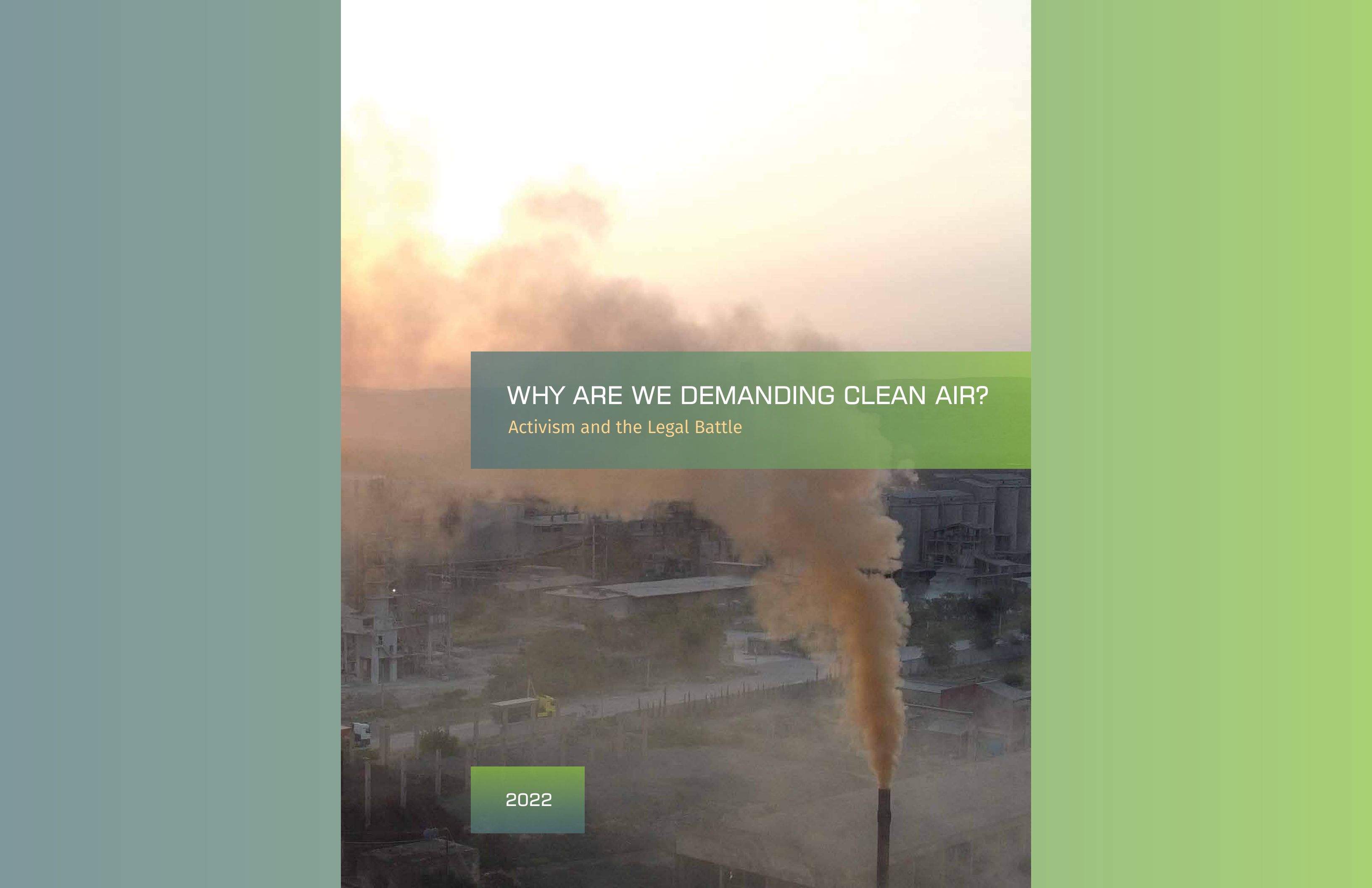


The background image shows a large industrial facility, possibly a refinery or chemical plant, with several tall smokestacks. One prominent stack in the foreground is emitting a thick, dark plume of smoke that rises into the air. The sky is filled with a dense layer of smoke or haze, illuminated by a bright, low sun, creating a dramatic orange and yellow glow. The overall scene conveys a message of industrial pollution and its impact on the environment.

WHY ARE WE DEMANDING CLEAN AIR?

Activism and the Legal Battle

2022

“Gavigudet” (We are Suffocating) is a civil movement started in spring of 2018 whose main goal is to improve the ambient air quality in the city of Rustavi. Our team has been working on a voluntary basis for nearly 3 years. Since 2020, however, we have received support from several local and international donors, including the Open Society Georgia Foundation. With the support of the Foundation, the civil movement “Gavigudet” implemented the “Legislation for Clean Air – Monitoring of the Enforcement” project from June of 2021 until January of 2022. This report was prepared as part of that project.

The views, opinions and statements expressed by the authors and those providing comments are theirs only and do not necessarily reflect the position of the Foundation. Therefore, the Open Society Georgia Foundation is not responsible for the content of the information material.

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WHY ARE WE DEMANDING CLEAN AIR? – ACTIVISM AND THE LEGAL BATTLE

Introduction

Rustavi is an industrial city where, for 270 days throughout 2021, we breathed poor or very poor quality air.¹

The development of Rustavi as a city is bound up with the development of its industry, but it is fundamentally because of that very industry's pollution that the guarantee of Article 29 of the Constitution – the right to live in a safe and healthy environment – is infringed on every day in Rustavi. As such, 130,000 people live in an environment that is dangerous for their lives and health.² If we take the people living in the vicinity of Rustavi into account, then even more people are being hurt by ambient air pollution.

The “2020-2022 Action Plan for Improving the Ambient Air Quality in Rustavi” states that the main anthropogenic source of ambient air pollution with particulate matter (PM) in Rustavi is the industrial sector, especially the industrial sites that are concentrated in Old Rustavi.³



¹ AIR QUALITY PORTAL, www.air.gov.ge, ACCESSED 31 DECEMBER 2021

² POPULATION BY CITIES AND BOROUGHES, GEOSTAT, <https://www.geostat.ge/ka/modules/categories/41/mosakhleoba>

³ „2020-2022 ACTION PLAN FOR IMPROVING THE AMBIENT AIR QUALITY IN RUSTAVI“, ACCESSED: 31.12.2021
<https://mepa.gov.ge/Ge/PublicInformation/27987>

According to the plan that mentions 2018 report on emission of harmful materials into ambient air from stationary sources, 50 sources of particulate matter emissions have been identified in Rustavi (47 in Old Rustavi and 3 in New Rustavi), the absolute majority of which being composed of metallurgical, chemical, mineral, and other kinds of industrial sites. In 2019 the amount of particulate matters emitted from these sites exceeded 14 thousand tons. It should be noted that 97% of those 14 thousand tons belonged to emissions of major pollutants.

