

**NEW SOLUTION**

**FROM**

**NORMECA**

# Quick Eco House

**Guide Book of Quick Eco House  
of Cold-formed Steel Structure**



**Normeca AS**

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**COMFORT**

**SAFETY**

**ECOLOGY**

Comfort, ecological and energy saving residential and commercial buildings are the pursuit of ECONOVO. We transferred these miscellaneous works used to do on-site into our factory to present buildings with better quality, less and simple on-site work and shortened erection time. We comprehensively utilizing green technics such as PV, solar heater, rain collection, sewage treatment and reuse together with high standard thermal insulation to built the zero energy building.

**High Efficiency**

- Pre-fab, integration, modularize minimizes on site jobs
- Easy to erect, maintenance and demolish

**High Performance**

- Excellent seismic resistance performance
- Better insulation with even thicker structure

**Low Consumption**

- Harness the sun for electricity and heat
- High standard insulation and air tightness

**Low Emission**

- Rain collection, sewage treatment, gray water reuse
- No pollution during manufacture and installation

**Pre-fabricated Cold-formed Steel Panel Structure System**



**PRE-FAB**

**EFFICIENCY**

**FLEXIBILITY**



# Quick Eco House



**COMFORT**

### Thermal Insulation

High performance external insulation system and other insulation measures

Ceiling /roof

Roof insulation and ceiling insulation are optional

glazing

Double low-e glazing to satisfy insulation requirement, PVC and Aluminum frames are optional

wall

Utilize PU, the rigid foam with the best thermal performance, as wall insulation

foundation

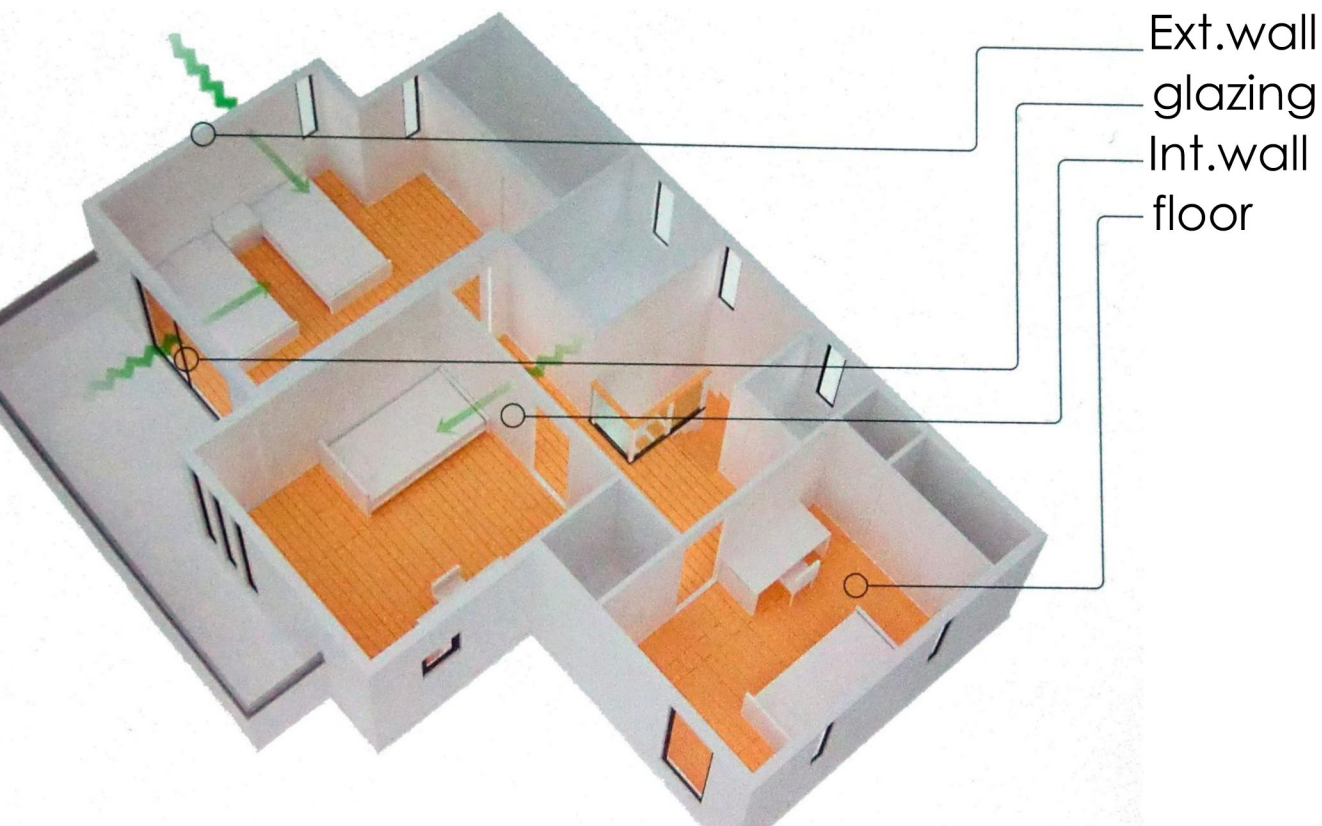
External insulated foundation with ventilation



