

LIFE my building is green

LIFE17 ENV/ES/000088

Application of Nature-Based Solutions for local adaptation to climate change in educational and social buildings

Action: E2. Communication activities for target audiences.

Deliverable: E2.4) Report and audience report on the Travelling Exhibitions.

Date: 29/02/2024





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Exhibition Audience Report.

Date: 29/02/2024

Data Project

Project location:	Spain
Project start & end dates:	01/09/2018 - 31/12/2023
Total budget:	2.854.102 Euro
EU contribution:	1.697.369 Euro
(%) of eligible costs:	59,99 %

Data Beneficiary

Name Beneficiary:	CSIC
Contact person:	Miguel Vega
Postal address:	Plaza de Murillo, nº 2
Telephone:	+34 914203017
E-mail:	miguel.vega@rjb.csic.es
Project Website:	http://www.life-mybuildingisgreen.eu

Data Deliverable Responsible

Name Beneficiary:	CSIC
Contact person:	Miguel Vega
E-mail:	miguel.vega@rjb.csic.es



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1. SUMMARY

This document is part of sub-action E2.1. "*Travelling exhibition as alternative climate adaptation solutions in buildings*" under action E2. "*Communication activities for the target audience*".

In the framework of the LIFE-myBUILDINGisGREEN project, a series of open door events have been organised in the pilot buildings where the Nature-Based Solutions implemented in these buildings have been shown. These events, which we have called travelling exhibitions because they have been held in the three regions where the project is taking place, have been addressed to the local community in the area of influence of the pilot buildings, such as the neighbours of the municipalities or neighbourhoods where the schools are located, the associated educational community or the families of the students of these educational centres.

The development of these exhibitions consisted of informative talks in which the prototypes implemented in each building were shown in a simple way, giving the possibility to visit them in situ. Emphasis was placed on the importance and benefits of the solutions implemented to improve the thermal comfort of the buildings while offering additional advantages over conventional solutions, such as increased local biodiversity, beautification of the buildings, living educational resources, reduction of external noise, reduction of CO₂ concentration inside the classrooms, among others.

In addition to this type of on-site exhibitions in the pilot buildings themselves, the Municipality of Porto, which is one of the project partners, has developed an exhibition in images to show the citizens of the city, conveying the results of the project, improving their awareness of climate change and its impacts, while promoting their participation in the implementation of adaptation measures.

This document describes in chronological order the various exhibitions held, their dates, number of attendees, profiles of the people who participated, as well as images taken during these events. It also includes links to the news and communications published about these exhibitions. At the end, a section of conclusions is added, summarising the impact obtained by this type of events.



2. INTRODUCCIÓN

Breve presentación del proyecto

The LIFE-myBUILDINGisGREEN project is a project developed by a group of partners from the Iberian Peninsula, co-funded by the LIFE Programme of the European Union, and whose objective is the design, development and testing of innovative Nature-Based Solutions (NBS prototypes) to improve the bioclimatic comfort of educational buildings that allow the improvement of the well-being of the users of these buildings.

The project consortium is led by the Spanish National Research Council (CSIC) through the Royal Botanical Garden (RJB-CSIC) and the technical support of the Eduardo Torroja Institute for construction sciences (IETcc-CSIC). The beneficiary partners are the CARTIF technology centre, the Provincial Council of Badajoz, the Intermunicipal Community of Central Alentejo (CIMAC) and the Municipality of Oporto.

For the implementation of the Nature-Based Solutions (hereafter NBS), three pilot buildings have been selected in the framework of Action A1 of the project, which are pre-schools and primary schools located in Solana de los Barros (Badajoz, Spain), Évora (Portugal) and Porto (Portugal).

This project arises to address one of the effects of climate change that has intensified in recent years due to the consecutive heat waves experienced throughout Europe, but with more adverse effects in the southern region of the continent. As a result, education and social care centres in southern Europe experience indoor temperatures above 32°C for several months of the year, making it very difficult to live in these buildings.

