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EU's Legal Framework For Renewable Energy Sources In Comparison With The Existing Montenegrin Legislation In The Field

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**List of abbreviations**

CBAM - Carbon border adjustment mechanism

CCR - Carbon Capture Ready

CO2 – carbon-dioxide

COP21 - Conference of the Parties

EC – European Commission

EED – Energy Efficiency Directive

EU – European Union

EU ETS – European Union Emissions Trading System

GDP – Gross domestic product

GHG – greenhouse gasses

GWh – gigawatt-hour

HE – hidroelektrana – hydropowerplant, en.

ICT – information and communication technology

IPPs – independent power producer(s)

LDAR – leak detection and repair surveys

LIFE - L'Instrument Financier pour l'Environnement - funding instrument for the environment, en.

LULUCF - Land use, land-use change and forestry regulation

MW - megawatt

MWh – megawatt-hour

NDCs – Nationally Determined Contributions

NECPs - National Energy and Climate Plans

PFAS - per- and poly-fluoroalkyl substances

PURPA - Public Utility Regulatory Policies Act

REACH - Registration, Evaluation, Authorization and Restriction of Chemicals

RED – Renewable Energy Directive

REGAGEN - Energy and Water Regulatory Agency of Montenegro

RPS - Renewable Portfolio Standards

SAA - Stabilisation and Association Agreement

SAF - sustainable aviation fuels

SLI batteries – starting, lighting, and ignition batteries

SMEs - small and medium-sized enterprises

STEP - Strategic Technologies for Europe Platform

SWD – staff working document

TE – termoelektrana – thermal-powerplant, en.

UNFCCC - United Nations Framework Convention on Climate Change

VE - vjetroelektrana – windfarm, en.

# CHAPTER I

## INTRODUCTION

This thesis aims to showcase the existing legislation in the field of renewable energy sources on an EU level in comparison to the existing legislation from the same field in Montenegro, as well as the differences in the current laws with an outlook on what needs to be changed from the Montenegrin side.

Montenegro is an aspiring Member State of the European Union, having started its accession process in the year 2009. Since then, a great deal of effort has been put into putting the Montenegrin legislation in accordance with the one existing on a European level, as well as into adopting new laws that will allow for an easier and more streamlined transition to the Union.

Having been declared an ecological state in the year of 1991, renewable energy, its sources, and the legal acts that define them and regulate their improvement have been at the forefront of Montenegro's aspirations for creating a greener environment for its citizens. With the accession, it is expected that Montenegro will continue to increase the efforts that are being put into creating a cleaner and safer future for its citizens, as well as the Union as a whole.

The motivation behind writing this thesis is to show that Montenegro strives to be accepted into the EU community, which is shown, before anything else, with the amount of care and effort that is being put into generating sufficient conditions that will allow for a smooth transition into the European Union legislation, especially when it comes to green sources of energy.

The thesis will be based on a direct comparison of the two legislations, with the first part explaining what are renewable sources and what is their significance, as well as the history of their regulation. The next two parts will showcase the existing relevant legislation in both the EU and Montenegro, with the final part explaining the similarities and differences between them.

# CHAPTER II

# THE SIGNIFICANCE OF RENEWABLE ENERGY SOURCES AND THE DEVELOPMENT OF THEIR LEGISLATION

## 2.1 THE TERM "RENEWABLE ENERGY SOURCES"

In order to understand the full scope of the significance of renewable energy, its sources, and the various elements that have contributed to the currently existing legislation on this topic, it is necessary to first provide a response to the questions of what precisely constitutes renewable energy and what sources are required in order to obtain it. While there are many ways to define renewable energy sources which highlight different parts of their advantages for both the environment and humans, most of them focus on similar characteristics, such as:

- Renewable resources are **those resources that continue to exist despite being consumed or can replenish themselves over a period of time even as they are used**.[1]
- Renewable energy is **energy that comes from a source that won't run out**. They are natural and self-replenishing, and usually have a low- or zero-carbon footprint.[2]
- Energy that is obtained from sources that are, for all practical purposes, inexhaustible.[3]

The previously stated definitions highlight the two main characteristics of renewable energy sources:

1. They are constantly replenished, meaning that they can't be exhausted, and
2. They have a low carbon footprint.

However, while there is a wide array of energy sources coming from nature, it is necessary to distinguish between the ones that can be replenished and those that can't. The second group – non-renewable sources- includes fossil fuels like coal, oil, and natural gas. These resources represented the main sources of energy throughout most of human history. They played a crucial for advancing

[1] Banton C, 'Renewable Resource: Definition, Considerations, and Examples' (Investopedia) <https://www.investopedia.com/terms/r/renewable_resource.asp> accessed 9 July 2024
[2] 'What Is Green Energy?' (Clean and renewable energy | National Grid Group) <https://www.nationalgrid.com/stories/energy-explained/what-is-green-energy> accessed 9 July 2024
[3] 'Renewable Energy' (Oxford Reference) <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803100413949> accessed 9 July 2024

the Industrial Revolution in the 19th century and continue to be used as primary sources of energy to this day in most parts of the world. However, because of the negative consequences that come with applying these sources for generating energy, now more effort than ever is being put in in order to replace them with more environmentally friendly alternatives.

The process of obtaining energy by using non-renewable sources is highly hazard for the environment since it includes the extraction of (i.e. drilling in the ground or ocean to obtain oil) and burning of the said fuels (in cars, internal combustion engines run on gasoline or oil and in thermal power plants, among other substances, coal is burned to create electricity) in order to generate energy. The issue with this process is that during the burning of the fuel - the combustion process - dangerous gasses and particles, such as carbon monoxide and carbon dioxide, are released into the atmosphere. These emissions represent a significant hazard to human health since they are one of the leading causes of a number of cardiovascular and respiratory conditions. In addition, they have a substantial effect on the environment, being the main cause of the greenhouse effect, because of which global warming is exacerbated. Having this in mind, it is obvious that the exclusive use of non-renewable energy sources has negative long-term effects on the ecosystem and human health. The need to switch to sustainable alternatives increases with the recognition of the negative effects that an over-reliance on fossil fuels has on both society and the environment.

The main argument in favor of the use of renewable energy sources for obtaining energy is that it creates far lower emissions than the previously explained process of burning fossil fuels does, hence why it is the main reason why the international community puts so much emphasis on renewable energy advocacy and regulation.

While understanding that fossil fuels have been one of the key factors in accelerating industrial development and creating the world as we know it today, a keen effort is necessary in order to switch to renewable energy, due to the hazardous and in the end line unsustainable nature of fossil fuels. A cleaner and healthier energy future with the reduction of all negative effects of using fossil fuels can be achieved with the implementation of green options – solar, wind, and hydroelectric power.

## 2.2 TYPES OF RENEWABLE ENERGY SOURCES AND THEIR HISTORY

As previously stated, any source that originates in nature and is replenished by itself, while having a low carbon footprint is considered to be a renewable energy source, with the most important ones being: solar, wind-, hydro-, bio-, ocean- and geothermal energy. Montenegro currently operates multiple wind and solar farms, as well as hydro power stations, with the share of renewable energy in the total generation of power amounting to 54,08% in 2020[4], 63,5% in 2021[5], 55% in 2022,[6] and finally 62% in 2023[7], which means that more than half of Montenegro's electricity comes from renewable energy sources, putting it at a significant advantage compared to neighboring countries (i.e. Serbia 25%[8] and Bosnia and Herzegovina 34,66%[9], in 2022), as well as the EU average of 41,2%.[10]

### *2.2.1 Solar Energy*

The power of the sun has been used ever since the early civilizations for heating homes, drying clothes and food as well as cooking. However, solar energy as we have come to know it today started in 1954, when Bell Laboratories produced the first practical silicon solar cell, which marked a significant milestone in the history of solar energy. This consisted of the first development of photovoltaic technology, which led to further commercialization of solar energy. Today, photovoltaic panels as well as mirrors which concentrate solar radiation are the main means used for harnessing solar energy.

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[4] Ministarstvo Kapitalnih Investicija Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2020. Godinu' (Vlada Crne Gore, March 2021) 5 <https://www.gov.me/dokumenta/d08db694-6c68-4002-a044-dce2a4180205> accessed 9 July 2024

[5] ——, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2021. Godinu' (Vlada Crne Gore, February 2022) 5 <https://www.gov.me/dokumenta/a9277bd9-cd52-4c8b-895a-eaf1468e2ba8> accessed 9 July 2024

[6] ——, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2022. Godinu' (Vlada Crne Gore, March 2023) 5 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[7] Ministarstvo Energetike i Rudarstva Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 5 <https://www.gov.me/clanak/izvjestaj-o-realizaciji-energetskog-bilansa-za-2023-godinu> accessed 9 July 2024

[8] Ministarstvo Rudarstva i Energetike Republike Srbije 'Energetski Bilans Republike Srbije za 2022. godinu' (14 January 2022) 9 < https://www.mre.gov.rs/extfile/sr/1144/energetski_bilans_rs_za_2022__0.pdf > accessed 9 July 2024

[9] Agency for Statistics of Bosnia and Herzegovina 'Statistika Energije, Electricity and Heat' (11 December 2023) < https://bhas.gov.ba/data/Publikacije/Saopstenja/2023/ENE_03_2022_Y1_1_BS.pdf> 1 accessed 9 July 2024

[10] 'Electricity from Renewable Sources up to 41% in 2022' (Electricity from renewable sources up to 41% in 2022 - Eurostat, 21 February 2024) <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240221-1> accessed 9 July 2024

The ever-decreasing cost of solar panels, as well as their lifespan of up to thirty years, makes them the most popular and cheapest form of electricity gathered from renewable energy sources.

Solar power plants generated 2,6 GWh of electric energy in Montenegro in 2020, which is still a relatively minor share, but it should be noted that they have recorded a significant increase compared to 2019, amounting to an increase of 248,17%.[11] In continuation, there was another increase from 2,66 GWh in 2021, to 3,85 GWh in 2022, which amounts to an increase of 144,38%.[12] Finally, solar power plants produced 12,69 GWh of electricity in 2023, which accounts for 0,31 % of the total electricity generated.[13]

### *2.2.2 Wind Energy*

Wind power is harnessed through wind turbines which are placed in carefully strategically planned positions, whether on land (onshore) or water (offshore). Throughout history, the wind has been used as an energy source from ancient times to propel boats across bodies of water using sails, in addition to being used for grinding grain and pumping water through windmills. Wind power started to be used for creating electricity in the late 19th and early 20th century, thanks to pioneers such as Charles F. Brush and Poul la Cour, who developed early wind turbines to produce electricity for local communities and telecommunications systems.

Montenegro currently operates two onshore wind farms, VE (vjetroelektrana – windfarm, en.) Krnovo and VE Možura, which were responsible for a share of 9,97% in the total amount of electricity created by renewable energy sources, which amounts to 322,65 GWh as of 2022[14], with a slight decrease to 7,67 % or 309,96 GWh[15], due to slightly more unfavorable weather in the year 2023. According to the data from windeurope.com, Montenegro was third in the entire continent

[11] Ministarstvo Kapitalnih Investicija Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2020. Godinu' (Vlada Crne Gore, March 2021) 3 <https://www.gov.me/dokumenta/d08db694-6c68-4002-a044-dce2a4180205> accessed 9 July 2024

[12]_____, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2022. Godinu' (Vlada Crne Gore, March 2023) 3 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[13]Ministarstvo Energetike i Rudarstva Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 3 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[14]Ministarstvo Kapitalnih Investicija Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2022. Godinu' (Vlada Crne Gore, March 2023) 4 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[15]Ministarstvo Energetike i Rudarstva Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 4 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

of Europe by the percentage of electricity derived from wind farms on the 17th of September 2022, meaning that the two existing wind farms were sufficient to power 36% percent of Montenegro's territory.[16]

It should be noted that there are undergoing plans for the construction of one more wind farm, namely the Gvozd, aiming to serve as the extension of VE Krnovo.

### *2.2.3 Hydropower*

Hydropower stipulates using rivers and reservoirs to harness the kinetic energy of water flowing downstream, meaning from higher to lower altitudes. There are two kinds of hydropower plants: the run-of-river hydropower facilities, which take advantage of the constant flow of water in rivers, and the reservoir-based hydropower plants that use stored water in reservoirs which are man-made.

The first recorded uses of hydropower date back to ancient societies, where mills were put in use for tasks like grinding grain. These water wheels were vital to early agricultural and industrial processes since they were most often powered by rivers or streams.

At the moment, hydropower is the most widely-used renewable energy source used to generate electricity. The main downside is that this process is dependent on the weather, meaning its effectiveness relies on regular rainfall and is susceptible to droughts brought on by climate change and changes in ecosystems.

Montenegro currently operates 2 hydro-powerplants, HE Perućica near Nikšić and HE Piva which is located in Piva, as well as a number of mini-hydropowerplants. They are currently the main generators of renewable energy in Montenegro, with a share of 44,96% in the total generating of renewable energy in 2022[17], and a significant increase to 54,35% in 2023 due to the general hydrological situation.[18]

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[16]'Crna Gora Bila Treća u Evropi Po Proizvodnji Struje Iz Vjetroelektrana' (MINA, 18 September 2022) <https://mina.news/mina-business-ekonomske-vijesti-iz-crne-gore/crna-gora-bila-treca-u-evropi-po-proizvodnji-struje-iz-vjetroelektrana/> accessed 9 July 2024

[17]Ministarstvo Kapitalnih Investicija Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2022. Godinu' (Vlada Crne Gore, March 2023) 5 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[18]Ministarstvo Energetike i Rudarstva Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 5 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

It should not be omitted that the development of hydroelectric infrastructure is known to harm ecosystems, meaning that it can cause a reduction in the number of fish and plants living in the body of water where the hydro plant is used. Small-scale hydro projects are therefore frequently used as a more environmentally friendly option, especially for smaller remote settlements looking for energy alternatives, which should be noted as the case in Montenegro, which currently operates 32 mini-hydropower plants.

### *2.2.4 Geothermal Energy*

Geothermal energy uses heat extracted from the Earth's interior, from the so-called thermal reservoirs, of which there are two types:

- Hydrothermal reservoirs, which are naturally sufficiently hot, and,
- Enhanced geothermal systems, which are sufficiently hot but improved with hydraulic stimulations.

In 1913, the first geothermal power plant was constructed in central Italy, the Larderello field in Tuscany, which used steam coming from natural geothermal reservoirs to generate energy. It was the first place in the world to use geothermal power for generating electricity. The first geothermal power plant in the United States was put into service in California in 1922.

