



# Innovation for Cool Earth Forum



## 1<sup>st</sup> Annual Meeting

**Date** **October 8th, 2014**

\*Opening Reception will be held on October 7th

**Venue** **Hotel Chinzanso Tokyo, Japan**

## Greetings

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The first decade of the 21st century have been warmer than any preceding period since global temperature records began in 1850 and it is extremely likely that human influence has been the dominant cause of the observed warming, according to the latest IPCC reports. Climate change is a challenge that humanity is facing at this very moment, not in the future.

7 years ago, I, as Prime Minister of Japan, proposed a 50% reduction of global greenhouse gas emissions by 2050. Innovation is the key to achieving this ambitious goal and it is essential for governments, businesses, and academia around the world to share their wisdom and closely cooperate with each other.

Based on this concept, I proposed the establishment of a new international conference where the world's leading policy makers, business persons, and researchers can meet and cooperate with each other to address climate change through innovation. This is an unprecedented attempt, an energy- and environment-focused version of the World Economic Forum.

It would be very beneficial if you, who are at the forefront of one of the biggest challenges to humanity, climate change, and are responsible for shaping the future of the earth, would participate in this forum. I hope to see you in Tokyo.

*Shinzo Abe*

**Shinzo Abe**

Prime Minister of Japan





We have to reduce greenhouse gas emissions which have not ceased to increase since the industrial revolution and have to continue to pursue development in harmony with the global environment. It is not only our obligation, based on our responsibilities to the next generation, but also the largest global mission of mankind.

In particular, challenged with the ever-increasing growth of energy consumption accompanying economic growth, we must fundamentally transform our social system in order to reduce greenhouse gas emissions. The key to this change is technological innovation and diffusion. Government, industry and the academic community must join hands in discovering the seeds of new creative technology, implementing the technology and finally achieving its practical use. The world must engage in gathering the wisdom of mankind for this purpose.

The Innovation for Cool Earth Forum is established as a platform for policymakers, business people and researchers working on climate change issues from worldwide to share knowledge, engage in discussion, and jointly develop new actions for innovation.

I look very much forward to meeting all of you who bear an important role in the world's technological innovation and to having the opportunity to share enthusiastic discussions on efforts to pave the way for a bright future for humans.

*Yuko Obuchi*

**Yuko Obuchi**

Minister of Economy, Trade and Industry



GHG emissions are increasing rapidly on a global level, while the impacts of climate change on ecosystems as well as human society are becoming clearer. Countering global warming is an urgent challenge to be addressed by the international community. There is increasing importance on implementing global warming countermeasures while achieving global economic growth and poverty reduction at the same time.

A new international framework is scheduled to be adopted at the COP21 to be held in Paris in December 2015, and the Government of Japan is exerting all efforts for a successful outcome in Paris. However, this does not mean that actions in response to climate change end in 2015. All countries must continue to take effective countermeasures over a long period of time through the promotion of innovation and diffusion of low-carbon technologies and partnerships among public and private enterprises.

Japan formulated its proactive diplomatic strategy for countering global warming, "ACE: Actions for Cool Earth" last year. The "Innovation for Cool Earth Forum (ICEF)", which further promotes development and diffusion of excellent low-carbon technology, is an important forum and part of ACE. I hope and trust that all of you, who are performing a leading role in the area of technological innovation, will be engaged in active discussion for the sake of promotion of international cooperation in this field.

*岸田文雄*

**Fumio Kishida**

Minister for Foreign Affairs



The IPCC 5th Assessment Report conveys several important messages. Firstly, it shows that climate change is already a clear and present danger. Warming of the climate system is unequivocal. Significant impacts are projected on areas including sea level rise, human health, livelihoods and ecosystems.

Secondly, the report also points out that delaying mitigation actions for these impacts will reduce our future options.

I see this crisis as an opportunity for innovation to ensure major and enduring reduction of greenhouse gas emissions. This is our opportunity to disseminate renewable energies, advance energy conservation, and send low-carbon technologies to the world. Furthering such concrete action points will also foster economic growth.

"Innovation for Cool Earth Forum" gathers wisdom from around the world, and thereby holds great potential for the realization of such a virtuous cycle between the environment and economy, i.e. green economic growth.

I wish for fruitful discussions on the innovation and dissemination of technologies to address the challenges of climate change.

