9,40	9,40	7,9%
Socio economic context								
Population, ages 15-64, percentage	71,78	72,03	71,59	71,66	71,84	71,67	70,58	-0,056
Life expectancy at birth (Years)	72,25	73,19	74,58	75,41	76,80	77,56	77,98	0,25%

Source: https://stats.oecd.org/index.aspx?datasetcode=green_growth

Looking at the indicators that fall into the environmental and resource productivity group, we find that they all have an average annual downward rate, which is very good. However, if we make a more detailed analysis and compare the data for Croatia with those of the EU countries that belong to the OECD, we can see that these countries have better results for two indicators: Production-related CO_2 intensity, energy-related CO_2 per capita and total primary

energy supply. Croatia achieves a better result in the indicator of production-related CO_2 emissions, index.
In the natural resources group, the stock of forest resources was observed. In the observed period, it grows in the Republic of Croatia at an average annual rate of 10.7%, while in the EU countries belonging to the OECD it grows at an average annual rate of 12.09%. Therefore, Croatia needs to make significant efforts and additional activities in this area. Croatia is one of the most inhabitable countries in Europe, and they account for 47.5% of the land area, which should definitely be taken into account when planning actions.
In the group of indicators for the environmental dimension of the quality of life, the percentage of the population exposed to more than 10 and 35 micro degrees M3 was observed. In the Republic of Croatia, these indicators decrease at an average annual rate of -0.53% and -8.34%. EU countries belonging to the OECD achieve similar average annual rates of -0.53% and -5.23%. These rates fall in the scheme that the year after year is aggravated by positive changes.
In the group of economic opportunity and policy response indicators, several indicators were observed: Development of environment-related technologies, environment-related taxes, percentage of GDP, environment-related taxes, percentage of total revenues and protected marine areas. In Croatia, the indicator for the development of environment-related technologies grows at an average annual rate of 0.1%, while in the EU countries that are part of the OECD, it grows at an average annual rate of 20.3%. This indicates that the public and private sectors in Croatia invest little in the development of new technologies that could contribute to environmental protection. This indicator also shows that there is a need to design and invest in innovative, environmentally friendly projects that can be financed with EU funds available to Croatia in the new financial period (2021-2027).
In the group of socioeconomic contexts, two indicators were studied: Population aged 15-64 overall and Life expectancy at birth; both indicators show worse results in Croatia than in the average of EU countries. Significant efforts are also being made in this area to increase the number of younger residents and improve the standard of living of the overall population. In addition to these indicators, there are also relevant indicators for the circular economy, which can be divided into several groups: Production and Consumption, Waste Management, Secondary Raw Materials, Competitiveness and Innovation. Regarding the first indicator of production and consumption, Croatia achieves better results in the production of municipal waste per capita. It generates 446 kg of waste per capita per year, compared to 530 kg of waste at the EU level. The other two indicators, waste generation excluding major extractive waste per unit GDP and waste generation excluding major extractive waste per domestic material consumption, are better in EU countries. In the indicators on waste management, Croatia achieves better results in two indicators, namely: recycling rate for all waste excluding major mineral waste and recycling rate for e-waste. For all other indicators, EU countries achieve better results. In the indicators of secondary raw materials, the use of recycled material is an interesting indicator. In addition, here the EU countries achieve significantly better results than Croatia. Thus, this indicator in the EU is 11.7%, while in the Republic of Croatia it is almost twice as low, at 5.7%.

In the group of indicators of competition and innovation in Croatia, Croatia achieves better results in the indicator of employed persons. Thus, this indicator is 2.81 % in Croatia (share in the total number of employed persons) and 1.76 % at the EU level.

3. Document about green transition and sustainable development

In Croatia, there are a large number of laws and regulations that refer to the national level, in this way affect the local level, and are related to the green transition and sustainable development.

Within the Ministry of Economy and Sustainable Development, there are numerous laws related to environmental protection, such as the Environmental Protection Act, the Air Protection Act and the Water Act, which comprehensively regulate all environmental issues. In addition to the laws, it is also worth mentioning the more important strategies that define the topic under study. For example, there is a National Development Strategy of the Republic of Croatia until 2030, which envisages an ecological and energy transition to climate neutrality as the eighth strategic goal and identifies two priority public actions: preservation of natural resources and fight against climate change, achievement of energy self-sufficiency and transition to pure energy. The National Development Strategy is an overarching document and a comprehensive act of strategic planning that guides the development of society and the economy in the long term on all important issues for Croatia, which for the first time since gaining independence is given a framework for development in the next decade.

The Energy Development Strategy of the Republic of Croatia until 2030 with a reference to 2050 is in line with the main determinants of the EU energy development. This document is a step towards the realization of the vision of energy with low energy consumption and constitutes the transition to a new period of energy policy to ensure affordable, secure and quality energy supply without additional burden on the state budget within the framework of state aid and incentives.

Integrated National Energy and Climate Plan of the Republic of Croatia for the period 2021-2030, which sets a target of over 36% energy from renewable sources in gross consumption. This plan builds on existing national strategies and plans. An overview of the current energy system and the status of energy and climate policies is provided. It also provides an overview of national targets for each of the five key dimensions of the Energy Union and appropriate policies and measures to achieve these targets, for which an analytical basis should be established.

Looking ahead to 2050, the Strategy of the Republic of Croatia prescribes the following targets by 2030: Reduction of GHG emissions by at least 43% compared to 2005; Share of 36.64% of renewable sources in final energy consumption; Achieve a positive effect on employment in the Republic of Croatia; Reduction of GHG emissions for the ETS sector; The share of renewable sources in gross direct energy consumption in transport 14%; Primary electricity consumption - 344.4 PJ; The share of electricity generation from hydropower plants in total electricity generation from OI will decrease to 22.3%.