The manufacturing sites in the city do not comply with air protection requirements, they don't have filters/dust collectors and the manufacturing process is not organized towards maintaining standards. These has been confirmed by inspections conducted by the Department of Environmental Supervision and, in reality, can be confirmed every day by the monitoring we do in the industrial zone. This means that one of the biggest challenges is the ineffectiveness of the government's oversight, inspection, and implementation system.

Because this problem has actually always been in the city, the smoke or other visible pollution coming from factories over the years has become a part of day-to-day life in the city. This, combined with the difficult socio-economic situation and the populace's low level of awareness, means that the problem was all but ignored. The creation of the “Gavigudet” movement became inevitable in order to provide the populace with information on how damaging breathing polluted air could be and to start fighting with them for the health of ourselves and our family members and for the improvement of the ecological situation in the city. It has been three years since founding the movement and we have achieved the creation of a platform where 15,000 people can learn about the situation in the industrial zone, access informational materials, and read news about our activities. Outside of social media, the majority of the population in Rustavi has learned about and considered the severity of the issue and the fact that air pollution is a personal problem for each of us, affecting and damaging all of us. Some of them have actively joined our team in the fight and the issue has become part of the government's agenda.

Besides providing the populace with information and raising their awareness, “Gavigudet” has taken part in the creation of the “2020-2022 Action Plan for Improving Ambient Air Quality in Rustavi”. This plan was adopted in October of 2020 and we are actively involved in the monitoring of its implementation.

⁴ „2020-2022 ACTION PLAN FOR IMPROVING THE AMBIENT AIR QUALITY IN RUSTAVI“, ACCESSED: 31.12.2021
<https://mepa.gov.ge/Ge/PublicInformation/27987>

One of the most important accomplishments of 2021 was improving the air protection laws. “Gavigudet” movement requested that changes be made to the laws relating to air, taking part in discussing them, and the Parliament, on 2 March 2021, adopted those changes.

It took many different methods of fighting over three years for us to reach these results, including protests and negotiations, monitoring the industrial zone, information campaigns, familiarizing ourselves with the technical documentation of the enterprises, giving tours in the industrial zone to citizens, and action demonstrations, among other things.

Despite these accomplishments, the air pollution situation in the city has hardly improved, since implementing the air protection laws remains a major challenge and the factories still are not abiding by the laws in their work.

WHY IS THE FIGHT FOR CLEAN AIR IMPORTANT?

General Statistics and Limit Values

Air pollution is a global problem. The average global citizen loses 2.2 years of life with today’s levels of air pollution.⁵ According to the World Health Organization, nine out of ten people now breathe polluted air, which kills 7 million people every year. The health effects of air pollution are serious – one third of deaths from stroke, lung cancer and heart disease are due to air pollution. Unfortunately, 91% of those cases happen in low and middle-income countries. This is having an equivalent effect to that of smoking tobacco.⁶

The air in Rustavi is mainly polluted with particulate matter (PM). That is why the “Gavigudet” movement puts its main emphasis on that type of pollution. PM is a common proxy indicator for air pollution. It affects more people than any other pollutant. The major components of PM are sulfate, nitrates, ammonia, sodium chloride, black carbon, mineral dust and water. It con-

⁵ CARRINGTON DAMIAN, “AIR POLLUTION IS SLASHING YEARS OFF THE LIVES OF BILLIONS, REPORT FINDS”, THE GUARDIAN, ACCESSED ON 10.01.2022 <https://www.theguardian.com/environment/2021/sep/01/air-pollution-is-slashing-years-off-the-lives-of-billions-report-finds>

⁶ WHO, “HOW AIR POLLUTION IS DESTROYING OUR HEALTH”, ACCESSED ON 23.12.2021 <https://www.who.int/news-room/spotlight/how-air-pollution-is-destroying-our-health>

sists of a complex mixture of solid and liquid particles of organic and inorganic substances suspended in the air.⁷ The automatic background stations in Rustavi measure two types of particulate matter, PM10 and PM2.5. The difference between them is the size of the particles. PM10 is particles of 10 microns or less in diameter, while PM2.5 is particles of 2.5 microns or less in diameter. Unfortunately, the smaller a particle is, the more damaging it can be. While particles with a diameter of 10 microns or less, ($\leq$ PM10) can penetrate and lodge deep inside the lungs, the even more health-damaging particles are those with a diameter of 2.5 microns or less, ($\leq$ PM2.5). PM2.5 can penetrate the lung barrier and enter the blood system. Chronic exposure to particles contributes to the risk of developing cardiovascular and respiratory diseases, as well as of lung cancer.⁸



Particulate matter has both immediate and long-term effects on human health. Even though there is a maximum allowable limit for them set by the World Health Organization, unfortunately, small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. Therefore, the WHO Global guideline limits aimed to achieve the lowest concentrations of PM possible. The

⁷ WHO, “Ambient (outdoor) Air Pollution”, accessed 23.12.2021 [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

⁸ WHO, “How air pollution is destroying our health”, accessed 23.12.2021 <https://www.who.int/news-room/spotlight/how-air-pollution-is-destroying-our-health>

guidelines changed in September of 2021, with the yearly guideline for PM2.5 now being 5 µg/m³, and the daily guideline being 15 µg/m³. For PM10 the yearly guideline is now 15 µg/m³, while the daily guideline is 45 µg/m³. This means that the average yearly amount of PM2.5 should not exceed 5 µg/m³ and that of PM10 should not exceed 15 µg/m³. The European standards are less strict about this, setting the annual guideline for PM2.5 at 20 µg/m³ and for PM10 at 40 µg/m³.⁹ Daily limit for PM10 is 50 µg/m³, however, exceeding the daily limit of PM10 is only allowed for 35 days out of the year.¹⁰

The table below shows limit values for PM10 and PM2.5 according to the standards of the World Health Organization,¹¹ the European Union,¹² and Georgia¹³:

POLLUTANT	GEORGIAN LIMIT VALUE	EU LIMIT VALUE	WHO GUIDELINE VALUES	AVERAGED TIME PERIOD
PM 2.5	- 25 µg/m3 14	- 20 µg/m3 15	15 µg/m3 5 µg/m3	24 hours 1 year
PM 10	50 µg/m3 40 µg/m3	50 µg/m3 40 µg/m3	45 µg/m3 15 µg/m3	24 hours 1 year

