Environmental Education and
Nature interpretation in the Nordics
10.4.2024 Finland

GREENCOMP,
NATURE INTERPRETATION AND ENVIRONMENTAL EDUCATION

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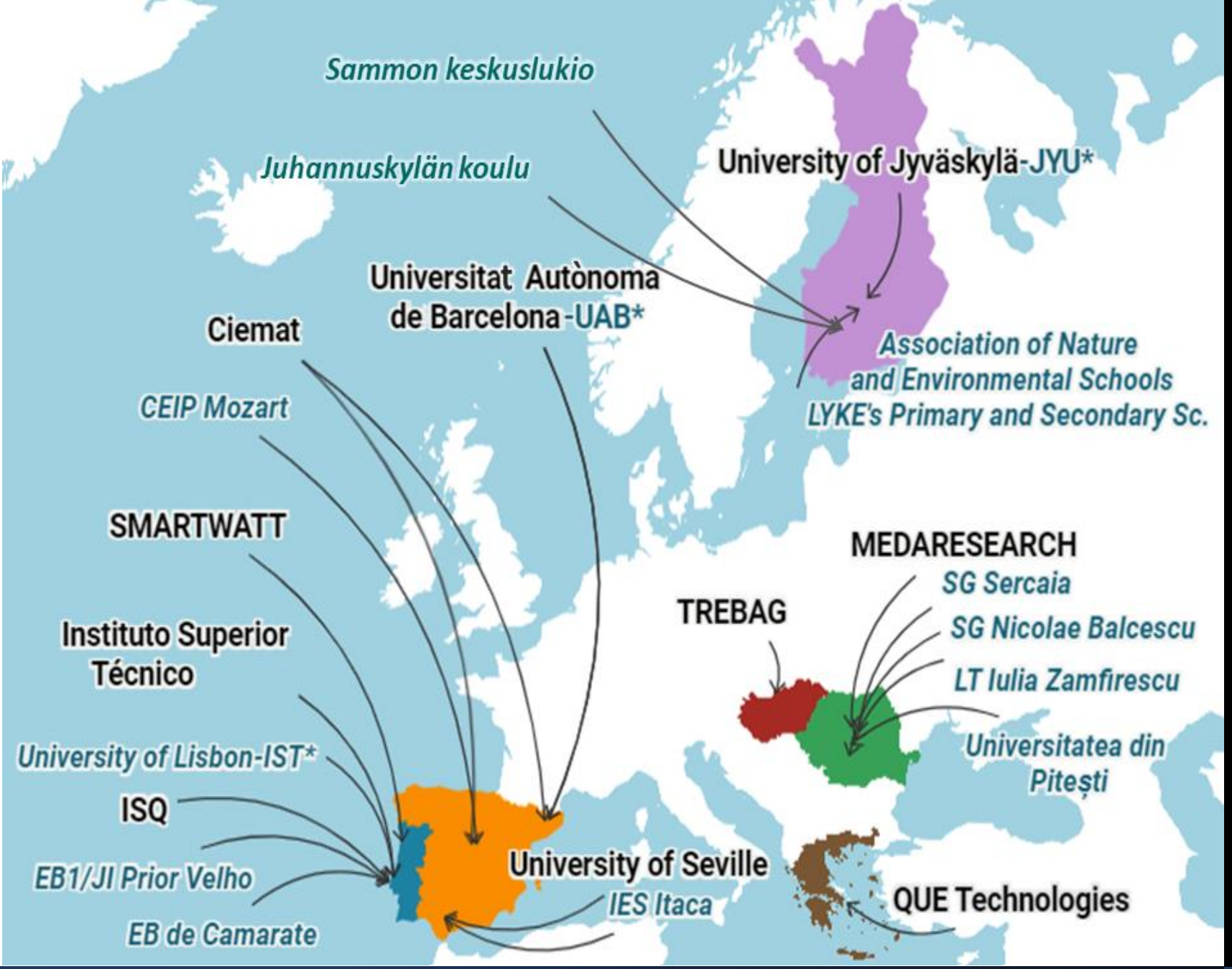

ECF4CLIM

1.10.2021 – 31.12.2025

Green Deal Horizon 2020

Climate change mitigation and sustainability in education

Competences!

