



Ecology Awareness of Sustainable Green Development:
Collaboration of Universities and Local Actors

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COUNTRY-BASED LEGAL ANALYSIS

CROATIA



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EXECUTIVE SUMMARY

This document provides a **country-based legal analysis for Croatia**, focusing on the legal framework governing **sustainable green development** and the role of universities in collaborating with local actors. The analysis covers key areas such as the **green economy, sustainable finance, social responsibility, environmental protection, agriculture and food systems, sustainable urban development, and smart cities**, as well as **the legal framework for university-local government cooperation**.

In the **green economy**, the report examines Croatia's environmental taxes, incentives, and green public procurement policies. It highlights the alignment of national regulations with EU directives aimed at promoting environmentally responsible economic activities. In the area of **sustainable finance**, the study reviews Croatia's implementation of the **EU Taxonomy for Sustainable Activities, the Corporate Sustainability Reporting Directive (CSRD), and the Sustainable Finance Disclosure Regulation (SFDR)**, which require companies and financial institutions to enhance transparency in sustainability reporting.

The section on **environment and agrifood** analyzes Croatia's legal framework for **water management, sustainable agriculture, and biodiversity protection**. National action plans for organic farming and climate change adaptation strategies are key components of this regulatory landscape.

Regarding **sustainable urban development and smart cities**, the analysis covers Croatia's policies on **urban digitalization, green infrastructure, and sustainable transport**. Special attention is given to legislation supporting **public transport investments, multimodal transport integration, and urban sustainability initiatives**.

Finally, the **legal framework for university-local government cooperation** is examined, highlighting how Croatia's laws facilitate partnerships between higher education institutions and municipalities. This includes the regulatory basis for **joint projects, knowledge transfer, and sustainable development initiatives at the local level**.

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COUNTRY-BASED LEGAL ANALYSES

The comparative legal analyses in respect of green economy, sustainable financing, social responsibility, green environment and agrifood, sustainable urban development and smart cities and collaboration of universities and local actors is required for modern society and the environment.

This fostered cooperation between universities, local government, communities and citizens to achieve sustainable projects and promote environmentally friendly and economically responsible practices. Laws and regulations play a crucial role in how different countries implement policies and interdisciplinary cooperation. Their institutional systems may foster sustainability and innovation differently, and their comparison will help identify the positive and negative aspects and gaps that need to be mitigated for better intersectoral cooperation.

Using comparative analysis, partners will examine the impact of laws and policy on the achievement or obstruction of goals such as sustainable green development. For example, understanding how laws facilitate and promote SGD is a starting point for developing networking strategies and action plans between universities and other local actors in a more productive way.

Legal comparison allows partners to appreciate the matters which need to improve in the policies of their countries. That target may translate to concrete proposals for legal changes or modifications that would render collaboration more effective. These proposals will assist the universities and local governments in ways that will research to the SGD Guide and Action Plan, allowing for greater coordination, efficiency, and impact of their activities towards global sustainability.

Universities can serve as an innovation engine and instruct communities on how to adopt less harmful practices. Under enabling legislation and regulations, the universities can help in facilitation of the transfer of information, support local actors to solve problems, and assist university students and citizens in active problem solving of the local environmental issues.



GREEN ECONOMY

1.1. Environmental Taxes

Environmental taxes are tax instruments levied on products, services or activities that have a negative impact on the environment. Their main purpose is not only to raise public revenue, but also to encourage environmentally conscious behavior. These taxes provide financial incentives for pollution and promote sustainable consumption and production. The aim of environmental taxes is to:

1. Reducing pollution and greenhouse gas emissions
2. Promoting sustainable development
3. Increasing public revenues for environmental projects
4. Internalization of external effects

The laws regulating the types of tax are enacted by the Government of the Republic of Croatia, which also monitors the effects of the tax, carries out inspections and ensures compliance. The following environmental taxes exist in the Republic of Croatia:

Environmental taxes are taxes whose tax base is a physical unit (or its substitute) of something that is proven to have a specific negative impact on the environment and is identified as a tax in the ESA (European System of Accounts) 2010.

Environmental fees are the same as fees and are defined as compulsory, gratuitous payments to the state or to bodies outside the state, such as environmental protection funds or water management. Fees are considered payments for services.

Environmental tax revenues are revenues from taxes within a specific environmental category (taxes on energy products, taxes on transportation, taxes on pollution and taxes on natural resources).

Energy taxes include taxes on energy production and on energy products used for transportation and stationary purposes. The most important energy products for transportation are gasoline and diesel. Stationary fuels are heating oil, natural gas, coal and electricity. This category also includes CO₂ taxes. Transportation taxes include taxes on the ownership and use of motor vehicles, taxes on other means of transport (e.g. aircraft) and related transport services (e.g. taxes on charter flights or scheduled flights). Transportation taxes can also be "one-time" taxes related to the import or sale of equipment or permanent taxes, such as an annual road tax.

Pollution taxes include taxes on measured or estimated emissions to air and water, on solid waste management and on noise. CO₂ taxes, which are included in energy taxes, are an exception.

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Taxes on natural resources (excluding taxes on oil and gas extraction) are a group that includes taxes on the extraction or use of natural resources such as water, forests, wildlife and fauna, as these activities deplete natural resources.

Legal acts regulating environmental taxes in the Republic of Croatia:

Law on Excise Duties (Official Gazette 106/2018, 121/2019 and 144/2021)

This Act regulates the taxation of products subject to excise duty, including energy products and electricity. Details on the amount of excise duties on various types of energy products, such as unleaded and leaded gasoline, diesel fuel, heating oil, liquefied petroleum gas (LPG) and electricity, are set out in the **Regulation on the Amount of Excise Duties on Energy Products and Electricity**. According to this regulation, the excise duty on unleaded motor gasoline, for example, is 512.31 EUR/1000 liters, while the excise duty on diesel fuel is 406.13 EUR/1000 liters. This information can be found on the official website of the Customs Administration of the Republic of Croatia.

Act on Special Tax on Motor Vehicles (OG 15/2013) - this act establishes a special tax on motor vehicles intended for use on the roads of the Republic of Croatia. The tax is calculated on the basis of CO₂ emissions, the sales price of the vehicle, engine power and other criteria. Details on the calculation method and the amount of the tax can be found in the law itself.

Regulation on Special Tax on Motor Vehicles (OG 1/2017) - this regulation details the implementation of the law on the special tax on motor vehicles, including the procedure for calculating and paying the tax.

Law on Local Taxes (OG 152/2024) - this law regulates the type and amount of taxes that local self-government units may levy, including a tax on road motor vehicles and a tax on ships. Details on these taxes can be found on the official website of the Croatian Vehicle Center.

The Waste Management Act (OG 84/2021) regulates the recycling rate. The law prescribes measures to prevent the generation of waste, reduce the negative impact of waste and promote recycling and reuse. Details on the obligations of producers and other entities in the waste management system can be found in the law itself.

The same Act introduces measures to reduce the use of plastic bags, including the possibility of charging a fee for their use. The aim is to reduce the negative impact of plastic products on the environment.

The same Act also contains provisions on administrative offenses and penalties for non-compliance with legal obligations in the area of waste management. Details on the types of administrative offenses and the amount of penalties are specified in the relevant articles of the Act.

In Croatia, the Fund for Environmental Protection and Energy Efficiency acts as a key institution for financing projects aimed at environmental protection and energy efficiency. The activities of the Fund are regulated by the **Act on the Environmental Protection and Energy Efficiency Fund** (OG 107/2003, 144/2012).

The fee system for reusable packaging is regulated by the **Ordinance on Packaging and Packaging Waste** (OG 88/2015, 78/2016). This ordinance stipulates the obligations of manufacturers and importers with regard to the take-back fee for certain types of packaging.

The awarding of ecolabels in Croatia is regulated by the Ecolabel Ordinance (OG 70/2015). This regulation defines the criteria and procedure for awarding the eco-label to products and services that meet certain environmental standards.

Trading in carbon emissions is regulated by **the Ordinance on the Method of Trading in Greenhouse Gas Emission Units** (OG 89/2020). The regulation prescribes the method of trading emission units, the obligations of installation operators and the procedures for monitoring and reporting greenhouse gas emissions.

1.2. Other Regulations

In addition to environmental taxes, the Republic of Croatia has a comprehensive system of laws and regulations governing various aspects of environmental protection.

1. **The Environmental Protection Act** (OG 80/13, 153/13, 78/15, 12/18, 118/18) forms the basis for comprehensive environmental protection, including the preservation of biodiversity, the rational use of natural resources and ensuring sustainable development. This law is the basic legal act for environmental protection in Croatia. It is based on the principle that economic growth must be in harmony with ecological limits.
2. **The Air Protection Act** (OG 127/19, 57/22, 136/24) regulates measures to prevent and reduce air pollution, establishes air quality standards and sets limits for the concentration of pollutants in the air. It also regulates air monitoring in accordance with EU directives.

