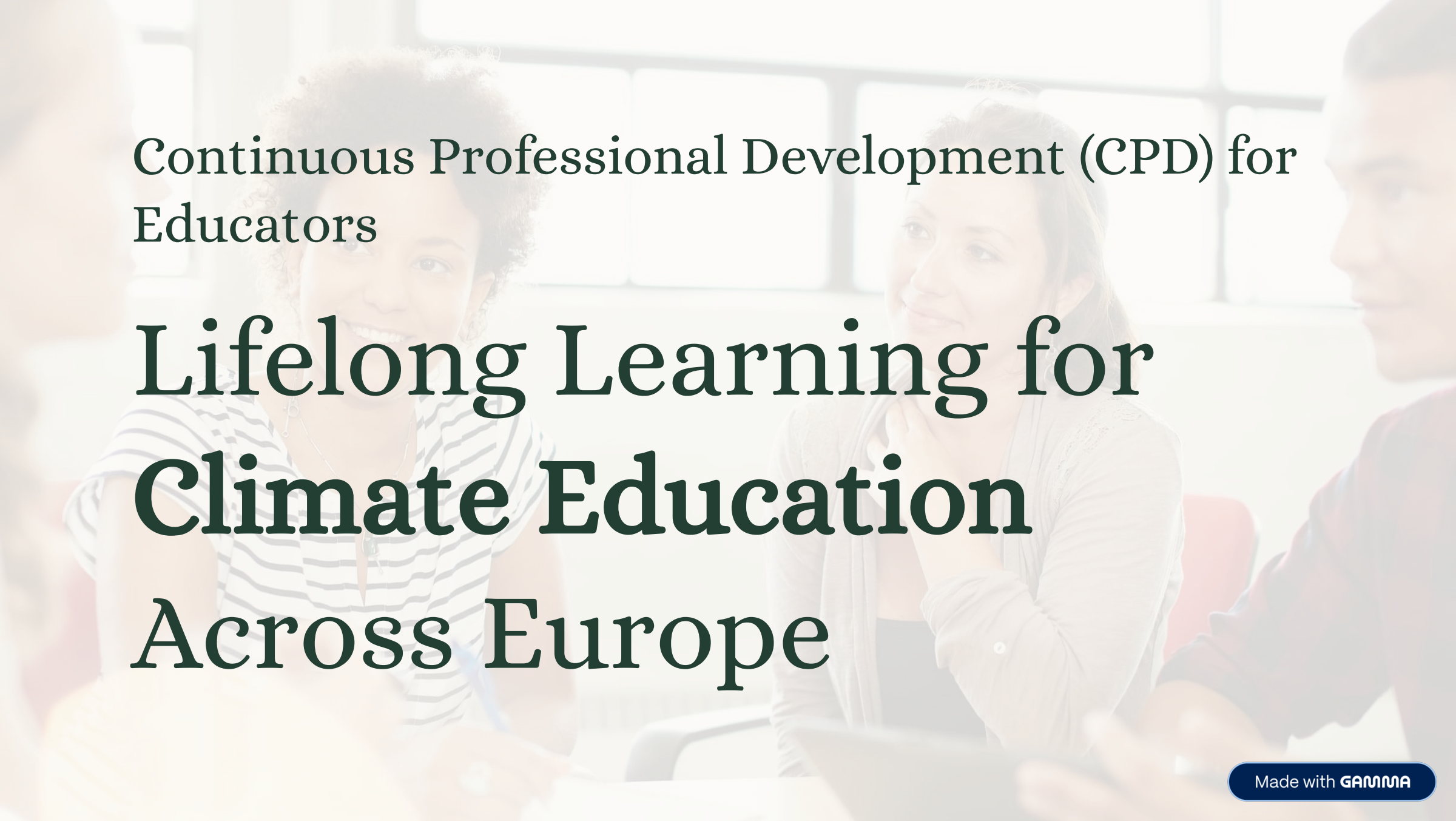

Continuous Professional Development (CPD) for Educators

Lifelong Learning for **Climate Education** Across Europe

1. Content

A. Importance of Lifelong Learning in Climate Education

Lifelong learning is a cornerstone of modern education across Europe, and in the context of climate change, it has become more important than ever. Climate science is not static — it evolves continuously as new research emerges, ecosystems change, and governments adjust their environmental policies. For educators, staying informed and up to date is essential to delivering meaningful climate education that prepares young people for the environmental challenges and opportunities of the future.

