

# Smart, cost effective, next generation buildings

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Kurt Emil Eriksen  
Head of Active House and Strategic Projects  
VKR Holding A/S

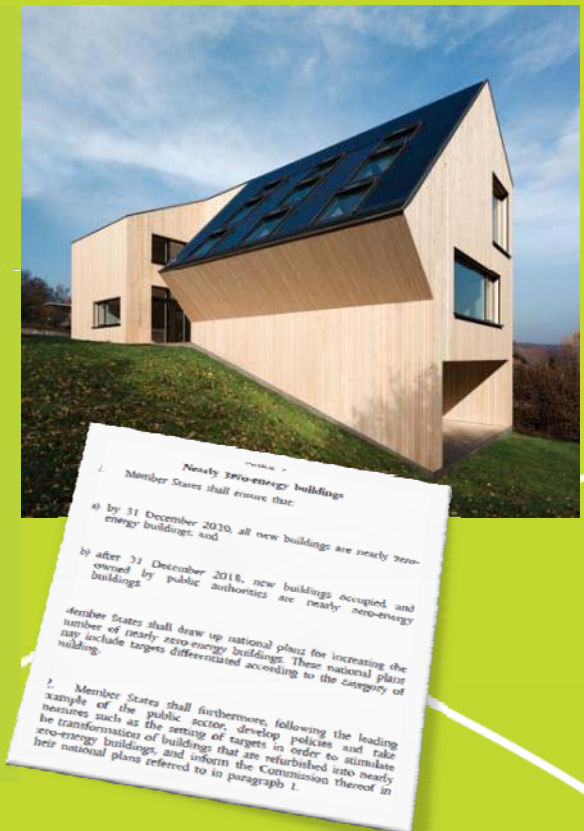
email: [kee@vkr-holding.com](mailto:kee@vkr-holding.com)



**European Commission** has high ambitions on security of supply, climate changes and creation of local job, therefore they have ambitious targets for 2020

- 20% reduction of CO<sub>2</sub>
- 20% of the energy used, shall be renewable energy
- 20% energy efficiency

The member states are also required to implement legislation that require **nearly zero-energy buildings** by end of 2020 – (2018 for public buildings)



40% of the energy used is used for heating and cooling of buildings

People spend 90% of our time in buildings, however up to 30 % of the building mass does not contribute to nor provide a healthy indoor climate



Think of a vision – where buildings  
create healthier and more comfortable  
lives for their occupants without having  
a negative impact on the climate and  
environment – moving us towards a  
cleaner, healthier and safer world  
– this is the vision of Active House



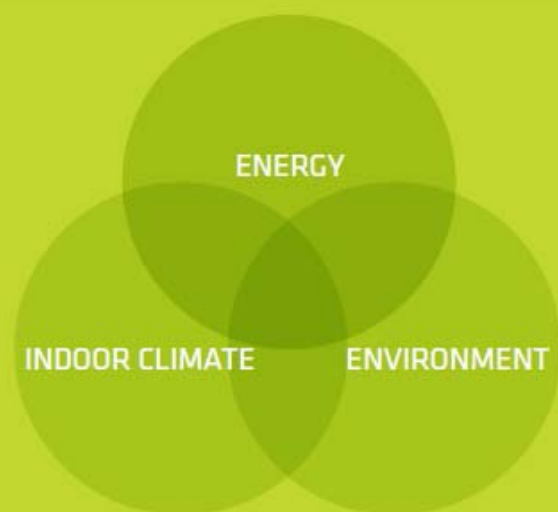
Active House  
Buildings that give more than they take



The long-term target is to develop Active House to become the future principle for new buildings and renovation.



## THE 3 PRINCIPLES



Technical specification for  
Active House is developed

### ENERGY

- A building which is energy efficient and easy to operate
- A building which substantially exceeds the statutory minimum in terms of energy efficiency
- A building which exploits a variety of energy sources integrated in the overall design

### INDOOR CLIMATE

- An indoor climate that promotes health, comfort and the sense of well-being
- A building which ensures good indoor air quality, an adequate thermal climate and appropriate visual and acoustic comfort
- An indoor climate which is easy for occupants to control and at the same time encourages responsible environmental behavior

### ENVIRONMENT

- A building which exerts the minimum impact on environmental and cultural resources
- A building which avoids ecological damage and seeks to add to local biodiversity
- A building which is constructed of materials having a high recycled content and providing the ability of its own recycling or re-use



## STAKEHOLDERS

### Partners in the Alliance

#### Building industry

E.g. architects, engineers, building manufacturers, construction companies and house manufacturers

