

IEA SHC Task 47:

Renovation of Non-Residential Buildings to Sustainable Standards

- 13:30** **Welcome and Introduction**
Fritjof Salvesen, Operating Agent Task 47
- 13:40** **Lessons Learned from 20 Exemplary Projects**
Fritjof Salvesen, Asplan Viak AS, Norway
- 14:00** **Drivers and Barriers in High Ambition Retrofitting of Non-residential Building. Experiences from Decision-making Processes in Projects Countries.**
Trond Haavik, Segel AS, Norway
- 14:20** **Successful Retrofit of Nonresidential Buildings: Technical Analysis of Heating and Cooling Concepts**
Sebastian Herkel, Fraunhofer ISE, Germany
- 14:40** **Sustainable Refurbishment of School Buildings**
André De Herde, University of Louvain La Neuve, Belgium
- 15:00** **Questions and Discussions**
- 15:15** **Coffee break**

Renovation of Non-Residential Buildings towards Sustainable Standards

Fritjof Salvesen
Asplan Viak AS – Norway
Operating Agent SHC task 47

SHC 2014 / Beijing 15.October 2014

Motivation for renovation:

- More than half of the existing building stock will still be standing in 2050
- Buildings are much more frequently renovated than replaced
- More than 50% of the building stock in many OECD countries < 1970
- 200.000.000 residential dwellings in OECD countries will **have to be renovated to new energy standards** to reach the *+2 degrees goal*

The previous SHC task 37 has shown:

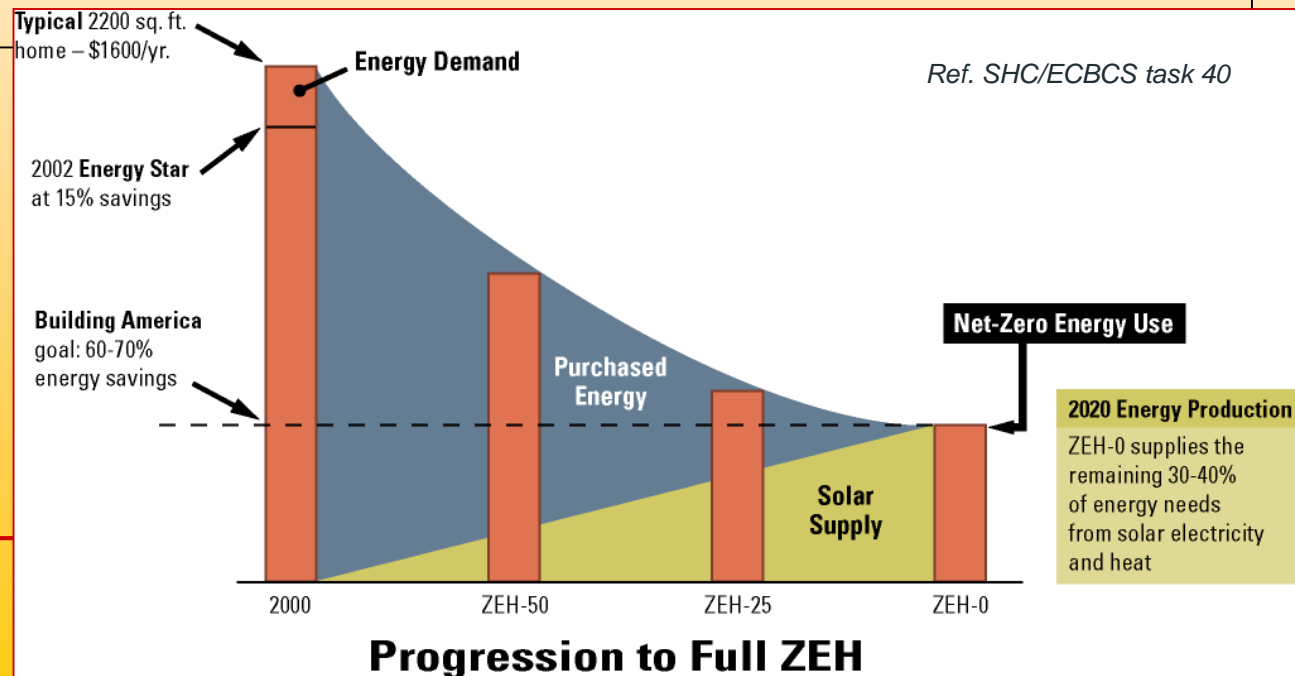
- A dramatic decrease in energy demand in existing houses is possible
- 60 demo-projects show reductions from 62 - 95% for space heating and DHW, average 75%.

