
PREHEAT

Heat storage symposium

Intersolar

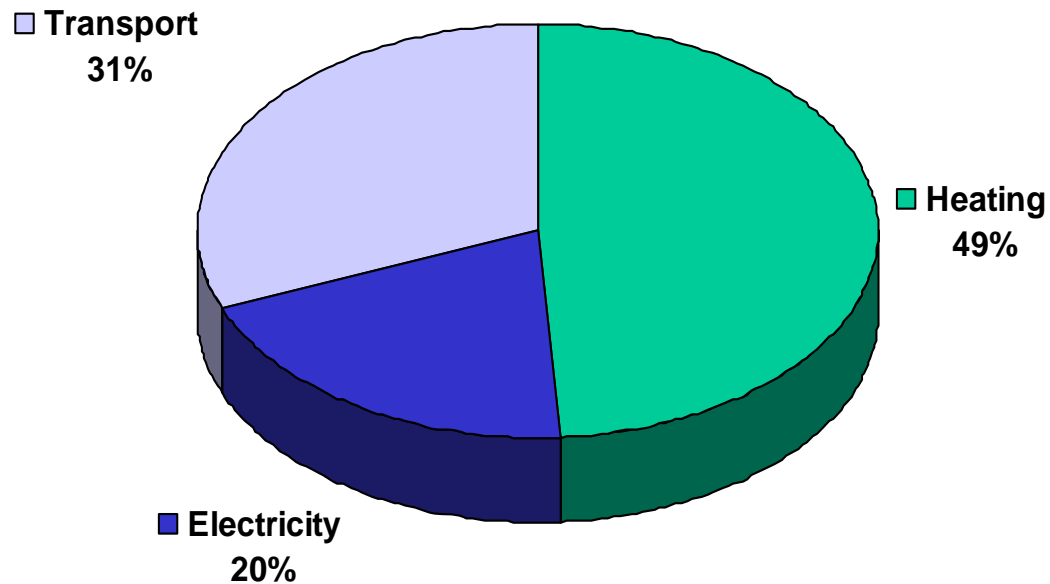
Freiburg, 21-22 June 2007



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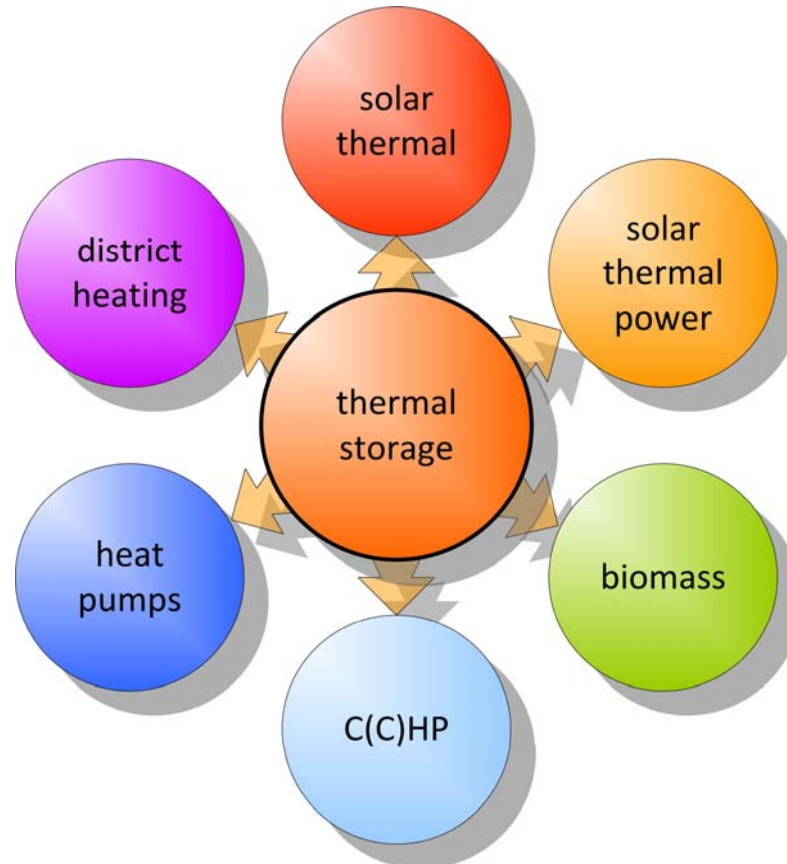


Why thermal energy storage?



