

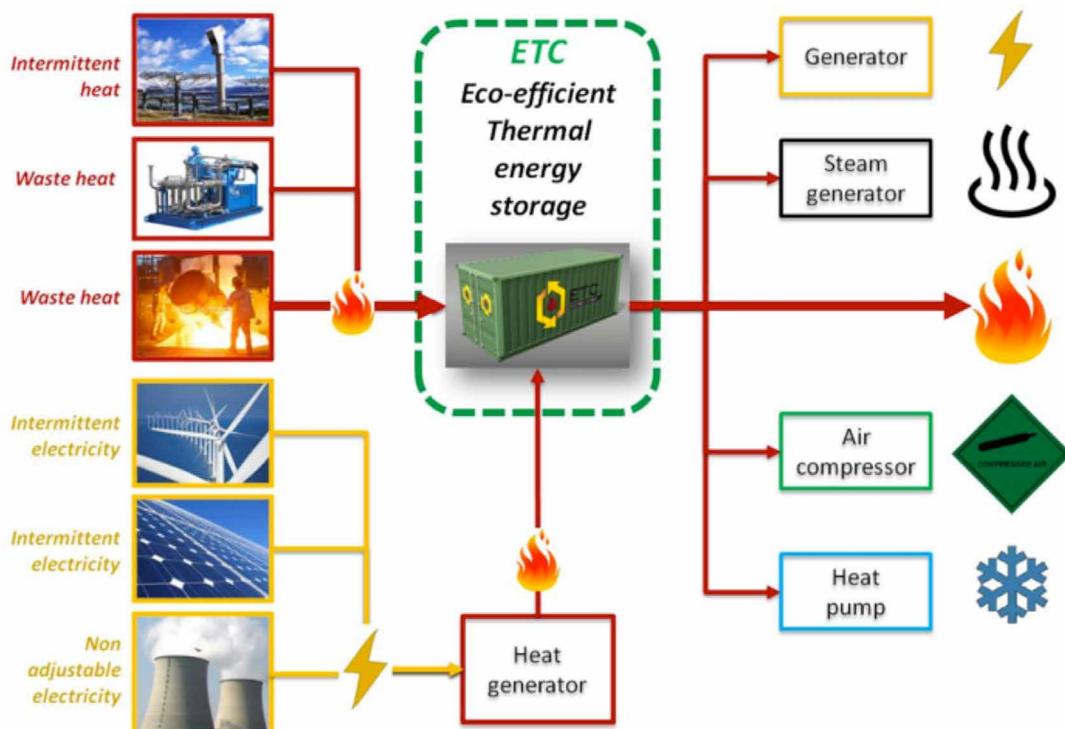


Renewable energies



## STORAGE ENERGY SOLUTION INCORPORATING ECO-EFFICIENT MATERIALS

In 2009, facing environmental, economic and social issues, CNRS PROMES started a real technological breakthrough by developing eco effective storage materials from waste recovery. The first results were rewarded by the Pollutec ADEME prize in 2011. In 2014, the Eco-Tech Ceram (ETC) engineering company was created to industrialize and widely diffuse storage solution incorporating eco-efficient materials. Winner of the "Concours Mondial de l'Innovation 2030", funded by BPI France, in 2014 and 2015, ETC, CNRS, Mines Douai and ADF accelerate the development of this solution which will be marketed in 2017. The ECOSTOCK product is like a rechargeable heat battery. Robust, «Plug & Play», transportable, autonomous, ECOSTOCK can be loaded from a wide range of energy sources. Once stored heat can be reused when desired to produce high value-added energy in various forms as shown in the graph below:



Each MWh valued saves an average of 50€ and 700kg of CO<sub>2</sub>. Above 200°C, the world reservoir of waste heat is estimated at 350 TWh / year. In the short term this represents a potential saving of 17.5 billion € and 245 Mt of CO<sub>2</sub>. In the medium term even greater savings will be achieved by facilitating the integration of renewable energy for desalination of sea water for example. In addition, positive impacts generated by the valuation of inorganic secondary raw materials, enhance the relevance and life cycle analysis of the eco-efficient thermal storage solution developed by ETC towards the challenges of the energy transition.

Finally, from a global point of view, it is interesting to note that the industrial ecology engineering implemented by ETC concerns 10 among the 19 "industrial sectors for green growth" identified by the DGCSI (storage of energy, energy efficiency , renewable energy, smart grid, waste recovery, logistics and flow management, etc.). Significant economic, environmental and social benefits are expected. To ensure the placing on the market as fast as possible, ETC needs resources. A capital opening is organized through a participatory raising funds on the platform WiSEED, you are free to participate.



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