



## water/ energy linkages

caring for climate and  
ceo water mandate  
joint session  
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# *water makes energy; energy makes (usable) water*



- **water** as input to generating energy (electricity, liquid fuels)

- steam, cooling processes and associated activities

**complex constraints on industrial water use arise at a catchment level**

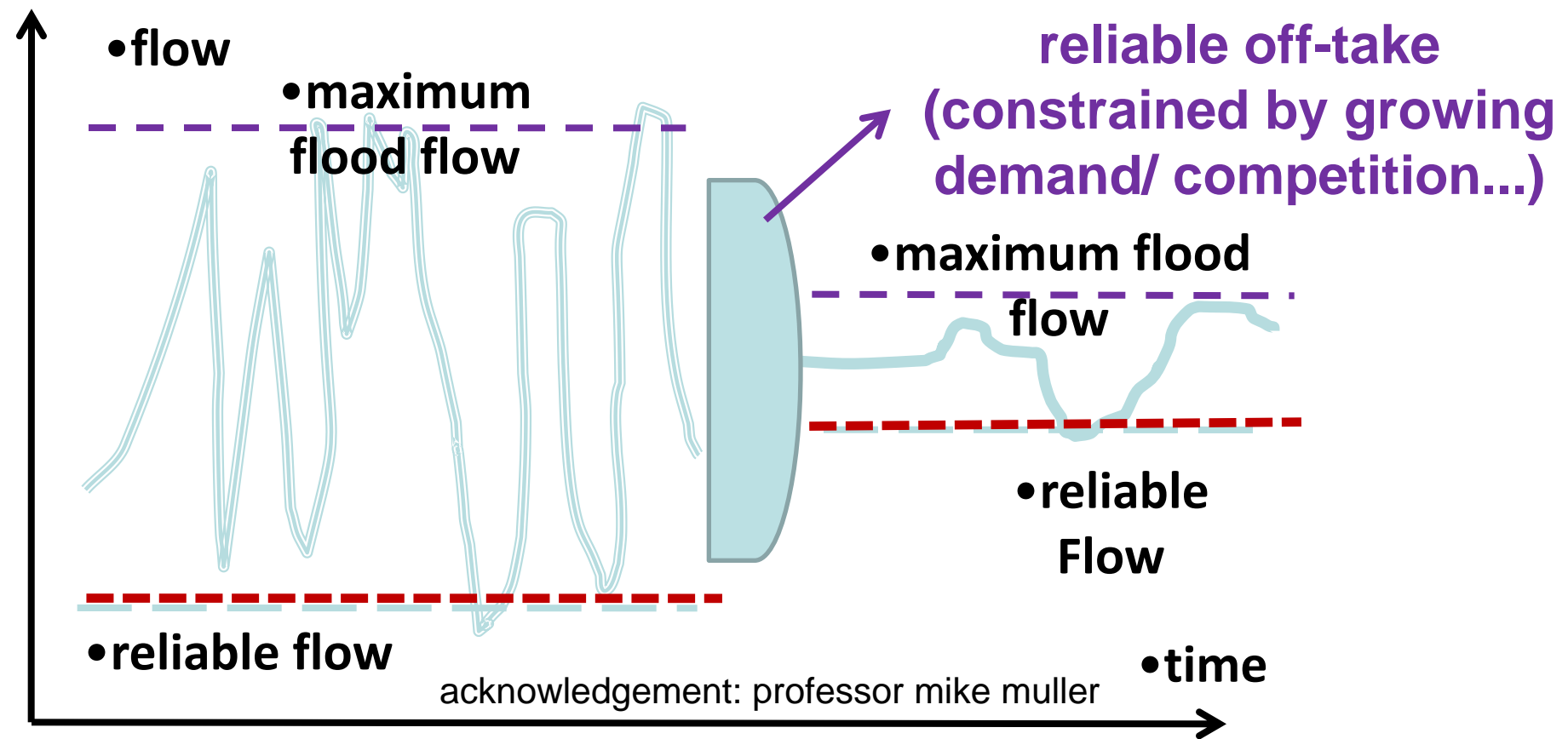
(reliability of supply, demand/ competition, quality, etc.)

- **energy** required to supply (safe, reliable, fit for purpose) water

- pumping water to where it is needed, operate wastewater treatment facilities, re-use, etc.

