



House of Freedom



**Active and Autonomous
Independent and self-sufficient house**

Pillars of the Noah House concept

- Sustainable development
- Environmentally conscious lifestyle
- Preservation of natural resources
- Reducing harmful emissions
- Recycling, using natural materials
- Ecological footprint minimization
- Nature-friendly solutions
- Liveable, sustainable living space



Pillars of the Noah House concept



Noah House design evolution



Noah House design evolution



Noah House design evolution



Noah House design evolution



Noah House design evolution



The Noah House is not only a house,
but a brand new concept of sustainable living.

Turnkey handover, installed even within 40 days.

The concept is absolutely green, which means that each part of the house, even the technology, used material, method of building are in harmony with the basic aim of other green and sustainable concepts, movements and ecological researches.

The Product is a kind active house with a lightweight, prefabricated, high-tech wood structure.

Using land screws as foundation anywhere can be placed, easy to install and remove, no ecological footprint remains

Positioning the building facing south, generates more energy than what it uses, due to solar panels on the roof.

Collects rainwater and filter it, provides the drinking and domestic water for a 4-5 persons.

Innovation and design

- 1. USE OF RENEWABLE ENERGIES**
- 2. XXI. CENTURY CONSTRUCTION TECHNOLOGY**
- 3. UNIQUE, ERGONOMIC SPACE DESIGN, MODERN SOLUTIONS, VARIABILITY**
- 4. NOAH HOUSE = ACTIVE AND AUTONOMOUS HOUSE, INDEPENDENCE FROM PUBLIC UTILITIES**
- 5. NATURAL MATERIALS, WOOD BUILDING STRUCTURE AND INSULATION**
- 6. NO ECOLOGICAL FOOTPRINT „GREEN BUILDING”**

Main benefits

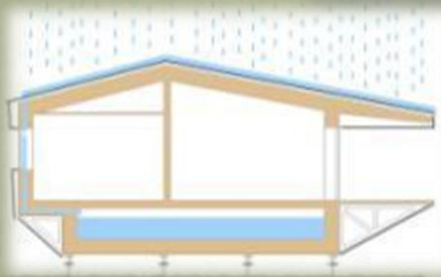
- 1. INDEPENDENT and SELF-SUFFICIENT**
- 2. EASY and QUICK INSTALLATION**
- 3. ENERGY SAVING and COST EFFICIENT**
- 4. ECONOMIZED SMART WATER MANAGEMENT**
- 5. HIGH-TECH and REUSABLE PANELS**
- 6. ENVIRONMENT-FRIENDLY**

UNIQUE SOLUTIONS – LOWER COSTS

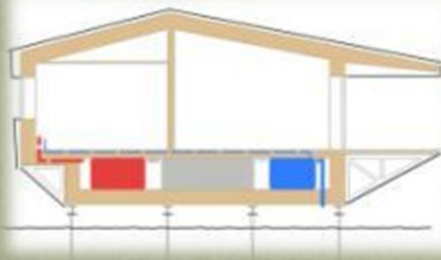
**NO PUBLIC UTILITIES
NO SUPPLIER'S BILL**



**SOLAR SYSTEM PRODUCES ELECTRICITY
SUFFICIENT FOR COOLING AND
RUNNING THE HOUSE AND EVEN TO
PLUG AN ELECTRIC CAR**



**WATER IN FOCUS – RAIN OR
TANKWATER DOES NOT MATTER
CONSUMPTION LESS WITH cca 50%**



**SMART WATER CLEANING AND
FILTERING SYSTEM - GREY WATER
REUSE AND SEWAGE MANAGEMENT**

The process of construction

1. Identification of the designated construction site, zoning classification and building regulations.
2. Consultation with the customer, designation of the place of the house, formulation of individual requirements.
3. Soil mechanics studies, mapping of the natural environment.
4. Determination of geodetic measuring points, designation of a building.
5. Based on soil mechanics and geodetic analyzes, performing static calculations, assigning ground screw installation.
6. Preparation of construction site, soil works, implementation of constructional area.
7. Ensuring other conditions of construction, starting construction.

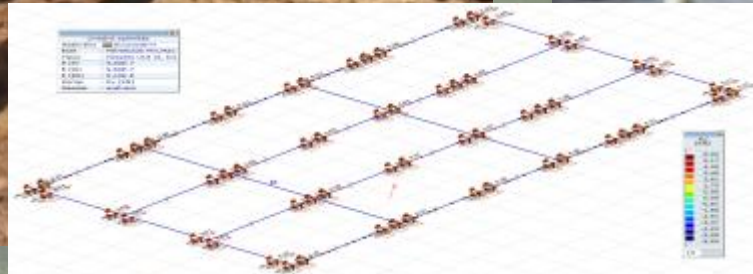
The process of constructions 2.

