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**Teachers Training Workshop**
Belgrade, June 16-17, 2022

## Session 2: Objectives and methodologies

# Integrated vision of urban regeneration: objectives and strategies for climate proof cities and societies – Transfer R1 to teachers and students

Salvatore Carlucci, Ioanna Kyprianou



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# What is urban regeneration

- Recovering neglected, underused or underutilised urban spaces which may be in decay and weaken the city's image, liveability and productivity
- Public and private stakeholders joining forces creates the best outcomes
- Community engagement and policy governance are further contributing elements to a successful project
- The process should be adequately designed and implemented





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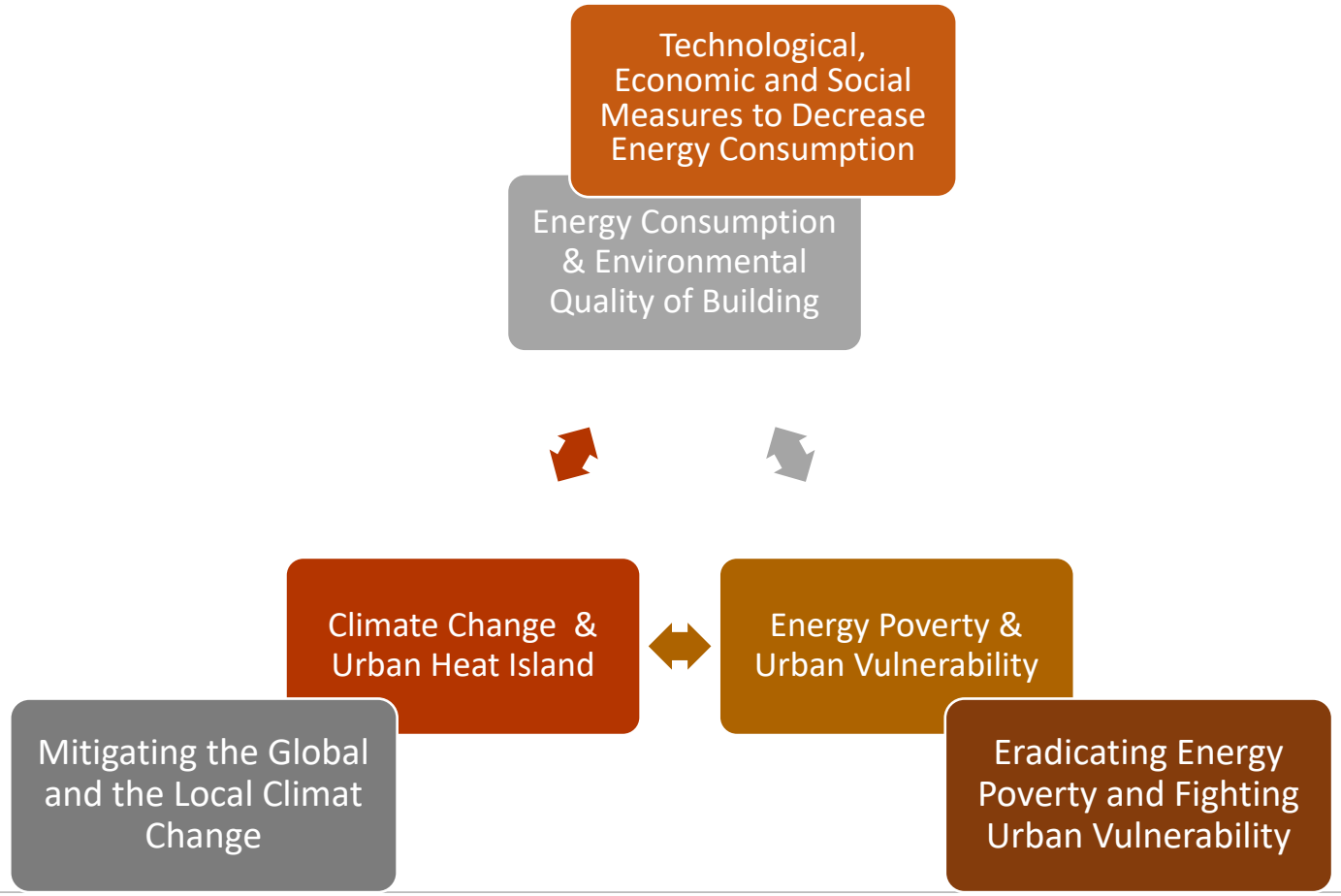
# Urban challenges and climate change