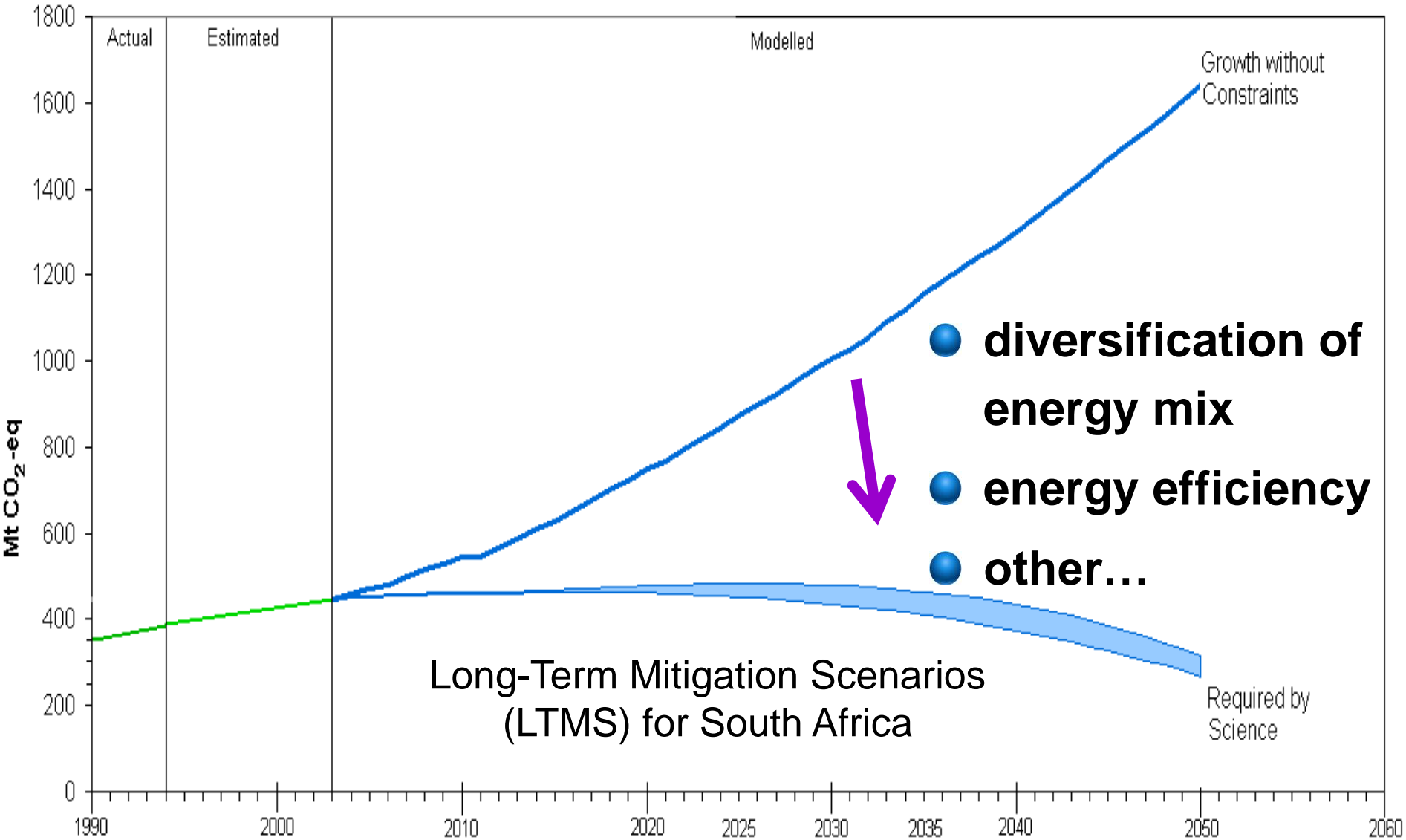
**energy a national planning issue where resource footprint and national carbon budget are key considerations**

# water planners think reliability of supply....



**NB:** need to support a supply focus with water conservation/  
water demand management, eradicating unlawful use, etc.

*while energy planners think growth within resource and carbon constraints....*



# *inland industrial complexes have specific challenges*



for an infrastructure constrained water supply network one has to consider options (trade-offs) between recycling and moving water

*new designs are inherently more  
water and energy efficient*

**SASOL**  
reaching new frontiers



- greater consideration of prevailing social, environmental and regulatory conditions





## concluding remarks

- **integrating water and carbon into planning and action**
  - *key considerations:*
    - *reliability of water supply*
    - *energy footprint within a national carbon budget*
- **assessing water risks associated with climate change**
  - *regional context including time frames*
  - *change, vulnerability and adaptation*
- **disclosure**
  - *many avenues including annual sustainable development report (GRI), CDP, CDP water, etc.*