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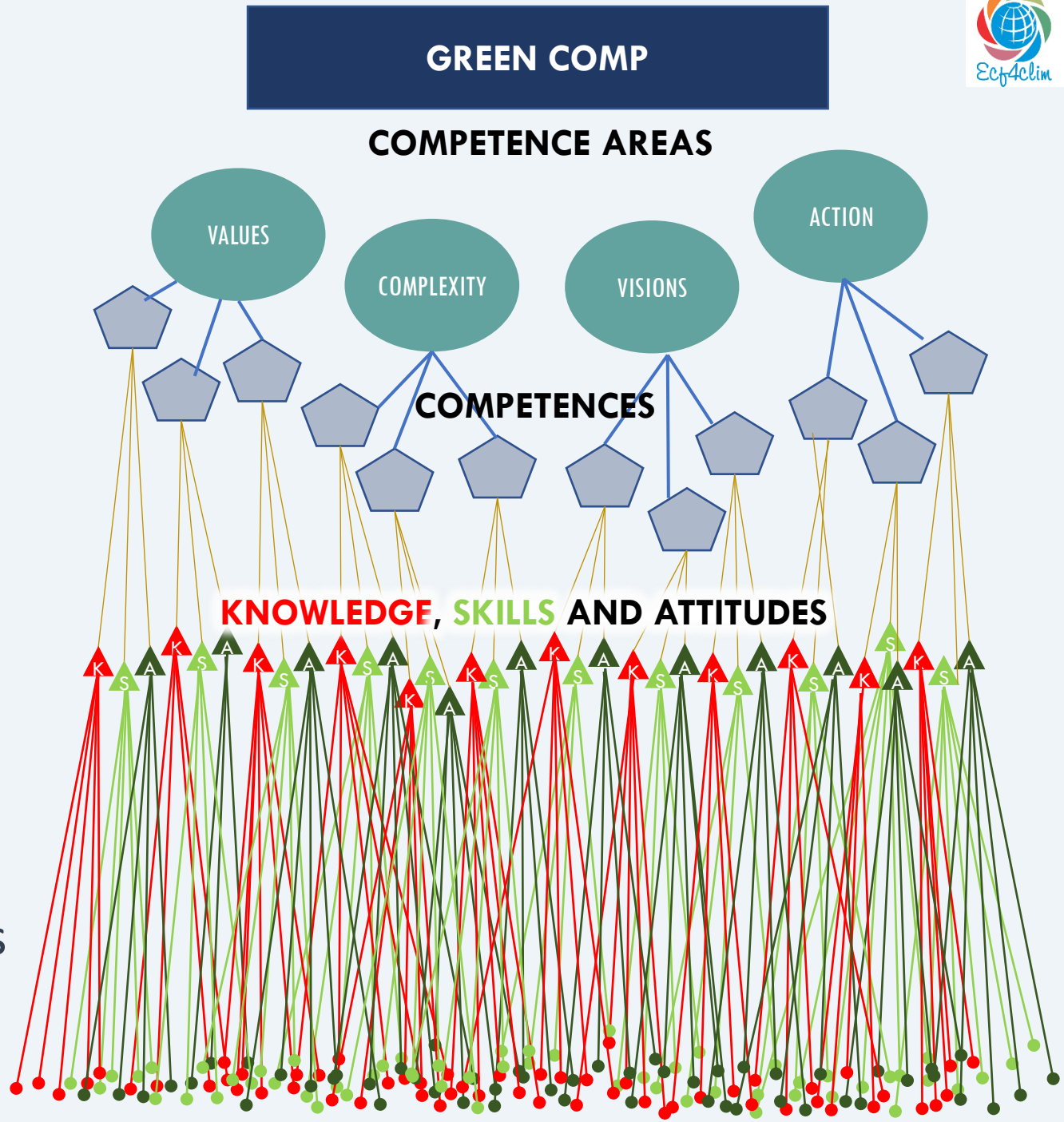
A EUROPEAN COMPETENCE FRAMEWORK FOR A LOW CARBON ECONOMY AND SUSTAINABILITY THROUGH EDUCATION