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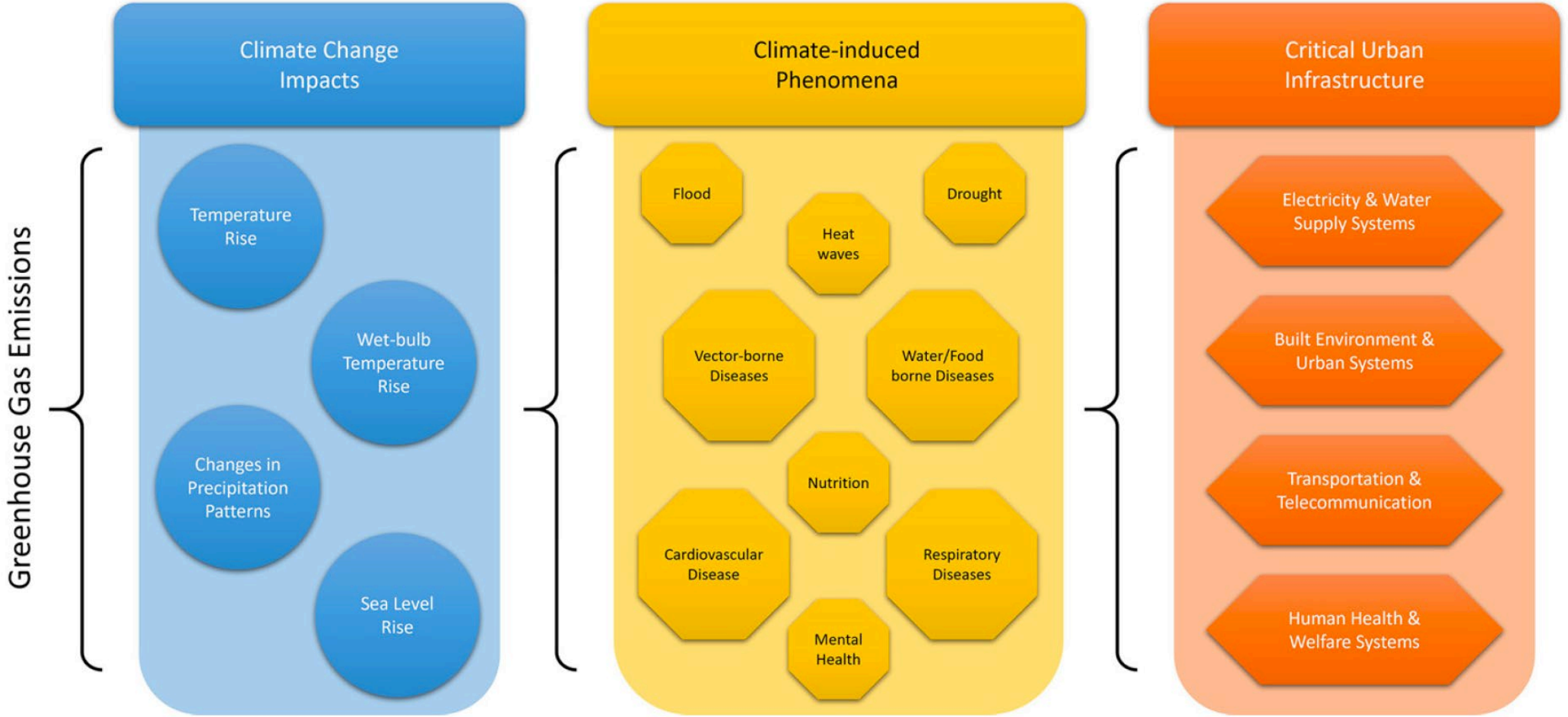
# Urban challenges and climate change




