

# Interview Study on Climate Competencies

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# Background

## Motivation to study climate change competencies

Laura Riuttanen, Taina Ruuskanen, Mikko Äijälä & Anniina Lauri (2021)

Society needs experts with climate change competencies – what is the role of higher education in atmospheric and Earth system sciences?, Tellus B: Chemical and Physical Meteorology, 73:1, 1-14, DOI: 10.1080/16000889.2021.1917862

## Learning Of The Competencies Of Effective Climate Change Mitigation And Adaptation In The Education System (Climcomp)

Funded by the Academy of Science Finland 2021-2024.

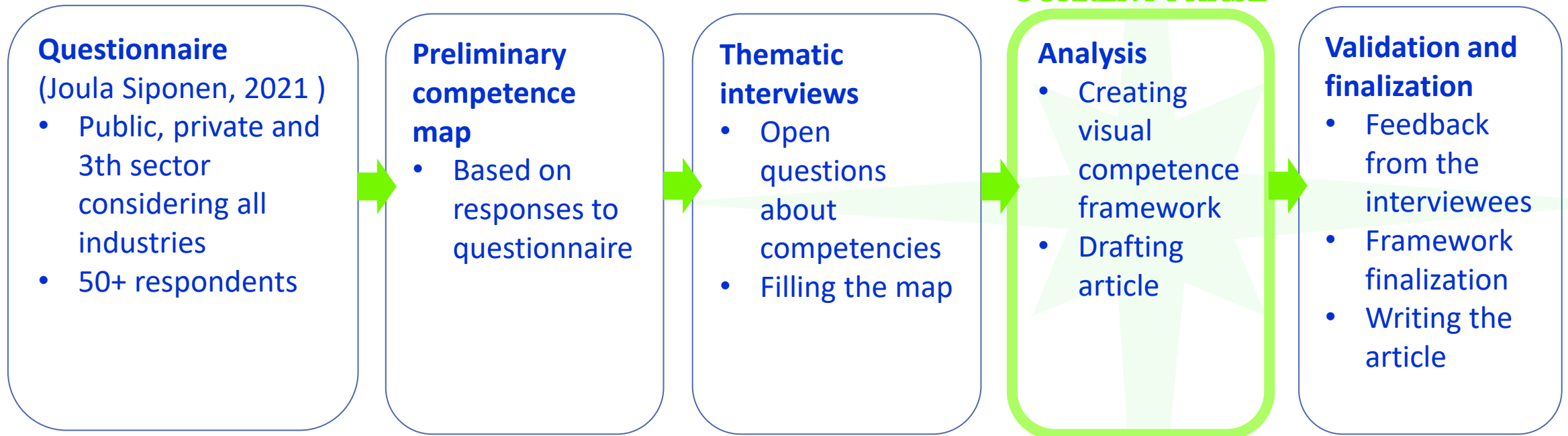
- In collaboration with atmospheric scientists, climate modellers, educational scientists and psychologists.
- What are the competencies and how they are learned and taught throughout the education system.
- Studying optimal learning moments in project-based learning, research-practice partnership as well as online learning environments among youth.
- Will propose systemic changes to the education system to better teach and learn the climate competencies and develop new tools for youth to learn climate change competencies.

## Dissertation on climate change competencies and leadership

Funded by the Finnish Cultural Foundation 2022-2023.

# **Which competencies (knowledge, skills, attitudes, values) are needed for climate change mitigation and adaptation in Finland?**

# Process



# Interviews

## 22 thematic interviews in june 2022

### Participants

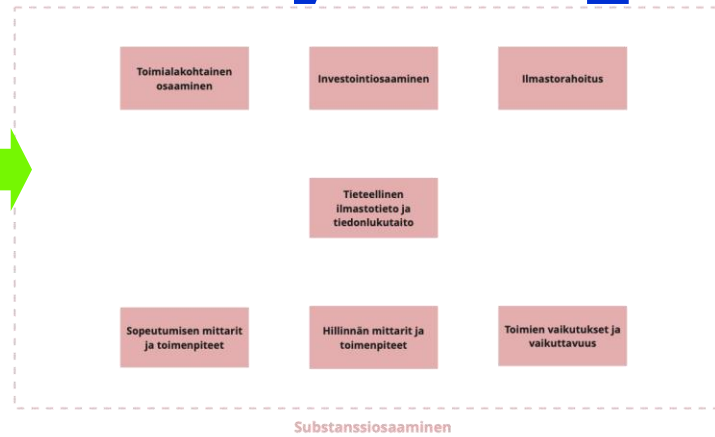
- 2 interviewers, mostly 1 interviewee, couple with 2 interviewees
- Replied to the questionnaire
- Climate experts or leaders (e.g. *Environmental manager, Corporate responsibility manager, Climate expert, ...*) in organisations from public, private as well as third sector

