

# PHN17

**8TH NORDIC PASSIVE HOUSE CONFERENCE**



**ADAPTIVE AND INTERACTIVE BUILDINGS AND DISTRICTS**

## **FINAL PROGRAMME**

SEPTEMBER 27–29, 2017

HELSINKI

[WWW.PHN17.FI](http://WWW.PHN17.FI)



## Contact

### Ville Raasakka

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## Keynote presentations

### September 27 at 9.00

*Challenges or Opportunities? Updated Building Regulations for Renovation*

### Kimmo Tiilikainen

Minister for Housing, Energy and the Environment  
Finnish Government

### September 27 at 9.30

*Tomorrows Tools of the Trade in Public Commissioning*

### Marleen Hermans

Prof. dr.  
TU Delft / Faculty of Architecture and the Built Environment

### September 28 at 9.00

*System-intelligent Building*

### Tero Vanhanen

Architect SAFA  
FIRA

### September 28 at 9.30

*Regenerating the Business Landscape for Energy*

### Rami Piik

Vice President, Smart Living  
Fortum

## Exhibitors



## Workshops

### September 27 at 13.30

#### *Building performance simulation for adaptive and interactive buildings*

Moderators:

**Matthias Haase**, SINTEF Building and Infrastructure, IBPSA-Nordic  
**Mika Vuolle**, EQUA

### September 28 at 13.00

#### *Nordic Collaborative Network of Passivhaus providers: Establishment*

Moderator:

**David N. Benjamin**, Sivilarkitekt MNAL  
**Inge Vestergaard**, Aarhus School of Architecture

### September 28 at 15.00

#### *Country reports*

A specific workshop will present the country-specific situations of energy-efficient buildings in Finland, Sweden, Norway, Denmark and Estonia by representatives from each country.

## City reception

### September 27 at 19.00

Empiresali, Vanha Raatihuone.  
Address: Aleksanterinkatu 20.  
Dress code: business casual.  
Guided walk from the conference venue at 18.30.

City reception is free for participants.

City reception will be hosted by:  
Deputy Mayor **Anni Sinnemäki**

## Dinner

### September 28 at 19.00

Restaurant Meripaviljonki.  
Address: Säästöpankinranta 3  
(next to the conference venue).  
Dress code: business casual.

The price of the dinner is 70 euros

## Excursion

### September 29 at 9.00

Excursion starts at 9.00 in front of the conference venue

We will be visiting the following sites:  
- Sweco Finland office premises  
- PuuMera Wooden apartment building

Excursion will end at 13.00 to the airport. Bus will continue from the airport to the city centre. It is possible to store your luggage in the bus.

# WEDNESDAY

## Wednesday September 27

### 8.45 – 9.00 Karl Lindahl Opening Session

Chair of the Organizing Committee  
**Teemu Vehmaskoski**, Finnish  
Association of Civil Engineers RIL

Chair of the Scientific Committee  
**Riikka Holopainen**, VTT

### 9.00 – 10.00 Karl Lindahl Keynote Session 1 Chair: Riikka Holopainen

*9.00 Challenges or Opportunities? Updated  
Building Regulations for Renovation*  
**Kimmo Tiilikainen**, Minister for Housing,  
Energy and the Environment

*9.30 Tomorrows Tools of the Trade in  
Public Commissioning*  
Prof. dr. **Marleen Hermans**, TU Delft  
/ Faculty of Architecture and the Built  
Environment

### 10.00 – 10.30 Coffee

### 10.30 – 12.10 Tarja Halonen Session 1: Life Cycle Sustainability Chair: Ruut Peuhkuri

*10.30 Modern Architecture in a life cycle  
Perspective*  
**Inge Vestergaard**, Denmark

*10.50 Evaluation of family houses with  
green technologies from environmental  
sustainability*  
**Andrea Moňoková**, Slovakia

*11.10 Life cycle analysis of building  
integrated photovoltaic roof tile for use in  
Norwegian conditions*  
**Reyn O'Born**, Norway

*11.30 Cost-optimal PH premium class  
efficiency planning in 11 diverse new  
building types in cold climate through  
dynamic multifactorial optimisation. Role  
of average weighted U-value.*  
**Valdis Zakis**, Latvia

*11.50 Life Cycle Assessment of a Wooden  
Detached House Using SimaPro and GaBi:  
Are the Results Uniform?*  
**Nargessadat Emami**, Iceland

### 10.30 – 12.10 Karl Lindahl Session 2: Renovation concepts Chair: Inger Andresen

*10.30 Promoting Nearly Zero-Energy  
Building Renovation with NeZeR-concept*  
**Riikka Holopainen**, Finland