From: Salimi and Al-Ghamdi, 2020



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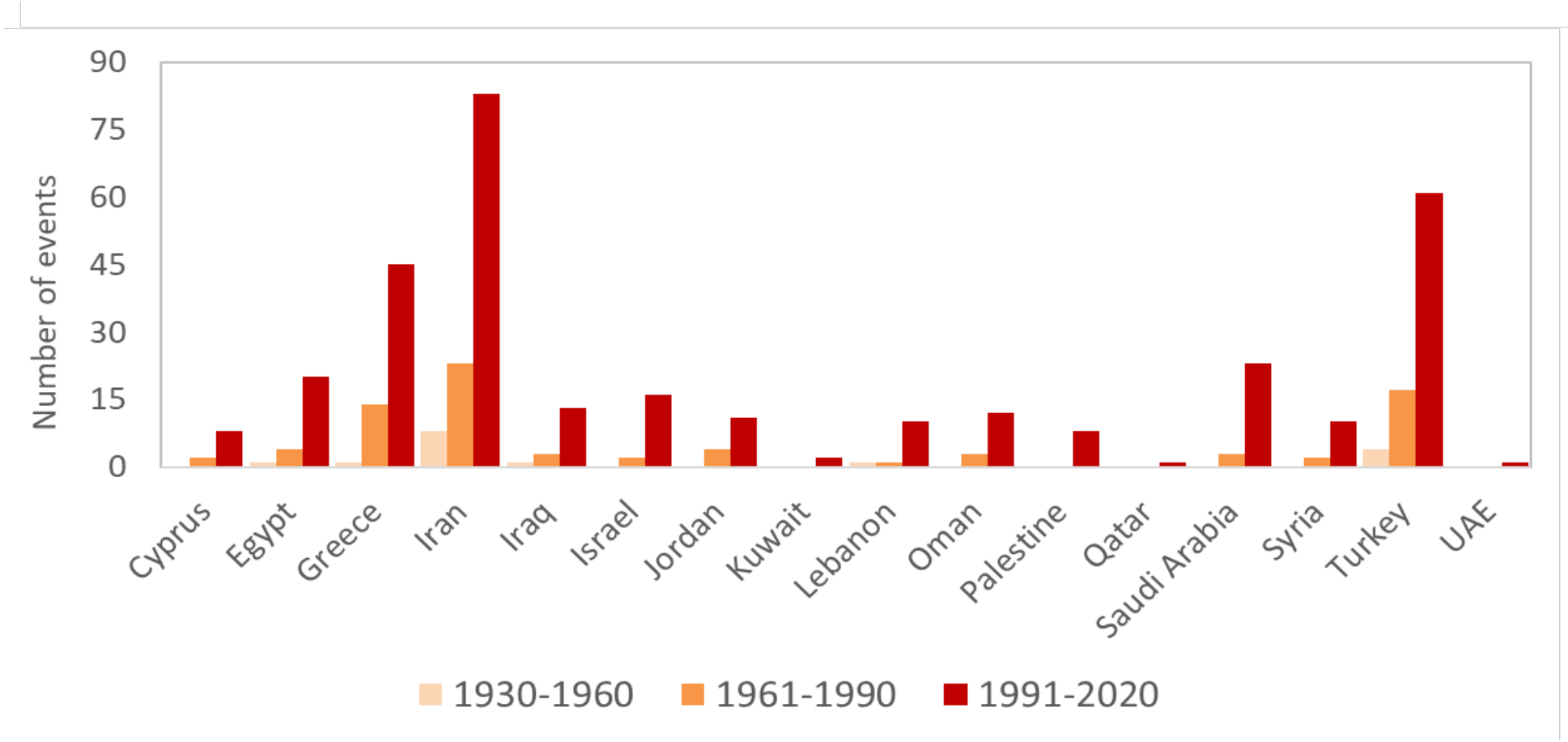
# Urban challenges and climate change



