



INTENSYS

Integriert geplante hocheffiziente Energie- und Gesellschaftssysteme für nachhaltige Lebensformen der Zukunft

Projektleitung:

Univ.-Prof. DI DI Flach Michael | A. Univ.-Prof. Arch. Dipl. Ing. Dr. Maria Schneider

A scientific research team together with a charitable property developer and the responsible municipality want to develop a forward-looking energy concept which is aimed to create new approaches and societal systems for the design of housing and living spaces. The site for this project is situated within an existing residential area. With a size of 12.644,24 m² it serves as a living space for about 200 residents and its southerly hillside location offers excellent conditions for the use of solar power. The plot is designated for building construction under the state-subsidised housing project within a time frame of 2 to 4 years. This gives enough time to research the essential fundamentals. The scientific preparation and monitoring of the planning process shall be secured through an interdisciplinary research team and operated through a research project, which is the purpose of this application.

The aim of this project is to integrate societal, constructional and technical aspects and innovative approaches within a holistic concept. This is to create the best conditions for the implementation of an energy concept, which considerably surpasses the contemporary "passive house" standard in consideration of user attitude, energy generation/recovery and technological innovation. The newly developed concept is destined for concrete realisation and shall subsequently evolve into a demonstration and showcase project.

The fundamentals for researching a strategy of forward-looking social and energy systems for urban spaces are formed by a scientific survey and analysis of the demographic and socio-economic boundary conditions, as well as a study of social challenges and potential solutions and a survey of the constructional and technical status quo and objectives.

Contrary to conventional planning, which is designed for a consecutive sequence of hierarchic procedures, the conceptual formulation is carried out via an interdisciplinary and horizontally arranged operational platform, in which sociological, architectural and energy related aspects are equally addressed from the very beginning. Pre-concepts and models are collectively developed from various specialist orientated approaches. An optimisation procedure will calibrate these approaches in order to achieve the objective of a sustainable concept with significantly greater efficiency at affordable expenses.

High-density housing, which is clearly superior to solitary detached houses with regards to land development, construction cost and energy efficiency, is assumed to be the principle for developing open spaces (for meeting and communication) as well as enclosed (private) spaces. These offer the best conditions for collective energy systems due to their compact structure with a small surface area. In addition a consistent and integrative realisation of ambitious social objectives will facilitate the use of technology for efficient use of energy, which in return will support new social and sustainable ways of life.

The long term objective is to develop integrated residential and energy concepts offering exemplary and field tested solutions for prospective forms of society and ways of life - in special consideration of climate protection.