GreenComp

- Describes what are sustainable development and sustainability competences -knowledge, skills and attitudes
- Part of the policy actions by EU (Green Deal), based on research and discussions of stakeholders

https://data.europa.eu/doi/10.2760/13286



GreenComp

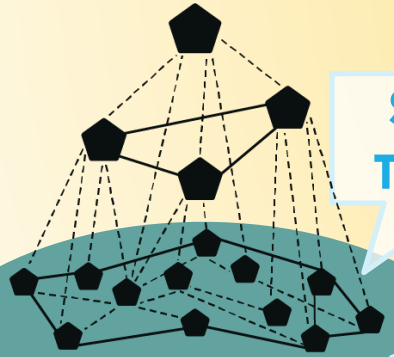
The European sustainability competence framework

EMBODYING SUSTAINABILITY VALUES

- VALUING SUSTAINABILITY
- SUPPORTING FAIRNESS
- PROMOTING NATURE

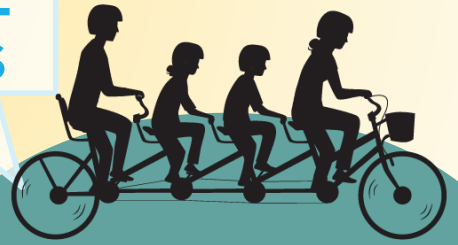
ENVISIONING SUSTAINABLE FUTURES

- FUTURES LITERACY
- ADAPTABILITY
- EXPLORATORY THINKING



EMBRACING COMPLEXITY

- SYSTEMS THINKING
- CRITICAL THINKING
- PROBLEM FRAMING



ACTING FOR SUSTAINABILITY

- INDIVIDUAL INITIATIVES
- COLLECTIVE ACTION
- POLITICAL AGENCY

Each competence has 4-6 specifying statements

This page is an example about Systems thinking

- Knows the main concepts and aspects of complex systems and their implications for sustainability.
- Can assess how humans and nature interact across space and time.
- Cares about systemic consequences of environmental crises for current and future generations and for other species.

INITIAL LIST OF EXAMPLES
LIVING DOCUMENT

Embracing complexity in sustainability		
2.1 **Systems thinking**	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.	
KSA		*Statements*
Knowledge	1	Knows that every human action has environmental, social, cultural and economic impacts.
	2	Knows that human action influences outcomes across time and space, leading to positive, neutral or negative results.
	3	Knows about life cycle thinking and its relevance for sustainable production and consumption.
	4	Knows the main concepts and aspects of complex systems (synthesis, emergence, interconnectedness, feedback loops and cascade effects) and their implications for sustainability.
	5	Knows the United Nations SDGs and is aware of interconnections and possible tensions between individual goals.
Skills	1	Can describe sustainability as a holistic concept that includes environmental, economic, social, and cultural issues.
	2	Can assess interactions between environmental, economic, social, and cultural aspects of sustainability action, events and crises (e.g. migration caused by climate change or wars caused by resource scarcity).
	3	Can assess how humans and nature interact across space and time.
	4	Can use life cycle thinking to analyse the risks and benefits of human action.
	5	Can identify in a system those challenges and opportunities that have the greatest potential to trigger change for sustainability.
Attitudes	1	Acknowledges the root causes of unsustainability for which humans are responsible, such as climate change.
	2	Has a holistic grasp of connections and interactions between natural events and human actions.
	3	Is concerned about the short- and long-term impacts of personal actions on others and the planet.
	4	Cares about systemic consequences of environmental crises for current and future generations and for other species.
	5	Is concerned about unpredictable cascade effects of human action.