Due to its size and economic power, Croatia can only make a small contribution to the global reduction of greenhouse gas emissions, which is why adaptation to climate change is very important. By 2040, the Strategy on Climate Change with a view to 2070 has become a document that will ensure the adaptation of important sectors on which climate change will have a significant impact. The strategy has set the following goals: a reduction in the vulnerability of natural systems and society to the negative impacts of climate change, an increase in the ability to recover from the effects of climate change, and the use of possible positive effects that may also be due to climate change. The adaptation strategy establishes priority measures and coordinated actions through short-term action plans and monitoring of the implementation of the measures.

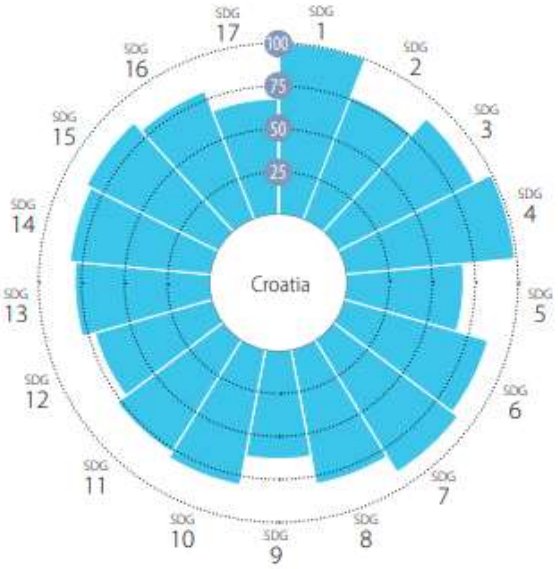
The European Commission has identified two counties in Croatia that need to adapt (Istria and Sisak Moslavina County). These counties have traditionally been involved in mining and fossil fuel-dependent industries, and these are the areas where GHG emission reductions could have the greatest impact. For this reason, a just transition plan was submitted to the European Commission. Sisak Moslavina County is the poorest area, but also one of the historically most important industrial regions in the Republic of Croatia. The economic development of the area is based on the chemical industry and oil processing. Here are located the most important factories such as: Petrokemija J.s.c., ABS Sisak L.t.d., HEP L.t.d. - and Sisak, Gavrilovic L.t.d., INA J.s.c. - Sisak Refinery, where electricity, steel, food, fertilizers are produced. Approximately 2350 people are employed in these industries. In addition to the people directly employed in these industries, it is estimated that 250 customs and partners with a session in this county depend on these industries. In Istria County, the industries that will have to implement the transition process employ about 850 people, 90% of whom work in the territory of this county. The transition will have a significant impact not only on employment, but also on suppliers, and it is estimated that the number of employees in suppliers (direct and indirect) is about 3800. The target sector is estimated to have the highest share of greenhouse gas emissions, generates 25% of regional GDP and 20% of employment. Istria County is one of the counties that achieve a higher GDP than the average of the Republic of Croatia. In this county, tourism is of great importance as an economic engine of the region. These data show the obstacles to the transition to a climate-neutral society. A large number of employees in industries that need to make the transition and the dependence of the region and the economy on these industries will certainly slow down the transition to a climate neutral economy.

Under the EU Next Generation instrument, a Recovery and Resilience Facility (RRF) has been established from which member states, through their own National Recovery and Resilience Plans can use grants and loans totalling €672 billion to finance reforms and related investments that accelerate economic recovery and increase the resilience of economies and societies. The Croatian National Plan for Recovery and Resilience is anchored in a number of key program documents and sets out ambitious but achievable targets in terms of reforms and investments that are critical to accelerating Croatia's recovery and strengthening the country's ability to cope with adverse shocks and sudden crises with fewer economic and social costs. One of the main objectives of the National Recovery and Resilience Plan is to contribute to accelerated economic growth.

4. Sustainable development Indicators

Based on available data, the European Union has produced an overview of progress toward the Sustainable Development Goals (SDGs) for 165 countries over the past five years. The measurement and assessment of the achievement of the goals is based on a pre-developed methodology, which is partly based on the goals of the 2030 Agenda, while some indicators were developed independently by Eurostat and confirmed and accepted at the EU level. In 2021, Croatia ranked 14th out of 165 countries monitored for SDG implementation. According to statistics, Croatia achieved a score of 68.4 based on the results of the achievement of individual goals, which are shown in the next graph.

Graph 2. Average performance by SDG



Source: Sustainable development report, 2021. https://2021.dashboards.sdgindex.org/rankings

Croatia has maintained SDG achievement in many of the Sustainable Development Goals, and has moderately improved in some. A good indicator is that there was no deterioration in any goal, but stagnation in some. It can also be concluded that in three goals: No, Transport, Quality Education, and Clean Weather and Sanitation, Croatia has reached the achieved targets. In five goals, the challenges are sufficient to achieve them, and in eight goals, there are still significant challenges to overcome. For one goal, and that is Climate Action, it is to be rejected to make a major challenge. With the Climate Action target, compared to 2019, the background of the target of CO_2 emissions from fossil fuel combustion and cement production (tCO_2/capita) and CO_2 emissions embodied in imports (tCO_2/ capita) was achieved. All this is shown in the following diagram.