# Acoustic Insulation

Multi-layer structure panel and double glazing reduced sound transmission

**COMFORT**



Exterior wall

• Dr-30 ~ Dr-40

glazing

• Ts-15 ~ Ts-20

Interior wall

• Dm-25 ~ Dm-35

floor

• Law-40 ~ Law-60



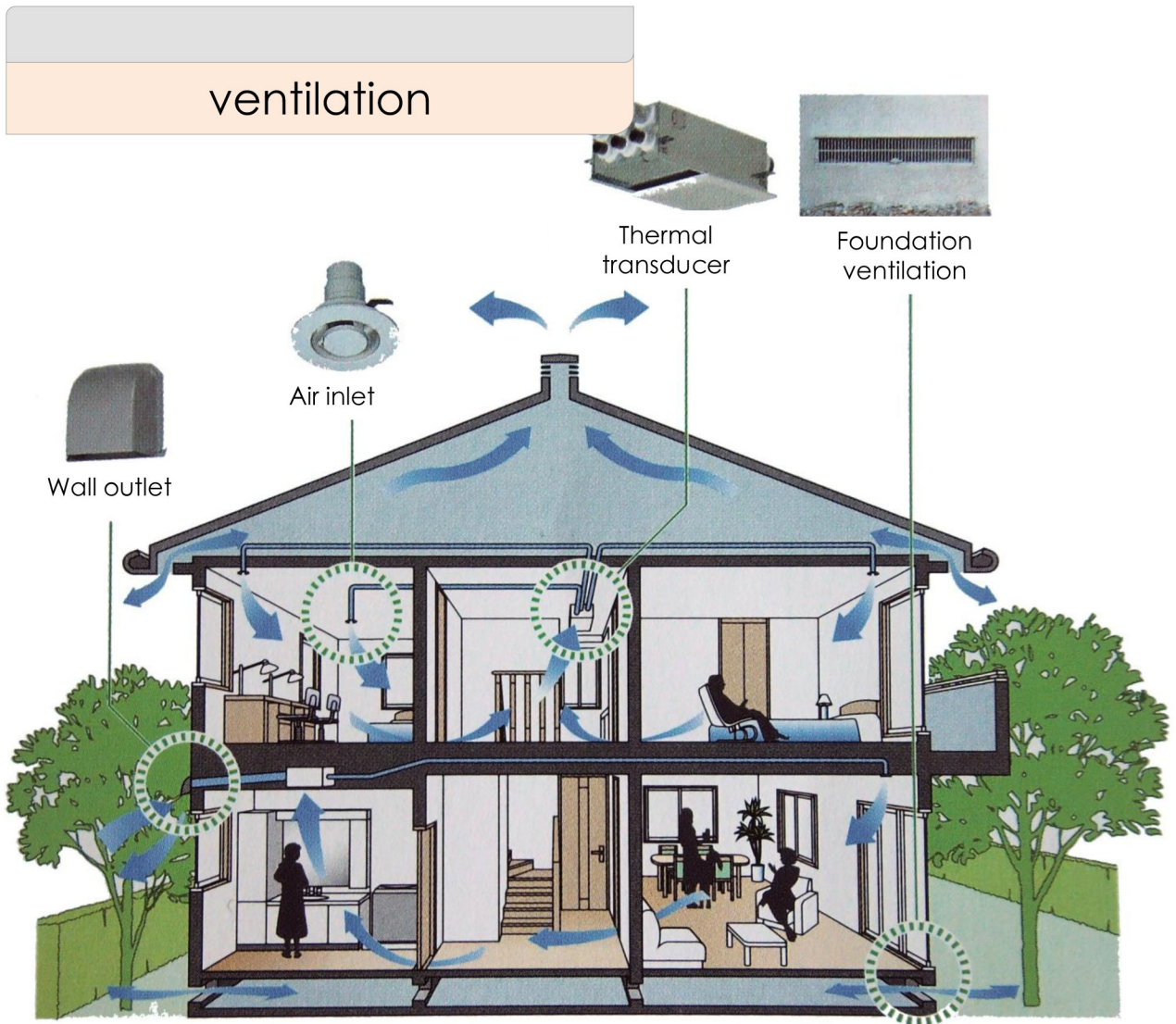
\*同济大学为ECO-CABIN进行声学测试



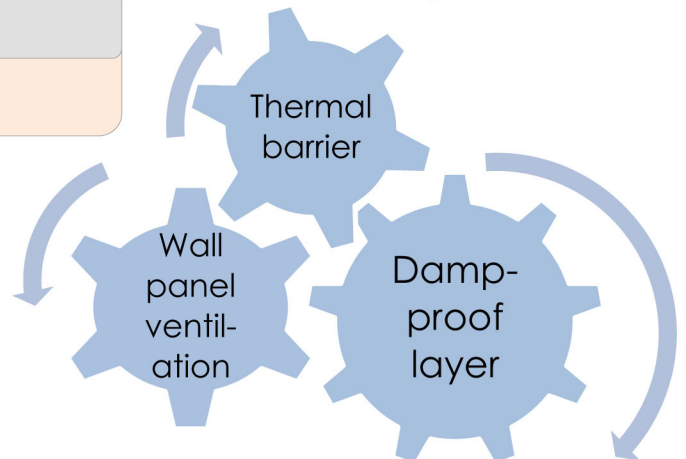
# Ventilation

COMFORT

Natural and mechanical ventilation makes the room clean and dry



Damp proof





# Health

Strictly limit the VOC of materials used in the house to ensure indoor air quality

## COMFORT

frame

Galvanized steel frame is termite-proof and rot-proof

structural board

JAS F☆☆☆☆ standard or CARB certificated structural board

insulation

E1 or above PIR or PUR thermal insulation board

decoration

E1 or above plasterboard and floor board



# Seismic Resistance

## SAFETY

Light gauge cold-formed steel is a mature system with excellent seismic performance