### Structure

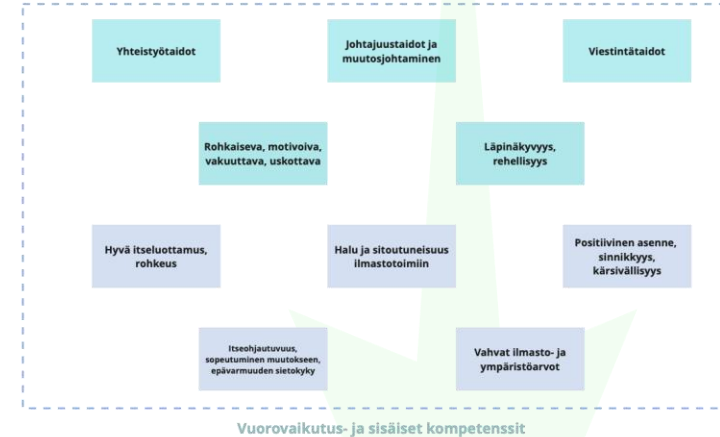
- One hour, semi-structured interview
- **1. part:** Open questions based on questionnaire
- **2. part:** Showing the preliminary map, asking to add things, asking comments to existing things, most important and least important.

# Preliminary map

Industry specific  
+  
Technical climate change  
mitigation and adaptation  
know-how



Joula Siponen ja Marianne Santala — Work in progress

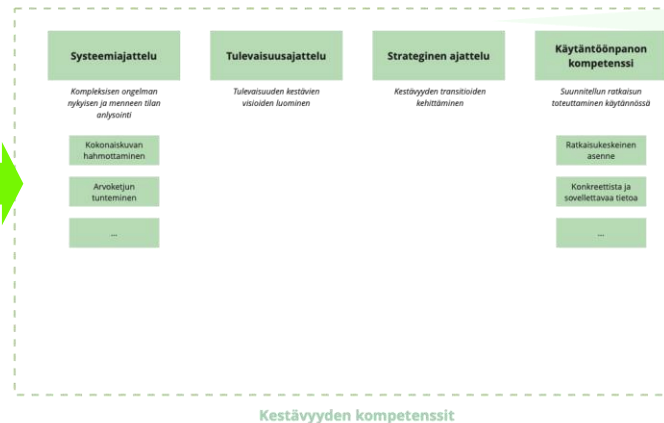


Interaction  
+  
Socio-emotional  
skills

## "Sustainability Competencies"

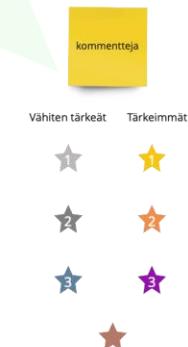
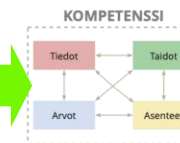
(Wiek et al. 2011, Brundiers et al. 2021)

