LCS's areas of research

Aiming at bright and affluent low carbon society

Visions of bright and affluent low carbon society

- Industries in future low carbon society
- Communities in future low carbon society

Social scenario for realizing bright and affluent low carbon society

LCS's output

LCS publicizes "Proposed Papers for Policy Making and Government Action Toward Low Carbon Societies." The proposed papers cover the results of LCS's research on visions of bright and affluent zero emission society, social scenarios for realizing the vision, evaluation of present status and prospects of science and technology and R&D strategies aiming at zero-emission, and LCS’s analysis methods. Please go to LCS's website for more information.

STI for SDGs and LCS

JST drives forward "STI for SDGs," an initiative to promote contribution of science, technology, and innovation to the achievement of Sustainable Development Goals. In Japan, JST is also actively engaged in establishing innovation ecosystems in Japan and abroad aiming at co-creation of the future with society. Its efforts include programs for creating an environment where diverse stakeholders have dialogues, co-design and work together, resolve issues and respond to social expectations. Activities of LCS are positioned as one of these "STI for SDGs" programs of JST

LCS's areas of research

-巴斯碳化學 (Based on Energy White Paper 2018)
- C02 emissions of different sectors in Japan (2015)
- A 5-minute walk from Kojimachi Station (Exit 6) on the Tokyo Metro Yurakucho Line
- A 10-minute walk from JR Ichigaya Station
- A 10-minute walk from Ichigaya Station (Exit 3) on the Toei Shinjuku Line or Tokyo Metro Yurakucho and Namboku Lines
- A 10-minute walk from Hanzomon Station (Exit 5) on the Tokyo Metro Hanzomon Line

<table>
<thead>
<tr>
<th>Social scenario for realizing bright and affluent low carbon society</th>
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<td>Power-supply systems aimed at zero emissions</td>
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LCS Organization

- Komyuji Hiroshi (Chairman, Mitsubishi Research Institute) (The 28th President, The University of Tokyo)
- Koshi Mitsuo (Professor Emeritus, The University of Tokyo)
- Yamada Koichi (Senior Adviser, Office of the President, The University of Tokyo)
- Mori Shunsuke (Professor Emeritus, Tokyo University of Science)

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Aiming at bright and affluent low carbon society

There is, however, a concern that reducing GHGs emissions to net zero simply by suppressing energy consumption might slow down our economy, which has grown by expanding energy consumption. We need to build a vibrant “bright and affluent low carbon society,” where reduction of GHGs emissions from consumption of fossil fuels and economic growth are simultaneously achieved.

The Center for Low Carbon Society Strategy (LCS), established in December 2009, is one of the think-tank centers of the Japan Science and Technology Agency (JST), the national research and development agency which engages in the coordination of the science and technology-based future with society. The mission of LCS is to formulate and propose strategies to develop technologies for more efficient energy use, to increase the use of renewables systematically, and to build “bright and affluent low carbon society based on science and technology.”

Evidence based quantitative analyses

The methodologies of LCS

LCS deploys unique evidence-based quantitative analyses to plan a “bright and affluent low carbon society.” Applying its original “Platform of low carbon technologies for process design and evaluation of manufacturing cost and CO2 emissions” and “Input-output table,” LCS takes the following steps:

- Envisioning “bright and affluent low carbon society” in the second half of the 21st Century.
- Identifying bottlenecks to be tackled in realizing zero-emission society through back casting from the vision of the future.
- Evaluating the cost of science and technology for zero emissions and their applicability to our society.
- Proposing social scenarios for realizing “bright and affluent low carbon society”.

Proposing scenarios for building GHGs zero emission society

Initiatives by LCS

“How will we consume energies in zero emission society?” “How will industrial structure change towards zero-emission society?” “How do we realize sustainable affluence?” “Which low carbon technologies should we apply to achieve zero-emission society, and how?” To find solutions to these questions, LCS endeavors to envision a “bright and affluent low carbon society” and to develop scenarios and strategies to realize such a society.

Developing scenarios and strategies to realize future society

How can we realize an ideal future society through science and technology innovation?

- Envisioning the future
- Identifying bottlenecks to be tackled in realizing zero-emission society through back casting from the vision of the future.

Developing options of bright and affluent low carbon society

Developing LCS’s original social scenarios

- What kinds of technologies and technologies should we build for the future scenario?
- How will the obstacles be changed for further development of low carbon technologies?
- How will the obstacles be changed for further development of low carbon technologies, and how do we realize sustainable affluence?
- What are the obstacles and drivers of social changes, and what role do low carbon technologies play in these changes?

Developing options of future society and energy systems

Quantitative technology evaluation by expanded and updated “Platform of low carbon technologies for process design and evaluation of manufacturing cost and CO2 emissions”

- Evaluate low carbon technologies that accommodate identifying energy costs in an integrated manner.
- Evaluate growth of energy demand for greater data processing used for big-data analysis in Society 5.0.

Developing options of bright and affluent low carbon society

- Evaluate how much will the technologies cost?
- What are the respective contribution to the social and economic systems, and when?
- How much will the technologies cost?
- How will the obstacles be changed for further development of low carbon technologies?
- How will the obstacles be changed for further development of low carbon technologies, and how do we realize sustainable affluence?
- What are the obstacles and drivers of social changes, and what role do low carbon technologies play in these changes?

Prosals for policies and industries

Science and technology policies
- Basic energy policy
- Climate change countermeasures

Cooperation with research and development initiatives

Center for Research and Development Strategy (CRDS)
JST-Mirai Program
Research Institute of Science and Technology for Society (RISTEX)
Collaboration with International Society

North Sea (Japan)
T20 (Germany)
EPFL (Switzerland)