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Why renovation in the SHC Program:

- Solar energy important to reach NZEB standards
- Solar heat for space heating and hot water
- Solar PV panels for light, electric appliances and heat pumps
- Solar air conditioning and refrigeration
- Daylight systems



Task 47:

Renovation of Non-Residential Buildings towards Sustainable Standards

Duration: January 2011 - June 2014

Objectives

- Develop a solid knowledge base on how to renovate non-residential buildings towards the NZEB standards (Net-Zero Energy Buildings) in a sustainable and cost efficient way.
- Identify the most important market and policy issues as well as marketing strategies for such renovations.

Scope

- The task deals with several types of non-residential buildings, including protected and historic buildings:
 - Office buildings
 - Educational buildings
 - Nursing homes
 - Hotels
 - Super markets and shopping centers
- Depending on available projects among the participants: hospitals, industrial halls and indoor swimming pools.
- A broad range of technologies will be included and solar energy will play a significant role in bringing the use of primary energy down to NZEB - standards.

Scope

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 - **Office buildings**
 - **Educational buildings**
 - ~~Nursing homes~~
 - ~~Hotels~~
 - ~~Super markets and shopping centers~~

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Participating countries



Australia



Austria



Belgium



Denmark



Germany



Italy



Norway



Task 47:

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Task 47 has four subtasks:

Subt. A: Advanced Exemplary Projects (Norway)

- Documentation of the design, performance, process and motivations of exemplary building renovations

Subt. B: Market and Policy issues and Marketing Strategies (Norway)

- Building stock analysis
- Decision making processes - barriers and driving forces

Subt.C: Assessment of Technical Solutions and Operational Management (Germany)

- Detailed description of two best case buildings (school and office building)
- A technical report with recommendations

Subt.D: Environmental and Health Impact Assessment (Belgium)

- A booklet on sustainable and advanced renovation of schools.



SHC Task 47

Solar Renovation of Non-Residential Buildings

About Project

Participants

Meeting / Events

News

Publications

Resources

Member Area

Contact

Solar Renovation of Non-Residential Buildings

Overview

Buildings are responsible for up to 35 % of the total energy consumption in many of the IEA participating countries. The EU Parliament approved in April 2009 a recommendation that member states have to set intermediate goals for existing buildings to fix minimum percentage of buildings to be net zero energy by 2015 and 2020.

A few exemplary non-residential renovation projects have demonstrated that total primary energy consumption can be drastically reduced together with improvements of the indoor climate. Because most property owners are not even aware that such savings are possible, they set energy targets too conservative. Buildings renovated to mediocre performance can be a lost opportunity for decades.

The objectives of this new Task are to develop a solid knowledge base on how to renovate non-residential buildings towards the NZEB standards (Net-Zero Energy Buildings) in a sustainable and cost efficient way and to identify the most important market and policy issues as well as marketing strategies for such renovations.

<http://task47.iea-shc.org/>

Task Information

DURATION

januar 2011 — juni 2014

OPERATING AGENT

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What's New

NEWS

MEETINGS

PUBLICATIONS

[Public task 47 Symposium in Frankfurt 3.April 2014](#)

[SHC 2014 is Now Open for the Submission of Abstracts](#) - The SHC 2014 website is now live and open for the submission of abstracts — deadline May 30, 2014.

[Solar Update February 2014 Now Online](#) - The latest issue of the IEA SHC Programme's newsletter, Solar Update is now online. This issue has articles covering a variety to topics ranging from solar thermal activities in Canada to lighting retrofits to SHC publications to download and read.

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Time schedule:

- Task started January 2011
- Task ended June 2014
- Reports to be finalized and uploaded on the public website by Dec. 2014

All reports will be available in pdf-format for free downloading

Information plan

- Database for exemplary renovation projects – *19 available*
- Three seminars presenting task work
- “Lessons learned summary” from the exemplary projects of sub t A.
- Publication describing decision making processes, non energy benefits as well as barriers and driving forces from the case studies of sub t B.
- Publication summarising renovation policies and strategies, sub t B.
- Technical report with recommendations and conclusions from sub t C
- “Guideline for designers and planners – focusing on schools” from sub t D.

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