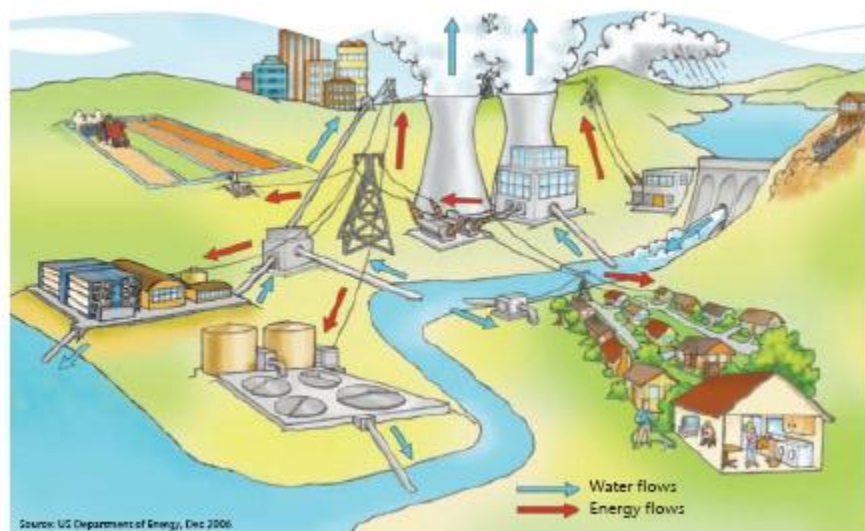


# WATER, ENERGY AND CLIMATE CHANGE: KEY POLICY DIRECTIONS

This article says that Water, energy and climate change are inextricably linked.

Recently, there has been increased understanding of the links between water, energy and climate change. Some places in the world have successfully integrated both water and energy into planning, from investment to institutional decision-making. Nevertheless, there is still a significant gap in communications addressing the linkages at a global scale. In particular, currently only a limited number of publications, scenarios and perspectives about energy and climate change also address water issues.

*Quick facts on the interconnections between water, energy and climate change*



Source: US Department of Energy, Dec 2006  
Figure 3: Examples of interrelationships between water and energy<sup>6</sup>

## **Key messages**

### **Water and energy are inextricably linked**

- Both water and energy are essential to every aspect of life: social equity, ecosystem integrity and economic sustainability.
- Water is used to generate energy; energy is used to provide water.
- Both water and energy are used to produce crops; crops can in turn be used to generate energy through bio fuels.

### **Global energy and water demand are increasing**

- Energy and water demands increase with income. At low income levels, energy and water are used for basic needs such as drinking, cooking and heating. But as income increases, people use more energy and water for refrigerators, swimming pools, transport, watering and cooling that meet their new lifestyle and diet needs.
- In an increasing spiral, demand for more energy will drive demand for more water; demand for more water will drive demand for more energy.
- Business, along with all parts of society, needs to continue to improve its water and energy efficiency to enable sustainable growth.

## **Both water and energy use impact and depend on Ecosystems**

- Industrial, agricultural and domestic water and energy uses can have adverse impacts on ecosystems, including loss of habitat, pollution and changes in biological processes (such as fish spawning). Such ecosystem impacts also affect the amount of water or energy supplies available.
- Maintaining an environmental flow is critical to ensuring river systems can supply water to business and ecosystems.
- Water, energy and ecological footprints cannot be addressed in isolation.

## **Climate change will affect availability and use of both water and energy**

- Climate change acts as an amplifier of the already-intense competition over water and energy resources.
- Mitigating climate change (i.e. reducing CO<sub>2</sub> emissions) as well as adapting to inevitable climate change risk (i.e. becoming better able to cope with an uncertain future) need to be considered together.
- Impacts from climate change on both regional and global hydrological systems will increase, bringing higher levels of uncertainty and risk, with some regions more impacted than others.

- There is not only one appropriate mitigation or adaptation strategy – each situation will require the appropriate and sustainable use of water and energy resources locally.
- Adaptation can come at a mitigation cost, such as building more robust infrastructure that is climate resilient but can emit more greenhouse gases.

Source:

<http://www.iwawaterwiki.org/xwiki/bin/view/Articles/WaterenergyandclimatechangeKeyPolicyDirections>