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Serious game as a tool for understanding the need for adapting our neighbourhoods to climate change

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The strategic, serious games could be one of the most interesting and effective educational tools in climate change action methods. This is why interdisciplinary project Co-Adapt - Communities for Climate Change Action (NOR/IdeaLab/Co-Adapt/0002/2020-00; <https://coadapt.pl/en>) aims to develop an integration toolkit based on both board and computer game to support resiliency and citizen engagement in city-communities, empowering them in responding to new climate change challenges with bottom-up involvement.

The game features simulations that allow local community to transform their neighborhoods into more resilient to the climate change. The game is adapted to local environmental and spatial conditions so people can play in a group on their real neighborhoods maps what stimulate higher motivation for participation in climate change transformation. The residents play together and they are forced to co-operate. They will explore various choices available for their neighborhoods (from wide, but limited and detailed range of solutions connected with green and blue infrastructure, renewable resources, climate-friendly changes of colors of facades and roofs etc.) and consequences (costs, savings, climatic benefits). The workshop toolkit integrates best practices collected from communities that are already involved in climate change actions in Norway, Denmark, France or USA and which were visited by project' leaders.

The pilot board games were played October-November 2023 in five neighbourhoods in Warsaw diversified in relation to exposure to urban heat island, flood risk etc., urban structure and socioeconomic factors. They were carefully chosen after consultations with Warsaw City Council out of the most active local communities and on city-owned land. City ownership is crucial because at the end of the game each of the community will be able to implement some solutions from the game up to the sum of c. 6800 € (30 000 PLN). The residents could eg plant the trees, sow a flower meadow, create bioswale trough or start a small orchard.

Co-Adapt game is completely new idea of implementing science into the behavior of local

communities in order to arouse their will to act together, to improve their living environment, to adapt to climate change and to mitigate this change.