

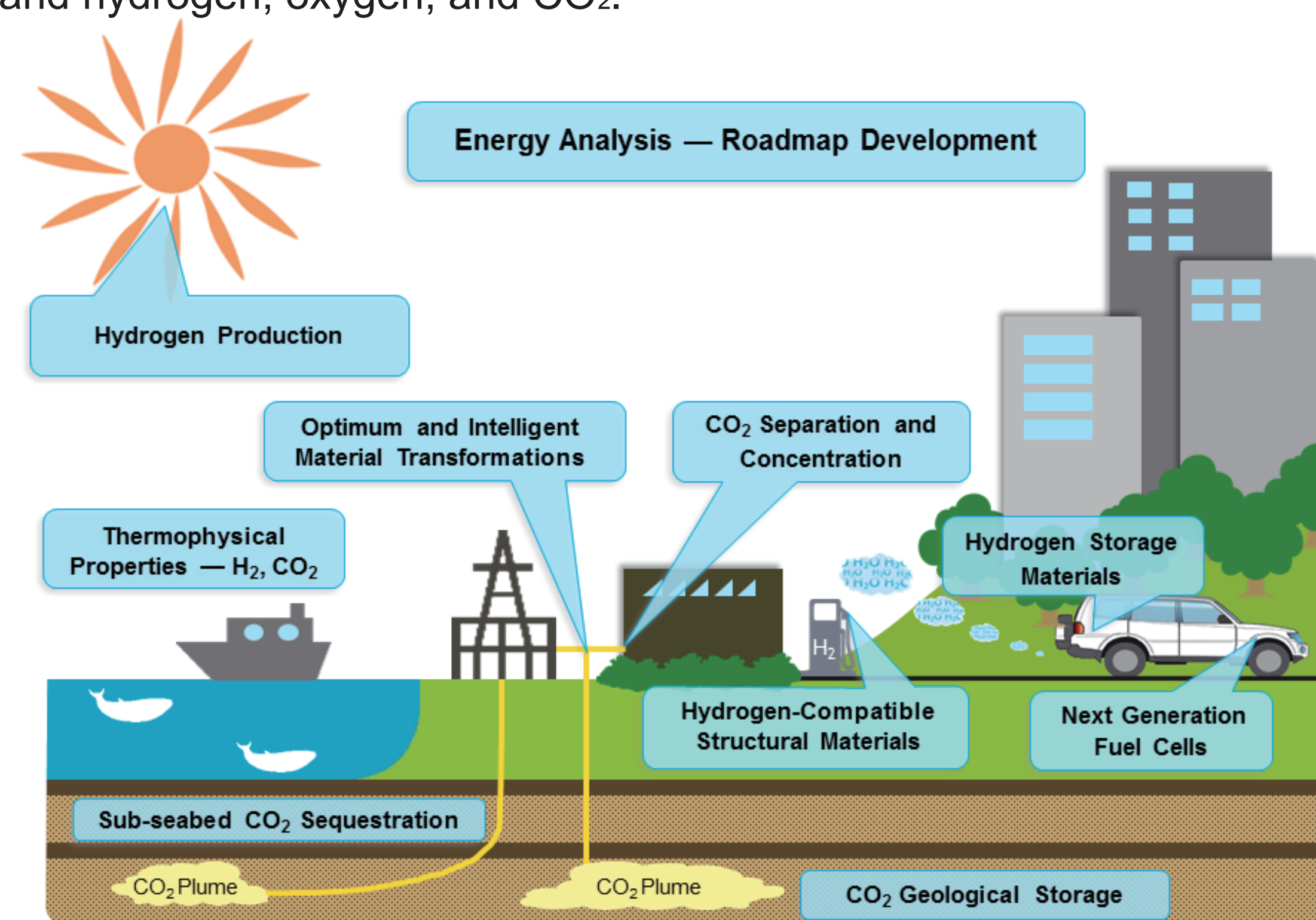
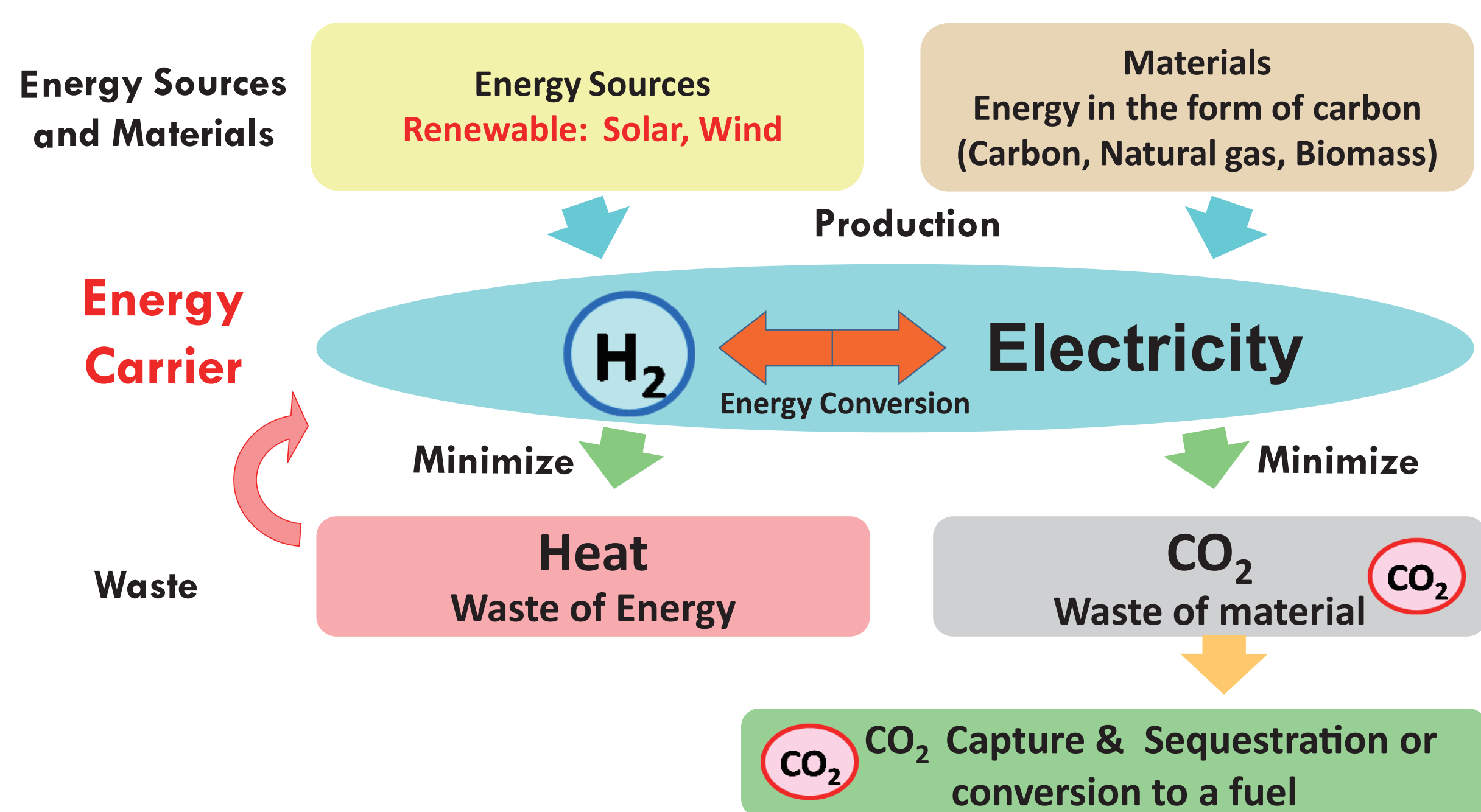