3. **The Sustainable Waste Management Act** (OG 94/13, 73/17, 14/19, 98/19) creates a legal framework for the proper disposal of waste, promotes recycling and reduces the amount of waste disposed of.
4. **The Water Act** (OG 66/19, 84/21, 47/23) ensures the protection of surface and underground waters, regulates their use, establishes models to protect the population from flooding, sets standards for drinking water, industrial water and wastewater, sets limits for chemical substances in water and implements a national plan for sustainable water use.
5. **The Nature Conservation Act** (OG 80/13, 15/18, 14/19, 127/19, 155/23) aims to preserve biodiversity, protect endangered species and establish protected areas. It categorizes protected areas such as national parks, nature parks and special reserves, provides guidelines for the protection of endangered species, monitors the standardization of the Natura 2000 ecological network and prescribes penalties for illegal deforestation.
6. **The Noise Protection Act** (OG 30/09, 55/13, 153/13, 41/16, 114/18, 14/21) aims to reduce the harmful effects of noise on human health.
7. **The Chemicals Act** (Official Gazette 150/2005) aims to ensure the safe handling of chemicals and reduce their negative impact on the environment and health. It strictly regulates pesticides and industrial chemicals in particular.
8. **The Law on Protection against Light Pollution** (OG 14/19) aims to reduce the negative effects of excessive or inappropriate artificial lighting on the environment, human health and ecosystems. It sets standards for private and public lighting, limits light emissions into the sky and neighboring buildings, and requires the use of energy-efficient and environmentally friendly lighting fixtures.
9. **The Act on Radiological and Nuclear Safety** (OG 141/13, 39/15, 130/17, 118/18, 21/22, 114/22) ensures the protection of people and the environment from the harmful effects of ionizing radiation and regulates the safety of nuclear facilities. It specifies the permissible radiation exposure, regulates the use of radioactive material and the operation of nuclear facilities and stipulates the obligation to monitor and report on radiation levels in the environment.

1.3. Incentives

Incentive instruments are regulations that, in addition to traditional command and control approaches, encourage behavior through price signals. These policy instruments, such as government cash grants for projects, tradable permits, pollution charges and tax incentives that reduce tax liabilities, referred to as "harnessing market forces" because, when properly implemented, they encourage stakeholders to make pollution reduction efforts that are in their financial self-interest and meet overall policy objectives.

Croatia is implementing a range of financial and legal incentives to promote the development of a green economy and sustainable practices. These incentives are aligned with European strategies such as the European Green Deal and the EU Taxonomy for Sustainable Investment, with the aim of reducing the carbon footprint and strengthening the circular economy. These incentives are financed from national funds, EU funds and credit lines from specialized institutions.

The Environmental Protection and Energy Efficiency Fund (EPEEF) is the central point for collecting and investing extra budgetary resources in the programmes and projects of environmental and nature protection, energy efficiency and use of renewable energy sources. The EPEEF provides subsidies for the energy renovation of buildings (public and private), support for the purchase of energy-efficient household appliances and vehicles, and financing waste reduction and recycling projects.

The Government of the Republic of Croatia, in cooperation with the Ministry of Construction and Physical Planning, adopted the first Programme of energy renovation of multi-apartment buildings in July 2014, after which, from 2016, the funding started to be withdrawn from the EU funds. The calls supported energy efficiency measures and the use of renewable energy sources that were to result in annual savings of at least 50% in heating energy compared to the situation before the renovation at the level of a single apartment building, through an integrated approach with the implementation of measures to increase seismic and fire safety and to ensure healthy indoor climate conditions.

The EPEEF also provides subsidies for the purchase of energy-efficient A+++ household appliances and eco-vehicles. With programs worth around 300 million kuna from 2014 to 2020, the Fund has promoted various ways to increase energy efficiency in the transport sector: from planning transport systems at local level to promoting more efficient public transport and environmentally friendly driving techniques to more energy and environmentally friendly vehicles, and good incentive practices continued after 2020. Under the EPEEF program, the government grants subsidies for the purchase of electric and hybrid vehicles and provides tax relief for environmentally friendly vehicles in the form of lower excise duties and exemption from the special vehicle tax for electric and hybrid vehicles.

As part of its programs aimed at decarbonizing the housing sector, the Environmental Protection and Energy Efficiency Fund also promotes the installation of systems for the use of renewable energy

sources. A special co-financing program is used to co-finance the installation of photovoltaic power plants for the production of electricity for self-consumption on the roofs of existing single-family houses or on existing outbuildings located next to the single-family house. For example, the grants amount to a maximum of 50% of the justified costs of the project, i.e. 600 euros per kW of nominal power of the installed photovoltaic power plant.

Furthermore, the Fund subsidizes waste management and recycling projects of cities and municipalities. For example, the preparation of project documentation for the application of projects for the construction of waste management centers for EU co-financing is financed by EU funds and EPPF funds. By the Government Decision on the coordination of activities related to the construction and equipping of waste management centers from May 2019, financing of the construction and procurement of equipment for waste management centers is realized according to the shares of the European Union + Environmental Protection and Energy Efficiency Fund - 90% and local/regional self-government units - 10%.

The Ministry of Physical Planning, Construction and State Property allocates grants for the implementation of pilot projects at the local level by local government units, linked to national programs for the development of green infrastructure in urban areas and/or circular management of space and buildings. The following activities are co-financed: green infrastructure on public land, green infrastructure on a plot on which public and social buildings are built, green roof, facade, urban garden, etc. on public or social buildings, reconstruction and equipping of an unused building and bringing it back to its original purpose, preparation of project and other documentation, preparation of an energy audit and energy certificate after the circular renovation of the building, cost of professional/design supervision, cost of an occupational safety coordinator, project management and administration, project promotion and visibility activities and horizontal activities.

The credit programs of the Croatian Bank for Reconstruction and Development also play an important role in promoting the development of a green economy and sustainable practices within the business community. For example, the Croatian Bank for Reconstruction and Development and the Ministry of Regional Development and European Funds are participating in the implementation of the financial instrument "Loans for Energy Efficiency of Entrepreneurs", which will enable entrepreneurs in various sectors to access loans with favorable interest rates and the possibility of partial write-off of the loan principal. In addition, various grants are available for entrepreneurs through the green transition investment support mechanism, which supports investments by small and medium-sized enterprises in green and/or digital technologies.

In the agricultural sector, the incentives are granted by the Paying Agency for Agriculture, Fisheries and Rural Development (PAAFRD). Current incentives are included through; Eco-scheme for intensified agricultural land diversification, Eco-scheme for extensive pasture management, Eco-scheme for intensified maintenance of ecologically significant areas, Eco-scheme for the use of manure on arable land, Eco-scheme for a minimum share of legumes of 20% within agricultural land, Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Eco-scheme for conservation agriculture and Eco-scheme for the preservation of grasslands of high natural value.

It can be concluded that Croatia is actively applying a range of financial and legal incentives to promote the green economy. Further development should focus on reducing administrative barriers to the use of grants and achieving better coordination between local and state institutions, as well as further development of the range of incentive measures.

1.4. Green Public Procurements

Green public procurement is defined as a process through which public authorities are encouraged to purchase "green" products and services, i.e., those that have a lower environmental impact throughout their lifecycle compared to products they would otherwise procure. Green Public Procurement (GPP) is a key component of sustainable development in Croatia and aligns with European Union policies.

Although the government adopted the first National Action Plan for Green Public Procurement in 2015, progress remained minimal until 2023. During this period, less than 1% of public procurement in Croatia was green, making it the EU member state with the lowest share of green procurement. In 2021, Croatia adopted the Decision on Green Public Procurement in Central Procurement Procedures defining that the Central State Office for Central Procurement is required to apply GPP criteria in procurement procedures as part of the technical specification and/or award criteria. The obligation concerns primarily the purchasing categories of office supplies, consumables, computers and computer equipment, motor vehicles and the supply of electricity.

Significant progress was made in 2024 with the adoption of the Decision on the Implementation of Green Public Procurement (Official Gazette 137/2024), representing a major step towards a sustainable future in line with national and European environmental protection goals. This decision made green public procurement mandatory for state administration bodies and defined the items for which green procurement is obligatory. Other public procurement entities, such as local and regional government units and other bodies under their jurisdiction, are encouraged to implement green public procurement. The objective is to promote sustainable products and services, reduce environmental impact, and contribute to the development of a circular economy.

State administration bodies are required to implement green public procurement for the following procurement items or groups:

- Electricity
- Office paper
- Paper products

- Cleaning and hygiene products
- Cleaning services
- Computers and IT equipment
- Toners and inks
- Printed paper products, writing paper products, and paper bags
- Promotional materials
- Equipment for image recording, processing, and display, and televisions
- Air conditioners
- Lamps and electric bulbs
- Road vehicles
- Tires for motor vehicles
- Furniture, construction joinery, and other wooden construction elements
- Food and catering
- Clothing

This significant step makes Croatia one of the few EU member states that has made green public procurement, previously a voluntary instrument, mandatory for state administration bodies. One of the key innovations of this Decision is the direct connection of the Decision on the Implementation of Green Public Procurement with the EU Ecolabel – the official environmental protection mark of the European Union, where possible. The procurement of products and services with the EU Ecolabel is prioritized, aligning Croatia with the proposal for the Green Claims Directive. The implementation of the Decision will be monitored through the Electronic Public Procurement Notice and annual reports to state administration bodies, ensuring transparency and impact evaluation. The new Decision is aligned with the objectives of the European Green Deal and the National Action Plan for the Circular Economy.

