

# CoAdapt board game - materials for trainers

## Version 1.10

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# Introduction

The board game “Neighborhood with Climate” was created as part of the CoAdapt project, which aims to educate and mobilize local communities to take adaptation measures in the face of climate change.

The game simulates the process of transforming a housing estate in a way that promotes adaptation to climate change. Players have the opportunity to introduce various solutions, such as rain gardens, absorption basins, climbing plants, trees or flower meadows, which help with water retention, lowering ambient temperatures and improving air quality.

Through this game, participants can:

- **Understand the impact** of different activities on the environment of their settlement.
- **Test different adaptation strategies** and observe their effects in a safe, virtual environment.
- **Increase environmental awareness** and learn how specific actions can counteract the negative effects of climate change.

The “Neighborhood with Climate” game is available in both board and computer versions, which allows it to be widely used in environmental education, workshops for residents, and as a tool to support decision-making processes in urban planning.

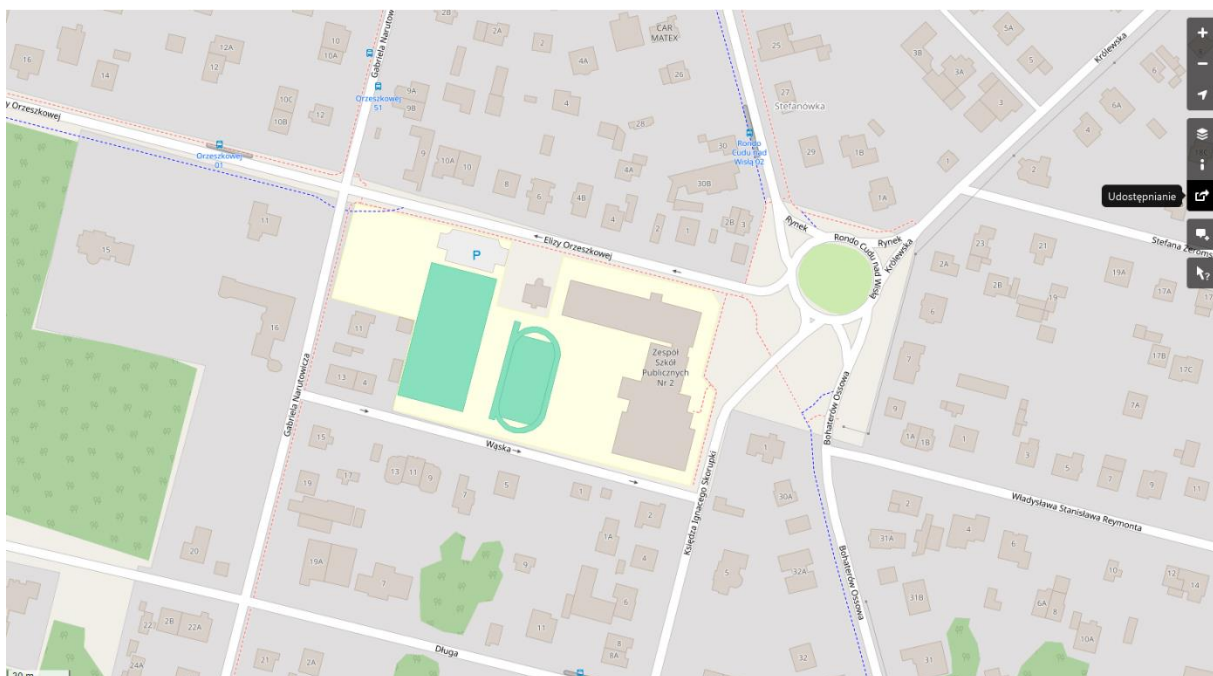
Through an engaging form of gameplay, the game encourages reflection on local pro-environmental actions that, in the long term, can contribute to improving the quality of life of residents and making cities more resilient to the effects of climate change.

From this manual, you will learn how to prepare for the game, how to conduct a workshop with participants on how to discuss the results and relate them to feasible pro-adaptation changes in the local space.