- Systems-thinking
- Futures-thinking
- Strategic-thinking
- Implementation



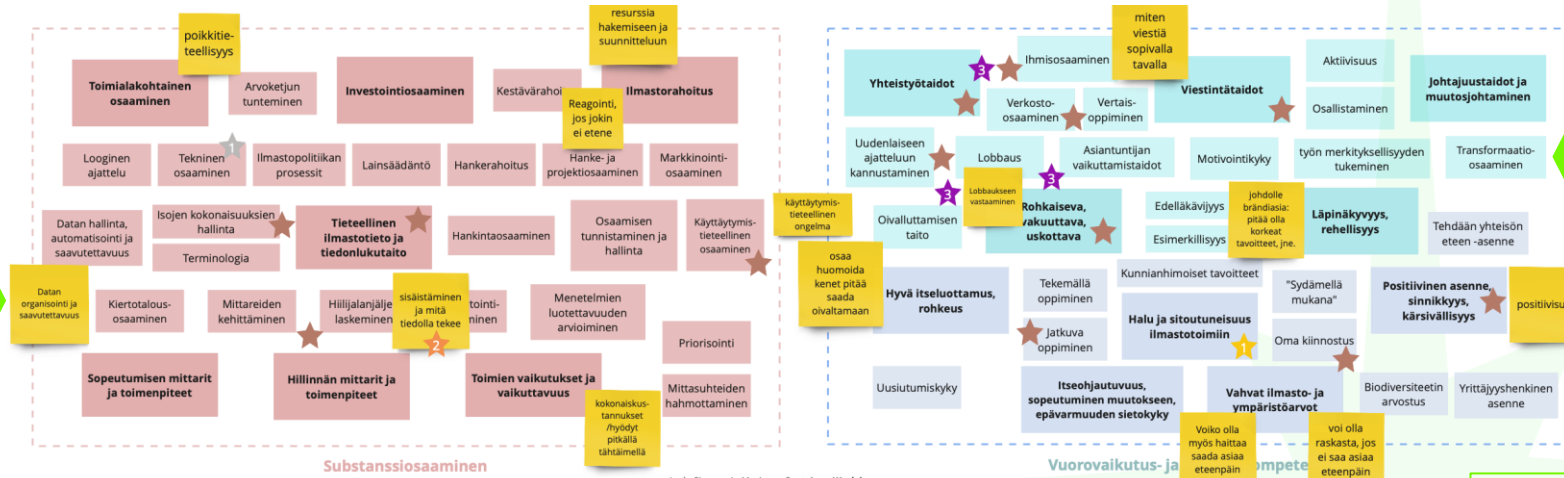
## Definition of Competency

- Knowledge
- Skills
- Values
- Attitudes

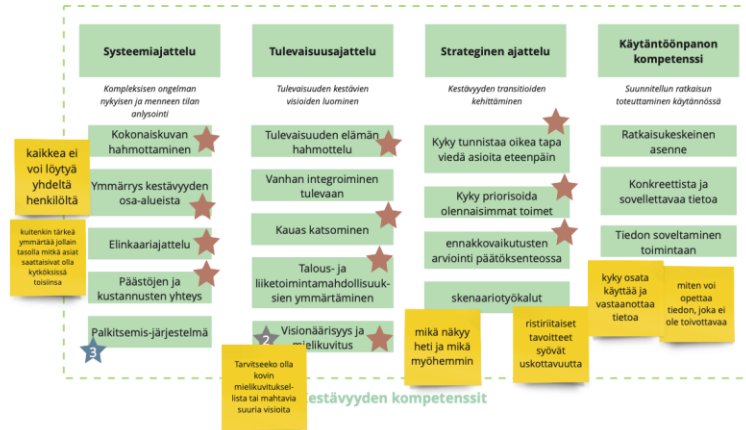


# Map development during interviews

Yellow notes written during the interview



Map filled based on the notes before the next interview



Discussion topics of the first part (brown star)

