



On track towards a climate neutral city?

Passive House Institute - your municipal
climate protection consultant

- Retrofitting city districts
- City district development
- districtPH planning tool



Consultancy for Municipalities

We have committed ourselves to meeting climate protection objectives throughout the world and leaving a healthy living environment to our children and grandchildren. The energy efficient retrofitting of buildings is an important step on the pathway to climate-neutral city planning.

We can provide you with expertise and support to develop an energy concept for individual buildings or entire urban districts.

Regardless of whether you want to construct a residential building, a school or an office, the Passive House Institute will assist you with your construction project. We are likewise ready to use our expertise to ensure your retrofit projects are successful.

Benefit from our 25 years of experience!

Contact us:

Project Sinfonia, Innsbruck
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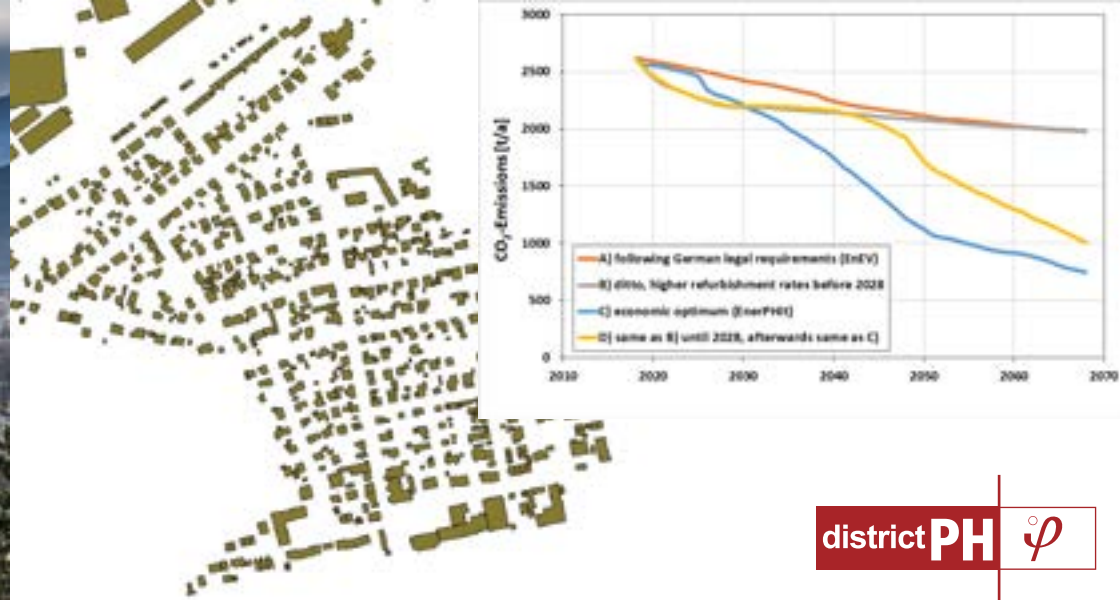
Project consultancy & building certification
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districtPH planning tool
Dr.-Phys. Jürgen Schnieders, districtph@passiv.de

Anything is possible!

We offer expertise on the implementation of climate-friendly, cost-effective and comfortable buildings:

- **Thermal insulation of the building envelope**
- **Simple and cost-effective solutions for building services**
- **A selection of suitable construction components**
- **Tendering and contracting**
- **Commissioning / optimisation of operation**
- **Planning of development areas and retrofitting of urban districts**
- **Development of energy concepts**
- **Preparation of energy calculations and verification of energy performance values**
- **Preparation of retrofit plans for step-by-step retrofits**
- **Building physics analysis and simulations**
- **On-site inspections of construction sites for quality assurance**
- **Certification**
- **Development of a measurement concept for monitoring performance**
- **Monitoring**



Retrofitting city districts

Building retrofit in a city district

Innsbruck | Tyrol

66,000 m² of public and residential buildings dating from the 1940s to the 1970s will be retrofitted in an inhabited state by 2019 in order to significantly improve the indoor air quality and energy efficiency of the buildings. Thus reducing the buildings' heating energy demand by up to 80%.

Measures include:

An improved building envelope | ventilation systems with highly efficient heat recovery | Integration of renewable energy on-site

The Passive House Institute plays a central role in the EU-funded 'Sinfonia' project, ensuring that the project's buildings are retrofitted to the exceptional energy efficiency standard that Passive House is known for. The Institute is also responsible for the development of consulting and quality assurance tools that will be used to make certain that further highly energy efficient buildings also achieve the standard. In addition, advice relating to the use of domestic electricity was provided and a tool was developed for the evaluation of energy savings potential at the city district level.

districtPH

Tool for evaluating the potentials for energy savings at the city district level

districtPH assists with issues such as:

- Which supply variant is appropriate for my city district?
- Which design is appropriate for retrofit subsidies?
- How can a zero-energy city district be achieved?