Reasons CPD important for educators:

2. Climate Change Knowledge Is Continuously Evolving

Scientific understanding of climate change develops rapidly. New research on extreme weather, biodiversity loss, carbon emissions, and mitigation technologies is published every year. In addition, the European Union regularly updates its environmental policies (the Green Deal, Fit for 55 Package, and Circular Economy Action Plan) — all of which directly influence what should be taught in schools.

Because of this fast pace of change, teachers need ongoing CPD to:

- Stay informed about the latest scientific findings
- Understand new EU climate legislation and sustainability targets
- Confidently translate complex climate information into classroom-ready lessons

Evolving Educational Landscape

Without regular learning, educators risk teaching outdated information or missing important developments that shape the future of Europe's sustainability landscape.

2. European Curricula Now Emphasize Sustainability and Environmental Literacy

Many European countries — including Sweden, Finland, Germany, Spain, Portugal, Italy, and the Netherlands — have integrated sustainability, climate action, and environmental literacy into their national curricula. These curriculum goals require teachers to:

- Teach students systems thinking (understanding how climate, society, and economy are interconnected)
- Promote active citizenship and responsibility for the environment
- Incorporate climate-related topics across multiple subjects, not just science

Systems Thinking

Understanding interconnections between climate, society, and economy

Active Citizenship

Promoting environmental responsibility and engagement

Interdisciplinary Learning

Climate topics across all subjects

Teachers as Catalysts for Change

To do this effectively, CPD helps educators deepen their subject knowledge, develop interdisciplinary teaching methods, and update their understanding of national and EU frameworks.

3. Teachers Are Central to Developing Students' Green Skills

Europe's transition to a climate-neutral society depends on building a generation equipped with essential green skills — such as critical thinking, problem-solving, eco-design, data analysis, and climate adaptation strategies. Teachers are at the heart of developing these competencies.

Continuous professional development enables teachers to:

- Understand which green skills are most relevant to the future job market
- Teach practical climate actions in schools and communities
- Guide students in becoming environmentally responsible citizens
- Foster innovation, creativity, and resilience in young people

4. Digital Transformation Requires Educators to Learn New Tools

Artificial intelligence, digital platforms, and interactive simulations are becoming powerful tools in climate education. Teachers now have access to:

- AI-assisted climate modelling tools
- Interactive carbon footprint calculators
- Virtual field trips to ecosystems and renewable energy sites
- Data dashboards showing real-time climate indicators

To use these tools effectively, educators must regularly develop their digital competencies. CPD helps them learn how to integrate these innovations into lessons, evaluate digital resources, and teach students how to analyse climate data responsibly.

5. CPD Builds Teacher Confidence and Professional Well-Being

Climate change is a complex and sometimes overwhelming topic. Many teachers report feeling uncertain about:

- How to explain scientific concepts clearly
- How to discuss climate anxiety and emotional resilience
- How to respond to student questions about the future
- How to design meaningful sustainability projects

Ongoing CPD provides essential support through:

- Training
- Peer collaboration
- Access to up-to-date teaching materials
- Professional networks

This fosters confidence, reduces stress, and empowers teachers to deliver climate education with clarity and enthusiasm.

B. Resources & Opportunities for Educators

These resources apply to teachers:

European School Education Platform

Free CPD courses on sustainability, outdoor learning, digital skills, and climate education. International teacher communities and thematic groups. Opportunities to collaborate across schools in the EU.

Link: **https://school-education.ec.europa.eu/en**

EU Climate Pact & European Green Deal

Webinars, learning hubs, and teacher-focused explainers on the EU's climate goals. Possibility to become a Climate Pact Ambassador.

Link: **https://climate-pact.europa.eu/index_en**

UNESCO Education for Sustainable Development (ESD)

Online courses and toolkits supporting ESD across school subjects. Global educator training materials on climate mitigation and adaptation.

Link: **https://www.unesco.org/en/sustainable-development/education**

WWF (European Branches)

Lesson plans, action projects, and CPD webinars on biodiversity, oceans, and climate. The "Eco-Schools" programme provides structured professional learning.

Link: **https://www.wwf.eu/**

Naturvårdsverket (Swedish Environmental Protection Agency)

Provides downloadable educational materials on climate mitigation, pollution, recycling, and biodiversity. Issues annual environmental reports and climate-monitoring publications useful for teacher training. Hosts webinars on Sweden's climate goals (Klimatmålen) and circular economy.

Link: **https://www.naturvardsverket.se/**

Vetenskap & Allmänhet / Swedish Research Council (Vetenskapsrådet)

Offers connections to current climate research projects. Provides schools with training in evidence-based teaching and scientific literacy.

Link: **https://www.naturvardsverket.se/**

Stockholm Resilience Centre

Globally leading institution on climate, sustainability, and resilience. Open-access articles, webinars, and workshops on planetary boundaries and climate resilience.