The technology of geothermal energy has kept improving throughout the years, allowing for the development of binary cycle power plants for the creation of electricity, as well as district heating systems for buildings and industrial processes, which are utilized in northern parts of Europe. However, challenges such as high upfront costs, location-specific limitations, and the potential for induced seismicity (artificial causes of earthquakes) in some cases pose barriers to wider use.

### *2.2.5 Bioenergy*

Bioenergy stipulates the use of biomass (wood, manures, dung, charcoal, crops, etc.) for generating heat and power, in addition to biofuel, which is commonly used as an alternative to fossil fuels in transportation, heating, and electricity generation.

The history of bioenergy dates back to ancient times when organic materials were the primary sources of energy. In the modern era, bioethanol emerged in the 19th century, with renewed interest during World War II and the oil crises of the 1970s. Advancements led to the commercialization of biofuels like biodiesel and bioethanol in the late 20th century.

Unlike the previously stated renewable energy sources, the process of burning biofuel does create greenhouse gas emissions, but at a significantly lower level than fossil fuel, deeming it to still be environmentally friendly.

#### *2.2.6 Ocean Energy*

The technology for obtaining electricity and head by using the kinetic and thermal energy of seawater is still in its infancy. Various prototype wave and tidal current devices are being tested.[19][20]

## 2.3 HISTORY OF RENEWABLE ENERGY REGULATION

The development of regulation regarding renewable energy is a complex process, whose flow was defined by different characteristics and circumstances throughout history. At the beginning of the development of the regulation, it was primarily conditioned by political agendas and economic interests, with the focus later shifting predominantly to environmental concerns.

The United States of America positioned itself at the front of renewable energy regulation development when, at the beginning of the 1970s, it adopted several different policies to establish domestic fuel reserves during emergencies, such as wars and natural disasters, when regular supplying of imported and regional fuel could be interrupted. These policies first consisted of tax credits, grants, and subsidies to promote the development and deployment of renewable energy technologies, and they were soon copied by other countries. The emphasis on renewable energy and their regulation was put due to the oil crisis of 1973. which led many countries to reconsider their almost absolute dependence on fossil fuels.

The Public Utility Regulatory Policies Act was initially introduced in 1978, marking the introduction of the first legislation regarding renewable energy sources. Known then as PURPA,

[19] 'What Is Renewable Energy?' (United Nations) <https://www.un.org/en/climatechange/what-is-renewable-energy> accessed 9 July 2024

[20] 'What Are the Different Types of Renewable Energy?' (National Grid Group) <https://www.nationalgrid.com/stories/energy-explained/what-are-different-types-renewable-energy> accessed 9 July 2024

it essentially created a guaranteed market for producers of renewable energy and encouraged investment in renewable energy technologies. This was accomplished by mandating that electric utilities pay a rate set by the state regulatory body for the purchase of electricity from renewable energy facilities that meet certain requirements, such as small-scale solar, wind, hydro, and biomass power plants. It should be mentioned that the final users of this electricity were not the PURPA-regulated electric utilities. Instead, they acted as intermediaries or purchasers of these renewable energy facilities. The electricity purchased from qualifying renewable energy facilities under PURPA was typically fed into the grid, which in the end line was used by residential and industrial consumers, commercial entities, and other utilities.

Regulation regarding renewable energy was put into effect with a more environmental protectionist goal at the start of the new millennium, rather than an economically political one. Reducing greenhouse gas emissions became the primary objective of this field's regulation adoption to save the ozone layer. Adopted as an addition to the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol of 1997 is one of the more significant accords in this regard. To achieve a cumulative reduction of 5.2% below the levels of 1990 until the interim period between 2008 and 2012, the Protocol established legally obligatory targets for industrialized countries to reduce their emissions. This was to be achieved by implementing the newly established mechanisms, including emissions trading and the Clean Development Mechanism, which were included in the Protocol to improve compliance and encourage cooperation.

Following the basis set by the United Nations, the European Union introduced directives with which binding targets for renewable energy consumption across member states were set, the first of which was the Renewable Energy Directive – RED, with its two new iterations in 2018 and 2013. The Directive provides measures including feed-in tariffs, guarantees of origin, and sustainability criteria for biofuels. It promotes renewable energy infrastructure development, research, and innovation, contributing to the EU's transition to a sustainable energy system.

Due to factors such as declining costs of renewable energy sources, technological advancements in the field, and supportive policies, a significant increase in worldwide renewable energy capacity was seen at the beginning of the 2010s. Many countries started implementing Renewable Portfolio Standards (RPS) or Renewable Energy Targets, mandating a certain percentage of electricity

generation to come from renewable sources by a specified date. The aforementioned include The United States (California particularly stands out, aiming for 100% clean energy by 2045), the EU (through the aforementioned Renewable Energy Directives), Germany (aims to achieve 65% renewable energy in electricity consumption by 2030, as regulated by Energiewende), China (aims to increase the share of non-fossil fuels in primary energy consumption to 25% by 2030), India (which adopted the National Action Plan on Climate Change, under which it aims to achieve 40% cumulative electric power capacity from non-fossil fuel-based energy resources by 2030) and Australia (aimed for 33,000 gigawatt-hours of electricity generated from renewable sources by 2020 under the Renewable Energy Target scheme).

Other mechanisms adopted since 2010 that are in line with now worldwide policy of switching to renewable energy sources include auction mechanisms and carbon pricing. Auction mechanisms, as their name suggests, aim to allow developers - companies or entities that specialize in the development, construction, and operation of renewable energy projects, such as renewable energy companies, traditional energy utilities, independent power producers (IPPs) as well as financial institutions and investors, to bid for contracts to supply electricity at the lowest cost. On the other hand, carbon pricing mechanisms, including carbon taxes or emissions trading schemes, are used to price carbon emissions and thereby accelerate the transition to renewable energy.

A new era of urgency has emerged in the last ten years in addressing climate change, especially in the area of renewable energy. Many countries now have more ambitious targets for renewable energy, hoping to increase the share of renewable energy in their energy portfolios significantly. In addition to acknowledging the social and economic benefits of utilizing renewable energy, these targets demonstrate a commitment to slowing down global warming. Furthermore, countries must phase out coal-fired power facilities as more come to understand their significant contribution to greenhouse gas emissions and air pollution. Smart grid technologies such as coherent, enhanced sensors, communication networks, and control systems are being employed to optimize the assimilation of renewable energy sources into the existing energy infrastructure. This will allow for more effective energy distribution and management.

The Paris Agreement on renewable energy is the most important part of the United Nations Framework Convention on Climate Change (UNFCCC) in recent years. This agreement focuses on addressing climate change by encouraging collaboration on activities for reducing greenhouse

gas emissions and adapting to its effects. During the Conference of the Parties (COP21) in 2015, the main objective was adopted to restrict global warming to under 2 degrees Celsius compared to pre-industrial levels, with a further aim to limit the temperature rise to 1.5 degrees Celsius. Additional important aspects of the Agreement consist of Nationally Determined Contributions (NDCs) in which countries detail their plans for combating climate change, supported by mechanisms for ensuring responsibility and transparency, and a worldwide evaluation every five years to determine advancement. Furthermore, acknowledging the obstacles encountered by developing countries in decreasing emissions and adjusting to climate change effects, the Agreement underlines the significance of climate funding. Developed nations are anticipated to provide financial assistance to developing countries, reach $100 billion by 2020, and continue to provide funding in the future. In addition, the treaty creates the Warsaw International Mechanism for Loss and Damage to promote collaboration on topics such as risk assessment, control, and enhancing resilience.[21][22][23]

# CHAPTER III

# EU LEGISLATION ON RENEWABLE ENERGY SOURCES

## 3.1 RENEWABLE ENERGY DIRECTIVE

The EU has a long history of leading the way in the creation of policies for the development of sustainable energy, a tradition it solidified with the passing of Directive 2009/28/EC of the European Parliament and of the Council on 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, also known as the Renewable Energy Directive. Its adoption in April 2009 marks a pivotal moment in Europe's quest for sustainable energy policies. With this directive, the legal framework for advancing clean energy across all sectors of the EU economy was created.

[21] 'The Paris Agreement on Climate Change' (Oxford Public International Law) <https://opil.ouplaw.com/display/10.1093/law/9780198789338.001.0001/law-9780198789338> accessed 9 July 2024

[22] James A. Duffield and Keith Collins, 'Evolution of Renewable Energy Policy' (Choices Article, 20 April 2006) <https://www.choicesmagazine.org/2006-1/biofuels/2006-1-02.htm> accessed 9 July 2024

[23] Gomstyn A, 'The History of Renewable Energy' (IBM Blog, 9 February 2024) <https://www.ibm.com/blog/renewable-energy-history/> accessed 9 July 2024

The goal of the directive is essentially to encourage and reward the use of renewable energy in the member states of the EU in order to mitigate climate change, improve energy security, and promote economic growth by increasing innovation and the number of investments in the sector of renewable energy. In addition, The Directive aims to reduce the dependency on imported oil by promoting the use of renewable energy, as well as the use of energy-efficient practices in all fields where this issue is increasingly visible.

The Directive itself is considered to be an essential instrument in steering Europe toward a cleaner future by putting in enforceable place targets, enhancing collaboration between the member states, and advocating for sustainable bioenergy practices. It was envisioned to be the continuation of the Kyoto Protocol, which was enacted in 1998 as a part of the United Nations Framework Convention on Climate Change, which shows an ever-increasing tendency to curb harmful greenhouse gas emissions to minimize the effects of climate change and allow for a healthier future.

### *3.1.1* Binding Renewable Energy Targets

The most important areas that the Directive regulates are the share of the use of renewable energy and the share of the use of biofuels. These objectives were first mentioned in the Commission communication of 10 January 2007 entitled "Renewable Energy Roadmap — Renewable energies in the 21st century: building a more sustainable future" and were further contextualized in in the Commission communication of 19 October 2006 entitled "Action Plan for Energy Efficiency: Realizing the Potential", which was endorsed by the European Council of March 2007, and by the European Parliament in its resolution of 31 January 2008 on that Action Plan. This was cemented with recital 13 of the RED, stating "In the light of the positions taken by the European Parliament, the Council and the Commission, it is appropriate to establish mandatory national targets consistent with a 20 % share of energy from renewable sources and a 10 % share of energy from renewable sources in transport in Community energy consumption by 2020."[24]

The practical aspect of the first objective (20 % share of energy from renewable sources) is that member states are given individual differing targets, based on factors such as the existing level of

[24] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16, recital 13

energy from renewable sources and the energy mix, meaning the current state of their economy and their potential in the foreseeable future. This stipulates that, while there is a collective goal to be achieved, the individual effort of member states is divided proportionally to their GDP and "modulated to reflect their starting points".[25]

On the other hand, there is no division of individual part of the collective effort for the second objective -10 % share of energy from renewable sources in transport in Community energy consumption by 2020. This is due to a couple of factors. First, the directive seeks to guarantee uniformity in transportation fuel standards by establishing a single and collective goal for each of the member states. This methodology streamlines regulatory adherence and promotes standardization throughout the European Union. Creating a fair playing field for all member states concerning the standards for renewable energy in transportation keeps the market from becoming fragmented and lowers trade obstacles. Secondly, the objective highlights the possibility of trade in transport fuels in-between member states. It underlines that member states of the Union that are not currently in the position to generate such fuels are in the position to obtain them from other member states that already have a developed industry in this field.

With the RED cooperation between member states, as well as the member states and third countries, is encouraged, for the renewable energy targets to be achieved their renewable more efficiently. It is also used to establish mechanisms for the mutual recognition of support schemes and the cross-border trade of renewable energy, fostering integration and collaboration within the EU's energy market, according to recital 15 of the directive.

The potential for the use of agricultural materials to address environmental challenges while simultaneously encouraging the development of rural farm areas and economic growth is recognized in the Directive. For biofuel production to realize its full potential as a renewable energy source and maximize the possibility for its use, it is necessary to outline principles for its sustainability, so it does not lead to negative consequences, such as "unnecessary, burdensome research by economic operators and the conversion of high-carbon-stock land that would prove to

[25] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16, recital 15

be ineligible for producing raw materials for biofuels and bioliquids"[26] and "if biofuels and bioliquids meeting those criteria command a price premium compared to those that do not."[27]

### *3.1.2* National Renewable Energy Action Plans

To ensure achieving these objectives, all member states are obliged to draft national renewable energy action plans. In these documents, national sectorial targets for the share of energy from renewable sources consumed in different areas, such as transport, electricity, and heating and cooling in 2020 are included. When setting these targets, member states need to take into account the impact of other energy efficiency policies on final energy consumption, as well as offer measures that are to be taken to achieve the previously stated collective targets. In addition, two obligations have been levied on member states: a template for national renewable energy action plans is adopted by the Commission, with which member states must comply when submitting their plans and they are required to notify their national renewable energy action plans to the European Commission by a specified deadline (June 30th, 2010).

Six months before the due date of their national action plans, member states must publish and notify the Commission of a forecast document. This document should estimate excess production of renewable energy and the potential for joint projects until 2020, as well as estimated demand for renewable energy to be satisfied by means other than domestic production. The forecast may include elements related to cost, benefits, and financing. Member states are required to update this forecast in subsequent reports to the Commission.

If a member state's share of energy from renewable sources falls below an indicative trajectory outlined in Annex I for two consecutive years, it must submit an amended action plan to the Commission by June 30th of the following year. This amended plan should outline measures to rejoin the indicative trajectory within a reasonable timeframe. It is very important to highlight the

[26] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16, recital 73

[27] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16, recital 76

possibility for the Commission to release a member state from this obligation if the shortfall is minimal and the member state's current and future measures are deemed sufficient.

Member states are required to submit the national renewable energy plans to the Commission in order for them to be assessed and to be determined if the measures proposed are deemed adequate. The Commission has the right to issue recommendations to Member States based on the obligation.

Finally, the submitted documents, including the national renewable energy plans, forecast documents, and any recommendations are further forwarded to the European Parliament and simultaneously published on an online transparency platform established by the Commission, as per Article 24 of the RED. This approach to the procedure of submitting and analyzing national plans is aimed at ensuring the consistency, transparency, and accountability of Member States in the process of fulfilling the imposed obligations.

### *3.1.3 Guarantees of Origin*

Guarantees of Origin, which were introduced by the Directive, are transparent certificates certifying the origin and characteristics of renewable energy. The guarantees are meant to make it easier for consumers to track down, authenticate, and validate renewable energy sources in an effort to boost consumer confidence and transparency in the renewable energy markets. Guarantees of origin can only be used to demonstrate, for compliance purposes, how much or what percentage of an energy supplier's energy mix comes from renewable sources. Specifics like the energy source, production dates, installation information, support received, operational dates, and issue specifics must all be included in the guarantees of origin themselves. Other Member States are expected to recognize them, with the exception of situations in which there are legitimate concerns.