Graph 3. SDG Dashboard and trends Republic of Croatia in 2021

Source: Sustainable development report, 2021, https://2021.dashboards.sdgindex.org/rankings

In order to improve the achievement of the results in achieving the SDG Croatia, significant and concrete steps need to be made.

5. Social dialogue and industrial relations

After Croatia's independence, social dialog gradually developed. In 1994, the Tripartite Economic and Social Council and its working bodies were established to serve as an advisory body to the Government of the Republic of Croatia. The Ministry of Labour, Pensions, Family and Social Policy is responsible for social dialog and working conditions. The main legal framework for social dialog in Croatia is the Labour Act and the Act on the Representation of Employers and Trade Union Associations.

There are three levels of negotiation in Croatia:

- At the sectoral level, with no additional agreements at lower levels. This pattern prevails in the public sector, including education, health care and state administration. At the industry and company level. It is most prevalent in the construction and tourism sectors, where, in addition to industry-level agreements, many companies also have collective bargaining agreements.
- At the enterprise level. It is present in public and private companies outside the sector, where collective bargaining at the sectoral level has a tradition.

Independent Croatian Trade Unions, the Union of Independent Trade Unions of Croatia and Matica of Croatian Trade Unions are the largest Croatian trade unions and participate in tryptic collective bargaining. According to recent data, there are 625 registered trade unions in Croatia, while there is only one employers' organization (HUP). The problem of the trade union scene is highlighted by the fact that the number of employees who are members of a trade union is relatively small and that they belong to a large number of small unions. Croatia's accession to the European Union and the process of legislative approximation have not had a significant impact on the pattern of collective bargaining. The fact that collective bargaining patterns have not changed over the past fifteen years can be attributed to two key factors:

- The stability of the main actors in labour relations
- Stability of the structure of the Croatian economy in terms of the importance of individual industries, the share of the public sector and the number of large companies.

6. Conclusion

The Republic of Croatia is a European country located in the southern part of Central Europe. According to its area, it is one of the medium-sized European countries. For many years, the country has been facing a negative demographic trend due to negative natural growth and negative net migration. An old population characterizes Croatia, like the rest of Europe, so that the average age in 2021 was 44.3 years. In the future, a further aging of the population and a decrease in its number can be expected. This development brings with it a number of economic and social problems that need to be addressed. Against this background, the number of employed persons is decreasing, while the number of employed persons is increasing, especially in legal entities. The development of GDP depends on domestic movements, but also on foreign ones. The last decline took place in 2020, when the COVID crisis had a negative impact on all economies in the world, including the Croatian economy. However, in 2021, the economy and macroeconomic indicators recovered. As a member of the European Union, Croatia had to submit a number of documents guaranteeing the transition to a green transformation. In terms of sustainable development, Croatia has made progress in some areas, while stagnating in others. A good indicator is that no indicator is declining.

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SOCIAL GREEN DEAL – Role and prospects for industrial relations and social dialogue in green transition management of local economic systems

Regional report: Istria County

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Summary:

1. Social and productive fabric of a fragile region

Istria County, the westernmost county in Croatia, covers most of the Istrian peninsula (2,813 of the 3,120 square kilometres of the Croatian part of Istria). The administrative centre of the county is Pazin, and the political and economic centre is Pula. It consists of 10 towns and 31 municipalities. The location of Istria County in the Republic of Croatia can be seen on the following picture.

Picture 1. Spatial accommodation of the County of Istria

Source: www.ida.hr

In the rest of the text the most important determinants of the development of the County of Istria are presented.

1.1. Demographic indicators

According to the latest data from the Croatian Bureau of Statistics, 195,237 inhabitants live in Istria County, which is 5.04% of the total population of the Republic of Croatia. However, if we compare the data on the number of inhabitants over a certain period, we can see that it is decreasing both in Istria County and at the level of the Republic of Croatia.

Table 1. Number of inhabitants of Istria County 1981-2021. and population density

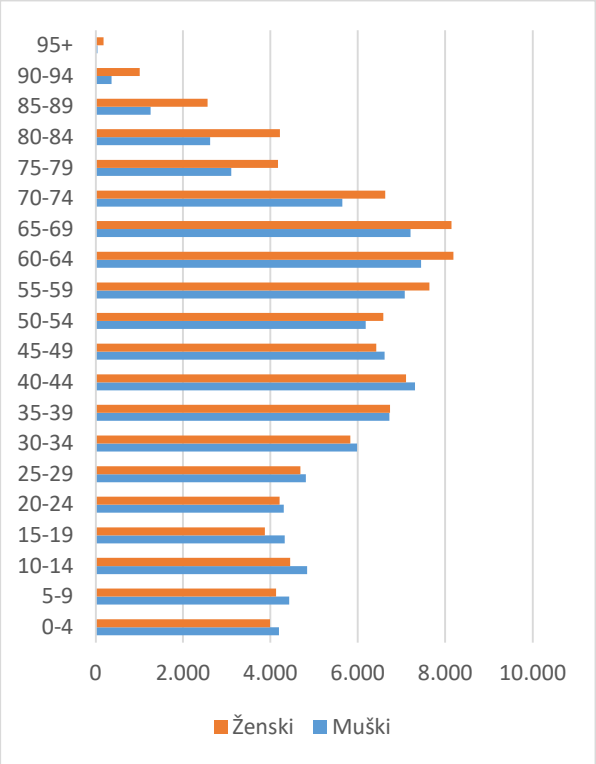
Year	**1981.**	**1991.**	**2001.**	**2011.**	**2021.**	**Average annual rate of decline**
Number of inhabitants	188.332	204.346	206.344	208.055	195.237	2.812,98
Population density (people/km^2)	66,95	72,64	73,35	73,96	69,40	