Least important

Most important

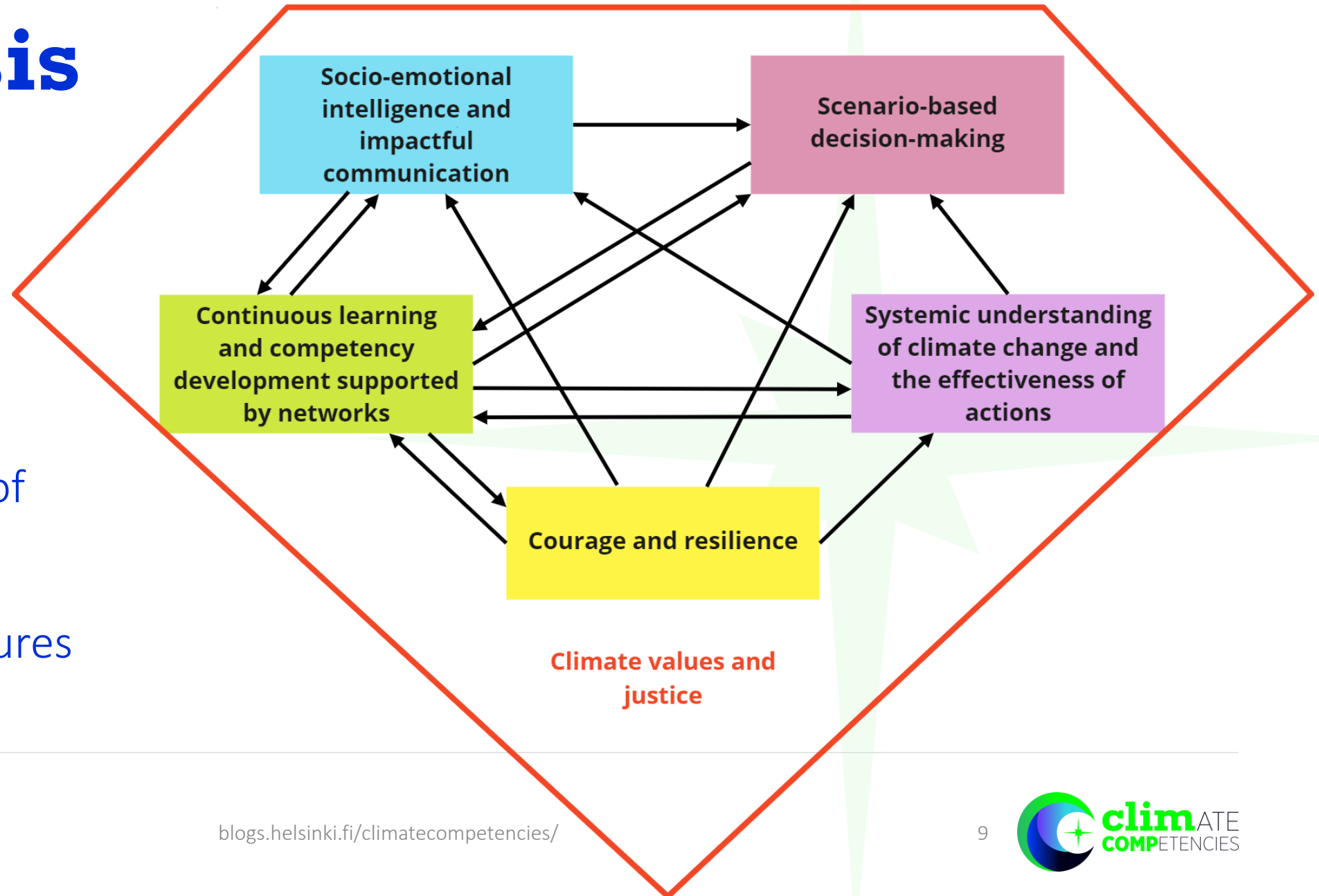
# Analysis: Five competencies

| Socio-emotional intelligence and impactful communication  | Scenario-based decision-making   | Continuous learning and competency development supported by networks   | Systemic understanding of climate change and the effectiveness of actions   | Courage and resilience   |
|---|--|--|---|--|
| Ability to understand people and being able to motivate and convince others to take action based on scientific, transparent, yet emotionally appealing interaction. | Ability to develop and implement innovative strategy based on future climate scenarios | Ability to constantly update ones knowledge and competencies utilising peer-learning and good literacy skills, as well as to promote collective competence via networks. | Ability to understand the effects of climate change on natural and societal systems, and assess appropriate methods of mitigation and adaptation in a specific context. | Inner resilience and ability to withstand uncertainty, while having open mind and courage to drive transition. |
| Climate values and justice  |  |  |   |  |

