VIENNA ENERGY FORUM 2015

18-20 June 2015, Hofburg Palace, Vienna, Austria

# Side Event: Nexus – Integrated Solutions for a Sustainable Future

**19 June | Room name: Rittersaal**
**10:45 to 12 noon**

## Introduction Text

Energy, food, water and ecosystems security issues are inseparable and essential contributors to social progress and human wellbeing. Yet, despite intensifying resource use, billions of people still also suffer from lack of adequate energy, water, and food. Looking ahead to 2050, up to 70% more food production will be required globally, even more in developing countries, while electricity generation is expected to double and access to energy will be universal. With increasing energy and food demands, water demands are also expected to increase by 50 percent, with 40 percent of the world's population living under severe water stress by 2050. Greater resource demands have historically acted as conflict multipliers, leading to social unrest and even collapse of civilizations.

The world is now increasingly interconnected and rapidly growing primarily in the poorest regions, with the global population expected to increase by more than 2 billion by 2050, with the urban population almost doubling to 7 billion, many in mega-cities. Many freshwater sources, both surface water and groundwater, are transboundary. Local policy decisions can therefore be felt regionally and even globally, and resource management is no longer confined to urban administrative units or national boundaries but must be coordinated across all sectors and scales. The interconnectedness of energy, water, food, and ecosystems combined with increasing scarcity and risk, require integrated strategies from local to global scales to improve efficiency, cost effectiveness, human benefits and sustainability.

## CO-ORGANIZERS

International Institute for Applied Systems Analysis (IIASA)
Global Environment Facility (GEF)
United Nations Industrial Development Organization (UNIDO)
Austrian Development Agency (ADA)

## CONTACT PERSONS (NAMES, E-MAIL ADDRESSES, PHONE NUMBERS)

IIASA: Luis Gomez-Echeverri, gomez@iiasa.ac.at; +43 676 83 807 611

Chair: Luis Gomez-Echeverri, Senior Research Scholar, IIASA
Opening Remarks: Kandeh Yumkella, Special Representative of the UN Secretary Genaral and CEO of SE4All

Panel

- IIASA: Nebojsa NAKICENOVIC, Deputy Director General
- GEF: David Rodgers, Head of Climate and Energy Program
- Austrian Development Agency: *Mag. Robert Burtscher, Advisor for Water and Sanitation, ADA*
- Research Institute of Wildlife Ecology, FIWI: Chris Walzer, Head of Conservation Medicine UNIT
- SE4All: Mohinder Gulati, Chief Operating Officer

## BACKGROUND

GEF, UNIDO and IIASA have recently initiated a new partnership on integrated solutions for sustainability "Nexus Solutions for Sustainability". This new collaboration between research, development, and finance organizations will provide integrative research and solutions connecting energy, water, food, and ecosystem security. The project aims to

identify integrated approaches to energy, water, food, and ecosystem security in selected regions of the world– regions faced by multiple energy and land use challenges, and rapid demographic, economic changes, and hardest hit by increasing climate variability and change. An integrated approach is needed to capture synergies and trade-offs between food, energy, and water supply.

The Global Environment Facility is placing a greater emphasis on integrated approaches to energy and climate change and particularly in its programs on river basins and cities.

The Research Institute for Wildlife Ecology is teaming up with other institutes to find ways to address energy needs while maintaining the integrity of ecosystem services.

These and other efforts by the Austrian Development Agency and SE4All will be presented at this panel.

## OBJECTIVES

The main objective of this session lies in highlighting further research and practical work in integrated solutions to meet nexus challenges:

- Interdependencies and trade-offs between sectors (e.g., water required for power plant cooling and irrigation of food and energy crops; energy required for agriculture and water supply)
- Environmental impacts of agricultural, residential, industrial, and energy sectors on water resources and aquatic ecosystems (e.g., thermal pollution)
- Impacts of climate and socioeconomic change (and urbanization) on water availability and water/energy demand and implications for food, energy, and water supply
- Impacts on fragmented approaches on Ecosystem Services

## NUMBER OF PARTICIPANTS EXPECTED

130 participants