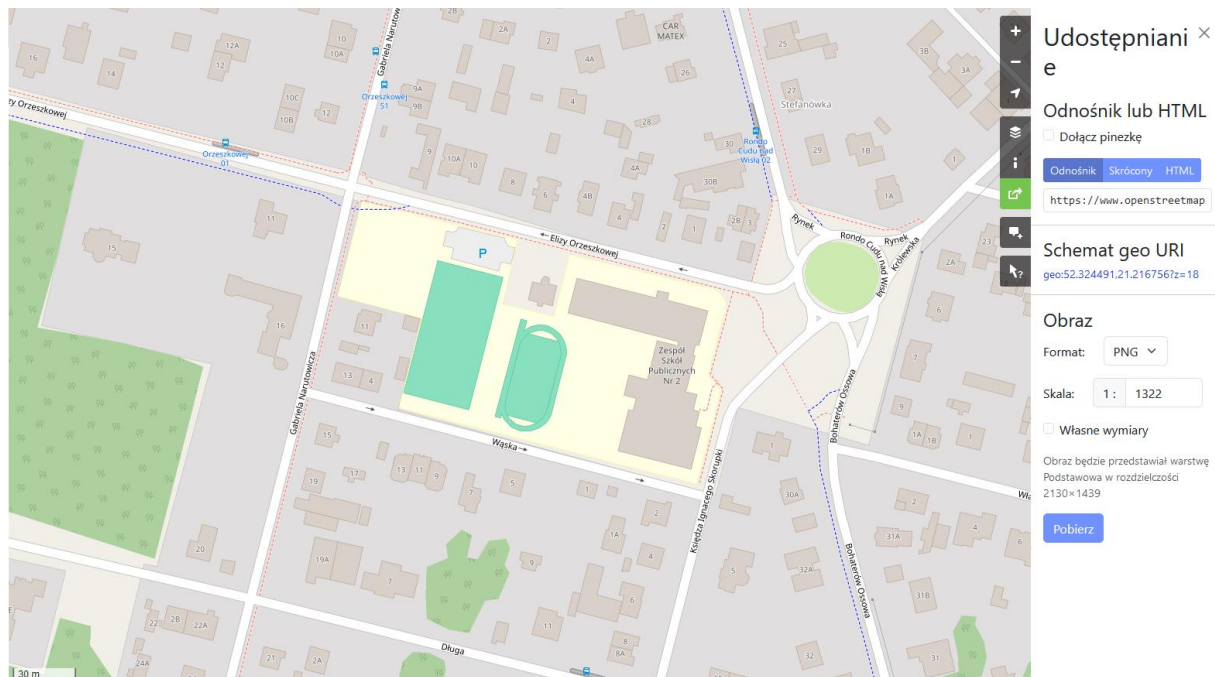
# Preparing for the workshop

## 1. Preparing and printing of maps

1. Go to: <https://www.openstreetmap.org>
2. Set the desired area where you plan to play as a visible map
3. Select the “share” option as in Figure 1
4. Set the desired file type and scale as in figure 2
5. The exported map you can print in pdf format right away (A3 or larger), or if you selected jpg or png format, the file can be trimmed to the desired size by pasting it into any word processor (such as Word) or by running it in your preferred graphics



**Fig 1: making the map available for printing**



**Fig 2: map export options**

## 2. Checklist before the workshop

Prepare the following props (one set for each table):

- A3 size map for the area (1 piece)
- A set of round tokens
- Set of cards:
  - 43 cards (full version)
  - 23 cards (basic version)
- Map helper (2 copies)
  - Auxiliary sheets (2 copies)
  - Decision sheets (4 copies)

On the computer disk should be available:

- Presentation
- Calculation sheet

# Flow of the 'Neighborhood with climate' game

## 1. Before the game

Each team is given a table:

- Map
- Map helper
- A set of cards
- A set of tokens
- A piece of paper and a pen

Before the workshop, check the correct display of the presentation and the operation of the Excel counter on the target computer.

## 2. Flow of the game

### 1. Welcoming the participants.

### 2. Explanation of the purpose of the game: **adaptation of the settlement to climate change.**

### 3. Presentation of the objectives of the game (according to the slides):

- o Discussion of card construction.
- o Explanation of main effects - 6 areas of environmental impact (see glossary).
- o Discussion of bonuses - 5 auxiliary areas (see glossary).
- o Presentation of limitations (purchase costs and maintenance costs).
- o Explanation of rules for placing tokens:
  - tokens relating to structures e.g. green roofs, white walls - should be placed on buildings,
  - tokens relating to pavement should be placed on sidewalks, plazas, parking lots,
  - tokens relating to plant elements should be placed on the ground
  - tokens relating to water elements should be placed according to their specifics (retention ponds, absorption basins, etc. On the ground, underground tanks under the surface of squares, streets)

### 4. Explanation of scoring rules:

**o Basic scoring:** Players learn the effects of their actions in each area after making a decision.

**o Final scoring:** players learn it after considering 3 random events at the end of the game.

#### **4. Course of the game**

- 1) We start the countdown (about 25-30 minutes to make decisions).
- 2) Players enter their decisions into the Google sheet or paper form, from which they are transferred to the calculation sheet.
- 3) After a short break to tally the results, we proceed to the discussion.

