ECF4CLIM Project

European Union's Horizon 2020

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ECF4CLIM

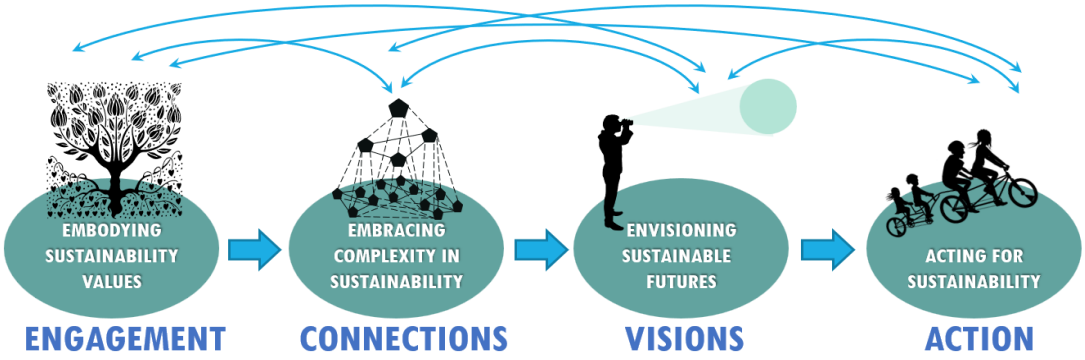
A European Competence Framework for a Low Carbon Economy and Sustainability Through Education

Newsletter 2

Working with our demonstration sites, schools, and universities

Our mission: *Preparing and Testing a European Competence Framework (ECF) for sustainability*

Our approach: *multiple participatory methods such as crowdsourcing, expert opinion, engaging students, teachers and administrative staff from our demonstration sites, involving educational and local communities to define, test and validate the ECF*



The development of the ECF4CLIM roadmap

The initial ECF is structured as a roadmap for sustainability education. The ECF4CLIM roadmap promotes applicable understanding on how to move from sustainability competence lists to everyday life of implementing competences at schools and universities in different educational contexts. Additionally, it provides knowledge on how to foster sustainability competences in the best possible ways. Therefore, it helps to overcome complex challenges, barriers and promote enablers of promoting sustainability in education. The roadmap draws from the results of the ECF4CLIM crowdsourcing process, document analysis, and literature review. It is based on and further develops the sustainability competences outlined in the European Union's sustainability competence framework GreenComp.

The ECF4CLIM roadmap comprises four steps. The first step engages the community in promoting sustainability. It includes strengthening people's understanding of sustainability and human dependence on wellbeing of ecosystems. It strives to foster a collective will-formation process that considers different stakeholders' needs, values, and perspectives. The second step deepens people's understanding of the connections and complexity of sustainability. It covers reflection on the roots and cultural aspects of unsustainability, deepening understanding of the organisational context and mapping relevant actors and learning contents. The third step envisions alternative futures, mapping possible paths towards sustainability and promoting adaptability for changes and action. In the fourth step the values and principles, the systemic understanding of sustainability, and the envisioned sustainable futures will contribute to designing strategies for action. The available resources and structures for the change need to be considered. The focus of action can be on gaining better resources, fostering relationships, as well as influencing attitudes and ways of talking and acting.

The ECF4CLIM roadmap will be further developed, tested, and validated throughout the ECF4CLIM project, while implementing sustainability measures at demonstration sites. The generated experiential understanding, and practical knowledge will be integrated in the roadmap and will be accessible on ECF4CLIM digital learning platform for all educators and other stakeholders in Europe. Furthermore, the Roadmap will be available and will continue to be developed at Mappa.fi platform throughout the project and after the project has ended.

