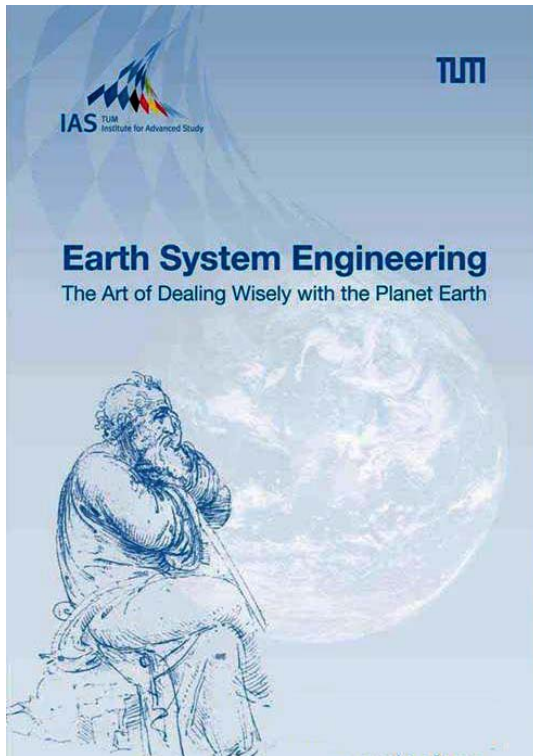


# in retrospect



workshop in Wildbad-Kreuth, Germany

23. – 26. September 2008

resolution of the Zugspitze-Declaration

formation of IESP

International Expert Group on Earth System Preservation

series of follow-up workshops  
on specific topics

# motivation

heated public debate about

## global warming & climate change

- **causes and effect**
- **measures to manage consequences**

**e.g., geo-engineering**

- **solar radiation management (SRM)**
- **carbon capture and storage (CCS)**

**concerns:**

- **collateral effects**
- **poor sustainability**

# geo-engineering

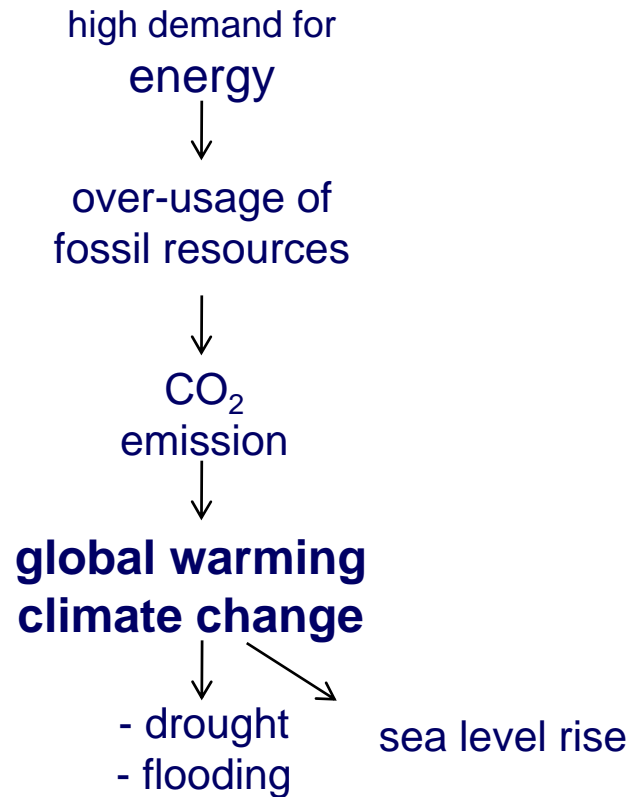
**science based**  
**deliberate application of technology**  
to

- **control global warming**  
through SRM or CCS

- **to limit negative effects of climate change**  
e.g., raising dikes

# causes of global warming, and effects

## general perception



# why do we need so much energy ?

the answer:

