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NEWSLETTER

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BUILD GREEN: BREAKTHROUGH IN SUSTAINABLE SPACES

Finishing the project, Results

Build Green is an Erasmus Plus project, in key action category "Partnerships for cooperation and exchanges of practices", in the field of Strategic Partnerships for adult education.

The areas where citizens can take part in the transition to a more sustainable, environmentally conscious future are many, and in this project we want to focus on the building of sustainable spaces using six main themes: the use of natural and recycled building materials, small-scale and low-cost passive houses that use low levels of energy for heating and cooling, spaces for permaculture, green walls, roof gardens and indoor agriculture, all of which reduce the amount of energy and resources both in the building stage and during their maintenance thereafter.

The project also offers participants the techniques to build sustainably in a more affordable way so as to expand opportunities for more people to join. The project has developed methodologies using Online Digital Technologies to implement project activities with the main target groups: participants and professionals from higher education institutions, SMEs, VET schools and people working and volunteering for community groups, organisations and associations interested in the subject.

The consortium believes these opportunities offer a significant chance for participants and stakeholders to engage in the circular economy in a meaningful yet practical way. The consortium also envisions creating a network of practitioners in Spain, Hungary and Greece.



<https://www.facebook.com/BuildGreenErasmusPlus>



<https://buildgreen-project.eu/>

Information about the project

Duration:
Autumn 2021 - Autumn 2023

Project number:
2021-I-ES01-KA220-
ADU-000028308

Products (Intellectual Outputs):

-IO1: Online Interactive Toolkit

-IO2: Build Green Curriculum

Website

<https://buildgreen-project.eu/>

Stay tuned for more!



LATEST ACTIVITIES

The project has been extended until the end of 2023. We have finished the compendium of case studies, demonstrating the power of sustainable building to shape a low-carbon future, which is available at [our website](#).



The case studies are organised by 6 topics and 3 countries, with a full bibliography to help readers access further resources. Together, these examples form a mosaic of possibilities for a sustainable built environment.

Topic 1. Natural & Recycled Materials
1.3. Greece
1.3.1. Strawclay house in Volos, Thessalia.

It is useful to mention that old buildings that have wooden elements to strengthen their rigidity is not something new in Europe, on the contrary, it consists part of Europe's traditional architecture and mechanical tradition, time-proven over the years. Referring to the significant benefits of the project, she underlines that: "We are building a purely bioclimatic house with many benefits. The first major benefit is that the building will have as small an energy footprint as possible. In fact, the materials used have minimal energy costs. For example, I took the quantities of straw from the estates that I own at a distance of 25 minutes from Volos. The second benefit is that this house "breathes", meaning that even at midday in the summer it is very cool. In fact, for the winter with an energy fireplace the house will be warm at a very good level" (ethessalia.gr, 2015).

Photos and article: Website: Cob, article " Strawclay house in Volos", source: <https://www.cob.gr/en/natural-building/portal/oloi.html?view=project&id=3323&raw=clay-house-in-volos-2&catid=138>

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Straw clay house, Greece

Topic 1. Natural & Recycled Materials
1.2. Hungary
1.2.2. The adobe brick

Adobe is a natural building material, 100% recyclable compared to other building materials. It can be used to build load-bearing and internal partition walls, and can serve several generations. Adobe can be used to build a stable house at a lower cost. The external drainage of the building can prevent future waterlogging. In most construction sites, earth suitable for adobe production is excavated when the foundation is dug. Adobe bricks can be used to make a uniform wall, have good thermal and acoustic insulation properties, contain only natural materials and are therefore much healthier. Its material is ventilated, ensuring a constant humidity level. No air conditioning is needed in summer, the optimum humidity reduces allergies and respiratory diseases, and it also protects against electric smog. An adobe house can be built on several floors. For plastering, traditional flake must can be used, or lime mortar if this is not available. In adobe buildings, cement render should not be used. The bricks required for an average dwelling house can be made in 2-4 weeks and built into the wall after about 2 weeks drying. The size of an adobe brick is 30x25x15cm, e.g. for a 30cm thick masonry you need 36 bricks per square metre. For a 45cm thick masonry you need 54 bricks per square metre.

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Adobe bricks, Hungary

Topic 1. Natural & Recycled Materials
1.1. Spain
1.1.1. Abrazo House, Llanes, Voto, Cantabria
 Two-storey house built using earth, straw bales, and 90% recycled wood

Abrazo House is a two-storey, 220m2 family home and ecological learning centre located in a small village in eastern Cantabria. It was built during 2008-12, with a low cost and low environmental impact, using principally local, natural and recycled materials and volunteer labour. The most abundant materials used in the house are clay soil from the building site, sand, straw, and wood. Stone, brick, terracotta tile and concrete were also used in the foundations. Other materials used in the house include lime and gypsum, glass, and rubber roofing membrane for the living roof.

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Cob-straw bale house, Spain

Topic 4. Green Roofs
4.1. Spain
4.1.2. Forest Cabin, Voto, Cantabria

Green roof (north and central roof)

Forest Cabin Green Roof: West deck converted to central roof. Concrete detail with gravel inside to evacuate rainwater.

Forest Cabin is a semi-circular construction of about 70 square meters, with load-bearing structural walls using the "cob" technique and a termocarcilla (insulated brick) stemwall. It was hand-built by the owners, between 2013-2015 (structure, with volunteer labour) and 2020-2022 (finishes and interior). It is built mainly with recycled and/or natural, locally sourced materials, many obtained from them from the site itself, including stone walls, earth and eucalyptus roof beams.

The structure blends in with the topographic curves of the terrain and with the mass of trees existing on-site: mainly oaks, hazelnuts, chestnuts, walnuts, laurels, and strawberry trees (Arbutus unedo). For this, the construction has 5 different roofs, four of them living roofs.

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Green roofed cabin, Spain

Topic 4. Green Roofs
4.3. Greece
4.3.1. Stavros Niarchos Foundation Cultural Center

Stavros Niarchos Foundation Cultural Center is well-known in Greece for its focus on sustainability and has been rewarded with numerous environmental awards. Its planted roofs are all covered with Mediterranean plants grown in a special substrate and led to the Green Roof Leadership Award 2018. The SNFCC is a very important place to the residents of Athens, as it offers them a plethora of free activities, while also helping them get in touch with nature.

Picture taken from the Stavros Niarchos Foundation website (2018), link: <https://www.snf.org/en/newsroom/news/2018/02/the-snfcc-awarded-the-green-roof-leadership-award-2018/>

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Green roofed cultural centre, Greece

Topic 4. Green Roofs
4.2. Hungary
4.2.1. IKEA roof garden, Budapest

IKEA's roof garden can be found at one of the busiest intersections, at Örs Vezér square. This was the first really biodiverse, extensive, no-irrigation green roof in Hungary so it is a very good point of reference for the experts. On the surface of 6500 square meters there are over 150 species. The roof garden was built because during the extension of the store a significant area of green surface disappeared. They undertook to build the green roof because of the protest of the residents, to make up for the lost green area. First they deployed a Sedum carpet but the roof garden was not prepared for this and the building got flooded. The whole structure had to be rebuilt. It took 1 year to rebuild, insulate and repair it but IKEA was serious about the project. The Sedum carpet could not be saved so they built a really diverse, high biological performance, long blooming combination green roof instead. Sedum clippings and a wild flower seed mixture (on 20% of the surface) was planted. The area is not open to the public, it cannot be visited, but can be seen from the houses around it. This way the plants can develop undisturbed.

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Green roofed IKEA store, Hungary

PROJECT PARTNERS

