



## SUSTAINABLE ARCHITECTURE IN REYKJAVIK

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Basalt Architects have won the C40 Reinventing Cities global competition for innovative carbon-free and resilient urban projects for the site of Lágmúli in Reykjavik, Iceland. Acting as lead designers for team Fabric (Basalt Architects, EFLA, Landmótun and Reginn), Basalt Architects delivered an exemplary sustainable architecture project in Reykjavik where forward-minded businesses and individuals are given a chance to thrive in a communal, open building designed for a better future.

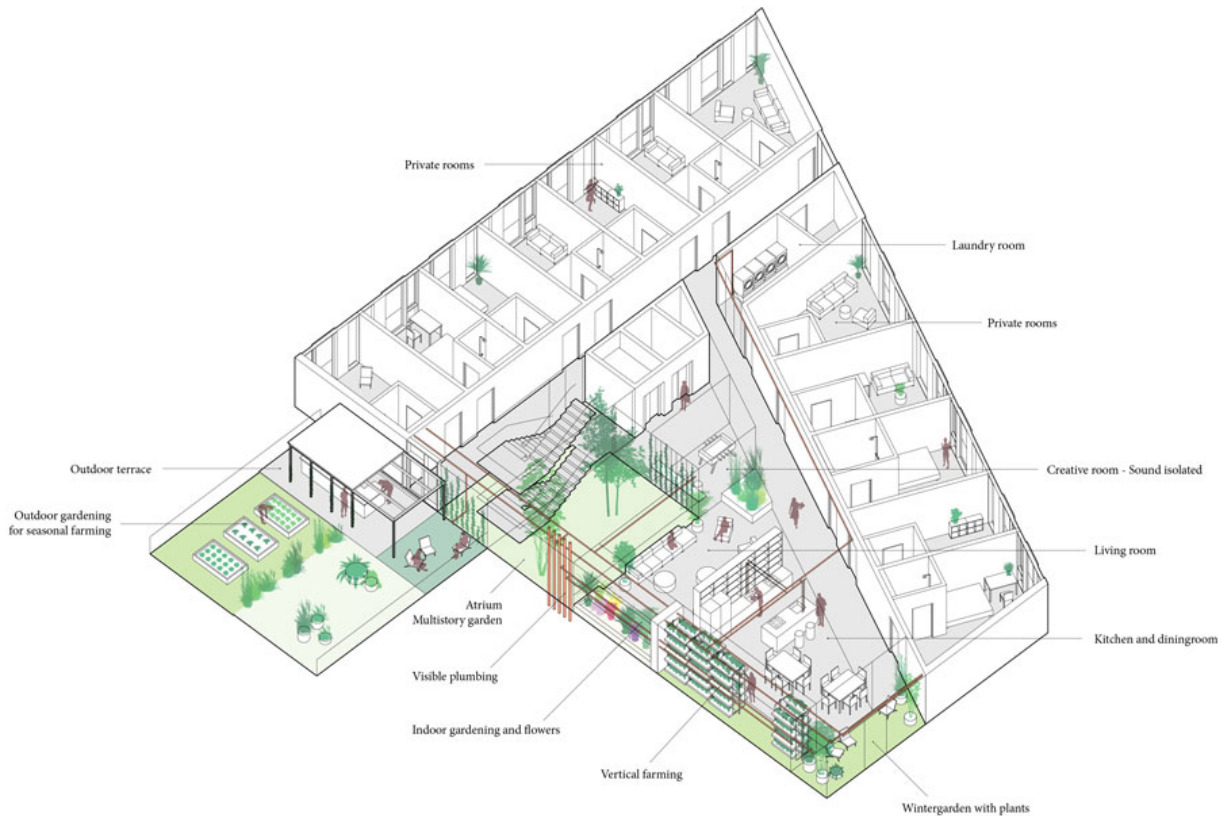


Iceland's capital city, Reykjavik, owes its very name to geothermal swells, exuding steam from the ground. The hidden powers beneath the site feed much of Reykjavik's heating grid, yet this remarkable system is mostly hidden from sight, and therefore from mind. The project brings back to light this magnificent power by incorporating visual, tactile, hands-on features into the design of both site and building. This way, the project ensures that the city's relationship with nature is brought thoroughly back to mind.

