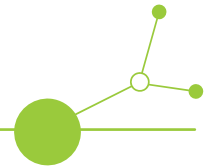


# D1.3.3 - Study visits to good practice examples in the CE area

report on the 3rd site visit



Project GreenScape CE - Climate-proof landscape through renaturing urban areas in Central Europe

Project Index number: CE0100042

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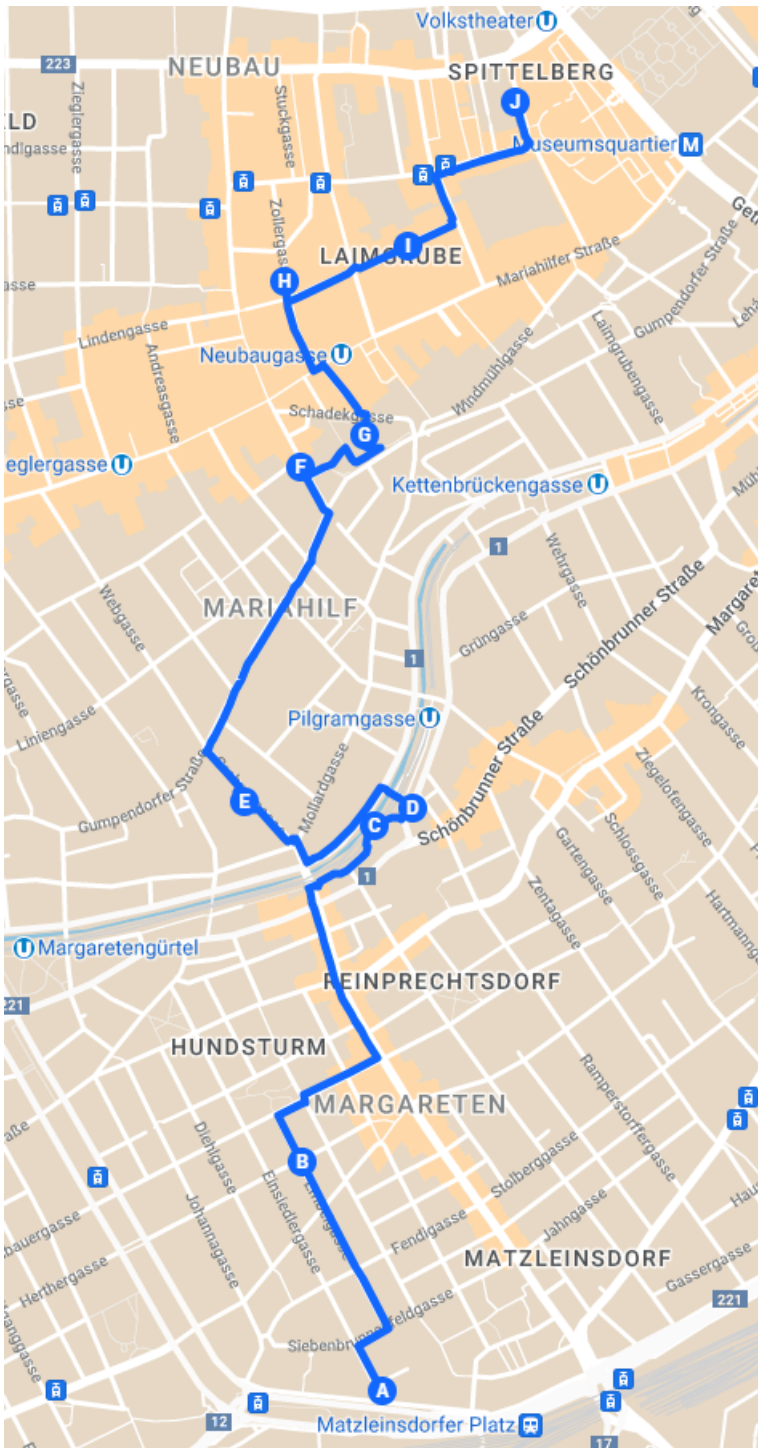
Visited Sites: green walls in Vienna, Austria





## Report on good practices

Jointly with the project meeting and complemented by participants representing associated partners, the 3rd site visit of GreenScape CE project was organized in Vienna and focused on green facades.



- A) MA 48 - waste management (Einsiedlergasse 2, 1050)
- B) Private Building (Embelgasse, 1050)
- C) Wientalerrasse (Rechte Wienzeile, 1050)
- D) City District Office 4<sup>th</sup> + 5<sup>th</sup> District (Rechte Wienzeile, 1050)
- E) MA 31 - water management (Grabnergasse, 1060)
- F) City District Office 6<sup>th</sup> District (Amerlingstraße, 1060)
- G) Haus des Meeres - Zoo (Esterházypark, 1060)
- H) Alley Reconstruction (Sponge City Concept) (Zollergasse, 1070)
- I) Gerngroß Garage (Lindengasse, 1070)
- J) Hotel Gilbert (Breite Gasse, 1070)

1. Figure: Visited sites



The good examples of the site visit are presented in groups<sup>1</sup>, from the most natural solutions, where plants are rooted directly in the soil, to the most technology intensive solutions, which are much more maintenance-intensive and at the same time more sensitive (less resilient).

