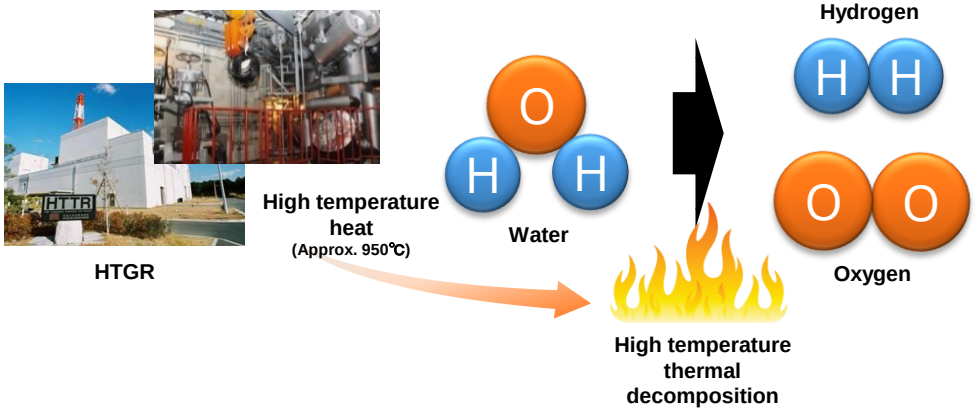
4 Nuclear industry

<Main future efforts>

- Steadily promoting the development of fast reactors through international cooperation.
  - Promoting international cooperation with the US and France by utilizing operation and maintenance data of JAEA's experimental and prototype reactors, test facilities, etc.
- Demonstrating small module reactor technology through international cooperation by 2030.
  - Supporting the efforts of Japanese companies to work with foreign demonstration projects by the US, UK and other countries, which aim at commercial operation by the end of the 2020s.
- Establishing underlying technologies related to hydrogen production by high-temperature gas-cooled reactors (HTGR) by 2030.
  - Utilizing the High Temperature engineering Test Reactor (HTTR) owned by JAEA, and promoting, in addition to international safety demonstration, necessary technology development for massive and low-cost carbon-free hydrogen production by 2030.
- Steadily promoting fusion energy research and development through international cooperation such as the ITER project.
  - Promoting research and development for the operation of the large tokamak device (JT-60SA) under construction in Japan to contribute to commencement of operation in 2025 and commencement of full-power fusion operation in 2035 for the ITER project.

Image of high temperature thermal decomposition into hydrogen (example)



Benefits to people's lives in 2050

- It is expected that radiopharmaceutical materials will be utilized in the medical field, etc.
  - Possibility of utilizing radiopharmaceutical materials produced from the research and test reactors of JAEA (e.g., for cancer treatment).