

## Co-Operation Between Disciplines

Understanding water and energy linkages, and associated implications for various sectors, is a complex but urgent task, considering the increasing demands on natural resources. As population grows and incomes rise, the world needs to face the challenge of meeting ever growing demands with less. This requires involvement of actors from local communities, governance, development practice, environment, research and private sectors.

The Cluster Group on Water and Energy Linkages gathers different actors in Sweden and provides an enabling environment where different perspectives and views can be exchanged. The aim is to advance the knowledge of water and energy linkages and to use this knowledge in different settings to develop systems for providing clean water and energy services sustainably.

Some of the issues on the Cluster Group's agenda are:

- Enhance understanding and add perspectives on the "Water and Energy Nexus".
- Support Swedish actors in providing examples and knowledge applicable at the global scale.
- Explore the role of energy production in times of climate change as well as conflicts between sustaining ecosystem services and electricity generation.
- Examine perceptions of "renewable energy" as equivalent to "sustainable energy"
- Collect and document best practices to improve energy generation processes and to reduce negative ecosystem impact along the water related energy production chain.
- Provide policy advice based on Swedish experiences with the ability to serve as guiding influence in Swedish development assistance.



## Join Us

Are you working with energy and water issues and want to contribute to the development of the Cluster Group? If so, please contact: [andreas.lindstrom@siwi.org](mailto:andreas.lindstrom@siwi.org).

The group is hosted by the Swedish Water House (SWH), a networking initiative for Swedish actors working with water, sustainability and development. SWH cluster groups are small, interdisciplinary networks established around a water related theme to strengthen understanding and linkages among ongoing international processes and networks.

For more information about upcoming activities, seminars, projects and publications, visit [www.swedishwaterhouse.se](http://www.swedishwaterhouse.se).

Some of the Water and Energy Linkages Cluster Group members are representatives from the following organisations:



LUND UNIVERSITY

CHALMERS



CENTRE FOR GENDER RESEARCH  
CROSSROADS OF KNOWLEDGE



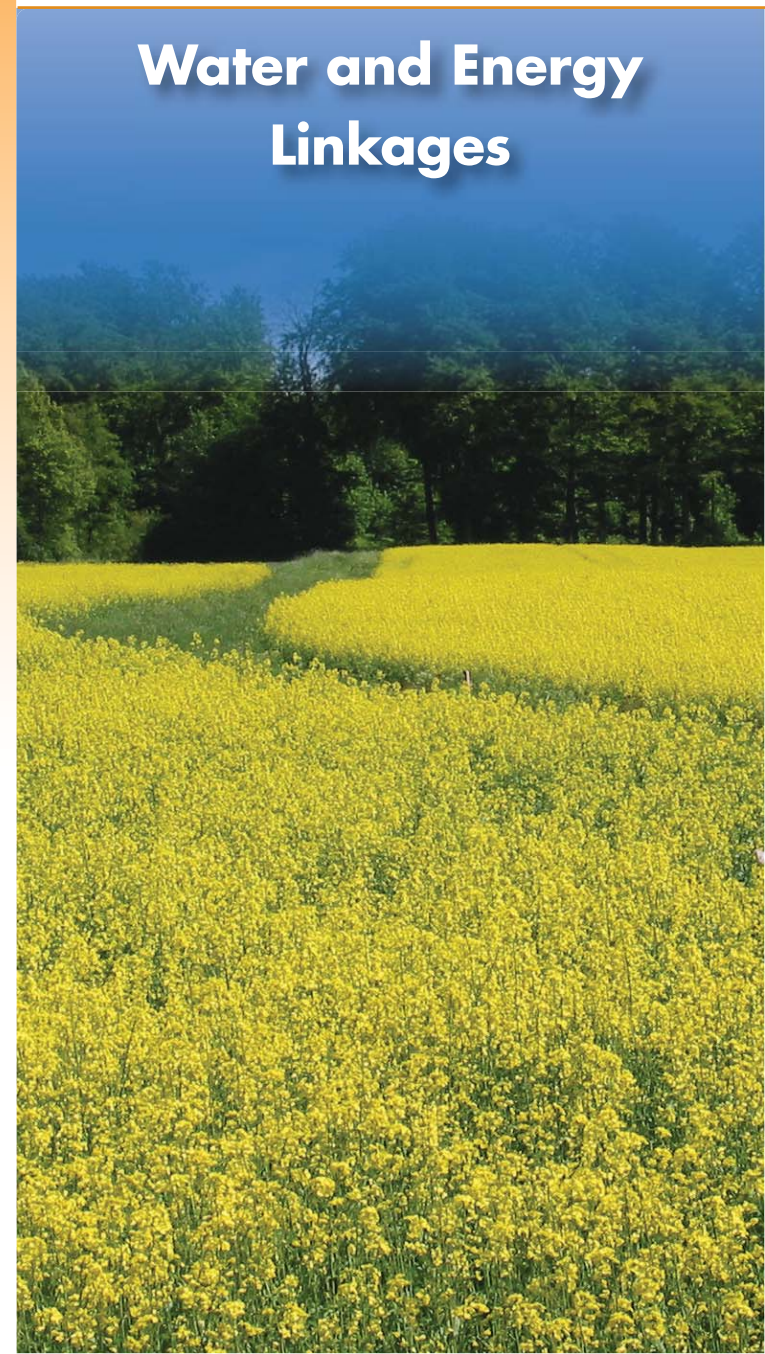
STOCKHOLM ENVIRONMENT INSTITUTE



The Swedish Water House is part of SIWI

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# Water and Energy Linkages



## A Water and Energy Consuming World

Recent data indicate a growing global water supply gap in terms of accessible, reliable water supply. Long term climate change, on top of existing rainfall variability, will provide additional water management challenges at the regional level. Droughts and floods are likely to increase and cause additional pressures in both developed and developing regions of the world.