It should be noted that every 50 µg/m³ increase in PM10 indicates a 15% increase in death rates associated with air pollution. The concentration of PM10 in Rustavi has risen up to 300 µg/m³, six times higher than limit value

In addition, according to the World Health Organization, air pollution has an effect on type 2 diabetes, obesity, and inflammation processes in the body. The International Agency for Research on Cancer has classified air pollution, in particular PM2.5, as a leading cause of

⁹ Right to Clean Air, “Deadlines for compliance with the limit values”, accessed 23.12.2021 <https://www.right-to-clean-air.eu/en/background/deadlines-for-compliance-with-the-limit-values/>
¹⁰ European Environment Agency, “Indicator fact sheet signals 2001”, accessed 23.12.2021 <https://www.eea.europa.eu/data-and-maps/indicators/exposure-to-fine-particles-above/exceedance-days-of-particulate-matter>
¹¹ WHO, “Ambient (outdoor) Air Pollution”, accessed 23.12.2021 [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)
¹² Right to Clean Air, “Deadlines for compliance with the limit values”, accessed 23.12.2021 <https://www.right-to-clean-air.eu/en/background/deadlines-for-compliance-with-the-limit-values/>
¹³ Georgian Ordinance No. 383 – “Technical Regulations – On the Adoption of Standards for ambient Air Quality” <https://matsne.gov.ge/ka/document/view/4277611?publication=0>
¹⁴ According to Georgian Ordinance No. 383 – “Technical Regulations – On the Adoption of Standards for ambient Air Quality” the value of PM2.5 for this purpose amounted to 20 µg/m³ (annex 3) <https://matsne.gov.ge/ka/document/view/4277611?publication=0>
¹⁵ According to the Directive 2008/50/EC, (annex XIV), from 01 January 2020, the PM2.5 annual mean values are no longer allowed to exceed a value of 20 µg/m³

cancer.¹⁶ In the 27 Member States of the European Union (EU), 97% of the urban population is exposed to levels of fine particulate matter above the WHO guideline. In those states alone, 307,000 premature deaths were linked to exposure to fine particulate matter in 2019.¹⁷ The effects of long-term exposure to air pollution can include heart attacks, arrhythmia, asthma, and weakening of the lungs. A complex study of more than 10,000 couples in China exposed to varying levels of air pollution finds that for every 10-microgram increase in exposure to fine particulate matter (PM2.5), the risk of infertility rose by 20%.¹⁸ According to a study done in the USA, the women who participated in the study reported an increase in hypertension in regions where the concentration of particulate matter and nitrogen dioxide – either separately or together - was higher than average.¹⁹

However, in addition to the long-term effects, an increase in the concentration of particulate matter can also cause immediate effects such as irritation of the eyes, throat, and lungs.

Air pollution affects all of us, however, unfortunately, it causes much more damage to people with circulatory and respiratory system disorders, children, and the elderly. Worldwide, up to 14% of children aged 5 to 18 have asthma relating to factors including air pollution. Every year, 543,000 children younger than 5 years old die of respiratory disease linked to air pollution. Air pollution affects children even before their birth. When pregnant women are exposed to air pollution, it can affect fetal brain growth.²⁰



¹⁶ European Environment Agency, “Air pollution: how it affects our health”, accessed 23.12.2021 <https://www.eea.europa.eu/themes/air/health-impacts-of-air-pollution>
¹⁷ “Europe’s urban population remains at risk due to levels of air pollution known to damage health”, European, Environment Agency, accessed 23.12.2021 <https://rb.gy/hjzomy>
¹⁸ Focus on Reproduction, “Ambient air pollution an unignorable risk factor for infertility”, accessed 26.12.2021 <https://www.focusonreproduction.eu/article/News-in-Reproduction-Air-pollution-China>
¹⁹ “Polluted Air and Arterial Pressure”, Cactus, accessed 26.12.2021 <https://cactus-media.ge/index.php?do=full&id=180>
²⁰ WHO, How Air Pollution is Destroying Our Health, accessed: 07.01.2022 <https://www.who.int/news-room/spotlight/how-air-pollution-is-destroying-our-health>

COVID-19 AND AIR POLLUTION

Particulate matter also influences the effects of Covid-19. A study published in “Cardiovascular Research” on October 26 claims that fine particulate matter has increased the risk of deaths from COVID-19 by 15 percent globally, with certain areas such as East Asia reaching a 27 percent increase.²¹ It is true that there is no direct connection between those two variables. However, when people are exposed for basically a lifetime to air pollution, then they develop chronic diseases. These diseases are also preconditions for severe development of COVID-19. To examine the association between air pollution and Covid-19, the researchers analysed data from 2,038 adults with Covid-19 admitted to four large hospitals in the US. The researchers collected data on where the participants lived as well as data from the US Environmental Protection Agency on local air pollution levels. They found that each small increase in long-term exposure to particulate matter (PM2.5) was associated with more than three times the odds of being mechanically ventilated and twice the likelihood of a stay in the ICU.²²

PHYSICAL ACTIVITY AND AIR POLLUTION

Physical activity is one the most important factors for maintaining health. However, unfortunately, exercising outside, which is something that, at first glance, seems so positive, has a major drawback when done in polluted conditions. While exercising, a person takes in 4 times more air on average than when resting. The more we inhale and exhale, the more pollutants can get into our bodies, increasing the risk that they will have a negative effect on our health. Moreover, while exercising, you are more likely to breathe through your mouth rather than your nose. Unlike the nose, the mouth is unable to filter out certain large pollutants in the air and stop them from entering the lungs. Therefore, breathing through the mouth can lead to more pollutants entering the airways.²³ A new study (published in December 2021) co-authored by

²¹ Pozzer Andrea, “Regional and global contributions of air pollution to risk of death from COVID-19”, accessed 25.12.2021 <https://academic.oup.com/cardiovascres/article/116/14/2247/5940460>

²² Pippa Neill, “PM2.5 is associated with a higher risk of ICU treatment for Covid-19”, Air Quality News, accessed 28.12.2021 <https://airqualitynews.com/2021/07/09/pm2-5-is-associated-with-a-higher-risk-of-icu-treatment-for-covid-19/>

²³ “Exercise and air quality: 10 top tips”, Breathe (Sheff) 2015 Sep; 11(3): 239–242, accessed 29.12.2021 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4666455/>

