

AIDA

**AFFIRMATIVE
INTEGRATED
ENERGY
DESIGN
ACTION**

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TECHNISCHE
UNIVERSITÄT
WIEN

Vienna University of Technology



Inventing nearly Zero-Energy Buildings for tomorrow

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Vienna University of Technology

Energy Economics Group (EEG)

www.eeg.tuwien.ac.at

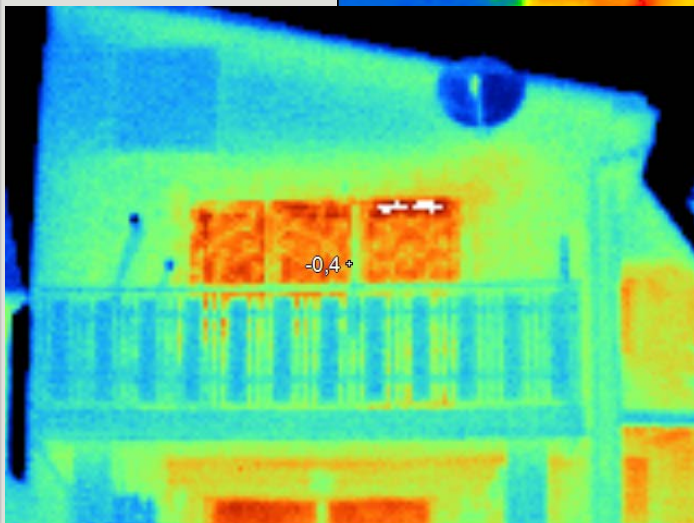
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nZEBs: Status Quo

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Inventing nearly Zero-Energy Buildings for tomorrow

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Overview

nZEBs for municipalities

- Austrian example
- TU Wien
- AIDA project

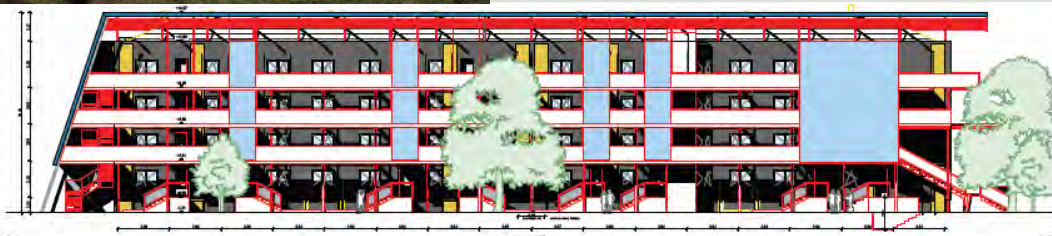


Residential Building

Renovated to a Plus Energy Building in Kapfenberg / Austria (in 2012/13)

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Pictures: Arch. Nussmüller, AEE INTEC



32 Apartments	60,96 to 88,71 m ² net area
Energy demand for heating	11,6 kWh/m ² a
PV-system	400 m ² (50 kw _p) on the roof
Heating and domestic hot water system	200 m ² solar thermal collectors District heating



Solar Decathlon

A competition towards plus-energy buildings!

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20 teams are competing in
October 2013 in Irvine, CA
Only two university are
from outside the US



Pictures: LISI-Team





Plus-Energy-Office

Renovated to a Plus Energy Building in Vienna / Austria (2012/13)

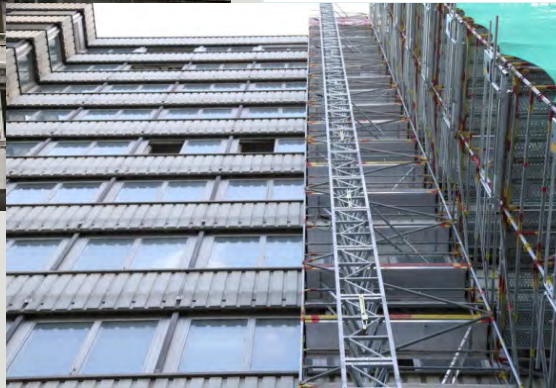
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Office Tower of the Vienna University of Technology



Gross floor area	7.322 m ² (10 storeys)
Energy demand for heating	3,4 kWh/m ² a
Energy demand for cooling	2,5 kWh/m ² a
Energy demand for lighting	5,6 kWh/m ² a
Energy demand for ventilation	1,0 kWh/m ² a
Total primary energy demand	82 kWh/m ² a
PV-system	Austrias largest PV system on the roof and the facade
Heating and domestic hot water system	Heat pump & district heating system





Technical scheme for nearly zero-energy buildings

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- The background of the slide is a collage of images related to sustainable energy and buildings. It includes a large wind turbine, a 3D rendering of a modern yellow building, a house with solar panels, a close-up of solar panels, and a washing machine, symbolizing the integration of renewable energy and energy efficiency in buildings.
1. Energy efficient envelope
 2. Use of passive heat sources & passive cooling
 3. Energy efficient appliances
 4. Use of renewable energy sources on-site
 5. Off-site supply of renewable energy



