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IMPLEMENTATION OF EU AIR QUALITY LEGISLATION AND STANDARDS IN NORTH MACEDONIA

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ABSTRACT

Air pollution is one of the biggest environmental problem. European Union as one of the leaders in the field of the environment in the last three decades permanently has been performing strong measures and activities for the improvement of environmental protection in all sectors of the environment including ambient air quality. This understands improving the standards of air quality and reduce of maximum permitted limits for the emission of a number of harmful substances in the air and on the surface. These standards are regulated in the common Union's legislation, primarily in the directives, regulations анд decisions, that are adopted by the EU Parliament and Council of EU, after the proposal of EU Commission and after the consultations with the member states. The EU makes efforts to equalized the air quality standards on the EU level and in the all member states. The standards aim to improve the quality of life and health of all EU citizens. Last changing of EU air quality legislation is based on stricter quality standards, that member states has to implement in the national legislation by the end of 2030. The new air quality standards are based on the newest scientific research. The common legislation promotes the further development of green technologies and preventive measures ad activities on the sources of air pollution. Also it is underlined that air pollution has no borders and the needs of EU support to the other countries in the Europe, particularly in the candidate states. North Macedonia as a country with a status candidate state for the membership of the EU, has obligation to implement the EU legislation and standards, not only because of the obligations toward to the EU, but also for the quality of life and health of the citizens. The country has unsatisfactory results with the implementation of EU air legislation and also with the practical implementation. It results with poor quality of air. In the near future N. Macedonia has to make serious efforts to improve air quality. The main goal of this paper is to analyze implementation of EU air quality legislation and standards in the country and to give the recommendations for the improvement unfavorable conditions.

Green and sustainable society covers environmentally friendly society and high level of environmental protection.
This means permanent measures and activities to improve quality of environment and quality of human health.
It covers all sector of environment such as: water management, waste management, nature protection, soil protection, ambient air quality, energy efficiency, sustainable construction and sustainable space planning, green traffic and transport sustainable production and consumption, sustainable agriculture, development of green environmentally friendly technology and many other measures and activities.

Quality of ambient air quality has a very big importance for the quality of the environment and quality of human health and quality od life. Air pollution is one of the biggest environmental problems that threats the human health.

European Union as one of the world leaders is strongly committed to the improvement the environmental standards in all sectors of the environment, including the air quality. The standards are regulated in the EU legislation such as directives, regulation and decisions - These standards are regulated in the common Union's legislation, primarily in the directives, regulations and decisions, that are adopted by the EU Parliament and Council of EU, after the proposal of EU Commission and after the consultations with the member states. The EU makes efforts to equalized the air quality standards on the EU level and in the all member states. The standards aim to improve the quality of life and health of all EU citizens.

DIRECTIVE (EU) 2024/2881 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 23 October 2024 on ambient air quality and cleaner air for Europe introduced radical steps toward the improvement the air quality, by involvement more stricter limits for emission a number of harmful substances.
The new air quality standards are based on the newest scientific research. The common legislation promotes the further development of green technologies and preventive measures ad activities on the sources of air pollution. Also it is underlined that air pollution has no borders and the needs of EU support to the other countries in the Europe, particularly in the candidate states. North Macedonia and Albania as a countries with a status candidate state for the membership of the EU, have obligation to implement the EU legislation and standards, not only because of the obligations toward to the EU, but also for the quality of life and health of the citizens.

In the last 30 years EU has been permanently acting toward the improvement the air quality standards.

The last Ambient Air Quality Directive entered into force on Tuesday (10 Dec), aligning 2030 EU air quality standards more closely with World Health Organization recommendations.

It is an important step toward better protecting Europeans' health and moving forward on the path to zero pollution in our environment by 2050.

The last revised Directive comes with a series of new measures and stricter standards to ensure that people enjoy cleaner air in the coming years.

The new Directive cuts the allowed annual limit value for the **main air pollutant** – fine particulate matter ($PM_{2.5}$) - by more than half.

The revised Ambient Air Quality Directive updates air quality standards, lowering the allowable levels for twelve air pollutants: particulate matter (PM2.5 and PM10), nitrogen dioxide (NO2) and nitrogen oxides (NOx), sulphur dioxide (SO2), ozone (O3), carbon monoxide, benzene, benzo(a)pyrene, arsenic, cadmium, nickel, and lead.

A regular review of the air quality standards, in line with the latest scientific evidence and societal and technological developments, will help set the EU on a trajectory towards achieving the **zero pollution objective for air by 2050.** These reviews will ensure that air quality within the European Union progressively improves to levels no longer considered harmful, in line with climate neutrality efforts.

The revised Directive will also ensure **early action to achieve cleaner air**. If air pollution levels are higher than the new 2030 standards over the coming years, Member States will have to analyze whether they are on track to comply with the legislation on time, and, if needed, take measures to ensure compliance by 2030.

This Directive consider the new scientific research that underlined that the very ambitious goals can be reached by 2030 if the EU and the member states undertake serous and intensive efforts in all sectors that produce air pollution especially in the industry, energy, constriction, waste management, agriculture, traffic and spatial planning at the sources of the pollution.