global population growth  
urbanization  
global change of lifestyle



demand for  
**energy**



overusage of  
fossil resources



CO<sub>2</sub>  
emission



global warming  
climate change



- drought  
- flooding

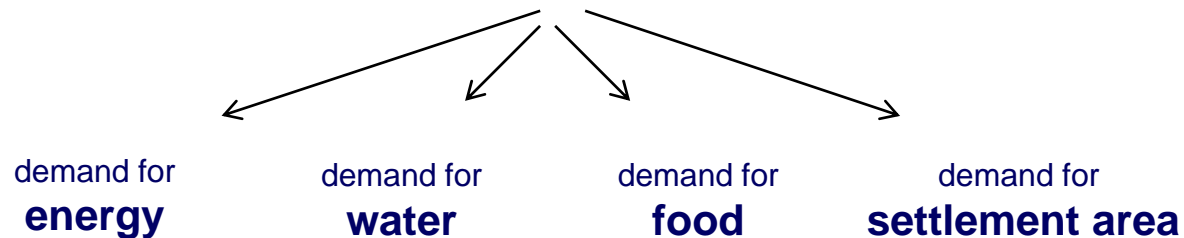


- sea level rise

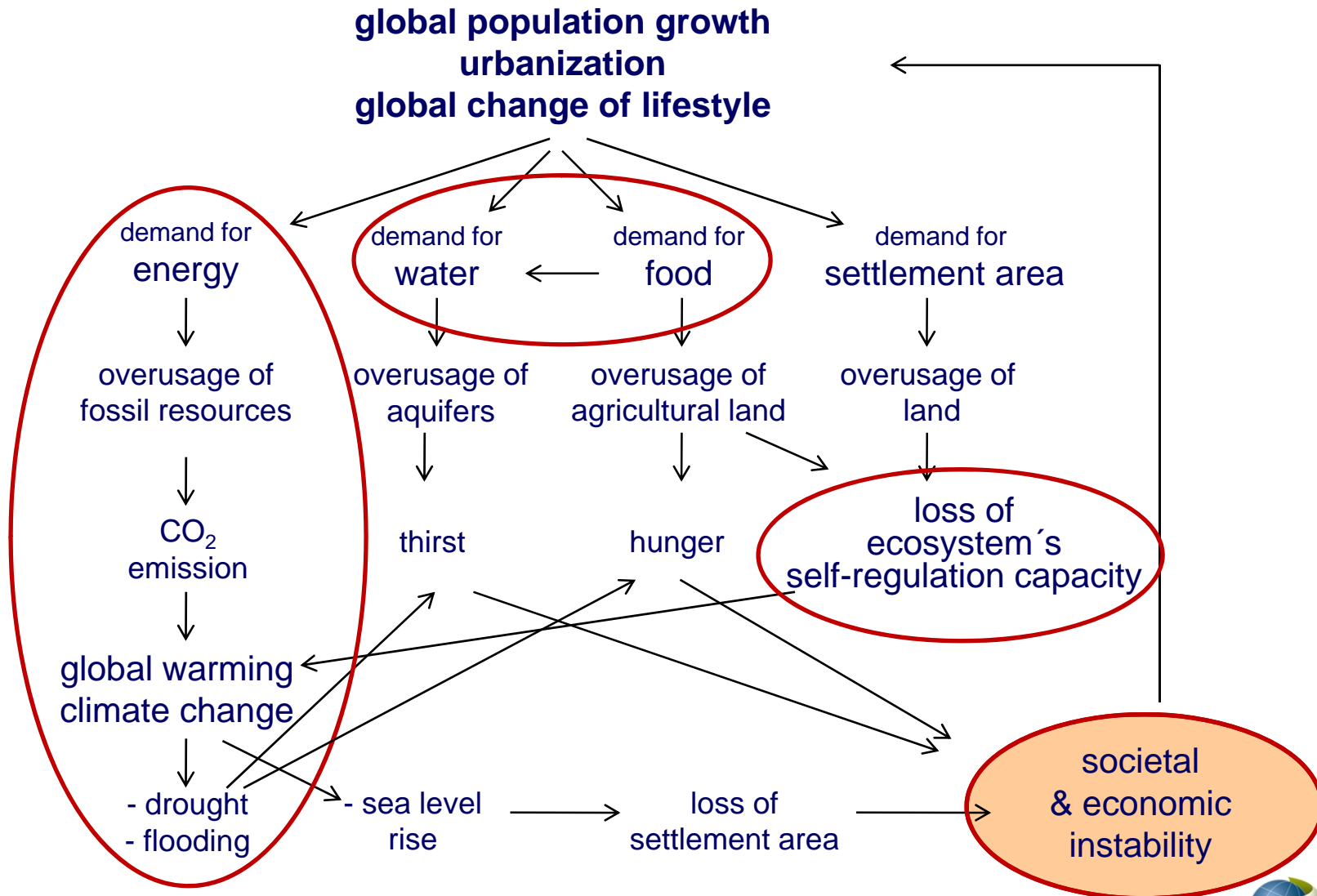
# is demand for energy the only problem ?