Member States must provide guarantees of origin to renewable energy producers when requested. Producers of renewable heating and cooling may also receive guarantees of origin if they meet specific requirements, including minimum capacity limits. Every guarantee of origin corresponds to 1 megawatt-hour (MWh) of energy generated and can be issued only once for each unit of energy. Furthermore, there is a 12-month deadline from the production date for their utilization. If it is not utilized by the specified time limit, it will be invalidated.

There is the obligation of supervision of issuance, transfer, and cancellation of guarantees of origin, which is to be carried out by member states themselves, or the designated competent bodies which

are to "have non-overlapping geographical responsibilities, and be independent of production, trade and supply activities."[28]

### *3.1.4 Reporting by the Member States*

To achieve as much success in the implementation of RED as possible, a detailed outlook on the obligation of reporting by countries is provided. Member States are required to submit reports to the European Commission every two years, starting from December 31, 2011, with the last report due by December 31, 2021. The aforementioned reports must detail various aspects, including sectoral and overall shares of energy from renewable sources, measures taken to promote renewable energy, support schemes, guarantees of origin, administrative procedures, biomass resources, biofuels development, environmental impacts, greenhouse gas emission savings, excess production, demand estimates, and waste used for energy production. The possibility of correction of data provided in preceding reports in the subsequent ones is provided.

In their first report, Member States must state their intentions regarding administrative procedures, including establishing a single administrative body, approving planning and permit applications automatically, and designating appropriate locations for the exploitation of renewable energy.

### *3.1.5 Monitoring and reporting by the Commission*

To thoroughly follow and understand the effects of the implementation of RED, The Commission is required to monitor the origin and effects of the use of biofuels and bioliquids in the EU. This requirement spans the impact of their production on the use of the land and commodity prices. Following on, the Commission has the obligation of reporting to the European Parliament and Council based on reports from Member States, monitoring activities, and analyses, which are conducted every two years. To get a better understanding of the actions undertaken by the Member States to comply with the Directive, and efforts put in concerning the implementation of measures related to biofuels and bioliquids, the Commission must maintain dialogue and exchange information with stakeholders, including third countries and biofuel producers. The Commission reports on greenhouse gas emission reductions, stemming from the use of biofuels, by using values

[28] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16, art 15(4)

reported by Member States and evaluating the impact of accounting for co-products using the substitution approach. Reports must analyze various aspects, including the environmental benefits and costs of different biofuels, impacts of increased biofuel demand on sustainability, potential biodiversity impacts, and indirect land-use changes.

In addition, it should be noted that the Commission has the additional obligation of analyzing state-by-state submitted action plans while focusing on financing, coordination, and support initiatives to achieve the 20% renewable energy target.

The base as set by the Renewable Energy Directive in 2009 was further improved and expanded with the adoption of the Renewable Energy Directive II in 2018, which replaced it.

## 3.2 CLEAN ENERGY FOR ALL EUROPEANS

The Clean Energy for All Europeans initiative, also known as the Clean Energy Package, is a set of legislative proposals put forward by the European Commission in November 2016, which were adopted in 2019. The aim of the initiative, as its name suggests, is to update and modernize the EU's energy policy framework to meet the goals of the Energy Union, meaning to improve energy efficiency, increase the use of renewable energy, and perhaps most importantly, ensure the delivery of sustainable and affordable energy to the citizens and businesses in the European Union. In the end line, the Package is hoped to help decarbonize the Energy System of the Union, in line with the objectives set by the Green Deal. It aims to realize the goals set by the Paris Agreement, most notably restricting temperature increases to no than 1.5 degrees Celsius above pre-industrial levels, by limiting greenhouse gas emissions.

The Package itself consists of 8 laws, most notably including the revised Energy Efficiency Directive. It should be noted that, while the Renewable Energy Directive II, as it’s also known, may be considered the staple of the Clean Energy Package, it also includes a number of documents aiming to accelerate the procedure of switching to renewable energy, most notably the Energy Efficiency Directive – the EED, by which a binding energy efficiency target for the EU of at least 32.5% by 2030 was established. With this directive, measures for the promotion of energy efficiency practices in industry, transport, products as well as buildings were introduced. This is significant especially for buildings, especially having in mind that they are responsible for around

40% of energy consumption and 36% of CO2 emissions in the EU, making them the single largest energy consumer in Europe.

In addition, the Package also includes the Electricity Market Regulation and Directive, which includes several acts that aim to promote a more competitive, integrated, and flexible electricity market in the EU. Among others, it contains provisions aiming to strengthen the trade in electricity between the Member States and the cross-border cooperation between them. The reporting requirements and mechanisms for ensuring compliance with targets set by the Clean Energy Package are set by the document named Governance Regulation.

Finally, the Clean Energy for All Europeans initiative contains Regulation on the Governance of the Energy Union and Climate Action (Governance Regulation), which establishes the framework for monitoring and reporting on the progress of EU countries towards their energy and climate targets and the Risk-Preparedness Regulation, whose aim is to ensure the security of electricity supply in the EU by improving cooperation among Member States and establishing common rules for risk-preparedness measures.[29]

Collectively, the Clean Energy for All Europeans package contains a set of laws that concretize the EU's goal of ensuring a greener and cleaner future in the Union, with the prioritization of affordability, security, and sustainability for consumers and businesses alike.

### 3.3 RENEWABLE ENERGY DIRECTIVE II

In December 2018, the revised Renewable Energy Directive, named the Renewable Energy Directive II entered into force. It builds on the foundation set by its predecessor by setting a new round of optimistic goals in order to make for a cleaner environment until 2030. A proposal for the expansion of the original Directive was adopted as a part of the aforementioned 'Green Energy Package' in 2016, with the final compromise text being agreed upon by the EU institutions in June 2018.

The focus of the renewed directive is to advance the EU's renewable energy objectives in alignment with the broader goals of the EU in the field of energy.

[29] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, 'Clean Energy For All Europeans' (Communication) COM (2016) 860 final

### *3.3.1 Binding Renewable Energy Targets*

In terms of energy consumption from renewable sources, the European Union's collective aim has been raised under the revised regulation from 20% of total energy consumption until 2020, to 32% of total energy consumption until 2030. To achieve this goal, the EU's energy mix should be more diverse and its capacity for renewable energy should be significantly increased. The concept of national targets for renewable energy is carried over from the previous Directive; however, the new Directive gives Member States more freedom to determine their own goals. As a result, Member States are now permitted to set more aggressive national targets as long as they stay within the 32% overall EU target, as stated in Article 8 of the new Directive. With this approach, diverse national circumstances, resource potentials, and policy preferences across member states are recognized.

In continuation, there was another increase in goals determined by the revised directive – the 10 % share of energy from renewable sources in transport in Community energy consumption by 2020 goal, set by the original RED, was broadened to be at least 14% according to Article 25(1) of the RED II.

### *3.3.2 Governance Regulation*

To improve member-state coordination, accountability, and transparency, RED II introduces a stronger governance framework. It requires member states to create National Energy and Climate Plans (NECPs), which describe how they plan to meet their renewable energy targets and support the overall goals of the EU. Greater coherence and alignment of national policy with EU energy and climate goals are fostered by this organized approach. The obligation of submitting National Energy and Climate Plans is introduced by recital 8 and further explained by Article 33(1) of the revised Directive.

### *3.3.3 The Expansion of Bioenergy*

With a primary focus on reducing greenhouse gas emissions and taking land use into account, the original RED contained sustainability standards for biofuels used in transportation. The sustainability standards are expanded by RED II to include biomass used for heating and cooling in addition to biofuels used for transportation, especially having in mind recital 73 of the revised directive, by which it was stated that the aforementioned – the heating and the cooling – represent

“around the around half of the final energy consumption of the Union”. Higher standards for sustainability are introduced, covering social, environmental, and governance dimensions. The term “biomass” in this instance encompasses all usable materials generated through the process of recycling of the waste.

By reducing any negative effects on ecosystems, biodiversity, and communities, these criteria are introduced in order to ensure that the production of bioenergy complies with strict sustainability standards. They are envisioned to especially benefit remote regions, by allowing them a higher level of autonomy while simultaneously covering their specific needs, according to Article 64 of the RED II. In addition, the increased use of biomass is propagated regardless of its country of origin, meaning that the same criteria apply if it was created in a third country.

#### *3.3.4 Community Involvement*

The original Renewable Energy Directive acknowledged the need for community involvement in renewable energy projects, as stipulated in recitals 6 and 8, but it lacked the instruments to put them into effect.

To allow for greater inclusion of individuals, communities, and cooperatives in generating renewable energy, concrete provisions aimed at their support were implemented in the Directive from 2018. This is primarily regulated by recital of the directive, which shortens the administrative procedure for allowing SMEs (small and medium-sized enterprises) as well as individuals to be granted permits for generating electricity, recital 66, aiming “to establish a regulatory framework which would empower renewables self-consumers to generate, consume, store, and sell electricity without facing disproportionate burdens” and recital 71, which aims to avoid applying charges to renewable energy produced and used within the same premises, therefore cutting costs for individuals and enterprises aiming to generate electricity for their own purposes, which in the long run will hopefully allow more small consumers to produce electricity themselves and thereby reduce the need for bigger powerplants which emit the most greenhouse gasses.

The goal of these measures is to promote more decentralization in the renewable energy industry, as well as to expand local ownership and public participation in the transition to renewable energy sources. By allowing community members to participate in energy production, the redone

Renewable Energy Directive decentralizes energy generation and encourages local ownership of renewable energy resources.

### 3.4 EU GREEN DEAL

The European Green Deal is a comprehensive plan adopted by the European Union, underlying the efforts made in combating global warming. It consists of policy initiatives, including legislative proposals, funding mechanisms, and international cooperation efforts. It was introduced by the European Commission in December 2019 and represents the embodiment of the EU's goal to be the first climate-neutral continent.

With the package, the need for a cross-sectoral approach to the issue of transition to renewable energy sources is recognized, meaning it covers a wide area of sectors, including industry, economy, transportation, agriculture, as well as the protection of biodiversity and energy.

Three main goals outlined in the initiatives contained within the Green Deal are:

- no net emissions of greenhouse gases by 2050, ensured by a consistent transition to renewable energy alternatives, such as clean energy and sustainable mobility, while reducing net greenhouse gas emissions by at least 55% by 2030, compared to the level of 1990[30]
- economic growth, created through the promotion of circular economy, meaning products are designed to be reused and recycled, with detailed plans on every part of a product's life. This approach is predicted to lead to a substantial decrease in the amount of waste generated in the end-line[31]
- equal development of a green economy, meaning it is aimed for a full transition to a modern and competitive to be achieved, in all parts of the Union, by taking into account the economic and social situation in different regions.[32]

[30] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, 'The European Green Deal' (Communication) COM (2019) 640 final, ch 2.1.1.
[31] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, 'The European Green Deal' (Communication) COM (2019) 640 final, ch 2.1.3.
[32] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, 'The European Green Deal' (Communication) COM (2019) 640 final, ch.2.2.4.

### *3.4.1 Fit for 55*

Fit for 55 represents a set of proposals, covering different sectors, which are aimed at updating and improving the currently existing EU legislation regarding climate change. The aim of the initiative is to ensure the accordance between current EU regulations with long-term goals set by the Council and the European Parliament, meaning its purpose is to bridge the gap between the current state of the Union's legislation and the planned long-term results.

The end goal of the initiative is to reduce net greenhouse gas emissions by at least 55% by 2030, aiming to be achieved through a cross-sectorial approach covering emissions reductions and economic decarbonization.[33]

The package itself includes:

#### *3.4.1.1 EU emissions trading system (EU ETS)*

The ETS was established by Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system. It represents the main mechanism for combatting climate change, operating on a "cap and trade" principle, which limits the total amount of greenhouse gas emissions that can be emitted by certain sectors of the economy while allowing for trading of these rights between sectors.

One of the key sectors the revised EU ETS focuses on is the transport sector, predominantly maritime transport. With the directive, it was emphasized that maritime transport was not previously included in the greenhouse gas-reducing measures and that international transport of this kind between the Member States has risen by around 36% since 1990. If this trend continues, emissions from international maritime transport activities are projected to grow by 34 % between 2015 and 2050, which would significantly offset the efforts made in other areas, as predicted by recital 17 of the directive. This issue is to be mitigated through the allocation of emission

[33] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality' (Communication) COM (2021) 550 final, ch.1.

allowances to ships departing from and arriving at ports under EU or outside of EU jurisdiction, dependent on which it is decided what percentage of allocation of allowances is to be applied, as per Article 3ga. Finally, the administering authority to which a shipping company is responsible is required to ensure that that shipping company "monitors and reports the relevant parameters during a reporting period, and submits to it aggregated emissions data at company level".[34] In addition, a significant increase in the Modernisation Fund (recitals 43 and 64), as well as the Innovation Fund (recitals 47 and 51) is planned, in order to allow for a faster green transition.

The latest revision of the ETS was adopted in the May of 2023.[35]

#### *3.4.1.2 Social climate fund*

It was created with Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060.
It aims to support households, micro-enterprises, and transport users, which are the most affected by the inclusion of a new emissions trading system for buildings and road transport, as per Article 1 of the Directive. It was adopted by the Council in April 2023. The fund is a part of the EU's budget (regulated by recital 23 of the Regulation), fed by external assigned revenues up to a maximum amount of €65 billion, as per recital 30 of the Regulation.[36]

#### *3.4.1.3 Carbon Border Adjustment Mechanism (CBAM)*

CBAM is regulated by Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism.

The goal of the mechanism is to ensure that the reduction of greenhouse gas emissions within the borders of the Union is not offset by the increase of emissions outside of its borders or because of the increased importation of carbon products – to prevent carbon leakage. It is to complement the

[34] Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system [2023] OJ L 130/134, art 3gd
[35] Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system [2023] OJ L 130/134
[36] Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060 [2023] OJ L 130/1

previously explained EU ETS mechanism, while targeting goods originating in third countries (non-member states) that threaten to offset the measures for carbon-emitting reduction implemented in the EU, as per Article 1 and Article 2 of the directive, respectively.[37]

#### *3.4.1.4 Member states' emissions reduction targets*

The targets are regulated by Regulation (EU) 2023/857 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement, and Regulation (EU) 2018/1999, which was adopted by the Council in March of 2023. With this directive, the EU emphasized the need for every Member State to work individually as well as collectively to reach a common goal.