Link: **https://www.stockholmresilience.org/**

National Environmental Agencies

Each country has its own version (e.g., Sweden's Naturvårdsverket, Germany's Umweltbundesamt, etc.) providing: Up-to-date environmental data, Educational materials, Training opportunities, Research summaries.

C. Building a Supportive Professional Community

A strong professional community is one of the most effective ways for educators to improve their climate teaching. Climate science, sustainability policies, and digital environmental tools evolve quickly — and teachers benefit enormously from sharing experiences, resources, and challenges with their peers. Below is a deepened explanation of how educators can build and participate in such communities across Europe and beyond.

1. Cross-European Online Communities

Educators have access to several digital platforms where they can engage, exchange ideas, and collaborate across borders. These communities support climate-focused CPD by providing updated resources, webinars, forums, and collaborative spaces.

Examples:

ESEP (European School Education Platform) Groups

Thematic groups focus on sustainability, green skills, climate action projects, outdoor learning, and digital innovation. Teachers can join discussions, upload resources, attend live sessions, and collaborate on cross-country classroom projects.

LinkedIn Climate Educators Networks

Professional groups where teachers, researchers, NGOs, and policy experts discuss climate communication, environmental education strategies, AI for climate teaching, and climate policy updates.

TeachSDGs Global Community

A volunteer-driven network promoting the UN Sustainable Development Goals (SDGs), offering training badges, webinars, and collaborative teaching challenges focused on climate action and sustainability.

2. Local Teacher Networks Focused on Sustainability

Teachers can join local professional networks centred on green schools, outdoor learning, circular economy education, biodiversity, or climate activism in schools.

Types of Local Networks:

- Green Schools / Eco-Schools teams
- Local education authority climate networks
- University-led teacher groups on sustainability
- Municipal environmental education centres

These spaces allow teachers to share region-specific challenges, adapt national climate policies to the local curriculum, and develop practical activities like waste audits, school gardens, recycling programs, or climate-neutral school initiatives.

Collaborative Learning and Professional Growth

3. Collaborative Climate Action Projects (Erasmus+ and Others)

Many schools apply for Erasmus+ partnerships focusing on climate change, innovation, or digital green skills.

Examples of activities in these projects:

- Joint student climate research projects
- Exchange of teaching materials across countries
- Training weeks hosted in partner schools
- Cross-curricular climate challenges (e.g., water conservation week)
- Development of digital climate tools (apps, simulations, student data projects)

4. Peer Observation & Co-Teaching

Peer learning is one of the most effective forms of CPD, especially in evolving fields like climate science.

Methods:

- Observing a colleague teaching a climate or sustainability lesson
- Co-creating digital resources or project-based learning units
- Co-teaching a lesson using interactive tools (AI simulations, climate maps, carbon-footprint apps)
- Reflection sessions to evaluate instructional strategies.

Educators become more confident in explaining complex climate concepts, receive constructive feedback, and develop a shared culture of continuous innovation within the school.

5. Conferences, Festivals, and Science Education Events

Across Europe, dozens of annual events bring together educators, researchers, NGOs, and policymakers to showcase new climate science, teaching tools, and sustainability innovations.

Examples (EU-wide and national):

- EU Education for Climate Coalition events
- European Green Week
- Science engagement festivals (e.g., Researchers' Night across Europe)
- Eco-Schools teacher conferences
- National climate education summits (varies by country)

D. Activities

Activity 1: Create a Personalized CPD Plan

Goal: Help educators design a practical, 6–12 month plan for improving their climate education knowledge and skills.

Instructions:

1. Identify your personal strengths and gaps in climate education.
2. Select three professional goals, such as:
   - Improve understanding of climate mitigation & adaptation.
   - Learn to use AI or digital tools for climate modelling.
   - Implement more outdoor or project-based climate learning.
   - Enhance my ability to teach about circular economy and green skills.
3. Choose EU-wide resources (ESEP, UNESCO, WWF, MOOCs, NGOs).
4. Add timeline, success indicators, and follow-up steps.

