



CAREC KNOWLEDGE HUB

SERIES OF PUBLICATIONS ON “ENVIRONMENT AND HEALTH”



Environmental Health Issues

Air Quality, Climate Change and Human Health

Air is the most important part of the habitat. It is the basis of life on Earth, including, human life. The atmosphere serves as a reliable protection against harmful cosmic radiation, determines the climate of this area and the planet as a whole, has a decisive impact on people’s living and working environments, their working capacity, and the vital activity of flora and fauna. Atmospheric air also performs geological, ecological, thermoregulatory, protective, energy, economic and other functions.

Natural resources conservation and nature protection as a habitat is impossible without continuous monitoring, analysis of the situation and forecasting. Over years, the problem of environmental pollution, especially the urban airspace is becoming more urgent due to given the growing urbanization.

According to the estimations of World Health Organization (WHO), millions of people in urban areas are regularly exposed to high concentrations of sulfur dioxide, nitrogen oxides and particulate matter air pollution that exceed health standards. In many regions of the Eastern Europe, the Caucasus and Central Asia (EECCA), emissions of sulfur dioxide and particulate matter exceed the permissible levels. The main sources of pollution remain the continued inefficient use of coal for energy, heavy industry, transportation, agriculture and waste.

In recent years, in the global health agenda an increasing focus has been placed on the issue of indoor and outdoor air pollution. Today, it is considered among the greatest environmental risks

to human health: it causes about 7 million premature deaths every year worldwide and nearly 620,000 cases in the WHO European Region, which includes the countries of Central Asia as well. The share of indoor air pollution from burning solid fuels for heating and cooking accounts for about 120,000 premature deaths.

WHAT ARE THE SOURCES OF AIR POLLUTION?

Outdoor air pollution affects urban and rural areas and is caused by multiple factors:

- INDUSTRY & ENERGY SUPPLY
- TRANSPORT
- WASTE MANAGEMENT
- AGRICULTURAL PRACTICES
- HOUSEHOLD ENERGY
- DUST

Countries cannot tackle air pollution alone. It is a global challenge we must all combat together.

CLEAN AIR FOR HEALTH #AirPollution

World Health Organization infographics

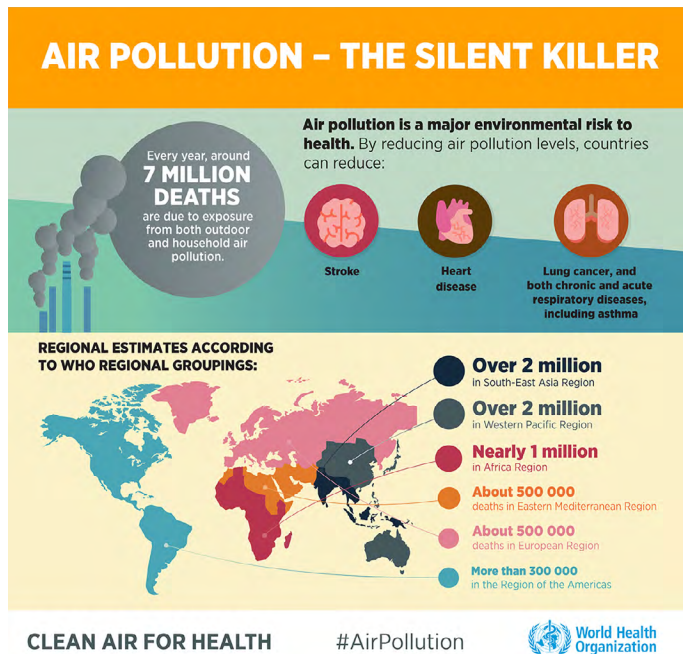
Life expectancy in the WHO European Region is declining by an average of nine months due to the effects of suspended matters. In addition, more than 50% of deaths among children under the age 5 years are due to pneumonia caused by the inhalation of particulate matters emitted during the combustion of solid fuels in the home, while 1/5 of deaths from stroke and coronary heart disease are associated with air pollution as a major factor risk.

According to the classification of the International Agency on Cancer Study, air pollution from exhaust gases emitted during the combustion of

diesel fuel and smoke from coal combustion, as well as particulate matters (PM) as a separate component of air pollutants are carcinogenic. In European cities that monitor air pollution (over 1,790 cities in 42 countries), the annual urban concentration levels of PM10 usually exceed the permissible standards of WHO guidelines.



Sandstorm in Nukus city, photo of eyewitnesses



World Health Organization infographics

The atmospheric air pollution by “greenhouse gases” results in the global climate change on our planet. As a consequence, the number of hot days and dust storms in the year is increasing, especially in countries with arid climate, including Central Asian region. For example, annually more than 100 million tons of dust and poisonous salts are rising from the Aral Sea and spread across the territory of the Republic of Karakalpakstan.

The severe dust storm that took place in the Central Asian region in May 2018 (Karakalpakstan, Uzbekistan, Kazakhstan and Turkmenistan) is a clear example of the climate change impact. Local communities which are quite familiar with strong sandstorms do not recall such a natural phenomenon to be observed before: “A strong wind brought salt dust from the Aral Sea shores. The 40-degree heat in the city of Nukus was followed by reduction in the temperature with 20 degrees Celsius and a heavy salty rain. The dust completely covered the city.”