*望月義夫*

**Yoshio Mochiduki**

Minister of the Environment

# Program

## October 7th, 2014

19:00 - 21:00 **Opening Reception**

Jupiter, Plaza 4F

## October 8th, 2014

09:00 - 09:30 **Opening Session**

Orion, Plaza 5F

### Opening Address

#### **Shinzo Abe**

Prime Minister of Japan (Video message)

#### **Daishiro Yamagiwa**

State Minister of Economy, Trade and Industry

### Keynote Speech

#### **Takeshi Uchiyamada**

Chairman of the Board, Toyota Motor Corporation  
Vice Chairman, KEIDANREN (Japan Business Federation)

09:30 - 11:00 **Plenary Session (Part1)**

Orion, Plaza 5F

### The Role of Innovation for Addressing Climate Change

Prospects of innovation to address climate change will be discussed.

Moderator: **David Sandalow**

Inaugural Fellow, Center on Global Energy Policy, Columbia University

#### **Vaclav Smil**

Distinguished Professor Emeritus, University of Manitoba

#### **Mitsutsune Yamaguchi**

Visiting Professor, Komaba Organization for Educational Excellence (KOMEX), The University of Tokyo

#### **Nguyen Minh Quang**

Minister of Natural Resources and Environment, Vietnam

#### **Matthew Hancock**

Minister of State for Business, Enterprise and Energy, in the Department for Business, Innovation and Skills and Department for Energy and Climate Change, United Kingdom

#### **Laurence Tubiana**

Special Representative for COP21, Ambassador for Climate Change Negotiations, Ministry of Foreign Affairs and International Development, France  
Professor, Sciences Po Paris and Professor, Columbia University  
Founder and Director, Institute for Sustainable Development and International Relations (IDDRI)  
Co-Chair, Sustainable Development Solutions Network (SDSN) Leadership Council  
President, French Development Agency (AFD) Board of Governors

#### **Norio Sasaki**

Vice Chairman, KEIDANREN (Japan Business Federation)  
Vice Chairman, Toshiba Corporation  
Member of the Council for Industrial Competitiveness

11:00 - 11:30 **Networking Coffee Break**

11:30 - 13:00 **Plenary Session (Part2)**

Orion, Plaza 5F

### Strategies for Promoting Innovation

Strategies and policies to facilitate and disseminate innovation will be discussed.

Moderator: **Nebojsa Nakicenovic**

Deputy Director General and Deputy CEO, International Institute for Applied Systems Analysis (IIASA) and Full Professor of Energy Economics, Vienna University of Technology (TU Wien)

#### **Didier Houssin**

Director, Directorate of Sustainable Energy Policy and Technology, International Energy Agency (IEA)

#### **Richard K. Lester**

Japan Steel Industry Professor and Head of the Department of Nuclear Science and Engineering, Massachusetts Institute of Technology (MIT)  
Faculty Chair and Founding Director of the Industrial Performance Center, MIT  
Advisor to corporations, governments, foundations and non-profit groups

#### **Sorena Sattari**

Vice President for Science and Technology Affairs, Iran

#### **Eric P. Dresselhuys**

Executive Vice President Global Sales and Co-Founder, Silver Spring Networks

#### **Ogunlade R. Davidson**

Dean of Post-Graduate Studies at University of Sierra Leone  
Former Co-Chair of WGIII of IPCC and Former Minister of Energy and Water Resources, Sierra Leone

#### **Naoko Ishii**

CEO and Chairperson of the Global Environment Facility (GEF)

13:00 - 14:00 **Networking Lunch**

14:00 - 16:30 **Concurrent Sessions**

### Solar Energy

Cosmos, Tower 8F

Chair: **Adam Heller**

Research Professor, McKetta Department of Chemical Engineering, The University of Texas at Austin

**Martin Green**

Scientia Professor, University of New South Wales  
Fellow of Royal Society (London)  
Fellow of the Australia Academy of Science

**Atsuhiko Hirano**

President and CEO, Representative Director, Solar Frontier K.K.

