



Press-release 2018-03-22

Exchange of long-term experiences and perspectives for nearly zero-energy buildings in China and Germany

Beijing (China), Cologne (Germany), Ottobrunn (Germany)

Experts from China and Germany met for an exchange of long-term experiences and perspectives in the field of nearly zero-energy buildings. The common finding of the workshop was that the rollout of nearly zero energy buildings needs proper calculation with a corresponding controlling to ensure indoor air quality, energetic performance and the limitation of building emissions. Measurable targets like the CABR final energy limit of 25 kWh/m² for nearly zero-energy buildings or the NRW 9 kg/m²a target for CO₂ emissions were discussed for future political frameworks. For the development of suitable indicators and corresponding monitoring methods further cooperation is intended.

At the invitation of the Ludwig Bolkow Foundation, experts from China and Germany met on the 8th of March 2018 to discuss long-term experiences and perspectives in the field of nearly zero-energy buildings. Dr. Werner Zittel of the Ludwig Bolkow Foundation initiated into the topic with the idea of Ludwig-Bolkow, a German aviation pioneer and one of the fathers of the Airbus, that the transformation of society and industry to sustainable structures needs a long-term view and action.

Prof. Shicong ZHANG of the China Academy of Building Research presented experience with nearly zero-energy buildings in different Chinese regions. He explained the targets within the “13th Five-Year Plan for the Development of Building Energy Efficiency and Green Buildings” of the Chinese Ministry of Housing and Urban-Rural Development. A key target is the construction of 10 million m² of ultra-low-energy buildings and nearly zero-energy buildings by 2020. The program is an important step to control the CO₂-Emissions in the Chinese housing sector.

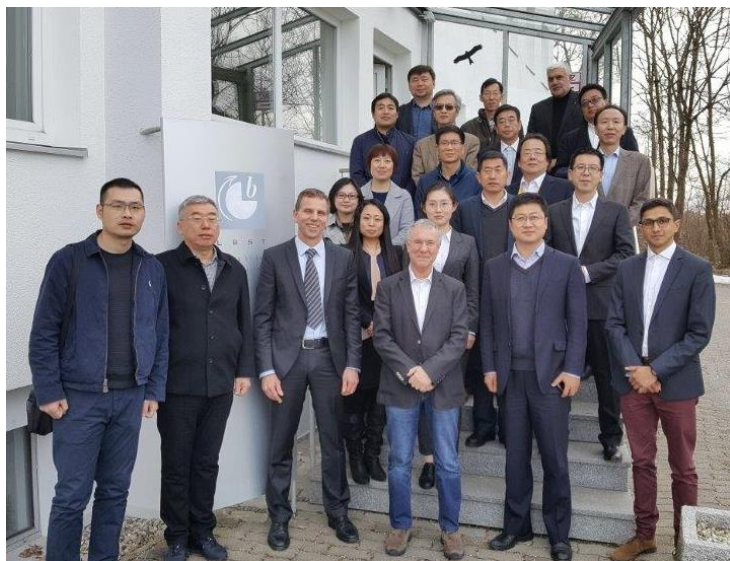
Jörg Ortjohann from the Foundation for Energy Efficiency (Stiftung Energieeffizienz) reported on 20 years of experience in the North Rhine-Westphalian state programs “50 solar energy housing estates” and “100 Climate Protection Estates”. In accordance to the Paris 2° C goal the NRW program targets 9 kgCO₂/m²a maximum CO₂-emissions for new buildings and 12 kgCO₂/m²a for renovations. The presentation included long-term evaluation results and the ReConGeb approach of German innovative housing companies for efficient investment into nearly zero-energy buildings. Prof. Madjid Madjidi from Munich University of Applied Sciences, advisory board member of the Foundation for Energy Efficiency, emphasized the importance of good forecasting models as basis of building evaluation and fault detection.

The common finding of the workshop was that the rollout of nearly zero energy buildings needs proper calculation with a corresponding controlling to ensure indoor air quality, energetic performance and the limitation of building emissions. The workshop discussed measurable targets like the CABR final energy limit of 25 kWh/m² for nearly zero-energy buildings or the NRW 9 kg/m²a target for CO₂ emissions for future political frameworks. The development of suitable indicators and corresponding monitoring methods needs further effort.

Cooperation in this field is intended to support the political goals for the CO₂-limitation of buildings.

Pictures with accompanying informations

Pic. 1: Technical exchange workshop allows open exchange



Pic: Ludwig Bolkow Foundation

Participants of the technical exchange workshop from the China Passive Building Alliance, the Ludwig Bolkow Foundation and the Foundation for Energy Efficiency in Ottobrunn, 8th of March 2018.

Pic. 2: CABR nearly zero energy building in Beijing achieves energy target of 25 kWh_{el}/(m²a)



Pic: China Academy of Building Research

The nearly zero energy building (NZEB) at the China Academy of Building Research (CABR) follows the principle of "passive building, proactive optimization, economic and pragmatic".

The ambitious annual energy consumption goal of 25 kWh_{el}/(m²a) including heating, cooling and lighting energy was set during the design phase and proven by post occupancy evaluation.

Pic. 3: Erbbauverein Koeln renovation: Successful limitation of CO₂-Emissions to 12 kgCO₂/m²a



Pic: Foundation for Energy Efficiency

Within the program "50 solar estates in North Rhine-Westphalia" a 1920s estate in Cologne was renovated with the creation of attic apartments. The energy concept combines high insulation standards, efficient distribution and use of gas and solar thermal energy with quality assurance. The building with annual CO₂-emissions of 12 kgCO₂/(m²a) for heating and hot water is a pacemaker for the energy-transition in the building sector.

Information about the organizations

China Passive Building Alliance (CPBA)



中国被动式超低能耗建筑联盟
CHINA PASSIVE BUILDING ALLIANCE

The CPBA is a non - profit organization aiming at driving better energy performance in buildings with proactive vision and reliable cooperation. The CPBA works collaboratively with industry market players - universities, research institutions, utilities, energy efficiency advocates, and building professionals - to promote passive building, nearly zero energy building and zero energy building in China. Prof. Shicong ZHANG is Secretary General of the China Passive Building Alliance.

Ludwig Bölkow Foundation



The Ludwig Bölkow Foundation is a non - profit organization committed to participate in the research and planning of long-term developments in our technology-driven world. By looking far ahead time scales have to be found for today's action. Given the inertia of the fundamental processes of change in technology and society this is not an intellectual gimmick, but of existential importance to humanity.

Foundation for Energy Efficiency (Stiftung Energieeffizienz)



The Foundation for Energy Efficiency is a non - profit organization with experience in the planning, implementation and evaluation of energy-saving buildings and settlements. It supports the efficient performance of buildings and settlements with a standardized monitoring system and e.g. guarantee contracts for solar systems and heat pumps. Prof. Madjid Madjidi, advisory board member of the Foundation for Energy Efficiency is editorial board member of the Building Simulation Journal.

Contact

Prof ZHANG Shicong. Ph.D.

Deputy Director. Research Center for Development Strategy

China Academy of Building Research. Institute of Building Environment and Energy.

Tel: 0086 (0)10-84270181

Fax: 0086 (0)10-84283555

Beijing. 30# Beisanhuandonglu. 100013

zhangshicong01@126.com

Jörg Ortjohann

Stiftung Energieeffizienz

Tel: 0049 (0)221 546 57-05

Fax: 0049 (0)221 54 28 27

D-50969 Köln, Zollstockgürtel 5

info@stiftung-energieeffizienz.org