WHO recommends that all countries worldwide, including EECCA countries, create a network for monitoring atmospheric air pollution with small particulate matters (PM10 and PM2.5) to find ways to reduce the effects of these particulates on human health and improve air quality.

Strategies on reduction of air pollution and climate pollutants can bring sustainable health benefits: reducing premature mortality and morbidity due to stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. They can also bring several side-effects to health, such as reducing road traffic injuries, increasing physical activity and reducing noise.

At the United Nations Sustainable Development Summit on 25 September 2015, more than 150 world leaders adopted the new 2030 Agenda for Sustainable Development, including [17 Sustainable Development Goals \(SDGs\)](#), most of which directly relate to health issues:

- SDG 3: Good health and wellbeing;
- SDG 6: Clean water and sanitation;
- SDG 7: Affordable and clean energy;
- SDG 11: Sustainable cities and communities;
- SDG 13: Climate actions.

CAREC's contribution to the promotion of health issues and SDGs

In 2016 CAREC launched the “Environment and Health” program focusing on the interlinkage between environment and human health to help reduce the environmental burden on the health of the population of the Central Asian region. The program plans to implement projects aimed at monitoring, reducing and preventing diseases related to water quality, climate change, air pollution and waste.

CAREC initiatives that contribute to the implementation of the Ostrava Ministerial Declaration on Environment and Health (Czech Republic, 2017):

- CAREC/World Bank/EC IFAS project “Program on Climate Change Adaptation and Mitigation in the Aral Sea Basin (2016-2021)”. The project aims to solve common problems and challenges related to the consequences of climate change in Central Asian countries through enhancing access to improved knowledge and data on climate change for key stakeholders, as well as through increased investment and technical capacity building¹.
- CAREC project “Development of the study curriculum on Environmental Epidemiology” in the system of professional development under the Ministry of Health and the State Committee on Environment and Nature Protection of the Republic of Uzbekistan and its introduction into the education system” (2017-2018). The project aims to increase the capacity of professional knowledge on environmental health issues and create favorable conditions for effective solutions to a problem.
- CAREC/UNEP/Government of the Republic of Kazakhstan project “Study on transport impact mitigation on environment and health (2018-2019.)”. The project objective is to support Central Asian countries in developing the sustainable transport policy for improving public health, mitigating the effects of climate change and attracting investment for the pedestrian and cycling infrastructure.
- CAREC’s “Environment and Health” pro-

¹ <http://carececo.org/main/news/CAM-P4ASB-knowledge>

gram manager tale parts as an expert in the 21st meeting of the Working Group on Health of the Air Pollution Convention and the Regional Office for Europe of the World Health Organization, held in May 16-17, 2018 in Bonn, Germany. At this meeting, the manager presented the goals, objectives and the first results of the program, as well as shared information on other large-scale CAREC’s initiatives that contribute to improving the environment. These include organization of the annual Central Asian International Environmental Forum and the launch of the “Environment for Central Asia” process to strengthen the “voice” and representation of the region in the international arena.

- In mid-June 2018, another workshop was held in Bonn on climate change and health issues, with the participation of CAREC. The pos-



CAREC archive, the event “Development of the curriculum” Medical Ecology “

sibilities of supporting WHO Member States in developing their national action portfolios, providing updated information on policy development, facilitating the exchange of experiences and identifying priority actions for the implementation of the commitments of the Ostrava Declaration have been discussed during this meeting. CAREC presented updated information on activities related to the declaration of ministers of environment and health implementation.

- On November 21-22, 2018 in Almaty, Republic of Kazakhstan, the Central Asian Regional Workshop on the integration of health and environmental aspects into transport policy will be held. This event is initiated by the Secretariat of the UNECE Convention on Long-range Transboundary Air Pollution and the Transport-Health-Environment Pan-European Pro-

gram (THE PEP) with organizational support from CAREC. The purpose of the workshop is to build the capacity of national authorities of Central Asian countries to integrate THE PEP into their national policies. This event is an integral part of the preparations to the Fifth High-level Meeting on Transport-Health-Environment to be organized by the Government of Austria on 22-24 October 2019 in Vienna.

- On July 10-11, 2018 in Vienna, Austria, the Extended Bureau of THE PEP was held in the frame of preparations for the Fifth High-level Meeting in 2019. CAREC was kindly invited by the Austrian Ministry of Sustainable Development and Tourism to participate and contribute to the work of the meeting. The outcomes of the meeting will allow to gain access to information, establish partnerships and to prepare for the regional meeting in November 2018 at CAREC head office.

CAREC aims to continue close and fruitful cooperation with the WHO Regional Office for Europe and other partners working in the field of environmental protection and health. Our joint initiatives, both in the past and in the future, will contribute to the protection and improvement of the population health in Central Asian countries and achievement of the sustainable development goals.

2030.

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CAREC archive, the 21st meeting of the Working Group on Health