By implementing this policy, Croatia paves the way for the development of a green economy and innovation while strengthening trust in environmental claims. The criteria for obtaining the EU Ecolabel are stricter than legally required minimums and are regularly updated to reflect technological innovations, market changes, and the latest scientific findings to ensure that standards remain current, robust, and reliable. For specific products and services covered by this Decision, concrete criteria are defined, such as the use of recycled materials, energy efficiency, and waste reduction.

Goals have been set for the procurement of recycled paper, and at the same time, the acquisition of printing and copying devices must support the use of paper containing 100% recycled fibers. New rules mandate that public authorities ensure that at least 50% of procured electricity comes from renewable sources by 2025, with a target increase to 65% by 2030. This not only reduces

greenhouse gas emissions but directly supports the development of renewable energy sources, ensuring Croatia's leading role in the energy transition.

The Decision introduces strict rules for procuring technical equipment. State administration bodies must procure computers, monitors, printers, and household appliances such as air conditioners and lighting exclusively from the highest energy classes. For instance, air conditioners must have at least an A+ energy rating, while 90% of electric bulbs procured by 2030 must be of the highest energy efficiency class. This measure directly reduces energy consumption and associated costs while supporting the ambitious energy efficiency targets of the European Union.

Particular attention is given to the procurement of clean and energy-efficient vehicles. By 2028, at least 50% of new vehicles for state administration bodies must meet strict energy efficiency criteria. This includes electric, hybrid, and other low-emission vehicles, fostering the decarbonization of the transport sector – one of the biggest challenges in combating climate change.

Furniture and construction elements made of wood must come from sustainably managed forests certified by schemes such as FSC or PEFC. By 2030, at least 50% of the volume of wooden materials in public procurement must originate from sustainable sources. These measures contribute not only to forest conservation but also support the local wood industry and employment.

One of the key aspects of the new Green Public Procurement Decision relates to the procurement of agricultural and food products, emphasizing ecological sustainability, freshness, and seasonality. The goal is not only to reduce environmental impact but also to promote healthy eating and support local producers. Healthier and more sustainable food in Europe is a crucial objective of the EU's "Farm to Fork" strategy, aimed at creating a sustainable food system that benefits people, the environment, and the economy. By 2030, at least 30% of procured food products must come from organic and/or integrated agricultural production, quality systems registered at national and European levels, or short food supply chains. This measure supports local farmers, reduces greenhouse gas emissions associated with food transport, and contributes to the development of a sustainable food system.

Single-use plastic packaging for fruits, vegetables, and other food products will be completely banned. Catering services must use reusable packaging, with at least 80% of beverages served in reusable containers, while the remaining 20% must be in non-plastic packaging. Catering service providers must submit a waste reduction plan during food preparation. This Decision eliminates the use of single-use plastic food packaging and reduces food waste in line with waste management planning documents and the Proposal for the European Parliament and Council Directive amending Directive 2008/98/EC on waste.

Public procurement in Croatia accounts for approximately 16% of GDP, meaning that green public procurement will significantly contribute to the development of the market for sustainable products and services.

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Other strategic documents regulating this area include:

- Public Procurement Act (Official Gazette 120/16)
- Strategy for Sustainable Development of the Republic of Croatia (Official Gazette 30/09)
- Energy Development Strategy of the Republic of Croatia until 2030 with a view to 2050 (Official Gazette 25/2020)
- Environmental Protection Act (Official Gazette 80/13, 153/13, 78/15, 12/18, 118/18)
- Low-Carbon Development Strategy of the Republic of Croatia until 2030 with a view to 2050 (Official Gazette 63/2021)
- Waste Management Plan of the Republic of Croatia for the period 2023–2028 (Official Gazette 84/2023)
- Integrated National Energy and Climate Plan of the Republic of Croatia for the period 2021–2030 (NECP)

In conclusion, green public procurement has great potential to reduce greenhouse gas emissions, promote innovation, and drive sustainable economic development. Further progress requires strengthening education on GPP and improving result monitoring.



SUSTAINABLE GREEN FINANCING AND SOCIAL RESPONSIBILITY

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2.1. EU Taxonomy for Sustainable Activities

The EU Taxonomy for Sustainable Activities serves as a pivotal framework within the European Union's sustainable finance agenda, aiming to direct investments toward environmentally sustainable economic activities. This classification system delineates specific criteria to ascertain the environmental sustainability of various economic undertakings, thereby facilitating the EU's transition toward a net-zero emissions economy by 2050.

The Taxonomy Regulation identifies six key environmental objectives:

1. Climate Change Mitigation
2. Climate Change Adaptation
3. Sustainable Use and Protection of Water and Marine Resources
4. Transition to a Circular Economy
5. Pollution Prevention and Control
6. Protection and Restoration of Biodiversity and Ecosystems

For an economic activity to be deemed environmentally sustainable under the EU Taxonomy, it must satisfy the following conditions:

- Substantial Contribution: The activity must significantly advance one or more of the six environmental objectives.
- Do No Significant Harm (DNSH): It should not adversely affect any of the other environmental objectives.
- Compliance with Minimum Social Safeguards: Adherence to international labor standards and human rights guidelines.
- Alignment with Technical Screening Criteria: Meeting specific performance thresholds established by the European Commission.

As an EU Member State, Croatia is obligated to integrate the EU Taxonomy into its national regulatory and legislative frameworks. This integration ensures that Croatian enterprises, particularly large and publicly listed companies, align their operations with the EU's sustainability benchmarks. Consequently, these companies are required to disclose the extent to which their activities conform to the Taxonomy's criteria, encompassing aspects such as revenue streams, capital expenditures, and operational expenditures related to environmentally sustainable activities. The adoption of the EU Taxonomy presents both challenges and opportunities for Croatian businesses. In terms of enhanced transparency companies are now expected to provide detailed disclosures regarding the sustainability of their operations, fostering greater transparency and accountability. Alignment with the Taxonomy can enhance a company's appeal to investors seeking sustainable investment opportunities. Due to this businesses may need to modify their practices to meet the stringent criteria set forth by the Taxonomy, potentially involving significant capital investments.

Recent developments and data indicate a positive trend in the adoption of the EU Taxonomy across Member States as presented in Table 1. Implementation of the Taxonomy resulted in increased capital investments: In 2023, approximately 600 European companies reported capital investments totaling €191 billion in Taxonomy-aligned activities. By May 2024, this figure had risen to €249 billion, underscoring a growing commitment to sustainable investments. The utilities sector, particularly electricity providers, has demonstrated significant alignment, with over 60% of their capital investments meeting Taxonomy criteria.

Table 1. Taxonomy-Aligned Investments by Sector (2023)

	Taxonomy-aligned investments			
	Number of companies reporting		Total aligned investments (€bn)	
	2022	2023	2022	2023
Utilities	62	67	109	132
Consumer discretionary	66	86	35	45
Industrials	207	243	22	27
Energy	26	32	11	23
Real estate	35	41	4	5
Other sectors	212	254	11	16
TOTAL	608	723	191	249

Source: European Commission – The EU Taxonomy’s Uptake on the Ground

The EU Taxonomy also serves as a cornerstone for the EU’s broader sustainable finance strategy by providing a “green” framework for investors, businesses, and policymakers to identify and support environmentally sustainable projects. One notable aspect of the EU Taxonomy is its dynamic nature. The criteria are subject to regular updates to reflect scientific advancements and evolving policy goals. The Platform on Sustainable Finance continuously evaluates and recommends modifications, ensuring that criteria remain ambitious. Furthermore, the EU Taxonomy emphasizes transparency. Financial participants must disclose their investments’ alignment with the Taxonomy, enhancing investor confidence and mitigating greenwashing.

In the future period the EU Taxonomy for Sustainable Activities will serve as a transformative tool in steering the European Union, toward a more sustainable and transparent economic landscape. By establishing clear criteria for environmental sustainability, it not only aids in achieving the EU's climate objectives but also enhances market transparency, mitigates greenwashing, and fosters investor confidence in sustainable economic activities.

2.2. Sustainability Reporting

In the modern economy, environmental protection and social responsibility have become important factors for market success. The global focus on sustainability means that information on the environmental and social aspects of business activities is becoming increasingly important for a wider social audience. The number of users of sustainability information outside companies is growing, leading to greater demand for such information and efforts to interpret non-financial impacts in business operations appropriately.

The reasons for publishing sustainability reports are as diverse as their users (managers, suppliers, employees, consumers and the general public), with the main purpose of transparently informing the stakeholders on environmental and social value and risks of business operations. This means that the quality of sustainability information should be comparable to that of regular financial reporting. In practise, there are numerous international standards, directives of the European Union and EU member states national laws that promote and gradually introduce the obligation of sustainability reporting. Such reporting essentially integrates financial, environmental and social information related to business activities.

To better understand the current state of sustainability reporting in the EU and Croatia we provide an overview of the existing regulation regarding sustainability reporting and possible comparative analysis. The focus is on harmonization, similarities, and differences between these legislative frameworks.