To this end, the project will implement the mentioned NBS in different parts of these buildings, such as roofs, facades or outdoor spaces, with a view to improving air quality and bioclimatic comfort both inside and outside the buildings, as well as soil permeability.



The development of the project will achieve a series of environmental, social, economic and governance results aimed at improving the adaptation of cities to climate change. Among the results related to the scope of this deliverable, the following stand out:

- Installation of 19 NBS in the 3 pilot buildings in Spain and Portugal;
- Reduction of at least 4°C inside buildings and improvement of the well-being of the users of these buildings;
- Reduction of energy consumption for cooling and water consumption for irrigation;
- Reduced emissions of carbon dioxide (CO₂) and nitrogen oxides (NOx);
- Citizen empowerment for the use of NBS as a way to adapt to climate change;
- Development of good practice manuals for the application of NBS as tools for adaptation to climate change.



3. ORGANISED EXHIBITIONS

3.1 VISIT OF TECHNICAL TRAINING SPECIALITIES TO NBS OF GABRIELA MISTRAL SCHOOL

22 March 2023

The first travelling exhibition of the LIFE-myBUILDINGisGREEN project took place at the Gabriela Mistral school on 22 March 2023

The exhibition was visited by students and teachers from the Secondary School 'Nuestra Señora de Bótoa' in the town of Badajoz. Students from the following specialisations attended: Intermediate Degree in Gardening and Floristry, Intermediate Degree in Interior Works, Decoration and Restoration and Advanced Degree in Building Projects. There were 16 students and 2 teachers from the Agricultural branch and 18 students and 2 teachers from the Building branch.

This exhibition was initially led by Miguel Ángel Antón, Sustainable Building Technician of the Rural Development and Sustainability Area of the Diputación of Badajoz, who explained and informed the attendees about the objectives and actions of the LIFE-myBUILDINGisGREEN project. This talk was about the construction/building actions and the materials that have been used to reduce the high temperatures in the school, as well as the different prototypes of NBS that have been implemented in roofs/ceilings or walls of the building. In addition, the first results of temperature and CO₂ obtained through the monitoring of the building that have been obtained so far in the classrooms of the school were also presented.



Presentation of the first results of the project by Miguel Ángel Antón



Report and audience report on the Travelling Exhibitions

The visits led by Miguel Ángel Antón to the roofs and outdoors of the school to see the NBS prototypes were divided into two groups, to avoid heavy loads on the roofs/ceilings of the building. Therefore, the prototypes were first visited by the students and teachers of the Building field and then by the students and teachers of the Agriculture field. Therefore, while one group visited with Miguel Ángel, the other group attended a talk on energy efficiency and sustainable mobility.



Miguel Ángel Antón shows the vertical garden installed in one of the school's corridors



Visit to the mBiGFAVE (façade) and mBiGCUVE2 (roof) prototypes of Gabriela Mistral school



Finally, once the exhibition was over, a photograph was taken in the school playground with all the students and teachers of Nuestra Señora de Bótoa Secondary School.



Group photo with IES Nuestra Señora de Bótoa

To give visibility to this first exhibition, a <u>news item was published on the project's website</u> and disseminated through the X and LinkedIn communication channels.

Para dar visibilidad a esta primera exposición se publicó una <u>noticia en la página web del proyecto</u> y se difundió a través de los canales de comunicación <u>X</u> y <u>LinkedIn</u>.



3.2 OPEN DAY AT GABRIELA MISTRAL SCHOOL

28 April 2023

In the framework of the Cultural Week 2023 of the Gabriela Mistral school, an Open Day was organised to show the Nature-Based Solutions (NBS) implemented by the LIFE-myBUILDINGisGREEN project in this educational centre.

During the morning of 28th April, **three sessions were held for 12 people each**, so that the neighbours of the village and nearby towns, as well as the educational community (teachers, administrative and service staff, parents, students, etc.) of the school had the opportunity to learn about the benefits of the NBS implemented in the school.

The event was attended by Francisco Javier Amaya Flores, Secretary-General for Education of the Regional Government of Extremadura (Spain).