*10.50 Solutions and effects of nZEB  
renovation*  
**Sakari Pulakka**, Finland

*11.10 Tools for strategic planning  
improving energy performance: City  
Energy Audit and residential housing stock*  
**Agata Czarnigowska**, Poland

*11.30 Concept of housing estate  
energy retrofit: ready for zero energy  
neighbourhoods?*  
**Agata Czarnigowska**, Poland

*11.50 Developing A Bottom-up Approach  
for Delivering Innovative Zero Carbon  
Retrofit Solutions Using Agent-Based  
Modelling*  
**Ljubomir Jankovic**, United Kingdom

# WEDNESDAY

**12.10 – 13.30 Lunch**

**13.30 – 15.00 Tarja Halonen**

**Workshop 1: Building performance simulation for adaptive and interactive buildings**

**13.30 – 14.30 Karl Lindahl**

**Session 3: Highly insulated and energy efficient constructions and systems**

**Chair: Francesco Reda**

*13.30 Increasing the use of solar power in commercial buildings by integrating energy storage*

**Nina Johansson, Sweden**

*13.50 A Conceptual Framework for Long-Term Obedience to Building-Constructive Energy Performance Requirements*

**Bart Janssens, Belgium**

*14.10 To upgrade or not to upgrade: A business model for old apartment buildings*

**Torben Valdbjørn Rasmussen, Denmark**

**15.00 – 15.30 Coffee**

**15.30 – 17.10 Tarja Halonen**

**Session 4: Indoor environment quality**

**Chair: Yrsa Cronhjort**

*15.30 The Performance Evaluation of Passive Houses – Do Passive Houses Include Physical Risks?*

**Markku Hienonen, Finland**

*15.50 Measurements of daylight availability in Norwegian apartments and its consequences for energy retrofitting*

**Matthias Haase, Norway**

*16.10 Low Energy Building Design (LED) in Cape Town (South Africa)*

**Tom Sanya, South Africa**

*16.30 Passive house exterior wall moisture behaviour and perceived indoor environment*

**Francesco Reda, Finland**

*16.50 IAQ and thermal comfort within a near EnerPhit retrofit of a historic house*

**Carlos Jimenez-Bescos, United Kingdom**

**15.30 – 16.30 Karl Lindahl**

**Session 5: Smart design, operation and management**

**Chair: Ivana Kildsgaard**

*15.30 Towards automated building energy performance simulation for BIM based renovation projects*

**Conor Shaw, Finland**

*15.50 The effectiveness of thermal insulation in lightweight steel-framed walls regarding its position under the Passive House Standard umbrella*

**Eduardo Roque, Portugal**

*16.10 High Definition Surveying methods: challenges and opportunities for the industrialization of the retrofit sector*

**Samuel Dubois, Belgium**

# THURSDAY

## Thursday September 28

### 9.00 – 10.00 Karl Lindahl

#### Keynote Session 2

Chair: Riikka Holopainen

*9.00 System-intelligent Building*  
Architect **Tero Vanhanen**, FIRA

*9.30 Regenerating the Business Landscape for Energy*  
Vice President, Smart Living **Rami Piik**,  
Fortum

### 10.00 – 10.30 Coffee

**10.30 – 12.10 Tarja Halonen**  
**Session 6: Energy-flexible and resilient communities and districts**  
Chair: Jyri Nieminen

*10.30 Performance verification of sustainable smart buildings and districts*  
**Jussi Rönty**, Finland

*10.50 Innovative and energy-flexible design for a positive energy balance plot in Lyon (France): the HIKARI project*  
**Florian Simon**, France

*11.10 Analysis by simulation of demand charge reduction supported by energy storage*  
**Raquel Garde**, Spain

*11.30 STORY: Studying the added value storage can bring to flexible energy systems*  
**Mia Ala-Juusela**, Finland

*11.50 Site specific sustainability? A case study*  
**Juha Päätaalo**, Germany

**10.30 – 11.50 Karl Lindahl**  
**Industry Session 7: Smart Concepts**  
Chair: **Kimmo Lylykangas**

*10.30 CO2mpakthuset*  
**Ingo Theoboldt**, Sweden

*10.50 Nearly Independent Near Zero Energy Building*  
**Marija Drev**, Slovenia

*11.10 Passivhaus within UK conservation properties*  
**Mike Levey**, United Kingdom

*11.30 "Sharing is caring", a modern passive house building where people, environment and the planet are brought into focus*  
**Ivana Kildsgaar**, Sweden

### 12.10 – 13.00 Lunch

**13.00 – 14.30 Tarja Halonen**  
**Workshop 2: Nordic Collaborative Network of Passivhaus providers: Establishment**

**13.00 – 14.00 Karl Lindahl**  
**Industry Session 8: Energy-flexible and resilient communities and districts**  
Chair: **Ruut Peuhkuri**