1. Sustainability reporting in the EU has become even more important with the announcement of a comprehensive legislative platform for the application of ESG (environmental, social and governance) principles in companies and the financial sector. Although sustainability reporting was already present in corporate practise, recent EU directives have emphasised the need for standardisation of sustainability reports and indicators. With the increase in economic activities based on a green transformation, greater transparency in sustainability reporting in the financial sector has become essential. In order to increase the transparency of so-called green investments, the EU Regulation 2019/2088 on sustainability-related disclosures in the financial services sector (known as the **Sustainable Finance Disclosure Regulation – SFDR**) came into force on 29 December 2019. Its gradual implementation began in March 2021 and will be fully applied to financial market participants by 2023. The regulation aims to ensure the reliability and accuracy of financial products and services labelled as green or sustainable, prevent abuses such as greenwashing and improve the visibility of sustainability-related investment content. Financial market participants are therefore required to provide additional reports on various sustainability aspects and the social and environmental impact

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of their products and services. The SFDR aims to protect consumers as end-investors by ensuring that they receive complete information on the sustainability contributions of financial products or services on the EU market. This regulation is in line with the **European Green Deal (EGD)**, which emphasises sustainable technologies, economic activities and sustainable financing processes.

In order to create synergies between the corporate and financial sectors in achieving clear sustainable development outcomes, the EU adopted the **Corporate Sustainability Reporting Directive (CSRD) (EU Directive 2022/2464)** on 14 December 2022. This directive replaces the previous directive on non-financial reporting (NFRD). This directive amends existing EU accounting and financial directives, expands sustainability reporting obligations for companies by requiring companies to obligatory disclose ESG-related data in annual reports. Currently, companies disclose sustainability data inconsistently by using different reporting formats such as integrated reporting, non-financial reporting, sustainability reports, environmental or social reports and triple bottom line (TBL) reports. To avoid such diversification, the CSRD aims to create a standardised reporting framework that obliges companies to regularly publish reliable and comparable sustainability data. The CSRD defines the scope of sustainability reporting obligations on the basis of three criteria:

- 1) Net revenue (€40 million)
- 2) Total assets (€20 million)
- 3) Average number of employees (250 or more).

These criteria potentially affect more than 60,000 companies in the EU Member States, which poses significant organisational and legal challenges. The auditing profession also faces challenges as the CSRD requires independent verification of sustainability information by auditors, similar to financial reporting, which provides limited assurance on sustainability data.

2. Regulation (EU) 2019/2088, on Sustainability-Related Disclosures in the Financial Services Sector (SFDR), establishes transparency rules for sustainability-related disclosures in the financial services sector. It aims to prevent greenwashing and enhance investor decision-making by ensuring financial market participants and advisors provide clear, consistent, and comparable information on sustainability risks. **Key Objectives of the SFDR are:**

- increase transparency regarding sustainability risks in financial markets,
- prevent misleading sustainability claims (greenwashing),
- ensure comparability of sustainability-related disclosures across financial products.
- promote sustainable investment by providing reliable data to investors.

The SFDR introduces detailed disclosure requirements for financial market participants and financial advisors. The regulation applies to: 1) **financial market participants** (investment firms, asset managers, insurance companies, pension funds, etc.), 2) **financial advisors** offering investment

advice, 3) **financial products** marketed as sustainable investments. Financial market participants according to SFDR must disclose:

1. **Sustainability risks** in investment decision-making.
2. **Adverse impacts** of investment decisions on sustainability factors.
3. **Sustainability-related characteristics** of financial products.
4. **Alignment of financial products** with environmental, social, and governance (ESG) criteria.

The SFDR came into force on **March 10, 2021** while more detailed reporting requirements under **Regulatory Technical Standards (RTS)** were introduced in **2022 and 2023**.

Regarding the Croatian Financial Sector Croatian financial institutions must align their disclosure practices with SFDR requirements while national regulators, including the Croatian Financial Services Supervisory Agency (HANFA), oversee compliance. **Asset managers and banks** have to do additional reporting and compliance costs in order to achieve greater transparency in ESG investment products. **Investors** and **SMEs** are under indirect impact due to ESG criteria in investment selection. SFDR Regulation (EU) 2019/2088 plays a crucial role in improving transparency and accountability in sustainable finance. For Croatian financial institutions, compliance with SFDR presents both challenges and opportunities. While regulatory adaptation requires significant effort, adherence to SFDR can enhance market credibility and contribute to the broader EU sustainable finance agenda. The CSRD Directive and the SFDR Regulation have a legislative effect, which is transposed into the legal framework of the Member States by national laws. In the Republic of Croatia, the application of the SFDR Regulation was implemented by the Act on the Implementation of Regulation (EU) 2019/2088 on sustainability-related disclosures in the financial services sector and Regulation (EU) 2020/852 establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (Official Gazette 70/21).

3. Directive (EU) 2024/1760 on corporate sustainability due diligence (CSDDD) and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859 requires companies to identify, prevent, and mitigate adverse human rights and environmental impacts in their operations and value chains. This Directive applies to EU and non-EU companies with significant operations within the EU and, in general has an objective to strengthen accountability in global supply chain. CSDDD Directive establishes a corporate sustainability due diligence framework aimed at promoting responsible business conduct within the EU and globally. This directive aligns with the European Green Deal and the EU's broader sustainability and human rights policies. key Objectives of the CSDDD are:

- a) Strengthening corporate accountability for sustainability-related risks.
- b) Ensuring environmental and human rights due diligence in business operations.
- c) Promoting transparency and sustainability in corporate governance.
- d) Enhancing legal certainty and consistency across the EU market.

The directive mandates that companies establish due diligence processes covering their entire value chain. **Scope and Coverage of the CSDDD applies to:** 1) Large EU-based companies (with over 500 employees and a net turnover of €150 million globally), 2) Non-EU companies operating in the EU that meet the financial thresholds and 3) High-risk sectors (such as textiles, agriculture, and minerals) with lower employee and revenue thresholds. In the process of due diligence companies are required to do next steps:

1. Identify and assess sustainability risks in their supply chains.
2. Implement risk mitigation and remediation strategies.
3. Establish grievance mechanisms for stakeholders.
4. Integrate sustainability due diligence into corporate policies and risk management.
5. Provide annual reports on due diligence measures and outcomes.

Non-compliance of companies with CSDDD can result in administrative fines imposed by national authorities, civil liability claims and reputational risks affecting investment and consumer trust. Croatia, as an EU member state, must transpose the directive into national legislation. Companies operating in Croatia will need to align their sustainability and corporate governance policies with the new due diligence requirements.

CSDDD objective is to improve supply chain transparency and risk management. For large corporations this means increased compliance costs but enhanced reputation and access to sustainable finance. CSDD for SMEs in supply chains means indirect compliance requirements, as larger firms will impose due diligence obligations on suppliers. For investors CSDDD enables better access to reliable sustainability-related information, leading to improved risk assessment. Main opportunity for investors complying CSDDD is access to green finance: Compliance facilitates eligibility for sustainability-linked loans and EU funding.

CSDD Directive (EU) 2024/1760 marks a significant step toward responsible corporate conduct in the EU. For Croatian businesses, aligning with the directive presents both compliance challenges and strategic opportunities. Early adoption will not only ensure regulatory adherence but also provide a competitive edge in the evolving global sustainability landscape.

4. Croatian National Laws and Guidelines in the area of sustainability reporting includes:

1) Accounting Act (Official Gazette 85/2024)

- Aligns with CSRD by requiring companies to include sustainability disclosures.
- Introduces enhanced transparency in ESG reporting.
- Mandates reporting on social and environmental performance alongside financial statements.

2) HANFA's ESG Guidelines for Issuers

- Provides recommendations for ESG-related disclosures.
- Helps financial entities comply with SFDR and EU Taxonomy.
- Supports transparency and comparability of sustainability information.

Table 2. Comparative Analysis of EU and Croatian national legislation

Aspect	EU Directives & Regulations	Croatian National Laws & Guidelines
Corporate Sustainability Reporting	CSRD mandates extensive ESG disclosures in annual reports.	Croatian Accounting Act incorporates similar ESG reporting requirements.
Financial Sector Disclosures	SFDR requires financial entities to disclose sustainability risks.	HANFA's ESG Guidelines align with SFDR's disclosure standards.
Sustainable Investment Classification	EU Taxonomy defines environmentally sustainable economic activities.	HANFA's Guidelines help issuers align with EU Taxonomy.
Corporate Due Diligence	Due diligence on human rights & environment under Directive (EU) 2024/1760.	Croatian laws evolving to include corporate sustainability due diligence.

Croatian legislation and regulatory guidelines have been progressively aligned with EU sustainability directives. The Accounting Act and HANFA's guidelines play a crucial role in ensuring compliance with EU requirements. Future legislative developments in Croatia will likely further integrate sustainability due diligence obligations in line with Directive (EU) 2024/1760.

2.3. Guidelines in Sustainable Finance

Key guidelines, initiatives and directives of the European Union on Sustainable Finance:

- 1. Action Plan on Sustainable Finance (2018):** In 2018, the European Commission introduced an action plan aimed at redirecting private capital towards sustainable investments, managing financial risks associated with climate change, and promoting transparency and long-term thinking in financial and economic activities.
- 2. Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU**

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3. Strategy for Financing the Transition to a Sustainable Economy (2021):

This strategy builds on the previous action plan and focuses on further integrating sustainability into corporate governance and reducing the impact of unsustainable activities.

