

## SESSION 3A

### MEETING OF MODELS

*Moderator: Mirjam Harmelink, Harmelink consulting*

#### PAPERS:

##### **A Meta-Analysis of Bottom-Up Ex-Ante Energy Efficiency Policy Evaluation Studies**

Luis Mundaca & Lena Neij, International Institute for Industrial Environmental Economics at Lund University

##### **How to measure the overall energy savings linked to policies and energy services at the national level?**

Stefan Thomas, Wuppertal Institute for Climate, Environment and Energy

Piet Boonekamp, ECN, Petten

Harry Vreuls, SenterNovem, Sittard

Jean-Sébastien Broc, École des Mines de Nantes

Didier Bosseboeuf, ADEME

Bruno Lapillonne, Enerdata, Grenoble

Nicola Labanca, eERG/Politecnico di Milano

##### **A Danish Case: Portfolio Evaluation and Its Impact on Energy Efficiency Policy**

Mikael Togeby and Kirsten Dyhr-Mikkelsen, Ea Energy Analyses, Denmark

Anders Larsen, Roskilde University and Ea Energy Analyses

Peter Bach, Danish Energy Authority

#### SESSION SUMMARY:

A variety of models are applied to determine the impact of energy efficiency policies. This session will show the application of bottom-up, top-down and a hybrid approach to determine the impact of policies. Discussion will focus on which models are best used under what circumstances, and how results should be interpreted.

The first papers uses the residential sector as a case study to provide a critical review of modeling exercises and scrutinize bottom-up evaluating models. At the same time, the paper stresses that, albeit imperfectly, well-formulated energy modeling tools provide valuable frameworks for organising complex and extensive end-use data. The papers highlights that there is no single best method to evaluate (residential) energy efficiency policy instruments.

The second paper presents an overview of the final results on the methods developed by the Energy End-Use Efficiency and Energy Services (EMEEES) project. The project focused on developing methods that enable more than 90 % of the potential energy savings to be measured and reported in EU-countries. The paper briefly discusses the importance of the quantity to be measured – all or additional energy savings – and the effect of past measures ('early action'), and what this means for the methods to be developed. It compares the main elements of calculation needed to ensure consistent results between bottom-up and top-down methods at the overall national level.

The third paper presents the first evaluation of the entire Danish energy efficiency portfolio. In this evaluation a hybrid approach was used to evaluate the total portfolio of energy efficiency policy instruments in place in Denmark regarding the efficiency and effectiveness.