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## POREEN

### ENGINEERING RESEARCH AREA

### WP3 – Cooperation in the mobility and building sector



This project is funded by the European Union under the Marie Curie Action's  
IRSES



PARTNERING OPPORTUNITIES BETWEEN EUROPE AND CHINA IN  
THE RENEWABLE ENERGIES AN ENVIRONMENTAL INDUSTRIES



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### ENGINEERING RESEARCH AREA

#### OBJECTIVES

This WP deals with two main research areas, both related with energy efficiency and carbon dioxide reduction:

Low Carbon  
Buildings



Mobility and  
Transportation



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## MOBILITY

Problem to solve: Transport sector is a major item on GHG emissions



**Focus on alternative fuels  
(CNG/LNG)**

### Activities:

Feasibility analysis to introduce new vehicle fuels on the Chinese market, particularly considering methane and the European system for this fuel.

### Goals:

Production of a technical, legal and economic model for the introduction of new vehicle fuels on the Chinese market



## BUILDINGS

Problem to solve: Buildings account for a high share of energy consumption



**Focus on low carbon buildings and energy efficiency**

### Activities:

to establish a standard for new low carbon buildings in terms of technologies used and operational practice. Development of refurbishment techniques and Demand Side Management (DSM) programs to reduce and adapt energy consumption in the buildings existing stock.

### Goals:

Production of a comprehensive report proposing suitable technologies, operational practices and achievable performance;  
Development of a plan of action for the introduction of instruments and incentives for DSM

## Deliverable D3.1: State of the art of EU- China institutional cooperation about energy



## Deliverable D3.1: State of the art of EU-China institutional cooperation about energy

### Contents:

1. EU-China channels for dialogue
2. Cooperation programmes
  - 2.1. EGP: EU-China Environmental Governance Programme
  - 2.2. ESP: EU-China Environmental Sustainability Programme
  - 2.3. EU-China Science & Technology cooperation
  - 2.4. EU-China Climate change partnership
  - 2.5. EU-China Partnership on Urbanisation



### 3. Initiatives

- 3.1. EC2 EU-China Clean Energy Center
- 3.2. ICARE Institute for Clean and Renewable Energy
- 3.3. EU-China ECO-CITIES LINK project
- 3.4. SUP EU-China Sustainable Urbanisation Park
- 3.5. Understanding China
- 3.6. EU-China Science & Technology Year
- 3.7. EU-China Low Carbon Economy Platform
- 3.8. Provincial climate change strategy on mitigation and adaptation – China
- 3.9. ChinaACCESS4EU project and DRAGON STAR project
- 3.10. Science and technology fellowship programme China
- 3.11. Join labs workshop
- 3.12. Cooperation of EU member states and China
- 3.13. Funding schemes
  - 3.13.1. FP7 – Opportunities for EU-China cooperation
  - 3.13.2. Funding researchers in China
  - 3.13.3. List of relevant projects within FP7 involving Chinese partners

### 4. POREEN partners EU-China cooperation projects

## Dissemination of results

1. Xiaobo ZHANG and Xu ZHANG, A Hygrothermal Research on Energy Efficiency and Moisture Condensation Control for Building Enclosures in Mixed Climate Zone, Indoor air 2014 conference, HK
2. Haoliang Zhao, Xu Zhang , and Xiang Zhou, Analysis and discussion of the indoor thermal environment of college teaching building during transition season when used natural ventilation, Indoorair 2014 conference, HK

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## Dissemination of results

3. A. Arteconi, M. Santolini, C.M. Bartolini, F. Polonara, Optimization of a methane expansion liquefaction cycle for small scale LNG plants, the 13th Cryogenics IIR Conference, Paper 035, Prague, Czech Republic April 7-11 2014,
4. A.Arteconi, F.Polonara, C.Brandoni, Demand side management of the built environment for sustainable energy, Energy Production and Management in the 21st Century, Vol. 2, pp.723-734, 23rd to 25th April 2014 Ekaterinburg, Russian Federation, WIT Transactions on Ecology and The Environment

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## Dissemination of results

5. C. Brandoni, A. Arteconi, G. Ciriachi, F. Polonara, Optimal management of renewable and fossil fuel energy systems in a smart community, Environmental Impact II, 14-16 May 2014, Ancona, WIT Transactions on Ecology and The Environment
6. A. Arteconi, E. Ciarrocchi, F. Polonara, J.F. Chen, S. Deng, R.Z. Wang, Performance analysis of a carbon dioxide heat pump installed in a residential application, Proceedings of the 11th Gustav Lorentzen Conference on Natural Refrigerants, Paper 16, August 31- September 2, 2014, Hangzhou, China



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## PARTNERS



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## Exchange of staff

- ER from UPM to SJTU (May 2013)
  - ER from TUS to UPM (June 2013)
  - ER from TUS to UPM (June 2014)
  - ESR from UPM to SJTU (April-June 2014)
  - ESR from SJTU to UPM (June-September 2014)
  - ER from SJTU to UPM (July 2014)
  - ER from UPM to SJTU (August 2014)
  - ESR from UPM to SJTU (October-December 2014)
  - ER from UPM to SJTU (November 2014)
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