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Possibilities of cities in adaptation to climate change on Kecskemét example

Adaptation and mitigation to climate change is probably one of the most urgent tasks for all settlements, especially for bigger cities. This challenge can be approached from a regulatory aspect, where the focus is on energy savings and energy efficiency, or actions taken during heat waves. Another possible approach is to promote climate awareness, which plays an important role in adaptation, and focus on the management of green spaces and green infrastructure.

Keeping these in mind, in our work we attempt to show what options are available for cities in adaptation nowadays. As a starting point we investigate the adaptation capacity and potentials in Kecskemét, which is a relatively large settlement of Hungary with 114 thousand inhabitants. The city is located in the climate sensitive Carpathian basin, on the sand ridges between the Danube and Tisza rivers.

First we examine green infrastructure; which also includes green roofs and green walls besides green spaces. Currently there are no outdoor green walls in Kecskemét. That is why it is a really great opportunity to develop this potential. Assessing potential energy savings from applying green walls on municipal buildings is also part of our work, which put energy efficiency and modernisation to the focus. In connection with these, in our work we analyse the energy consumption of the buildings owned by the local government of Kecskemét, and the potential energy savings which could be achieved with their renovations. In this field consistent achievement of the objectives — like transition to renewable energy sources — also results in reducing greenhouse gas emissions, which contributes to climate protection and not incidentally, leads to economic benefits as well.

Heat waves are one of the most significant signs of climate change nowadays. In these situations there are several actions to take effect. Some of these are part of urban actions, and we try to investigate effectiveness of these actions, and we interpret the possibilities of government intervention. Most importantly, the number of emergency medical interventions will increase during heat waves, causing overloading the health care system.