USC Professor David Raichlen indicates that vigorous exercise in a highly polluted area can actually diminish the positive brain benefits of exercise. According to the research, vigorous physical activity reduced white matter lesions, a key marker of brain health, but these benefits were eliminated in areas with high air pollution.²⁴ The fact that polluted air reduces the benefits of exercise should not be a reason to not exercise. There is a set of recommendations that can be followed to maximize the benefits gained from exercise. When exercising in a town or city, make use of parks, public spaces and trails with low emission zones as much as possible. It is also a good idea to avoid exercising near cars and streets during rush hour. You should also check the weather and air quality on www.air.gov.ge beforehand. Air pollution tends to be at its worst on hot, sunny days, while the air tends to be cleaner after rainy or windy weather.²⁵

MENTAL HEALTH AND POLLUTION

Besides physical health, clean air is also an important factor for mental health. The new study “Association of Air Pollution Exposure in Childhood and Adolescence with Psychopathology at the Transition to Adulthood” showed that young adults who were exposed to air pollution as children experience higher rates of mental health challenges at age 18 when compared to peers with less exposure.²⁶ Professors from universities in the United States of America, Great Britain, and Norway participated in the study. There is a link between exposure to nitrogen oxides and particulate matter in childhood and the development of disorders such as anxiety and depression, the academics said. What makes this study more interesting is the fact that the researchers watched the children who participated in the study while they were growing up. They knew their mental and physical health history and even their family and social situations, meaning the results of the study were entirely dependent on the air pollution, completely ruling out such factors as pre-existing mental issue or poverty.

The participants’ mental health was measured when they were 18 using an assessment of symptoms for ten common psychiatric disorders, such as ADHD, anxiety, and alcohol dependence. That was used to calculate a measure of their mental health called the psychopathology factor or p-factor. Those with a higher p-factor score displayed more of those symptoms.

²⁴ McQuiston Paul, “Outdoor workouts in high-pollution environments may hurt brain health”, USC News, accessed 23.12.2021 <https://news.usc.edu/195662/air-pollution-outdoor-workouts/>

²⁵ “Exercise and air quality: 10 top tips”, Breathe (Sheff) 2015 Sep; 11(3): 239–242, accessed 29.12.2021 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4666455/>

²⁶ Rowello Lauren, “Air Pollution Exposure in Childhood Linked to Mental Health Concerns at Age 18”, accessed 30.12.2021 <https://www.verywellmind.com/air-pollution-negatively-impacts-mental-health-5184979>

The researchers found that those who had the highest exposure to nitrogen oxides scored 2.62 points higher on the general psychopathology score than their peers in the bottom three quartiles. Those exposed to the most particulate matter scored 2.04 points more than their peers.²⁷

In addition to having an effect on the cognitive functions of children and adults, researches have shown that air pollution also affects diseases like Parkinson's, Alzheimer's and dementia. People over 50 in areas with the highest levels of nitrogen oxide in the air showed a 40% greater risk of developing dementia than those with the least NOx pollution, according to the research.²⁸

Visits to mental health service centres are higher on days with increased PM pollution, Mortality associated with mental and behavioural disorders are higher on haze days. Various studies have discovered that suicides correlated with higher levels of NO₂, O₃, PM, and SO₂. Interquartile range increases in NOx and PM2.5 are associated with an 18-39% increase in common mental disorders.²⁹ A study by researchers in the US and Denmark has suggested a link between air pollution and an increased risk of mental health problems, including bipolar disorder, schizophrenia, and personality disorders.³⁰ A team of researchers from the University of Chicago has found that the counties in the USA with the worst air quality had a 27 percent increase in bipolar disorder compared to those with the best air quality. A study of Danish data revealed that the early childhood exposures correlated even more strongly with major depression (a 50% increase), with schizophrenia (a 148% increase), and with personality disorders (a 162% increase) over individuals who grew up in areas with the highest quality air.³¹

²⁷ Campbell Denis, "Study links childhood air pollution exposure to poorer mental health", The Guardian, accessed 23.12.2021 <https://www.theguardian.com/environment/2021/apr/28/-study-links-childhood-air-pollution-exposure-to-poorer-mental-health>
²⁸ Harvey Fiona, "Air pollution linked to much greater risk of dementia", The Guardian, accessed 27.12.2021 <https://www.theguardian.com/environment/2018/sep/18/air-pollution-causes-jump-in-dementia-risk-study-suggests>
²⁹ "The impact of air pollution on mental health", Breeze-technologies, accessed 28.12.2021 <https://www.breeze-technologies.de/blog/impact-of-air-pollution-on-mental-health/>
³⁰ Davis Nicola, "Growing up in air-polluted areas linked to mental health issues", The Guardian, accessed 30.12.2021 <https://www.theguardian.com/society/2019/aug/20/growing-up-in-air-polluted-areas-linked-to-mental-health-issues>
³¹ Richards Sarah, "Pollution linked to increase in bipolar disorder and depression", Uchicago News, accessed 24.12.2012 <https://news.uchicago.edu/story/pollution-linked-increase-bipolar-disorder-and-depression-study-suggests>

THE EFFECTS OF PARTICULATE MATTER ON THE ENVIRONMENT AND THE IMPORTANCE OF GREEN SPACES

A high concentration of particulate matter does not only have an effect on the physical and mental health of human beings, but also on the environment.³² Particulate matter can have the following effects on the environment:

1. MAKING LAKES AND STREAMS ACIDIC;
2. CHANGING THE NUTRIENT BALANCE IN COASTAL WATERS AND LARGE RIVER BASINS;
3. DEPLETING THE NUTRIENTS IN THE SOIL;
4. DAMAGING SENSITIVE FORESTS AND FARM CROPS;
5. AFFECTING THE DIVERSITY OF ECOSYSTEMS;
6. CONTRIBUTING TO ACID RAIN EFFECTS.

For this reason, it is extremely important to increase the number of green spaces in the city. "Gavigudet" and the population of Rustavi believe that solving the air pollution problem in Rustavi cannot be accomplished by simply increasing the number of green spaces and recreation areas. First of all, the fundamental cause of air pollution must be taken care of, with the factories working within the regulations. However, at the same time, it is absolutely essential that the city be made sustainably green as well. Research has shown that a green environment has numerous positive effects on the social, psychological, and health conditions of human beings,³³ including the reduction of stress and anxiety, improving cognitive function, lowering the risk of depression, and, on the whole, contributing to better mental and physical health.