the answer is: no

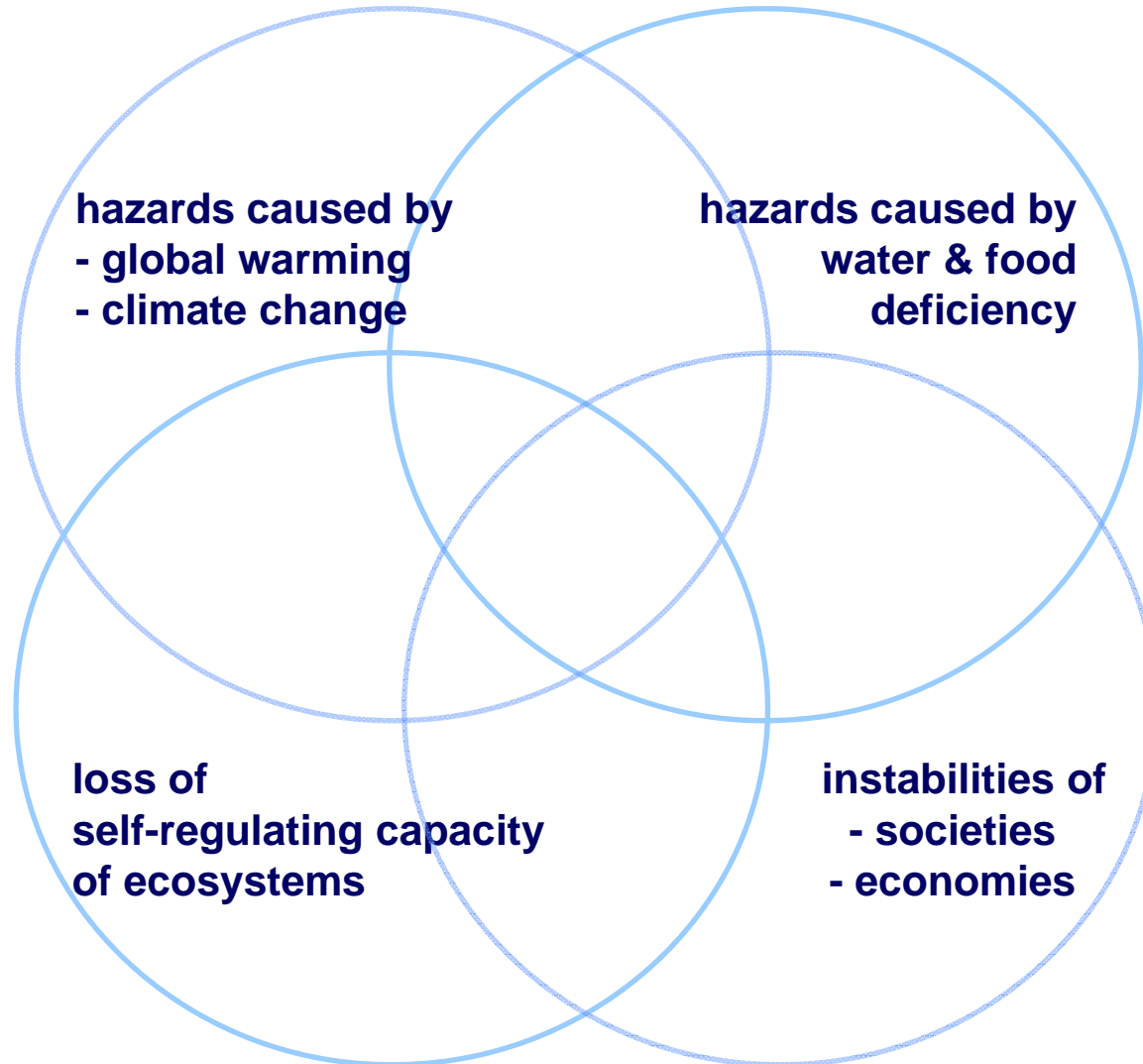
global population growth  
urbanization  
global change of lifestyle