#### Universities and knowledge centres

E.g. researchers within the construction sector and renewable energy

#### International organizations and networks

E.g. within the construction sector, health, environment and renewable energy

### Partners in society

#### Local communities

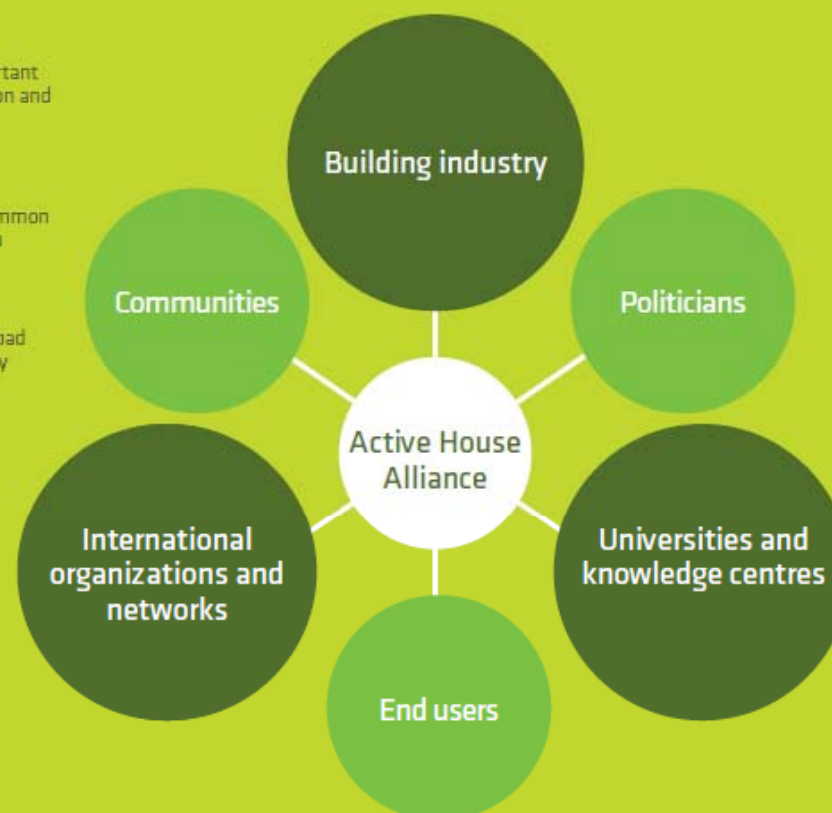
By highlighting and showcasing important knowledge in new buildings, renovation and demonstration projects

#### Politicians on national, regional and international level

By enhancing their knowledge and common understanding of possible solutions in buildings

#### End users

By exchanging learnings of good and bad experiences and communicating newly developed solutions for buildings.



## LEARN MORE

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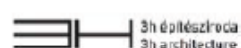
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## PARTNERS IN THE ALLIANCE



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|  | Objectives  | Activities and Deliverables  |
|--|---|--|
| <b>Knowledge sharing</b>               | Leverage existing knowledge through a strong alliance and facilitate cross-sector working groups.                 | <ul style="list-style-type: none"> <li>• Annual general assembly</li> <li>• Topic based workshops for members</li> <li>• Training and webinars</li> </ul>  |
| <b>Specification and demonstration</b> | Create new knowledge, describe, illustrate and demonstrate the opportunities and attractiveness of Active Houses. | <ul style="list-style-type: none"> <li>• Active House specifications for residential and non-residential buildings</li> <li>• Simple evaluation scheme of buildings</li> <li>• Demonstration buildings</li> <li>• Catalogue of design patterns and cases</li> <li>• Design and Assessment Tools</li> </ul> |
| <b>Communication</b>                   | Influence positively on the full supply chain in the construction sector, politicians and legislators.            | <ul style="list-style-type: none"> <li>• Communicate with building users and specifiers</li> <li>• External conferences and symposiums</li> <li>• Training and webinars for specifiers</li> <li>• Influence positively on codes and legislation</li> </ul>   |



## EXAMPLES OF CASES



### ACTIVE HOUSE - RUSSIA

The First Active House in Russia is designed to set a new standard for residential house construction in Russia. The house design is based on the Active House principles.



### SOLHUSET

Children in Hørsholm are playing in the most climate-friendly nursery in Denmark.



### JADARHUS

One of the purposes of these ISOBO Aktiv houses is to test different technical solutions in one single building.

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Follow the development , contribute  
and join the alliance at  
[www.activehouse.info](http://www.activehouse.info)

Contact:

[kurt.emil.eriksen@activehouse.info](mailto:kurt.emil.eriksen@activehouse.info)  
[mikkel.skott.olsen@activehouse.info](mailto:mikkel.skott.olsen@activehouse.info)

The screenshot shows the activehouse.INFO website. At the top, there's a navigation bar with links: HOME, CONTACT, LOGIN, and a search bar. Below this is a main header with the site logo and a tagline 'NETWORK AND KNOWLEDGE SHARING'. A secondary navigation bar includes links for VISION, CASES, KNOWLEDGE, NEWS, NETWORK, and GET INVOLVED. The main content area features a large banner image of a person on a rooftop with a text box stating: 'An Active House is CO2 neutral. It has an exceptionally low energy consumption and covers all its energy requirements from renewable sources.' Below the banner, there are three circular icons labeled ENVIRONMENT, INDOOR CLIMATE, and ENERGY. To the right of the banner, there's a section titled 'SECTIONS' with links for DESIGN PROCESS, PRODUCTS AND TECHNOLOGY, and PERFORMANCE AND DOCUMENTATION. Below this, there's a 'LATEST CASES' section with three entries: 'House of the Future' (REGENSBURG, GERMANY, SEPTEMBER 2009), 'PTM Zero Energy...' (BAHIGI, MALAYSIA, OCTOBER 2007), and 'Botticelli Project ...' (MASCALUCIA - CT - SICILY). To the right of the cases, there's a 'KNOWLEDGE & NEWS' section with two entries: 'Sunlighthouse wins the Austrian environmental award' (The VELUX Active House experiment, Sunlighthouse, wins the Austrian National Award for environment & energy technology 2010) and 'Conference about Light "LYS TEMADAG"' (25. feb. 2010 Arkitektstolen Aarhus (the symposium will be held in danish)). On the far right, there's a 'MANAGE ACCOUNT' section with links for 'Add content', 'View content', 'Edit profile', and 'Edit account'. At the bottom right, there's a 'MAJOR EVENT' section with a play button icon.