Global energy consumption is projected to grow by close to 50 % by 2035 (International Energy Outlook 2010). Fossil fuels constitute the major part of fuel supply but renewable energy alternatives make up a rapidly growing part of the energy mix worldwide. Electricity is the energy product that grows fastest on a global level and coal is projected to be the foremost source for electricity generation in the foreseeable future. But renewable options such as hydropower, biofuels, and wind power are projected to take larger shares compared to the present situation.

Both fuel production and electricity generation requires water in various ways. Factored in with growing water demand in other sectors and diminishing usable water resources, the need to observe water and energy linkages against the backdrop of a sharp growth in energy demand over a comparably short time span becomes evident.

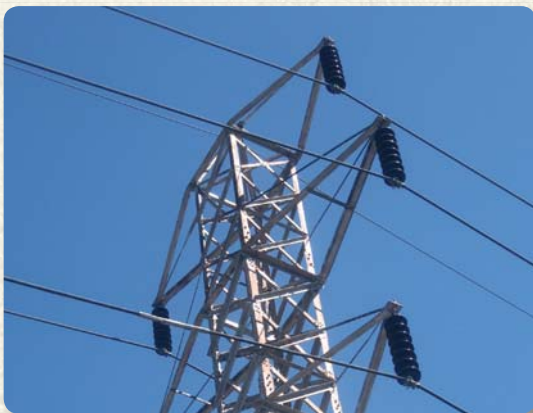


Photo: Alistair Williamson, www.sxc.hu

## The Water and Energy Nexus

The Latin word “nexus” means connection. Applied to water and energy it refers to the inter-connectedness between the management and development of these two assets. Water is required to produce energy (for fuel production and electricity generation) and energy is required to provide water (to power water distribution and treatment systems). The water and energy nexus is therefore broad and complex and relates both to tangible assets such as clean water, electricity and agriculture products as well as intangibles such as governance choices and public goods.

Currently, information on water use in energy production is incomplete. More knowledge is needed in order to fully understand the water and energy nexus and how it impacts sustainable development at various scales and levels in different regions worldwide.

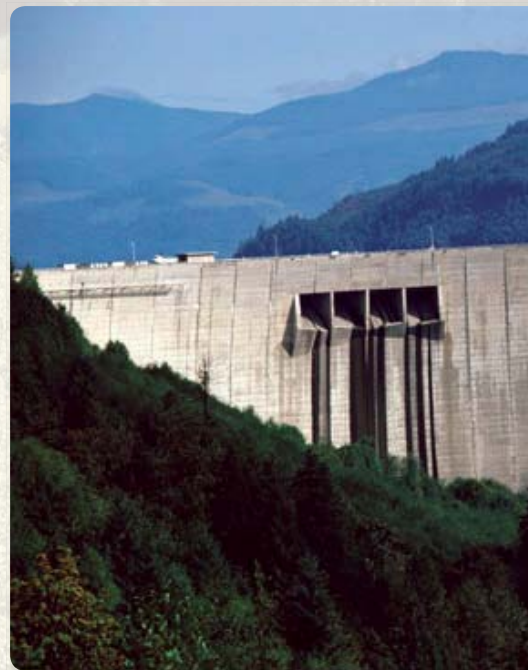


Photo: Jakob Granit, SIWI

## The Cluster Group

Established in 2011, the Cluster Group on Water and Energy Linkages brings together a wide range of Swedish actors and international organisations based in Sweden to explore the “Water and Energy Nexus” in order to shed more light on a comparably unexplored area of water resource utilization. The Cluster Group gathers different perspectives, raises awareness, exchanges experiences and draws on national as well as international lessons learned to provide common understanding of the issues. This is to promote a constructive dialogue on what the nexus entails for Swedish and international actors.

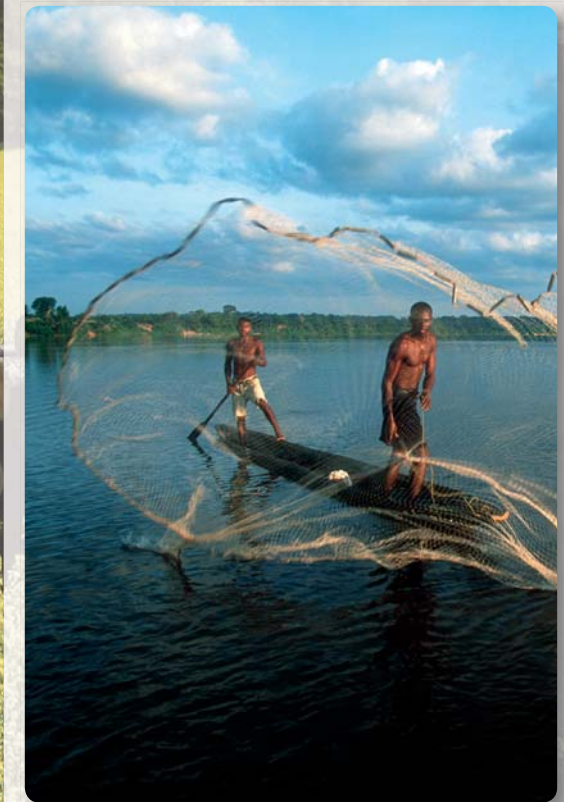


Photo: WWF