The **districtPH** calculation programme was developed at the Passive House Institute in order to study different retrofitting scenarios for city districts. Among other things, this programme takes into account the following:

- building types and construction year of existing building stock
- the actual heating energy demand of the existing buildings
- progression of the energy demand according to the retrofit scenarios
- PV and solar thermal energy systems as well as wind turbines
- district heating networks and CHP
- street lighting
- electromobility

The Passive House Institute is at your disposal for analyses.



Photo © Passive House Institute

Multi-storey building IN40
Building retrofit in a city district
Innsbruck

Step-by-step retrofit

Treated floor area according to PHPP: 3500 m² | 49 apartments

Building owner:

Neue Heimat Tirol (50% federal state of Tyrol | 50 % city of Innsbruck)

Consultancy services provided by the Passive House Institute:

- Expertise on the energy concept
- Expertise relating to the building envelope
- Expertise relating to energy efficiency for building services
- Domestic electricity expertise
- PHPP: preparation and updating



Photo © Passive House Institute

Primary school in Angergasse
Building retrofit in a city district
Innsbruck

Step-by-step retrofit

Treated floor area according to PHPP: 1600 m² | 16 classrooms

Building owner:

Innsbrucker Immobilien Gesellschaft (100 % city of Innsbruck)

Consultancy services provided by the Passive House Institute:

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- Expertise relating to the building envelope
- Expertise relating to energy efficiency for building services
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Photo © Passive House Institute

Multi-storey building IN22/23
Building retrofit in a city district
Innsbruck

Step-by-step retrofit (just before start of construction)
Treated floor area according to PHPP: 5214 m² | 84 apartments |
6 buildings (just before start of retrofit)

Building owner:
Neue Heimat Tirol (50% federal state of Tyrol | 50 % city of Innsbruck)

Consultancy services provided by the Passive House Institute:

- Expertise on the energy concept
- Expertise relating to the building envelope
- Expertise relating to energy efficiency for building services
- Domestic electricity expertise
- PHPP: preparation and updating



Photo © Passive House Institute

Primary school in Neu Arzl
Building retrofit in a city district
Innsbruck

Step-by-step retrofit
Treated floor area according to PHPP: 2352 m² | 14 classrooms

Building owner:
Innsbrucker Immobilien Gesellschaft (100 % city of Innsbruck)

Consultancy services provided by the Passive House Institute:

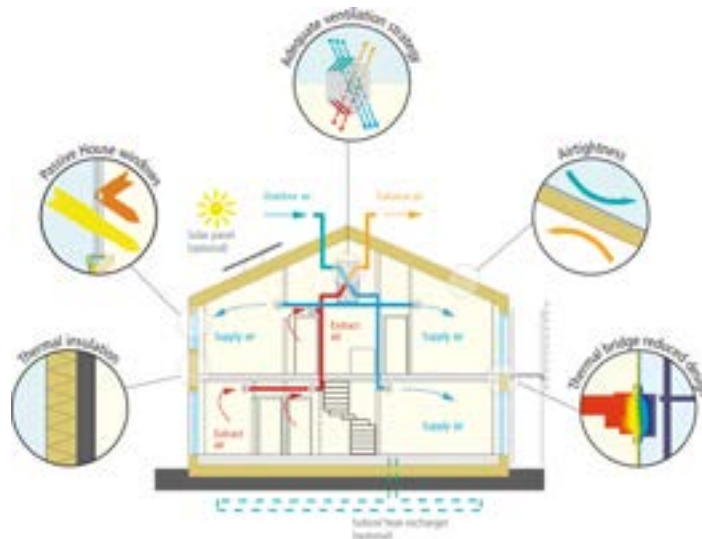
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The Passive House

Passive House stands for so much more than exceptional energy efficiency.

This standard is a cost effective solution that provides an inherent quality of construction, maximum comfort, high air quality, low energy costs, user-friendly operation, as well as risk and integrated structural damage prevention.

At the same time, low energy consumption ensures that all or a very large percentage of the remaining demand can easily be met through renewable energy.



Passive House Institute

www.passivehouse.com

- Energy-efficient construction research
 - Dynamic building simulation
 - PHPP – the planning tool
 - Certification of Passive House construction components
 - International Passive House Conference
 - Passive House Designer | Passive House Tradesperson
 - Passipedia – the Passive House resource
 - Building certifications
 - iPHA - International Passive House Association
- and much more!

Passive House Institute

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