1. Drilling of soil screws (up to 2 days depending on the nature of the soil)
2. The installation of a pre-fabricated steel frame, "I" beam (1 day), which connects the ground screws.
3. Mounting and fixing of prefabricated wooden trusses (2 days).
4. Set up of the main technology in the engineering space (1 day).
5. Mounting and fixing of prefabricated panels, slabs and other structural elements - structural condition (3 days).
6. Finishing works, interior design (14-16 days)
7. Creating a turnkey position - at an agreed level at the customer, making individual requests, performing works, repairs, transferring and receiving (10-14 days)

FOUNDATION WORKS- GROUND SCREWS

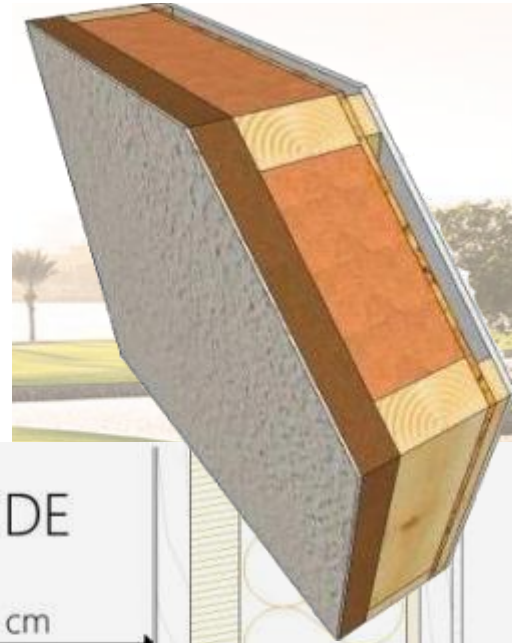
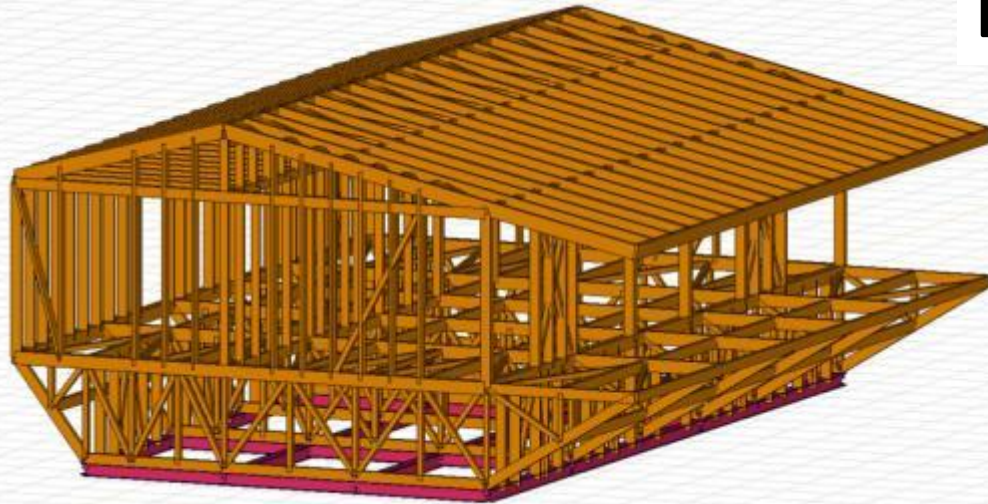


Grand screws' number and position planned by static engineer. Screws are connected with a steel frame on a top which is suitable for holding the slabs.



BUILDING STRUCTURE – WOOD ELEMENTS

Exterior wall $U=0.16 \text{ W/m}^2\text{K}$



OUTSIDE

INSIDE

alucobond cladding 0,4 cm

4/4 cm vertical battens

steico fibreboard 6 cm

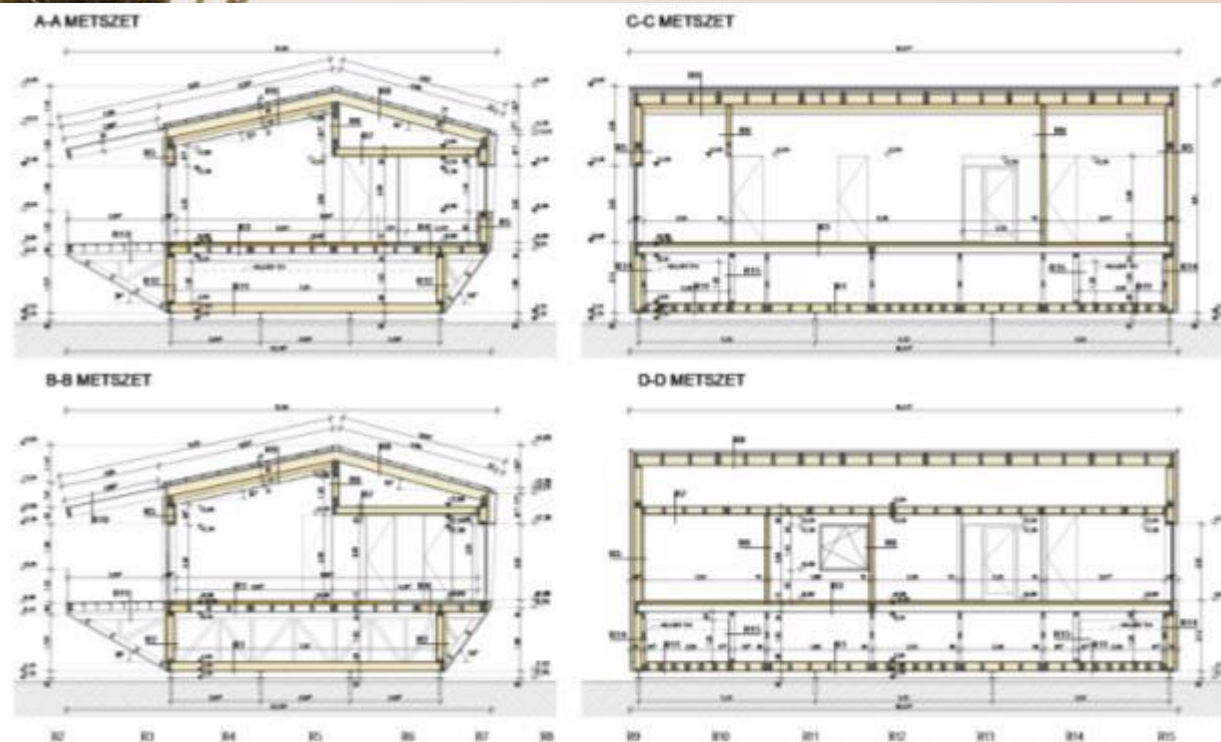
10/20 cm framed wall
cellulose insulation 20 cm