AIDA at a glance

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Affirmative Integrated Energy Design Action

- ✓ AIDA aims to accelerate the market entry of nearly zero-energy buildings (nZEB)
- ✓ AIDA supports municipalities and building professionals
- ✓ AIDA is financed by the European Commission (IEE)
- ✓ AIDA in many countries!
- ✓ April 2012 – March 2015



Our vision:
nZEBs for Europe



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Blood bank of Catalonia

nZEB Office building

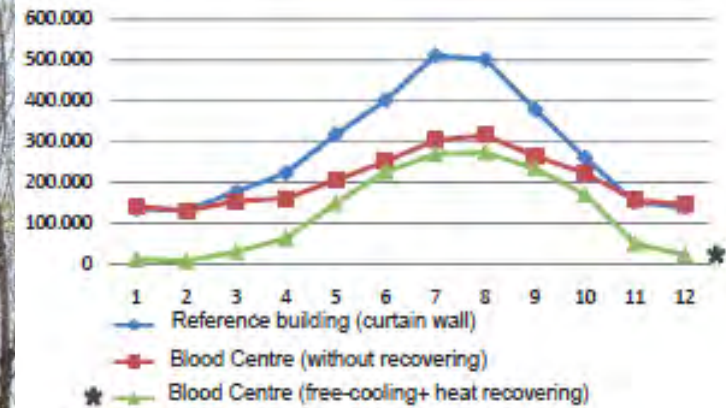
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1st study tour
1st October 2012
75 Participants



Cooling demand (kWh)
Demanda refrigeración (kWh)



Office building (16.600m²)

Exterior Wall $U=0.3$ W/m²K, G-Value glass front 0.27

Heating demand 8 kWh/m²a

Cooling demand 24 kWh/m²a

Solar thermal and photovoltaic system on the roof



Vocational school

(school, office, workshop, dorm & canteen) nZEB in Amstetten, Austria

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11th Study tour
12th June 2013
~50 Participants

- 3 presentations
- 2 buildings & biomass district heating

Multifunctional building

Energy demand for heating 20 kWh/m²a

PV-system 5 kw_p tracking system

Heating and domestic hot water system Biomass district heating system



AIDA for municipalities

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National & International study tours

- Vienna
- Lyon
- Athens
- Budapest
- Barcelona... & many more!

nZEB in municipal practice



- Assistance for new buildings & renovations
- Assistance for the development SEAPs



Contact: Peter Schilken/Energy Cities



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EUROPE





Visit our homepage!

www.aidaproject.eu

The homepage features a navigation bar with links: Home, About AIDA, Target groups, Study tours, Links, Build up, News, and Downloads. The main content area includes the AIDA logo and the text: "Assistance in the development of NZEB-roadmaps for members of the covenant of mayors www.eumayors.eu". Below this, it states: "Your nearly zero-energy building lowers operation cost and sets a positive example for the local community and neighbouring municipalities!" and "Assistance for municipalities in the planning process of a new building or a major renovation (e. g. kindergarten, city hall, residential housing)". Two green boxes highlight target groups: "FOR MAYORS, MUNICIPAL REPRESENTATIVES AND LOCAL AUTHORITIES" and "BUILDING PROFESSIONALS, ARCHITECTS AND MASTER-BUILDERS". A large image of a modern building at night is accompanied by the text: "Guidance in using nearly zero-energy design software", "First-hand information on the latest developments and the state of the art", and "National and international study tours to innovative buildings". The footer includes "Contact | Sitemap | Partner Area", "Supported by INTELLIGENT ENERGY EUROPE", and social media links for Facebook and Twitter. A disclaimer at the bottom states: "Disclaimer: The sole responsibility for the content of this document lies with the author. It does not necessarily reflect the European Union. The European Commission is not responsible for any use that may be made of the information contained herein."

The Facebook page header shows the AIDA project logo and the text: "AIDA project is on Facebook. To connect with AIDA project, sign up for Facebook today." Below this, it says "AIDA project" and "90 likes · 1 talking about this". The page features a post from "Energy Cities" titled "Inventing Nearly Zero Energy Buildings for tomorrow" dated April 2013. The page also shows a post from "Mayer Passzívház Szövetség, Hírszerző" dated February 2013. The page has 90 likes and 1 comment.



Affirmative Integrated Energy Design Action - AIDA

- Technische Universität Wien, Energy Economics Group, AT
 - AEE - Institute for Sustainable Technologies, AT
- CIMNE BEEGROUP, Building Energy and Environment, ES
 - Centre for Renewable Energy Sources and Saving, EL
 - EURAC research Institute for Renewable Energy, IT
 - Geonardo Environmental Technologies Ltd., HU
- HESPUL - énergies renouvelables & efficacité énergétique, FR
 - IREC - Catalonia Institute for Energy Research, ES
 - Greenspace Live Ltd., UK
 - Energy Cities, FR

Co-ordinator:
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