Source: Croatian Bureau of Statistics, www.dzs.hr

The average population density in Istria County is 69.4 inhabitants per km^2, which is higher than the national average of 68.5 inhabitants per km^2. Comparing the period 1981-2011, it can be seen that the population is growing at an average annual growth rate of 0.3%. Comparing the population between 2011 and 2021, it can be seen that it decreased at an average annual rate of -0.63%. Comparing the same data in the same period for the territory of the Republic of Croatia, the decrease is -0.97%. The average age of the population is 43 years, but the problem is that it is getting older. In the Republic of Croatia, the same indicator is 44.3 years, which means that the population of Istria County is still slightly younger. The inhabitants of Istria County are concentrated in larger centres, i.e. about 70.7% of them live in cities, while the rest live in rural areas. The largest urban unit is Pula with 52,411 inhabitants, which represents 27% of the total population of Istria County.
According to the 2021 census, 51.6% of the population were women and 48.4% were men. Compared to the 2011 census, the gender structure has not changed significantly. The following table shows the age and gender structure of the population in Istria County in 2021.

Table 2. Age-sex structure of the population in the County of Istria in 2021

Age	Men	Women
0-4	4.195	3.991
5-9	4.429	4.132
10-14	4.838	4.450
15-19	4.326	3.874
20-24	4.306	4.212
25-29	4.813	4.684
30-34	5.982	5.828
35-39	6.726	6.736
40-44	7.307	7.104
45-49	6.613	6.423
50-54	6.182	6.581
55-59	7.075	7.637
60-64	7.447	8.187
65-69	7.209	8.142
70-74	5.646	6.629
75-79	3.103	4.174
80-84	2.620	4.216
85-89	1.260	2.563
90-94	363	1.007
95+	43	184



Source: Croatian Bureau of Statistics, www.dzs.hr

From the above data, 32.2% of the population of Istria County is over 60 years old. On the other hand, only 17.5% of the population is under 20 years old. Similar trends can be observed in the Republic of Croatia, where the percentage of people over 60 years old is 30%, while the percentage of people under 20 years old is 19%. It can be concluded that negative demographic trends are observed both on the territory of the Republic of Croatia and on the territory of Istria County.

1.2. Education

A prerequisite for the growth and development of any country, including Istria County, is a higher level of education, knowledge and skills of its inhabitants. Education is one of the key factors for socio-economic development and increasing international competitiveness. In Croatia, including Istria County, there are several levels of education. The first level is early childhood and preschool education, which includes the upbringing, education and care of children of preschool age, achieved through programs of education, health care, nutrition and social care of children from six months of school age. This is followed by primary education, which is free for all children between the ages of six and fifteen. Secondary education enables everyone, under equal conditions and according to their abilities, to acquire knowledge and skills for work and further education after completing primary education. Higher education is based on the principles of the Bologna Process and is provided at universities and their institutions, polytechnics and colleges in the form of college and professional degree programs. Adult education is part of a unique educational system and includes adult education processes aimed at improving the employability and personal development of individuals.

On the territory of Istria County there are educational institutions owned by the Republic of Croatia, but also by the County itself. They are financed with state funds. In addition to these institutions, there are also a number of private institutions financed by private investors.

Table 3 shows positive changes in the educational structure of the population in the period between the two census years. For example, the share of highly educated people increased by 4.1% in the period 2001-2011. The share of the population with low education level (no school, incomplete elementary school and completed elementary school) decreased by 9.5%.

Table 3. Population aged 15 and over according to level of completed school in 2001 and 2011.

	2001.	**Share**	**2011.**	**Share**
No school	2.546	1,5	1.303	0,7
Unfinished elementary school	21.999	12,6	13.013	7,2
Elementary school	39.855	22,8	35.092	19,5
High school	88.013	50,2	100.602	55,8
College	9.308	5,3	12.913	7,2
Faculty/academy/M.Sc./Ph.D.	12.663	7,2	16.961	9,4
Unknown	783	0,4	355	0,2
In total	175.167	100	180.239	100

Source: Census 2001 and 2011. Note: data from the 2021 census for the structure of the population are not yet publicly available.

As far as the educational structure of the population is concerned, the County of Istria is well positioned in the Republic of Croatia as far as the education of the population is concerned. This is evident from the indicator of the percentage of persons with college and higher education in Istria County, which is 16.6%, while the same value in 2011 was 16.4%.

Similarly, the percentage of persons with secondary education in Istria County is 55.8%, while in the Republic of Croatia the percentage for this indicator is 52.6%.

1.3. Qualitative and quantitative indicators of employment

The County of Istria, as well as the entire Republic of Croatia, is experiencing a negative demographic trend. All this affects the availability of the labour force. The following table shows data on the total active population in Istria County.

