

## Summary

Global warming is a problem of global scale. From four viewpoints shown in the BOX below, LCS has considered the international strategy of our country for compatibility of the world economic growth and overcoming climate change. First we published “Promoting Oversea Transfer of Technology for Climate Change Mitigation” in November, 2013, and proposed about a overseas technology transfer focusing on a finance scheme in particular. Next, LCS suggested the framework for technology transfer promotion of the form to unify efforts about climate change mitigation in Japan and abroad under one scheme in the “Concept of Technology-based Integrated Contribution Approach and Technology Cooperation Scheme to Other Countries against Climate Change,” in April, 2014.

In this paper, taking the photovoltaic (PV) power generation as an example to estimate the reduction potential in overseas, the impact of the specific effects when it is assumed technical cooperation to other countries by the Integrated Contribution Approach, was also evaluated from the economic aspects. Socio-economic reduction potential amount by installation of PV systems of 2030 technology level was estimated 350Mt-CO<sub>2</sub>/yr in the whole developing countries, which is equivalent to 4% of the estimated CO<sub>2</sub> emissions amount 10Gt-CO<sub>2</sub>/yr by electricity generation. On the other hand, the technological potential of CO<sub>2</sub> reductions by PV in developing countries in 2030 was approximately 9 times of the estimated world CO<sub>2</sub> emissions amount. There is a big gap between socio-economic potential and technological potential. Important points for diffusion and wide spread of PV systemic use are: power generation cost reduction by technology development and innovation; development and utilization of energy storage; improved management techniques for long-term use up to lifetime, and promotion of business level installation by use of low interest rate loan.

### Four basic viewpoints of LCS future climate change framework

- Mechanism with fairness and effectiveness for global substantial GHG reduction
- Mechanism to promote a private investment incentive and utilize various business opportunities in the economic development in a developing country
- Strategy both sides of domestic efforts for future climate change framework and international technology transfer, based on sectoral evaluation and improvement of energy efficiency and emissions factors
- Mechanism to gather the forces of all Japan, and to contribute country and global-level sustainable development, by strengthening domestic policies and measures.