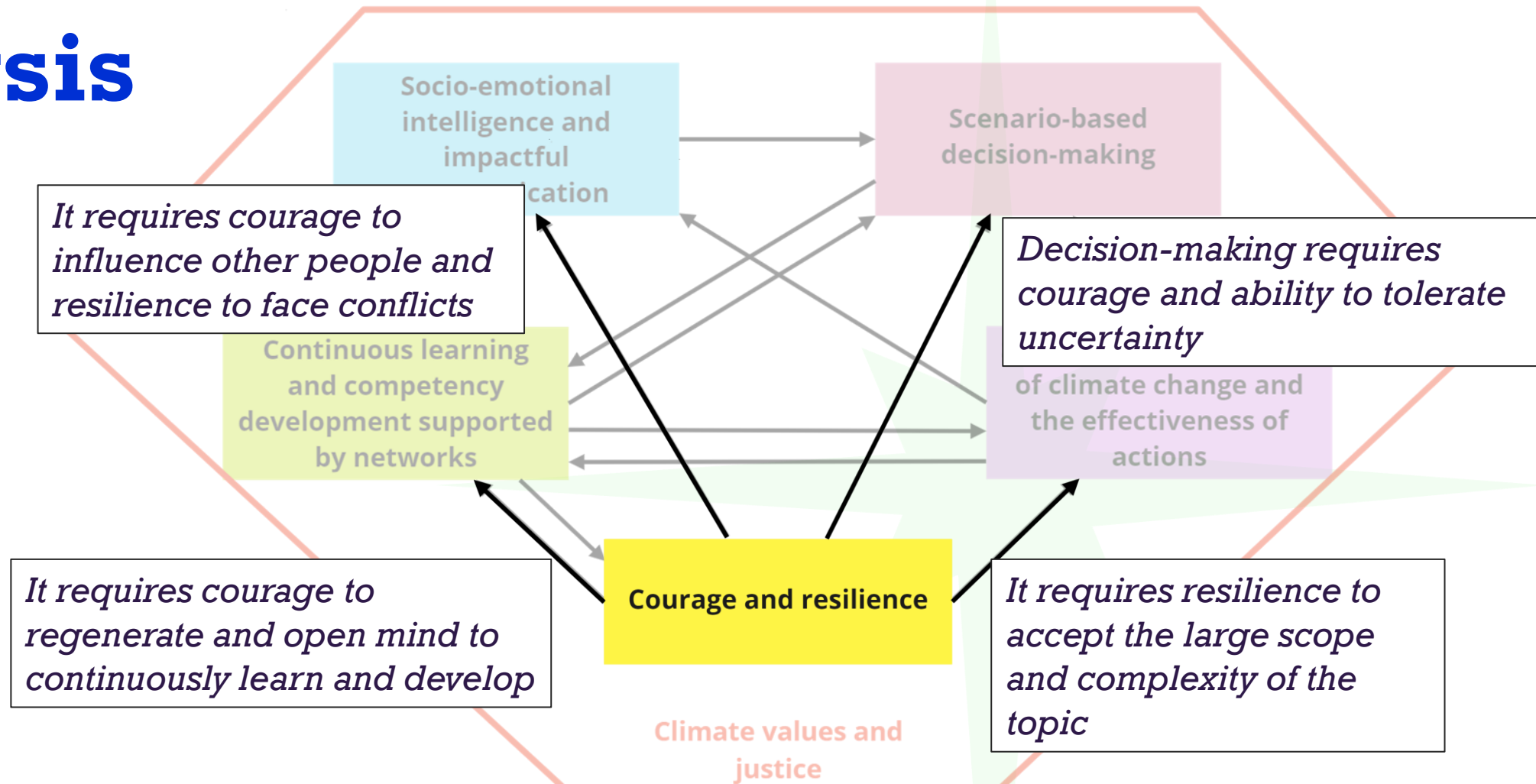


# Analysis

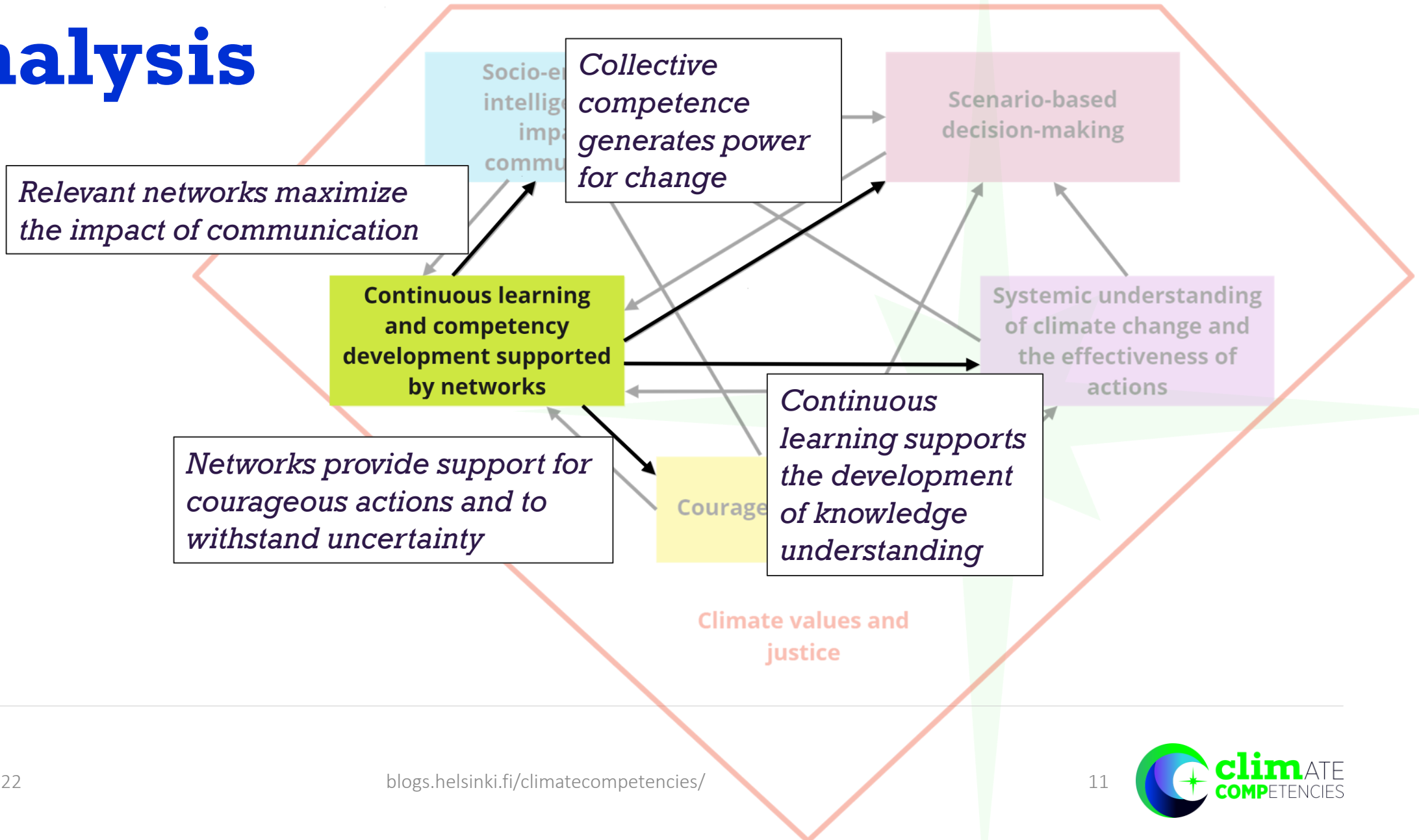
Climate competencies together support implementation of climate change mitigation and adaptation measures and projects.