Light weight

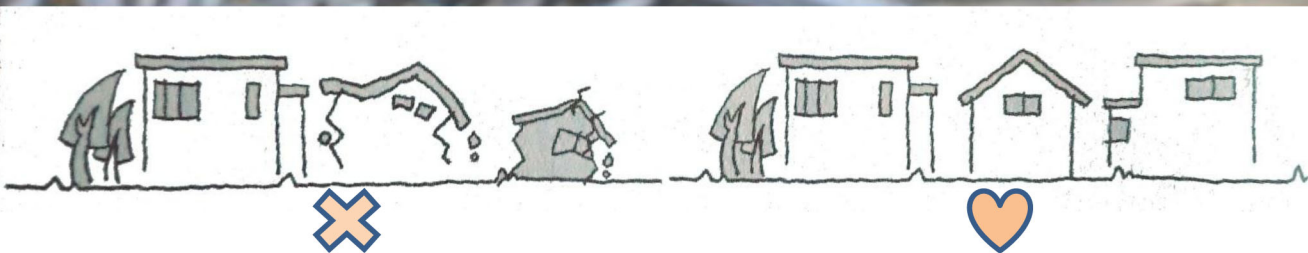
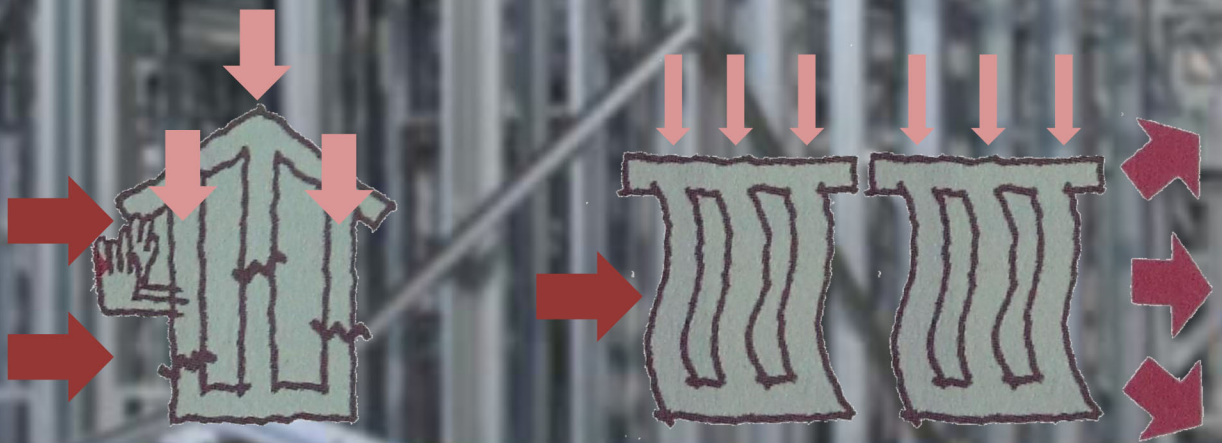
Less seismic load under the same intensity due to its light weight

Flexible stud

Non-rigid frame absorbs seismic load through its deformation to prevent corruption

Stud wall

Load transfers through studs and there is no columns and beams to bear concentrated load



## Fire resistance/Durability

Galvanizing will inhibit steel frame from the attack of high humidity and high salinity environment

**SAFETY**

### Fire resistance

Gypsum board

Wall pane

B1/B2 PU

Roof panel

Soffit board

Auto-spray system

### Durability

Zinc-coated or zinc-alum coated steel can maintain 25 to 70 years of life span



**ECOLOGY**

## Solar System

The comprehensive utilize of PV and solar heater systems reduce the demand of external energy