It covers sectors that were not included in the previously mentioned Emissions Trading System or the LULUCF, including road and domestic maritime transport, buildings, agriculture, waste, and small industries, as per Article 2. The directive´s main objective is to achieve a reduction of greenhouse gas emissions by 40% by 2030, compared to the levels of 2005. This was regulated by Article 1 of the directive. This target is applicable only to the aforementioned sectors.[38]

#### *3.4.1.5 The land use, land-use change, and forestry (LULUCF) regulation*

With this regulation, an increased EU-level target of at least 310 million tons of $CO_2$ equivalent net removals of greenhouse gases for 2030 was set. This goal was provided by Article 4 of the directive.

This target is reserved for land use and forestry sectors and it is to be achieved through binding net removal national targets for 2030, to be achieved through individual targets for all Member States, divided into two phases: the period from 2021 to 2025 and the period from 2026 until 2030(referred to as the budget 2026-2029). The commitments and targets of the Member States are regulated in

[37] Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism [2023] OJ L 130/52

[38] Regulation (EU) 2023/857 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement, and Regulation (EU) 2018/1999 [2023] OJ L 111/1

detail by Article 4 of the directive. The newest iteration of the regulation was adopted by the Council in March 2023.[39]

#### *3.4.1.6 CO2 emission standards for cars and vans*

An integrated approach is necessary to reduce the number of CO2 gasses that are emitted utilizing personal transport, bearing in mind that they are currently responsible for 16% (cars) and 3% (vans) of the total EU-wide CO2 emission.[40] This new approach was highlighted with the adoption of Regulation (EU) 2023/851 amending Regulation (EU) 2019/631 as regards strengthening the CO2 emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition.

The new regulation adopted by the Council in March of 2023 sets stricter CO2 emission standards for the automakers. Targets include a 55% reduction for cars and 50% for vans by 2030-2034, compared to 2021 levels, with complete emissions reductions required by 2035, as per Article 1. A significant novelty introduced with the directive is the regulatory incentive mechanism for zero- and low-emission vehicles for the period from 2025 to 2029, which stipulates that if a manufacturer meets certain benchmarks for the sales of zero- and low-emission vehicles (25% for passenger cars and 17% for vans) it can be rewarded with less strict CO2 targets (as per Article 1(c)). The regulation includes provisions for reviewing target achievement in 2026 (recital 30), gradually reducing emission credits to a maximum of 4g/km per year from 2030 to 2034 (Article 7a(8) of the directive), developing a common EU methodology for assessing emissions(recital 33 of the directive) and maintaining a derogation for small volume manufacturers until the first of January 2036(recital 28 of the directive).[41]

[39] European Parliament, 'Legislative resolution of 14 March 2023 on the proposal for a regulation of the European Parliament and of the Council Amending Regulations (EU) 2018/841 as regards the scope, simplifying the compliance rules, setting out the targets of the Member States for 2030 and committing to the collective achievement of climate neutrality by 2035 in the land use, forestry and agriculture sector, and (EU) 2018/1999 as regards improvement in monitoring, reporting, tracking of progress and review' (COM(2021)0554 – C9-0320/2021 – 2021/0201(COD))

[40] '$CO_2$ Emission Performance Standards for Cars and Vans' (Climate Action) <https://climate.ec.europa.eu/eu-action/transport/road-transport-reducing-co2-emissions-vehicles/co2-emission-performance-standards-cars-and-vans_en> accessed 9 July 2024

[41] Regulation (EU) 2023/851 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2019/631 as regards strengthening the CO2 emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition [2023] OJ L 110/5

#### *3.4.1.7 EU rules on methane emissions reduction in the energy sector*

This set of rules builds upon the foundation set by the Global Methane Pledge, by which over 100 countries committed to reduce their methane emissions by 30% until 2030, compared to the levels of 2020.

With this regulation, new requirements for the oil, gas, and coal sectors will be introduced for measuring, reporting, and verifying emissions of methane. Monitoring and reporting are regulated in detail by articles 4, 12, 20 and 25. It should be particularly noted that these requirements apply not only to active mines, but mines "where operations have ceased since 70 years prior to the date of entry into force of this Regulation"[42]. Mine operators are required to submit reports to the competent authorities containing yearly source-level methane emissions data (within 12 months) for operating mines, as well as monitor the plugged and abandoned mines, as per Article 20. Another significant novelty introduced with the agreement is the mitigation measures for methane leaks (two types of LDAR – leak detection and repair surveys – are provided: type I - lower accuracy to find big leaks; and type II - higher accuracy to find small leaks; in Annex I of the provisional agreement), and the limitation of venting and flaring, which are prohibited except in cases of emergency and/or malfunction, to prevent disposal of harmful substance in the atmosphere (Article 15). Finally, transparency is aimed to be increased through the creation of global instruments for following methane emissions related to the importation of oil, gas, and coal into the Union, regulated by Article 27 of Chapter 5, with concrete information needed to be given by importers in Annex VIII).

This regulation is especially important keeping in mind that methane is the second leading greenhouse gas, after carbon dioxide. The provisional agreement on the topic was reached on the 21st of December 2023.[43]

[42]Proposal for a Regulation of the European Parliament and of the Council on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942, COM(2021) 805 final, art 25(2)
[43]Proposal for a Regulation of the European Parliament and of the Council on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942, COM(2021) 805 final

#### *3.4.1.8 ReFuelEU Aviation initiative*

The new regulation regarding sustainable aviation fuels – SAF, officially named the Regulation (EU) 2023/2405 of the European Parliament and of the Council on ensuring a level playing field for sustainable air transport, was adopted by the Council in October of 2023. It aims to significantly increase the share of sustainable fuels in this transport sector, bearing in mind that aviation is one of the key sectors for the reduction of greenhouse gas emissions. Sustainable aviation fuels in this regard include certified biofuels, renewable fuels of non-biological origin, recycled carbon aviation fuels, and the low carbon aviation fuels, all of which need to meet criteria regulated by the directive (70% with RED on sustainability and emissions savings criteria, as per recitals 13 and 15 of the regulation) to be considered eligible.

The main requirement imposed on fuel suppliers in the aviation sector is to ensure that all supplied fuel contains a regulated minimum SAF-share from 2025, and a minimum share of synthetic fuels from 2030. They are required under Article 4 and explained in detail by Annex I. These minimum targets are to be progressively increased until 2050. In addition, the avoidance of tankering is imposed on aircraft operators, obliging them to ensure that the yearly quantity of aviation fuel uplifted at a given EU airport is at least 90% of the yearly aviation fuel required, per Article 5.1 of the Directive.

Finally, in order to increase transparency labelling schemes (Article 14), as well as data collection (Article 13) and reporting obligations for fuel suppliers (Article 10) and aircraft operators (Article 8) are introduced. These measures have the aim of increasing the effectiveness of the directive.[44]

#### *3.4.1.9 FuelEU maritime initiative*

It was officially adopted by the Council in July of 2023, under the Regulation (EU) 2023/1805 of the European Parliament and of the Council on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/26/EC. Its main aim is to progressively reduce the share of greenhouse gasses used on maritime vessels, starting from 2% in 2025 and up to 80% by 2050 (Article 4.2 of the Directive), which are to be replaced by low-carbon and renewable fuels. This directive is especially important having in mind that, despite recent efforts, the maritime

[44]Regulation (EU) 2023/2405 of the European Parliament and of the Council on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation) [2023] OJ L2405/1.

sector still predominantly relies on fossil fuels (ship traffic to or from ports in the European Economic Area accounts for some 11 % of all Union carbon dioxide (CO2) emissions from transport and 3 to 4 % of total Union CO2 emissions[45]), which are to be excluded from the regulation's fuel certification process (Article 10). To mitigate this, an incentive regime for supporting the uptake of renewable fuels of non-biological origin with a high decarbonization point is introduced in recital 26.

In order to achieve greenhouse gas emission targets, a voluntary pooling mechanism, which will allow more ships to pool their compliance together to achieve targets more easily is introduced with Article 21. Conversely, to reduce the emissions of aforementioned gasses, passenger ships will be obliged to use on-shore power supplies for all electricity needs while in all ports under EU jurisdiction from 2030, according to Article 1(b).

Finally, according to recital 62 of the regulation, all penalties paid under this Directive will be used for promoting the maritime sector's decarbonization, which will aid the decarbonization process in the sector by allowing for more funds.[46]

#### *3.4.1.10 Regulation on Alternative Fuels Infrastructure*

The rules were adopted with the Regulation (EU) 2023/1804 of the European Parliament and of the Council of 13 September 2023 on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU.

With it, the EU set out three main goals to be achieved by 2030, including 1. recharging stations for cars and vans to be installed every 60 km, as per Article 3.4(a); 2. hydrogen refueling stations serving both cars and lorries to be deployed from 2030 onwards in all urban areas, as per Article 6 and; 3. users of electric or hydrogen-fueled vehicles to be able to pay easily at recharging or refueling points, which is stipulated in recital 36 of the directive. These measures, among others provided by the Directive, will aid the quicker uptake of renewably-fueled means of transport. The regulation was adopted by the Council in July of 2023.

[45] Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC [2023] OJ L 234/48, recital 3

[46]Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC [2023] OJ L 234/48

#### *3.4.1.11 Renewable Energy Directive III*

Adopted in October of 2023, further increased the goal of renewable energy sources in the overall energy mix to 42.5% by 2030 with an additional 2.5% indicative top-up to allow the target of 45%, determined by the REPowerEU Plan, to be achieved.

#### *3.4.1.12 Energy Efficiency Directive*

Also known as Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast).

The goal of the revised Directive is to decrease total energy consumption at the Union level by 11,7% in 2030, compared to 2020 levels, as set out by Article 4.1. This objective is to be achieved by increasing national annual energy savings obligations, with targets being clarified in detail with Article 8, as well as decreasing the consumption of energy in public sector buildings by 1,9% annually from 2021, as per Article 5 of the Directive. The revised regulation was adopted by the Council in July of 2023.[47]

#### *3.4.1.13 Energy Efficient Building*

In March of 2024 the new Directive on Energy Performance of buildings was adopted, aiming to have every new building be zero emission by 2030, regulated by Article 7, and transform the existing ones into zero-emission buildings by 2050, as per Article 3(b).[48]

#### *3.4.1.14 Hydrogen and decarbonized gas market package*

The package consists of a regulation and a directive, whose aim is to make a change from natural gas to renewable and low-carbon gases by 2030 and beyond. In essence, the package is aimed at creating a regulatory framework to promote the development of renewable and natural gas markets while ensuring consumer rights and enhancing energy security. In addition, it aims to streamline the integration of renewable as well as low-carbon gasses into the existing infrastructure, while establishing a new certification system for low-carbon gasses, with the inclusion of hydrogen. Finally, according to the current developments, it is likely that the proposal for long-term contracts

[47] Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast) [2023] OJ L 231/1
[48] Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast) [2024] OJ L1275/1

for unabated fossil gas not to last beyond 2049 is going to be included in the final version of the agreement. According to the provisional agreement achieved in this regard at the beginning of December of 2023, the rules are to be applied in two phases, until 2033 and beyond, in order to make their implementation less stressful for the Member States.[49]

#### *3.4.1.15 Energy Taxation Directive*

The directive aims to update energy products and electricity taxation to align them with current EU policies, improve the internal market, rationalize tax exemptions, and maintain member states' revenue generation capacity. However, it should be noted that this Directive is still in the proposal stage, and will stay so until unanimity in the Council is achieved.[50]

#### *3.4.1.16 The European climate law*

With the new European climate law, adopted under Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999, the EU set a legal obligation upon the Member States to reduce net greenhouse gas emissions in the EU collectively by at least 55% by 2030 compared to 1990 levels, as per Article 4 of the Directive, and eliminate them by 2050, according to Article 1. The directive itself was approved by the Council in May of 2021.

One of the main actions to be undertaken under the regulation is to ensure a cost-efficient green transition, to be achieved through "fairness and solidarity among Member States".[51] In addition, it stipulates the development of a system for monitoring and reporting progress by the Commission, which is given a right to offer legislative proposals if deemed appropriate, as per Article 45. Finally, mapping out the pace of the advancement in this field until 2050 is regulated by recital 30 of the regulation, to "provide predictability and confidence for all economic actors, including businesses, workers, investors, and consumers". This action includes the possibility of setting an

[49] 'Hydrogen and Decarbonised Gas Market Package' (Energy) <https://energy.ec.europa.eu/topics/markets-and-consumers/market-legislation/hydrogen-and-decarbonised-gas-market-package_en> accessed 9 July 2024
[50] 'Press Corner' (European Commission - European Commission) <https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_3662> accessed 9 July 2024
[51] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 [2021] OJ L 243/1, art 2(2)

intermediate climate target for 2040, which will make the achievement of the climate neutrality target until 2050 more gradual and therefore be less burdensome on the Member States.[52]

#### *3.4.1.17 EU strategy on adaptation to climate change*

In April 2013, the European Commission adopted the strategy on adaptation to climate change, with which a framework and appropriate mechanisms for climate change impacts are introduced. The Strategy itself contains three main objectives, which are the promotion of Member States' actions, to be achieved by adopting national strategies; the promotion of better decision-making by further developing the European Climate Adaptation Platform; and the promotion of adaptation in key vulnerable sectors.

The strategy was updated in June of 2021. The update outlined the measures to be undertaken by the EU for it to become fully resilient to the effects of climate change by 2050. These measures include the encouragement of sharing climate-related risks and data to improve the assessment and the prediction of risks associated with climate change, as per Article 3.5; the promotion of nature-based solutions, such as protecting and restoring coastal and marine ecosystems and developing urban green spaces and installing green roofs and walls, since they represent the main cost-effective way of mitigating the adverse effects of climate change (Article 7.11); and the encouragement of a more systematic response to climate change, to be achieved through "integrating adaptation into macro-fiscal policy".[53]

#### *3.4.1.18 EU Biodiversity Strategy for 2030*

The EU biodiversity strategy for 2030 is a long-term plan aiming to prevent further and reverse existing degradation of ecosystems. The goal of the strategy is to recover Europe's biodiversity by extending protected areas, which is aimed to have positive benefits on the existing ecosystem, as well as economic benefits, bearing in mind that for each dollar invested in marine protected areas, a return of 20 dollars is achieved.[54] In addition, the strategy has a goal of restoring existing land

[52]Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (European Climate Law) [2021] OJ L243/1, recital 30

[53] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change' COM(2021) 82 final, chapter 7

[54] Corinne Baulcomb and Luke Brander, The Benefits to People of Expanding Marine Protected Areas (Institute for Environmental Studies (IVM) VU University Amsterdam World Wildlife Fund (WWF) 2015), page 5

and sea ecosystems, according to the EU Nature Restoration Plan, explained in Article 2.2; reducing the risk and the use of pesticides by 50%, according to the aforementioned EU Nature Restoration Plan; increasing funding to at least 20 billion euros annually, which is an estimate given by the 2018 Impact Assessment of the LIFE Regulation (SWD(2018) 292), a Study on the costs of implementing the Target 2 of the EU Biodiversity Strategy to 2020 and regulated in the strategy by Article 3.3.2. Finally, a much-improved monitoring and review process is to be implemented under Article 4.1.[55]

In March of 2024, the Nature Restoration law, setting a binding EU-level target under Article 1 for member states to restore at least 20% of land and sea areas by 2030, was adopted.[56]

#### *3.4.1.19 Farm to fork strategy*

The goal of the "Farm to fork" strategy is to shift the existing food system in the European Union to a more sustainable model by promoting more sustainable food consumption and healthier diets (by promoting the use of whole-grain cereals, fruit, and vegetables, legumes and nuts, according to Article 2.4), supporting more sustainable food production (Article 2.1. is aimed at increasing the use of nature-based, technological, digital, and space-based solutions, while simultaneously reducing the use of pesticides and fertilizers) and ensuring the existing of sufficient quantities of food on a planetary level, as per Article 2.2.