Table 4. Employed and unemployed in the County of Istria (2010-2021)

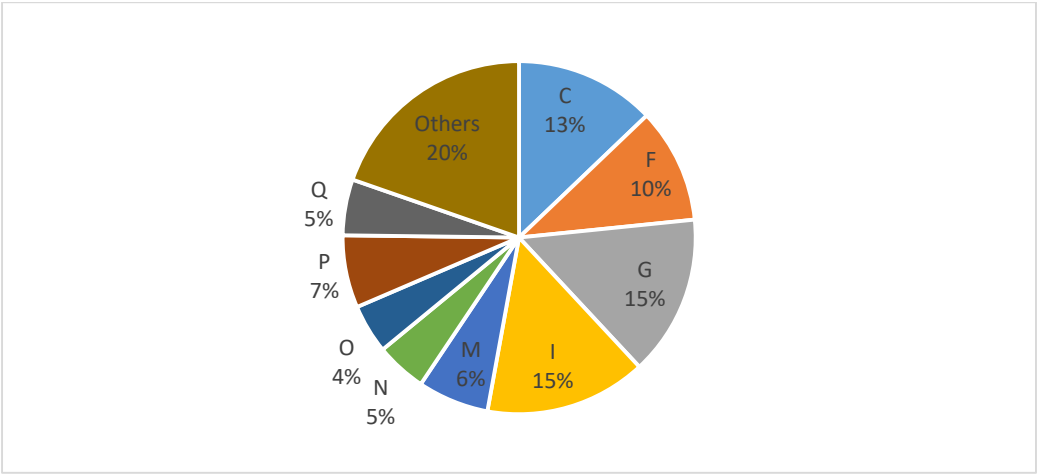
	2010.	**2021.**
Active population	90.979	87.498
Employed	81.249	84.030
Unemployed	9.730	3.468

Source: Active population in the Republic of Croatia in 2022 – situation as of March 31, www.dzs.hr

Table 4 shows that Istria County recorded positive developments in the observed period. Thus, employment increases by 0.3% on an annual average, while unemployment decreases by -8.9% on an annual average. Part of the decrease in the unemployment rate is certainly, because a certain part of people emigrated from Istria County in search of better living conditions.

The population of the County of Istria is employed in various activities, as shown in the following graph.

Graph 1. Share of employees of the County of Istria by activity, 2022



Source: Croatian pension insurance institute, Zagreb

As the diagram shows, most of the inhabitants of Istria County are employed in the economic sectors G (trade) and I (accommodation and catering). This is followed by economic sectors

C (manufacturing) and F (construction). Some of these sectors will certainly be affected by the changeover.

1.4. Economy of the Istrian County

According to economic indicators, Istria County is one of the most successful counties in the Republic of Croatia. One of the most important indicators showing the economic development of a given area is the gross domestic product. According to the latest available data from the State Statistical Office, the average GDP per inhabitant in Istria County in 2019 was 15,776 EUR, which is 17% more than the average GDP per inhabitant in the Republic of Croatia. The registered unemployment rate in Istria County in 2021 was 3.2%, which is 57% lower than the average unemployment rate in the Republic of Croatia in 2021. In addition, there were 11,785 entrepreneurs and 6,645 craftsmen working in Istria County in 2021. Entrepreneurs in Istria County make up 8.1% of all Croatian entrepreneurs.
If we look at the realized financial result of the entrepreneurial activity, we can see that the realized net profit in 2021 was 238 million EUR, while in 2020 a net loss of 41 million EUR was realized. From these data, one can see a great progress in the business activity of entrepreneurs. Among the most important activities that generate the highest profit, the following stand out:

- accommodation, food preparation and catering (Valamar Riviera, Maistra, Plava laguna, Valalta).
- manufacturing industry (Uljanik brodogradilište in bankruptcy, Tvornica duhana Rovinj, Holcim)

Tourism and the hospitality industry are constantly growing, and the largest hotel companies in the Republic of Croatia are located in the County of Istria. Tourism is the carrier of the largest investments on the peninsula. It is followed by trade and the expansion and improvement of the offer, as well as significant investments in new facilities and centres. The sector IT is also on the rise and the headquarters of the largest and fastest growing company IT is located in Istria County. In addition, the manufacturing industry is very developed with traditional agriculture, fishing, construction and the production of building materials (lime, cement, brick, and stone), trade and transport. The following table shows the main macroeconomic indicators for Istria County.

Table 5. The main macroeconomic indicators Istrian County

	Istrian county	**Republic of Croatia**
GDP per capita (2020)	12.681	12.465
Average net salary paid (2023)	1.046	1.110
Rate of unemployment (2023)	3,4%	6,5%
Number of companies and share in the Republic of Croatia (2022)	10.916	7,8%

Number of craftsmen and their share in the Republic of Croatia (2022)	8.863	8,7%
Profit for the period and share in the Republic of Croatia (2021)	238,9 mln	4%
Number of employees and share in the Republic of Croatia (2021)	51306	18,8%

Source: Croatian Bureau of Statistics, www.dzs.hr, and Financial agency

As the table shows, the GDP per capita of Istria County is slightly higher than the average for the Republic of Croatia. However, a comparison by county shows that in terms of GDP per capita, Istria County is right behind the City of Zagreb, i.e. in second place. Realized net wages are at the level of the average for the Republic of Croatia. Istria County has a significantly lower unemployment rate than in the whole Republic of Croatia. The share of companies operating in Istria County is 7.8% compared to the Republic of Croatia, while the share of craftsmen is 8.7%.

The Croatian Chamber of Commerce has developed the Index of Economic Power of Counties with the aim of creating a realistic ranking of counties and analysing their position in comparison with the average of the Republic of Croatia. The index is calculated as the sum of weighted indices of basic economic indicators in three-year average and demographic projections, whereupon the resulting indices are ranked. The index includes the following indicators, with GDP per capita having the greatest weight in its calculation: GDP per capita; total entrepreneur's income per employee; average net wages; consolidated entrepreneur's financial result per employee; entrepreneur's foreign market income per employee; unemployment rate; and change in population, latest Croatian Bureau of Statistics estimate with respect to the 2011 census.