4. EU Taxonomy Regulation: This regulation establishes a classification system for sustainable economic activities, providing a common language for investors and companies to identify environmentally sustainable activities.

5. Sustainable Finance Disclosure Regulation (SFDR): The goal of this regulation is to increase transparency regarding sustainability-related information provided by financial entities, enabling investors to make informed decisions.

6. Guidelines from European Supervisory Authorities (ESA): The ESAs have issued guidelines to help financial markets apply sustainable finance requirements, including aspects of suitability under the MiFID II Directive.

Croatia has been actively aligning its sustainable finance regulations with European Union directives to promote environmental, social, and governance (ESG) considerations within its financial sector. Below is an overview of the key regulatory developments and initiatives in Croatia related to sustainable finance:

1. Transposition of the Corporate Sustainability Reporting Directive (CSRD): In July 2024, the Croatian Parliament adopted the Accounting Act and amendments to the Audit Act, effectively transposing the EU's CSRD into national law. This mandates that identified entities commence sustainability reporting in 2025 for the financial year 2024 onwards. The legislation aims to enhance transparency and standardization in sustainability reporting among Croatian enterprises.

2. Implementation of the EU Taxonomy Regulation and Sustainable Finance Disclosure Regulation (SFDR): Croatia has integrated the EU Taxonomy Regulation (Regulation (EU) 2020/852) and the SFDR (Regulation (EU) 2019/2088) into its legal framework. The EU Taxonomy provides a classification system to identify environmentally sustainable economic activities, while the SFDR enhances transparency in sustainability-related disclosures by financial market participants. These regulations are interdependent and serve as foundational elements for promoting sustainable investments in Croatia.

3. National Legislation Supporting Sustainable Finance: The Croatian Parliament enacted the "Law on Implementation of the Disclosure and Taxonomy Regulation," (Official Gazette 70/21) which, in conjunction with EU rules, establishes a comprehensive legal framework for sustainability in financing and investments. This law aims to elevate the preservation of social rights, introduce best practices in corporate governance, and foster a low-carbon economy resilient to climate change.

4. Initiatives to Combat Greenwashing: Recognizing the prevalence of greenwashing, Croatia is actively implementing the National Programme for Consumer Protection 2021-2024 , " (Official Gazzete 29/21, prioritizing the development of specific legislation to address deceptive environmental claims. Additionally, significant amendments are underway for the Accountancy Act, Audit Act, and Capital Market Act to effectively incorporate the CSRD into Croatian law, thereby enhancing the credibility of sustainability reporting.

5. Croatian National Bank's (HNB) Climate Strategy: The HNB has adopted a Climate Strategy outlining objectives and priorities concerning climate change from 2024 to 2026. This strategy emphasizes integrating climate-related and environmental considerations into all areas of the bank's activities, supporting the transition to a low-carbon economy, and achieving climate neutrality.

6. Collaborative Efforts with the European Investment Bank (EIB): In November 2024, the EIB provided a €200 million loan to the Croatian Bank for Reconstruction and Development (HBOR) to expand financing for projects aimed at climate change mitigation and environmental sustainability. This collaboration underscores Croatia's commitment to fostering sustainable economic development through strategic investments.

These concerted efforts reflect Croatia's dedication to embedding sustainability within its financial system, ensuring alignment with EU standards, and promoting a transparent, resilient, and environmentally conscious economy.



GREEN ENVIRONMENT AND AGRIFOOD

3.1. Water Management

Croatia has significant water resources, including rivers, lakes and groundwater, and is one of the most water-rich countries in the European Union. The legal entity Croatian Waters manages the water resources of the Republic of Croatia in four watershed areas, which comprise one or more basins of the main river courses or their parts that form a natural hydrographic unit. However, challenges such as climate change, pollution and inadequate infrastructure require a strong regulatory framework and a sustainable water management policy.

Croatia promotes sustainable water management through a series of legislative and financial measures. The most important legal and strategic documents regulating water resources management in Croatia are:

- **Water Act** (Official Gazette 66/2019, 84/2021, 47/2023) – the basic law that regulates the legal status of water and water estate, the methods and conditions of water management (water use, water protection, regulation of watercourses and other water bodies, and protection from adverse effects of water), the method of organizing and performing water management tasks and functions, basic conditions for carrying out of water management activities; powers and duties of Government administration and other Government bodies, local authorities and other legal subjects, and other issues of importance to water management. The Act also establishes "Croatian Waters" - the legal entity in charge of water management tasks. Under the conditions of this Act, water permits can be or are issued.
- **Water Management Financing Act** (Official Gazette, No. 153/2009, 90/2011, 56/2013, 120/2016, 127/2017, 66/2019 and 36/2024) - this Act determines the sources of funds for financing water management, in particular water fees, including the obligation to pay, the payer, the basis, the method of calculation, determining the amount, the purpose of spending these funds, enforcement, limitation and other issues related to the realization and use of these funds.
- **Water Services Act** (Official Gazette, No. 66/2019) - this Act regulates the institutional framework for the provision of water services, the price of water services, the legal position and sustainable operations of water service providers, the activities of the Water Services Council, and other issues related to the provision of water services.
- **Water Management Strategy of the Republic of Croatia** (Official Gazette, No. 91/2008) – a national document that sets long-term goals for sustainable water management.
- **Regulation on the amount of water contribution** (Official Gazette, No. 78/2010, 76/2011, 19/2012, 151/2013, 83/2015, 42/2019 and 73/2020).
- **Regulation on the calculation and collection of water contributions** (Official Gazette, No. 107/2014).

- **Regulation on the amount of the fee for water management** (Official Gazette, No. 82/2010, 108/2013).
- **Regulations on the calculation and collection of fees for water management** (Official Gazette, No. 83/2010, 126/2013).
- **Regulation on the amount of water use fees** (Official Gazette, No. 82/2010, 83/2012, 10/2014, 32/2020, 140/2022, 158/2023, 33/2024).
- **Regulations on the calculation and collection of water use fees** (Official Gazette, No. 36/2020).
- **Regulation on the amount of the water protection fee** (Official Gazette, No. 82/2010, 83/2012, 151/2013, 116/2018, 33/2024).
- **Regulations on the calculation and payment of water protection fees** (Official Gazette, No. 48/19).
- **Regulation on the conditions for granting concessions for the economic use of water** (Official Gazette, No. 89/2010, 46/2012, 51/2013, 120/2014).

Integrated water management in Croatia in accordance with EU standards is ensured by the implementation of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000.

Measures to protect water resources from the consequences of climate change are included in the **Climate Change Adaptation Strategy in the Republic of Croatia for the period until 2040** with a view to 2070, which was adopted by the Croatian Parliament at its session on April 7, 2020. The Strategy lists climate change adaptation measures for the area of water resources and the key stakeholders to which they apply.

Furthermore, sustainable use of water in industry is encouraged by granting incentives to companies that implement water recycling and consumption reduction technologies. For example, the Ministry of Tourism and Sports, through the program Competitiveness of the Tourism Economy - Green and Digital Transition of Entrepreneurs in Tourism, awards grants for the purchase of equipment and the implementation of solutions for water saving, recycling and reuse of wastewater, etc. (investment in washing systems, irrigation, etc.).

It can be concluded that Croatia has a well-developed regulatory framework, but the main challenge remains the effective implementation of laws and strategic plans. Also, the need to further strengthen institutional capacities, digitalize water management systems and ensure sustainable financing for the long-term protection of water resources is emphasized.

3.2. Agriculture and Biodiversity

Croatia is implementing a range of legal and policy measures to harmonize agriculture with the principles of green sustainability, with a particular focus on protecting biodiversity, reducing the negative impacts of intensive agriculture and adapting to climate change. **The Agriculture Strategy until 2030** (Official Gazette, No. 26/2022) is a long-term national sectoral strategy that sets out the development vision, strategic goals and priorities of Croatian agriculture, and the activities for their achievement. The strategy supports the implementation of the **National Development Strategy of the Republic of Croatia until 2030** (Official Gazette, No. 13/21) and Strategic Objective 9. Food self-sufficiency and development of the bioeconomy within the framework of the "Green and Digital Transition" as one of the four development directions that will contribute to the achievement of the vision of Croatia until 2030.

In accordance with the EU Green Deal and **the Strategic Plan of the Common Agricultural Policy of the Republic of Croatia 2023-2027** (Official Gazette, No. 22/23), the transition to a smart, sustainable, competitive, resilient and diversified agricultural sector is supported, thereby ensuring long-term food security. These plans also contribute to climate action, the protection of natural resources and the preservation/enhancement of biodiversity, and the strengthening of the socio-economic structure of rural areas.

The Agriculture Act (Official Gazette, No. 118/2018, 42/2020, 127/2020, 52/2021, 152/2022, 152/2024), as the basic regulatory framework, defines the rules of sustainable production and rural development, in particular the prevention of food waste, food and feed donation, organic production, and prescribes a data network on the sustainability of agricultural holdings.