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Contributing towards a better, healthier and greener city, the project creates a hub for health, wellness and sustainable lifestyles, generating a unique opportunity to showcase a new era in construction and a beacon of sustainable design in Reykjavik. The 14,500-square-meter building incentivizes alternative and communal ways of living and working, mixing co-habitational housing, shared office space, public space, service and retail. The building volumes appear to float separately, breaking down the scale to a more human level. It is a building that expresses the city as a network of volumes, made possible by the incredible "green" infra-structure that man and nature provide together. This way, it is really a vertical microcosm of the city, radiating sustainability,

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inclusivity and architectural rigor. Oriented towards the south, all ventilation systems are equipped with waste heat recovery. Particular attention is paid to reducing the energy demand of the greenhouses.



Emissions from construction are minimized by using low-carbon materials such as Icelandic stone wool, which is produced locally, as well as timber cladding and cross-laminated timber (CLT). Waste to landfill is minimized: 95% of waste is diverted from landfills.

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Biodiversity is an important part of the project. The creation of green corridors, green walls and roofs, greenhouses and a thermal winter garden will function as a wind shelter and be used for social events. A green ribbon throughout the building takes on many roles, from communal spaces and circulation to events and greenhouse areas. The green ribbon is an extension of the geothermal elements of the site. It is the lifeline of the building and will showcase how modern use of natural resources and technology can positively impact everyday life on all levels – at home, at work and beyond. The green ribbon is simultaneously a channel for all the geothermal technology and ductwork, in addition being an incubator for green growth through farming and various types of gardening connected to the building's different functions.

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## Co-living

Co-living is an increasing trend in the shared economy and in common use housing. Users share a basic facilities and private areas, which can result in lower costs for users. By emphasizing communal housing solutions, the goal is to be able to offer affordable housing based on innovative building techniques and cost-effective solutions.

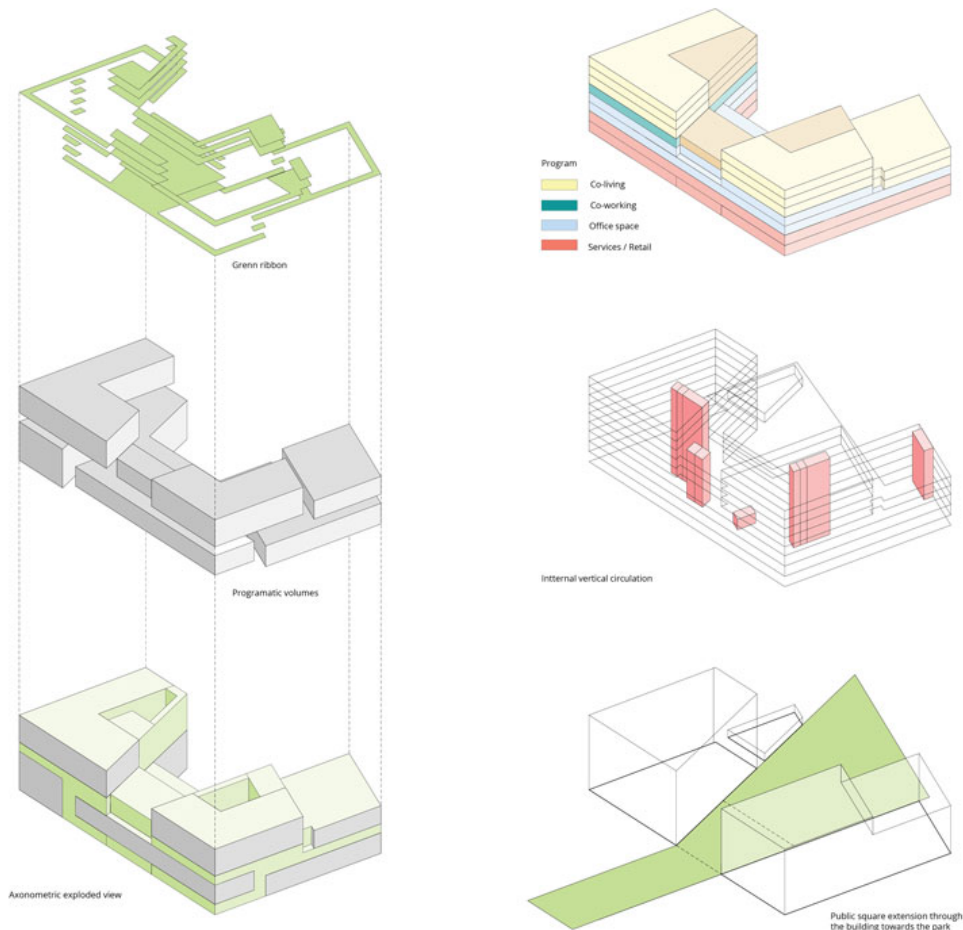
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The co-living concept harmonizes with the burgeoning demand for a simpler lifestyle with fewer possessions and more sharing. Furthermore, it provides residents with the opportunity to interact with plants as part of their daily lives, while raising their awareness of the natural resources that make this possible.