#### **Discussion of the results**

##### **1. The effects of the decisions** and strategies adopted by the players.

- We note what guided the participants in making their decisions
- We discuss the differences and similarities in the strategies adopted

##### **2. presentation of random events** and scoring for each event.

- We display slides with random events
- We discuss their consequences
- Determine the total score and determine the winner.
- We add up the points for reducing the negative consequences of the events - each team gets a final score from 0 to 9 points.

## Discussion after the game

The post-game discussion, depending on the preference of the facilitator, as well as the assumed purpose of the workshop, can be conducted in several ways.

In the case of educational workshops, the primary purpose of which is to impart knowledge about pro-adaptive solutions, we focus on the individual effects of the solutions introduced by the workshop participants and the consequences of the decisions made.

In such a workshop format, we discuss, for example:

- **The effectiveness of individual solutions from the perspective of various environmental benefits**
  - What environmental benefits did you notice with specific solutions, such as CO<sub>2</sub> absorption or microclimate improvement?
  - Which solutions were most effective in the context of the neighborhood?
- **Scalability of different solutions within the neighborhood**
  - Is it possible to implement these solutions throughout the settlement? What changes would be needed?
  - What obstacles might be encountered in scaling the selected solutions?
- **Possible reactions of residents to the implemented changes**
  - What kind of reactions do you think residents might have to the proposed changes?
  - What arguments could help convince skeptical residents?
- **Costs of the proposed solutions**
  - Which solutions do you see as the most cost-effective in terms of costs and benefits?
  - Do you see potential funding sources for implementing these changes?
- **Environmental and site conditions for the effectiveness of the pro-adaptation solutions proposed in the game**
  - Is there a need to consider additional factors, such as groundwater levels or specific soil conditions (pH, contamination), for the effectiveness of the implemented solutions?

- What local conditions could affect the effectiveness of particular measures (terrain, e.g., local depressions, very sunny areas)?

In the case of workshops, the gameplay of which is carried out in a specific neighborhood and whose goal is to develop solutions that can be implemented, we focus primarily on the diagnosis of problems made by workshop participants and the possibility of implementing the solutions proposed by workshop participants. In such a workshop format, we primarily discuss:

- **Formal and procedural aspects necessary to implement the selected solutions**
  - What formalities, such as construction notifications or water permits, are required to implement these activities?
  - Can land ownership issues be a barrier to implementing the plans?
- **Land and infrastructure constraints to implementing the developed plan**
  - What technical obstacles, such as the existence of underground infrastructure or soil type, may affect the implementation of the plans?
  - How can the plan be adapted to local terrain constraints?
- **Social aspects of the implemented solutions**
  - How can residents be involved in the process of implementing the proposed solutions?
  - Have you noticed potential conflicts of interest among residents? How can they be resolved?
  - What actions could ensure public support and acceptance of the proposed changes?
- By including the above questions, the conduct of post-game discussions will be more interactive, and workshop participants will have the opportunity to deepen their knowledge and involvement in the process of finding adaptation solutions.



# Glossary

## 1. Main effects

### **CO<sub>2</sub> absorption**

The process by which plants and trees absorb carbon dioxide from the atmosphere during photosynthesis, which helps reduce the concentration of greenhouse gases.

### **Pollution reduction**

The ability of plants and ecological infrastructure to remove pollutants from the air, soil and water, improving environmental quality.

### **Oxygen production**

The process of producing oxygen by plants during photosynthesis, which positively affects air quality and the health of residents.

### **Microclimate**

The creation of local climatic conditions, such as lowering temperatures due to the shade of trees or increasing humidity, which improves the thermal comfort of residents.

### **Interception**

The ability of plants and green infrastructure to retain rainfall on leaves and branches, which reduces the risk of flooding and allows for more efficient water management.

### **Infiltration**

The process of infiltration of rainwater into the soil, which reduces the burden on stormwater drains, promotes groundwater restoration and prevents soil erosion.

## 2 Bonuses

### **Biodiversity**

Increasing the number of plant and animal species within the settlement, which improves the stability of the ecosystem, promotes pollination and strengthens the environment's resilience to climate change.

**Social – activism**

Promoting residents' involvement in environmental, recreational and social activities, such as creating community gardens or organizing educational workshops.

**Social - satisfaction**

Increase residents' well-being through improved aesthetics of the surroundings, access to green spaces, and improved air quality and microclimate.

**Food**

Production of local food resources, such as fruits, vegetables or herbs, which reduces dependence on external supplies and promotes the self-sufficiency of the settlement.

**Economic bonus/resources to use**

Savings or additional benefits from green solutions, such as reduced energy costs  
Promoting residents' involvement in environmental, recreational and social activities, such as creating community gardens or organizing educational workshops.