Organic agriculture plays a key role in preserving natural habitats and developing sustainable food production systems worldwide, and its impact on the environment and biodiversity is significantly lower than that of conventional agriculture. Therefore, by encouraging the development of organic agriculture, the Ministry of Agriculture, as the state administration body responsible for the preparation and implementation of the **National Action Plan for the Development of Organic Agriculture 2023-2030**, seeks to contribute to the preservation of the natural resources and biodiversity of the Republic of Croatia, as well as to reducing the impact of agricultural production processes on the environment. The National Action Plan for the Development of Organic Agriculture 2023 - 2030 represents the strategic backbone of the direction of development and further progress of organic agriculture and aquaculture. In addition to the development of primary ecological production, the National Action Plan for the Development of Organic Agriculture 2023 - 2030 laid the foundations for supporting the entire value chain in the ecological sector, from securing adequate ecologically acceptable raw materials to placing ecologically certified products on the market and selling them. The aim is to maintain the positive growth trend in the areas of organic production and organic products produced in Croatia, but also to strengthen other segments of the organic supply

chain, which include the production and processing, promotion, sale and consumption of organic products in Croatia. Another important element is the promotion of greater awareness and information among stakeholders in the organic farming sector (especially buyers and organic producers), but also encouraging research and innovation and the strengthening of the capacity of bodies responsible for the management and control of organic production. As an act of strategic planning, at the EU level it is aligned with the objectives of the Action Plan for the Development of Organic Production, the European Green Deal, the EU Biodiversity Strategy to 2030, and other relevant documents within the framework of the Common Agricultural Policy and the Common Fisheries Policy.

The National Action Plan for the Development of Organic Agriculture 2023 - 2030 defines measures to encourage the development of organic agriculture, such as support for the establishment and maintenance of pilot organic farms, demonstration centers and training programs, a national promotional campaign to raise the level of consumer awareness of organic agriculture and aquaculture products, support for new organic producers, support for the costs of control and certification of organic products when placing it on the market, support for producers of ecological seed and planting material, development of a bank of ecological autochthonous and traditional varieties of seed and planting material, support for investments of ecological producers and processors, etc.

Furthermore, the **Nature Protection Act** (Official Gazette, No. 80/2013, 15/2018, 14/2019, 127/2019, 155/2023) lays the foundations for regulating ecosystem conservation, protecting endangered species, and sustainable management of natural resources. Croatia is part of the Natura 2000 ecological network, which protects key habitats of wild species of interest to the European Union. **The Decree on the Ecological Network and the Competencies of Public Institutions for the Management of Ecological Network Areas** (Official Gazette, No. 80/2019, 119/2023) establishes the Natura 2000 ecological network of the Republic of Croatia, as well as the competences of public institutions that manage protected areas and ecological network areas to manage and adopt ecological network management plans. In addition, **the Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia** (Official Gazette, No. 143/2008) is a fundamental document for nature protection, which sets out long-term goals and guidelines for the preservation of biological and landscape diversity and protected natural values, as well as methods of its implementation. This is followed by **the Strategy and Action Plan for the Protection of Nature of the Republic of Croatia for the period 2017-2025** (Official Gazette, No. 72/2017), which defines strategic goals that include specific goals and activities arising from them. The following strategic goals have been defined: to increase the efficiency of basic mechanisms for nature protection, to reduce direct pressures on nature and to encourage the sustainable use of natural resources, to strengthen the capacities of the nature protection system, to increase knowledge and availability of

data on nature, and to raise the level of knowledge, understanding and public support for nature protection.

The Strategy for Adaptation to Climate Change in the Republic of Croatia for the period up to 2040 (Official Gazette, No. 46/20) defines key sectors relevant for adaptation due to their socio-economic importance for the Republic of Croatia and/or importance for nature and the environment; water resources, agriculture, forestry, fisheries, biodiversity, energy, and tourism and health. Sectors of particular importance for the adaptation of biodiversity to climate change are also defined, namely: water management, agriculture, forestry and spatial planning, as well as key cross-sectoral measures for strengthening biodiversity resilience based on nature-based solutions, such as careful use of space, restoration, revitalization, measures related to traditional knowledge and agricultural practices, etc.

Special attention is paid to the preservation of genetic diversity through the National Plant Gene Bank and the preservation of autochthonous varieties through **the National Program for the Preservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture 2021-2027** (Official Gazette, No. 86/2021) and the Ordinance on the Preservation and Sustainable Use of Plant Genetic Resources (Official Gazette, No. 18/2024). The conservation of genetic resources for food and agriculture ensures the availability of biodiversity for farmers, breeders and researchers and its use by future generations.

In order to improve the adaptation of agricultural production systems to climate and environmental conditions and to contribute to stable agricultural production, special attention is paid to investments in irrigation systems. The Ministry of Agriculture invests in public irrigation systems and co-finances irrigation systems on farms in accordance with the **Regulation on the amendment of the Regulation on the implementation of measures of the Rural Development Programme of the Republic of Croatia for the period 2014-2020** (Official Gazette, No. 91/19, 37/20, 31/2021 and 134/2021, 10/2023). As part of the **Strategic Plan of the Common Agricultural Policy of the Republic of Croatia 2023-2027** (Official Gazette, No. 22/23), support is provided for new irrigation systems that contribute to the increase of agricultural land with irrigation possibilities. Support is provided for the construction of a system that enables the supply of water to the land of end users located in the area of the public irrigation system.

Overall, Croatia has developed a legal framework for agriculture and biodiversity protection that is in line with European and international standards. In order to ensure long-term sustainability, it is necessary to further strengthen the integrated management approach by which Croatia can effectively protect its rich biological diversity and ensure ecological resilience for future generations.



SUSTAINABLE URBAN DEVELOPMENT AND SMART CITIES

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4.1. Regulatory Framework for Smart Cities

The development of smart cities within the European Union (EU) is guided by a comprehensive regulatory framework that emphasizes sustainability, digital innovation, and citizen well-being. Croatia, as an EU member state, aligns its national strategies with these overarching EU directives while also addressing its unique urban challenges.

The European Union Regulatory Framework for Smart Cities is encapsulated in several key initiatives and policies:

1. **Smart Cities Marketplace:** This platform unites cities, industries, SMEs, investors, and researchers to foster the adoption of smart city solutions. It focuses on areas such as sustainable urban mobility, energy-efficient buildings, and integrated infrastructure.
2. **European Green Deal:** Aiming for climate neutrality by 2050, this policy promotes the integration of digital technologies to enhance energy efficiency, reduce emissions, and improve urban living standards.
3. **Digital Decade Policy Programme:** This initiative outlines the EU's vision for digital transformation by 2030, setting targets in areas like digital infrastructure, public services, and business digitalization.

Croatia's alignment and national initiatives for developing smart cities include:

1. **Digital Croatia Strategy 2032 (Official Gazzete 2/23):** Aligned with the EU's Digital Decade, this strategy focuses on enhancing digital skills, infrastructure, and public services to drive economic growth and improve quality of life.
2. **Zagreb Smart City Framework Strategy:** Established in 2019, this strategy aims to transform Zagreb into a smart city by 2030, emphasizing areas like digital infrastructure, sustainable urban mobility, and transparent governance.
3. **National Recovery and Resilience Plan (NPOO):** This plan allocates significant funds for digital transformation projects, including smart city initiatives, to bolster economic resilience and sustainable development.

While both the EU and Croatia share common objectives in promoting smart cities, their approaches differ in scope and implementation. In its policy scope the EU provides a broad framework with overarching goals, whereas Croatia tailors these directives to its specific context, addressing national and local challenges. Regarding implementation Croatia's strategies, such as the Digital Croatia Strategy and Zagreb's Smart City Framework, are concrete applications of EU policies, reflecting localized priorities and resource allocations. Croatia faces unique hurdles, including regional disparities in digital infrastructure and the need for increased digital literacy among its population. These challenges necessitate targeted interventions within the broader EU framework.

In summary, Croatia's regulatory framework for smart cities is a localized manifestation of EU policies, adapted to meet national and municipal needs while contributing to the EU's overarching goals of sustainability and digital innovation.

4.1.1. Integration of Green Infrastructure in Urban Development Laws

Croatia is increasingly recognizing the importance of green infrastructure as a key element of sustainable urban development, reducing climate risks and improving the quality of life in cities. Green infrastructure is a strategically planned network of natural and semi-natural areas that, together with other environmental elements, are designed and managed to provide a wide range of ecosystem services. It includes landscaped and green spaces (or blue spaces when they relate to aquatic ecosystems) and other physical elements in terrestrial (including coastal) and marine areas. One such example of green infrastructure is green corridors, which represent long green spaces in cities and river valleys that pass through cities and can change the microclimate of the area and improve air flow in cities.

Green infrastructure is integrated into Croatian legislation primarily through the **Spatial Planning Act** (Official Gazette, No. 153/2013, 65/2017, 114/2018, 39/2019, 98/2019, 67/2023), which defines the principles of sustainable urban planning and prescribes the obligation to integrate green areas into spatial plans. Accordingly, a requirement is placed on the quality of built-up areas for the hospitality industry, tourism and for sports and recreational purposes in such a way that at least 40% of the area of a building plot is designed as parkland and natural green spaces. Also, the foundations for the

development of green infrastructure are set in the **National Development Strategy of the Republic of Croatia until 2030** (Official Gazette, No. 13/2021), which defines the development of green infrastructure in urban areas and the creation of green cities as a priority in the implementation of sustainable environmental policy. The National strategy also defines strategic goals for reducing CO₂ emissions and improving air quality through increasing green urban areas.