The strategy is aimed at helping the EU achieve climate neutrality until 2050 goal. Conclusions on the strategy were adopted in October 2020 by the Council.[57]

#### *3.4.1.20 EU industrial strategy*

With this strategy, the Union aims to ensure the stay at the leading position of global industry development, while simultaneously achieving a successful transition to climate neutrality. The first iteration of the strategy was published in March 2020, with the update following in May of the

[55] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'EU Biodiversity Strategy for 2030: Bringing nature back into our lives' COM(2020) 380 final

[56] Proposal for a Regulation of the European Parliament and of the Council on Nature Restoration COM(2022) 304 final

[57]Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system' COM(2020) 381 final

following year, aimed at strengthening the sustainability of the industry sector within the EU while advancing its competitiveness in the global market. It underlines the will of the EU to lead the global transition to a green economy by promoting sustainable and environmentally friendly industrial practices by investing in renewable energy sources and clean technologies, in addition to fostering digital innovation and ensuring that European industries are equipped with cutting-edge digital technologies, including artificial intelligence and digital infrastructure.[58]

#### *3.4.1.21 Circular Economy Action Plan*

The new Circular economy plan was presented in March 2020, with the conclusions on it being adopted in December of the same year by the Council. The plan is aimed at shifting to circular systems in product and consumption to achieve the goal of climate neutrality by 2050. With Article 2.1 of the plan, product design enabling their circular use, thereby extending their lifespan and reducing waste is encouraged. This is especially important, keeping in mind that up to 80% of products' environmental impacts are determined at the design phase.[59] This directly ties in with Article 4.1, whose aim is to significantly reduce the amount of waste generated by updating EU waste laws which historically had a significant role in waste reduction, and by regulating EU-level waste reduction targets. Finally, it promotes efficient practices in the use of resources, including primary and secondary raw materials, water (especially in agriculture, to be regulated by the Water Reuse Regulation[60]), and energy to reduce the impact on the environment. Key products it highlights include batteries, ICT, and electronics, as well as packaging, plastics, and food.[61]

#### *3.4.1.22 Battery supply chain*

The text of the Regulation on batteries and waste batteries was officially adopted in July of 2023, replacing the previous batteries directive of 2006. It aims to promote a circular economy regarding

[58] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, 'A New Industrial Strategy for Europe' COM(2020) 102 final, chapter 2.3
[59] 'An Introduction to Circular Design' (How to Build a Circular Economy) <https://www.ellenmacarthurfoundation.org/news/an-introduction-to-circular-design> accessed 10 July 2024
[60] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'A new Circular Economy Action Plan For a cleaner and more competitive Europe' COM(2020) 98 final, chapter 3.7
[61] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'A new Circular Economy Action Plan For a cleaner and more competitive Europe' COM(2020) 98 final, chapters 3.3;3.4 and 3.7

all stages of a battery's life cycle, from design and production (Articles 6 to 10 and Articles 12 and 14) to waste treatment (Articles 65 through 70) and finally recycling (Article 71) or reusing (Article 73). Having in mind this regulation covers all aspects of a battery's life, it establishes end-of-life requirements (including collection targets and obligations for producers (to collect waste portable batteries: 63% by the end of 2027 and 73% by the end of 2030, per Article 59.3), targets for the recovery of materials (Article 71.) and extended producer responsibility, per Article 56. It will cover all types of batteries, including electric vehicle batteries, industrial batteries, batteries used for vehicles and machines (SLI batteries), batteries for electric bikes and scooters as well as all waste portable batteries, as per Article 1.3.[62]

#### *3.4.1.23 Just transition mechanism*

The Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund was published on June 30, 2021, and entered into force on July 1, 2021.

The goal of the EU's "Just Transition" mechanism is to provide financial and technical support in the total amount of 55 billion Euros to regions that were the most affected by the transition to a low-carbon economy, to be applied in the period between 2021 and 2027. It aims to provide employment and re-skilling opportunities for people and citizens in the critical energy sectors, provide financial support and investment opportunities for research and innovation in low-carbon technology, and help build clean energy infrastructure. The first part of the allocated funds, totaling 17.5 billion Euros (in 2018 prices, made up of 7,5 billion euros[63] for budgetary commitments and 10 billion euros[64] from the recovery instrument – the Next Generation EU), is to be used through the 'just transition mechanism' aiming to support predominantly SMEs and new firms, as well as workers and job seekers in need of upskilling and reskilling. Finally, the allocated funds will be used to support research, innovation, and investments in the clean-energy field. The funds will be

[62]Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC [2023] OJ L191/1

[63] Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund [2021] OJ L231/1, art 3

[64] Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund [2021] OJ L231/1, art 4

allocated based on territorial just transition plans that cover the period up to 2030 which are to be prepared by the Member States, according to Article 11(1).[65]

A new consolidated version of the regulation was published in 2024. The allocated funds for support have remained the same, but the most notable change is the inclusion of the investments for supporting the objectives outlined in STEP - Strategic Technologies for Europe Platform, with the maximum co-financing rates for dedicated priorities to be 100%, as per Article 10. The most important objectives of the STEP are regulated in Article 2 of the STEP Regulation, including supporting critical technologies, addressing labor and skills shortages, and recognizing strategic projects. Critical technologies are those with innovative potential or that reduce Union dependencies. The program targets sectors like digital, clean tech, and biotech, emphasizing value chains and associated services.

#### *3.4.1.24 EU Renovation Wave*

The Renovation Wave is aimed at creating green buildings by at least doubling energy-related renovation rates of residential as well as non-residential buildings in the EU by 2030 in order to make the necessary contribution by the buildings sector to the 2050 climate neutrality goal. Renovations that reduce energy consumption and greenhouse gas emissions, increase the environmental performance of buildings, and generate cost savings are prioritized. The three main areas the initiative focuses on are energy poverty and worst-performing buildings, renovation of public buildings, and decarbonization of heating and cooling.

Decarbonization of buildings is especially important keeping in mind that the building stock is the largest single energy consumer in Europe, accounting for 40% of the EU's energy consumption and 36% of its GHG emissions. In addition to this, the residential sector would have to undergo the highest reduction in energy demand in heating and cooling, ranging between -19% to -23%, compared to 2015, while simultaneously increasing the share of renewables and waste heat to 38-42%, according to the impact assessment for the Climate Target Plan 2030.[66]

[65] Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund [2021] OJ L231/1

[66] 'Renovation Wave' (Energy) <https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en> accessed 10 July 2024

#### *3.4.1.25 EU chemicals strategy for sustainability*

With the Chemicals strategy, which was published on the 14th of October of 2020, the EU has shown its support for creating a toxic-free environment to better protect citizens by foremost banning the most harmful chemicals (those known to have carcinogenic effects) in consumer products, while simultaneously ensuring the industry's competitiveness by increasing investments and innovation in the safe and sustainable chemicals industry. The strategy proposes the phasing out of endocrine disruptors as well as organic pollutants while outright banning the use of per- and poly-fluoroalkyl substances (PFAS), allowing their use only where there is an absolute necessity. The strategy promotes the use of safer alternatives and encourages the development and adoption of green and sustainable chemicals through legislative instruments like REACH - Registration, Evaluation, Authorization, and Restriction of Chemicals and proposes its reinforcement to better protect the consumers.[67]

#### *3.4.1.26 EU Forest Strategy*

Deforestation is one of the key reasons for the increase in greenhouse gas emissions and one of the leading causes of global warming. This was recognized by the EU and that was the principal reason why, on the 14th of July of 2021, the new EU Forest strategy was published. It will be one of the key factors in achieving the target of 55% reduction of greenhouse gas emissions by 2030, as set by the "Fit for 55" initiative.

The main action proposed by the strategy is expanding the current forest network by planting an additional 3 billion trees by 2030, to further increase the current wooded land cover of 43,5%[68]. In addition, to continue the trend of expansion of forested areas, sustainable forest management, and active restoration are promoted, along with fiscal incentives for managers and owners of forested areas for them to adopt environmentally friendly practices. Additionally, market incentives for

[67] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Chemicals Strategy for Sustainability Towards a Toxic-Free Environment' COM(2020) 667 final, chapter 2.2

[68] European Environment Agency, EU Biodiversity Strategy for 2030 https://www.eea.europa.eu/policy-documents/eu-biodiversity-strategy-for-2030-1 accessed 18 July 2024

producing long-lived materials and products out of wood, as opposed to their fossil-based counterparts will be provided.

In continuation, Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) 995/2010, converts the principles outlined in the strategy to legal obligations for Member States. The Regulation is aimed at "minimizing the Union's contribution to deforestation and forest degradation worldwide"[69] and thereby reducing the Union's output of greenhouse gas emissions. This is to be achieved through the banning of all products that are causing deforestation, which have not been produced according to the relevant national legislation and are not covered by a due diligence statement. These conditions are to be cumulatively fulfilled to allow for products to be placed on the market.[70]

### 3.5 RENEWABLE ENERGY DIRECTIVE III

The currently applicable Renewable Energy Directive was adopted in 2018 and was revised during the latter half of 2023. With it, the European Union has shown that it has understood the need to ramp up the Union's transition to renewable sources of energy. The revised Directive was adopted on October 9th, 2023, and it entered into legal force on November 20th, 2023. Having this in mind, it should be noted that since the adoption of the original Directive in 2009, the share of energy generated by renewable sources in total energy consumption has increased from 12,5% in 2010 to 23% in 2022.[71] This is a continuous trend that exemplifies that the European Union has maintained a clear focus on creating a cleaner and healthier future for the continent.

According to the Renewable Energy Directive III, an 18-month compliance period for transposing the majority of provisions into national law is provided, ending on 21 May 2025. In addition, a

[69] Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010 (Text with EEA relevance) [2023] OJ L 150/206, art 1(a)

[70] Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010 [2023] OJ L150/206, art 3

[71] '23% of Energy Consumed in 2022 Came from Renewables' (23% of energy consumed in 2022 came from renewables - Eurostat, 22 December 2023) <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/w/ddn-20231222-2> accessed 10 July 2024

shorter period for transposing provisions related to permitting renewables is given, ending on July the 1st 2024.[72]

### *3.5.1 Binding Renewable Energy Targets*

The latest revisions to the Directive are aimed at achieving the EU's goal of obtaining climate neutrality by 2050, determined by the European Green Deal. This stipulates that the aim of the Union is to have no net emissions of greenhouse gases by 2050, to go along with other objectives which emphasize the Union's aim of being the first climate-neutral continent by the same year. The Union's strive for the accelerated switch to renewable energy sources was increased due to the aim of total independence from the import of fossil fuels, predominantly from the Russian Federation.

The Renewable Energy Directive concretized the goal of the REPowerEU Plan set out in the Commission communication of 18 May 2022, aiming to "increase the overall Union renewable energy target to 42,5 % in order to significantly accelerate the current pace of deployment of renewable energy" before 2030, with the additional goal of achieving 45% share of renewable energy in the energy mix.[73] This goal is confirmed by Article 1(2)(a). It represents a significant but necessary increase in comparison to the objective of a 32% share of renewables in the energy market, as set by the Directive of 2018. Having this in mind, the increase is necessary to meet the objectives set by the Green Deal.

### *3.5.2 Electrification*

An increased electrification is one of the main objectives of the revised Directive. Having in mind that there is a currently growing demand for energy, the Directive aims to provide a framework that will allow the expansion of the renewable energy market and increase investments in this field, to match the supply and the demand. A requirement is put on Member States to create electricity systems that allow for a significant share of renewable energy, as well as storage facilities for holding the unused electricity generated by renewable sources.

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[72]Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652 [2023] OJ Series L, art 5(1)

[73] Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652 [2023] OJ Series L, recital 5

Electrification requirements are predominantly determined by sectors, including industry, electromobility, heating and cooling as well as transport.

25,6 % of the EU's energy consumption is industry-based[74], which in addition is a major consumer of heating and cooling. Heating and cooling, which currently account for around half of the Union's total energy consumption,[75] are currently predominantly supplied by non-renewable energy sources (EU average share of energy from renewables in heating and cooling[76]), but a significantly mitigating circumstance is that 50% of demand for them is low-temperature (under 200 degrees Celsius), for which renewable sources can be applied. An obligation to implement electrification for low-temperature industrial heat is imposed on Member States with this directive, under Article 22a. The requirements for heating and cooling are to be achieved through the use of heat pump technology, which uses the waste of heat and cold, as per recital 69. Heat pumps will undoubtedly significantly reduce the need for fossil fuel necessity in the industry sector, as well as being applied for the heating and cooling of residential buildings.

Following on, there is a substantial focus on decarbonization through electrification in the transport sector. Increasing efforts are being put into providing private operators with recharging points for transport means credit mechanisms to increase the availability of the aforementioned points, as per Article 25(4). In addition, the Directive further highlights the aim of a total switch to renewable energy sources in transport sectors in which this can be achieved (personal and public transport) while acknowledging the difficulties this could pose in sectors such as aviation and maritime transport, where the possibility of introducing multipliers which would enhance the contribution of renewable fuels in these areas towards achieving specific targets, is proposed with recital 78.