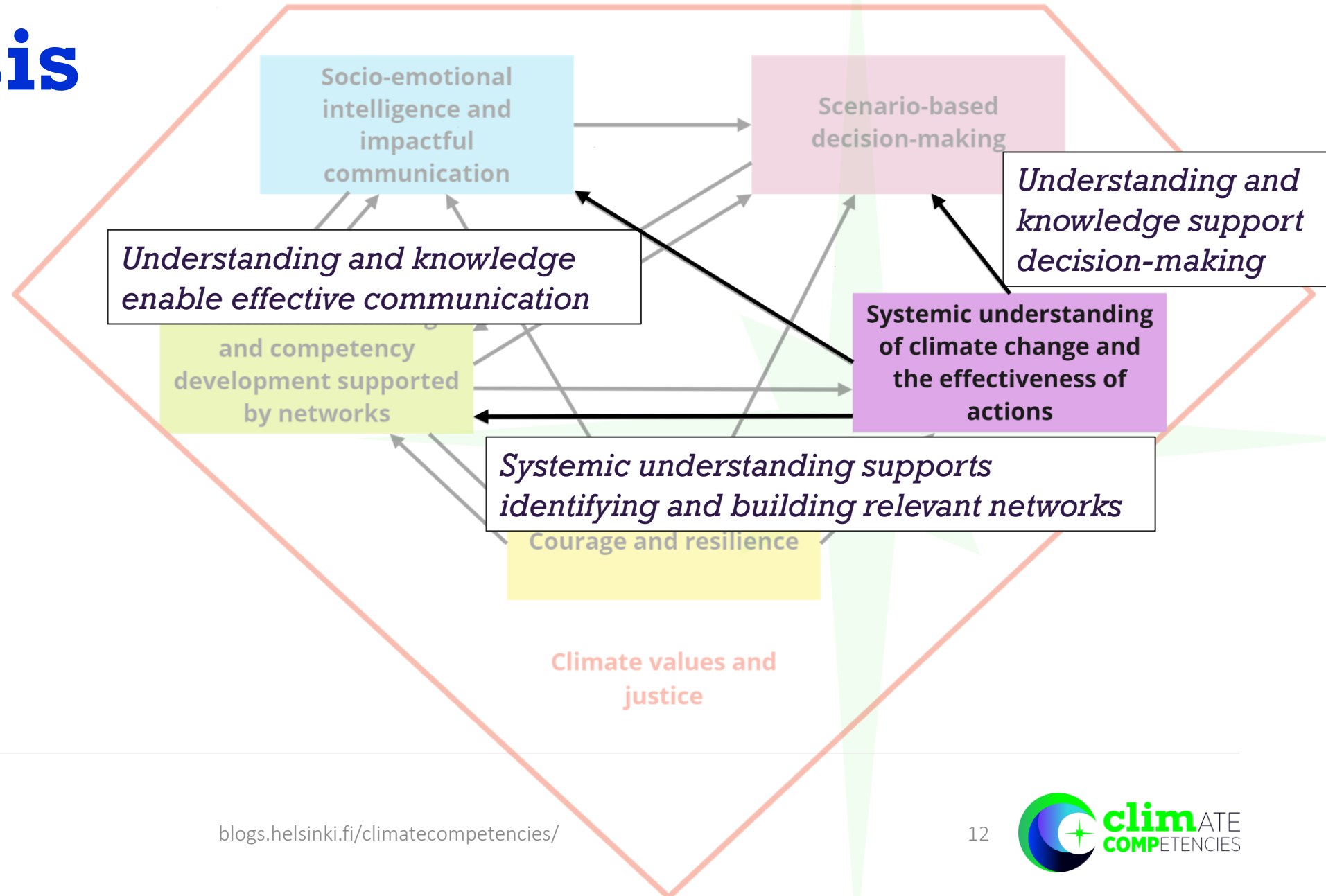
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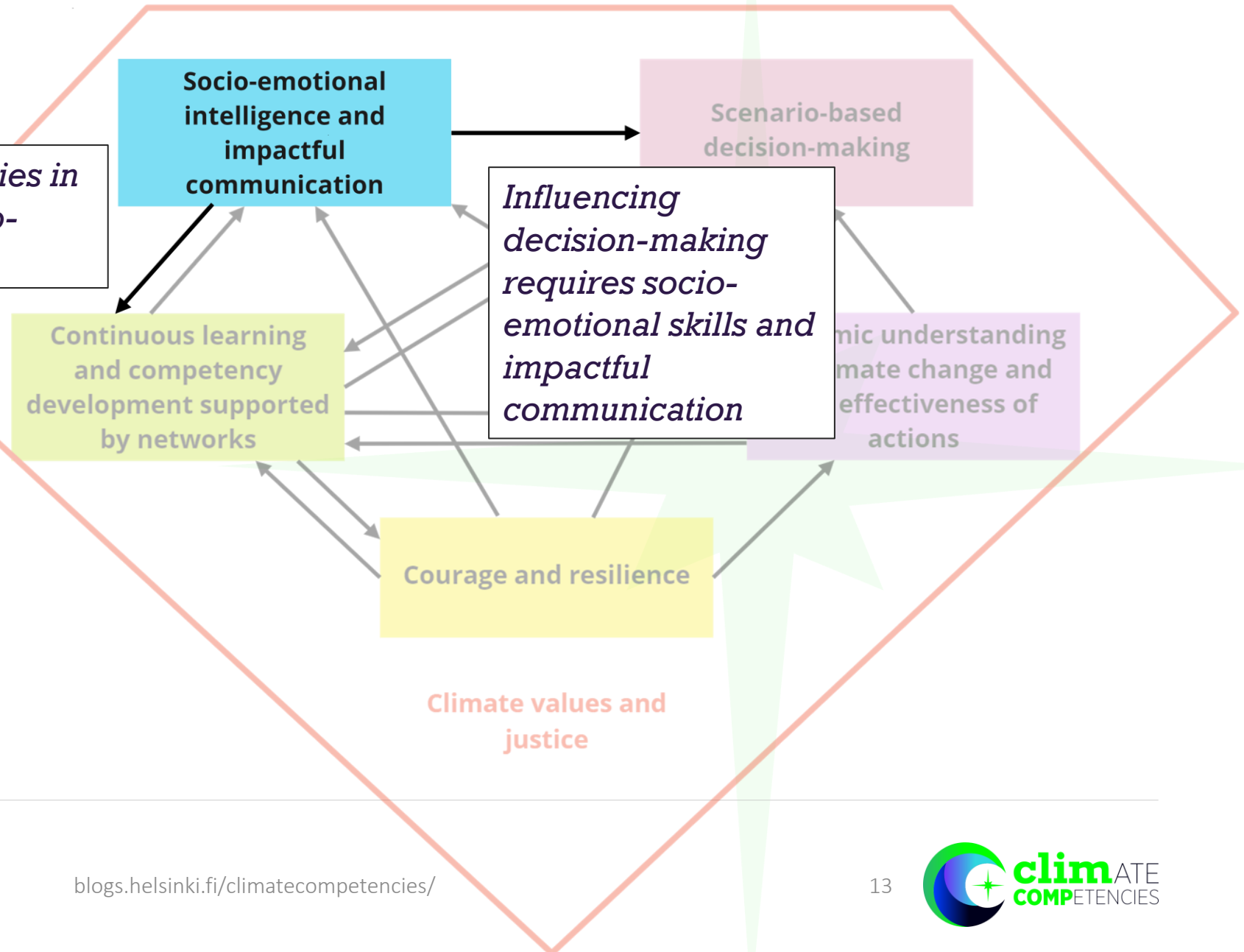