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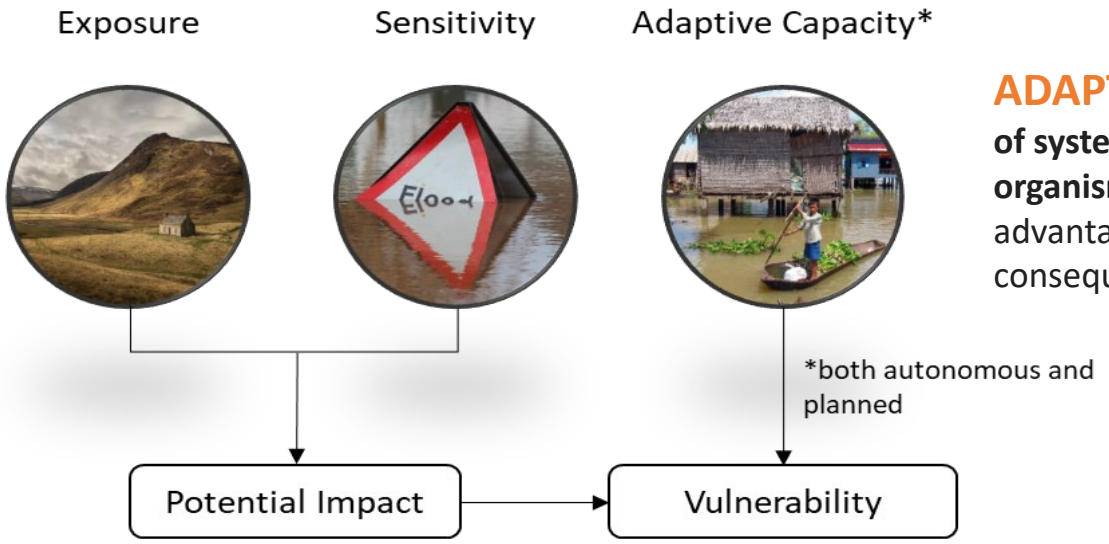
# IPCC terms relative to climate change

**EXPOSURE** is the **nature and degree to which a system is exposed** to significant climatic variations.

**SENSITIVITY** is the **degree to which a system is affected, either adversely or beneficially, by climate-related stimuli**. The effect may be **direct** (e.g., a change in crop yield in response to a change in the mean, range, or variability of temperature) or **indirect** (e.g., damages caused by an increase in the frequency of coastal flooding due to sea-level rise).




**ADAPTIVE CAPACITY** relates to the **capacity of systems, institutions, humans and other organisms to adjust to potential damage**, to take advantage of opportunities, or to respond to consequences.

**IMPACT** is the **consequences of climate change on natural and human systems.** Depending on the consideration of adaptation, one can distinguish between potential impacts and residual impacts.

**POTENTIAL IMPACTS**: All impacts that may occur given a projected change in climate without considering adaptation.

**RESIDUAL IMPACTS**: The impacts of climate change that would occur after adaptation.

**VULNERABILITY** is the **degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change**, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity.