All the people passing through this residency take with them the attitude and knowledge acquired here, enabling them to put it to use as they move on, spreading the idea beyond this site and into the city at large.

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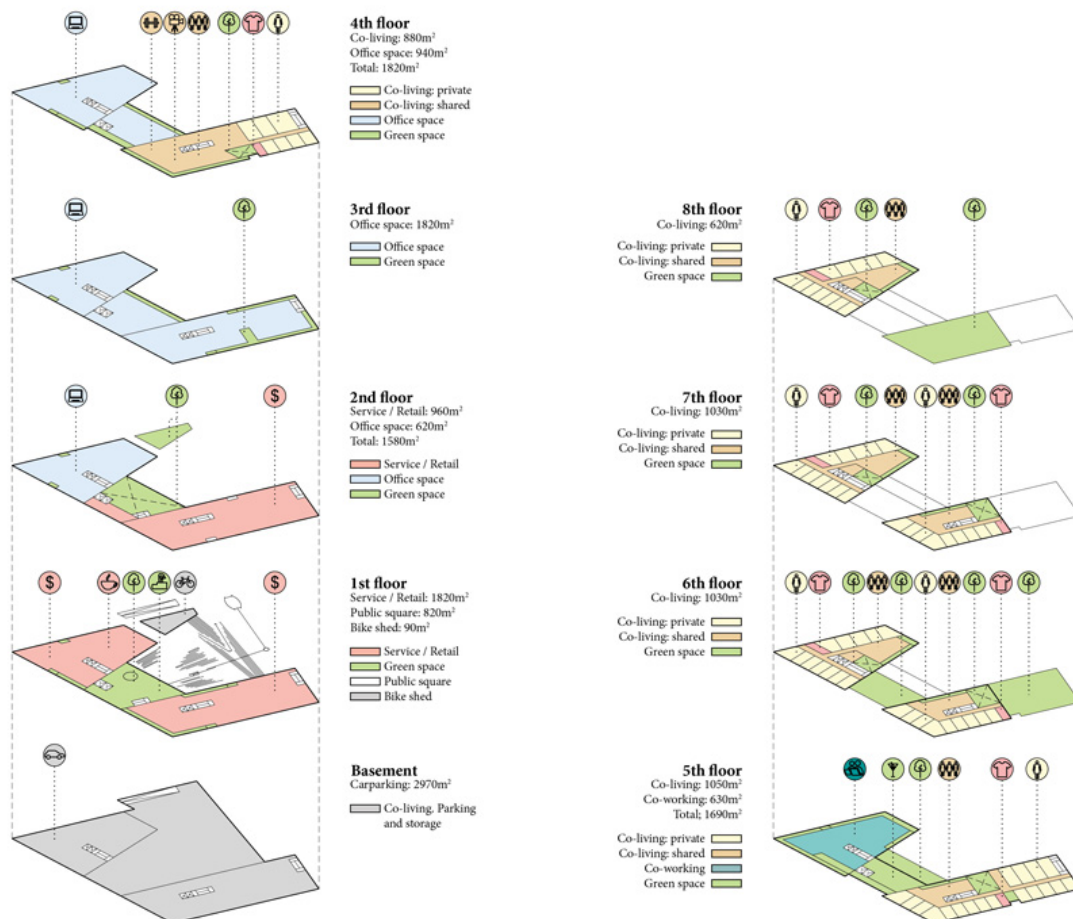
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## Local Agriculture