49% of EU energy consumption is used for heating!

Why thermal energy storage?

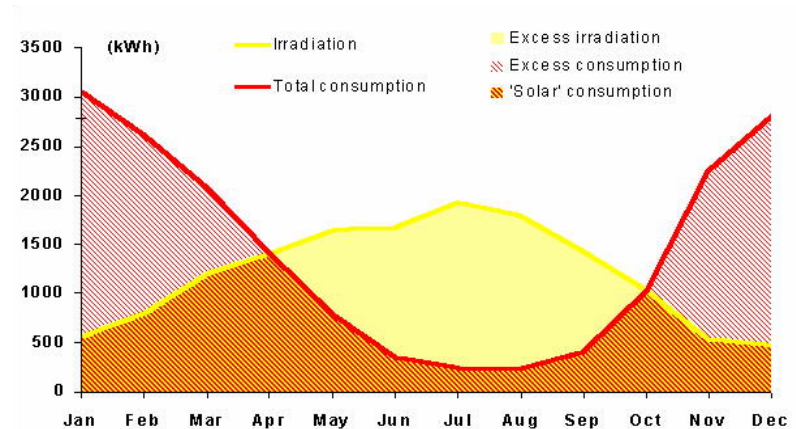


Every renewable heating technology uses thermal energy storage!

Why thermal energy storage?

Functions of thermal storage:

- supply-demand matching
 - daily, weekly, seasonal
- peak shaving
 - heating and cooling peaks
- increasing flexibility
 - C(C)HP, heat pumps, ...
- increasing comfort
 - building mass, biomass, ...



⇒ achieving 100% renewable energy supply

What is thermal energy storage?

Main characteristics:

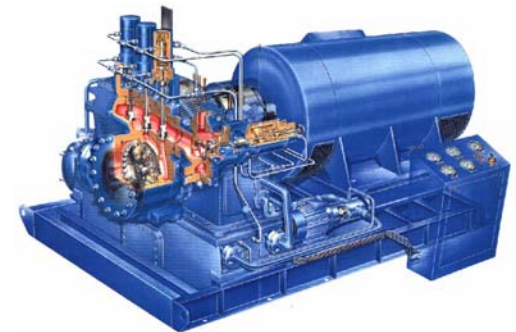
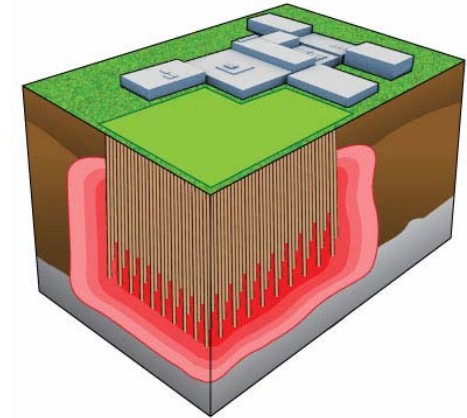
- quality (temperature)
- capacity (GJ)
- density (GJ/m³)
- power (kW)



What is thermal energy storage?

Three temperature levels:

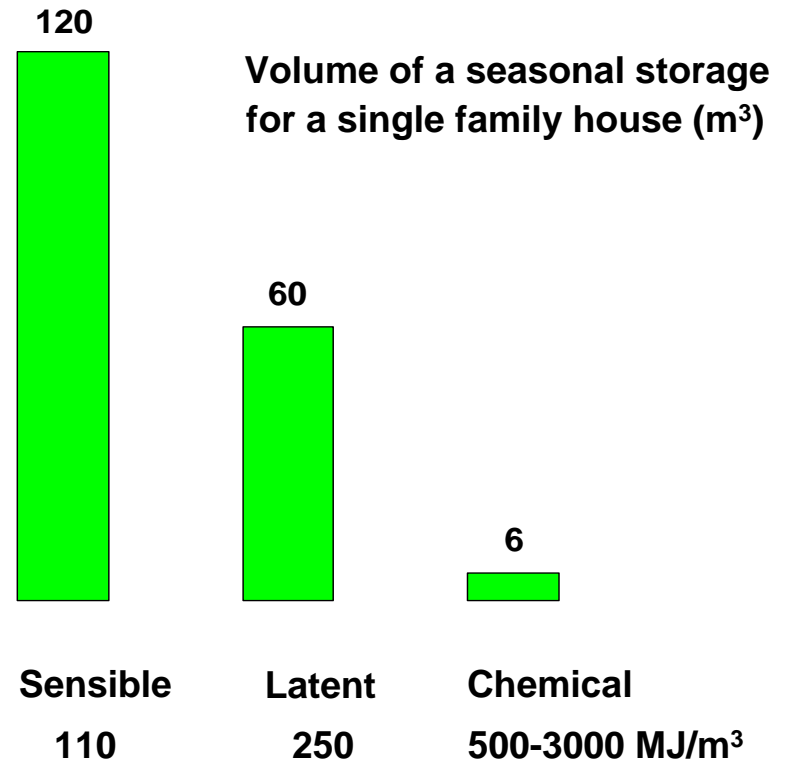
- **low:** aquifer and ground storage, building mass
 - high capacity
 - not always possible
- **medium:** space/water heating
 - very large market
 - solar fraction limited in most cases
- **high:** industrial applications
 - large potential market
 - very few solutions available