³² "Health and Environmental Effects of Particulate Matter (PM)", United States Environmental Protection Agency, accessed 23.12.2021 <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>
³³ Grinde, Bjørn, and Grete G. Patil, "Biophilia: Does Visual Contact with Nature Impact on Health and Well-Being?", International Journal of Environmental Research and Public Health 6, no. 9: 2332-2343. Accessed 29.12.2021 <https://www.mdpi.com/1660-4601/6/9/2332>



It is noteworthy, that within one year an acre of trees can absorb enough carbon dioxide to equal the amount produced by driving a car 11,000 miles. At the same time, trees and turf in a park also return significant amounts of oxygen to the atmosphere. A turf area of only 50 square feet produces enough oxygen to meet the needs of a family of four. It should be noted that residences located near green spaces are associated with a significantly reduced risk of breast cancer. For example, a green space located within a 100 meter radius of a residence shows a 45% decrease in risk.³⁵

Besides, studies have also shown how effectively trees remove other pollutants. A 212,000-acre urban park tree cover removes 48 pounds of particulates, 9 pounds of nitrogen dioxide, 6 pounds of sulfur dioxide, 2 pounds of carbon monoxide, and 100 pounds of carbon daily. The U.S. Forest Service calculates that over a 50-year lifetime one tree generates \$31,250 worth of oxygen and provides \$62,000 worth of air pollution control.

³⁴ "How cities use parks for climate change management", American Planning Association, 2007, accessed 24.12.2021 <https://climatechange.lta.org/wp-content/uploads/cct/2019/12/Parks-for-Climate-Change.pdf>

³⁵ ""Breast Cancer and Green Spaces", Cactus, 02.09.2019, accessed 30.12.2021 <https://cactus-media.ge/index.php?do=full&id=165>

As has already been stated, an increase in green spaces will help us to reduce the concentration of pollutants in the atmosphere. Plants also help keep harmful pollutants such as microscopic particulate matter away through a complex process known as dry deposition, whereby particles penetrate and become trapped in the wax of leaves.³⁶

That is why, for Rustavi, as a city polluted by particulate matter, it is of the utmost importance to provide and take care of our greenery and green spaces.

THE COST OF AIR POLLUTION

The costs of treating diseases caused by air pollution are hard on the civilians. According to the World Bank, respiratory and cardiovascular diseases caused by air pollution alone cost the global economy 5 trillion USD a year.³⁷ The World Bank's 2020 report "Georgia towards Green and Resilient Growth" notes that 560 million USD was spent on ambient and indoor air pollution, which amounts to the 3% of the GDP in 2018.³⁸

And in "The Right to Clean Air", a report by the ombudsman, alongside other important information, we read that in 2016, 120,050,566 GEL was spent from the government budget on treating diseases caused by particular pollutants (NO₂, SO₂, CO, O₃, PM10, and PM2.5).³⁹ As such, implementing the law should be considered to be in the government's best economic interests, to say nothing of the physical and mental damage, which is immeasurable.

³⁶ Urban greening is better for citizens and fights climate change, Apolitical, accessed 24.12.2021 <https://apolitical.co/solution-articles/en/is-urban-greening-the-green-transformation-cities-need-to-fight-climate-change>

³⁷ Carrington Damian, "Air pollution linked to more severe mental illness – study", The Guardian, accessed 29.12.2021 <https://www.theguardian.com/environment/2021/aug/27/air-pollution-linked-to-more-severe-mental-illness-study>

³⁸ Manana Kochladze, "Air Pollution in Georgia: Ambient Air and Indoor Pollution", Green Alternative, accessed 22.12.2021 https://greenalt.org/blogs/heris-dabindzureba-sakartveloshi/?fbclid=IwAR2pUYYPnJXvCzauk1dQ92abf1jbyWYzblp9QSAe_IXCbHBxEq5Yt0JeeuA

³⁹ "The Right to Clean Air (Ambient Air Quality In Georgia)", Special Report, Georgian Ombudsman 2019, accessed 28.12.2021 <https://ombudsman.ge/res/docs/2019040113594483544.pdf>

LEGISLATION

In 2021, legally significant steps were taken to improve air quality. Parliament passed several legislative changes aimed at technical maintenance/re-equipment of enterprises located in Georgia, as well as the imposition of increased sanctions for air pollution.

On March 2, 2021, the Law of Georgia on **Ambient Air Protection** (entered into force on June 1, 2021) was amended, according to which the following sub-article 12 was added to article 38:

„12. The subject of the activity provided for in the Annex to this Law shall be obliged to consecutively determine the actual number of organized emissions of harmful substances from the stationary sources of pollution into the ambient air by means of an instrumental method for the purpose of self-monitoring of emissions from stationary sources of pollution. The actual number of organized emissions of harmful substances from the stationary sources of pollution into the ambient air and the temperature is determined by the subject of the activity directly to the source (in the industrial chimney) of emissions of harmful substances through which it carries out the activities provided for in the Annex to this Law”.

In connection with this change, the explanatory note to the Law of Georgia on Ambient Air Protection states that it is necessary to adopt the change, as self-monitoring carried out by the subjects of the activity is ineffective and, in many cases, may not reflect the actual number of emissions from the stationary sources of pollution. The reason for this is the circumstance that the current legislation allows the subject of the activity to self-monitor the emission of harmful substances from stationary sources by using the calculation method, which means to determine the actual number of emissions into the ambient air from stationary sources of pollution according to technological processes using **calculation method** and not based on instrumental measurements, as required by the new amendment. Using the calculation method, almost all enterprises were able to submit more or less correct documentation to the Ministry of Environmental Protection and Agriculture of Georgia, creating the impression that the enterprises were operating in accordance with the norms, which does not correspond to reality. Therefore, these changes will help to identify cases of air pollution by the entity, as well as their timely prevention and adequate and timely response to specific pollution cases.

According to the information provided by the Ministry of Environmental Protection and Agriculture of Georgia, here are 24 enterprises operating in the city of Rustavi (letter №96/01 of June 1, 2021, list of the enterprises is attached), which are subject to these regulations.