Promoting nature

Descriptor (1.3): *To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.*

Promoting nature is about developing empathy towards the planet and showing care for other species. This requires knowledge about the main parts of the natural environment (geosphere, biosphere, hydrosphere, cryosphere and atmosphere) and the close links and interdependence between living organisms and non-living components. Knowledge about natural phenomena can spur us on to more closely connect with nature, which in turn can motivate further learning for sustainability.

Promoting nature fosters a healthy relationship with the natural environment and aims to ignite in people a feeling of connectedness that can help contrast the psychological distress and negative emotions that children and young people worldwide experience because of climate change and can help improve their mood and mental health.

The 'nature deficit disorder' conveys the human costs of alienation from nature: i) decreased use of the senses, ii) attention difficulties, iii) higher rates of physical and emotional illnesses, iv) a rising rate of myopia, v) increased child and adult obesity, and vi) increased vitamin D deficiency. Research indicates that to overcome the 'nature deficit disorder' not only do we need to be in contact with nature, but we also need to feel connected to nature. While the former involves physical interaction with the natural environment mainly at surface level, the latter concerns our feelings and views resulting from meaningful relationships being developed and the internalisation of our experiences in the natural environment, e.g. with animals, plants or places. Such internalisation can, in the long term, promote restoration of nature.

Embodying sustainability values

Valuing sustainability
personal values; variation of values; reflecting on sustainability values

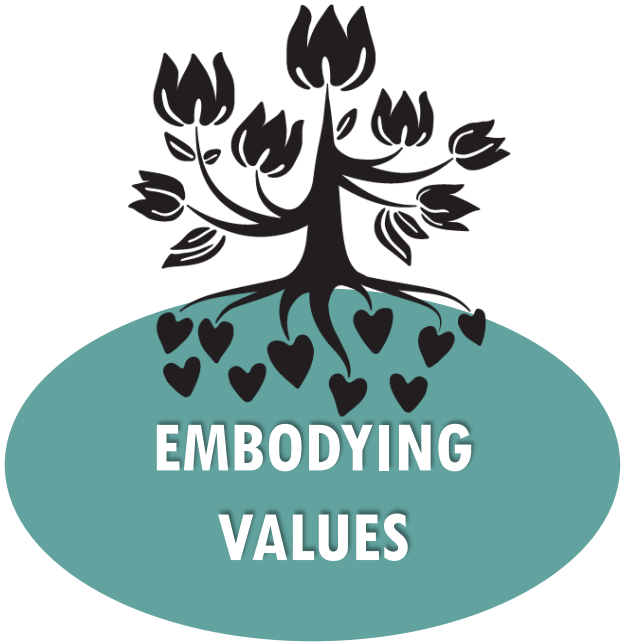
- Values, worldview and cultural awareness (Essi)
- A strong relation with sustainable way of life (Sanna)
- Importance of environmental issues (Essi)

Supporting fairness
equity and justice; future generations; interests of other species and ecosystems

- Anthropocentrism and ecocentrism (Ulla)
- Different viewpoints to nature interpretation (Ulla, Leena)

Promoting nature
humans as part of nature; other species, nature and ecosystems; restoring nature

- Relation and connection with nature (Ulla, Sanna)
- Outdoor learning (Essi, Sanna, Anna)
- Tools related to nature: Nature Excursion Machine (Sanna), Cards (Anna)
- Biodiversity and the need and means to protect it (Maria, Leena, Anna)



ENGAGEMENT

Why and how to promote sustainability?

HOW TO MOTIVATE AND ACTIVATE?

PARTICIPATORY APPROACH

WHY WE MUST ACT?

