

CO-CONVENORS' RECOMMENDATIONS AND SUMMARIES

Energy Security

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- Nebojsa Nakicenovic, Professor of Energy Economics at the Vienna University of Technology, Deputy Director of the International Institute for Applied Systems Analysis (IIASA), and Director of the Global Energy Assessment (GEA)
- Vijay Modi, Professor, Mechanical Engineering School of Engineering and Applied Science - Columbia University
- Roberto Schaeffer, Associate Professor of Energy Economics, Federal University of Rio de Janeiro, Brazil
- Daniel H. Bouille, Vice-President, Institute of Energy Economics, Bariloche Foundation
- Suzana Kahn Ribeiro, Professor, Federal University of Rio de Janeiro, Brazil
- Ashok Khsola, Chairman, Development Alternatives
- Ellen Williams, Chief Scientist, BP
- Jacqueline McGlade, Executive Director, European Environment Agency
- Johan Rockström, Executive Director, Stockholm Resilience Centre
- Keywan Riahi, Program Leader, Energy (ENE) Program and Senior Research Scholar, Transition to New Technologies (TNT) Program, International Institute for Applied Systems Analysis (IIASA)
- Francisco Romário Wojcicki, Deputy-Executive Secretary of the Ministry of Mines and Energy

The purpose of this event was to explore the enabling mechanisms to mobilize the resources that are necessary for a global transformation of the energy system.

- The energy challenges facing this transformation include:
 - Providing universal access to affordable clean cooking and electricity for the poor
 - Improving energy security throughout the world
 - Limiting air pollution and health damages from energy use
 - Limiting climate change through vigorous GHG emissions reductions
- The perhaps most pertinent objective is to provide universal access to energy affordable and clean energy services for the poor. Access to energy is required to alleviate poverty and promote social development, while improving human health. However, this requires enabling policy mechanisms as well as financial support to increase affordability, going beyond subsidies into new innovative financing schemes.
- This transformation is achievable both from a technological and an economic perspective.
 - The European Union has already met half of the targets they set.
 - Even the financing requirements appear to be in agreement with that which is currently spent on energy. For example, removing distortionary subsidies currently blocking the energy transformation can provide the essential financing to achieve the transformation.

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- An effective transformation of the energy system requires immediate action through policies and investments. We must avoid the lock-in of invested capital into projects not consistent with sustainability objectives.
- Improvements in energy efficiency, especially in end-use technologies, are essential. In addition, renewable energies will be instrumental to harvest multiple benefits of the energy transformation, including improved security, reduced environmental impacts and improved human health.
- An integrated approach to energy system design for sustainable development is needed. Energy policies need to be coordinated across sectors to ensure their mutual benefit and support.
- Emphasizing shorter term, local benefits of improved end-use efficiency and increased renewable energy could help synergistically manage global related challenges rather focusing on long-term global benefits.
- Non-technology drivers for the transformation include substantial socio-cultural changes in that effective strategies need to be adopted and integrated into the fabric of everyday society.
- Transformative change will require a portfolio of policies and investments. By adopting integrated approaches across energy-using sectors, skill development and institutional capacity to improve the investment climate is possible, resulting in multiple benefits.
- The energy transformation will most of all require 'leapfrogging' of the developing parts of the world to a sustainable future.