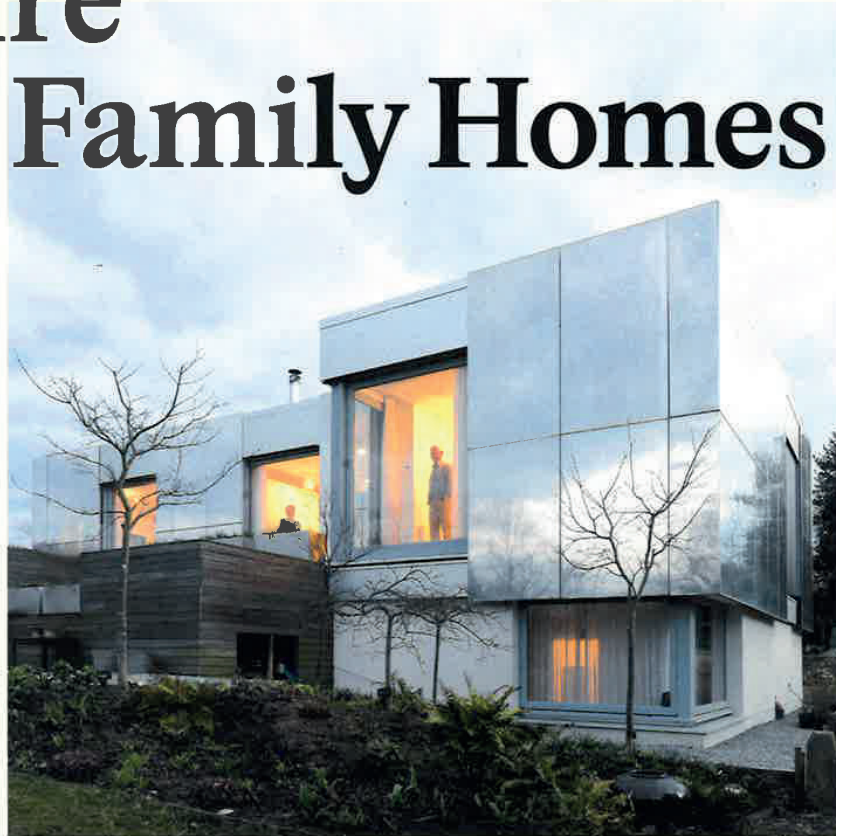


# Building Better

## Sustainable Architecture for Family Homes



gestalten

# Studio 1984

## Sustainable features

- Southern orientation
- Compact footprint
- Overhangs
- Natural ventilation
- Light foundations
- Natural and locally sourced materials
- Off-grid
- Energy-efficient glazing

**Sustainable houses need not have hefty price tags. This modest structure uses locally available and recyclable materials to construct a passive and off-grid shelter.**

**P**art of a sustainable housing exhibition in the Alsace region of France, this micro residence brims with ecological features. The nest-like dwelling develops an architecture that minimally impacts the natural environment. Inspired by the vernacular agricultural constructions in the area, the Nest's familiar shape and texture pay homage to traditional barns while capturing their discreet charm.

This pastoral inclination dictates the choice of widely available, locally sourced materials such as straw and wood. These readily available and sustainable elements allow the structure to maintain an extremely light touch on the land. Far from generating an archaic habitat, the project's references to its rural heritage are balanced by a number of technical innovations in terms of comfort, ambience, and energy efficiency. Due to the effort taken to seamlessly integrate the cabin into the landscape, several vernacular techniques receive valuable updates to make them more sustainable.

The mini habitat also stands as a reflection on the ephemeral nature of many rural constructions. Comprised of almost exclusively renewable materials, the structure can be easily deconstructed and recycled. Set on an elevated foundation, the eco cabin hovers over the site with only minimal connection points on the land. This slender foundation, made up of six driven piles of acacia wood, give the building the appearance of floating above the ground.

## The Nest

Muttersholtz, France







**T**he micro building calls for a micro budget. Built with just \$14,000, the simple structure features local, recyclable, non-toxic, and energy-efficient materials. Enhancing not just the local environment but also the economic fabric, this tiny house serves as model of sustainable, responsible, and ecological design. The comprehensive green building system never sacrifices architectural quality. Staying in tune to local and global needs, the micro dwelling achieves macro results.

Two hundred bales of packed straw become both the insulation and exterior cladding for the building. Held in place with a Douglas fir wooden structure and larch wood joinery, the tightly packed straw creates a wonderfully rustic and tactile exterior. From within, pinewood panels form an elegant finish material and a refreshing contrast to the wild nature of the outer surfaces. All the wood appearing in this residence is locally sourced, non-treated, and utilized to bring out the best of its natural qualities.

Applying several key passive house features, the endearing project presents a life off the grid. A floor-to-ceiling picture frame window and glass entry door capitalize on the building's southern orientation. Framing views of the serene meadow, these low-emissive, argon-filled, and double-glazed windows ensure a stable indoor climate throughout the year and changing seasons. The pitched roof includes prominent cantilevers on three of its four sides. With the largest overhang appearing toward the south, the building's north face stays intentionally uncovered to catch the weaker morning rays of sunshine. These strategic overhangs maximize comfort in both the summer and winter. The roof also introduces intentional gaps between itself and the main structure of the house to encourage ventilation and prevent overheating. Further supporting the off-grid energy strategy, a narrow, rectangular window on the west face of the structure provides natural cross ventilation.

Resonating with the most significant contemporary issues facing the architectural profession, the ambitious exhibition produces a committed, innovative, and environmentally friendly approach to green design. The carefully preserved site that hosts the exhibition promotes greater reflection on the relationship between manmade settlements and the natural



environment. Initiating a rediscovery of nature and its resources, the modest project builds upon the welcoming and understated characteristics of vernacular architecture.