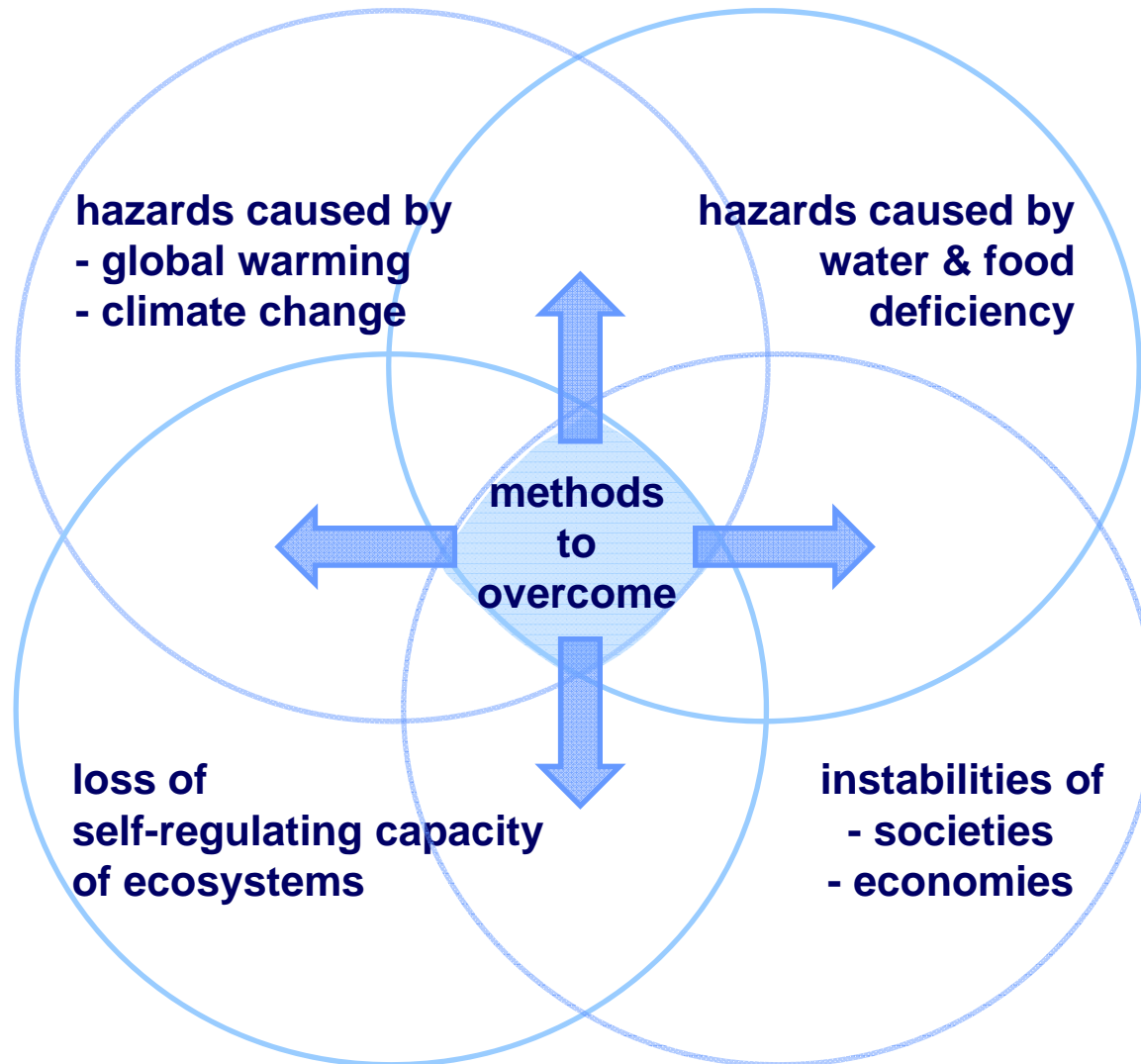
# the overall picture



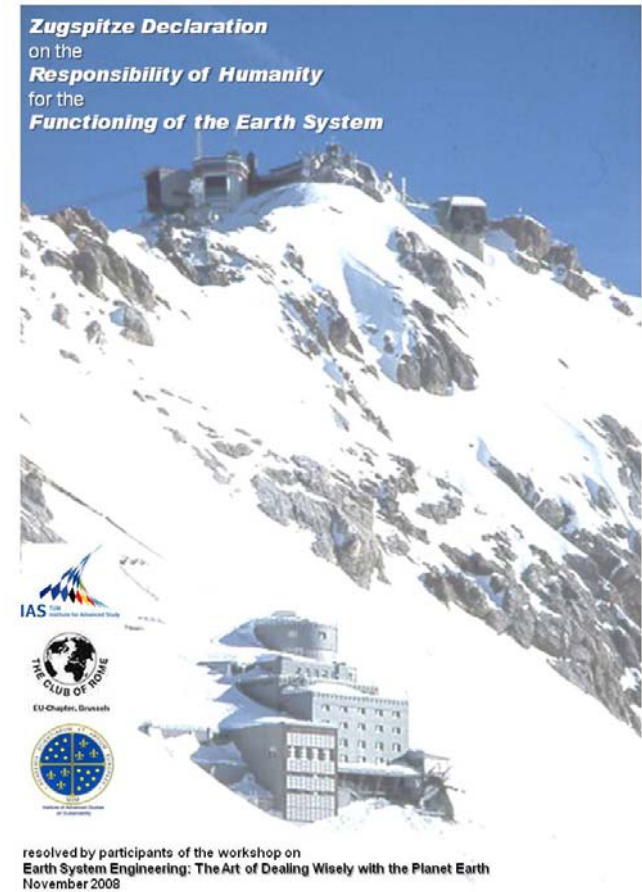
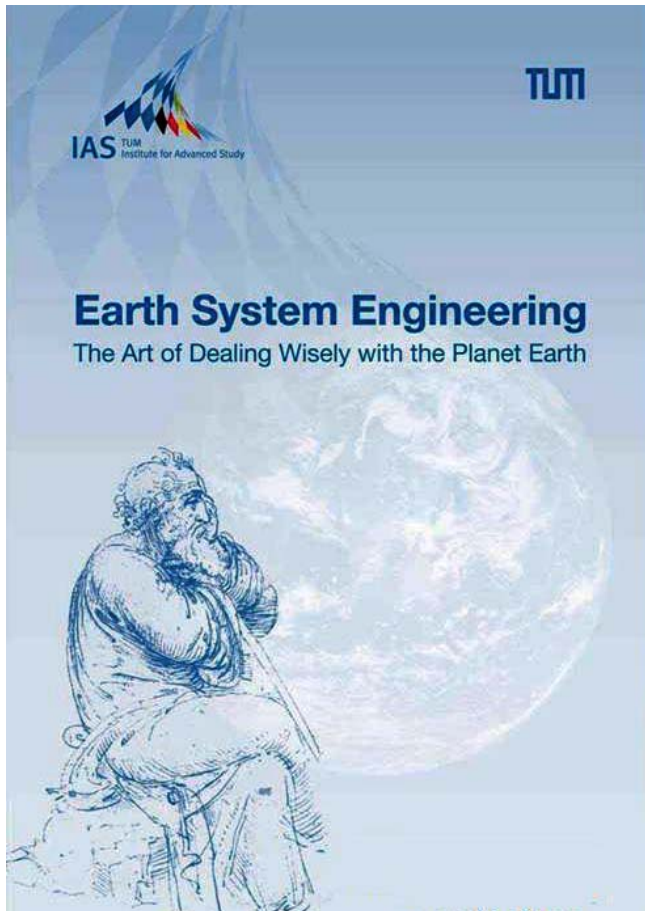
# four major Earth crises



# Sustainable Earth System Engineering



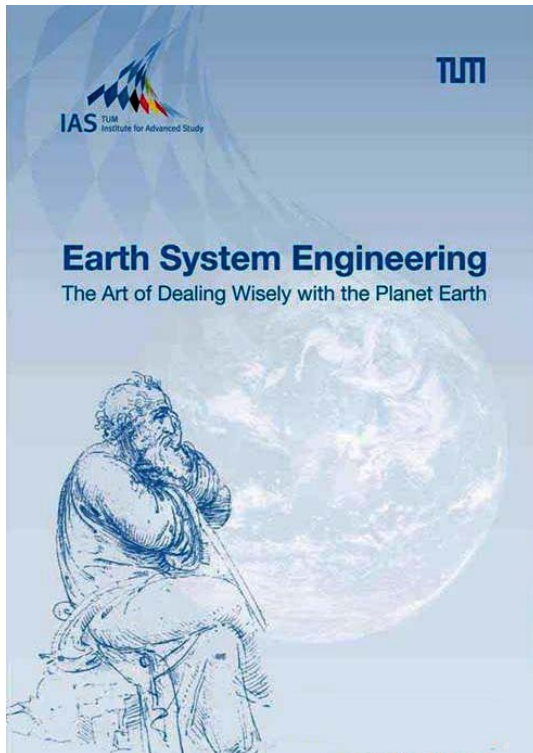
# result of the workshop



# Zugspitze Declaration

- 1. Global crises threaten the life-enabling functions of the Earth system**
- 2. We ought to learn from the past, and enter in concerted action**
- 3. There is plenty of knowledge available. So let us get started**
- 4. Behavioral changes will be necessary to solve the Earth crises**
- 5. An enforceable legal framework needs to be agreed upon that regulates usage of the global commons.**
- 6. Climate engineering should only be permitted after rigorous assessment and authorization.**
- 7. Human endeavors can only be tolerated when in line with sustainability criteria.**
- 8. A global commons trust should be made available to finance research.**
- 9. An UN body is to be established and authorized to enforce measures capable of preserving the life enabling functions of the Earth system.**

# summary



**global changes**

require

**global re-orientation**

the **energy** problem

is **only one of the four problem areas**  
to be solved

innovative technology & management  
can help

but needs to be complemented by  
„**wisdom**“ and „**responsibility**“