Furthermore, the **Programme for the Development of Green Infrastructure in Urban Areas for the Period 2021-2030** (Official Gazette, No. 147/2021) aims to establish sustainable, resilient, safe and livable and well-maintained cities and municipalities in the Republic of Croatia. The Programme provides a framework for the implementation of the development of green infrastructure in urban areas of the Republic of Croatia, identifying measures and activities, the necessary frameworks and prerequisites for implementation, the expected effects of these measures and the envisaged sources of financing.

Local self-government units recognize the importance and need for the development of green infrastructure through the creation of a green urban renewal strategy, which as such represents a strategic basis of importance for the local self-government unit. In recent years, several local government units have developed studies and/or strategies on their own initiative, and it can be concluded that the need to consider green infrastructure is gradually being recognized at local level. Such initiatives are further supported by the development of a Manual for the Implementation of Green Urban Renewal Strategies by the Ministry of Physical Planning, Construction and State Property.

One example is the City of Zagreb, which adopted the Strategy for Green Urban Regeneration of the City of Zagreb in 2023. The strategy defines the strategic goals of green infrastructure development in the City of Zagreb, horizontal measures and activities that guide implementation, as well as an operational implementation plan. In addition, in 2024, the City of Zagreb adopted the Local Action Plan for the Implementation of Green Infrastructure and Nature-based Solutions, which proposes 17 measures for the implementation of nature-based solutions and green infrastructure.

4.1.2. *Traffic Management Legislation*

In the Republic of Croatia, traffic management is regulated by a series of laws, ordinances and other regulations that ensure the safety and efficiency of road traffic.

1. **The Road Traffic Safety Act** (OG 67/08, 48/10, 74/11, 80/13, 158/13, 92/14, 64/15, 108/17, 70/19, 42/20, 85/22, 114/22, 133/23, 145/24) is the basic legal act regulating road traffic safety in Croatia. It defines the basic principles of road user behavior, the conditions that roads and vehicles must meet, traffic rules and procedures in the event of traffic accidents. The law also prescribes the system of traffic signs and the powers of the competent authorities in traffic control.
2. **The Regulation on the conditions for the performance of traffic management tasks, the monitoring and removal of illegally stopped and parked vehicles** (OG 143/2008) sets out the conditions under which local self-government units may perform traffic management tasks, the monitoring and removal of illegally stopped and parked vehicles. It specifies the human, spatial and material requirements that local self-government units must meet, as well as the program and method for training the traffic wardens who perform these tasks.
3. **The Ordinance on Traffic Signs, Signaling and Road Equipment** (OG 59/2000) prescribes in detail the purpose, types, meaning, shape, colors, dimensions, characteristics and method of installation of traffic signs, signaling and road equipment. The aim is to ensure uniform and clear signaling that contributes to road safety and the smooth flow of traffic.
4. **The Regulation on Traffic Restrictions on Roads** (OG 64/2009) prescribes traffic restrictions for certain categories of vehicles on certain roads or road sections. The aim is to increase road safety, protect road infrastructure and reduce negative impacts on the environment. The restrictions may relate to vehicle weight, dimensions, speed or usage times of certain road sections.
5. **The Ordinance on the Procedures of Police Officers in the Performance of the Supervision and Administration of Road Traffic** (OG 141/2011) sets out the procedures that police officers must follow in the supervision and administration of road traffic. It covers the powers of police officers, the manner of stopping vehicles, the checking of documents, the procedure for dealing with infringements and measures to maintain safety and order in road traffic.
6. **The Ordinance on the Registration and Equipment of Vehicles of the Ministry of the Interior** (OG 63/2007) regulates the registration procedures, the technical requirements and the equipment that vehicles belonging to or used by the Ministry of the Interior must have. This is intended to ensure that service vehicles meet all the necessary safety and technical standards for the effective performance of police duties.
7. **The Regulations on the training of Ministry of Interior officials as drivers of motor vehicles and the procedure for taking driving tests** (OG 48/2006) prescribes the program and method of training Ministry of Interior officials to drive motor vehicles and the procedure for taking driving tests. The aim is to ensure that civil servants have the necessary knowledge and skills to operate official vehicles safely and responsibly.
8. **The National Road Safety Programme of the Republic of Croatia** (OG 59/2011) is a strategic document that defines goals, measures and activities to improve road safety in Croatia. It includes an analysis of the current situation, the identification of key problems and the

planning of specific measures to reduce the number of road accidents and their consequences.

9. **The Railway Act** (OG 32/19, 20/21, 114/22) regulates the organization, management and development of the railroad system in Croatia. It lays down the conditions for the operation of rail transport, the rights and obligations of railroad undertakings and safety standards. The Act also prescribes the licensing and certification procedures for railroad operators.
10. **The Act on the Safety and Interoperability of the Railway System** (OG 63/20) contains provisions to ensure the safety of rail traffic and the technical interoperability of the railroad system with European standards. It contains provisions on technical requirements for infrastructure and vehicles, the certification of personnel and safety monitoring.
11. **The Act on Contracts of Carriage by Rail** (OG 87/96, 114/22) regulates the contractual relations between carriers and users of rail transport services, including the carriage of passengers and goods. It defines the rights and obligations of the parties, liability for damages and complaint procedures.
12. **The Maritime Code** (OG 181/04, 76/07, 146/08, 61/11, 56/13, 26/15, 17/19) is the basic law regulating the legal status of maritime institutions, the rights and obligations of shipowners, seafarers and other participants in maritime transport. It regulates issues relating to the safety of shipping, protection of the marine environment, ship registration and maritime accidents.
13. **The Act on Liner and Occasional Carriage in Coastal Shipping** (OG 19/22) regulates the conditions and manner in which the liner and occasional carriage of passengers and freight in coastal shipping is carried out. It lays down the procedures for the granting of concessions, the rights and obligations of carriers and the quality standards for services.
14. **The Air Traffic Act** (OG 69/09, 84/11, 54/13, 127/13, 92/14) regulates the conditions for the operation of air traffic, safety standards, the licensing of air carriers and personnel as well as air traffic control. It also covers issues relating to the protection of passenger rights and procedures in the event of air accidents.
15. **The Airports Act** (OG 78/2015) regulates the establishment, management and operation of airports in Croatia. It sets out the conditions for issuing operating licences, infrastructure and service standards as well as the obligations of airport operators towards users and the competent authorities.
16. **The Act on Combined Transport of Goods** (OG 120/16) promotes the use of combined transport involving several modes of transport (e.g. rail and road) in order to reduce the burden on road infrastructure and protect the environment. It prescribes the conditions for carrying out such transportation, including infrastructure, equipment and procedures.
17. **The Act on the Transportation of Dangerous Goods** (OG 79/07) regulates the conditions for the safe transportation of dangerous goods by road, rail and inland waterways. It defines the obligations of carriers, the packaging and labelling of dangerous goods, the training of personnel and the monitoring and control procedures.

4.1.3. Public Transport Investments and Legal Provisions Under Transportation Policy

Investments in public transport in Croatia are based on several key laws and strategic documents that regulate its development, financing, and modernization. **The Road Transport Act** (Official Gazette 41/18, 98/19, 30/21) governs the provision of public passenger transport services and promotes the development of integrated transport systems, while the **Railway Act** (Official Gazette 32/19, 20/21) sets the conditions for the development of railway transport and infrastructure, including co-financing from EU funds.

The fundamental document on which other legislative sources are based is the **National Development Strategy of the Republic of Croatia until 2030** (Official Gazette 13/2021), which highlights sustainable development and the implementation of smart solutions in urban areas as key factors in achieving the set goals by 2030. Planned investments include the modernization of public transport, the improvement of multimodal terminals, and the development of Intelligent Transport Systems (ITS) to optimize traffic management.

Long-term policy priorities under the transportation policy framework include:

- Modernization of railway lines on the Croatian section of the core and comprehensive TEN-T network, along with the expansion and enhancement of suburban rail services.
- Promotion of freight transport by rail and other lower-emission transport modes to reduce greenhouse gas emissions.
- Encouragement of integrated urban transport to improve accessibility and sustainability.

Based on the National Development Strategy, the **Transport Development Strategy of the Republic of Croatia for 2017–2030** was also defined. The strategy emphasizes the need to develop intelligent transport systems (ITS) and encourage intermodality, which includes the integration of maritime transport with other modes of transport, thus contributing to the sustainability and development of smart cities. The key contributions related to smart cities and sustainability are:

1. **Intelligent Transport Systems (ITS):** The strategy emphasizes the need for developing ITS for managing traffic, public transport, and parking, particularly in urban areas. Investments in ITS will enable adaptive traffic flow management, reduce congestion, and improve multimodal transport efficiency.
2. **Green Mobility and Intermodality:** The transition to sustainable transport modes, such as public transport, cycling, and walking, is encouraged. The integration of various transport modes, including railway and road transport, is planned through the development of intermodal terminals and "Park & Ride" and "Bike & Ride" systems.
3. **Digitization and modernization of transport infrastructure:** The plan includes the digitization of public transport operations, the introduction of unified fare collection systems and smart ticketing. These improvements will facilitate easier use of public transport, optimize timetables, and increase the energy efficiency of transport vehicles.