EXAMPLE: CPD Plan (12 Months) – Climate Education & Green Skills

School: Internationella Engelska Skolan Helsingborg
Duration: 12 Months

1. Self-Assessment: Strengths & Gaps

Strengths

- Confident teaching basic environmental themes
- Comfortable with digital tools and blended learning
- Motivated to integrate sustainability in lessons
- Experience with group work and project-based learning

Gaps

- Need deeper understanding of climate mitigation vs. adaptation
- Limited experience with AI-supported climate modelling tools
- Need to strengthen circular economy and green skills content
- Want more tools for outdoor and community-focused climate teaching

2. Professional CPD Goals

01

Strengthen knowledge of climate mitigation, adaptation, and EU climate frameworks

02

Develop competence in AI, climate simulations, and digital environmental tools

03

Integrate circular economy and green-skills learning into subject teaching

04

Expand outdoor and experiential climate learning opportunities

3. Recommended CPD Resources

- ESEP – European School Education Platform: free CPD courses, networks, green school groups
- UNESCO ESD: climate action courses, ESD guidance, teaching toolkits
- WWF Europe & WWF Sweden: climate lessons, CPD webinars, Eco-Schools materials
- TeachSDGs Network: global teaching community
- MOOCs: University of Helsinki, Delft University (Circular Economy), edX, Coursera
- Naturvårdsverket: Swedish EPA climate materials, reports, webinars.

4. 12-Month CPD Timeline with Key Environmental Dates

Each month includes: CPD focus area, Suggested activities, Important environmental dates

Months 1–2: Foundation Building — Climate Basics & Pedagogical Frameworks

Focus: Build core understanding of climate science & education for sustainability.

Activities:

- Complete an ESEP introductory course on climate education
- Watch 2–3 UNESCO ESD training modules
- Conduct personal audit of teaching materials and needs
- Join an online community (ESEP, TeachSDGs, LinkedIn climate educators)

Environmental Dates:

- January 26 – International Environmental Education Day
- February 2 – World Wetlands Day

Success Indicators: ☑️ Course certificates ☑️ Reflection notes ☑️ Updated teaching goals

Months 3–4: Deepening Climate Science & EU Climate Policy

Focus: Mitigation, adaptation, EU Green Deal, systems thinking.

Activities:

- Enroll in a MOOC (e.g., University of Helsinki Sustainability)
- Read Naturvårdsverket climate goal summaries
- Engage in ESEP sustainability discussion groups

Environmental Dates:

- March 3 – World Wildlife Day
- March 22 – World Water Day
- April 22 – Earth Day
- April (last week) – EU Green Week activities

Success Indicators: ☑️ MOOC completed ☑️ Participation in two community events ☑️ Notes added to teaching portfolio

Months 5–6: Using AI & Digital Tools for Climate Education

Focus: AI-assisted modelling, carbon calculators, climate simulations.

Activities:

- Explore AI tools such as Earth.nullschool, Climate TRACE, IPCC datasets
- Attend UNESCO/WWF webinar
- Pilot a digital climate activity with a student group

Environmental Dates:

- May 15 – International Day of Families (focus on sustainable living)
- June 5 – World Environment Day
- June 8 – World Oceans Day

Success Indicators: ☑️ Digital lesson delivered ☑️ Students use a climate tool ☑️ Feedback collected

Months 7–8: Circular Economy, Waste, & Green Skills

Focus: Recycling systems, EU circular economy action plan, green job skills.

Activities:

- Complete Delft University Circular Economy MOOC
- Create one mini-project (repair workshop, upcycling, waste audit)
- Connect with an EU partner school for idea exchange

Environmental Dates: August – "Back to School Sustainability Planning"

Success Indicators: ☑️ Circular economy project implemented ☑️ Student work samples ☑️ Collaboration documented

Months 9–10: Outdoor, Place-Based & Community Climate Learning

Focus: Schoolyard biodiversity, local renewable energy, urban sustainability.

Activities:

- Plan a biodiversity walk, tree inventory, or energy audit
- Collaborate with local Helsingborg environmental organisations
- Link findings to subject lessons

Environmental Dates:

- September 16 – International Day for the Preservation of the Ozone Layer
- September 22 – World Car-Free Day
- October 4 – World Habitat Day
- October (first week) – Energy Awareness Week (EU)

Success Indicators: ☑️ Outdoor activity completed ☑️ Community link formed ☑️ Reflections uploaded to LMS

Months 11–12: Reflection, Peer Sharing & Scaling Up

Focus: Sharing expertise, mentoring colleagues, documenting learning.