Terhi Nokkala, Niina Mykrä, Anna Lehtonen, JYU, Finland

ECF4CLIM Digital Platform
https://ecf4clim.smartwatt.net/

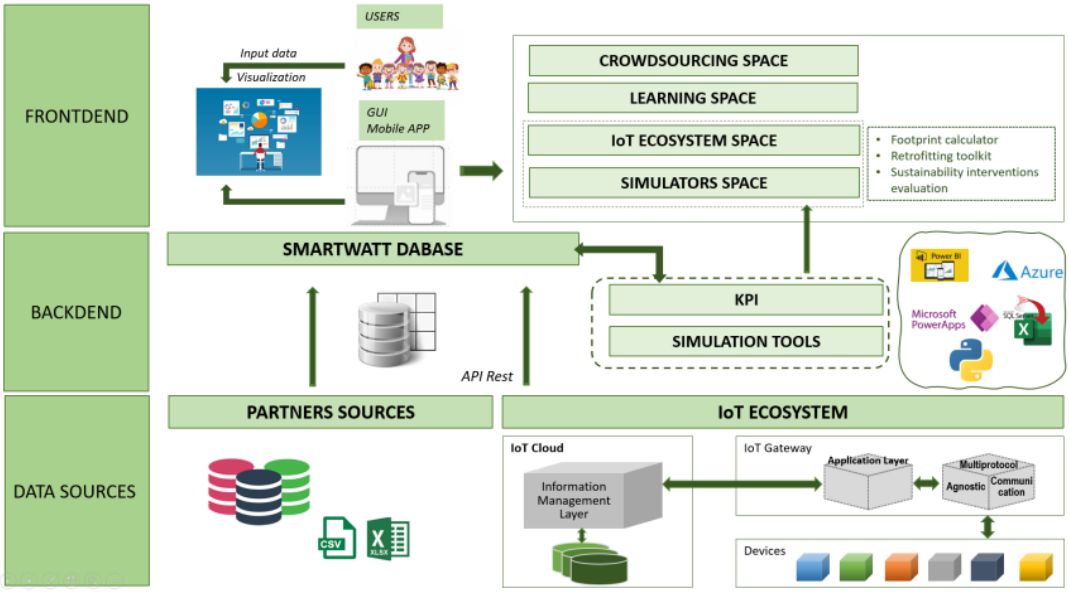
The ECFF4CLIM digital platform aims to promote active learning and strengthen environmental awareness among citizens and promotes the engagement of the entire educational community in actions towards behavioural changes towards sustainability.

Through this Digital Platform users have access to four areas of interaction with the project, enabling the engagement of diverse groups of interested citizens and educational communities to express their views on the competencies that all European citizens should possess on sustainable development and climate change. The platform allows users to simulate and calculate, online, the impact that the daily activities, for instance, their carbon footprint. Users can also check in real-time selected environmental/sustainability parameters measured through sensors monitored over an IoT platform and spread the information within their own educational community helping to understand better the direct impact of individual and group behaviours on these parameters. In this way, the platform can foster conscious behavioural change, not only at a personal level, but also at an educational community level.

The platform provides a multitude of data like energy consumptions, temperatures, air quality resulting from sensors installed in the sites. Besides the IoT, the platform will also receive data from different sources like file-based databases from different partners.

Students, educators and civil society, in general, can also access a "learning space" designed to raise awareness of the potential impact of small individual behaviour change on the large-scale impact of climate change and sustainable development. This is given by a serious game, interactive knowledge bases based on the ECF4CLIM roadmap areas and other useful resources, such as lesson plans and good practices.

Lara Ramos, ISQ.



Our innovative organizational models of engagement and action for sustainability: Sustainability Competence Teams (SCTs) and Sustainability Competence Committees (SCCs)

Our hybrid participatory approach

The ECF4CLIM hybrid participatory approach will help the educational community to jointly identify, understand, assess and evaluate its sustainability competences as well as the obstacles to improvement.

The communities engage in deliberation on ways to promote sustainable individual and collective behaviours, and evaluate the outcomes of the learning experience. Such an experiential learning process is designed to empower the broader educational community to act towards a transformational change for a more sustainable future.

Our hybrid participatory approach integrates elements of research and citizen engagement, in particular group-based techniques. It draws upon the STAVE tool (Systematic Tool for Behavioural Assumption Validation and Exploration) developed in the PACHELBEL project (Horlick-Jones and Prades, 2014; Espluga et al, 2017). STAVE is a 'mini public engagement/deliberative exercise' that taps into the practicalities of everyday lives and generates knowledge on the enablers of and barriers to sustainable behaviours. A unique feature of STAVE is continuous reflection within the groups that reconvene several times during the project. Although STAVE was developed and tested with lay citizens, it has been adapted to the specificities of the educational community.