IPCC Glossary



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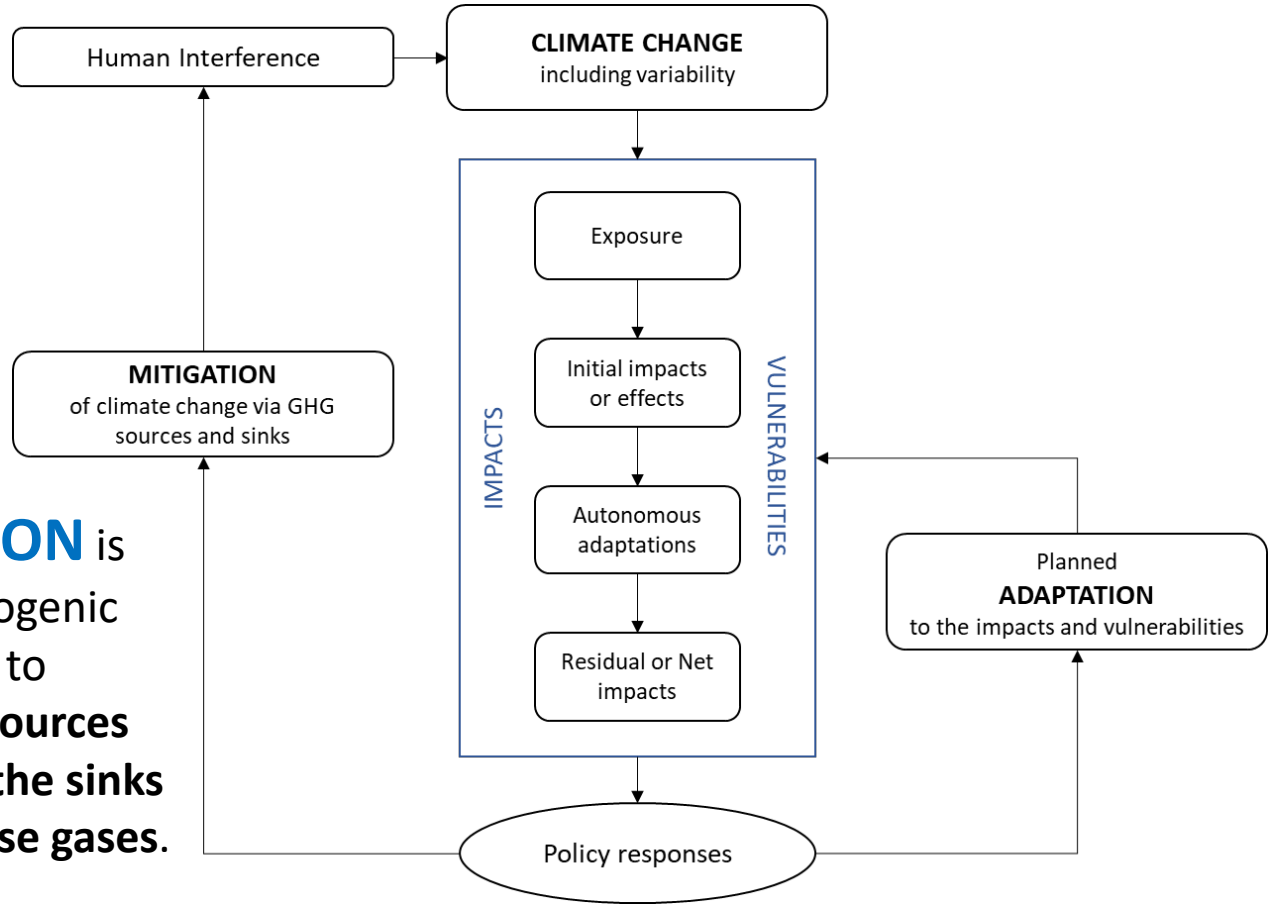
# Adaptation and mitigation




**MITIGATION** is any anthropogenic intervention to **reduce the sources or enhance the sinks of greenhouse gases**.

**ADAPTATION** to climate change refers to **adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities**. Various types of adaptation can be distinguished, including **anticipatory** and **reactive** adaptation, **private** and **public** adaptation, and **autonomous** and **planned** adaptation. Adaptation has the potential to reduce adverse effects of climate change and can often produce immediate ancillary benefits, but will not prevent all damages.