Another goal for this exhibition reflects the urgent need to mobilize social energies in order to find innovative, efficient, and qualitative solutions for our current housing issues. The exhibition, and the Nest in particular, advocate for the design of moderately sized residential spaces. this compact dwellings offer a new way of living that responds to the changing social and ecological needs of our time. In accordance with the main concerns of the event, the Nest engages sustainably sourced, green construction elements designed for long-term use.

This tranquil pavilion behaves as an interactive lesson in architectural sustainability. Through sensitive concepts and energy-efficient technologies, the residence embodies a unique tranquility bolstered through its green design. A compelling demonstration of ecological and local thinking, the single-room shelter will transition into a small public facility for children canoeing on the nearby river. Adaptable to the changing needs of the local community, the fine cabin acts as a model example for reuse and the value of building with environmental and practical longevity in mind.

Untreated and locally sourced wood wraps around floor-to-ceiling, energy-efficient glazing located along the shelter's southern face.





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Sustainable materials:

- Low emissive, argon-filled, double glazing
- Local untreated Douglas fir, pine, and larch wood
- Acacia wood foundation piles
- Straw bale insulation
- Clay coating

City/country:

Muttersholtz, France

Year:

2012

Plot size:

N/A

Building size:

15 m<sup>2</sup>

Number of rooms/  
residents:

1 room/  
0 residents

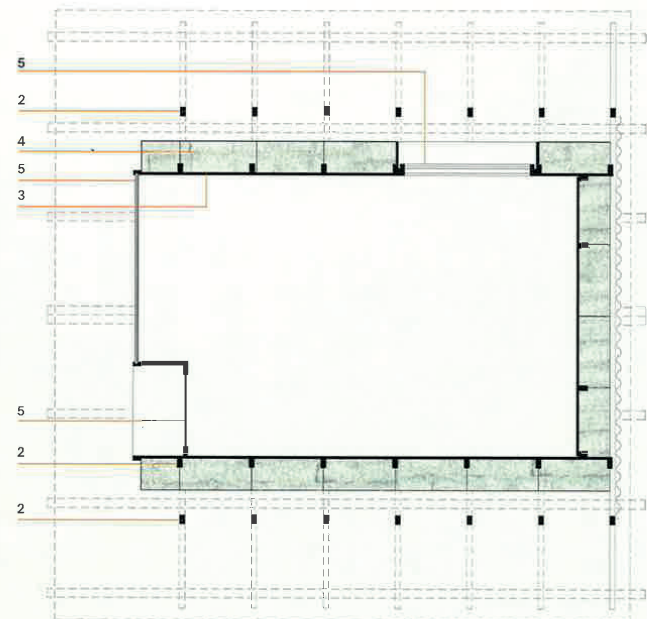
Overall budget:

\$14,000

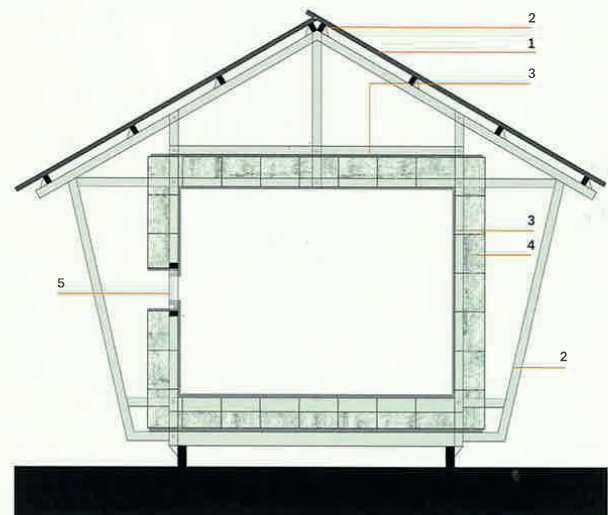


Floor plan and section

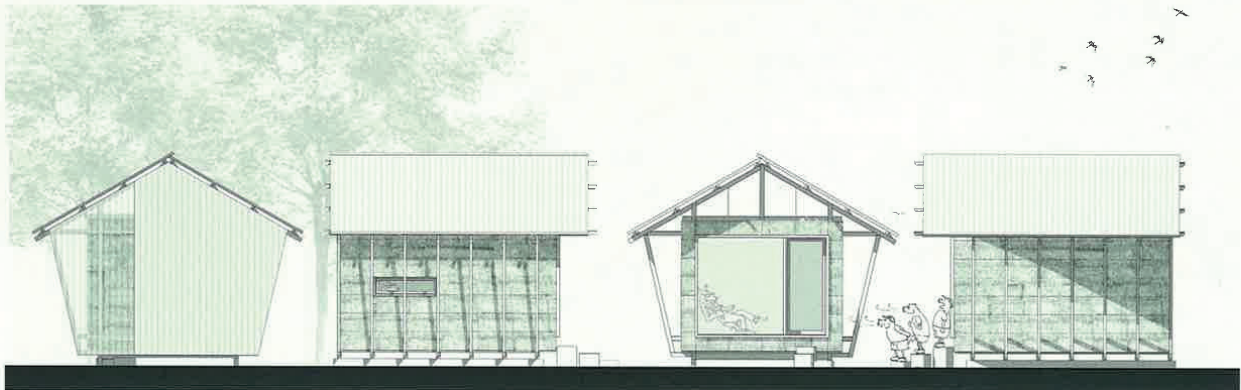
1. Corrugated steel plates
2. Douglas fir wood sections
3. VOC-free pine plywood panels
4. 200 bales of straw
5. Larch wood joinery / argon-filled, double glazed windows, with infra-red reflecting coatings
6. Foundations, six driven piles of acacia wood



Floor plan



Transverse section



Elevations