The Sustainability Competence Teams (SCTs) and Sustainability Competence Committees (SCCs)

To engage students, teachers, and administrative staff, Sustainability Competence Teams (SCT) were set up at all our demonstration sites (DS). In addition, Sustainability Competence Committees (SCC), including also additional actors from the DSs (school directors, sustainability managers, etc.) and other external actors (NGOs, local authorities, etc.) were set up, in order to engage the wider educational community.

Notably, the SCTs incorporated those with the power to make decisions that affect the possibilities of transforming the planned measures into concrete actions.

The table below illustrates the total numbers of participants involved in our hybrid participatory process, through the SCTs and SCCs.

	Participants profiles	Total
SCT 1	Students (200), teachers (78), staff (49)	327
SCC1	Students, teachers, staff, principals, sustainability officers, NGOs, local authorities, student unions, etc.	91
SCT2	Students (210), teachers (66), administrative staff (35)	321
SCC2	Students, teachers, staff, principals, sustainability officers, NGOs, local authorities, student unions, etc..	65

The 1st SCT and SCC meetings entailed general reflection on the existing competences and preferred means of promoting more sustainable behaviours and practices, whereas the 2nd meetings focussed on identifying measures for promoting sustainability.

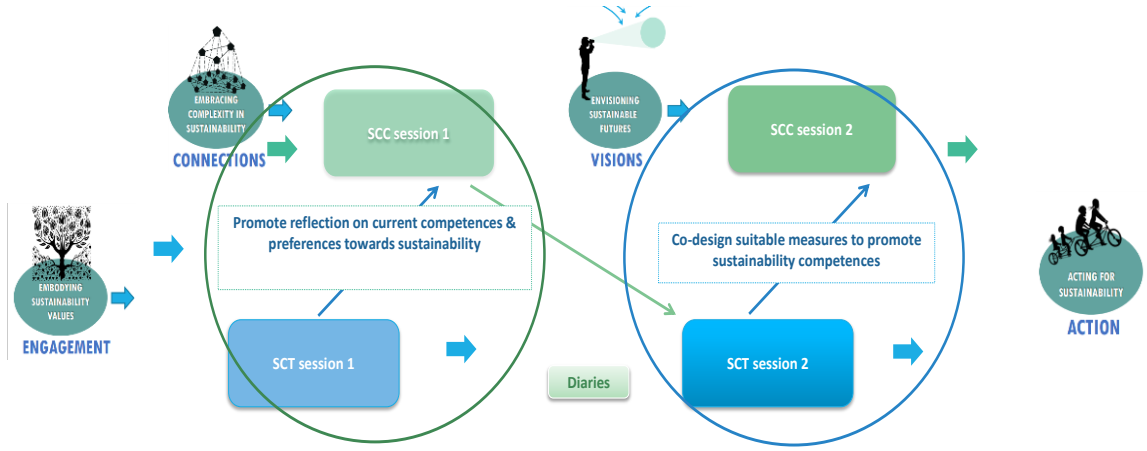
The specific measures co-designed to foster sustainability at our demonstration sites in Finland, Portugal, Romania, and Spain aim to initiate various types of positive change, which can be grouped into three categories:

- promoting change in the material conditions: environmental performance
- promoting change in the people: individual competences
- promoting change in the system: collective competences

Significant challenges for participatory research in educational settings include substantial time and resources constraints at the DSs; frequent changes of contact persons at the DSs (difficulties to retain committed individuals); and limitations associated with other educational commitments, requirements, and schedules. To address such challenges, the participatory techniques and tools need to be applied in a flexible manner, according to the local context.

Despite these limitations, working closely with the key actors at the DSs, the research team was able to integrate the SCTs and the SCCs into the dynamics of the involved educational communities. The collaborative and participatory work provided useful empirical evidence for the baseline assessment and for the identification of measures to promote sustainability.