The latest available index of the economic power of counties, which includes the average of the period from 2018 to 2020, but also slightly older, most recently available data on GDP per capita, shows that only six counties were above the average index for the Republic of Croatia, with the city of Zagreb exceeding this average by a high 54.6 percent. According to this index, Istria County ranks second with an index of 115.9, as the following table shows.

Table 6. Ranking of counties according to selected indicators and HGH's Index of economic strength of counties

County	GDP per capita average 2016-2018 index	Average net wages per employee, average 2017-2019, index	Total income of entrepreneurs per employed average 2018-2020, index	Consolidated financial result per employed average 2018-2020, index	Income on the foreign market per employed average 2018-2020, index	Unemployment rate, average 2018-2020, indexes, Republic of Croatia in relation to the county	Demography - index of population change 2020/2021.	HGF index of economic strength
City of Zagreb	178,9	116,9	129,1	149,9	99,4	240,5	102,4	154,6
Istria	126,2	99,0	78,8	51,0	124,2	184,2	101,0	115,9
Varazdin	86,1	84,3	78,3	81,1	140,5	218,8	94,1	111,2
Zagreb County	77,0	98,4	113,3	120,4	101,8	144,8	97,4	102,8
Primorje – Gorski	121,7	100,0	78,2	49,0	82,6	132,9	95,0	101,7

kotar								
Međimurje	83,7	86,3	69,2	90,0	121,8	167,2	95,7	101,3
Vukovar - Srijem	57,2	85,8	131,3	102,3	257,8	56,4	82,9	95,8
Korpivnica - Krizevci	74,7	91,3	847	98,6	115,0	132,9	91,3	95,0
Krapina - zagorje	65,1	86,3	77,4	108,9	124,3	141,3	93,5	94,4
Zadar	84,0	93,8	72,6	54,8	90,4	100,0	98,6	86,1
Karlovac	71,7	92,5	73,7	98,7	85,6	90,4	88,9	83,5
Dubrovnik Neretva	105,7	99,6	63,3	31,2	56,7	75,0	100,1	83,0
Osijek - Baranja	75,1	90,2	83,9	81,2	88,4	52,3	88,5	78,0
Split - Dalmatia	77,7	93,3	77,8	50,5	58,9	60,4	98,4	75,2
Lika - Senj	75,6	91,2	67,2	38,3	74,6	71,0	86,9	73,5
Sisak - Moslavina	68,1	89,6	71,5	38,9	112,3	46,3	83,6	71,1
Brod Posavina	55,2	87,2	693,2	49,1	117,1	58,0	85,6	70,4
Požega Slavonia	55,4	87,1	65,8	54,2	75,1	69,1	83,7	67,8
Bjelovar - Bilogora	66,7	83,7	66,8	40,8	54,9	65,5	87,8	67,6
Šibenik - Knin	79,8	92,2	75,0	-32,9	59,5	66,3	90,3	66,8
Virovitica Podravina	54,1	82,3	66,3	45,1	74,6	47,2	85,5	63,0

Source: Counties - development diversity and economic potentials, Croatian Chamber of Commerce, Zagreb, October 2021.

The achievement of the index of 115.9 was mainly influenced by components such as the positive index of realized GDP per capita of 126.2, the unemployment rate with an index of 124.2, which is right behind Varaždin County and the City of Zagreb, and the income from the foreign market with an index of 184.2, which is right behind Vukovarsko Srijemska and Varaždinska Counties. It is important to emphasize that in the coastal counties, which include Istria County, the results achieved are somewhat weaker than in previous years due to the negative impact of the pandemic.

Of all the towns in Istria County, Pula ranks first in terms of the number of entrepreneurs, number of employees, total revenue and loss for the period, while Poreč ranks first in terms of profit for the period and net profit. In comparison with the other counties in the Republic of Croatia, Istria County ranks third in the number of entrepreneurs, fifth in the number of employees and total income, and sixth in net profit/loss. It ranks seventh in the indicator of labour productivity, measured by the ratio of total income to the number of employees, eighth in the profitability of enterprises, and ninth in labour productivity, measured by the ratio of net profit to the number of employees. Among entrepreneurs based in Istria County, Valamar Riviera achieved the highest turnover in 2021, the highest profit for the period, the highest export and had the highest number of employees. Maistra is in second place in terms of turnover.

2. Green transition: risk and opportunities

The European Commission's Croatia 2020 report identifies Istria County and Sisak-Moslavina County as priority regions for the transition process, as they are traditionally dominated by mining and fossil fuel-dependent industries, and the reduction of greenhouse gas emissions could have the greatest impact in these areas.