**Paolo Martini**

Director, Business Development, Archimede Solar Energy (ASE), a Joint Venture of Angelantoni Industrie (Italy), Chiyoda Corporation (Japan) and FAL Holding (Saudi)

**Vaclav Smil**

Distinguished Professor Emeritus, University of Manitoba

### Geothermal Power

Azalea, Tower 9F

Chair: **Kasumi Yasukawa**

Principal Research Manager, Renewable Energy Research Center - FREA, National Institute of Advanced Industrial Science and Technology

**Ruggero Bertani**

Geothermal Center of Excellence, Engineering & Construction Dept., ENEL Green Power SpA

**Roland N. Horne**

Thomas Davies Barrow Professor of Earth Sciences, Stanford University  
Professor of Energy Resources Engineering  
Senior Fellow, Precourt Institute for Energy

**Isao Matsunaga**

President of the Geothermal Research Society of Japan  
Emeritus Researcher, National Institute of Advanced Industrial Science and Technology  
Chief Officer, Secretariat of the Selection Committee, The Japan Prize Foundation

**Bjarni Bjarnason**

CEO of Orkuveita Reykjavíkur (Reykjavik Energy)

### Automobile Technology

Tsubaki, Tower 7F

Chair: **David Sandalow**

Inaugural Fellow, Center on Global Energy Policy, Columbia University

**Mark S. Duvall**

Director, Electric Power Research Institute (EPRI)

**Cal Lankton**

Director, Global EV Infrastructure, Tesla Motors Inc.

**Takashi Moriya**

Senior Chief Engineer, Automobile R&D Center, Honda R&D Co., Ltd.

**Florence Lambert**

Director, Laboratory for Innovation in New Energy Technologies and Nanomaterials, French Alternative Energies and Atomic Energy Commission (CEA-LITEN)

**Philippe A. Tanguy**

Vice President, International Scientific Development, Total

**Yasuhiro Daisho**

Professor, Graduate School of Environment and Energy Engineering, Waseda University

### Energy Efficiency

Pegasus, Plaza 1F

Chair: **Itaru Yasui**

President, National Institute of Technology and Evaluation (NITE)  
Emeritus Professor, The University of Tokyo

**Hidetoshi Nakagami**

CEO and Founder, Jyukankyo Research Institute Inc.

**Kevin Facinelli**

Executive Vice President, Operations, Daikin Applied Americas Inc.

**Andreas C. Kramvis**

Vice Chairman, Honeywell International Inc.

**Alex Laskey**

President and Founder of Opower

**Alan Meier**

Senior Scientist at Lawrence Berkeley National Laboratory

### Smart Community

Cassiopeia, Plaza 1F

Chair: **Kenji Yamaji**

Director-General, Research Institute of Innovative Technology for the Earth (RITE)  
Emeritus Professor, The University of Tokyo

**Yves Bamberger**

Scientific Advisor of the chairman and CEO, Electricité de France  
Member of the French Academy of Technology

**Mark Atherton**

Director of Environment, Greater Manchester - Association of Greater Manchester Authorities (AGMA)

**Kenichiro Yamanishi**

Chairman of Japan Smart Community Alliance and Chairman of the Board, Mitsubishi Electric Corporation

**Paddy Turnbull**

Chairman of Global Smart Grid Federation and Country Director Ireland for GE Digital Energy

**The Role of Public Sector for RDD&D**

Sakura, Tower 6F

Chair: **Hoesung Lee**

Professor at Korea University Graduate School of Energy and Environment  
Member of the Board of Directors of the Korean Academy of Environmental Sciences  
Senior adviser to Korean Society for Climate Change Research and the Korea Resources Economics Association  
Member of the Asian Development Bank President's Advisory Board on Climate Change and Sustainable Development  
Vice Chair of the IPCC

**Didier Houssin**

Director, Directorate of Sustainable Energy Policy and Technology, International Energy Agency(IEA)

**Gwythian Prins**

Emeritus Research Professor, London School of Economics  
Convenor of the Hartwell Group

**Georg Erdmann**

Professor, Berlin University of Technology  
Member of the independent Expert group "Energy for the Future" consulting the Federal Government on the German Energy Transformation

**Charles Kennel**

Distinguished Professor Emeritus, University of California, San Diego (UCSD); Scripps Institution of Oceanography

**Marzan Aziz Iskandar**

Former Chairman of the Agency for the Assessment and Application of Technology (BPPT)

**Tomoji Kawai**

Executive Director, Technology Strategy Center, New Energy and Industrial Technology Development Organization (NEDO)