Solar panel

Flexible photovoltaic

Silicon photovoltaic

BIPV insulation roof

Invertor and battery system

Solar heater

Discrete solar heater

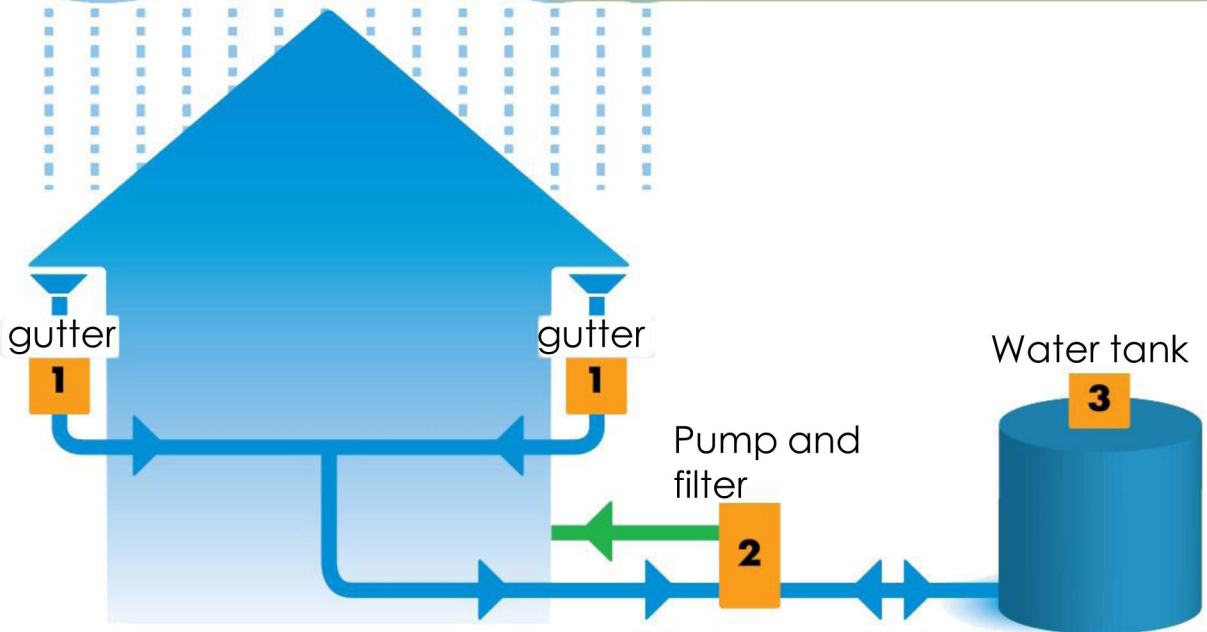
Integrated solar heater

# Water Reserve

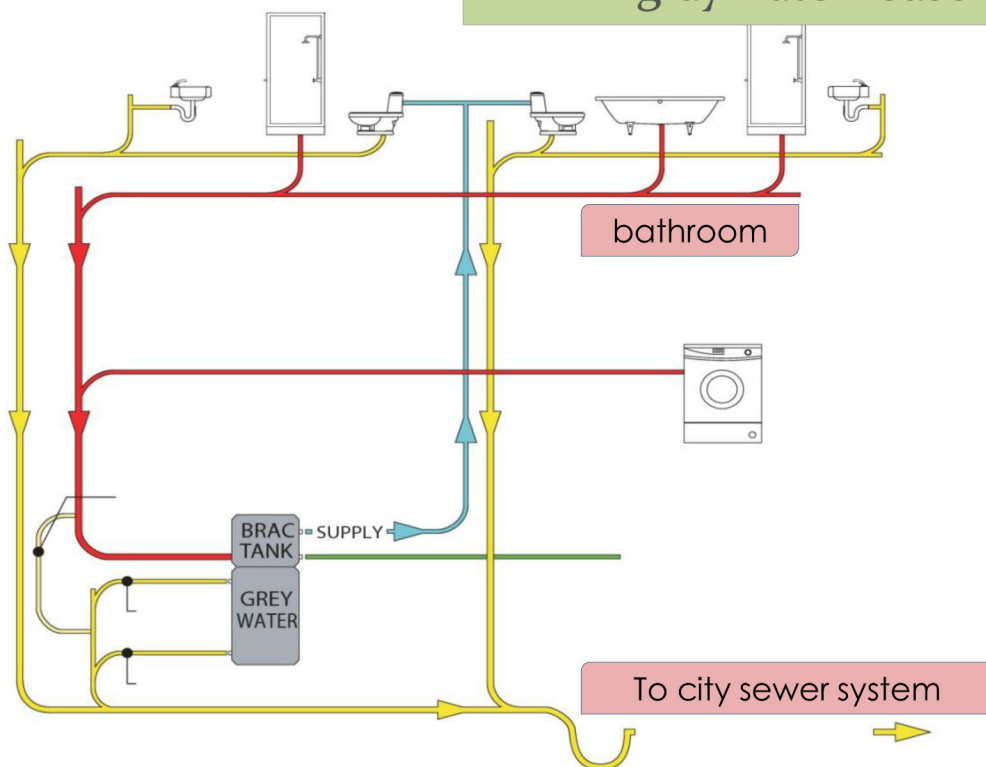
Integrated rainwater collection, gray water reuse and sewage treatment system