OSB 1,5 cm

4/4 cm vertical battens

plasterboard 1,25 cm





Robust structure

- Earthquake proof up to 7 on Richter scale
- Hurricane proof 50 min 180 km/h wind
- Flood proof due to the land screws and high construction over 40 cm flood



ENERGY SUPPLY – ENERGY DEMAND



Jülich Glas Solar



Solar powering a green future™

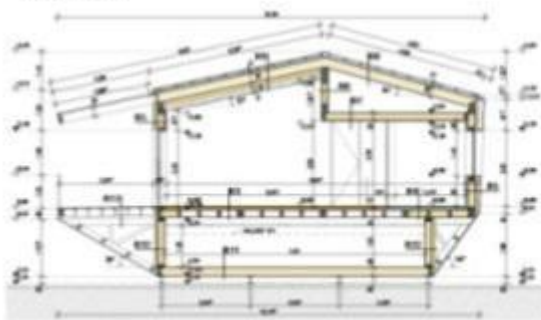
- To operate the house we use solar energy.
- Cost saving solution is to connect to electrical network and use of back and forth electric meter system.
- The need of the house is 3x32A capacity through the grid.
- The solar panels meet the highest quality standards.
- The selected panel type is also resistant to extreme desert conditions.
- The system is expandable, roof-mounted.
- System basic capacity : 19 kW
- Building yearly consumption: 18.000 kW
- The amount of electricity produced during the year: 28.000 kW

WATER MANAGEMENT

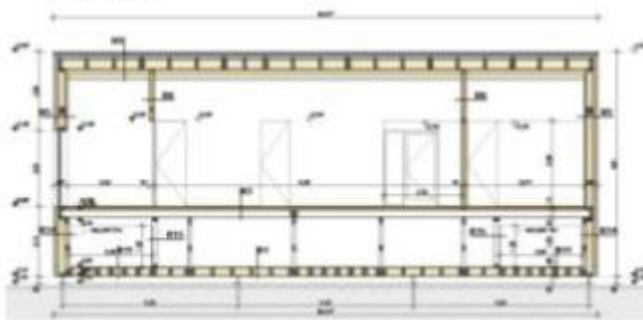
- We collect rain water in Europe to cover the water needs.
- There are 2 water tanks in the mechanical area of the building. Each of them is 20 m³ size, total capacity 40 m³.
- Water can be supplied from a water grid or by an external tank truck charging too in UAE area.
- We clean the water inhouse, before use, providing water for a family of 4-7 people.
- Cleaning happens in two phasis: water is passed through a membran filter than we use an UV sterilizer.
- Rinsing the toilets we use so-called greywater (re-cleaned household water), reducing the consumption by almost 50%.
- Measured water consumption is about 5 m³/month, 4 people in the family in the prototype Noah House.