**Cooperation between Developing and Developed Countries**

Soleil, Tower 4F

Chair: **Ismail Serageldin**

Director, Library of Alexandria

**Guy Caruso**

Senior Adviser, Energy and National Security Program, Center for Strategic and International Studies

**Unggul Priyanto**

Chairman of the Agency for the Assessment and Application of Technology (BPPT)

**Nobuo Tanaka**

Former Executive Director, International Energy Agency (IEA)  
Member of High-Level Panel on CDM Policy Dialogue, UNFCCC  
Global Associate for Energy Security and Sustainability, Institute of Energy Economics, Japan (IEEJ)

**Avigad Vonshak**

Professor, Ben Gurion University, Blaustein Institutes for Desert Research

**Jim Falk**

Professorial Fellow, Melbourne Sustainable Society Institute, The University of Melbourne  
Visiting Professor to the United Nations University Institute of Advanced Studies of Sustainability  
Professor Emeritus, The University of Wollongong

16:30 - 17:00 **Networking Coffee Break**

17:00 - 18:30 **Closing Session** Orion, Plaza 5F

**Summary of Concurrent Sessions and Q&A****Solar Energy****Geothermal Power****Automobile Technology****Energy Efficiency****Smart Community****The Role of Public Sector for RDD&D****Cooperation between Developing and Developed Countries****TOP10 Innovations announcement****ICEF2014 Statement from Steering Committee****Closing Remarks****Yuko Obuchi**

Minister of Economy, Trade and Industry

**Yoshio Mochiduki**

Minister of the Environment

**Kazuyuki Nakane**

Parliamentary Vice-Minister for Foreign Affairs

19:00 - 21:00 **Farewell Dinner** Galaxy, Plaza 1F

\*Speakers are lined up in order of speech

## About ICEF

Prime Minister Abe announced that the Government of Japan will host an annual global conference, the Innovation for Cool Earth Forum (ICEF) every year in October in Tokyo. ICEF is aimed at providing a global platform to promote discussions and cooperation among researchers, business persons, and policymakers from around the world in order to address climate change through innovation of energy and environmental technologies including their dissemination.

ICEF is held every year in October in Tokyo just after the Science and Technology in Society (STS) Forum in Kyoto.

ICEF will also provide the Web-based platform in order to promote year-round discussions in between annual forums.

ICEF is hosted by Ministry of Economy, Trade and Industry (METI) and the New Energy and Industrial Technology Development Organization (NEDO) and co-hosted by Ministry of Foreign Affairs (MOFA) and Ministry of the Environment (MOE).

The Steering Committee has been established in order to ensure that ICEF is operated in a manner reflecting the wide range of views of the international communities.

## Steering Committee Members

<b>Yoichi Kaya</b> (Chair)	President, Research Institute of Innovative Technology for the Earth, Japan
<b>Sally M. Benson</b>	Professor, Department of Energy Resources Engineering, School of Earth Sciences, Stanford University Director, Global Climate and Energy Project, Stanford University Director, Precourt Institute for Energy, Stanford University, United States
<b>Zhou Dadi</b>	The Director General (Emeritus) of the Energy Research Institute (ERI) of the National Development and Reform Commission, China
<b>Ogunlade R. Davidson</b>	Dean of Post-Graduate Studies at University of Sierra Leone Former Co-Chair of WGIII of IPCC and Former Minister of Energy and Water Resources, Sierra Leone
<b>Georg Erdmann</b>	Professor, Berlin University of Technology Member of the independent Expert group "Energy for the Future" consulting the Federal Government on the German Energy Transformation, Germany
<b>José María Figueres</b>	President of Carbon War Room (NGO) Co-Chair, Global Ocean Commission, Costa Rica
<b>Adam Heller</b>	Research Professor, McKetta Department of Chemical Engineering, The University of Texas at Austin, TX, United States
<b>Yoriko Kawaguchi</b>	Professor of Meiji Institute for Global Affairs, Meiji University Former Minister for Foreign Affairs and Minister of the Environment, Japan
<b>Hoesung Lee</b>	Professor at Korea University Graduate School of Energy and Environment Member of the Board of Directors of the Korean Academy of Environmental Sciences Senior adviser to Korean Society for Climate Change Research and the Korea Resources Economics Association Member of the Asian Development Bank President's Advisory Board on Climate Change and Sustainable Development Vice Chair of the IPCC (Inter governmental Panel on Climate Change), Korea
<b>Nebojsa Nakicenovic</b>	Deputy Director General and Deputy CEO, International Institute for Applied Systems Analysis (IIASA) and Full Professor of Energy Economics, Vienna University of Technology (TU Wien), Austria
<b>Gwythian Prins</b>	Emeritus Research Professor, London School of Economics Convenor of the Hartwell Group, United Kingdom
<b>David Sandalow</b>	Inaugural Fellow, Center on Global Energy Policy, Columbia University, United States
<b>Ismail Serageldin</b>	Director, Library of Alexandria, Egypt
<b>Susan Solomon</b>	Professor, Massachusetts Institute of Technology (MIT) Former IPCC WGI Co-Chair, United States
<b>Laurence Tubiana</b>	Professor, Sciences Po Paris and Professor, Columbia University Founder and Director, Institute for Sustainable Development and International Relations (IDDRI) Co-Chair, Sustainable Development Solutions Network (SDSN) Leadership Council President, French Development Agency (AFD) Board of Governors, France
<b>Itaru Yasui</b>	President, National Institute of Technology and Evaluation (NITE) Emeritus Professor, The University of Tokyo, Japan