**ECOLOGY**

rainwater collection



gray water reuse





# PRE-FAB

## Design

CAD and CAM coordinated design to improve efficiency and accuracy

Building model

concept

Detailed model

Structural model

Structural split

Structural optimize

Frame model

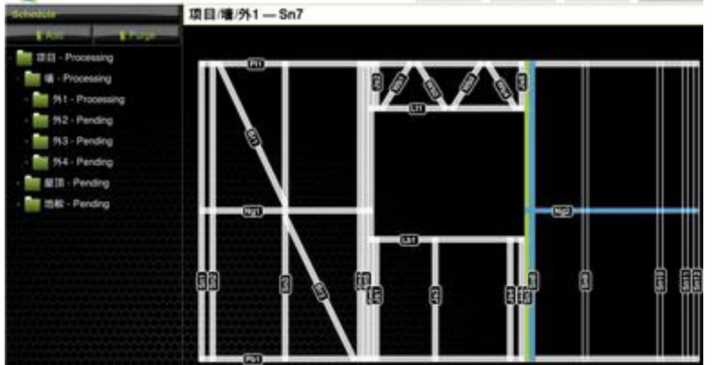
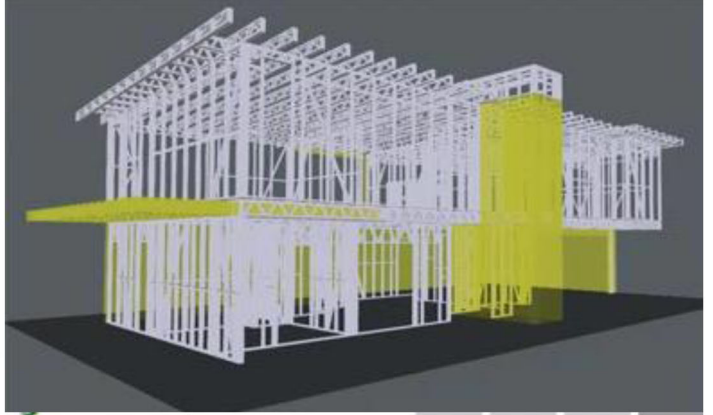
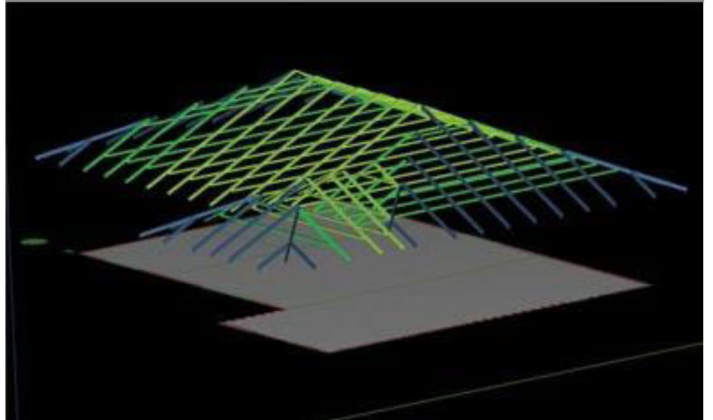
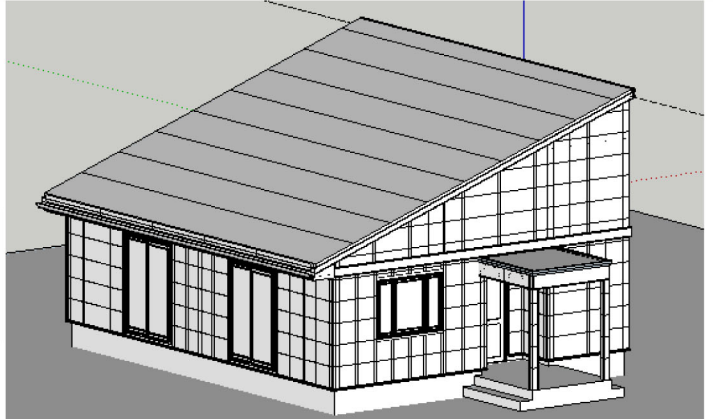
check