Poster of the Gabriela Mistral school Cultural Week 2023





Visit by residents of Solana de los Barros to the mBiGCUVE2 and mBiGFAVE solutions for the Gabriela Mistral School



Explanation of the irrigation water pumping system for the NBS of Gabriela Mistral school



Report and audience report on the Travelling Exhibitions



Merchandising of the LIFE-mBiG project distributed to the attendees of the Open Day



Report and audience report on the Travelling Exhibitions

To give visibility to this first exhibition, a news item was published on the project's website and

disseminated through the \underline{X} and $\underline{LinkedIn}$ communication channels.

PROGRAMACIÓN:

LUNES 24 ABRIL



MERCADILLO DEL LIBRO SOLIDARIO: HORA: 10 H.

LUGAR: PLAZA ESPAÑA

Trae un libro que ya hayas leído y un euro. De esta manera podrás llevarte el libro que más te guste y colaborar con la Asociación "Sahara Mérida"

MIÉRCOLES 26 DE ABRIL

DÍA DE LA BICICLETA Y SENDERISMO El alumnado y aquellas familias que quieran hacer la ruta en bicicleta, podrán participar. Aquellos que no tengan bici, realizarán una ruta senderista alternativa. (Concretaremos hora y recorrido más adelante)



JUEVES 27 DE ABRIL

25° ANIVERSARIO DE NUESTRO PROYECTO "CUÉNTAME UN CUENTO"

HORA: 17:30

- LUGAR: CASA DE LA CULTURA • 26º certamen Cuéntame un cuento
- 26° certamen Cuentame un cuento
 Actuación grupo teatro Atenea
- 25° aniversario cuéntame un cuento

VIERNES 28 DE ABRIL

- JORNADAS PUERTAS ABIERTAS DE "LIFE-MYBUILDINGISGREEN": haremos 3 pases para todos aquellos vecinos que quieran visitar las instalaciones:
 - 1º pase: 11:30
 - 2º pase: 12:00
 - 3º pase: 12:30
- EXPOSICIÓN PROYECTO "CUÉNTAME UN CUENTO": para toda la Comunidad Educativa. De 12 a 13 horas.
- <u>TALLERES para el alumnado:</u>
- Taller de Magia y Medio Ambiente
- Taller de Rap y Medio Ambiente
- DJ TUGGO: Taller de bailes TIK-TOK



• <u>CONVIVENCIA GASTRONÓMICA:</u> <u>1</u>3 horas: Gazpacho y Caldereta extremeña para los asistentes

Montaditos para el todo el alumnado.



IOS ESPERAMOS!

Gabriela Mistral school Cultural Week 2023 Agenda

A NIVEL DE AULA

MARTES 25 DE ABRIL

12 HORAS: CUENTACUENTOS

JUEVES 27 DE ABRIL



- LECTURA DE OBRAS DE GABRIELA
 MISTRAL
- LECTURA ENLAZADA DE DIFERENTES EDICIONES DE CUÉNTAME UN CUENTO EN LA BIBLIOTECA DEL CENTRO POR PARTE DE TODO EL ALUMNADO
 TEATROS...
- TEATROS...



3.3 VISIT OF SCHOOLS CLOSE TO THE GABRIELA MISTRAL NBS

8 May 2023

After the visits of the students of IES Nuestra Señora de Bótoa and the Open Days of Gabriela Mistral school, the professional school Campiña Sur IV and the IES Mariano Barbacid put the finishing touch to the cycle of itinerant exhibitions of Nature-Based Solutions (NBS) implemented by LIFE-myBUILDINGisGREEN in the Gabriela Mistral school, pilot building of the project in Solana de los Barros (Badajoz).



Visit to the green façade and one of the green roofs implemented at CEIP Gabriela Mistral

These last two visits took place on 8 May 2023. In the case of the vocational school Campiña Sur IV, a total of 23 students attended, while in the case of the IES Mariano Barbacid, located in the same village as the pilot building of the project, a total of 32 students attended.