The main alternatives proposed for the use of still-dominant fossil fuels in the aforementioned sector include solar-electric power to be used for transport, as well as renewable hydrogen (aiming to achieve 70% emissions savings) to be used in industry, particularly for areas that are harder to electrify. Regarding hydrogen, it should be noted that on the 20th of June 2023, the Commission

[74] 'Statistics Explained' (Statistics Explained) <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Final_energy_consumption_in_industry_-_detailed_statistics> accessed 10 July 2024
[75] 'Renewable Energy for Heating & Cooling up to 25% in 2022' (Renewable energy for heating & cooling up to 25% in 2022 - Eurostat, 27 February 2024) <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240227-2> accessed 10 July 2024
[76] 'Renewable Energy for Heating & Cooling up to 25% in 2022' (Renewable energy for heating & cooling up to 25% in 2022 - Eurostat, 27 February 2024) <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240227-2> accessed 10 July 2024

published two delegated acts - (EU)2023/1185 and (EU) 2023/1185, the first of which regulates when hydrogen, hydrogen-based fuels or other energy carriers can be considered as renewable fuels of non-biological origin and the second provides the methodology for calculating life-cycle greenhouse gas emissions coming from these sources.

### *3.5.3 Renewables acceleration areas*

Renewables acceleration areas represent a key improvement, aiming to speed up the deployment of renewables on the ground, making procedures for obtaining permits more streamlined. In essence, the competent authority of the member state is obliged to deliver a response to the application within 30 days for renewable energy plants located in renewables acceleration areas, and within 45 days, for renewable energy plants located outside renewables acceleration areas, of receipt of an application for a permit. In addition, 'contact points' should be established to guide the applicant through the permitting procedure, thereby making it easier for the applicant and in the end line allowing for a faster switch to renewable sources. The permitting procedure in its entirety is regulated by Article 16 of the Directive.

The entire procedure is limited to the duration of 12 months for renewable energy projects in renewables acceleration areas, except in the case of offshore renewable energy projects, where this procedure is aimed to last no more than two years.

### *3.5.4 Bioenergy sustainability*

The revised Directive prioritizes the material use of biomass over the use of its energy to maximize efficiency and foster a sustainable circular bioeconomy. Woody biomass should be used in order of highest economic and environmental value per Article 1(3), with energy recovery as a last resort, when there is no other use for it, as per recital 10.

In addition, per recital 83, the process of obtaining biomass should be directed in a way that protects biodiverse and carbon-rich habitats, such as forests, grasslands, and heathlands. Having this in mind, it is mandated that the currently existing biomass installations meet current greenhouse gas emission reduction provisions.

Finally, there is a focus on increasing transparency in supply chains for bioenergy. This is personified through the database to be established by the 21st of November 2024 by the

Commission, under Article 31 of the directive. The database is aimed at streamlining the tracing of liquid and gaseous renewable fuels and recycled carbon fuels. It establishes the requirement for the Member States to ensure economic operators input accurate data on fuel transactions and sustainability characteristics. Guarantees of origin for renewable gas must be transferred to the database and access to the database is given to Member States for Monitoring purposes. The data compiled will be made publicly available, concerning commercial confidentiality.

# CHAPTER IV

# MONTENEGRIN LAW ON RENEWABLE ENERGY SOURCES

## 4.1 THE LAW ON ENERGETICS

The current Law on Energetics of Montenegro was published in the Official Gazette of Montenegro, nr. 005/16 from 20.01.2016, 051/17 from 03.08.2017, 082/20 from 06.08.2020, thereby replacing the previous one, which was published in 2003.

Renewable energy sources are defined as including neo-fossil sources, such as water streams, biomass, wind, sun, biogas, geothermal energy, sea power as well as the waste that can be used for generating energy, as per Article 6(41).

Already with the first article, encourages the production of energy stemming from renewable sources, as well as highly efficient cogeneration ("the combined and simultaneous generating of remote heating and/or cooling and electric energy or heat energy for remote heating and /or cooling and mechanical energy in a simultaneous process"[77]), was emphasized. This aim is further expanded with Article 4 and Article 8, by which it was recognized that the production of energy using renewable sources, as well as the use of this energy, is a crucial part of the protection of the public interest and that this is one of the key factors in the further planning of the development of the energy sector.

Renewable energy sources themselves are regulated with Chapter III of the law, which encompasses articles from 18 to 26. The achievement of the obligatory share of energy generated

[77]Law on Energetics of Montenegro (Official Gazette of Montenegro, nr. 005/16 from 20.01.2016, 051/17 from 03.08.2017, 082/20 from 06.08.2020) art 20 (Montenegro)

by renewable sources in the total amount of energy consumed is heavily prioritized, which is to be set, developed, and achieved through national action plans.

Further development of the renewable energy sector is planned through the adoption and realization of National Energy and Climate plans, as well as the Local Energy plans. National plans are regulated in detail with the Article 8a of the law. They are to include the overview of relevant politics and national goals, in particular the usage of energy generated by renewable sources (sources and the share of the usage of energy generated by renewable sources, as well as the goals of their use, are determined by the National Energy and Climate Plans – as per Article 18 of the law), as well measures which will be undertaken in order meet the set goals. With national plans, increased energy efficiency and energy security are aimed to be achieved, with simultaneous encouragement of research, innovation, and competition in the relevant national market. National plans are adopted by the Government of Montenegro for a period of up to ten years. A particularly interesting provision of the law is Article 98(3), by which it is stipulated that the Government will stop supporting the construction of new renewable energy power plants if the goals determined by the national plan are achieved if the construction of those power plants would lead to a share in energy generated by renewables higher than the obligatory ones. In addition, the Government will temporarily restrict the support for renewable energy sources before the achievement of the goals determined by the national plans if they are to lead to serious consequences for the environment and/or the end consumers.

On the other hand, local government units are required to plan their measures for effective energy use, as well as the use of energy generated by renewable sources with local energy plans under the previously explained National Energy and Climate Plan as well as the Action Plan for the Development of Remote Heating and/or Cooling and High-energy Cogeneration. Local energy plans are required to contain the assessment of potential and the possibility of increasing the use of energy generated by renewable sources, energy goals for the relevant local government unit as well as measures to be undertaken in order to achieve the set goals. It should be particularly noted that, according to paragraph 4 of Article 12 (which regulates the local plans), local government units are obliged to prioritize heating and cooling stemming from renewable energy sources when planning the expansion of city infrastructure. Like national plans, local plans are also adopted for a period of up to ten years.

The analysis of the progress made with the goals set with national and local plans is annually conducted through yearly and long-term balances, which are regulated by Article 16 of the law. They include the yearly analysis of the share of energy generated through renewable energy sources in the total amount of energy generated. In addition, yearly as well as long-term energy balances are required to contain the planned amounts of energy generated by renewable sources as well as efficient ways of their use. It should be noted that yearly energy balances are adopted by the Government at the latest by the 15th of November of the current year, for the following year.

There are several incentives provided by the Ministry of Mining and Energetics, which are aimed at increasing the use of renewable energy sources. The aforementioned measures, according to paragraph 5 of Article 23, include the following: obligatory purchase of electricity, incentive prices for the purchase (determined by the Government), period of validity of the mandatory purchase of electricity, exemption from paying for system balancing services, priority when taking over produced electricity into the system, as well as other measures, all of which are accorded based on transparent criteria. It should be noted that apart from these incentivizing measures to boost the use of renewable energy sources, all end-consumers of electricity also should pay a fee for supporting their implementation and use. This fee is paid through an increase in the price for the monthly use of electricity, determined by the government, as per Article 24(1) of the law. This is further reinforced by Article 58(4), by which it was stated that "Prices for supplying end customers with electricity or gas, i.e. prices for supplying customers supplied by the supplier of last choice and vulnerable customers based on the provision of public service, include (4). the fee for encouraging the production of electricity from renewable sources."

These measures are to be used by the "privileged producers" - energy utilities that generate energy from renewable sources or highly-efficient cogeneration, as per Article 6(50) of the law, which can obtain this status by submitting a request to the Regulatory Agency. If approved, this status is valid for a period of 12 years, during which the utility has the right to incentives that were in existence at the time of submitting the request (Article 107(1) of the law). Privileged producers have a number of obligations that they have to fulfill in order to keep their beneficiary status. These are regulated by Article 108, and include submitting yearly reports to the Regulatory Agency detailing the achieved production plan for the previous year, providing monthly and annual production plans to the system operator and market operator, maintaining the energy utility in the

state in which it was when the producer gained the status and notifying the Agency in any related changes arise, and finally, to transfer guarantees of origin for the produced energy, for which they received incentives, to the market operator before incentive payment.

In addition, it should be noted that end-consumers of electricity can generate electricity for their own needs with the use of renewable sources, with the right to sell the surplus of electricity generated this way to the electricity distribution system, by themselves, or aggregated with other consumers-producers, with the prices arranged via the supply contract signed with the supplier (electricity distribution system), according to Article 95 of the law. The basis for the monthly calculation of the balance between the supplier and consumer-producer is the difference between energy delivered and energy consumed. A positive balance is carried over to the next calculation period and in this instance, it is calculated by the supplier that there is no consumption of electricity for that period, which is confirmed with the electricity bill. In addition, the positive balance can be used to pay the fixed charges on the electricity bill. On the other hand, a negative balance is used as a basis for the calculation of all charges in an electricity bill.

All energy utilities are obliged to undertake measures to increase the share of energy generated by renewables in the total amount of energy generated, as per Article 95. This share of renewable energy is proven with the guarantees of origin and there is a transparency requirement, meaning that the amount of energy generated by renewable sources must be published online at the website of the market operator. The way that this share is calculated and published is determined by the Regulatory Agency.

Energy and Water Regulatory Agency of Montenegro (REGAGEN) is an independent and non-profit legal entity, legally and functionally independent from state authorities and energy utilities, as per Article 27(1) of the Law, established by the Parliament of Montenegro on 22nd January 2004 as the Energy Regulatory Agency of Montenegro**.** It effectively conducts oversight over energy utilities and the control of the electricity and gas market, as per Article 48 and Article 49 respectively. In addition, it regulates the rules, methods, and deadlines for the determination of prices of certain services provided by energy utilities (Article 43); approves fees (e.g. for connecting with the electricity distribution system for consumers), and determines prices (for storing gas and unclogging the gas distribution system), as per Article 45; and gives its approval for different national and local plans in the relevant energy sector, according to Article 46 of the

law. The Agency has a significant role in the development, integration, and expansion of the renewable energy sector in Montenegro, since it conducts the yearly analysis of the share of energy generated by renewable sources, in addition to approving the status of the privileged utility and keeping a register of utilities with this status.

Guarantees of origin are issued by the market operator for the energy generated by renewable sources and are accorded based on the request of the electric utility for a period of up to 12 months, with the possibility of the transfer of the guarantee, as per Articles 99 and 100. Guarantees of origin particularly need to include the data on the source of energy and the object used to generate energy from the source, as well as the date of commissioning of the object and finally the amount of investment support for the object.

The research and the measuring of the potential of renewable energy sources are conducted by legal entities that were granted the license for operating by the Ministry of Mining and Energetics. This license can be granted for a period of up to two years, based on a request submitted by a person, legal entity, or an entrepreneur which fulfills the conditions set by the Ministry, as per Article 110. The research and the measuring themselves are conducted with a technical description generated by the legal entity, which is later sent and approved by the Ministry.

In addition, it should be noted that the law particularly regulates biomass, biofuels, and bioliquids, by defining them with Article 6, regulating the plans for their consumption and importation in energy balances by Article 14, as well as their sources and use, with the National Energy and Climate Plans. Following on, the Law imposes a requirement on all energy utilities that trade fuel used in the transport sector, to to put biofuels on the market to achieve the mandatory share of renewable energy, as per Article 21. Finally, all utilities concerned with the production and/or trade of biofuels and bioliquids are required to fulfill the quality criteria requirements determined by the Ministry, sell them at a price no higher than the maximum price (methodology of whose calculation is determined by government regulation) and perform their activities following the above-explained Article 21.

Finally, it should be particularly noted that the Law on Energetics fosters cooperation with other countries, in accordance with the EU principles, by regulating different types of cooperation mechanisms that can be used to meet the obligatory share of energy generated by renewable sources in the total use of energy. These mechanisms are listed in Article 25(2) of the law, which

includes joint projects, statistical transfers of a certain amount of energy from renewable sources, joint incentive measures, and other forms of cooperation that enable reducing the costs of the contracting parties to achieve the mandatory share of renewable energy sources in the total final energy consumption, which are to be concluded for a period of one or more years, if they do not interfere with the public interest, as per Article 25, paragraphs (3) and (4) respectively.

## 4.2 THE DRAFT OF THE LAW ON THE RENEWABLE ENERGY SOURCES

Unlike some neighboring countries like Serbia and Croatia, Montenegro does not currently have an applicable law applied only in the field of renewable energy, although it has a significantly higher share of energy generated by renewable sources than most neighboring countries, as previously stated in the first chapter. Having in mind that Montenegro aims to become a member of the European Union and implement its laws, particularly the before-explained Directive 2018/2001, three round tables for the discussion about the draft of the Law were organized by the Ministry of Mining and Energetics in February of 2024.

The new draft borrows a lot of the provisions from the currently applicable Law on Energetics, but it also establishes some new mechanisms. The most important area it regulates is the share of energy generated by renewable sources – which is to be determined by national plans according to Article 5; systems for supporting the generation of energy by renewable sources, which are listed in Article 12 and include the system of market premiums and feed-in tariffs, the conditions for obtaining the status of privileged producer and temporary privileged producer as well as the guarantees of origin.

The most important innovative feature compared to the existing Law on Energetics includes the system of market premiums, which essentially are supporting measures paid to the producers of electricity based on the difference between the reference market prices of electricity (whose methodology of calculation is determined by REGAGEN) and the price at which producers sell their energy. On the other hand, if the reference price is higher than the selling price, the producers will be obliged to pay a negative premium, meaning the difference between these prices. The market premiums are accorded by the Ministry of Mining and Energetics based on public auctions, which are organized for predetermined locations or unspecified locations, depending on the connection possibilities and the impact on the power system. The maximum price that the electricity producers can offer for various types of technology and power plant output is regulated

by REGAGEN, and is dependent on the conditions regulated by Article 26, including investment costs and operating costs. The conditions that the electricity producers need to fulfill in order to qualify for the auction are regulated by Article 33 and include financial ability, technical competence, and fulfillment of certain environmental protection requirements. Finally, after the auction, the Ministry adopts the final decision on the rejection or award of the market premium for each offer, against which an administrative procedure can be brought up.

In addition to market premiums, the new draft regulated the feed-in tariffs, for which only small plants and demonstration projects ("a project in the field of renewable resources that demonstrates technology as the first of its kind and as such represents a significant innovation that exceeds the highest level of existing technology for the use of renewable resources"[78]) are eligible. These utilities can obtain the right to the feed-in tariffs on auctions, like market premiums. Successful bidders then enter into contracts with the authorized contracting party (generally the Electricity Distribution System of Montenegro), which is obliged to purchase electricity from the privileged producer and sell it to suppliers and self-suppliers during the incentive period. Feed-in tariffs are regulated in detail by Article 44 of the draft of the law.