Activities:

- Deliver a mini-workshop for staff at IES Helsingborg
- Create a full CPD portfolio (courses, reflections, projects)
- Draft new goals for next year

Environmental Dates:

- November 6–12 – International Climate Education Week
- December 5 – World Soil Day
- December 11 – International Mountain Day

Success Indicators: ☑️ Completed CPD portfolio ☑️ Shared workshop delivered ☑️ New CPD goals developed

5. Success Measurements (What the Teacher Achieves)

By the end of the 12 months, the educator will have:

- ✔️ Completed multiple climate CPD courses
- ✔️ Gained confidence with AI and digital climate tools
- ✔️ Integrated circular economy & green skills into teaching
- ✔️ Delivered outdoor experiential climate learning
- ✔️ Joined cross-European educator networks
- ✔️ Built a CPD portfolio demonstrating growth
- ✔️ Shared knowledge with colleagues
- ✔️ Contributed to the school's sustainability culture

6. Follow-Up Steps

- Review CPD outcomes with department head or CPD coordinator
- Update next year's climate teaching goals
- Continue participating in ESEP, UNESCO, and WWF communities
- Identify new Erasmus+ collaboration opportunities

Activity 2: Networking Activity – "Building Your Climate Educator Network"

Goal: Strengthen professional connections that support continuous learning.

Steps:

1. Teachers map their current climate-education network (local, national, international).
2. Identify which types of partners are missing:
   - Environmental NGOs
   - Climate scientists
   - Other schools
   - Digital learning experts
3. Each teacher selects three new connections to pursue (e.g., join an ESEP group, follow a climate researcher, register for an EU webinar).
4. Groups create a shared "European Climate Educator Directory" including:
   - Key networks
   - EU CPD opportunities
   - Relevant organizations
   - Contact points

EXAMPLE: Networking Activity – "Building Your Climate Educator Network"

School: Internationella Engelska Skolan Helsingborg
Goal: Strengthen professional connections that support continuous climate education learning.

Step 1: Mapping Current Climate-Education Network

A. Teacher's Existing Network

Local Connections (Helsingborg & Skåne):

- Helsingborg Stad – Environmental Department
- Naturskyddsföreningen Helsingborg (Nature Conservation Society)
- Local recycling center (NSR – Nordvästra Skånes Renhållnings AB)

National Connections (Sweden):

- WWF Sweden (Världsnaturfonden) – Teacher newsletters
- Naturvårdsverket (Swedish EPA) – Climate education webinars
- Stockholm Resilience Centre – Public lectures & open courses

International Connections:

- ESEP (European School Education Platform) – general membership
- TeachSDGs – Global teacher community
- TED-Ed Earth School – lesson library

Step 2: Identifying Missing Partners

The teacher analyzes gaps in their network using the categories provided.

Missing or Weak Connections Identified:

- Environmental NGOs outside Sweden (WWF Europe, Greenpeace EU, Zero Waste Europe)
- Climate scientists / researchers (Universities, IPCC contributors, EU JRC experts)
- European schools working on sustainability (Schools with Eco-Schools Green Flag status in Denmark, Germany, Spain)
- Digital learning & AI climate experts (Organizations developing climate simulations, AI tools, edu-tech NGOs)

Step 3: Selecting 3 New Connections to Pursue

Chosen New Connections

1. Join an ESEP Sustainability Group

Action: Enroll in the ESEP "Learning for Sustainability & Green Skills" group.

Purpose: Connect with educators across Europe and find Erasmus+ project partners.

Outcome: Access to discussions, webinars, and cross-country collaboration.

2. Connect with a Climate Scientist / Researcher

Action: Follow and interact with researchers from Stockholm Resilience Centre or University of Helsinki on LinkedIn/X (e.g., Johan Rockström, Elisa Palazzi).

Purpose: Gain updated climate science insights for teaching.

Outcome: Reliable science-based input for lessons; possible guest speaker.

3. Register for EU Climate Pact Teacher Webinars

Action: Attend 2 EU Climate Pact webinars in the next 6 months.

Purpose: Understand EU climate policy, mitigation efforts, and best practices.

Outcome: Certificates + understanding of EU's climate-neutrality path.

Step 4: Group Output – European Climate Educator Directory

At IES Helsingborg, teacher groups compile a shared directory that all staff can use when planning lessons or projects.

Key networks:

ESEP – Sustainability Group	European teachers collaborating on green skills and climate education projects	Link: **https://school-education.ec.europa.eu**
Eco-Schools Europe	Whole-school sustainability program connecting schools across Europe	Link: **https://www.ecoschools.global**

Relevant Organizations:

- WWF Sweden - Climate, biodiversity, oceans
- Zero Waste Europe - Circular economy & sustainable consumption
- Greenpeace EU - Climate policy & activism
- Naturvårdsverket - Swedish climate policy, recycling, and mitigation
- Stockholm Resilience Centre - Research on climate resilience and sustainability.

Contacts:

- WWF Sweden Education Team - **skolmaterial@wwf.se**
- Helsingborg Stad Environmental Office - **miljokontoret@helsingborg.se**
- TeachSDGs Coordinator - contact@teachsdgs.org