Comparison of the theoretical project and the actual result at Gabriela Mistral school



Report and audience report on the Travelling Exhibitions

To give visibility to this third and last travelling exhibition of CEIP Gabriela Mistral, a <u>news item</u> <u>was published on the project's website</u> and disseminated through the <u>X</u> and <u>LinkedIn</u> communication channels.



3.4 EXHIBITION-WORKSHOP WITH STUDENTS FROM FALCÃO SCHOOL

21-25 September 2023

From 21 to 25 September, several exhibitions were held at the EB1 School in Falcão with **156 pupils from the school's seven classes (pre-school to 4th grade)** with the aim of exploring with the children the green roofs and photovoltaic panels installed as part of the refurbishment and extension works of the school within the framework of the LIFE-myBUILDINGisGREEN project.



Exhibition and workshop with 3rd year students (22 Sep 2023)

The story "Joaquina the bee and a very special garden", created from scratch to suit the age group, provided the pre-school children with a very participative and enthusiastic moment of interaction which, in the playground, aroused their curiosity and joy for having "a very special garden" on the roof of their school that saved Joaquina the bee.

Pupils from seven primary grades, from 1st to 4th grade, when asked "Do you know why your school is green?", immediately answered: "Because we have a garden on the roof". Others, surprised and thoughtful, were able to observe the rooftop plants from the playground and were encouraged to discover other Nature-Based Solutions, in particular the green façade and



photovoltaic panels. While observing, they organised segments of a drawing of the parts of the building where they placed the green roofs, the green façade and the photovoltaic panels.



Exhibition and workshop with 1st year students (21 Sep 2023)

Back in the classroom, with the support of photographs and direct observation, they drew and coloured the solutions. Different shades of green, brown, purple, black, yellow, blue and other colours were passed from hand to hand, creating a collective plastic representation of the Nature-Based Solutions and the photovoltaic panels, which made the pupils feel proud to have such a special school, as evidenced by one pupil's repeated expression while colouring, like a whisper "my school is green! It has a green roof!... My school is green! It has a green roof!...".

The way these solutions were presented and identified gave rise to many questions that were not left unanswered, but left the way open for a detailed experimental exploration of the characteristics of each solution, what they are used for and how they work, which will be carried out in four sessions throughout the school year and which, together with this visit, are part of an educational programme on the Nature-Based Solutions implemented at EB Falcão School in the framework of the LIFE-myBUILDINGisGREEN Project.



The team of the Municipal Environmental Management Division was accompanied in these sessions by AdePorto – Porto Energy Agency.

To give visibility to the first exhibition-workshop organised by the Municipality of Porto, a <u>news</u> <u>item was published on the project website</u> and disseminated through the <u>X</u> and <u>LinkedIn</u> communication channels.



Exhibition and workshop with 2nd year students (22 Sep 2023)



3.5 VISIT OF NEIGHBOURS FROM CAMPANHÃ TO NBS OF FALCÃO SCHOOL

30 September 2023

Another of the interpretative visits to the Nature-Based Solutions (NBS) of the Falcão Basic School, marked by innovation and sustainability, took place in the framework of the exhibitions organised by the LIFE-myBUILDINGISGREEN project in the pilot buildings in which it has implemented these NBS. On this occasion, the visits were open to all interested parties.

The people who participated in these visits were a total of 18 residents mostly from Porto, but also from Vila Nova de Gaia and Matosinhos, between 7 and 77 years old, although most of them were in the 40-55 age range, captivated by their interest in the subject, in knowing more about green roofs, in knowing what Porto is doing in environmental terms, as well as by their academic or professional interest.

Curiosity and active participation were evident in the attentive observation and successive detailed questions on the characteristics, functions and benefits of green roofs and green facades in creating thermal comfort, as well as on the functioning and benefits of photovoltaic panels.



Helena Teles, coordinator of the Falcão school, welcomes the participants



The visit was organised in collaboration between the Municipal Division of Environmental Management and AdePorto – Porto Energy Agency.