THOSE ENTERPRISES ARE:

#	NAME OF ORGANIZATION	NAME OF ENTERPRISE	TYPE OF ACTIVITY
1	LLC "SINATLE" (LIGHT)	RUSTAVI ENTERPRISE	Production of construction materials, production of cement;
2	LLC "MAX IMPORT"	RUSTAVI ENTERPRISE	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CEMENT;
3	LLC "HEIDELBERGCEMENT GEORGIA"	RUSTAVI CEMENT FACTORY	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CEMENT, PRODUCTION OF CLINKER;
4	LLC "HEIDELBERGCEMENT GEORGIA"	RUSTAVI DRY METHOD CEMENT FACTORY (FORMER "GEORGIAN CEMENT")	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CLINKER.
5	LLC "KOMPOZITI" (COMPOSITE)		PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CONCRETE AND/OR CONCRETE ARTICLE, PRODUCTION OF CEMENT;
6	LLC "RUSTAVI UNIVERSITY"	CEMENT PRODUCTION FACTORY (WITH CLINKER, GYPSUM AND GRIND OF ADDITIVES)	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CONCRETE AND/OR CONCRETE ARTICLE, PRODUCTION OF CEMENT;
7	LLC "MSHENE BELI 2004" (BUILDER 2004)		PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CEMENT;
8	LLC "VIVACEMENT"	CEMENT FACTORY	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CEMENT;
9	LLC "STANDART CEMENT"	"STANDART CEMENT"	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CEMENT;
10	LLC "V.D.L"	LLC "VDL"	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF CEMENT;
11	LLC "ELBA EXPORT"		PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF LIME;
12	LLC INDUSTRY "KIRI" (LIME)	LIME FACTORY	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF LIME;
13	LLC "GRAALI 2008" (GRAIL)	RUSTAVI ENTERPRISE	PRODUCTION OF CONSTRUCTION MATERIALS, PRODUCTION OF PLASTER;

14	LLC "RVALI-2000"		METALLURGICAL PRODUCTION, FERROUS METALLURGY, FERROUS METAL PRODUCTION, METAL AND / OR METAL-PLASTIC PROCESSING, METAL WELDING AND / OR GAS CUTTING, WOOD PROCESSING AND PAPER PRODUCTION, WOOD PROCESSING, WOOD RECYCLING;
15	LLC "RUSTAVI STEEL"	LLC "RUSTAVI STEEL"	METALLURGICAL PRODUCTION, FERROUS METALLURGY, METAL SMELTING, PRODUCTION OF FERROUS METALS;
16	LLC "GEOSTEEL"		METALLURGICAL PRODUCTION, FERROUS METALLURGY, METAL SMELTING, PRODUCTION OF FERROUS METALS;
17	LLC "FERONET"	RUSTAVI ENTERPRISE	METALLURGICAL PRODUCTION, FERROUS METALLURGY, PRODUCTION OF FERROALLOYS;
18	JSC "RUSTAVI AZOTI"	JSC "RUSTAVIS AZOTI"	CHEMICAL INDUSTRY, PRODUCTION OF MINERAL FERTILIZERS, PRODUCTION OF NITROGEN FERTILIZERS;
19	LLC "RUSSALLOYS"	FACTORY OF FERROALLOYS	METALLURGICAL PRODUCTION, FERROUS METALLURGY, PRODUCTION OF FERROALLOYS;
20	LLC "NIKA-2004"	FACTORY OF FERROALLOYS	METALLURGICAL PRODUCTION, FERROUS METALLURGY, PRODUCTION OF FERROALLOYS, PRODUCTION OF CONSTRUCTION MATERIALS, PROCESSING / GRINDING / DRYING OF MINERAL RAW MATERIALS;
21	JSC "RUSTAVI METALLURGICAL FACTORY"	FORMER LLC "GORGASALI"	METALLURGICAL PRODUCTION, FERROUS METALLURGY, PRODUCTION OF FERROALLOYS;
22	LLC "GEORGIAN ALLOYS GROUP"	FACTORY OF FERROALLOYS	METALLURGICAL PRODUCTION, FERROUS METALLURGY, PRODUCTION OF FERROALLOYS;
23	LLC "MN CHEMICAL GEORGIA"	PRODUCTION OF MANGANESE OXIDE	CHEMICAL INDUSTRY, PRODUCTION OF INORGANIC COMPOUNDS AND PIGMENTS, PRODUCTION OF NON-METALS, OXIDES, PEROXIDES OR OTHER INORGANIC SUBSTANCES;
24	LLC "GEOFERROMETAL"		METALLURGICAL PRODUCTION, FERROUS METALLURGY, PRODUCTION OF FERROALLOYS;

Amendments were also made to the Code of Administrative Offenses of Georgia (Law of Georgia of March 2, 2021, №249 –12.03.2021) - new article was added and sanctions were increased for committing offenses such as:

1. Article 76¹: Failure to fulfill the obligation of the subject of the activity regulated by the environmental decision in relation to constant determination of the actual number of emissions into the ambient air from the stationary sources of pollution by means of instrumental method in the case of organized emissions of harmful substances.

In connection with this change, by the Resolution №192 of the Government of Georgia of April 27, 2021, an amendment was made to the Resolution №413 of the Government of Georgia of December 31, 2013 "On Approval of Technical Regulations for Self-Monitoring and Reporting of Emissions of Harmful Substances from Stationary Sources of Pollution".⁴⁰ Also, by the Order № 2-740 of May 24, 2021 of the Minister of Environmental Protection and Agriculture of Georgia the instructions for the administration of the electronic system of continuous instrumental self-monitoring of emissions of harmful substances from stationary sources of pollution were approved.⁴¹

The entrepreneurs said that the time given to them before the law entered into force (June 1, 2021) was not enough to purchase and install the device for continuous measurement by using the instrumental method (so-called emission measurement device), as the instruction, according to which the enterprises should guide in case of ordering and installing the so-called emission measurement device, was approved only a short time before the law entered into force. However, at this time, more than 7 months have passed since the enactment of the law, which is enough time for companies to find the manufacturers of this device and to carry out the purchase.

2. Article 77. Non-compliance of the technical report of ambient air pollution sources and the inventory of harmful substances with the actual conditions, or its absence, exceeding the established norms of harmful effects on the ambient air or exceeding the maximum number of the emission of harmful substances into the ambient air.

⁴⁰ Legislative Herald of Georgia, <https://matsne.gov.ge/ka/document/view/5159263?publication=0>

⁴¹ Legislative Herald of Georgia, <https://matsne.gov.ge/ka/document/view/5172935?publication=0>

3. Article 78. Violation of the rules of operation of the dust collector devices or/and malfunction of these devices, non-use, or absence of these devices.

4. Article 79². Violation of the conditions of the environmental impact permit (including environmental permit) or of the report of the ecological examination (including the report of the state ecological examination).

5. Article 79⁸. Failure to comply with the conditions set by the environmental decision.

These changes came into force from June 1, 2021. As of December 2021, none of the enterprises operating in the city of Rustavi has fulfilled its obligation in relation to constant determination of the actual number of emissions into the ambient air from the stationary sources of pollution by means of instrumental method in the case of organized emissions of harmful substances. According to most of the enterprises, they have started negotiations in this direction with foreign suppliers. For example, during a visit to the plant, LLC “Ferro Alloys Production” told us that by the end of March 2022, they will have installed the appropriate equipment that will enable to continuously determine the actual number of emissions by instrumental method. According to the representatives of LLC “Russalloys” they will be able to fulfill this obligation by May 2022.

