



# INNOVATION IN RELATION TO BUILDING ENERGY DEMAND IN IAMs

AN EXPERT WORKSHOP CARRIED OUT WITHIN THE FRAMEWORK  
OF THE EUROPEAN COMMISSION FP7 ADVANCE PROJECT, CO-FUNDED  
BY THE STANFORD ENERGY MODELING FORUM

LEEUVENBERGH, SERVAASBOLWERK 1a, 3512 NK, UTRECHT, NL  
20-21 JANUARY 2015

*TUE. 20 JANUARY 2015*

**12:45-13:00** Arrival (coffee)

**13:00-13:45** Opening remarks

*Welcome from host:* Pieter Boot, PBL Netherlands Environmental Assessment Agency

*Objectives of the meeting:* John Weyant, Stanford University

*Setting the stage, comparison of models:* Detlef van Vuuren, PBL Netherlands Environmental Assessment Agency

**13:45-15:45** **Session 1: Technological options in buildings, and implications for modelling / potential game changing innovations for energy demand**

*The purpose of this session is to discuss technological options to reduce energy use in buildings, possible game changing innovation and they these can be represented in integrated assessment models.*

*Chair: John Weyant, Stanford University*

**Cathy Zoi**, Stanford University: *Getting Innovation in Buildings to Take Hold: Good Technology is Necessary, but Not Sufficient*

**Diana Ürge-Vorsatz**, Central European University: *Challenges to modeling the new frontiers in building energy demand reduction: holistic solutions, integrated options and behavior*

**Robert Harmsen**, Utrecht University: *Barriers to innovation in new and existing buildings: Dutch experiences*

**Vassilis Daioglou**, Utrecht University: *Implications for IAM models (The building sector in IMAGE)*

**Group discussion**

**15:45-16:00** Coffee Break

**16:00-18:00** **Session 2: Behavioral options in buildings, and implications for modelling**

*The purpose of this session is to discuss research on behavior change and its impact on energy use and the possible implication of how residential energy use is represented in integrated assessment models.*

*Chair: Keywan Riahi, Institute for Applied System Analysis (IIASA)*



**Carrie Armel**, Stanford University (remote)

**Robert Lowe**, University College London: *Behavioural options in buildings – a socio-technical perspective*

**Robin Roy**, National Resource Defense Council: *Grid-interactive consumer appliances for an increasingly decarbonized, economic electricity system: The case of water heaters, and beyond.*

**Group discussion**

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18:00          Departure to hotels

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**WED. 21 JANUARY 2015**

**09:00-11:00          Session 3: Demand management options to support VRE grid integration**

*In this section we discuss demand side management options, such as smart metering, that could be introduced in the residential to support the integration of variable renewable energy into the electricity system, and the possible ways to represent these technologies in IAM models.*

**Chair: Gunnar Luderer, Potsdam Institute for Climate Impacts Research (PIK)**

**Marissa Hummon/Doug Arent**, National Renewable Energy Laboratory (NREL): *Modeling Demand Response for Integration Studies*

**Michael Hogan**, The Regulatory Assistance Project

**Wilfried van Sark**, Utrecht University: *Demand side management: we need electric mobility!*

**Hans Christian Gils**, Deutsches Zentrum für Luft- und Raumfahrt (DLR): *Accounting for DSM in power sector modeling*

**Group discussion**

**10:45-11:30          Coffee Break**

**11:30-12:15          Discussion Session: Where do we go from here?**

*Wrap-up of the meeting. What follow-up activities can we imagine? Which areas are the most feasible? Which are of the highest priority (for policy, for the IAM community, for other research communities, etc.)?*

**Chair: Detlef van Vuuren, PBL Netherlands Environmental Assessment Agency**

12:15          Lunch at Leeuwenbergh

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