The National Plan for the Management of Railway Infrastructure and Service Facilities and the Development of Railway Transport Services until 2030 foresees significant investments in the modernization of railway infrastructure and the improvement of transport services. The plan includes measures to enhance integrated urban transport and intermodal transport, aiming to increase the

sustainability and competitiveness of railway transport. The modernization of the railway system is planned to improve economic and environmental sustainability, including digitization, automation of ticket sales, and the integration of railway and road transport. The procurement of environmentally friendly trains and the development of intermodal terminals will reduce emissions and increase the share of railway transport. Enhancing fare models and aligning timetables will boost public transport use and reduce urban congestion.

In the Republic of Croatia, maritime transport is primarily regulated by the **Maritime Domain and Seaports Act** (Official Gazette 83/2023), which defines the concept and legal status of maritime domain, the management of seaports and the conditions for the economic use of maritime domain. Although this Act does not contain explicit provisions on sustainability and smart cities, Article 8 emphasizes that maritime domain management must be comprehensive and, together with spatial planning, aim at sustainable development and preservation of maritime domain for future generations.

The goal of these regulations and investments is to increase the efficiency, sustainability, and accessibility of public transport in urban and regional areas.



**COLLABORATION OF
UNIVERSITIES WITH LOCAL
ACTORS**

5.1. Municipality Law (Cooperation with the municipality regarding NGOs)

In the Republic of Croatia, the legal framework for cooperation between local self-government units and non-governmental organizations (NGOs) is based on several important laws and regulations.

The Act on Local and Regional Self-Government (OG 33/01, 60/01, 129/05, 109/07, 125/08, 36/09, 150/11, 144/12, 19/13, 137/15, 123/17, 98/19, 144/20) regulates the organization, scope and methods of work of local and regional self-government units. According to this law, municipalities, cities and counties have the right and duty to cooperate with NGOs to promote the interests of the local community. Cooperation can be achieved through financial support, joint projects or other forms of partnership. The law also provides for the possibility of establishing consultative bodies that include representatives of NGOs in order to promote citizen participation in decision-making at local level.

The Associations Act (OG 74/14, 70/17, 98/19, 151/22) regulates the formation, legal status, operation, registration and dissolution of associations. It places particular emphasis on the transparency of the work of associations, including the obligation to publish financial reports and work programs. The Act also promotes cooperation between associations and local self-government units, particularly in areas of public interest such as culture, sport, social welfare and environmental protection. Local self-government units can provide financial and logistical support to associations operating in their area that contribute to the development of the local community through their work.

The Act on Financing Local and Regional Self-Government (OG 127/2017, 138/2020, 151/2022, 114/2023) regulates the sources of financing of local and regional self-government units, including revenues from taxes, fees and other sources. Part of the budget may be earmarked for financing programs and projects of associations operating in the interests of the local community. This enables systematic support for the non-governmental sector through transparent and clearly defined procedures for the allocation of funds.

While the **Public Procurement Act** (OG 120/16, 114/22) is primarily aimed at regulating the procedures for the procurement of goods, services and works by public entities, it also allows NGOs to participate in public procurement procedures. NGOs can bid for the provision of certain services or the implementation of projects of public interest, which further strengthens cooperation between local authorities and the non-governmental sector.

The Act on Volunteering (OG 58/07, 22/13, 84/21) defines the concept of volunteering, the rights and obligations of volunteers and the organizers of volunteering. Local self-government units, in cooperation with associations, can organize volunteer programs that contribute to the development

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of the local community. The Act encourages local authorities to create conditions for the development of volunteering and to recognize and appreciate the contributions of volunteers.

The Act on Youth Councils (OG 41/14, 83/23) regulates the establishment, scope and functioning of youth councils in local and regional self-government units. Youth councils act as consultative bodies that enable young people to actively participate in decision-making processes and cooperate with local authorities. The Act prescribes the procedure for electing council members, their mandate, their rights and duties and the way in which their activities are financed. The aim is to encourage young people to actively participate in social processes and ensure that their interests are represented in local politics.

The Social Assistance Act (OG 18/22, 46/22, 119/22, 71/23, 156/23) defines social assistance activities, principles, benefits and services in the social assistance system as well as the procedures for their implementation. In the context of cooperation with non-governmental organizations, the Act recognizes associations as providers of social services and allows local self-government units to enter into contracts with associations for the provision of certain social services. This promotes partnership between the public sector and civil society in the provision of social services to citizens.

The Family Law (OG 103/15, 98/19, 47/20, 49/23, 156/23) regulates family relations, the rights and duties of family members and the procedures for protecting family values. Within the framework of cooperation with non-governmental organizations, the law allows associations dealing with the protection of families and children to participate in mediation, counseling and support for families in crisis situations. Local self-government units can cooperate with such associations by funding programs or joint projects for the protection of families.

The Foster Families Act (OG 115/18, 18/22) regulates the conditions and procedures for the provision of foster families as a form of care outside the family. Associations working for foster care can work with local authorities to organize training, support foster parents and promote foster care in the community. Local authorities can support the work of such associations through financial or logistical assistance.

In addition to the laws mentioned above, local governments often adopt their own strategies and resolutions that regulate cooperation with NGOs in more detail. These may include regulations on funding NGOs from the local budget, the establishment of civil society development councils or other forms of institutional support for the NGO sector.

5.2. Legislation on NGOs

The legal framework governing NGOs in Croatia is primarily defined by the **Law on Associations** (Official Gazette 74/2014) and related legislation (Law on Amendments to the Law on Associations, Official Gazette 151/2022). This law establishes the conditions for the formation, registration, and operation of NGOs, as well as their rights and obligations. According to this law, an association is any

form of free and voluntary association of several natural or legal persons for the purpose of protecting their interests or advocating for the protection of human rights and freedoms, the protection of the environment and nature, sustainable development, and for humanitarian, social, cultural, educational, scientific, sports, health, technical, informational, professional or other goals that are not contrary to the Constitution and the law, and without the intention of gaining profit or other economically assessable benefits.

NGOs are recognized as key players in fostering civic engagement, promoting social cohesion, and contributing to policy development, including through partnerships with universities. The activities of the association are based on the principle of independence. That is, each "association independently determines its area of activity, goals and activities, its internal structure and independently carries out activities that are not in conflict with the Constitution and the law."

NGOs in Croatia are often active in areas such as environmental protection, social services, education, and cultural heritage preservation. These focus areas provide fertile ground for collaboration with universities, particularly through joint research projects, community engagement programs, and advocacy initiatives. The legislation encourages NGOs to collaborate with public institutions, including universities, to achieve their goals. For instance, NGOs can apply for public funding through national or EU-supported programs to implement projects in partnership with academic institutions. The National Foundation for Civil Society Development plays a crucial role in providing financial support for such initiatives, often serving as a bridge between NGOs and universities. Despite the supportive legal framework, challenges persist in practice. NGOs often face financial instability and administrative burdens that limit their capacity to engage in long-term collaborations. Additionally, the regulatory environment is occasionally criticized for its complexity, which can deter smaller NGOs from participating in partnerships with universities.

5.3. Higher Education Law

In Croatia, universities are encouraged to engage with local communities and other stakeholders, including NGOs and municipalities, to contribute to regional development and social well-being. Higher education in Croatia is regulated by the **Law on Higher Education and Scientific Activity (Official Gazette 119/2022)**. This law governs the organization, funding, and operation of higher education institutions (HEIs), emphasizing the importance of their societal role. However, the social role of universities and the encouragement of cooperation with local communities are not explicitly mentioned in the law but are indirectly connected to:

- **Basic principles of higher education, scientific, and artistic activities (Article 2)** – This article highlights the openness of HEIs towards the public, citizens, and the local community, as well as their interaction with society as fundamental principles of higher education. It also emphasizes the obligation to develop social responsibility among students and other members of the academic community.
- **Objectives of higher education (Article 3)** – This article underlines the social responsibility of HEIs, including their contribution to social, cultural, and economic development. Universities are required to act responsibly and engage with society. Members of the academic community are obliged to uphold ethical principles in scientific research and teaching while making research findings publicly accessible.
- **Autonomy of higher education institutions (Article 4)** – Universities are autonomous in their activities, and this autonomy explicitly includes responsibility towards society.

The **Smart Specialization Strategy of the Republic of Croatia until 2029 (S3)** is a strategic document that promotes sustainable economic development and entrepreneurship. It fosters collaboration between scientific institutions, industry, and local communities to ensure the application of knowledge and innovation in economic development. The **S3 strategy** identifies key sectors where higher education can contribute through cooperation with local stakeholders. The strategy defines three specific objectives:

- **Enhancing scientific excellence** – The research sector must generate cutting-edge and impactful knowledge that can create knowledge spillover effects on the economy while ensuring funding, young researchers, and modern infrastructure.
- **Bridging the gap between the research and business sectors** – Strengthening the interaction between the scientific and business sectors to encourage technology transfer and innovation.
- **Increasing innovation efficiency** – Strengthening the business sector's capacity for innovation and competitiveness through digitalization, the green transition, and new markets. To enhance the competencies of students and young researchers for smart specialization and industrial transition, the inclusion of higher education institutions in the innovation ecosystem is planned.



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