SUSTAINABILITY KNOWLEDGE

RESPECT DIFFERENT PERSPECTIVES

INCLUSIVE VALUE REFLECTION AND DIALOGUE

EMBODYING SUSTAINABILITY VALUES

Embracing complexity in sustainability

Systems thinking
all sides of sustainability; context; interaction between systems, interconnectedness

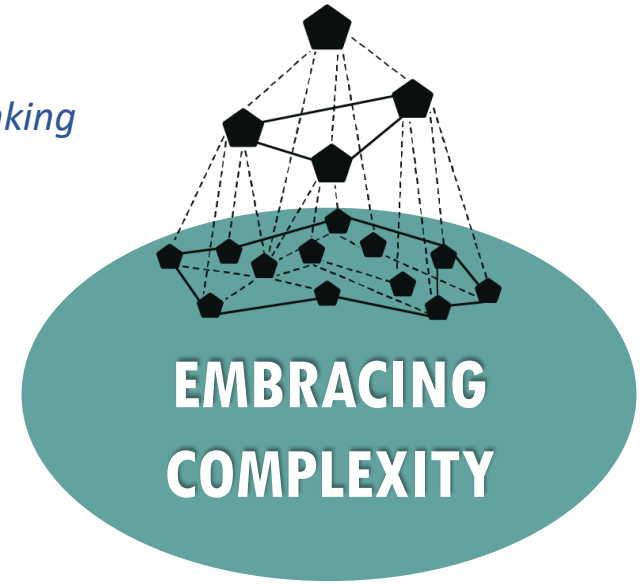
- Systems thinking (Ulla, Sanna), the big picture and connections (Maria)
- Ecological sustainability integrated in all school subjects, interdisciplinarity (Essi)
- Networking and cooperation (Sanna, Anna)
- Environmentally competent learning community (Elina, Anna)

Critical thinking
identifying assumptions; challenging the status quo; reflecting on how backgrounds influence thinking

- Multiple perspectives (Ulla, Maria)
- How human caused changes affect biodiversity (Maria)

Problem framing
identifying suitable approaches; considering all life forms to frame challenges

- A common understanding of what Nature Interpretation is (Leena, Ulla)
- Connection between species and habitats (Maria)
- Complexity of the problem (Essi)



EMBRACING COMPLEXITY

CONNECTIONS
How to frame the problem?

IT IS SO COMPLICATED!
COMPLEXITY AND ROOT CAUSES

WHY DO WE THINK AS WE THINK?
UNDERLYING ASSUMPTIONS

FOOTPRINT AND HANDPRINT
CURRENT STATE OF PRACTICE

Envisioning sustainable futures

Futures literacy
alternative sustainable futures and scenarios; identifying the needed steps

- Focus on strategies and solutions instead of problems (Essi)
- Building a sustainable future (Sanna)

Adaptability
managing transitions and challenges; decisions in uncertainty; the emotional impact of environmental crisis

- Worried children and young people - and their teachers (Essi)
- Nature and wellbeing (Elina, Maria, Anna)
- Personal wellbeing: Tiredness (Essi)
- Making change (Anna)

Exploratory thinking
linking different disciplines; creativity and experimentation

- Cooperation between actors, including researchers (Sanna, Anna)
- Creativity (Maria), creative methods (Anna)

VISIONS
What are the possible futures in our context?

ENVISIONING FUTURES

FUTURE IS IN OUR HANDS
ENVISIONING LIKELY AND PREFERRED FUTURES AND SHORT-TERM SCENARIOS

MAKING A CHANGE IS NOT EASY
EMOTIONAL, COGNITIVE AND BEHAVIORAL ADAPTABILITY

THINKING OUT OF THE BOX!
EXPLORATION THROUGH CREATIVE AND RELATIONAL KNOWING

Acting for sustainability

Political agency
identifying political responsibility; demanding effective policies

- Young people are interested in getting involved in climate action (Essi)
- Resources for environmental education (Elina) and time (Essi)

Collective action
acting for change with others

- Nature Excursion Machine (Sanna)
- Working together (Maria)
- Participation (Anna)

Individual initiative
own potential, active contributing

- Connected to learners' own lives (Essi)
- Means of nature protection (Maria)
- Empowerment (Anna)
- Responsibility (Essi)

ACTION
How to proceed?