## Participants

By Invitation (Senior Researchers, Business Persons, and Policy Makers)

## Hosts

Ministry of Economy, Trade and Industry (METI)

New Energy and Industrial Technology Development Organization (NEDO)

## Co-Hosts

Ministry of Foreign Affairs (MOFA)

Ministry of the Environment (MOE)

## Official Website

<http://www.icef-forum.org>

## Contact Us

[ICEF Secretariat]

E-mail: [icef-reg@congre.co.jp](mailto:icef-reg@congre.co.jp)

## Venue

### Hotel Chinzanso Tokyo, Japan

#### From the Airports

The orange-colored Airport Limousine Bus straight to the hotel run from Haneda Airport and Narita International Airport. The bus departs from the airport at regular intervals and drops guests off at the hotel. Another option is to take the bus from the airport to Sunshine City Prince Hotel, Ikebukuro, then take a 10-minute taxi ride to the Hotel.

#### From Narita International Airport

Travel time: 90 minutes by airport limousine bus

Distance: 60 kilometers / 37 miles

#### From Haneda Airport

Travel time: 50 minutes by airport limousine bus

Distance: 30 kilometers / 18.6 miles

#### By Train / Bus

##### From Mejiro Station on JR Yamanote Line

Take Toei Bus No.61 from either left bus station "Mejiro Ekimae (map 1)" or right one "Kawamura Gakuen Mae (map 2)" across the road from the station gate. Get off at the "Hotel Chinzanso Tokyo Mae" stop. (Approx. 10 mins.)

##### From Edogawabashi Station on the Tokyo Metro Yurakucho Line

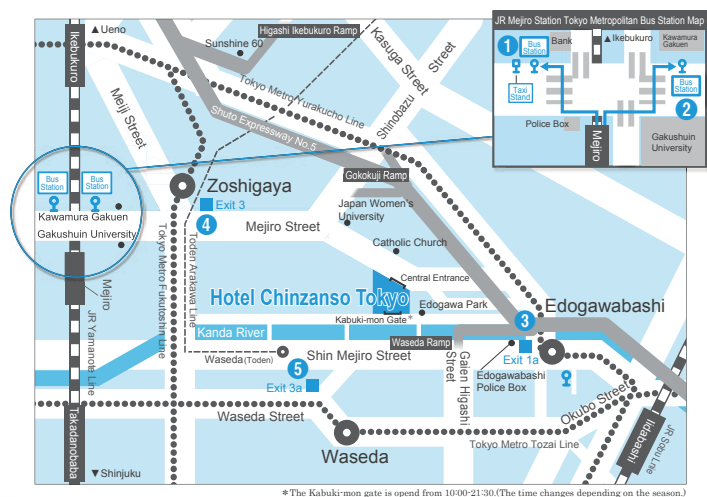
A 10-min. walk from exit 1a (map 3).

##### From Zoshigaya Station on the Tokyo Metro Fukutoshin Line

A 15-min. walk from exit 3 (map 4).

##### From Waseda Station on the Tokyo Metro Tozai Line

A 20-min. walk from exit 3a (map 5).



## Hosts



## Co-Hosts

