



D7.6 ECF4CLIM digital platform - Module 4 - Learning space












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WHO WE ARE

The ECF consortium consists of ten partners. The project is coordinated by Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas-CIEMAT.

Name	Country	Logo
Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas CIEMAT	ES	
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Universidad de Sevilla USE	ES	
University of Jyväskylä JYU	FI	
Universitat Autònoma de Barcelona UAB	ES	
Meda Research Ltd MedaResearch	RO	
Instituto de Soldadura e Qualidade ISQ	PT	
Trebag Szellemi Tulajdon Es Projektmenedzser Korlatolt Felelossegu Tarsasag TREBAG	HU	
Smartwatt Energy Services SA Smartwatt	PT	
ENLITIA SA ENLITIA		
Que Technologies Kefalaiouchiki Etaireia QUE	GR	



ABOUT THE PROJECT

Through a multidisciplinary, transdisciplinary and participatory process, ECF4CLIM develops, tests and validates a European Competence Framework (ECF) for transformational change, which will empower the educational community to take action against climate change and towards sustainable development.

Applying a novel hybrid participatory approach, rooted in participatory action research and citizen science, ECF4CLIM co-designs the ECF in selected schools and universities, by: 1) elaborating an initial ECF, supported by crowdsourcing of ideas and analysis of existing ECFs; 2) establishing the baseline of individual and collective competences, as well as environmental performance indicators; 3) implementing practical, replicable and context adapted technical, behavioural, and organizational interventions that foster the acquisition of competences; 4) evaluating the ability of the interventions to strengthen sustainability competences and environmental performance; and 5) validating the ECF.

The proposed ECF is unique in that it encompasses the interacting STEM-related, digital and social competences, and systematically explores individual, organizational and institutional factors that enable or constrain the desired change. The novel hybrid participatory approach provides the broad educational community with: an ECF adaptable to a range of settings; new ways of collaboration between public, private and third-sector bodies; and innovative organizational models of engagement and action for sustainability (Sustainability Competence Teams and Committees).

To encourage learning-by-doing, several novel tools will be co-designed with and made available to citizens, including a digital platform for crowdsourcing, IoT solutions for real-time monitoring of selected parameters, and a digital learning space. Participation of various SMEs in the consortium maximizes the broad adoption and applicability of the ECF for the required transformational change towards sustainability.



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1. EXECUTIVE SUMMARY

The following document - deliverable D7.6 - belongs to task 7.5 of the ECF4CLIM project.

The learning space is designed to showcase a varied range of educational resources, intending to raise public awareness and foster the ability to tackle climate change while embracing sustainable development. The learning space is organized into three distinct sections: one for teachers, another for students, and the game.

The Teacher's Section provides support with digital content and resource links, while students can explore interactive flipbooks. The Game Area engages users with digital learning and fun activities. This report describes each of these sections. Next steps involve refining content, aligning with educational objectives, and incorporating user feedback for continuous improvement

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2. GENERAL OVERVIEW

The learning space¹ is one of the four components of the digital platform (Figure 1).

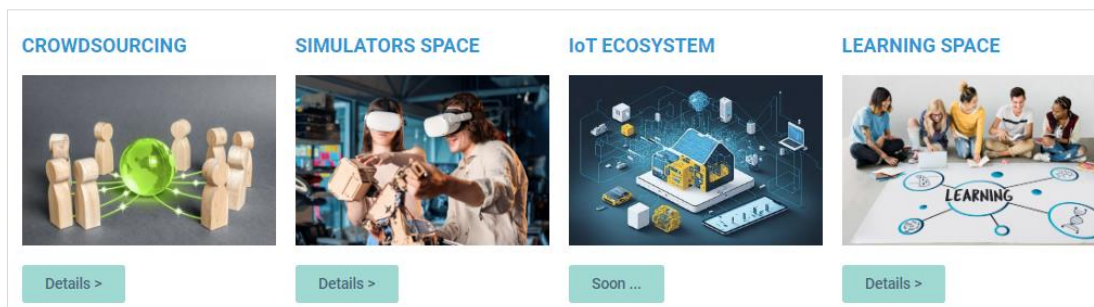


Figure 1 – Learning Space within the digital platform

The learning space is designed to showcase a varied range of educational resources, intending to raise public awareness and foster the ability to tackle climate change while embracing sustainable development. The learning space is organized into three distinct sections: one for teachers, another for students, and the game.