## CHAPTER V

## THE COMPARISON

After regaining its independence via a referendum held on the 21st of May 2006, Montenegro set its sights firmly on becoming a fully-fledged member of the European Union. Its intention was confirmed in June of the same year by the Council after EU member states recognized the country's independence. This goal was further concretized with the signing of the Stabilisation and Association Agreement (SAA) in Luxembourg on the 15th of October 2007, with it entering into legal force on the 1st of May 2010, after being ratified by the Member States. In addition, an Interim Agreement on trade and trade-related issues was signed on the same date as the SAA and it entered into force on the 1st of January 2008. With the signing of the SAA, Montenegro had assumed responsibility for all of the requirements and obligations necessary for joining the Union.

[78] Draft Law on the Use of Energy from Renewable Sources, art 8(1) (Montenegro)

2008 saw Montenegro submitting an application to join the EU. After providing a favorable opinion on Montenegro's application in 2010 and highlighting seven important issues that needed to be resolved before discussions could start, the Council awarded the country candidate status.

The accession process itself was started by the Council in December 2011 with the goal of starting the negotiations in June 2012. The goal was realized, with the negotiations commencing on the 29th of June 2012. With Montenegro, the Union adopted a new approach in negotiations, according to which negotiation chapters 23 - Judiciary and Fundamental Rights and 24 - Justice, freedom, and security were among the first to be opened, and they will remain open until the end of the negotiation process, which is expected to be done in the next two to three years.

As of 2020, all 33 screening chapters have been opened, with three of them being temporarily closed: chapter 25 - Science and Research (18th of December 2012), chapter 26 - Education and Culture (15th of April 2013) and chapter 30 - Foreign Relations (20th of June 2017). The Chapter 8 - Competition was last opened, on June 30th, 2020.

## 5.1 LAW HARMONIZATION REQUIREMENT

The process of harmonization involves adjusting national legal systems to conform to European Union standards, particularly on the internal market, competition, consumer protection, health, and environment, essentially covering all areas that are necessary for the undisturbed functioning of the single internal market system. On the other hand, in areas like health, culture, and education, full harmonization is not necessary as per Article 6 of the Treaty on the Functioning of the European Union. In the aforementioned areas, the EU may rather provide support or coordination instead of direct legislative control.

In Montenegro, the Parliament plays a primary role in the country's European Union accession process. Its jurisdictions include the monitoring of accession negotiations and the harmonization of the existing legislation in Montenegro with the existing EU law. In addition, as per Article 15 of the Montenegrin Constitution, the Parliament has the authority to decide on the manner of Montenegro's accession to the EU. Since the commencement of negotiations on June 29th, 2012, the Parliament has been actively involved in overseeing and contributing to the European integration process.

In addition, a significant monitoring requirement is imposed on the Ministry of European Affairs, which oversees the legislative alignment. According to Article 40 of the Government Rules of Procedure, the Parliament of Montenegro (the legislative body) must submit a statement of compliance with EU laws and a corresponding alignment table. These documents must adhere to the Ministry's guidelines and be confirmed by the Ministry.

The principal parliamentary body in charge of monitoring EU negotiations is the Committee for European Integration. According to the Parliament of Montenegro's Rules of Procedure, the Committee assumes several key responsibilities:

- Monitoring Negotiations: overseeing all negotiations regarding Montenegro's accession to the EU.
- Supervision and Evaluation: assessing progress made so far giving opinions as well as providing guidelines towards this effect on behalf of the Parliament.
- Negotiation Positions: reviewing negotiation positions and issues arising out during these processes.
- Assessing the Negotiation Team's Actions: consideration and evaluation of the negotiating team's actions.

In December 2013, the Parliament of Montenegro passed a resolution that allowed it to improve its supervision of the procedure for joining the EU. This resolution clarified the relationship and mutual obligations between the Committee for European Integration and the Government related to the monitoring of the accession process. The resolution empowered the Committee to scrutinize and render opinions on draft negotiation chapters for various parts of the EU acquis. Until April 2019, thirty-one chapters were reviewed by committeemen with seven of them being changed. In addition, all working groups for negotiation preparation included representatives from Parliament's secretariat – a major involvement of parliament in the screening phase of the accession process among candidate countries for the first time.[79]

[79] Usklađivanje nacionalnog zakonodavstva sa pravnom tekovinom EU u procesu pristupanja, Podgorica, June 2021

However, it should not be omitted that while significant steps forward have been made since the beginning of the 2010s, the capacity of the Parliament of Montenegro to monitor the proposed legislation in terms of its compliance with the legal acquis of the EU is still limited.[80]

## 5.2 ELECTRICITY

The obligatory share for the use of renewable fuels in the total consumption of energy has incurred a trend of constant increase since the adoption of the original Renewable Energy Directive in April 2009. With the first RED, this goal was set at 20% until the year 2020. This goal was envisioned as the average for the Union, with realistic individual targets being given to every Member State, catered to fully reflect their starting points. The target for the Union was increased with the introduction of RED II in December of 2018 to 32% average consumption of renewables on the Union level, to be achieved by 2030. The goal was further increased to 42,5% until 2030, with the additional goal of a 45% share of the use of energy stemming from renewable sources in the total energy mix. This change was done following the newest installment of the Renewable Energy Directive which entered into force in late November of 2023.

The obligatory share of energy generated by renewable sources in the total amount of energy consumed is determined by the National Energy and Climate Plan, which area, is regulated by the Law on Energetics. With the National Action Plan for the Use of Energy from Renewable Sources Until 2020, which was published in July 2014, the national goal was 33% of energy to be generated by renewable sources, with sectorial goals being 51,4% for electricity, 38,2% for heating and cooling and 10,2% being used in transportation, which was in line with the then binding Directive 2009/28/EC, which defined the goal at only 20%. The goal was realized, with 54,08% of electricity generated stemming from renewable sources, according to the Report on the realization of energy balance for the year 2020, which was published in March of 2021. In addition, 39.3% of the gross final consumption of energy came from renewable sources in 2021, which exceeded the 33% target to be achieved by 2020 under Montenegro's national action plan.[81] Finally, 3.906 tons of liquid

[80] Commission Staff Working Document, 'Montenegro 2020 Report Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 2020 Communication on EU Enlargement Policy' SWD/2020/353 final, 2.1.1
[81] Commission Staff Working Document, 'Montenegro 2023 Report Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 2023 Communication on EU Enlargement Policy' SWD/2023/694 final, 5.15 Chapter 15

gas have been used for remote heating/and or cooling and industrial use, which is only 4,61% less than set with the Plan, as per the same report.

While the new iteration of the National Energy and Climate Plan is currently being drafted, it should be noted that there was a steady increase in the share of electricity generated by renewable sources, to 63,5% in 2021[82], 55% in 2022[83], and 62% in 2023[84], which is an even higher output than the one regulated by Renewable Energy Directive III at 42,5% (and the additional goal of 45%).

### *5.2.1 Future Plans*

The ambitious target established by the proposed law on the use of renewable energy sources is for the share of renewable energy in consumption to reach 50% by 2030. This objective is compliant with the EU directive and is a big step in the direction of future developments in renewable energy. If achieved, this percentage will keep Montenegro as one of the premier producers of electricity from renewable sources in Europe.

The draft law establishes the role of customers in the energy market and outlines financial assistance methods for electricity generated from renewable sources. Furthermore, the Draft addresses how to verify the legitimacy of energy sources and the application of renewable energy in the areas of transportation, air conditioning, and heating.

A number of programs have been initiated by the Montenegrin government for stimulating the use of solar energy and installing solar panels. The aforementioned include the Solari 3000+, Solari 5000+, and the Solari Sjever (with sjever meaning north), being the newest one. Its goal is to have as many citizens in the north of Montenegro as possible, who have a problem with the pollution, apply. This is to be achieved by allowing the citizens who wish to purchase these solar panels to pay for them in 85 installments, as opposed to the 70 installments, as regulated with the previous

[82] Ministarstvo kapitalnih investicija Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2021. Godinu' (Vlada Crne Gore, February 2022) 5 <https://www.gov.me/dokumenta/a9277bd9-cd52-4c8b-895a-eaf1468e2ba8> accessed 9 July 2024

[83] ——, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2022. Godinu' (Vlada Crne Gore, March 2023) 5 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[84] Ministarstvo Energetike i Rudarstva, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 5 <https://www.gov.me/clanak/izvjestaj-o-realizaciji-energetskog-bilansa-za-2023-godinu> accessed 9 July 2024

Solar 5000+ program. As much as 2,8 million euros from the budget is to be directed to Pljevlja, which is the most congested Montenegrin city[85], in a great measure because of the thermal powerplant.[86]

### 5.3 GAS

On the other hand, Montenegro is notably lagging behind its plans for the use of liquid gas for remote heating/and or cooling and industrial use, with 3.906 tons of liquid gas being used for remote heating/and or cooling and industrial use, which is only 4,61% less than set with the National Energy and Climate Plan, as per the report from the year 2020. This difference was significantly increased in the following years, with only 3.534 tons being used in 2021[87], which is 42,65% from the original plan, and 1.889 tons in 2023. There was no importation and use of liquid gas in 2022 due to the stoppage of production in the aluminum factory in Podgorica and the steel plant in Nikšić.[88]

Although the use of gas and its distribution is still in its infancy, it is regulated in detail with the current Law on Energetics. Particularly interesting are the exceptions for operators of new gas infrastructure that allow them to deviate from the rules of accession to the electrical grid and thereby reduce their costs. The aforementioned include the situations when 1) the investment increases competition in gas supply or increases the security of supply; 2) the level of risk is such that the investment will not be realized without approval exemptions; 3) is a new infrastructure owned by a legal entity or a natural person separate from the system operator to whose systems it will be connected; 4) the costs of using the infrastructural object are paid by the direct users; 5) the exemption does not impair competition and efficient functioning gas markets or the efficient

[85] Radio Slobodna Evropa, 'Pljevlja Globalni Lider Po Zagađenosti Vazduha' (Radio Slobodna Evropa, 4 January 2023) <https://www.slobodnaevropa.org/a/pljevlja-zagadjenje-rekord-subvencije/32207719.html> accessed 10 July 2024

[86] 'Za Građane 8,8 Miliona Eura, Manji Troškovi, Veći Komfor, Smanjenje Zagađenosti Vazduha' (Vlada Crne Gore) <https://www.gov.me/clanak/za-gradane-88-miliona-eura-manji-troskovi-veci-komfor-smanjenje-zagadenosti-vazduha> accessed 10 July 2024

[87] Ministarstvo Kapitalnih Investicija Crne Gore, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2022. Godinu' (Vlada Crne Gore, March 2023) 14 <https://www.gov.me/dokumenta/f89fb858-d428-4a8b-ab12-4bc56d0ff325> accessed 9 July 2024

[88] Ministarstvo Energetike i Rudarstva, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 15 <https://www.gov.me/clanak/izvjestaj-o-realizaciji-energetskog-bilansa-za-2023-godinu> accessed 9 July 2024

functioning of the system on which the infrastructure is connected to, as per Article 138 of the Law on Energetics.

### *5.3.1 Future Plans*

Finally, the generating of heat for heating and cooling is regulated in detail in Chapter XVI of the Law, but it is not used in practice, which should be changed in the future, since this is one of the focal points of all three of the Renewable Energy Directives. In addition, it was particularly targeted with the EU Renovation Wave initiative, aiming to reduce the electricity demand in heating and cooling, ranging between -19% to -23%, compared to 2015, while simultaneously increasing the share of renewables and waste heat to 38-42%, as per the impact assessment for the Climate Target Plan 2030.

A new database will be established by November of 2024, to improve transparency in bioenergy supply chains. This database will track liquid and gaseous renewable fuels and recycled carbon fuels. Member States must ensure operators enter accurate data on fuel transactions and sustainability. Guarantees of origin for renewable gas must be included in the database, which will be accessible to Member States for monitoring and will provide publicly available data while respecting commercial confidentiality.

When it comes to biogas, the necessity for continuation with the assessment of the availability of biogas in Montenegro and preparation of a feasibility study in current conditions in order to determine the economic potential of using biogas in concrete projects was recognized with the Strategy on the Development of Energetics of Montenegro until 2030. However, the financial means for achieving this were not determined with this strategy, but are expected to be determined with the Action Plan which will be adopted in the coming years.

## 5.4 BIOMASS

The use of biomass has been encouraged ever since the adoption of the first RED in 2009, with the requirement being imposed on the Member States to submit reports to the European Commission every two years, starting from December 31, 2011. The aforementioned reports must notably include the state of biomass resources in the Member State. This was further expanded with the second RED, which necessitated the inclusion of biomass used for heating and cooling in addition to biofuels used for transportation. Finally, with RED III, the material use of biomass (in

a way that protects biodiverse and carbon-rich habitats like forests and grasslands) was emphasized over energy use, to enhance efficiency and promote a sustainable circular bioeconomy, meaning that woody biomass should be used in ways that offer the highest economic and environmental value, with energy recovery being the last option. In addition, existing biomass installations must comply with current greenhouse gas emission reduction standards.

Under Montenegrin legislation, the use and sources of biomass are governed by the National Energy and Climate Plan, as per the Law on Energetics. In addition, a requirement to market them is imposed on energy utilities that trade fuel for transport, and finally, utilities producing and/or trading biofuels and bioliquids must meet quality standards set by the Ministry, and sell at regulated maximum prices, to further encourage its use.

In addition, concrete measures for the promotion of biomass use were regulated with the National Action Plan on the Use of Energy from Renewable Sources Until 2020. Main sources of biomass were wood (295.890 cubic meters were used for heating, while 45,506 cubic meters were used to obtain electricity indirectly), agriculture (while there is no singular methodology for assessing the potential of energy crops, it is estimated that a maximum 579,5 GWh of energy can be theoretically created by using them, but due to the lack of infrastructure, only 10% could really be generated) and waste (the technical potential of communal waste is estimated at 58,5 GWh, but at the moment of creating the plan there were no data on the potential for the use of gas from waste operating facilities. Additionally, the theoretical potential of communal waste waters is 27 GWh per year).