This means to have preventive and precautionary actions and further development of green circular sustainable economy.

involvement nd development the new financial and fiscal instrument.

The new Directive promotes also supporting local self government authorities by strengthening the provisions on air quality monitoring and modelling and help improve air quality plans. The improved rules on air quality monitoring and modelling will make it possible to assess compliance more thoroughly with standards and support more efficient and effective action to prevent and address breaches of standards.

National and local authorities will determine the specific measures needed to meet these standards. At the same time, existing and new EU policies in environment, energy, transport, agriculture, research & innovation, and other fields will make a significant contribution.

The new Directive will ensure that people suffering from health damages due to air pollution have the right to be compensated, in the case of a violation of EU air quality rules. It will also bring more clarity on access to justice, effective penalties, and better public information on air quality and its effects on human health.

Member States have two years to adopt the laws, regulations and administrative provisions to transpose the revised Directive. The Commission will adopt secondary legislation (implementing acts) to complement the new rules and assist with their application.

matter, nitrogen dioxide and ozone.
Air pollution is responsible for nearly 250,000 premature deaths per year in Europe and a significant number of non-communicable diseases, such as asthma, cardiovascular problems and respiratory diseases (including lung cancer) are attributed to elevated levels of those pollutants.
Air degradation harms the environment, causing acidification, eutrophication and damage to forests, ecosystems and crops. Today, eutrophication exceeds critical loads in two-thirds of ecosystem areas across the EU. This has a significant impact on biodiversity and the services it delivers for us all.

Table 1 – Limit values for the protection of human health to be attained by 1 January 2030

Averaging period	Limit value	
$PM_{2,5}$		
1 day	25 µg/m³	not to be exceeded more than 18 times per calendar year
Calendar year	10 µg/m³	
PM_{10}		
1 day	45 µg/m³	not to be exceeded more than 18 times per calendar year
Calendar year	20 µg/m³	
Nitrogen dioxide (NO_2)		
1 hour	200 µg/m³	not to be exceeded more than 3 times per calendar year
1 day	50 µg/m³	not to be exceeded more than 18 times per calendar year
Calendar year	20 µg/m³	
Sulphur dioxide (SO_2)		
1 hour	350 µg/m³	not to be exceeded more than 3 times per calendar year
1 day	50 µg/m³	not to be exceeded more than 18 times per calendar year
Calendar year	20 µg/m³	
Benzene		
Calendar year	3,4 µg/m³	
Carbon monoxide (CO)		
Maximum daily 8-hour mean (1)	10 mg/m³	
1 day	4 mg/m³	not to be exceeded more than 18 times per calendar year
Lead (Pb)		
Calendar year	0,5 µg/m³	
Arsenic (As)		
Calendar year	6,0 ng/m³	
Cadmium (Cd)		

Table 2 – Limit values for the protection of human health to be attained by 11 December 2026

Averaging period	Limit value	
$PM_{2,5}$		
Calendar year	25 µg/m^3	
PM_{10}		
1 day	50 µg/m^3	not to be exceeded more than 35 times per calendar year
Calendar year	40 µg/m^3	
Nitrogen dioxide (NO_2)		
1 hour	200 µg/m^3	not to be exceeded more than 18 times per calendar year
Calendar year	40 µg/m^3	
Sulphur dioxide (SO_2)		
1 hour	350 µg/m^3	not to be exceeded more than 24 times per calendar year
1 day	125 µg/m^3	not to be exceeded more than 3 times per calendar year
Benzene		
Calendar year	5 µg/m^3	
Carbon monoxide (CO)		
Maximum daily 8-hour mean ([2])	10 mg/m^3	

From m the table 1 and table 2 it can be concluded that that the member states has strict obligation to transpose the goals from mention Directive in the determined period. But these means besides transposition also practical implementation the Directive, European Commission will follow the actions of member states and if some member state will not reach the regulated air quality standards will ask that states for clarification and for the reasons of failure to fulfill the standards.

Also that member states has to present the plans and methodology to reach the standards in the future given additional periods. In case of failure to reach the air quality standards the European Commission will propose the sanctions for the state that failure to implement those standards.

Conclusion

Air quality is important for the quality of health and life of citizens. The European Union, despite being composed of member states with differences in overall capacities, strives to equalize air quality standards.

The recently adopted Air Quality Directive sets even stricter rules for maximum permitted concentrations for emissions into the air of all harmful substances. The conditions and standards of the directive must be implemented by countries by 2026, or by 2030 at the latest. The directive strengthens the public's right of access to information on the degradation of air and complete air quality.

The new Directive facilitates the conditions for access to claim compensation for damage caused by air pollution, which significantly improves environmental rights. The Republic of North Macedonia, as a candidate country, is significantly lagging behind in the harmonisation of its legislation with the EU legislation in this area. The results are unsatisfactory both in the practical implementation of the standards set out in the European legislation, but this also applies to the standards set out in the national legislation.

Thank you for your attention