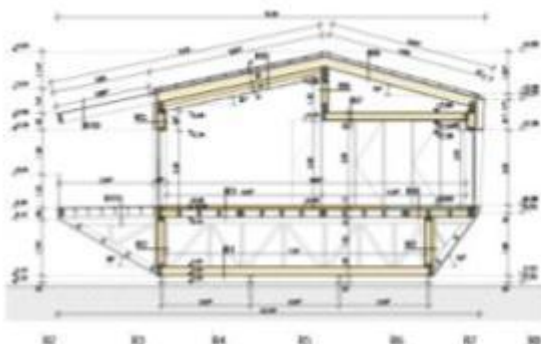
A-A METSZET



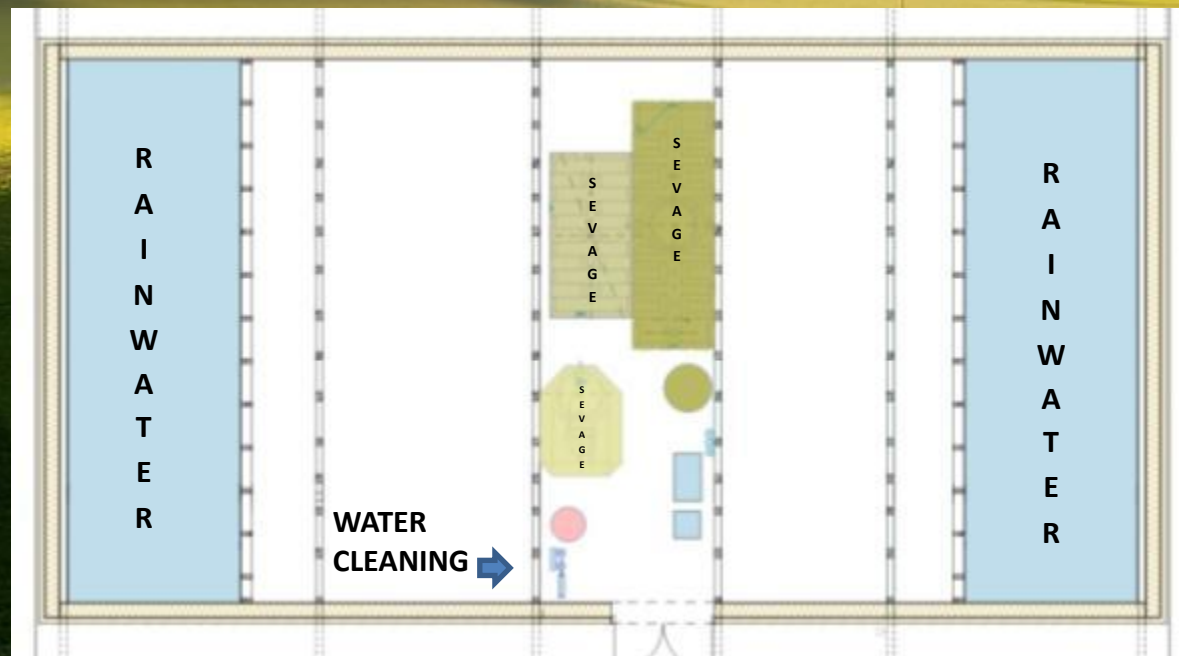
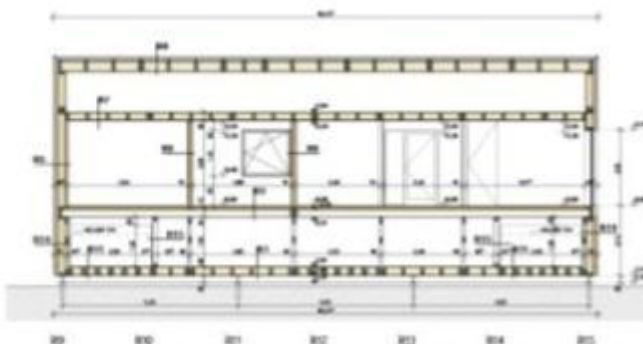
C-C METSZET