Local agriculture is a centerpiece in this co-living community, with people working and living among plants. The project caters to that trend, allowing building users to practice vertical farming and produce food indoors. Local businesses can use the crops as ingredients for restaurants, providing healthy meals to building users and the local community. In addition, the building has roof gardens, providing green space for recreational purposes.

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**Outdoor garden**  
The outdoor garden is located in the public square and includes a diversity of vegetation existing in the northern temperate zone.



**Herbs garden**  
As part of the cafe and restaurant, the garden of herbs offers seasonal, fresh and local produce while enhancing the sustainable aspect of the place.



**Vertical farming**  
Hydroponic vertical farming provides a sustainable means of food production while serving as solar filter and improving indoor air quality.



**Outdoor community areas**  
Green roofs provide the perfect setting for outdoor recreational activities, resting areas, gardening, sport activities and children's play areas.



**Botanical garden**  
Teh botanical garden is dedicated to the collection, cultivation, preservation and display of a wide range of plants.



**Tropical garden**  
The tropical garden features plants with large leaves, vegetation that builds in height towards the back of the garden, creating a dense garden.



**Indoor food gardening**  
Air filtration, therapeutic benefits, mental health improvement, fresh and pesticide-free fruit and vegetables all year round, composting.



**Biodiversity**  
Ensuring biodiversity is green roofs provides a habitat for various species and restores the ecological cycle disrupted by urban infrastructure.



**Medicinal garden**  
Linked to the healing and wellness activities of Lyfja, the garden of medicinal plants offers a window into the history, beliefs and culture of medicine.



**Seasonal flower garden**  
The seasonal flower garden contains flowers that bloom at varying times of the year, featuring different color combinations through varying seasons.



**Shared green spaces**  
Communal spaces encourage social interaction, sustain community values and promote cultural identity.



**Environmental benefits**  
Among the benefits of green roofs is stormwater management, air purification, indoor temperature regulation, energy saving and noise reduction.