Classes of heat storage

Three classes of storage:

- sensible
 - water, soil, thermal oil
- latent
 - phase change materials
- thermochemical/sorption
 - zeolites, silica, salt hydrates

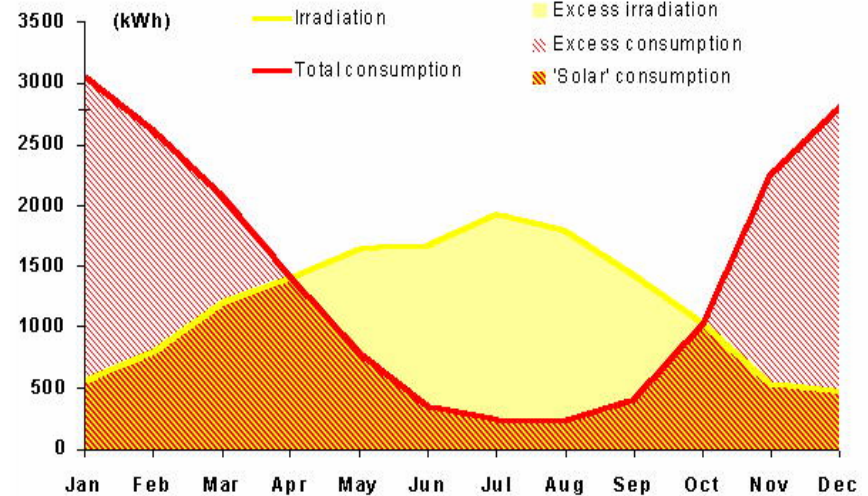


PREHEAT: Promoting heat storage

Heat storage is a relatively invisible technology.



Present technological and non-technological arguments on the importance and relevance of heat storage.