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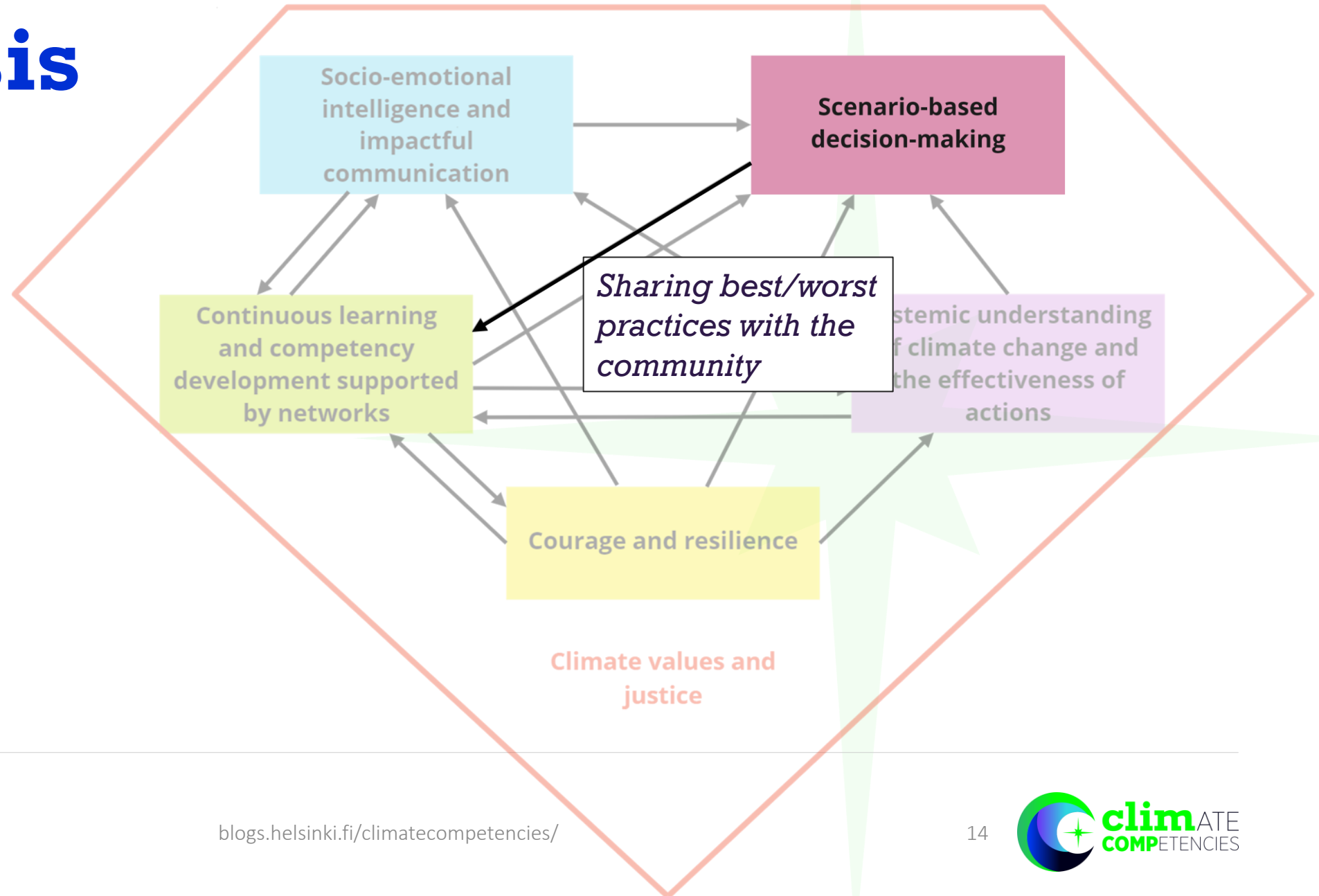