Material list

Manufacture data

Roll former data

Assembly data



## Precise Assembly

Production technique and quality control of the prefabricated parts

**PRE-FAB**

Roll former

High performance roll former is the guarantee of precise product



Quality control

Assembly line precision control target is less than 1mm





**EFFICIENCY**

# Fast Installation

Panelized structure members  
minimized on-site works

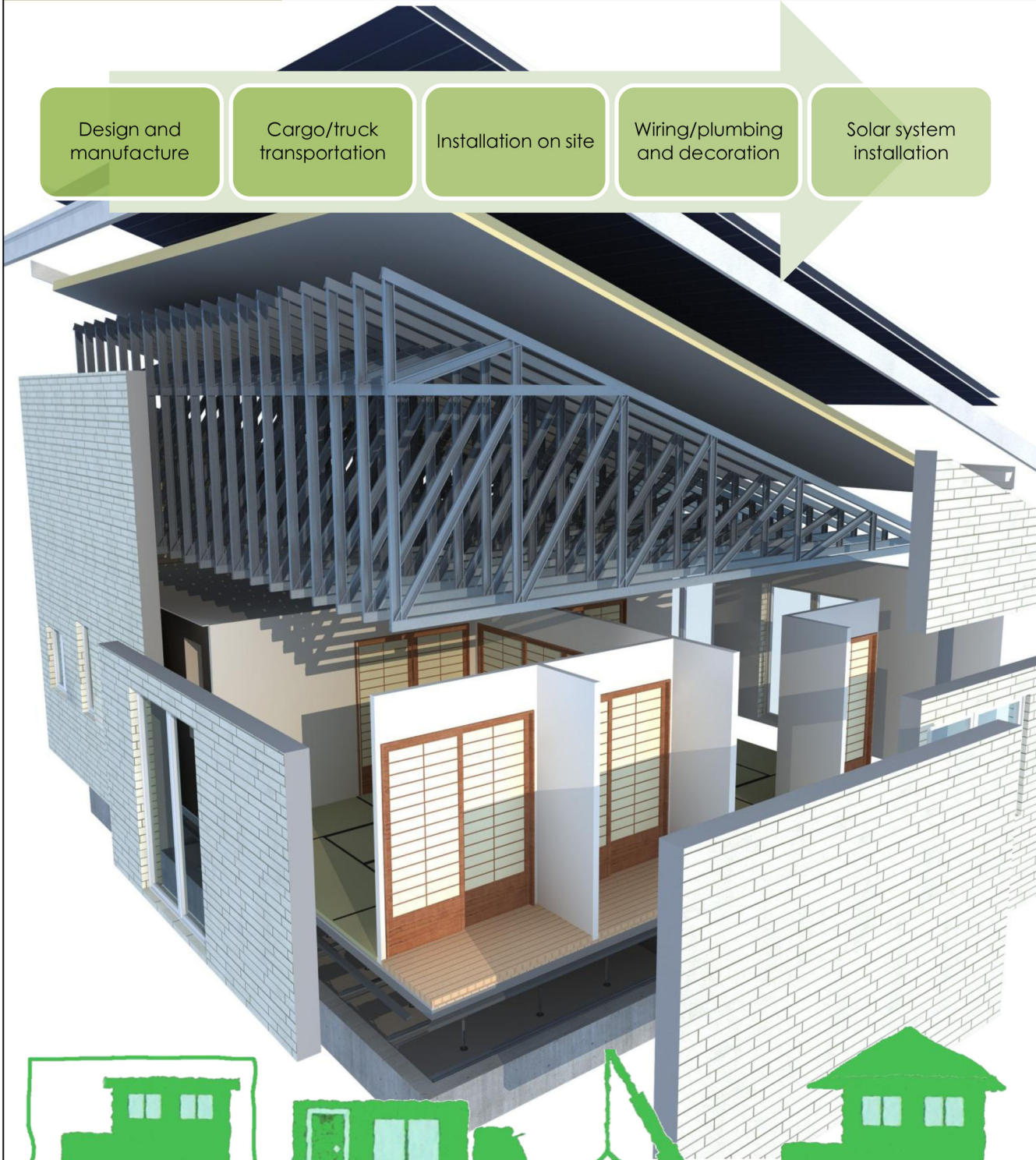
Design and  
manufacture

Cargo/truck  
transportation

Installation on site

Wiring/plumbing  
and decoration

Solar system  
installation



## Simple Installation

The installation of prefab building is pretty simple and time saving compares to traditional constructions.

**EFFICIENCY**

### The advantages

- None-water installation
- None-welding installation
- No disposal and dust
- No construction noises
- Constantly installation

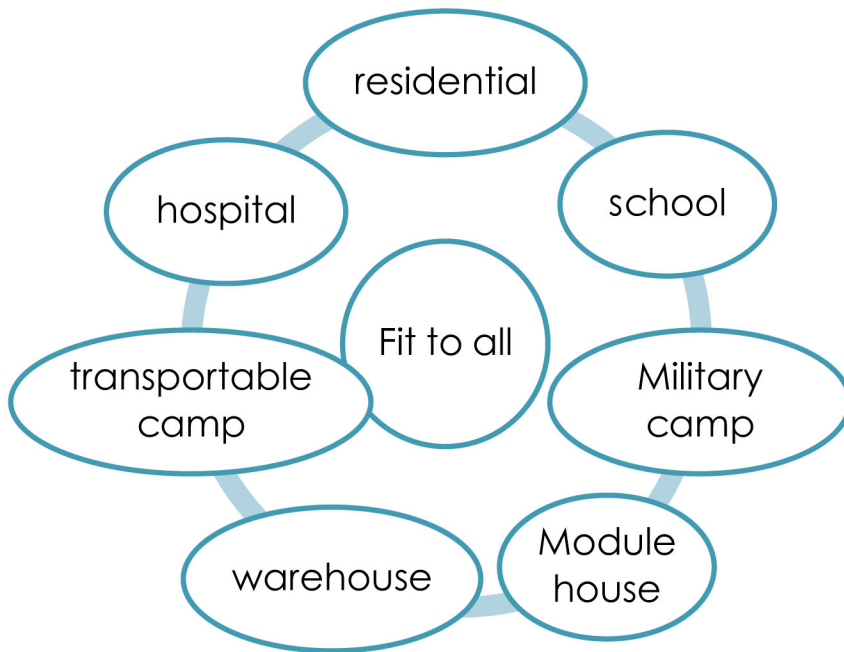


**FLEXIBILITY**

# Flexible Structure

The flexibility of CFS light gauge steel makes it the best choice for residential and commercial buildings of and below 3 stories.

## Building type



# ECO-CABIN Prototype

Welcome to visit our Japanese style prototype house

PROTOTYPE

ECO-CABIN





# Quick Eco House





# Quick Eco House





# GLOBAL DISASTER MANAGEMENT TEAM



Thai Tsunami Victim Identification Centre



KAITIKO Referral Hospital, Southern Sudan



MSF Hospital, Hattian Bala, Pakistan



Inside OT in KAITIKO Referral Hospital



**Normecea** AS

Number one  
in  
the world  
for  
partial and turn-key  
mobile and  
semi-permanent  
health care solutions  
incl.  
Transport,  
Erection,  
Management,  
Training,  
Maintenance,  
Storage,  
Medevac,  
etc.



MSF Mother/Child Hospital in PAP, Haiti



ALL Kinds of clinics or hospitals in MultiSpace



Cucan Hospital, Muzaffarabad, Pakistan



Ambulance boats



Ambulance



NorBase single and expandable containers



Decontamination Units



Rofi inflatable tents



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