Climate change impact on economical and industrial activities

Markus Donat University of New South Wales
Sylvie Parey EDF/R&D
Pietro Bernardara EDF/R&D
Context

- Industrial and economic activities influenced by / depend on climatic conditions

- Climate is changing:
  - Mitigation measures but,
  - Adaptation : unavoidable

- Aim of the session:
  - Gather and present different studies dedicated to the adaptation of societies, industries or economical sectors to climate change
Example: electricity demand

Mean thermal part

Observations
2070-2100

heating

cooling

1982-2007
2036-2065
2070-2100
6 abstracts received

**Oral**
- The impact of climate change on the BRICS economies: The case of insurance demand. N. Ranger and S. Surminski

**Posters (summaries and discussion : 13:30-14:15 SM1)**
- Geothermal energy

- Resources, Materials and Elements
  - XL20 Reducing CO2-Emission by using Eco-Cements K. Voit, K. Bergmeister, and I. Janotka

- Climate Change, Economics and Society
  - XL32 Economic Impacts of Climate Change on Winter Tourism: Challenges for Ski Area Operators A. Damm, J. Köberl, F. Pretenthaler, and C. Töglhofer
  - XL33 How could Mosan agriculture be impacted by climate change and future droughts ? A. Bauwens, C. Sohier, D. Deraedt, and A. Degré
  - Prediction of future hydrological hazard via the SCHADEX method P. Brigode, P. Bernardara, E. Paquet, F. Garavaglia, J. Gailhard, and P. Ribstein
XL16: Estimating the CO₂ mitigation potential of horizontal Ground Source Heat Pumps in the UK

R. Garcia-Gonzalez, A. Verhoef, P.L. Vidale, G. Gan, A. Chong & D. Clark

1. Model development

2. Field experiments

3. Sensitivity simulations

4. Impact studies

5. Recommendations

UK Driving data

Heat extraction model

JULES Land surface model

\[ T \propto q \]

ΔT (°C) at 1.0 m

South England

1 km resolution

UK Soil texture data, to calculate soil physical properties

NATMAP vector the national soil map

EGU2012 - 23/04/2012
Cement industry emitting ca. 6-7 % of global annual CO$_2$-emission by producing Portland cement clinker

- Saving potential by process optimization is already used up
- Development of new CO$_2$-saving cement types
- Blended Cements
  - Don’t need to be burned in rotary furnace
  - No CO$_2$-degassing from raw material
- CEM V = blended cement, clinker substitution by latent hydraulic additives
- At present: use of CEM V is strongly restricted by normative limitations
- Investigations intend to proof usability of CEM V for common application
Thanks for your attention