



Photo: GrAT - Gruppe angepasste Technologie



Zero Carbon Resorts

Puerto Princesa, Philippines

The aim of the planning and development team was to construct a residential and tourism building suitable for everyday use, whose consumption of resources during construction and use is as low as possible and at the same time can be realized with regionally available resources and technologies. Thus, in terms of materiality, it adapts to the original development on site, while offering high modern living comfort.

The building is a single-story house that stands on point foundations. The foundations themselves are made of concrete with steel anchors. The building on top was constructed using only ecological materials such as bamboo, palm leaves, wood and clay.

Building materials available on site ensure great resource efficiency, and rainwater is collected, purified and used for shower and toilet. A small biological sewage treatment plant, a small photovoltaic system and extremely energy-efficient fans (5-18 W) characterize the independence of the object as well as its technical equipment (for example: solar stove, solar-powered lighting, hot water via solar system). GrAT is currently developing projects for further demonstration buildings in Thailand and Nepal.

Companies involved

Idea, concept design, technology, project management

- GrAT – Group for Adapted Technology, Vienna University of Technology, Dr Robert Wimmer, DI DI(FH) Sören Eikemeier

Architecture

- Edgardo Mallari

Facts

Holiday bungalow

Completed in 2015. Area: 114,42 m²

Energy and environmental aspects

- Passive cooling (shading, natural ventilation, stilts, rammed earth wall)
- 100 % energy autonomous
- Photovoltaic system
- Solar thermal
- Solar cooker
- Daylight system with tubular solar tubes, or LEDs
- Lightweight construction

Characteristics

- Energy demand per year: 528 kWh (95 % less than comparable resorts)

Building labels and awards

- Global Human Settlements Award on Planning and Design



For further information contact the AGPB office:

pulswerk GmbH | 1070 Wien, Seidengasse 13/3 | agpb.at | office@agpb.at | T +43 1 523 61 05