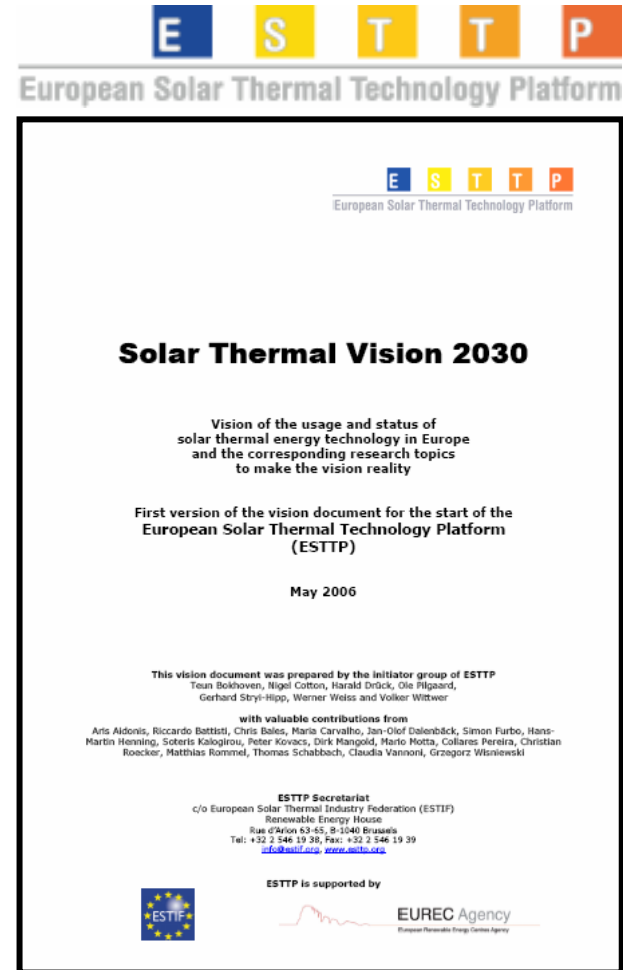


Coherent programming and support

Heat storage research is fragmented, support is limited and inconsistent.



Coherent research programming and market support, link with ESTTP.

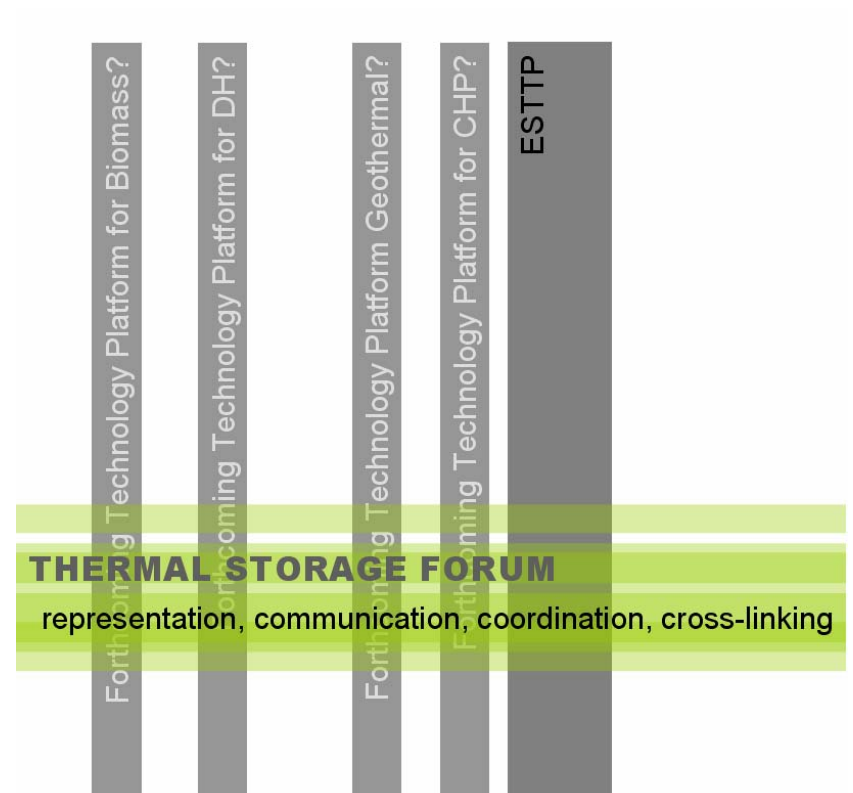


Heat storage community

Heat storage research is fragmented over many fields and applications.



TESForum: interaction, communication, representation of the heat storage community.



More information


www.preheat.org

- technologies
- applications
- policies
- events

The screenshot shows a Mozilla Firefox browser window displaying the Preheat website. The page title is "Preheat: Technology & Products - Mozilla Firefox". The address bar shows "http://www.preheat.org/technology-products/". The main content area is titled "Technology & Products" and contains several paragraphs of text about energy storage systems, thermal energy storage technologies, and their classification into sensible, latent, sorption, and chemical storage. A vertical sidebar on the left lists navigation options: "Technology & Products", "Support & Policy", "News & Events", "Downloads & Links", "About PREHEAT", "Contact", "Login to restricted area", "Sitemap", and "Legal disclaimer". A "Supported by" section at the bottom left of the page lists "Intelligent Energy" and "Europe". On the right side of the page, there are four orange boxes labeled "Sensible storage", "Latent storage", "Sorption storage", and "Chemical storage".

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Intelligent Energy  Europe

Next events

- London 25 September 2007
- Paris 9 November 2007 (Batimat)
- Basel January 2008 (Hilsa)
- Amsterdam April 2008 (BouwRAI)

- IRES-II, Bonn, 19-21 November 2007

- Your input or requests for information: www.preheat.org