## Realization of a low carbon society through game changing technologies

Realization of a low-carbon society with novel microcapsules including phase change materials

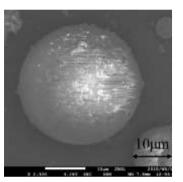
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## **Summary:**

- There exist no effective materials for the utilization of low-rank unused thermal energy.
- Development of a fine shell microcapsule including phase change materials.
- 32% of CO<sub>2</sub> can be reduced under the assumption that all unused thermal energy is utilized for residential, industrial and transportation areas, when the present material is used as thermal storage and latent heat transportation systems.



Hard-shell microcapsules with phase change materials and the widely utilization system for unused thermal energy (Thermal Grids)