The manufacturing sector in Istria County is the most significant from a climate change perspective, as it is the largest contributor to GHG emissions, accounting for about 25% of regional GDP and 20% of employment. The environmental problems in Istria County are related to the production of cement and electricity from coal. The economic units are located in the eastern part of Istria, the so-called Labinština, including the municipality of Pićan and the area around the city of Pula, and represent a priority area where attention must be paid to the social, economic and territorial impact of the transition. The sphere of influence of the Plan for a Just Transition includes six local self-government units, namely the cities of Labin and Pula, and the municipalities of Kršan, Sveta Nedelja, Pićan and Raša. The main economic units are located in these areas: HEP, TE Plomin, Holcim, Calucem and Rockwool Adriatic. The above companies employ about 850 people, of which 90% of the total workforce of the above companies is located in the County of Istria, which is particularly evident in Plomin, where 95% of the workforce is employed in the Labinština region. Some companies have elaborated plans for the transition to clean technologies. Apart from these two companies, none of the other companies has clear plans to cease operations. However, there are plans to restructure operations to some extent in order to reduce greenhouse gas emissions and increase energy efficiency. Most of the plants in the region are planning to increase their production/capacity in the near future and are establishing investment plans that are in line with the new climate targets, focusing mainly on measures that will help reduce emissions and greenhouse gasses and reduce the carbon footprint. The heavy dependence of the Labinština area on the listed economic enterprises could have a significant negative impact in the event of the closure of economic enterprises or a decrease in their workforce. Any change in the employment structure within the economic entities will have a strong impact on the labour market. The economic impact of business enterprises is extremely significant, and any change in their operations or future business plans will have a major impact on local communities. In addition to the significant impact on employment in the narrower Labinština area, the transition of economic entities will also have an impact on the wider area, through suppliers and employees living outside the said area. In addition to the more than 2,800 directly affected jobs, another 1,000 are estimated to be indirectly affected through the supply chains. The company's emissions together account for 24.7% of total verified national emissions in 2019, which is an indicator of a large environmental footprint. Although sales data are not available for Plomin, the other three business units together reach a sales share of almost 4% of the total sales of all companies in Istria County and Holcim 80% of the sales of all companies in the municipality of Raša, indicating that changes in the

business units' operating or business plans have a significant impact on prominent local communities.

However, the transition itself will also bring positive developments. Investments in new technologies to reduce greenhouse gas emissions and the shift to environmentally friendly systems will create new jobs for technical professions as well as links to local SMEs. This will include the establishment of sustainable and green technology innovation centres focused on decarbonisation and enabling circular business models in manufacturing. It will serve as a platform for collaboration that directly connects students, researchers, entrepreneurs, start-ups, SMEs and large manufacturing companies. In this sense, the activities financed by the Just Transition Fund will be supported by the implementation of the industrial transformation of the Adriatic region on the territory of Istria County.
This County will also support investments in entrepreneurial infrastructure, primarily focused on the green and digital economy, especially in the context of decarbonisation, as well as investments in the research and development sector and encouraging SMEs to use innovations in the field of green and digital technologies in their businesses. To support the further development of Istrian agriculture, an Agribusiness Canter will be established as a support network for existing and new farmers. Measures that promote diversification of the regional economy will also support other sectors such as ICT, wood processing, automobiles, etc.
In the field of higher education, there is a need to improve the skills of students and invest in the design of study programs that had better meet the needs of the market in Istria. Some initiatives in this sense are already emerging. However, there is also a need for measures to promote forward-looking, skills-based programs that include better linkages between businesses and educational institutions, as well as programs for retraining, upskilling, and a wider range of non-formal education to mitigate the effects of transition by preparing workers and the unemployed for the future labour market.
Further diversification opportunities in Istria County, traditionally focused on tourism, are seen in the revival, promotion and development of cultural and related products based on disused mining and industrial monuments, which could have a positive impact on the local economy of the area concerned.

3. Case studies

3.1. Holcim

Holcim Hrvatska is part of the Holcim Group. Holcim in Croatia has one cement plant, two cement terminals, four aggregate quarries and five concrete plants (of which two are active, two are leased and one is inactive). Holcim is a company engaged in the production of cement, concrete and aggregates, with production and sales growing year on year. Cement is produced at the cement plant in Koromačno, aggregates (crushed stone) are produced at

quarries in Plovanija, Šuber, Vranja and Očura, while concrete is produced at concrete plants in Kukuljanovo and Karlovac.

In view of the fact that the world is changing rapidly and posing new challenges for the construction and building materials industries, such as population growth, urbanization, climate change and environmental protection, the company bases all its activities on the principles of sustainable development. Holcim strives to build long-term cooperation with customers by delivering quality while meeting the most stringent environmental protection requirements. The quality of the product is directly related to the quality of the raw materials used for production and the care taken at every stage of the value chain. Despite all this, this company has been identified as one of those that must make significant efforts to transition to a green economy. In accordance with the European Union's legislative framework, which provides for the decarbonisation of Europe by 2050, investments in numerous technologies that reduce CO_2 emissions, i.e., the carbon footprint, must be promoted in the coming years. In addition, the European Union Green Plan provides for better management according to the waste management hierarchy, which promotes the use of waste or by-products of an industrial process in the creation and production of a new product. This is made possible by the European standard for cement production, which is also applied in Croatia.

For example, Holcim plans to improve technology, switch from coal and petroleum coke to alternative and renewable energy sources, and reduce greenhouse gas emissions per ton of cement. The company is conducting research into carbon capture and storage. Holcim plans to upgrade technology, switch from coal and petroleum coke to alternative and renewable energy, and reduce greenhouse gas emissions per ton of cement by 53% (2030 compared to 1990) and 42% (2030 compared to 2019). In the production of cement, about 60% of CO_2 emissions are due to the chemical process of converting marl into clinker, which releases CO_2, and 40% of CO2 emissions are due to the combustion of coal and petroleum coke during the clinker burning process. Therefore, eliminating the use of coal and mineral aggregates is an important decarbonisation measure. Last year, Holcim started to procure new equipment for low-carbon cements and the KOdeCO project, i.e. the procurement of a new energy recovery technology that eliminates the need for coal. This HRK 23 million EUR investment is expected to reduce CO_2 emissions by around 35,000 tons per year.

