



**Project No. TREN/05/FP6/S07.59572/019892**

**Project Acronym: ASTECH**

**Project title: Advanced sustainable energy technologies for cooling and heating applications**

**Instrument: Specific Support Action**

**Thematic Priority: Priority 6.1 "Sustainable Energy Systems"**

## **DELIVERABLE 6.4 "Project Impact"**

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**Partner in charge: GRETH**

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**SIXTH FRAMEWORK PROGRAMME**

### Introduction

The ASTECH project has been prepared in 2004, and at this period renewable heating and cooling technology was still considered as the “unknown sleeping giant”. Since, due to the political action of some MEP and to the European Renewable Energy associations (ESTIF, AEBIOM, EGEC and EHPA), these technologies are now recognised as being part of the solution for a sustainable energy development in Europe.

Within this rapidly moving context, the ASTECH partners have been active and have contributed in wide spreading technological knowledge. Most of the project objectives have been reached and some activities related to technology transfer and networking should be continued.

### International level

The IEA has released in 2007 a major document “Renewables for Heating and Cooling: Untapped Potential” [ref. 1], which presents the status and the foreseen development for each technologies and country.

### EU policy

Since the project was submitted in December 2004, the situation has positively evaluated in Europe regarding renewable heating and cooling technologies. The major action is the EC directive concerning greenhouse gases and renewable energies. It is now admitted that renewable heating and cooling technologies can significantly contribute to the gross EU energy dependency if specific measures are applied [Ref. 2] and that it will create employment [Ref. 3]. At the EU level it is expected that for 2020, that least 20% of the energy need for heating or cooling should be covered by renewable energy source. It represents a twofold increase with the situation in 2004.

### National policies

Several EU countries have launched national policies in favour of RES-HC technology. This covers incentive measures for supporting the market development but also some measures in favour of research and demonstration operations. Some members of the ASTECH project have been active in their respective countries (for example in France [Ref. 5]). The ASTECH partners have proposed for specific technologies a national roadmap (deliverable D3.2 [Ref.4]).

### Research

At the EU level, the FP7 energy programme has a specific action on renewable heating and cooling, which was not the case the prior FP5 and FP6 programmes. 100 projects relevant to RES-HC technologies have been identified (deliverable D2.3) and the relevant reports have been uploaded on the project web-site ([www.astech-net.com](http://www.astech-net.com) or [www.res-hc.com](http://www.res-hc.com) ).

200 research centres have been identified in Europe by the ASTECH project partners (deliverable D2.2) as well as 200 companies active in RES-HC (deliverable D3.3).

The project partners and their respective industrial contacts have submitted project to the FP7 energy calls. Some early discussions were initiated within the workshops organised by the project partners. (deliverable D4.2)

### Technologies

In 2004 only solar, biomass and geothermal source were considered as renewable. Since air-source and water-source combined with heat pumping technology is also considered as renewable energies. The technology platforms (solar, biomass, geothermal and heat pumps), for which individual set-plan were existing, are presently preparing a joint vision document, within the RES-HC technology platform. Several members of the ASTECH project have contributed to these individual panels and

the project coordinator has been asked to join the new RES-HC panel for preparing the joint EU vision.

Promotion of individual technologies has been made by collecting the most recent scientific and technical information (<http://www.astech-net.com/modules/mydownloads/viewcat.php?cid=3> ), collecting and editing best practice (Deliverable 6.1 [Ref.7]).

#### Conference and workshop

Series of conferences on RES HC technologies and political issues now exist in EU. The ASTECH project has contributed to this issue by organising 10 workshops with a total of more than 1000 attendance (deliverables D4.1, D5.1 and D6.2 in Europe)

#### International collaboration

One of the major issues for Renewable Energy Technologies is their deployment in countries which are today strongly relying on fossil fuels energy. China is particularly concerned by this issue and has initiated specific policies in favour of renewable energy [Ref. 6]. The ASTECH project has contributed in wide spreading RES-HC technologies in China by organising a specific workshop (deliverable D6.3) and by preparing specific reports for RES-HC cooling technology in China (deliverable D6.5).

#### References

1. Renewables for Heating and Cooling : <http://www.astech-net.com/modules/mydownloads/visit.php?cid=3&lid=20>
2. Heating and cooling from renewable energies: costs of national policies and administrative barriers : <http://www.astech-net.com/modules/mydownloads/visit.php?cid=3&lid=21>
3. The impact of renewable energy policy on economic growth and employment in the European Union: <http://www.astech-net.com/modules/mydownloads/visit.php?cid=3&lid=96>
4. Roadmaps for selected RES-HC technologies: <http://www.astech-net.com/modules/mydownloads/visit.php?cid=3&lid=109>
5. Diffusion of New Energy Technologies for Buildings: <http://www.astech-net.com/modules/mydownloads/visit.php?cid=3&lid=82>
6. Overview of national renewable heating and cooling energy technologies policy in China: <http://www.astech-net.com/modules/mydownloads/visit.php?cid=3&lid=91>
7. Best practice for renewable heating and cooling (6 languages): <http://www.astech-net.com/modules/mydownloads/visit.php?cid=2&lid=97>