Director
Petros Sofronis

- Contribute toward creating a sustainable and environmentally friendly society by advancing the fundamental science needed to reduce CO₂ emissions and establish a non-fossil based energy carrier system.
- Establish an international network to promote fundamental research for carbon-neutral energy.
- Reform the educational and research culture of Kyushu University to meet the technological challenges of the 21st century.

Technical Activities

The objective of I²CNER is to develop the science required to eliminate the barriers and enable the technological breakthroughs necessary for achieving a hydrogen-powered society and efficient CO₂ capture and sequestration. Our research agenda covers areas of hydrogen production and storage, hydrogen tolerant materials, fuel cells, “greening” chemical reactions and catalysis, and sub-seabed and geological CO₂ capture and sequestration. This broad-based approach cuts across the boundaries of chemistry, physics, materials science, mechanics, geoscience, oceanic science, and biomimetics, bridging multiple spatial and temporal scales of phenomena occurring at the interface between materials and hydrogen, oxygen, and CO₂.



National and International Collaborations

Active collaborations and personnel exchanges with partnering institutions

The Institute's main facility is at Kyushu University's Ito Campus and a Satellite Institute is located at the University of Illinois at Urbana-Champaign. The Satellite Institute serves as a hub for collaboration with institutions in the United States and Europe, which strengthens I²CNER's international research activities. Through international interactions, collaborations, and exchange I²CNER will help Kyushu develop the academic culture for the education of the next generation of scientists and engineers needed to address the 21st century science and technology challenges.



KYUSHU UNIVERSITY

- A world leader in Hydrogen Research
- Best equipped and funded laboratories in the world for research on hydrogen materials
- Close collaboration and engagement with local, prefecture, and national energy stakeholders



ILLINOIS Satellite Institute

- Significant contributions to research in the areas of hydrogen embrittlement and materials over the last 30 years
- Research network of excellence with national laboratories and industry.
- A tradition of leadership and impact

Collaborating Institutions

- Max-Planck (Germany)
- University of California – Berkeley (US)
- Massachusetts Institute of Technology (US)
- Sandia National Laboratories (US)
- Imperial College, London (UK)
- Swiss Federal Institute of Technology (ETH)
- Tsinghua University (China)
- Dalian Institute of Chemical Physics (China)
- The University of Tokyo (JPN)
- National Institute of Advanced Industrial Science and Technology (JPN)