# Analysis

*Developing competencies in networks requires socio-emotional skills*

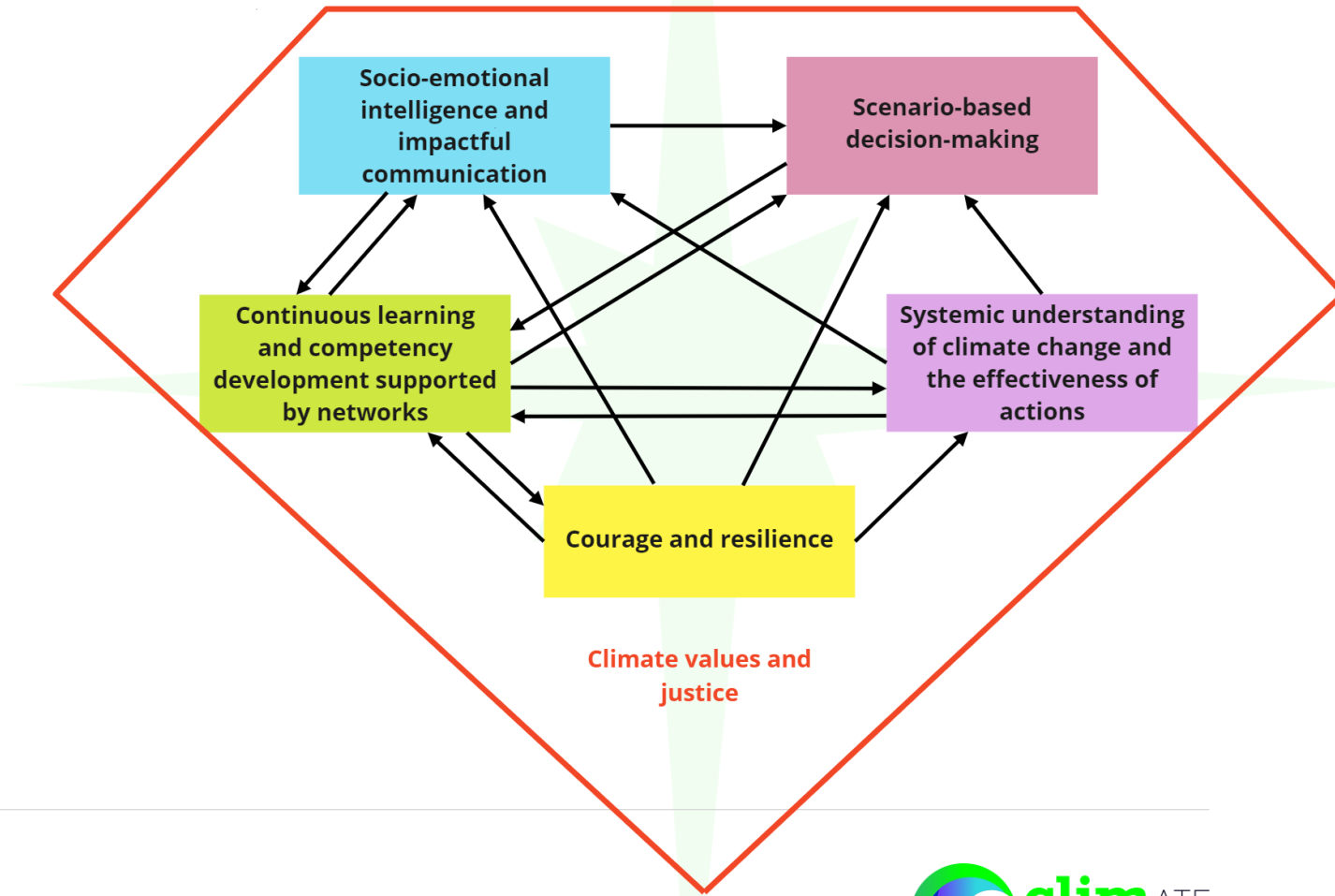


# Analysis



# Application of the competencies

- Higher education
- Inservice training
- Individual and organizational levels
  - Competence management in the organization
  - Recognition of your own competencies



# Article coming next year

Siponen, Santala, et al. (2023) *What Are Climate Change Competencies? — Views From Climate Experts In The Field*



# Thank you!