While there are currently no other measures aimed to encourage the use of biomass for generating energy, a number of them have been planned with the Action Plan. These include improving forest accessibility and equipment, establishing fast-growing tree plantations, creating biomass producer associations, increasing education of biomass producers and their efficiency, organizing the biomass market, as well as implementing biomass district heating systems. This last measure is directly in line with the Energy Efficiency Directive, aiming to decrease the consumption of energy in public sector buildings by 1,9% annually from 2021, as well as the Directive on Energy Performance of buildings, aiming to have every new building be zero emission by 2030, and transform the existing ones into zero-emission buildings by 2050, and finally, the EU Renovation Wave, which particularly targets the public sector buildings.

Furthermore, the EU has made significant steps to increase the total area of land covered by trees with multiple initiatives. The EU Biodiversity Strategy for 2030. aims to oblige the EU Member States to significantly expand the protected areas. This requirement was concretized with the Nature restoration law, by setting a binding EU-level target for Member States to restore at least 20% of land and sea areas by 2030. Finally. the EU Forest Strategy is foremost aimed at expanding the current forest network by planting an additional 3 billion trees by 2030, to further increase the current wooded land cover of 43,5%[89] While not directly aimed at corelating with the aforementioned EU-level strategies, the National Action Plan on the Use of Energy from Renewable Sources Until 2020, proved to be a good stepping stone in the process of harmonizing the national legislation with the EU requirements.

### *5.4.1 Future Plans*

Until December 31, 2033, with regard to Article 5, paragraph 2, items a, b, and c of Directive 1999/31/EC on landfill of waste, Montenegro intends to gradually reduce the amount of municipal waste disposed of to the existing amount unregulated landfills as follows: until December 31, 2025, the share of biodegradable municipal waste disposed of in landfills will be reduced to 75% of the total amount (by mass) of biodegradable municipal waste produced in 2010 - with the largest annual quantity of 109,500 tons; until December 31, 2029, it will be reduced to 50%–with the highest annual quantity of 73,000 tons, and finally; until December 31, 2033, it will be reduced to 35%–with the highest annual quantity of 36,500 tons, as given in the proposal of the Action plan for fulfilling the final measures of the Chapter 27-Environment and Climate Change.

## 5.5 DECARBONIZATION

The principal goal of the “Fit for 55” initiative, envisioned as a part of the EU Green Deal, is to reduce net greenhouse gas emissions by at least 55% by 2030, by implementing an approach covering multiple different sectors, all focused on the goal of reducing emissions and decarbonizing economy The package was adopted in 2021 and it primarily targets areas such as industry, maritime transport, international aviation, as well as buildings and road transport.

[89] European Environment Agency, EU Biodiversity Strategy for 2030 https://www.eea.europa.eu/policy-documents/eu-biodiversity-strategy-for-2030-1 accessed 18 July 2024

Furthermore, the issue of greenhouse gas emissions was targeted with the Clean Energy for All Europeans initiative, as well as all three Renewable Energy Directives.

The Montenegrin Law on Energetics, on the other hand, regulates that assessment of the reduction of greenhouse gas emissions, which is the result of increased use of renewable energy sources, is to be provided with the Program of the Development and the Use of Renewable Energy Sources.

More than 90% of Montenegro's CO2 emissions and almost 55% of all anthropogenic GHG gas emissions are attributed to the burning of fossil fuels, according to GHG inventories prepared by the country's competent authorities for 1990, 2003, 2006, and 2009. However, Montenegro still emits a relatively low amount of GHG in comparison to EU countries, due to the generally small number of factories and the fact there is only one thermal power plant (TE Pljevlja) in the entire country, due to Montenegro being an ecological state as per the Declaration of 1991. Related to the previously stated, EU legislation states that for any coal-fired thermal power station with a capacity greater than 300 MW, the building would start after a rationale study is conducted and the potential for additional CO2 extraction equipment installation—that is, the construction of equipment that would enable the power plant to be carbon capture ready, or Carbon Capture Ready (CCR)—is made possible, from 2020 onwards.[90]

### *5.5.1 Future Plans*

In addition, with the proposal Action Plan for Fulfillment of the Final Measures of Chapter 27 - Environment and Climate Changes, adopted in February of 2021, Montenegro has recognized the necessity for further harmonization with the EU acquis, especially in the field of reporting on GHG emissions. This is to be done by further focusing on Regulation No 1005/2009 on substances that deplete the ozone layer, as well as Regulation 517/2014/EU on fluorinated greenhouse gases, the Rulebook on whose implementation will be adopted. In addition, the Rulebook on the method of determining the obligatory goals set by Regulation 2018/842 on the required reduction of CO2 emissions is to be adopted.

Further work is predicted to be done in the process of harmonization with the ETS, by implementing the national regulation on activities that emit GHG, for which permission needs to

[90] Ministarstvo Ekonomije Crne Gore, Strategija razvoja energetike Crne Gore do 2030. godine (Bijela knjiga), Podgorica, May 2014, 45

be obtained, and finally, drafting the national regulation on aviation activities for which a monitoring plan on GHG emissions does not need to be submitted.

With the signing of the UNFCC, Montenegro has undertaken to implement Nationally Determined Contributions under the Paris Agreement, to reduce the emission of GHG to 35% of those emitted in 1990, until the year 2030. The Government of Montenegro adopted the Report for the preparation of the updated National Determined Contribution (NDC) from 2020, on June the 3rd 2021, by which it obliged itself to fulfill the goal determined by the Paris Agreement. [91]The goal is to be achieved through a combined sectorial approach containing measures from areas such as energetics, and waste management as well as the industry. In addition, an unofficial goal of reducing GHG emissions by 45% by 2030 was given with an announcement made by the Ministry of Ecology in 2022[92], but this aim is expected to rise in order to be in accordance with the one provided in the Fit for 55 initiative.

## 5.6 TRANSPORT

Ever since the first Renewable Energy Directive was adopted in 2009, a keen interest in reducing the use of fossil fuels in transport areas has been emphasized. With it, a goal of a 10 % share of energy from renewable sources in transport by 2020 on an EU level has been set. In addition, it sets the sustainability standards for biofuels used in transportation. The first goal was further increased to 14% with the second RED.

The European Union Emissions Trading System focuses on international maritime transport, being one of the biggest pollutants on an EU level. The System operates by allocating emission allowances to ships departing from and arriving at ports under the EU or outside of EU jurisdiction. On the other hand, domestic maritime transport is addressed with LULUCF regulation, whose end goal is the reduction of greenhouse gas emissions by 40% until 2030, compared to the levels of 2005. Finally, with the FuelEU maritime initiative, the goal of progressively reducing the share of greenhouse gasses used on maritime vessels, starting from 2% in 2025 and up to 80% by 2050,

[91] 'Crna Gora Planira Da Do 2030. Godine Smanji Emisiju Gasova S Efektom Staklene Bašte Za 35%' (UNDP, 21 June 2021) <https://www.undp.org/cnr/montenegro/press-releases/crna-gora-planira-da-do-2030-godine-smanji-emisiju-gasova-s-efektom-staklene-baste-za-35> accessed 10 July 2024

[92] 'Je Li 45% Smanjenja Emisija CO2 Previše Ambiciozno?' (RTCG, 8 November 2022) <https://rtcg.me/vijesti/ekologija/385096/je-li-45-smanjenja-emisija-co2-previse-ambiciozno.html> accessed 10 July 2024

which are to be replaced by low-carbon and renewable fuels was introduced. It is to be achieved through a voluntary pooling mechanism.

Road traffic is regulated with the CO2 Emission Standards for Cars and Vans, which set a multitude of targets all aimed at achieving the end goal of reduction of net greenhouse gas emissions by at least 55% by 2030. The targets include a 55% reduction for cars and 50% for vans by 2030-2034, compared to 2021 levels, with complete emissions reductions required by the year 2035. Furthermore, with the Regulation on alternative fuels infrastructure, the EU aims to significantly increase the distance between the nearest recharging stations for vehicles operating on renewable sources, including electricity and hydrogen, as well as make their use more accessible for users.

As far as air traffic goes, the main requirement imposed on fuel suppliers in the aviation sector is to ensure that all supplied fuel contains a regulated minimum SAF-sustainable aviation fuels share from 2025 and a minimum share of synthetic fuels from 2030. The goal was introduced with the ReFuelEU Aviation initiative.

The Social Climate Fund will allow those affected most by the green transition, including transport users, to pull funds from a 65 billion EUR budget, in order to mitigate adverse effects of the transition. This is of particular importance for Montenegro, keeping in mind that the predominant fuel used in transport is diesel, with 290.654 tons being used in 2022, and 289.454 tons in 2023.[93] This number is expected to rise in the coming years.[94]

### *5.6.1 Future Plans*

The draft of the Law on the Use of Energy from Renewable Sources predicts the use of non-biological liquid and gaseous fuels for transportation, biomass-derived fuels, advanced biofuels, recycled carbon fuels, and electric energy. The share of renewables in this sector is to be determined by the National Energy and Climate Plan, with the goal itself being the responsibility of fuel suppliers, which will be concretized by the Plan. On the other hand, the Ministry of

[93] Ministarstvo Energetike i Rudarstva, 'Izvještaj o Realizaciji Energetskog Bilansa Za 2023. Godinu' (Vlada Crne Gore, March 2024) 13 <https://www.gov.me/clanak/izvjestaj-o-realizaciji-energetskog-bilansa-za-2023-godinu> accessed 9 July 2024

[94] Ministarstvo Ekonomije Crne Gore, Nacionalni akcioni plan korišćenja energije iz obnovljivih izvora do 2020. godine, Podgorica, July 2014, 79

Energetics is responsible for providing appropriate incentive programs for the achievement of the goal.

In addition, the Montenegrin initiative for stimulating electric and hybrid cars has already yielded results, with a significant increase in the importation of cars that comply with Euro 4, Euro 5, and Euro 6 standards.[95] Furthermore, since the 1st of July 2024, the importation of personal cars that comply with Euro 4 standards is prohibited, meaning that the oldest cars that can be imported into Montenegro belong to the Euro 5 category, stipulating that they have to have been produced at least in 2009.[96]

Having the previously mentioned in mind, it is worth noting that it was decided by the Montenegrin EcoFund (Eko Fond) to increase subsidies to citizens and the public sector for electric cars from 5,000 to 7,000 euros, for hybrids from 2,500 to 4,000, as well as 50 percent for refilling stations.[97]

Finally, there are ongoing negotiations for obtaining airport and aircraft equipment that works on solar power or electricity, which is expected to have a significant effect on the reduction of CO2 emissions in the aviation sector.[98]

## CHAPTER VI

## CONCLUSION

The goal of Montenegro as a future Member State of the European Union is to, in accordance with the European green agenda, contribute to an, as big as possible, increase in the generating of electricity from renewable sources. Having in mind its geographical position as well as the climate, these efforts are particularly focused on using the energy gathered from the wind and the Sun. With this, a keen contribution will be made towards the preservation of the biodiversity,

[95] 'Radulović: Čiste Tehnologije Rastući Trend U Crnoj Gori' (Vlada Crne Gore) <https://www.gov.me/clanak/radulovic-ciste-tehnologije-rastuci-trend-u-crnoj-gori> accessed 10 July 2024
[96] Al Jazeera Balkans, 'OD 1. Jula U Crnoj Gori Zabrana Uvoza Vozila Starijih OD 15 Godina' (Al Jazeera Balkans, 11 March 2024) <https://balkans.aljazeera.net/news/balkan/2024/3/11/od-1-jula-u-crnoj-gori-zabrana-uvoza-vozila-starijih-od-15-godina> accessed 10 July 2024
[97] urednik A, 'Subvencije Za Kupovinu Električnog Automobila Povećane Sa 5.000 Na 7.000 Eura' (Investitor, 8 April 2024) <https://investitor.me/2024/04/08/subvencije-za-kupovinu-elektricnog-automobila-povecane-sa-5-000-na-7-000-eura/> accessed 10 July 2024
[98] 'Radulović: Čiste Tehnologije Rastući Trend U Crnoj Gori' (Vlada Crne Gore) <https://www.gov.me/clanak/radulovic-ciste-tehnologije-rastuci-trend-u-crnoj-gori> accessed 10 July 2024

environment, prevention of further climate change as well as the improvement of the general living conditions.

A significant effort has been made in the field of generating electricity stemming from renewable sources, which is confirmed by the results stated in the yearly balances from the last couple of years. The amount of electricity generated in this manner is only expected to rise in the coming years which will secure Montenegro a significant role in the common green transition of the EU market.

Furthermore, additional efforts are planned to be made in areas such as transport and waste management which will help bring Montenegro's national legislation in line with the current EU acquis, while it should be noted that some areas, including biogas, should be further improved upon to secure Montenegro's full access in the EU market.

All of the previously explained points are expected to provide a significant impact on further decarbonization of the local market, which in turn, will provide an additional contribution to the EU-wide goal of reducing greenhouse gas emissions by 55% by 2030.

With the planned goals and activities directed towards their achievement, concerning the general EU legislation on renewable energy sources and preservation of the environment, Montenegro will bring a significant contribution not only on a national level but on the regional level, especially having in mind the market in the Western Balkans.

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**Abstract (English)**

This paper explains the relationship between the legislation existing on a European Union level and the Montenegrin level in the field of renewable energy sources.

The goal of the thesis is to explain the similarities and differences between legislative frameworks on both sides by using a comparative approach. The significance of the European legislation on aspiring Member States, such as Montenegro, is shown through various improvements and developments made in this field on a national level in the previous years.

A significant step forward has been made in recent times in bringing the Montenegrin legislation under the EU laws. Efforts made in this field are expected to have a significant impact on bringing the process of accession of Montenegro to the EU to a close and thereby help Montenegro become the next EU Member State.

**Abstrakt (Deutsch)**

In dieser Arbeit wird die Beziehung zwischen der auf EU-Ebene und auf montenegrinischer Ebene bestehenden Gesetzgebung im Bereich erneuerbarer Energiequellen erläutert.

Ziel der Arbeit ist es, die Ähnlichkeiten und Unterschiede zwischen den Rechtsrahmen auf beiden Seiten anhand eines vergleichenden Ansatzes zu erklären. Die Bedeutung der europäischen Gesetzgebung für Beitrittskandidaten wie Montenegro wird durch verschiedene Verbesserungen und Entwicklungen auf diesem Gebiet auf nationaler Ebene in den vergangenen Jahren deutlich.

In jüngster Zeit wurde ein bedeutender Schritt nach vorne gemacht, um die montenegrinische Gesetzgebung in Einklang mit den EU-Gesetzen zu bringen. Die in diesem Bereich unternommenen Anstrengungen werden voraussichtlich einen erheblichen Einfluss darauf haben, den Beitrittsprozess Montenegros zur EU abzuschließen, und Montenegro so dabei helfen, das nächste EU-Mitglied zu werden.