Holcim's plans for the transition to a new alternative raw material are aligned with national plans to apply the principles of the circular economy. Holcim is also researching carbon capture and storage. The technology associated with this project is extremely expensive, and the funders would only be the company, the European Union and banks. Due to the importance of the transition and the implementation of this project, the Territorial Plan for a Just Transition of the Republic of Croatia included a measure with the following description: Mobilization of the ETS sector to reduce the share of regional greenhouse gas emissions in the total national balance through direct investments that contribute to the reduction of total CO2 emissions, in line with the climate targets of the European Green Plan for Carbon Neutrality (Holcim d.o.o., Carbon Capture and Storage Technology). This measure has been designed for the company Holcim d.o.o. and the planned allocation is EUR 14,700,000, which corresponds to the EU contribution. As mentioned above, the company will have to finance this project from many other sources besides the EU. This project would be the first

of its kind in the Mediterranean region and a vivid example of carbon capture and storage generated by a specific production process.

3.2. TE Plomin

Plomin Thermal Power Plant was built in Plomin Bay and is the only active coal-fired thermal power plant in Croatia. The location was chosen due to the former coal mine, topographically and geologically suitable terrain, fresh and sea water supply and well-developed infrastructure for sea and land transport.
Plomin Thermal Power Plant is a condensing thermal power plant consisting of two production units, Plomin 1 and Plomin 2, each of which has its own boiler and steam turbine. Energetic hard coal is purchased on the world market and transported by ship to the special port of Plomin, where it is unloaded and delivered to an open landfill via a belt system. Raw water from the source of the Bubić mine, which is demineralized, is used for steam generation, and seawater is used as cooling water for the needs of the two production units. The production unit A 125 MW was completed and put into operation in 1970. Since January 1, 2018, the decision on the unified conditions for environmental protection (environmental permit) is no longer valid, so the production unit TE Plomin 1 is not available until further notice.
The production unit of TE Plomin 2 with a capacity of 210 MW was built and put into operation in 2000. The unit was built by TE Plomin d.o.o., which is owned 50% by HEP and 50% by RWE, Germany.
The Republic of Croatia has joined the Alliance for Coal-Free Power Generation, and at the COP26 Climate Change Conference in Glasgow in November 2021, it was announced that coal-fired power generation in the Republic of Croatia would be phased out by 2033. TE Plomin 2 is the only active power plant in Plomin that uses coal exclusively. The share in electricity generation of TP Plomin 2 in 2019 was 15.6%, i.e. 1491 GWh. The closure of TP Plomin 2 will have a significant impact on the municipality of Kršan and on the current 210 employees.
As part of the transition, Plomin plans to introduce photovoltaic systems for self-consumption, which also indicates that the company is trying to adapt to the energy standards of the transition and, in addition, to take advantage of the opportunities offered by the transition to a circular economy. The Plomin Thermal Power Plant plans to use alternative fuels, waste and biomass. This project aims to achieve carbon neutrality through activities related to the storage of energy from renewable sources.
Considering the fact that in TP Plomin 1 the use of alternative fuels, waste and biomass is foreseen in the development plans of the Croatian EES, the possibility of using the mentioned fuels in TP Plomin 2 should be considered in accordance with the policy of the EU and the Republic of Croatia aimed at carbon neutrality, but also considering the possibility of pilot activities related to the storage of energy from renewable sources.

4. The role of social dialogue and industrial relations

The strong dependence of the Labinština area on the listed economic units could have a significant negative impact in the event of the closure of economic units or a decrease in their number of employees. Any change in the employment structure within the economic units will have a strong impact on the labour market. The economic impact of business entities is extremely significant, and any change in their operations and future business plans will have a major impact on local communities. The number of jobs at risk is estimated at 2,800 and another 1,000, of which more than 90% are located in the affected areas.

Investments in new technologies to reduce greenhouse gas emissions and switch to environmentally friendly systems will create new jobs for technical professions as well as linkages to local SMEs. This includes the establishment of a Canter for Sustainable and Green Technological Innovation focused on decarbonisation and enabling circular business models in the manufacturing sector, which will serve as a collaborative platform directly linking students, researchers, entrepreneurs of start-up companies, SMEs, and large manufacturing companies.

There is also a need to support investments in entrepreneurial infrastructure primarily focused on the green and digital economy, especially in the context of decarbonisation, as well as investments in the research and development sector and encouraging SMEs to use innovations in green and digital technologies in their business. To promote further development of Istrian agriculture, the Canter for Agribusiness will be established as a support network for existing and new farmers. Measures that promote diversification of the regional economy will also support other sectors such as ICT, wood processing, automobiles and the like.

Higher education has established links with the private sector, but there is a need to improve students' skills and invest in the design of study programs that better meet the needs of the market in Istria. Measures are needed to promote forward-looking, skills-based programs that include better linkages between businesses and educational institutions, as well as programs for retraining, upskilling, and a wider range of non-formal education to help mitigate the effects of transition by preparing workers and the unemployed for the future labour market.

In all these tasks, the role of trade unions is very important. They must focus on informing workers about the need for retraining and the need for additional training for new types of jobs. In addition, they must advocate for the rights of workers who will lose their jobs because of the transition. It will be necessary to address small businesses and tradespeople who do not have sufficient knowledge and information about the need to adapt to the transition process.

5. Conclusion

Along with Sisak-Moslavina County, Istria County is one of the counties where the transition process must be carried out. There are several companies such as HEP, TE Plomin, Holcim, Calucem and Rockwool Adriatic. Some of these companies (Holcim and TE Plomin) have already taken significant steps to adapt to the green transition, while other companies are just taking the first steps related to the transition. The adaptation process will require large financial resources as well as new employee skills. Unions will play an important role in providing information and knowledge essential to the green transition process. Similarly, unions will need to advocate for the protection of workers and marginalized groups who are unable to manage the transition.

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