In the city of Rustavi, the violation of the rules of operation of dust collector devices, and/or malfunction of these devices, non-use or absence of these devices remains a serious problem in some of the enterprises. Some enterprises have the dust collector devices, however there are cases when they are not used. According to our information, at this stage some of the enterprises have purchased dust collector devices and some of them have already installed them.



Amendments were also made to the Law of Georgia on Environmental Protection. With the amendment of March 2, 2021, the Department of Environmental Supervision was equipped with an important function, which allows it to take several measures in case of violation of the law from the enterprises, in particular, article 57.7 of the law was amended as follows: „7. If the object of regulation in the field of environment protection and use of natural resources (except for controlling the conditions of oil, gas and mineral extraction license or mineral exploitation license) conducts its activity without the mandatory document (beneficial administrative-legal act) provided by the current legislation of Georgia on environmental protection, either the activity of the regulated object poses a significant threat to the environment and its elimination is mandatory, although it cannot be implemented immediately, or the activity of the regulated object may endanger human life or health or evidence, the Department is authorized to make a decision to completely or partially restrict the relevant action for the object of regulation before the complete elimination of the circumstances provided for in this article (seal the object, equipment, unit, device, item - if necessary). The decision on total or partial restriction of the action for the object of regulation is made in the form of administrative correspondence and it is submitted to the object of regulation. Its performance is mandatory. The administrative correspondence provided for in this article may be appealed in court. The appeal does not stop its validity. Criteria for determining the significant threat to the environment as a result of the activity shall be established by the subordinate normative act of the Government of Georgia.“

The above changes were a package of amendments to the Law of Georgia on Environmental Responsibility. All of them were adopted by the Parliament on March 2, 2021, however, the Law of Georgia on Environmental Responsibility itself will enter into force on July 1, 2022, and Article 13 of this Law (financial protection of the risk of damage to the environment) will enter into force on July 1, 2023. This law is a very important achievement in the field of environmental protection because it is based on the principle - "polluter pays". This law mainly focuses on biodiversity, soil, and water, therefore less about the damage caused to the environment by air pollution. However, an important achievement is that with the involvement of our civil movement - "Gavigudet", the original draft version of the law, specifically article 14.4. which completely excluded the use of environmental program funds for the damage caused by the air pollution, was amended and even article 2.2.d was added (including ambient air pollution).

WHEN IS THE LAW ACTUALLY PLANNED TO COME INTO FORCE?

At the meeting held on October 28, 2021, in Rustavi, the Minister of Environmental Protection and Agriculture of Georgia promised the audience that from January 1, 2022, all enterprises that did not/could not operate within the requirements of the law, does not have their plants equipped with the so-called emission measurement device, will face the legal actions, including suspension of the right to operate. The Minister's words: "From January 2022, it will probably be a certain moderate period of time that enterprises that do not comply with the norms will face extreme measures."⁴²

In connection with this promise, on December 7, 2021, we sent a letter to the Minister of Environmental Protection and Agriculture of Georgia (we sent a copy to the Mayor of Rustavi) to inform us of the plan, mechanisms and other measures, the joint implementation of which is planned to help achieving the goal; We also interested whether the rights of employees will be protected during this process, to what extent the enterprises are ready to comply with the regulation and whether it is officially written to the enterprises about it. As of today (January 8, 2022) we have not received the response.

⁴² Info Rustavi „The Minister was called to react strictly to environmental problems“, accessed: 07.01.2022 https://inforustavi.ge/?m=31&news_id=25017

UNORGANIZED EMISSION

In the case of air pollution by enterprises in the city of Rustavi, materials and telephone messages sent by the organization and citizens about alleged violations by the factories in Rustavi, in our opinion, are not always properly responded. The civil movement "Gavigudet" periodically monitors the industrial zone and takes photos and videos of the emissions of the enterprises, including the facts of unorganized emissions.

On September 16, 2021, we sent a statement to the Department of Environmental Supervision, which was accompanied with the photos and videos taken by the civil movement "Gavigudet" in August-September 2021. The material reflected the facts of possible illegal emissions from enterprises located in Rustavi. In a statement, we demanded the issue to be investigated and that violation reports to be drawn up against the factories, the unorganized emission of harmful substances of which were reflected in the materials submitted by us.

Based on our statement and the submitted photos and videos, the Department of Environmental Supervision drew up an administrative violation report.

On December 22, 2022, the representatives of the civil movement "Gavigudet" were summoned to the ongoing trial in the Chamber of Administrative Cases of the Rustavi City Court, where we explained who, when, where and under which conditions took photos and videos and the purpose of submitting the materials to the Department of Environmental Supervision. At this stage, we are waiting for the court decision, which we have requested and will make public as soon as we receive it.

VISITS TO THE ENTERPRISES

Members of the civil movement "Gavigudet" in December of this year, at the initiative of two companies, were invited to get acquainted with the production process, which is an example of cooperation. Fresh air in the city of Rustavi should be not only the goal of the society, but also the result of the desire and efforts of entrepreneurs.

Members of the civil movement "Gavigudet" on December 14, 2021, were in the enterprise of one of the most important polluters - LLC "Russalloys", where we observed the production process. As the representatives of the enterprise told us at the meeting and showed us on the spot, some of the new filters have already arrived and for some of them they are still waiting. It is presumed that by May 2022, all work will be completed, including the installation of a continuous instrumental measuring mechanism (so-called emission measurement device) and the production process will be carried out in compliance with the regulations. Also, after installing new filters, the problem of brown color of the exhaust will be solved, because the exhaust will be filtered in a different way.

On December 24, 2021, we visited LLC "Ferro Alloys Production", where we got acquainted with the results of the re-equipment of the enterprise. During the production they were using dust collectors and as the representatives of the enterprise told us, the so-called emission measurement devices have been ordered and they hope the installation will be completed by the end of March, 2022. Given that this enterprise has been operating with significant violations over the years, the above changes are important.

We, the members of the civil movement "Gavigudet" hope that we will be able to establish cooperation with other enterprises in the city of Rustavi and in the near future we will have detailed information about all the enterprises, how soon they will be able to enter into full compliance with the regulations.

WHICH ENTERPRISES WERE FINED AND UNDER WHICH ARTICLES?

