

# Climate impacts on water sources: quantity, quality and safety



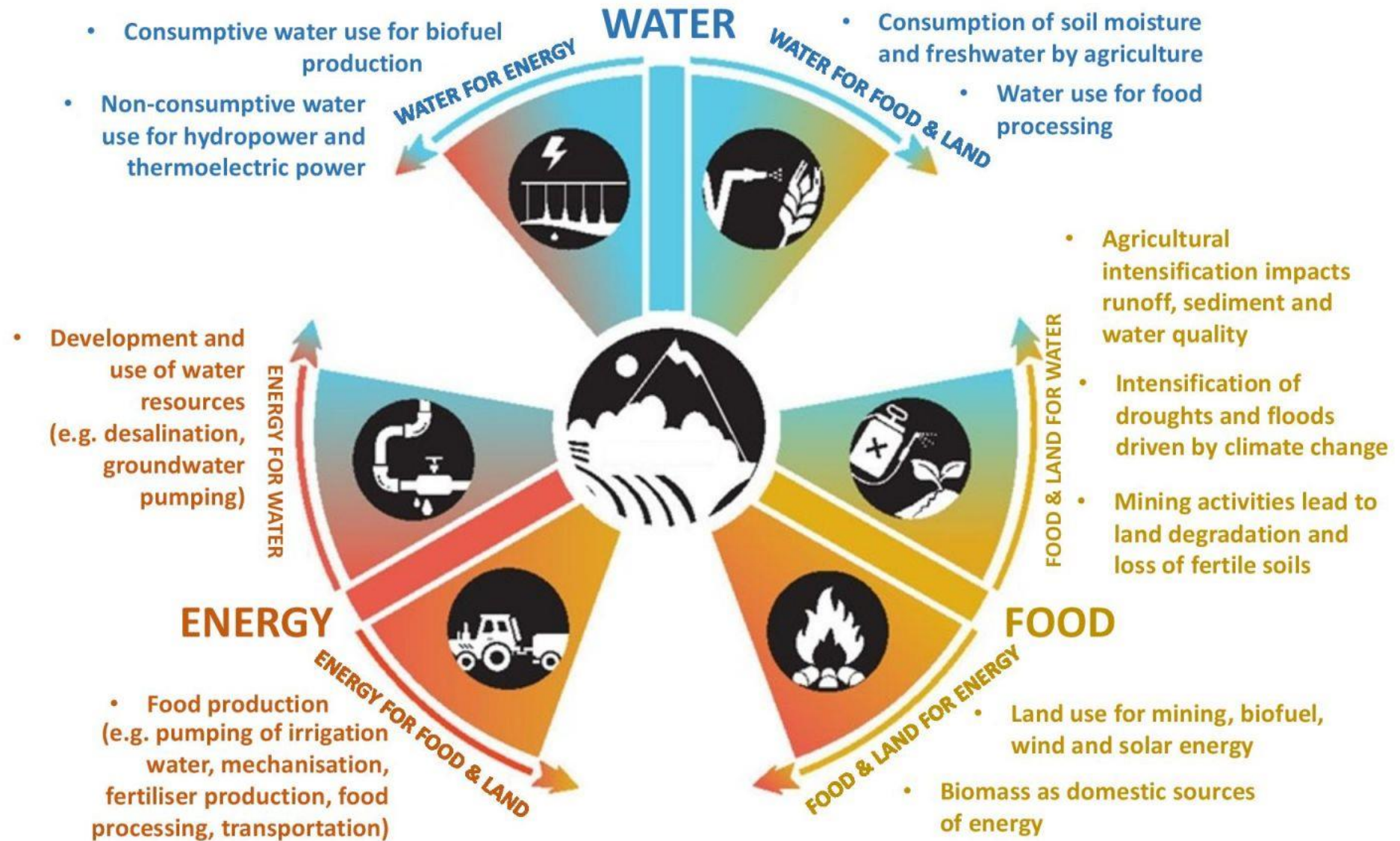
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Examples of connections between water, energy and food systems. Adapted from [United Nations Economic Commission for Europe 2016](#).

# Environmental Change

- ▶ Water stress and scarcity due to climate change, are affecting the energy and food sectors since they highly depend on water supply
- ▶ Environmental change is a real threat to global **agricultural production**, with impacts on food security, the environment and population health
- ▶ **Energy:** Fossil fuel production is highly water intensive but the new growing practice of fracking involves high water use and water contamination



# Intensive Agricultural Production

- ▶ Environmental pressures associated to intensive agricultural production include fertilizers and pesticides pollution, soil erosion, habitat loss and over exploitation and contamination of water bodies
- ▶ The actual industrial system of agricultural production is unsustainable in the long term



# Integrated Approach

Evaluate threats and environmental impacts of agricultural/energy activities under changing environmental conditions:

- ▶ Monitoring and modelling of physico-chemical and biological impacts
- ▶ Assess environmental risks and calculate the associated costs in relation to public health and environmental services impacts (negative externalities)



# Water Resources Management

- ▶ Water resources management, water supply and sanitation are key goals for decision makers within the WEF nexus
- ▶ An integrated approach should be considered to ensuring water and food security and sustainable energy production worldwide

