Sustainable Campus Activities in The University of Tokyo
- Todai Sustainable Campus Project (TSCP) -

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Sustainable Campus Initiative at
The University of Tokyo (Todai)

Organization of existing activities
- Facility Management
- Research
- Education

Student involvement

Sustainable campus
- Social contribution
- Educational effects
- Showcase of management
- Inspiration of new values and life styles
- Creation of “new industry”

Community…
A sustainable community as an experiment for the future

ex. Town of Kashiwa
Scheme of initiative

Campus planning office
Sustainable Campus WG

Stakeholders meeting

Planning
Facility planning and implementation
Activities of faculty, students and staffs
Collaborative task force
Research support
Practice support

Sustainable Campus WG: since May 2007

Faculty and Students Involvement

- Financial support for research and practice on sustainable campus
- Workshop among faculty and students including international collaboration
Financial support for research and practice on sustainable campus

- Research support
  - Analysis of campus sustainability
  - Evaluation and enhancement of forest sink
  - Social aspects of campus sustainability actions
  - Utilization of debris in campuses
  - Management of laboratories chemicals

- Practice support
  - Student network formation in Kashiwa environmental campus
  - Promotion of implementation of renewable energy
  - Networking with other universities
  - Implementation of deposit/refund of plastic bag in university coop stores
  - Public relations on sustainable campus activities

Blue letters: proposed by students

Todai Sustainable Campus Project (TSCP)

- Collaboration with society
  - Model case of LCS
  - Feedback of research results and application
  - Scaling-up

- Monitoring and optimal control of demand and supply

- Low Carbon Campus
  - By energy saving and renewable energy production

Co-evolution of TSCP
Current footprint analysis

- CO₂ emission of Todai: 136,000 ton-CO₂/year (0.10 ton-CO₂/m²-year, 3.9 ton-CO₂/person-year)
- Electricity is major CO₂ source (79%)
- Average electricity consumption:
  - Natural science schools, hospital: 240 kWh/m²-year
  - Social science and humanity school: 72 kWh/m²-year
- CO₂ from Travel: 25,000 ton-CO₂/year
  - 90% is international air (mainly North America and Europe)
Electricity consumption in Todai

Hongo campus
- Experimental Equipments (36.6%)
- Lighting (17.9%)
- Heating/cooling (35.5%)
- Others (14.0%)

Komaba-2 Research campus
- Experimental Equipments (32.5%)
- Lighting (17.6%)
- Heating/cooling (31.8%)
- Others (14.1%)

As whole university, about 70% is from non-experimental activities

Short-term reduction target

Action plan

TSCP 2012
- Target: **15% reduction of CO2 emission** in 2012 from 2006 level
  - monitoring and feedback to users
  - encouraging replacement of facilities and equipments with more energy- and cost-saving ones
  - promoting large-scale procurement: scale of economy for cost reduction
- Preparing agenda for 50% reduction in 2030.
- Starting in April 2008
Short-term action strategy

- Prioritization criteria
  - High CO2 reduction/investment cost
  - Low ratio of [payback time/life time]

- Actions to be taken
  - Replacement of boiler (from oil to gas) and heat supply unit
  - Replacement of fluorescent lamp to energy-saving type
  - Replacement of heat-pump air conditioner
  - Replacement of refrigerator

Long-term actions

- Building energy performance
  - High energy saving performance for new building
  - Improving insulation when building is renovated

- Implementation of renewable energy
  - Photovoltaic cells
Kashiwa - International campus town

Collaborative planning with local government, private sector and other university
Significant reduction of CO\textsubscript{2} emission (35\% reduction from BAU level by 2030) is one of the development targets.

Todai

Axis of campus and green
Vegetation network
Bicycle road network