

EDITORIAL



Why Are Cities an Important Part of Tackling Climate Change

Prof. dr. Žaneta Stasiškienė

Director of the Institute of Environmental Engineering

Kaunas University of Technology

zaneta.stasiskiene@ktu.lt

Over 50% of the world's population live in cities, and this is likely to increase up to 75% by 2030. Currently, the huge carbon footprint is created by the cities as a result of poor urban planning and unsustainable activities. In addition, expanding cities create buildings and infrastructure that are highly energy demanding. The extraction and manufacturing of materials for buildings such as steel and concrete and construction processes produce carbon dioxide. Cities use a large proportion of the world's energy supply and are responsible for around 70% of global energy-related greenhouse gas emissions, which trap heat and result in the warming of the Earth. Levels of carbon dioxide, the most prevalent greenhouse gas, are the highest ever, mostly due to the burning of fossil fuels for energy. Transport produces significant amounts of emissions, too. Most cities are situated near water putting them at risk from rising sea levels and storms; therefore, cities, while being the main cause of climate change, are most affected.

Therefore, it is very important to concentrate the city needs and planning not around cars and buildings, but around people and their wellbeing, i.e., the investments in sustainable urban planning, zero energy buildings, sustainable infrastructure, zero-carbon public transport, footpaths, protected bike lanes or other environmentally friendly means of the transportation should be increased and become a priority. The research results show that electric public transport,

powered through renewable energy could prevent 250 million tonnes of carbon emissions by 2030, improve people's health, and lower noise and air pollution. Therefore, in spite of the fact that cities around the world are the "main cause of climate change", they can also offer solutions to reduce the harmful impacts that cause the rise of global temperatures: cities across the EU and other progressive countries are looking to reduce their ecological footprint through a variety of methods. The effects of the recent changes in the planet's climate as well as expected future climate risks have pushed about a thousand cities worldwide to declare a climate emergency, and the idea of transitioning from a linear economy to a circular economy to achieve sustainability has become widely publicised in the last several years and this policy is one of the EU priorities.

According to the global trends of urbanization, we are facing the crucial challenges of reducing the demands on nature and moving towards sustainability. Furthermore, regenerating and evolving with the ecosystem synergistically is also an important issue. To mitigate the above mentioned problems, it is necessary to consider cities as dynamic complex systems, which need energy, water, food and other resources in order to work and generate diverse activities, with the aim of offering a better socio-economic climate and quality of life based on the regenerative sustainability principles. Consequently, the integrated management

and sustainable regenerative innovations in the cities are essential, with science, technology, architecture, socio-economics and planning contributing to provide support to decision makers.

Sustainability is not confined to a single industry, community, or geographical region; consequently, we should

encourage countries, cities and separate regions to prioritize the idea of implementing sustainable practices into their development plans, integrating knowledge from interdisciplinary fields, exploring future-oriented development patterns, and constructing a sharing platform for all stakeholders and interested parties.