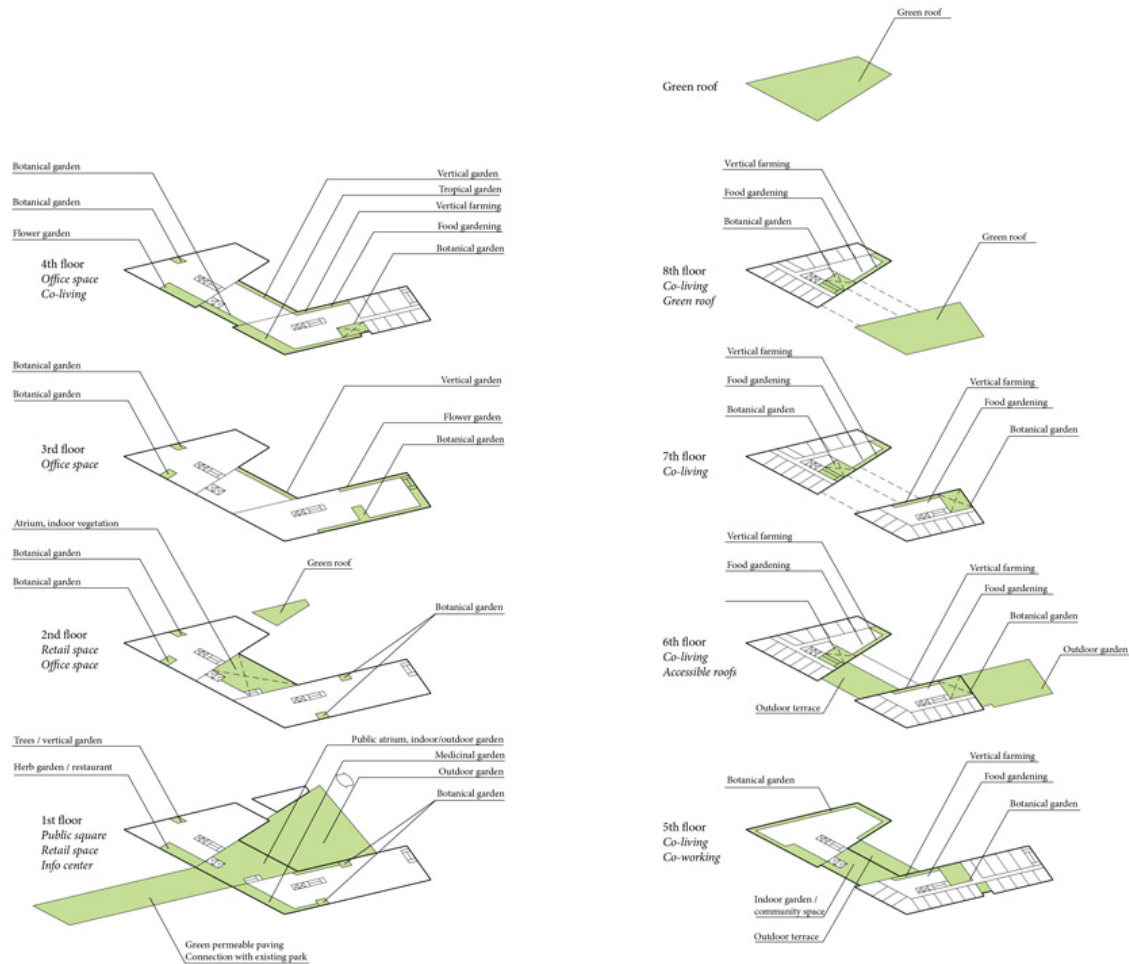
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## Public Space

The public space south of the building is activated by the green axis that extends through the building and connects it to the geothermal park. Geothermal water is channeled from the existing borehole creating a variety of water features, including a footbath pool for users and passers by.

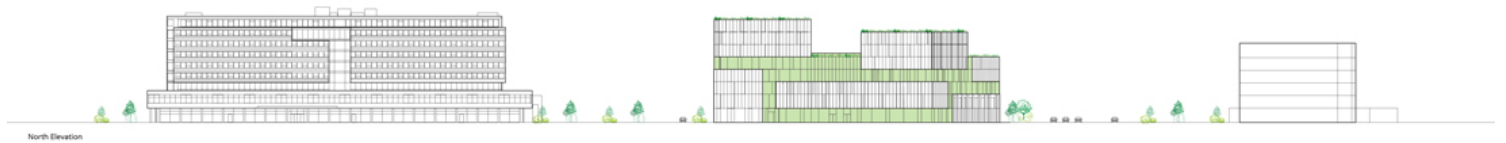
The plaza plays a very active role as a social space and gathering point for the users of the building as well as neighbours and other visitors. The pedestrian paths and connection points have been further elaborated. Both the use of the ground floor as a geothermal information center and the



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integration of a cafe/restaurant at ground level ensure the plaza is constantly active.



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