B-B METSZET



D-D METSZET



WASTE AND SEWAGE WATER MANAGEMENT

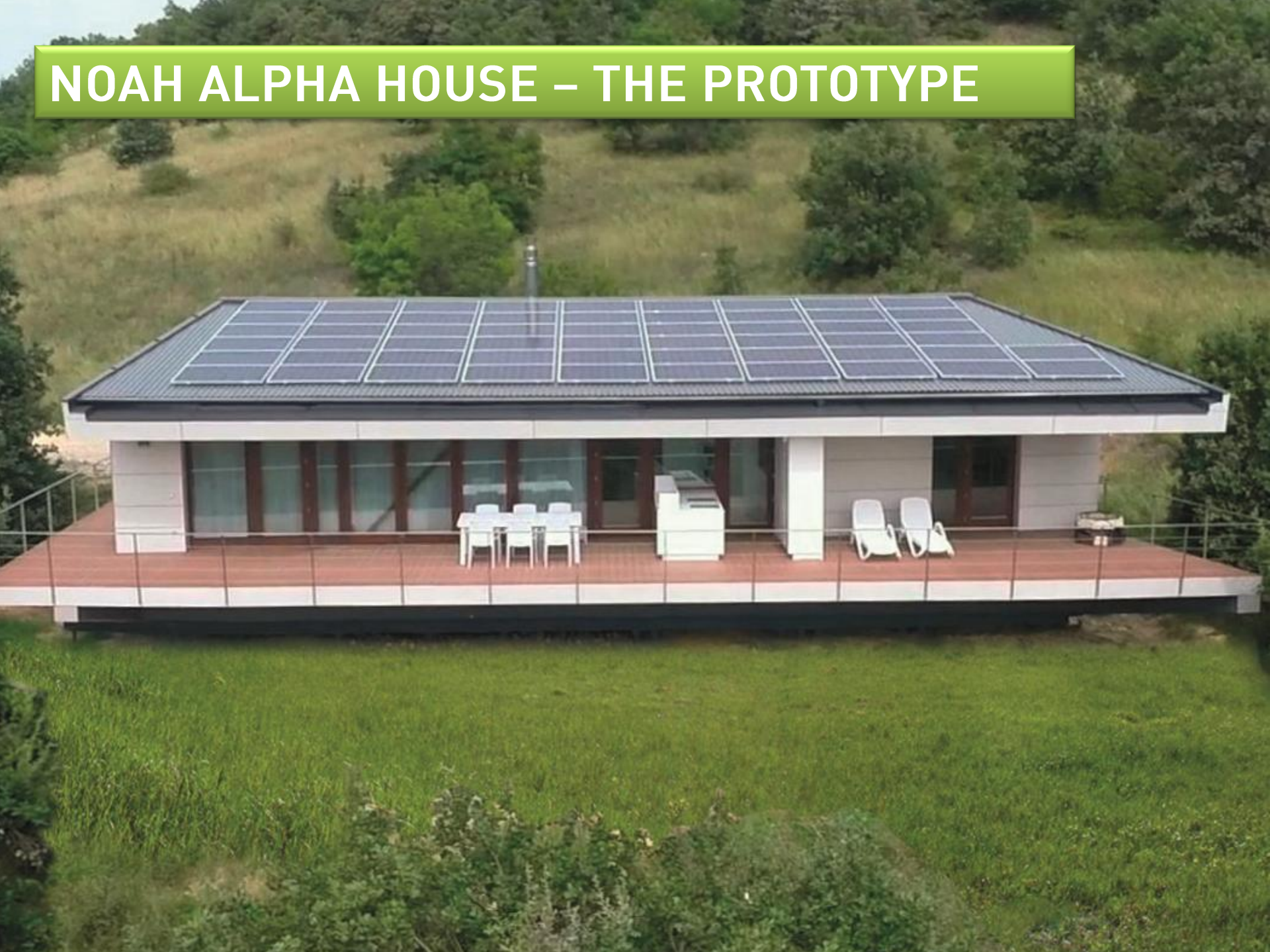


- Noah House handles gray and waste water inhouse.
- The waste water is cleaned in three phasis:
 - biological sedimentation treatment/septic tank in which sewage sludge is discharged
 - sewage seeps through a sealed waste bed
 - cleaned sewage is treated with an UV sterilizer
- At the end of the procedure, purified water can be drained and rubbed.
- The sludge and slag, remaining in the system can be removed every two years.

TEMPERING INTERIOR SPACES - VENTILLATION

- The construction and insulation of the building is similar to a passive house.
- All the necessary things - even the machinery space as well - within the walls.
- The constant temperature of the interiors is supported by a heat exchanger ventilation system equipped with a pollen filter.
- Ventilation makes cooling conditions more efficient
- The machinery space below the floor is also tempered, to be used for the heat-mass of 40 m³ of water.
- The ventilated facade helps to cool the building.
- The external element of the facade is a paneled alucobond cover. Its material and white color reflect the sun.

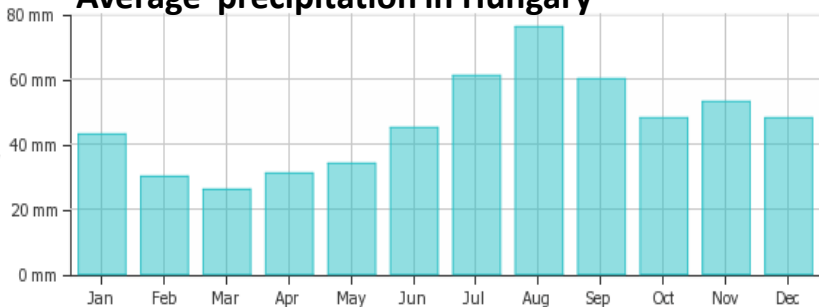
NOAH ALPHA HOUSE – THE PROTOTYPE



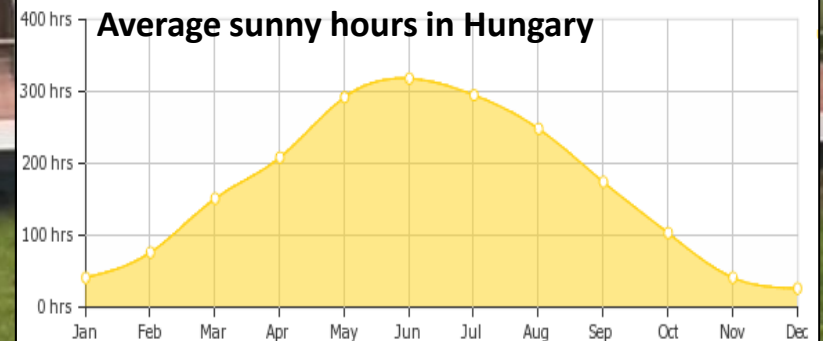
Noah Alpha house – prototype figures Hungary / Central Europe

Solar panels generated energy – 16.000 kWh / year
Average consumption of a family of four appr. 14.000 kWh/year

Average precipitation in Hungary



Average sunny hours in Hungary



Average water usage of a family of four appr. 14 m³/month.
Based on figures Noah House consumption is 5 m³/month.