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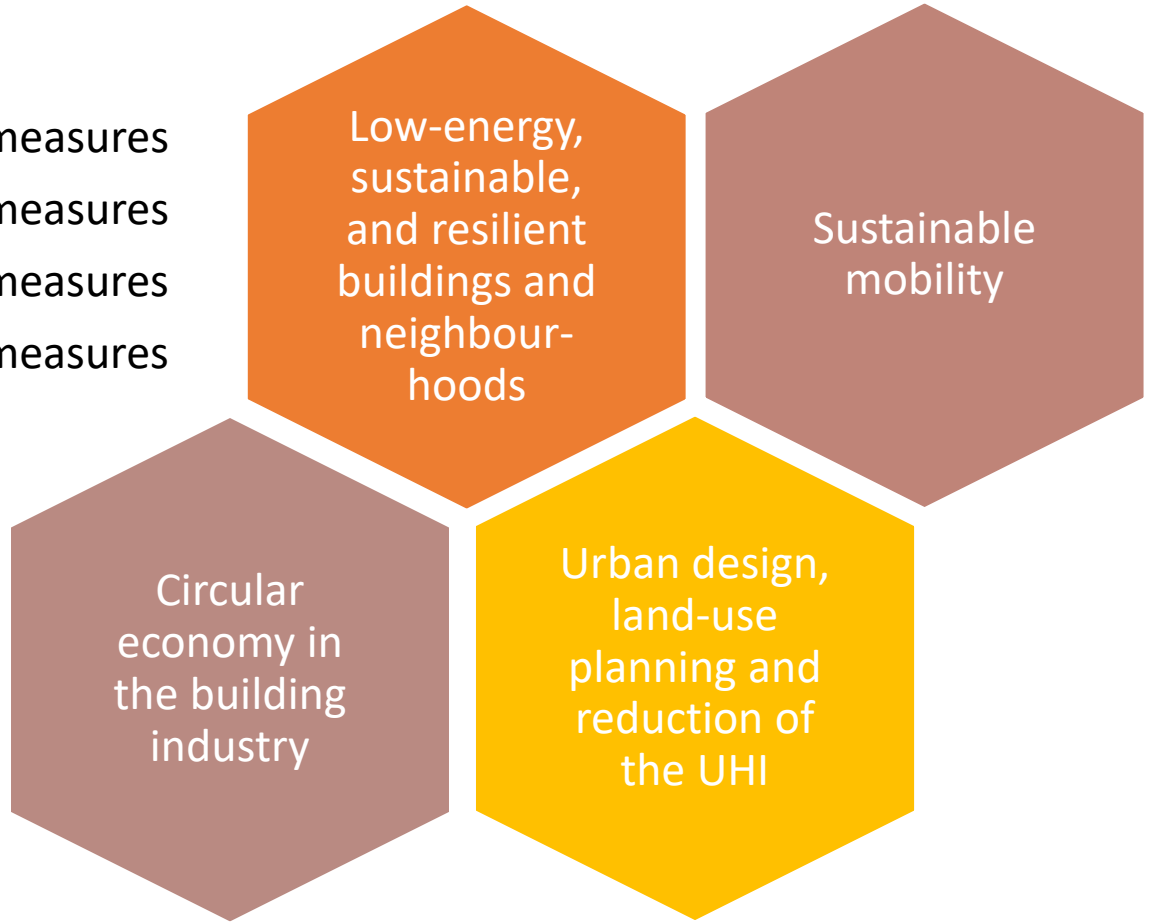
# Mitigation measures

- Energy conservation measures
  - Energy efficiency measures
  - Renewable energy measures
    - Smart control measures




- Modal shift, shared mobility, mobility services, traffic optimisation
- High-efficient, low-emission, smaller vehicles

- Material efficiency measures
- Low-carbon materials measures
  - Carbon capture measures



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# Adaptation measures


- Stakeholder engagement in urban adaptation
- Education and capacity building
- Health and livelihoods

- Resilient energy installations
- Water and wastewater adaptive management
- Pluvial and coastal flood protection
- Climate-proof transportation and infrastructure

- Emergency risk reduction
- Insurance
- Urban planning and zoning regulation
- Design guidelines