To give visibility to this visit, a <u>news item was published on the project website</u> and disseminated through the <u>X</u> and <u>LinkedIn</u> communication channels. In addition, registrations for the visit were advertised through the <u>Eco-Agenda portal</u> of the Municipality of Porto.



Visit to one of the green roofs of Falcão school



Visit to the vegetal façade of Falcão school



3.6 VISIT OF PARENTS OF PUPILS TO THE NBS OF FALCÃO SCHOOL

17 October 2023

On the afternoon of Tuesday 17 October 2023, the Câmara Municipal do Porto organised a new visit to the Falcão School's Nature-Based Solutions as part of the project's cycle of travelling exhibitions. **The event**, which was intended for a maximum attendance of 30 people, **was only attended by 8 people**, possibly due to the bad weather during the day. On this occasion, **the visit was aimed at the parents of the Falcão school students**.



Staff of the Câmara Municipal do Porto explain what the visit will consist of

During the visit, which lasted one hour, the LIFE-myBUILDINGisGREEN project was presented, visiting the solutions and explaining in detail the work carried out and its benefits. The explanation of the operation of the photovoltaic panels installed as part of the mBiGBioSol solution was also explained in depth, highlighting the reduced energy dependence of the building. Finally, there was time to resolve doubts and answer various questions raised by the attendees.



Report and audience report on the Travelling Exhibitions

To give visibility to this visit, a <u>news item was published on the project website</u>.



Visit to the outdoor areas of Falcão

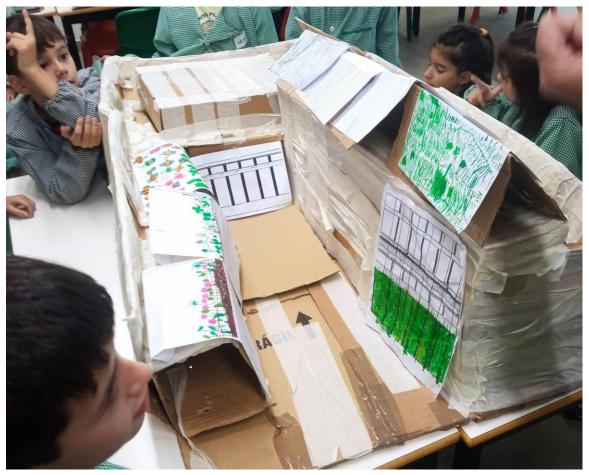


3.7 VISITS TO NBS FROM FALCÃO SCHOOL IN THE FRAMEWORK OF THE EDUCATIONAL PROGRAMME "OUR SCHOOL IS GREEN"

15 November 2023

Part of the educational team of the Municipality of Porto has created a training programme on the adaptation of buildings to climate change based on the experience of the LIFE-mBiG project. This programme includes a series of interactive activities aimed at pre-school and primary school pupils that will be tested in the Falcão school in Porto in the 2023/2024 school year. After its implementation, a process of improvement of this training programme will be carried out and it will be used in other schools in the city of Porto in the coming years.

The Falcão school in Porto is a clear example of sustainability and climate resilience with the use of Nature-Based Solutions. It is also a living laboratory of excellence to raise awareness, sensitise and promote learning on the subject among the educational community and residents.



Activity "Why are there green roofs in our school?"



Throughout this educational programme, Falcão students will be able to identify the various solutions implemented in their school, so that they can claim "Our school is green".

This school year, the programme includes an **initial interpretive visit for 112 primary school pupils**, which took place on 15 November 2023, two exploratory sessions and two experiential activities per class, in conjunction with the Essential Learning Frameworks, the Profile of School Leavers and the Education for Sustainability Framework.

In the case of pre-school pupils, they will be introduced to the topic of Nature-Based Solutions through the original children's story "Joaquina the Bee and a very special garden".

After testing the educational programme created by the Porto City Council, it will be extended with the relevant improvements to other schools in the city, organising numerous visits in the future so that more primary school pupils in Porto learn about the NBS implemented in the Falcão school.

The content of this training programme, as well as other training activities related to Action C6 of the LIFE-myBUILDINGisGREEN project (Action Plan to strengthen resilience in existing and future buildings), can be downloaded from the results section of the project website.