Please note in the pictures how green facades have significant foliage in ideal cases. In the urban areas, hardened by heat island effect and space crunch, green facades can therefore certainly be handled as indispensable helpers.

## Natural green walls

In the old days, the only way of greening walls and fences the was natural one, i.e. when the plant took root in the soil. It could reach deeper waterways, even ground water, so the only trouble was to adjust its shape every year or two. If there is enough space next to the structure, this is the way to go (see Picture 1). The plant can run directly on the wall or on a support system.

It is important to be aware that many species are known (e.g. wild grape, blue rain, ivy), but it is worth being careful about the sub-species and seeking professional advice, as there are large differences between sub-species, for example in how tall the plant can grow.



Picture 1: Natural green wall in Wien (Sandwirtgasse 15.)<sup>2</sup>

<sup>1</sup> references (where available) to the map above with capital letters are in picture descriptions

<sup>2</sup> Photos were taken by Pej Zsófia and Olasz Krisztina.



## Green from the pots

In larger cities, however, space is often at a premium, with grey infrastructure requiring its own space according to strict rules. This is where the planting containers and pots come into play at pavement level or even higher up. The private house in picture 2 was fitted with planters and plants in 2006, at an investment of around €30,000. Troughs are installed across the entire façade at a height above the ground floor, on which climbing plants grow on climbing ropes across the façade. The planting alternates wisteria and blue rain with evergreen honeysuckle. Water is supplied by an automatic irrigation system via a drip hose.



Picture 2: Greening from the 1<sup>st</sup> floor (Embelgasse, B)

In Vienna, municipalities are setting a good example: most district council buildings and other public buildings are already green. Three different types of climbing plants (wisteria, honeysuckle, wall cat) climb up the façade of the heritage-protected building from steel troughs placed on the sidewalk along steel cables (Picture 3). Lavender and



roses were also planted in the troughs to protect the rhizomes. Irrigation is fully automatic. Picture 3 shows the courthouses of the 4th and 5th districts, where a bad example of species selection can be observed: a more vigorous variety of blue rain has been chosen, and the plant is now actually hanging on the building, lifting its own 500 kg planter.



Picture 3: Blue rain in planting container (Schönbrunner Strasse 54., D)

The façade of the building, which was constructed in the 1960s, was renovated in 2015/16. This included not only the thermal refurbishment (full thermal insulation, new thermally insulating windows), but also the greening of the façade. While the thermal insulation primarily reduces heating costs in winter, the greenery protects against overheating in summer through evaporative cooling and functions as a sunshield against the southern sun in summer (Picture 4). The planters are supported by steel on the



ground which was possible because the building is 30 cm from the site boundary and the 30 cm is also private. There is automatic irrigation with two sensors on each level. Problems are caused by the lack of an overflow protection system.



*Picture 4: Steel-structure for the plants (Grabnergasse 4. E)*



Historically protected buildings can even have green facades in Vienna. The one in Picture 5 was established in 2021. Sidewalk was opened up and troughs with climbing ropes were put there (a nice example of the necessary rope overhang). Climbing plants such as Wisteria, Honeysuckle, and Virginia Creeper installed on the facade of the administrative building, and the beds planted with standard lilacs and hibiscus.



*Picture 5: Green facade on historically protected building (Amerlingstraße 11. F)*



The Gerngross multi-storey parking lot in Vienna's 7th district has been lavishly planted with blue rain growing from a basement floor, providing a green change of scenery in the city (Picture 6).



Picture 6: Green facade of a parking lot (Lindengasse 17-19. I)

## Intensive green walls

For intensive green facades, both installation and maintenance require more complex technologies and higher costs. In addition, as you can see from the pictures, they generally show that (some of) the plants are not really thriving, unable to provide the various services of the same quality as their well-nourished counterparts.

The full-surface façade greening system of the local waste management company (Picture 7), which is based on a modular system of perennials and grasses, was installed in 2010. The irrigation system is fully automatic. The green façade reduces the heat flow of the building without insulation in summer by 50% and in winter by 20%.





Interestingly, during the summer holidays of the maintenance staff in 2019, it was destroyed in two weeks, but despite expectations, it has recovered after a refreshing pruning and new species have appeared. The container has a 2 cm water reservoir and wool insulation. It requires about two days of maintenance work twice a year, at a maintenance cost of about 300 EUR/m<sup>2</sup>.



Picture 7: - Green wall of the waste management company (Einsiedlergasse 2. A)



Vienna's highest green wall on the Haus des Meeres was built in 2019: over 8,500 plants were planted in automatically irrigated metal tubs over an area of more than 400 square meters (Picture 8).



Picture 8: Green wall of Haus des Meeres (Esterházy park, G)

The planting design of the exterior façade of the Hotel Gilbert (Picture 9) is tailored to the Viennese climate with perennial evergreen hardy perennials, including grasses and shrubs. It is constructed from prefabricated elements, has automatic irrigation system with manual control, made in 2020. The lush green façade provides plenty of new living space in the city for insects, birds and butterflies.



Although it was very showy when new, it is very sensitive and difficult to maintain: in winter, for example, in very cold weather, plants have to be watered several times a day with warm water.



*Picture 9: Green wall of a hotel (Breite Gasse 9. J)*