*13.00 Business models for holistic upgrading of single family homes*  
**Trond Haavik**, Norway

# THURSDAY

*13.20 Automating building carbon footprinting and life-cycle assessment with digital design data*

**Panu Pasanen**, Finland

*13.40 Mitigation of greenhouse gas emissions by district energy system renewal*

**Jyri Nieminen**, Finland

**14.30 – 15.00 Coffee**

**15.00 – 16.50 Karl Lindahl**

**Country report workshop**

**Closing session**

**Chair: Riikka Holopainen**

Country-specific presentations

*15.00 Sweden: New FEBY 20 criteria replacing FEBY 12 Swedish Passivehouse criteria*

**Hans Eek**, Passivhuscentrum Västra Götaland

*15.15 Finland: Finnish Roadmap for Low-Carbon construction*

**Yrsa Cronhjort**, VTT Technical Research Centre of Finland Ltd.

*15.30 Norway: State-of-the-art of energy efficient buildings in Norway*

**Inger Andresen** and **Guri Krigsvoll**, Norwegian University of Science and Technology

*15.45 Denmark: Low energy buildings in Denmark – State, experiences and trends*

**Ruut Peuhkuri**, Aalborg University

*16.00 Panel discussion*

*16.30 Closing remarks*

**Riikka Holopainen**

## Committees

### Organizing Committee

**Teemu Vehmaskoski**, Finland (Chair)

**Riikka Holopainen**, Finland

**Ville Raasakka**, Finland

**Elina Rantakallio**, Finland

### Scientific Committee

**Riikka Holopainen**, Finland (Chair)

**Miimu Airaksinen**, Finland

**Inger Andresen**, Norway

**Yrsa Cronhjort**, Finland

**Ivana Kildsgaard**, Sweden

**Guri Krigsvoll**, Norway

**Jarek Kurnitski**, Estonia

**Kimmo Lylykangas**, Finland

**Jyri Nieminen**, Finland

**Rie Øhlenschläger**, Denmark

**Ruut Peuhkuri**, Denmark

**Eva Sikander**, Sweden

**Anu Soikkeli**, Finland

**Maria Wall**, Sweden

# PROGRAMME AT A GLANCE

		PHN17 CONFERENCE				
		WEDNESDAY		THURSDAY		FRIDAY
		Tarja Halonen	Karl Lindahl	Tarja Halonen	Karl Lindahl	
8.00	Registration		Registration			
8.45	OPENING					
9.00-9.30	<b>Keynote session 1</b> Keynote 1: Minister Kimmo Tiilikainen Keynote 2: Prof. Dr. Marleen Hermans Chair: Riikka Holopainen		<b>Keynote session 2</b> Keynote 3: Architect Tero Vanhanen Keynote 4: Vice president Rami Piik Chair: Riikka Holopainen		Technical excursion	
9.30-10.00	Coffee		Coffee			
10.00-10.30	Coffee		Coffee			
10.30 - 10.45	Coffee		Coffee			
10.45 - 11.00	<b>Session 1:</b> Life Cycle Sustainability Chair: Ruut Peuhkuri	<b>Session 2:</b> Renovation concepts Chair: Inger Andresen	<b>Session 6:</b> Energy-flexible and resilient communities and districts Chair: Jyri Nieminen	<b>Industry Session 7:</b> Smart Concepts Chair: Kimmo Lylykangas		
11.00 - 11.20						
11.20 - 11.40						
11.40 - 12.00						
12.00 - 12.10	Lunch		Lunch			
12.10 - 12.20	Lunch		Lunch			
12.45 - 13.00	Lunch		Lunch			
13.00 - 13.15	Lunch		Lunch			
13.15 - 13.30	Lunch		Lunch			
13.30 - 13.50	<b>Workshop 1:</b> Building performance simulation for adaptive and interactive buildings	<b>Session 3:</b> Highly insulated and energy efficient constructions and systems Chair: Francesco Reda	<b>Workshop 2:</b> Nordic Collaborative Network of Passivhaus providers: Establishment	<b>Industry Session 8:</b> Energy-flexible and resilient communities and districts Chair: Ruut Peuhkuri		
13.50 - 14.10						
14.10 - 14.30						
14.30 - 15.00	Coffee		Coffee			
15.00 - 15.30	Coffee		Coffee			
15.30 - 15.50	<b>Session 4:</b> Indoor environment quality Chair: Yrsa Cronhjort	<b>Session 5:</b> Smart design, operation and management Chair: Ivana Kildsgaard		<b>Country report workshop</b> <b>Closing session</b>		
15.50 - 16.10						
16.10 - 16.30						
16.30 - 16.50						
16.50 - 17.10						
18.00 - 19.00						
19.00	City Reception		Dinner			
20.00	City Reception		Dinner			