To give visibility to this educational programme and the associated visits to the Falcão school's SbNs, a <u>news item was published on the project's website</u> and disseminated through the \underline{X} and <u>LinkedIn</u> communication channels.



Students from Falcão school smell the cork from one of their green roofs.



3.8 GRAPHIC EXHIBITION ON THE NBS OF THE FALCÃO SCHOOL

February 2024 and later dates

The design of the exhibition with graphic panels that is being organised by the Câmara Municipal de Porto in the framework of the communication and awareness actions of the LIFE-myBUILDINGisGREEN project was completed on 7 February 2024.

The aim of this exhibition is to raise awareness among the citizens of the Municipality of Porto about the use of Nature-Based Solutions as an alternative for the adaptation of buildings to climate change and its main benefits. For this purpose, the interventions carried out in the Falcão school, pilot building of the LIFE-myBUILDINGisGREEN project, are taken as a reference.



The exhibition created will be shown in various locations in the city of Porto during 2024 and 2025. The estimated locations and dates for the exhibition are as follows:

- Exhibition at the Falcão School (February
 March 2024)
- Exhibition at the Porto City Hall (April 2024)

- Exhibition at the Summit on Nature-Based Solutions to be held at the Crystal Palace in Porto (**May 2024**): this event will bring together a multitude of experts from all over Europe working with NBS. The final programme is expected to be launched in the first weeks of March.

- Rotating exhibition in various schools in the city of Porto (September 2024 and beyond)



4. CONCLUSIONS

In the course of the LIFE-myBUILDINGisGREEN project, a total of 8 exhibitions in various formats have been held to publicise the Nature-Based Solutions implemented by the project in the three selected pilot buildings. This has allowed to improve awareness of climate change and its impacts and to promote citizen participation in climate adaptation measures.

Although the number of organised events mentioned in the previous paragraph is already higher than the number committed to in the initial project report, it should be noted that the door is open for a greater number of such events in the future, as the three pilot buildings of the project have become benchmarks of sustainability and adaptability of public buildings to the effects of climate change, especially to high temperatures. In the case of the Gabriela Mistral and the Horta das Figueiras schools, there is no other building in the province of Badajoz or in the Central Alentejo region, respectively, that implements climate adaptation measures in buildings with the characteristics of those used and tested in the LIFE-myBUILDINGisGREEN project. In the case of the Falcão school, a training programme has also been developed to continue working on raising awareness among nursery and primary school students in the city of Oporto, foreseeing the organisation of new visits to the Falcão NBS in the future. A graphic exhibition has also been created and will be displayed in various locations in the city, which will increase the knowledge of the citizens of Porto and neighbouring cities about the work carried out by LIFEmyBUILDINGisGREEN, as well as the results obtained.

A total of 419 people of different profiles, age ranges and origins visited the Nature-Based Solutions of the three pilot buildings. Of these 419 people, 125 visited the NBS in Solana de los Barros and 294 people visited the NBS in Porto. Although the audience of these events was mainly people living near the areas of influence of the schools, there was also participation of people from other provinces or regions.

Among the profiles that have attended the travelling exhibitions organised, the following stand out: students of vocational training in technical specialities such as gardening and floristry, interior design, decoration and rehabilitation or building projects; neighbours, parents and the educational community of the schools where the NBS have been implemented; and students and teachers from other schools near the pilot buildings.

Due to the fact that the works for the implementation of the Nature-Based Solutions in the Horta das Figueiras school, a pilot building in Évora, were completed days before the official end date



Report and audience report on the Travelling Exhibitions

of the project, it was not possible to hold any exhibitions during the LIFE-myBUILDINGisGREEN implementation period. However, the Intermunicipal Community of Central Alentejo (CIMAC), the partner responsible for the intervention works in the Évora building, has committed itself to carry out several events of this nature during the After-LIFE period. The results of these events, as well as the graphic material obtained in them, will be disseminated through the project and CIMAC channels on the corresponding dates.