BENEFITS



Absolute new and environmentally safe technology has zero carbon footprint on our environment.
Constructed exclusively from reusable materials.
The material, the succession of layers and the isolation of the walls are made of eco materials with long life time.



Due to land screws, we use as foundation, anywhere can be placed, independently of the type of ground.
Can be fully constructed installed within 30 days.
May be disassembled and reassembled in a new location.
Modular structure, unlimited opportunities for users.



Ergonomically designed to the smallest details and for ultimate comfort.
Our homes are manufactured with customization in mind.
The basic panels are the same but exterior and interiors can be both customized.



The building collects, cleans and reuses rain water.
Handles sewage and grey water.
Solar panels are generating power and energy is flowing back and forth of the grid.
New technology has zero carbon footprint on our environment.

List of benefits and other advantages

- Minimal ecological footprint.
- Resistant to extreme weather conditions.
- Resists even the Richter Scale 7 earthquake, 180 km/h wind loads, minor and major flooding.
- Like every home, it has a maintenance cost, but not more than a traditional home does.
- The house can be connected to utilities, but the technology does not require it. Therefore the cost of utility construction and connection does not occur. Noah House can also be an option in case of plots without public utilities.
- Prefabricated house elements made of hightech, high quality wood materials.
- Precise engineering solutions and implementation
- Foreseeable costs
- Additional consumer's requests in design and house elements can be accepted for a certain level and with plus charges.
- Product development is a continuous activity which makes us possible to fulfil future orders and customised expectations.
- Noah House is a premium product available for everyone.

Reasons for Noah House – The winning 21

1. Our contribution to the future of our grandchildren - sustainable living conditions
2. The pledge of survival of humanity.
3. Independent and self-sufficient.
4. Fast construction, quality workmanship - ready for up to 50 days.
5. Independence from public utilities.
6. Renewable Energy utilization.
7. Land-screw foundation, no ecological footprint.
8. Excellent thermal characteristics - 3 years before the EU law change.
9. Can be built anywhere.
10. Environment friendly - 90% natural constructional goods and recyclable materials.
11. Healthy, fresh air ventilated interior, ergonomic design.
12. Proper floor space, maximum comfort.
13. Future designing solutions.
14. Advanced technology, easy to use.
15. Turnkey construction and stress-free construction.
16. There is no separate design cost (construction, static, mechanical, electric design - all necessary planning activity is in the price).
17. Guaranteed quality.
18. Low maintenance.
19. Easily disassembled, reinstalled at other locations.
20. Practical floor plan, spacious interior.
21. Timely design.