- Green roofs and walls
- Green spaces
- River restoration in urban areas



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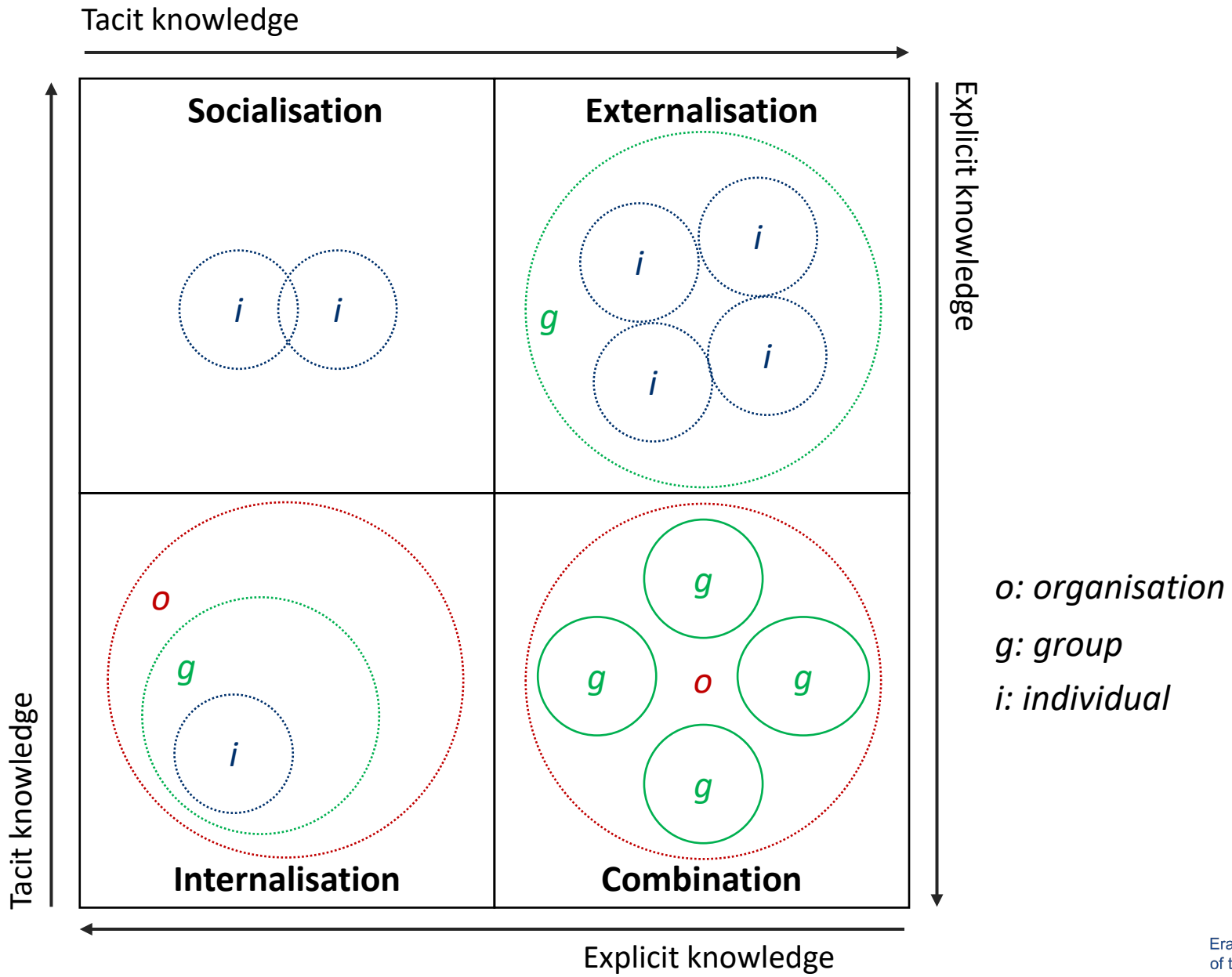
# Improving the learning experience: The SECI model




