

## Event Programme

**Title:** International Symposium on Information Technology and the Environment

**Date:** 19-20 September, 2002

**Venue:** U Thant International Conference Hall, 3F, United Nations University (UNU), Tokyo

**Organizers:** IT and Environment Initiative (United Nations University, Tokyo University of Science, Carnegie Mellon University, InterRisk Research & Consulting), UNU Zero Emissions Forum

**Financial Support:** United Nations University, Japan Foundation - Center for Global Partnership, Japan Society for Promotion of Science – No. 168 Committee

**Assisting Organizations:** Institute for Global Environmental Strategies, Japan Telework Association

**Language:** The event is to be held in English and Japanese, with simultaneous interpretation.

**Admission:** Free

### Background:

Technological revolutions fundamentally shape the scope and nature of environmental problems. The Information Technology (IT) revolution, dominant in recent decades, is no exception. Adoption of IT induces significant change in products, lifestyles, business practice and economic growth, all shifts that affect environmental issues. Whether the overall effect is positive or negative trend is not well understood. On one hand one may expect increased efficiencies due to application of IT. Conversely, IT could induce additional consumption through stimulation of economic growth and lowering of consumer prices. Whatever the answer, understanding the relationship between IT and the environment has become a key issue for planning progress towards a sustainable society.

This international symposium is part of the emerging global community working on analysis and response to this new and important issue. The focus topic for the event is how adoption of IT affects energy use and materials flows. Topics to be discussed include:

1. Macro-economic effects of IT on energy use,
2. Whether IT-enabled business models such as e-commerce and telework are energy saving “technologies”,
3. Environmental impacts of production, use and disposal of IT equipment,
4. Application of IT as part of the environmental strategies of firms, including effects on implementation of Zero Emissions.

Presenters from academia include representatives from Science University of Tokyo, United Nations University, University of California- Berkeley, University of Tokyo and other institutions. Firms represented include AT&T, Fujitsu, NEC, NTT, SONY, and Ricoh.

### Contact:

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**Programme:**

**September 19, 2002**

10:00-10:05 Opening Address Shunsuke Mori, Tokyo University of Science

10:05-10:15 Welcome Address Hamid Zakri, Director, UNU/IAS

**Session-1: Overviews of IT Penetration and Its Impacts**

Chairperson Shunsuke Mori (Tokyo University of Science)

10:15-10:50 Tadahiro Mitsuhashi (Chiba University)

“Will Information Technology help the environment?”

10:50-11:25 Yasuhiro Murota (Shonan Econometric s)

“Effects of the IT revolution on economy and environment: the 2010 Simulation”

11:25-12:00 Ichiro Yamada (University of Tokyo)

“Prospects for the effects of Information Technology on the environment”

12:00- 13:30 (Lunch time)

**Session-2: Macro-analysis of effects of IT on environment and economy**

Chairperson Arpad Horvath (University of California, Berkeley)

13:30-14:05 Kanji Yoshioka (Keio University)

“Input-output analysis of effects of IT on CO<sub>2</sub> emissions”

14:05-14:40 Shunsuke Mori (Tokyo Univ. of Science)

“Dynamic Effects of IT on Economic Structure and Energy use”

14:40-15:15 Robert U. Ayres (INSEAD and United Nations University)

“The role of IT and physical work in economic growth and energy use”

15:15-15:35 (Coffee Break)

**Session-3: Environmental impacts of production and use of IT hardware**

Chairperson Robert U. Ayres (INSEAD and United Nations University)

15:35-16:10 Daniel Sui (Texas A&M University)

“Environmental impacts of E-commerce: the case of computer software sales”

16:10-16:45 Shouji Tanaka (Superconductor Engineering Institute)

“Energy consumption of Japan’s IT infrastructure and the role of superconductor technology”

16:45-17:05 Arpad Horvath (University of California, Berkeley)

(on behalf of H. Scott Matthews (Carnegie Mellon University))

“Energy use in wired versus wireless networks

17:05-17:20 Eric Williams (United Nations University)

“The 1.7 kg microchip: energy and chemical use in the production of semiconductors”

- 17:20-17:55 Tsuyoshi Koga (Fujitsu)  
 “IT as enabler of Ecodesign targets”  
 17:55-18:15 Discussion  
 18:15-20:00 Gathering (drinks and light food)

**September 20, 2002**

**Session-4: IT Business Models and the Environment**

- Chairperson Yasuhiro Murota (Shonan Econometrics)  
 10:00-10:35 Arpad Horvath (University of California, Berkeley)  
 “Environmental Impacts of Telecommuting”  
 10:35-11:10 Eric Williams (United Nations University)  
 “Energy efficiency and E-commerce”  
 11:10-11:45 Masayo Fujimoto (InterRisk Research & Consulting)  
 “Industrial activities in Japan”  
 11:45- 13:00 (Lunch)

**Session-5: IT, Environment ,and Zero Emissions – Activities in industry**

- Chairperson: Tadahiro Mitsuhashi (Chiba University)  
 13:00-13:35 Katsuhiko Honjo (NTT)  
 “IT and Environmental Monitoring”  
 13:35-14:10 Kenichi Imai (Institute for Global Environmental Strategies)  
 “ICT facilitated Waste Exchanges”  
 14:10-14:45 Michelle Blazek (AT&T)  
 “AT&T's R&D Efforts on Environmental Impacts of IT”  
 14:45-15:00 (Coffee Break)  
 15:00 17:25 Panel Discussion  
 Moderator Masayo Fujimoto (InterRisk Research & Consulting)  
 15:00-15:10 Introduction of panelists  
 15:10-16:25 Presentations  
 15 min Shunsuke Mori (Tokyo University of Science)  
 15 min Ryosuke Ugo (NEC)  
 15 min Yuuji Noritaki (Ricoh)  
 15 min Hiroyuki Tada (SONY)  
 15 min Arpad Horvath (University of California, Berkeley)  
 16:25-17:25 Discussion  
 17:25 Closing of Symposium