Life Cycle Approaches to Sustainable Consumption
The Promotion Project in International Research Collaboration on Global Climate Change

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The Aim of The Project

- To find the way to reduce CO2 emission by consumers – Sustainable Consumption

Examples
- Calculation of CO2 reduction
- Evaluation of Acceptance

Development of new methods
- Development of new indicators
  - Green Purchase
  - Type  label
  - IPP
UNEP/Division of Technology Industry and Economics

Cleaner Production
Sustainable Consumption
*Consumer Guideline
*Life Cycle Initiative
*Product & Service
  + Eco-Design
  + Green Procurement
  + Product Service Systems

Product Service Systems (PSS)
Expert Meeting; 14-15 June 2000, Paris
Report; July 2002

♦ Rental of the products including services?
  * Casa Quick - Delivery of detergent (Italy)
  * SATE movable laboratory (Italy)
  * : a co-operative of “Vinicola Aurota” (Brazil)
  * solar hear service (Italy)
  * car sharing service (Canada)
  * organic vegetables subscription system (NL)
  * solar e-commerce and community centre (USA)
  * virtual office service system (Brazil)
  * toy library (South Africa)

Production side considers Consumer side and provide service and products.
No research on actual CO2 reduction calculation, consumer acceptance.
Guideline of Measures to Prevent Global Warming (approved 19 March 2002).

“Shared Responsibility” Voluntary actions by citizens

Estimation of CO2 reduction by all the actions: 1.3 - 1.8% of 1990

- Examples in residential/commercial sector:
  - Lowering heater temperatures to 20 degrees C.
  - Introduction of dish washers (reduction in hot water consumption)
- Examples in transport sector:
  - Restraint in vehicle use
  - Part-filling gasoline tanks

To estimate Japanese consumer acceptance of the voluntary actions
And How much CO2 could be reduced

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### Quality Expansion Table for “Commuting”

<table>
<thead>
<tr>
<th>Level</th>
<th>Economy</th>
<th>Time</th>
<th>Convenience</th>
<th>Comfort</th>
<th>Unusualness</th>
<th>Health</th>
<th>Harmonization with the Nature</th>
<th>Interpersonal Communication</th>
<th>Reliability</th>
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**Examples**

- Calculation of CO2 reduction
- Evaluation of Acceptance
- Development of new indicators

**Development of new methods**

- Green Purchase
- Type - label
- IPP
Reduction of CO₂

Measures for Environment

Products

Cost for measures

Service Accepted by Consumers

Reduction Efficiency

Environmental Efficiency

Foreground Data

Background Data

Production

Use

Disposal/Recycle

Resources Mining

Electricity

Fuels

CO₂

Mining

Production

Use

Disposal/Recycle

Resources

Electricity

Fuels

CO₂

Background Data

Measures for Environment

Products

Cost for measures

Service Accepted by Consumers

Reduction Efficiency

Environmental Efficiency
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Life Cycle Approaches to Sustainable Consumption

- To collect the examples to reduce CO2 emission in the context of “Sustainable Consumption”
  - The definition of “Sustainable consumption”

- To calculate CO2 reduction by proposed examples.

- To develop new methods to measure/evaluate consumer acceptance.
  - Estimation of consumer's acceptance for the proposed examples

- To develop new indicators to present the relationship between consumer acceptance and CO2 reduction.

- To consider how to apply new indicators to “Green purchasing”, “Type 3 eco-label”, “IPP” in the context of “Sustainable Consumption”.
Life Cycle Approach to Sustainable Consumption

Aims
- Consumer’s Acceptance
- CO2 Reduction

CO2 Reduction by Sustainable Consumption

Development of
- New Methods to Estimate Consumer’s Acceptance
- New Indicators for Consumer’s Acceptance/CO2 Reduction

How to Apply SC
- Green Purchase
- Type V label
- IPP

Collection & Proposal of Examples
Calculation of CO2 Reduction by Examples

Coordination
Ministry of Economy, Trade and Industry (METI)
The Society of Non-Traditional Technology
- Workshops etc.

Steering Committee
- Project Leader: Dr. Atsushi INABA
  (Director of Research Center for LCA, AIST)
- WG: Social Acceptance
- WG: Development of Eco-Efficiency Indicators
- WG: Utilization of Indicators

Collaboration
Collaborators in Europe/USA
Advisory Board
Workshops

- 2002 Nov.22 at IIASA by Dr. Hertwich
- 2003 March.3& 4 at UNEP by Mr. de Leeuw
- 2003 Mar.19&20 at Tokyo by Dr. Inaba
- 2003 June at Bali (planned)
  in conjunction with ISO/TC207 SC5 meeting
- 2003 ? In Europe (planned)
- 2003 December at Tokyo (planned)