*o: organisation*

*g: group*

*i: individual*



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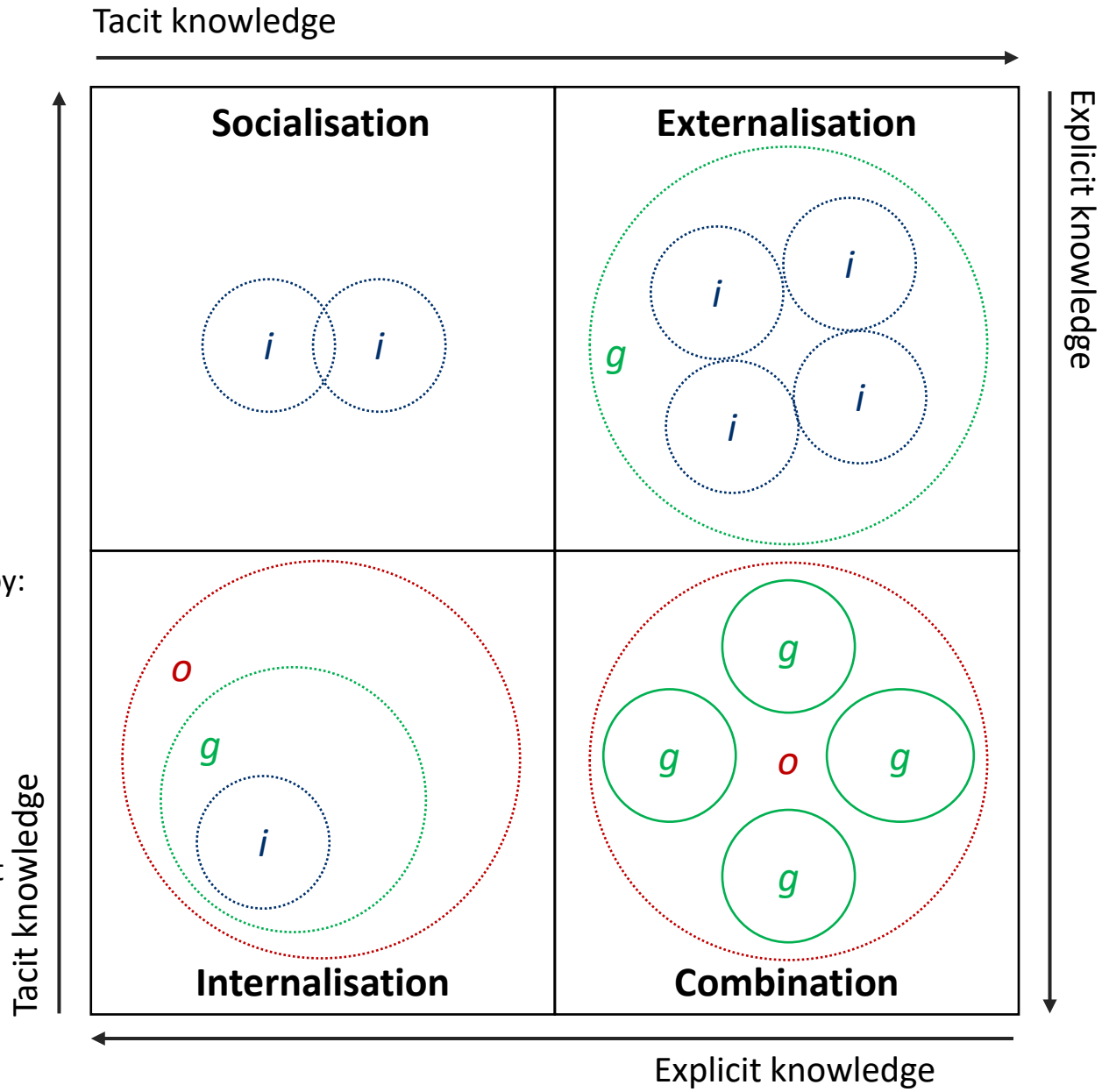
Students could **SOCIALISE** by:

- Forming focus groups and discuss collected information
- Considering interactive questions or what-if scenarios
- Learning about building standards and calculation tools for the analysis
- …

Students could **PREPARE THEMSELVES** by:

- Pre-reading documents (reports, papers, …)
- Pre-exploring supplementary material (maps, video, art, …)
- Identifying and following suitable MOOCs
- Administer questionnaires to target groups
- …




Students could **EXTERNALISE** by:

- Preparing and giving presentations to larger groups
- Pitching their solutions through the Pecha Kucha format
- Conduct tutorials
- …

Students could **COMBINE KNOWLEDGE** by:

- Preparing report on measures suitable to their own cities and neighbourhoods
- Creating short videos
- Designing and installing public art installations
- Designing and executing game-simulation events
- …



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# More ideas?



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