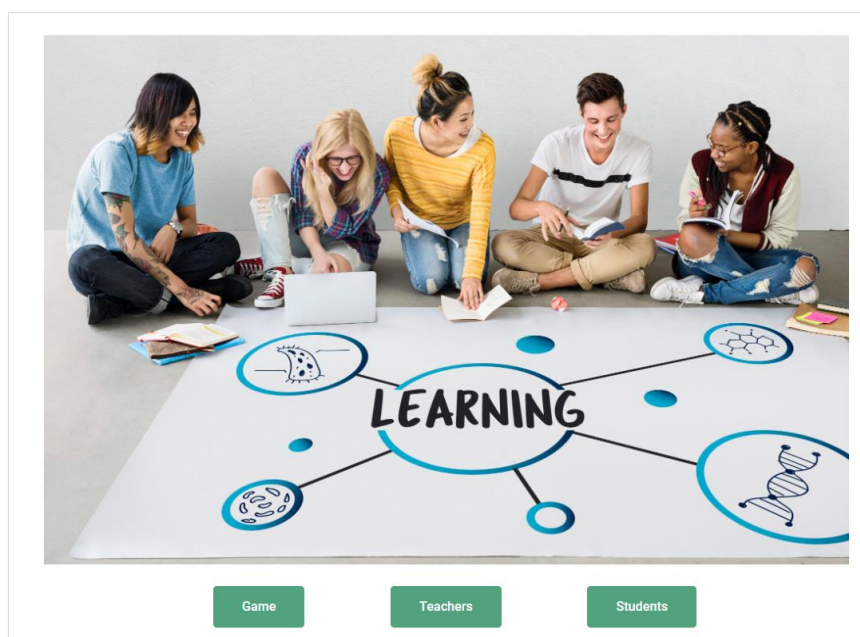


Figure 2 – Learning Space sections

For teachers, the Learning Space compiles a diverse range of valuable resources to support teaching on climate change and sustainable development. These resources include carefully curated lesson plans, interactive activities, and serious games, all aimed at enhancing educational endeavours. The objective is to empower students in a cognitive and enjoyable process, fostering a commitment to sustainable change.

¹ <https://ecf4clim.smartwatt.net/learning-space/>



Students have access to fifteen interactive flipbooks, developed by ISQ, within the learning space, allowing them to deepen their knowledge of climate change and sustainable development. These flipbooks are carefully categorized according to the ECF4CLIM roadmap areas, including an introductory module.

Furthermore, users can engage with an engaging learning game developed by Trebag through the learning space, inspired by the ECF4CLIM roadmap. The game is strategically designed to incorporate digital learning elements and a series of minigames, integrating narratives, storytelling, and creative writing tasks to captivate and engage users.

3. SPACES

In the following section the three spaces of the leaning space are described:

- Teachers
- Students
- Game

TEACHERS

The TEACHERS' space (Figure 3) provides access to a diverse range of resources. These resources are organized by age groups, themes, and types, enhancing educators' capacity to teach about climate change and sustainability.

We have gathered a variety of valuable resources to support your teaching on climate change and sustainable development. These resources encompass lesson plans, interactive activities, and serious games, all carefully chosen and designed to enhance your educational efforts.

You'll find these resources conveniently organized according to the ECF4CLIM roadmap areas, resource type, and age group categories (6-9, 10-15, and 16-25). Our aim is to empower you to engage your students in a cognitive and enjoyable manner, fostering a commitment to sustainable change.

Let's inspire and educate the next generation of environmental stewards together!

ECF4CLIM Roadmap

Age Group: Resource: Area:

RESOURCE	AGE GROUP	AREA	LANGUAGE	KEYWORD	LINK
Lesson Plan	10 to 15	Engagement	EN	Lesson Plans on the SDG	Link
Activities	10 to 15	Environmental Awareness - general	EN	Ongoing Opportunities for Climate Action	Link
Activities	16 to 25	Environmental Awareness - general	EN	Connecting Students to the SDG - Responsible Consumption and Production	Link
Activities	16 to 25	Environmental Awareness - general	EN	Connecting Students to the SDG - Climate Change	Link
Lesson Plan	6 to 9	Visions	EN	Recycling & the Circular Economy	Link
Lesson Plan	10 to 15	Environmental Awareness - general	EN	Zero Waste and the Circular Economy	Link
Lesson Plan	6 to 9	Environmental Awareness - general	EN	The SDG	Link

Figure 3 – Teachers' space

Users can choose content related to three age groups (Figure 4):

- 6-9

- 10-15
- 16-25

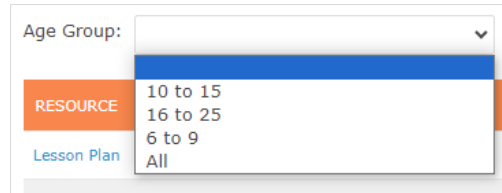


Figure 4 – Age groups to select with the teachers' space

Additionally, users have the flexibility to explore an array of resource types tailored to diverse preferences and learning styles (Figure 5). These include engaging books, interactive games, visually compelling infographics, hands-on interactive materials, well-organized lesson plans, valuable resources, insightful talks, and informative video. This diverse selection ensures that individuals can access content that aligns with their interests and enhances their understanding of climate change and sustainable development.