NOAH BETA HOUSES



Noah House 1.3
Living area 137 m²

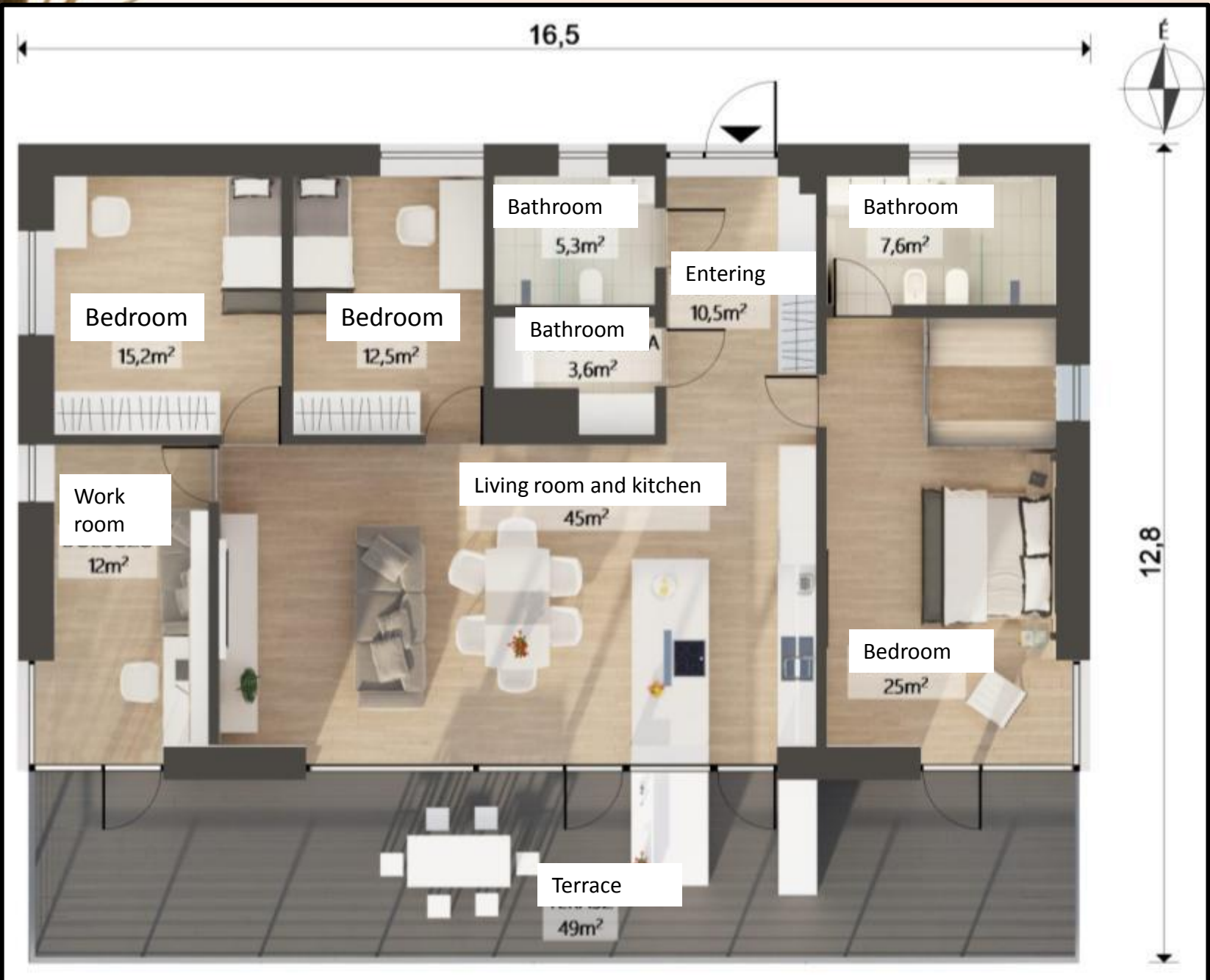
Noah House 1.0
Living area 100 m²





Noah House 1.3
Living area 137 m²





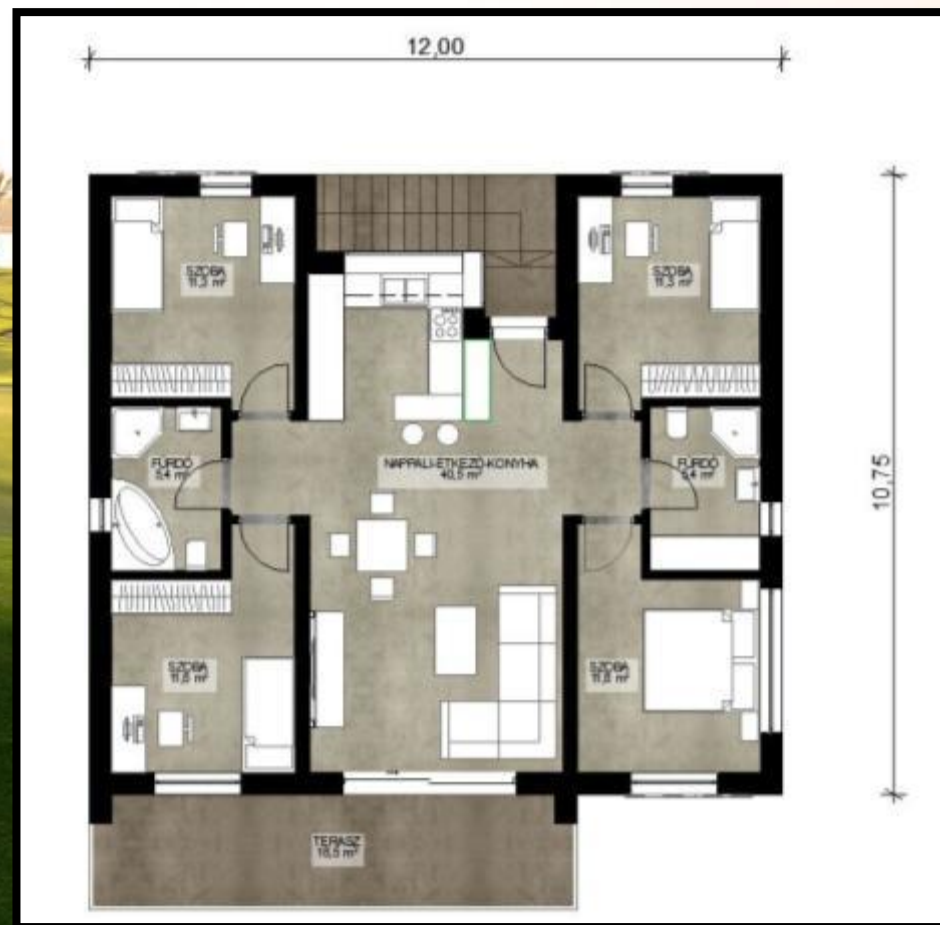


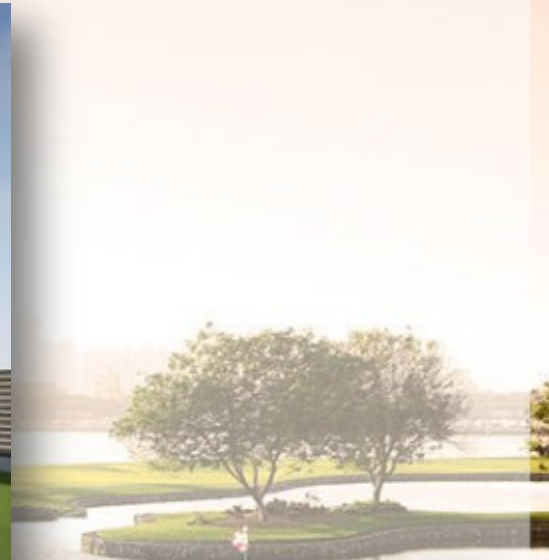




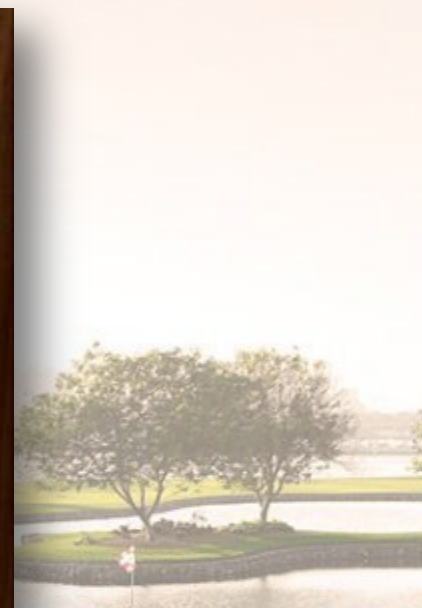


The 3 and 4 bedrooms plans









Noah House – Future plans



Media appearances, recognitions



TV programs and shows



Green Building Conference



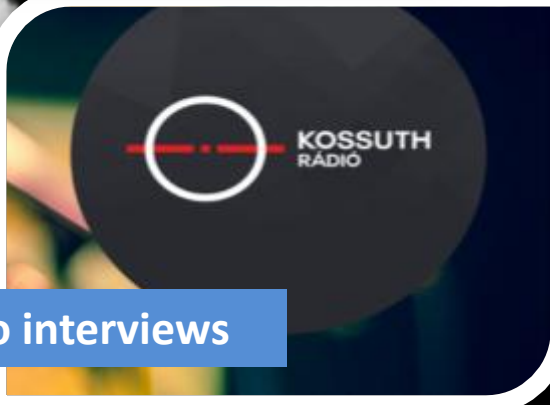
100 most Interesting Hungarian Innovation



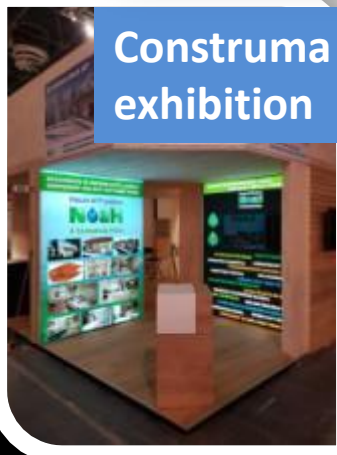
„Házak” magazine



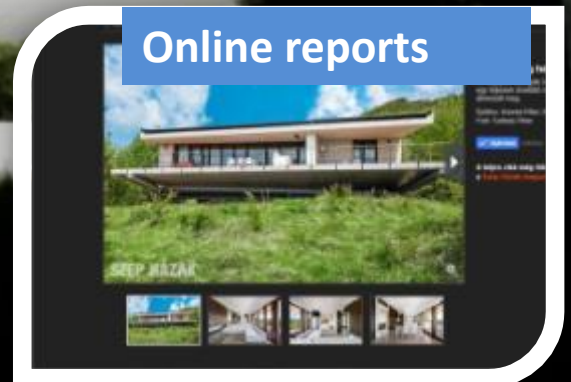
„Gerendaházak” magazine



Radio interviews



Construma exhibition



Online reports

Patent documentation



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Annex to EPO Form 2004, Communication pursuant to Rule 71(3) EPC

Bibliographical data of European patent application No. 15 722 577.2

For the intended grant of the European patent, the bibliographical data are set out below, for information:

Title of invention:

- MOBILES HAUS MIT NUTZUNG VON ERNEUERBARER ENERGIE
- MOBILE HOUSE UTILISING RENEWABLE ENERGY
- MAISON MOBILE UTILISANT L'ENERGIE RENOUVELABLE

Classification: INV. E04B1/343 E03B1/04 E03B3/02 F24F12/00

Date of filing: 25.03.2015

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Extension States*
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been paid:

Validation States*
for which fees have
been paid:

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*) If the time limit for the payment of designation fees according to Rule 39(1) EPC has not yet expired and the applicant has not withdrawn any designation, **all Contracting States/Extension States/Validation States** are currently still deemed to be designated. See also Rule 71a(3) EPC and, if applicable, the above Note to users of the automatic debiting procedure.

**) If two or more applicants have designated different Contracting States, this is indicated here.