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**9<sup>th</sup> EURAMET General Assembly**  
**Kraków, Poland**  
**1 to 5 June 2015**

**EURAMET Symposium 2015, Thursday 4<sup>th</sup> June 2015**

**“Metrology meeting the challenges in energy, environment and health”**

### **Metrology for a sustainable energy system: research highlights, impacts, challenges for the future**

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By 2050, Europe should have reduced greenhouse gas emissions of at least 80% compared to the 1990's levels. Therefore the energy transition towards a decarbonized economy and society needs to accelerate the development and putting into practice of new industrial and citizen behaviour, accompanied with more accurate, practical and efficient tools.

At the heart of this paradigm's change, metrology appears as useful tool to optimize the energy transition process. The production and conversion, the transport and storage, the end-use and cross-cutting applications are the main areas where energy metrology can strongly contribute. To meet the scientific and technical challenges, it is important that the Metrology community, in a common approach, shares the European excellence and the available added values.

Within the framework of the European Metrology Research Programme, EURAMET has been implementing a first set of joint research projects focussing on Metrology for Energy. These projects help to establish a more sustainable energy model through research on measurement. All the experts and the metrological experience developed through the different EURAMET Technical Committees are concerned and involved in this research programme.

This talk addresses the implications of the European National Metrology Institutes in the field of Energy from production to end-use for securing Europe's energy supply, including risk management. The technologies and processes for exploiting fossil or renewable resources, or for operating conventional and future power plants, smart grids and lighting are relevant examples of EURAMET's scientific and technical interests. The main research highlights, early and wider impacts and perspectives will be presented during this speech.

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