PLACES FOR SUSTAINABLE ACTIVITY

STRUCTURES FOR CHANGE

WELL PLANNED IS HALF DONE

ACTION PLAN

MONEY, TIME AND WELLBEING ENABLE ACTIVITY

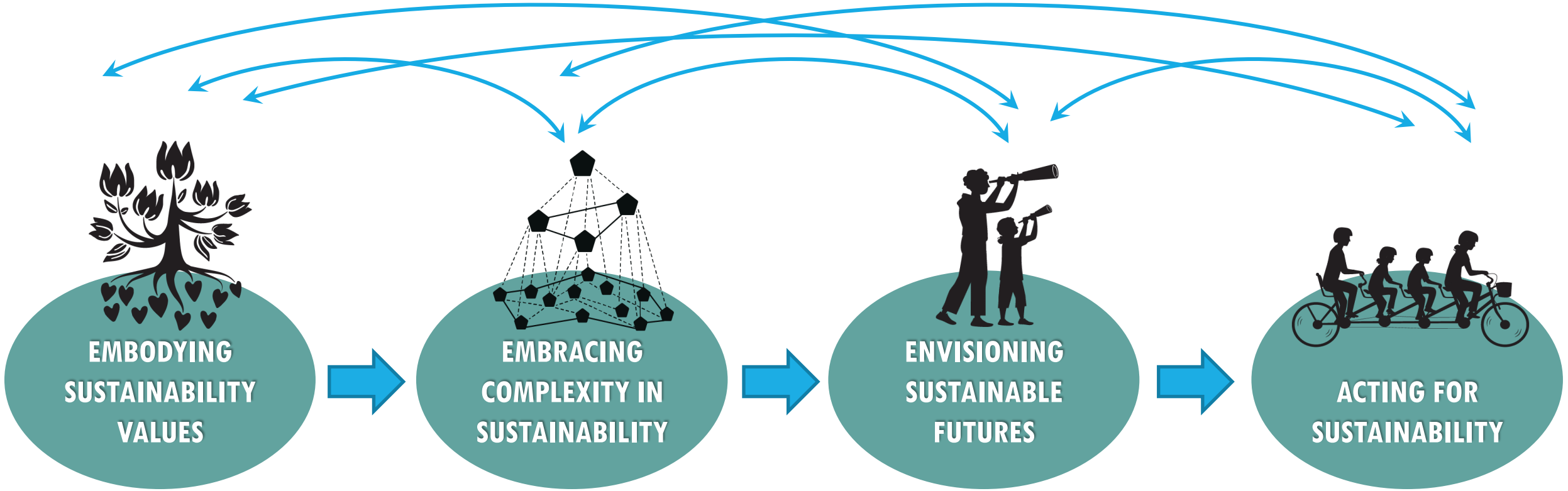
RESOURCES

ACTING FOR SUSTAINABILITY

ROADMAP FOR SUSTAINABILITY EDUCATION

DRAFT: https://mappa.fi/en/greencomp-roadmap/

Ecf4clim



ENGAGEMENT

Why and how to promote sustainability?

CONNECTIONS

How to frame the problem?

VISIONS

What are the possible futures in our context?

ACTION

How to proceed?

Heikkinen, Nokkala, Lehtonen & Mykrä (2022) Based on GreenComp: The European sustainability competence framework (Bianchi, Pisiotis & Cabrera Giraldez 2022)

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PROMOTING SUSTAINABILITY IN EDUCATION

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