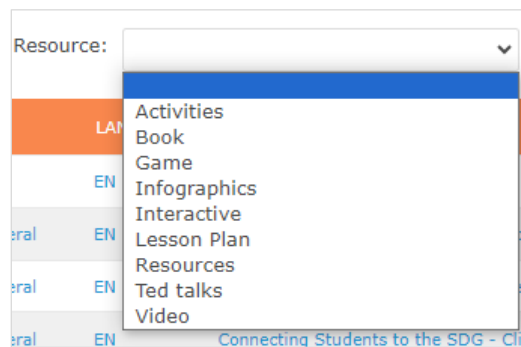


Figure 5– Types of resources to select with the teachers' space

Users can customize their exploration by selecting a key topic for the resource (Figure 6), such as:

- Action
- Circular economy
- Energy choices and climate change
- Environmental awareness – general
- Visions
- Waste and circular economy
- Engagement

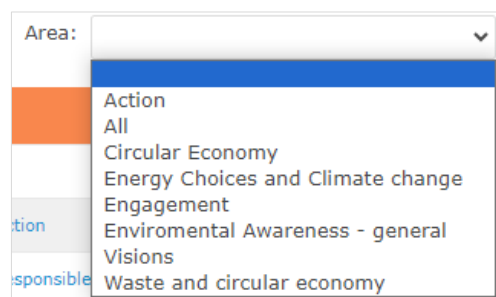


Figure 6– Types of topics/area to select with the teachers' space

This more personalized categorization enhances the user experience by allowing them to focus on specific areas of interest or study.

In the teachers' space, it is also possible to find the link that directs to the Roadmap for Sustainability Education (Figure 7) created by the Finnish partner JYU.



Figure 7 – Link to Finnish roadmap for Sustainability Education

STUDENTS

In the student section, there are 15 interactive flipbooks, developed by ISQ, available for users, organized in six modules (Figure 7). These modules address various aspects of sustainability education. Additionally, users can explore resources categorized by age groups, enhancing accessibility and relevance.

MODULE	AGE GROUP	TITLE	SUB TITLE	LINK
Module 0	6-9			Link
	10-15	Sustainability Awareness	Sustainability Awareness	Link
	16-25			Link
Module 1	6-9			Link
	10-15	Engagement	Why and How to promote Sustainability	Link
	16-25			Link
Module 2	6-9			Link
	10-15	Connections	Complexity in Sustainability	Link
	16-25			Link
Module 3	6-9			Link
	10-15	Visions	Expected, Preferred and Alternative Futures	Link
	16-25			Link

Figure 8 – Student's space

Users can also find resources categorized based on their underlying specific thematic areas aligned with the project's Roadmap.

- Sustainability - Awareness Sustainability Awareness
- Engagement - Why and How to promote Sustainability

- Connections - Complexity in Sustainability
- Visions - Expected, Preferred and Alternative Futures
- Action - Acting for Sustainability

Each flipbook (Figure 9) corresponds to an age group and theme.



Figure 9 – Example of flipbook (Age group: 6-9 Thematic Area: Engagement)

GAME

To access the serious game developed by Trebag, users not only have the option of accessing it through the platform's main menu but can also reach it via the Learning space. Besides the link to access it, the user can also find the game's user manual/help guide in the learning space.

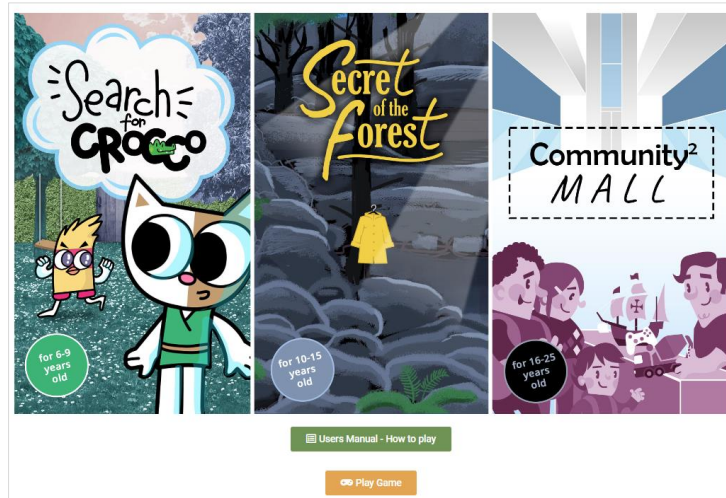


Figure 10 – Serious game entry point

The game features digital learning content and a variety of mini-games, including quizzes, decision trees, true or false questions, memory cards, and more." Users can select their age group: 6-9, 10-15 and 16-25. The game is structured around five modules, as previously described, aligning with the project's Roadmap and detailed in deliverable D7.13 ECF4CLIM Learning Game (gamification)

4. NEXT STEPS

Ensuring a robust platform aligned with the project goals involves employing an iterative development approach, alongside comprehensive testing and validation procedures.