Ana Prades, Silvia German Prats, CIEMAT
Markku Lehtonen, Joseph Espluga, UAB



Education for sustainability, the transdisciplinary dialogue strategy

'Sustainability' and 'sustainable development' are terms widely used in academic, political, and social contexts, but there is rarely agreement on their concrete meanings and implications. As part of its efforts to reinforce educational competences for sustainability, ECFCLIM explored the perceptions of experts from various disciplines on the concepts of sustainability and sustainable development, to foster greater consistency in the way these concepts are used in educational practice.

Two deliberative webinars were organised in November and December 2022 to facilitate dialogue among experts and practitioners. The participants in the first seminar were 13 sustainability experts, and in the second 9 education-sector practitioners, with varying backgrounds (environmental sciences, ecology, biology, industrial engineering, mathematics, educational sciences, psycho-pedagogy, geography, political science, economics, philosophy, and sociology).

The webinar participants made a clear distinction between the concepts of 'sustainable development' and 'sustainability' showing preference for the latter. Most participants considered sustainable development (SD) as an excessively anthropocentric concept, which has a certain economic bias and relies excessively on technology to solve the conflicts between society and nature. 'Sustainability', instead, was portrayed as a much broader and transformative concept that does not implicitly postulate the primacy of the economic dimension. The participants argued that current policies, problem diagnoses, and solutions – also in education – are primarily based on the concept of SD, and thus lack the required holistic approach that is built in concepts such as sustainability and planetary wellbeing.

The participants highlighted the lack of interdisciplinarity as a major weakness in sustainability debates and policy. This can stem from the lack of willingness or ability of experts to engage in dialogue and integrate knowledge from disciplines from outside their own field, but it can also reflect the absence of shared arenas for interaction (e.g., co-working spaces) or time for interdisciplinary dialogue and action. The educational institutions can play a key role in facilitating such transformation.

Trans-disciplinarity dialogue not only amongst experts but also between the academia, policymakers, business, and civil society – is a key element of sustainability. To succeed, it requires shared concepts and common ground that could be generated, for example, through collaborative small-scale projects. Projects and experiments at local level are more likely than debates on general concepts to foster the needed dialogue and agreement on of shared meanings and objectives.

The findings from our webinars suggest that our conceptual approach to the ECF in the form of the Roadmap, as well as its operationalisation through interventions at the various demonstration sites, exhibit significant potential to foster multi-, inter- and transdisciplinary dialogue.

Markku Lehtonen, Joseph Espluga, UAB

Project meeting (Lisbon 2023), Creative day in Sintra

On May 12th, the ECF4CLIM participants spend an excellent day in Sintra for an intense exchange of experiences and perspectives. Climbing the mountain represented the efforts we invest in fostering education for sustainability. Creative exercises in pairs or small groups inspires discussion related to the ECF4CLIM roadmap, interventions in the schools and universities, and multidisciplinary research into sustainability. It was documented by photos, audio recordings, and notes.

Our work was structured along the four steps of the ECF4CLIm roadmap: (1) **Engagement**: Reflection on the various values and aspects of sustainability,
(2) **Connections**: Systemic understanding of the context of sustainability work in educational institutions as well as the perspective of various stakeholders, (3) **Visions**: Worst- and best-case scenarios or experiences of implementing interventions to promote
sustainability in an educational institution, (4) **Action**: Strengthening the handprints of the sustainability interventions in the ECF4CLIM partner institutions,
(5) **Transdisciplinary dialogue**: Reflections on the experiences of transdisciplinary interaction during the ECF4CLIM project and the General Assembly: benefits, enablers, and constraints.
Additionally, based on the Carbon Footprint Calculator the carbon emissions resulted from the travelling to the meeting was estimated at around 30 t of CO2, mainly due to flying to Lisbon from Spain, Romania and Finland. Being aware of the meeting's carbon footprint is the first step towards mitigating it. It will be followed by individual or collective compensation efforts: planting trees, improving energy efficiency of school and university buildings, supporting renewable energies, and using public transportation.
Furthermore, we pondered how to strengthen the positive impact of the General assembly, and to make most of the fact that we were able to meet face to face, It is an important to strive for sustainability also in the internal organisation and practices of the ECF4CLIM project itself.

Terhi Nokkala, Niina Mykrä, Anna Lehtonen, JYU, Finland