By letter NDES 1 21 00077680 of December 31, 2021 of the Department of Environmental Supervision, we received information that since June 1, 2021, as of December 31, 2021, for the enterprises located in Rustavi, 15 violation reports based on article 761 of the Code of Administrative Offences of Georgia were issued regarding the failure of the obligation in relation to constant determination of the actual number of emissions into the ambient air from the stationary sources of pollution by means of instrumental method in the case of organized emissions of harmful substances and on them the Rustavi City Court made the following decision:

#	ENTERPRISE	LOCATION	ARTICLE 76 ¹ OF CAO		
			VIOLATION REPORT №	DATE	DECISION FINE, GEL
1	LLC "RUSTAVI STEEL"	RUSTAVI	062977	18.06.2021	15 000

2	LLC "GEOSTEEL"	RUSTAVI	062978	29.06.2021	10 000
3	LLC "RUSSALLOYS"	RUSTAVI	064183	30.06.2021	10 000
4	LLC "HEIDELBERGCEMENT GEORGIA"	RUSTAVI	064144	02.07.2021	10 000
5	LCC "MAX IMPORT"	RUSTAVI	064275	06.08.2021	10 000
6	LLC "GEOFERROMETAL"	RUSTAVI	064147	19.07.2021	NOTICE
7	LCC "FERRO ALLOYS PRODUCTION"	RUSTAVI	064148	19.07.2021	NOTICE
8	JSC "RUSTAVI AZOTI"	RUSTAVI	064454	19.07.2021	NOTICE
9	LLC "MN CHEMICAL GEORGIA"	RUSTAVI	064186	26.07.2021	NOTICE
10	LLC "RSM CORP"	RUSTAVI	064462	04.08.2021	10 000
11	LLC "AMB ALLOYS"	RUSTAVI	064464	04.08.2021	30 000
12	LLC "VIVACEMENT"	RUSTAVI	064269	25.08.2021	NOTICE
13	LLC "ELBA EXPORT"	RUSTAVI	064151	26.08.2021	10 000
14	LLC "MEGA CEMENT"	RUSTAVI	064270	26.08.2021	NOTICE
15	LLC "MSHENEBELI 2004" (BUILDER 2004)	RUSTAVI	064152	27.08.2021	NOTICE

According to the information received from the Rustavi City Court on December 30, 2021 (letter N1850c) during 2021, the court issued rulings under the following articles of the Code of Administrative Offenses:

Article 79⁷. Carrying out activities under the Environmental Assessment Code without an environmental decision or screening decision

One of the enterprises located in the city of Rustavi, without a screening decision, made technological changes in order to increase its power and installed an additional 11 units of cement storage silo and integrated them into a unified system. In March 2021, the enterprise was fined with GEL 7,000 (seven thousand) by the decision of the Chamber of Administrative Cases of the Rustavi City Court.

Article 79⁸. Failure to comply with the conditions set by the environmental decision

One of the ferroalloy plants in the city of Rustavi did not comply with the environmental decision, in particular: the management failed to ensure compliance with the parameters of emission and emission sources, as well as the parameters of dust collector devices provided in the draft norms for the maximum permissible emission of harmful substances into the ambient air. It should be noted that the plant was not fully equipped with firefighting inventory. In March 2021, by the decision of the Chamber of Administrative Cases of the Rustavi City Court, the enterprise was fined with GEL 5,000 (five thousand).

Article 82¹. Non-submission of data on the recording the emissions of harmful substances into the ambient air in the prescribed form and within the established timeframe

One of the enterprises located in the city of Rustavi did not fulfill its obligation and did not submit the annual statistical form of the state recording of emissions of harmful substances into the ambient air through the electronic system. In April 2021, by the decision of the Chamber of Administrative Cases of the Rustavi City Court this enterprise was fined with GEL 150 (one hundred and fifty).

Article 79³. Non-compliance with the conditions set by the decision of the Minister of Environmental Protection and Agriculture of Georgia on the continuation of current activities

One of the enterprises in the city of Rustavi does not have a drainage system and is not connected to the general drainage network of the cement plant, while it had been informed about this obligation in writing from the Department of Environmental Supervision in July 2020. In March 2021, by the decision of the Chamber of Administrative Cases of the Rustavi City Court this enterprise was fined with GEL 15,000 (fifteen thousand).

Article 76¹. Failure to fulfill the obligation of the subject of the activity regulated by the environmental decision in relation to constant determination of the actual number of emissions into the ambient air from the stationary sources of pollution by means of instrumental method in the case of organized emissions of harmful substances

One of the enterprises located in the city of Rustavi did not fulfill its obligation to continuously determine the actual number of emissions into the ambient air from the stationary sources of pollution by means of instrumental method in the case of organized emissions of harmful substances. In September 2021, by the decision of the Chamber of Administrative Cases of the Rustavi City Court this enterprise was fined with GEL 10,000 (ten thousand).

Article 77. Non-compliance of the technical report of ambient air pollution sources and the inventory of harmful substances with the actual conditions, or its absence, exceeding the established norms of harmful effects on the ambient air or exceeding the maximum number of the emission of harmful substances into the ambient air

One of the enterprises located in the city of Rustavi was operating without a technical report on the sources of air pollution and the inventory of harmful substances emitted by them. Accordingly, such a report was not submitted to the staff of the Department of Environmental Supervision. In September 2021, by the decision of the Chamber of Administrative Cases of the Rustavi City Court this enterprise was fined with GEL 500 (five hundred).

Article 78. Violation of the rules of operation of the dust collector devices or/and malfunction of these devices, non-use or absence of these devices

Due to the violation of the rules of operation of the cleaning system in one of the ferroalloy enterprises located in the city of Rustavi and because of the malfunction of the relevant equipment, ambient air was polluted by the combustion products of the steel furnace. In August 2021, by the decision of the Chamber of Administrative Cases of the Rustavi City Court this enterprise was fined with GEL 1,000 (thousand).

FUTURE PLANS

The civil movement "Gavigudet" plans to continue the legal battle. In January, we hope that the Ministry of Environmental Protection and Agriculture of Georgia will take effective steps to implement the laws. For our part, we plan to remind the Minister of Environmental Protection and Agriculture of Georgia of the promises of October 28, 2021. If in January 2022 we do not receive a reply to our letter of December 7, 2021, then we will go to court.

We will appeal to the Department of Environmental Supervision about checking all 24 enterprises that are obliged to determine the actual number of emissions into the ambient air from the stationary sources of pollution by means of instrumental method in the case of organized emissions of harmful substances and to take measures against them as it is provided by the law.

We will continue to publish all the photos and videos, which will reflect the facts of possible violations by the enterprises.

It is possible to file a lawsuit against the Ministry of Environmental Protection and Agriculture of Georgia, as this authority fails to ensure compliance with the law by the enterprises. Through the lawsuit, the people living in Rustavi will be able to claim compensation for the damage caused to them due to the inaction of the Ministry of Environmental Protection and Agriculture of Georgia.

