Integrated solar heating and cooling unit based on a novel zeolite chiller and heat pump

Fact Sheet

Project information

ZEOSOL
Grant agreement ID: 760210
Project website
Status
Closed project
Start date
1 June 2017
End date
29 February 2020
Funded under:
H2020-EU.3.
H2020-EU.2.
Overall budget:
€ 2 741 375

EU contribution
€ 2 167 437,50
Coordinated by:
NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA
Greece

Objective

The overall objective of this project is to develop a new advanced solar cooling and heating product, using advanced heat exchanger technology and integrating a heat pump for covering peak demand. This new product is based on the further improvement and integration of the products already commercialized by Fahren and Akotec. It uses synergies between the technologies of thermal chillers (heat to cooling technology) and heat pump (electricity to cooling technology) and combines know-how on design and manufacturing of adsorption chillers and solar thermal collectors in Germany, with the know-how in heat pump and dry cooling systems of CNR and NTUA. The main innovation of the project is the adsorption chiller unit based on Fahren’s patented zeolite coating technology, reducing the unit’s volume and cost by about two times. This new product is expected to become cost-effective and with high...
flexibility for providing both cooling (during summer) and heating (during winter) from the same compact product, being more competitive than existing mainstream solutions, reducing energy costs of the end-users and leading to short ROI. The main target market is the heating, ventilation and air-conditioning (HVAC) market, with the ambition to become front-runners and provide the first cost-effective product, with low maintenance requirements. The target cost is to reach just 2000 €/kW (with solar field and cooling, heating and thermal storage included) and secure a short return on investment. The new product will be commercialized by a new joint venture established between Fahren and Akotec with Diadikasia being a strategic partner for promotion and sales in south Europe. The initial target markets are in Greece, Italy and Germany, while further expansion steps will follow once sales increase.

Field of Science

/social sciences/economics and business/business and management/commerce
/engineering and technology/mechanical engineering/thermodynamic engineering/heat engineering
/engineering and technology/environmental engineering/energy and fuels/renewable energy/solar energy

Programme(s)

H2020-EU.3. - PRIORITY 'Societal challenges'
H2020-EU.2. - PRIORITY 'Industrial leadership'

Topic(s)

FTIPilot-01-2016 - Fast Track to Innovation Pilot

Call for proposal

H2020-FTIPilot-2016-1

See other projects for this call

Funding Scheme

IA - Innovation action

Coordinator
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Address</th>
<th>Activity type</th>
<th>EU Contribution</th>
</tr>
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<tbody>
<tr>
<td>NATIONAL TECHNICAL UNIVERSITY OF ATHENS - NTUA</td>
<td>Heroon Polytechniou 9 Zographou Campus 15780 Athina, Greece</td>
<td>Higher or Secondary Education Establishments</td>
<td>€ 493 875</td>
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<td>AKOTEC PRODUKTIONSGESELLSCHAFT MBH</td>
<td>Grundmuhlenweg 3 16278 Angermunde, Germany</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td>€ 476 437.50</td>
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<td>CONSIGLIO NAZIONALE DELLE RICERCHE</td>
<td>Piazzale Aldo Moro 7 00185 Roma, Italy</td>
<td>Research Organisations</td>
<td>€ 334 375</td>
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<tr>
<td>FAHRENHEIT GMBH</td>
<td>Siegfriedstr 19 80803 Munchen, Germany</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
<td>€ 672 875</td>
</tr>
</tbody>
</table>
DIADIKASIA BUSINESS CONSULTING SYMVOULOI EPICHEIRISEON AE

Address
Kifissias Ave 296 & Navarinou 40 Halandri
152 32 Athina

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU Contribution
€ 189 875

Website
Contact the organisation

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