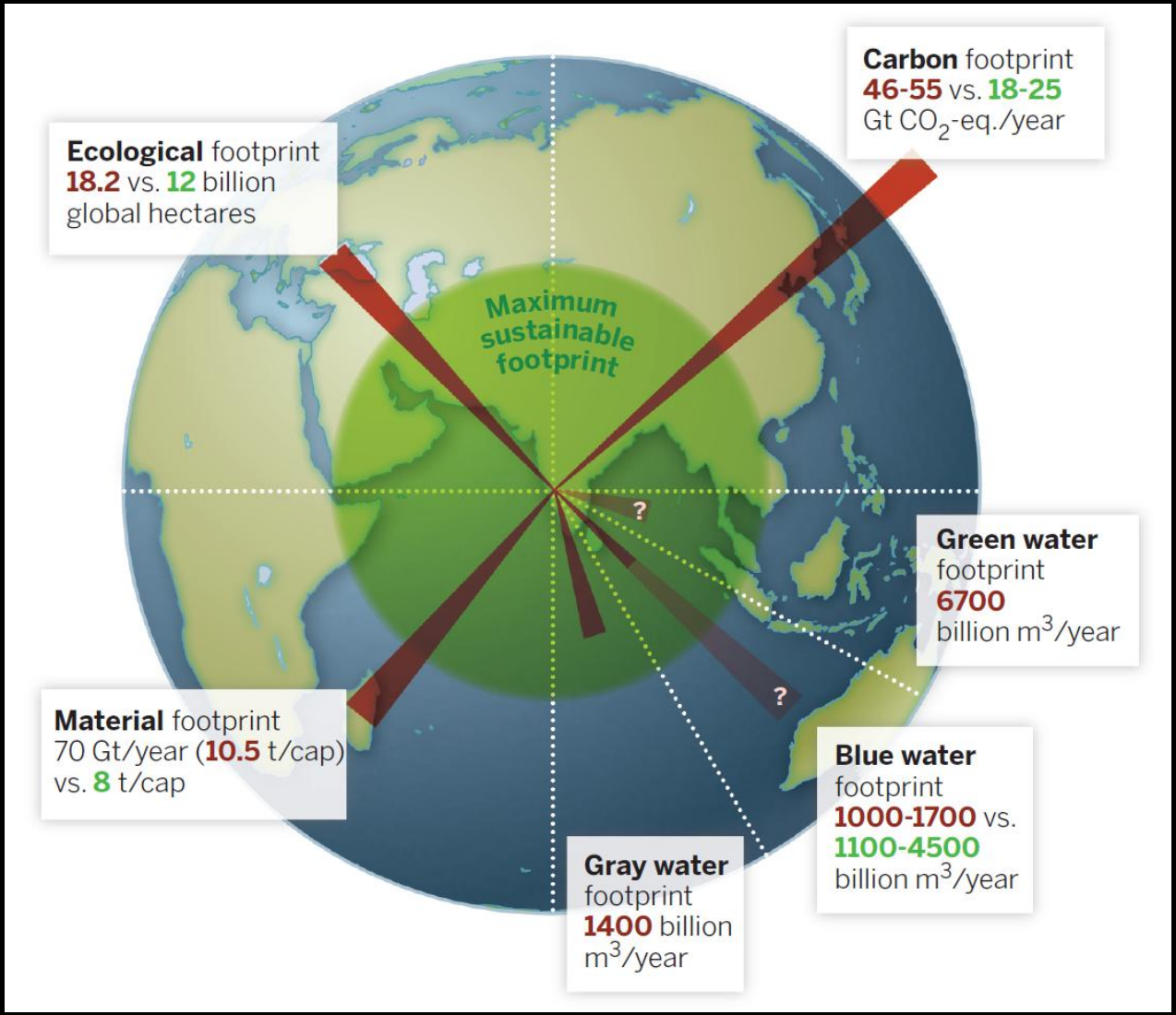
# Targets for a sustainable environmental footprint

**Arjen Hoekstra**
www.ayhoekstra.nl

# Humanity's unsustainable environmental footprint



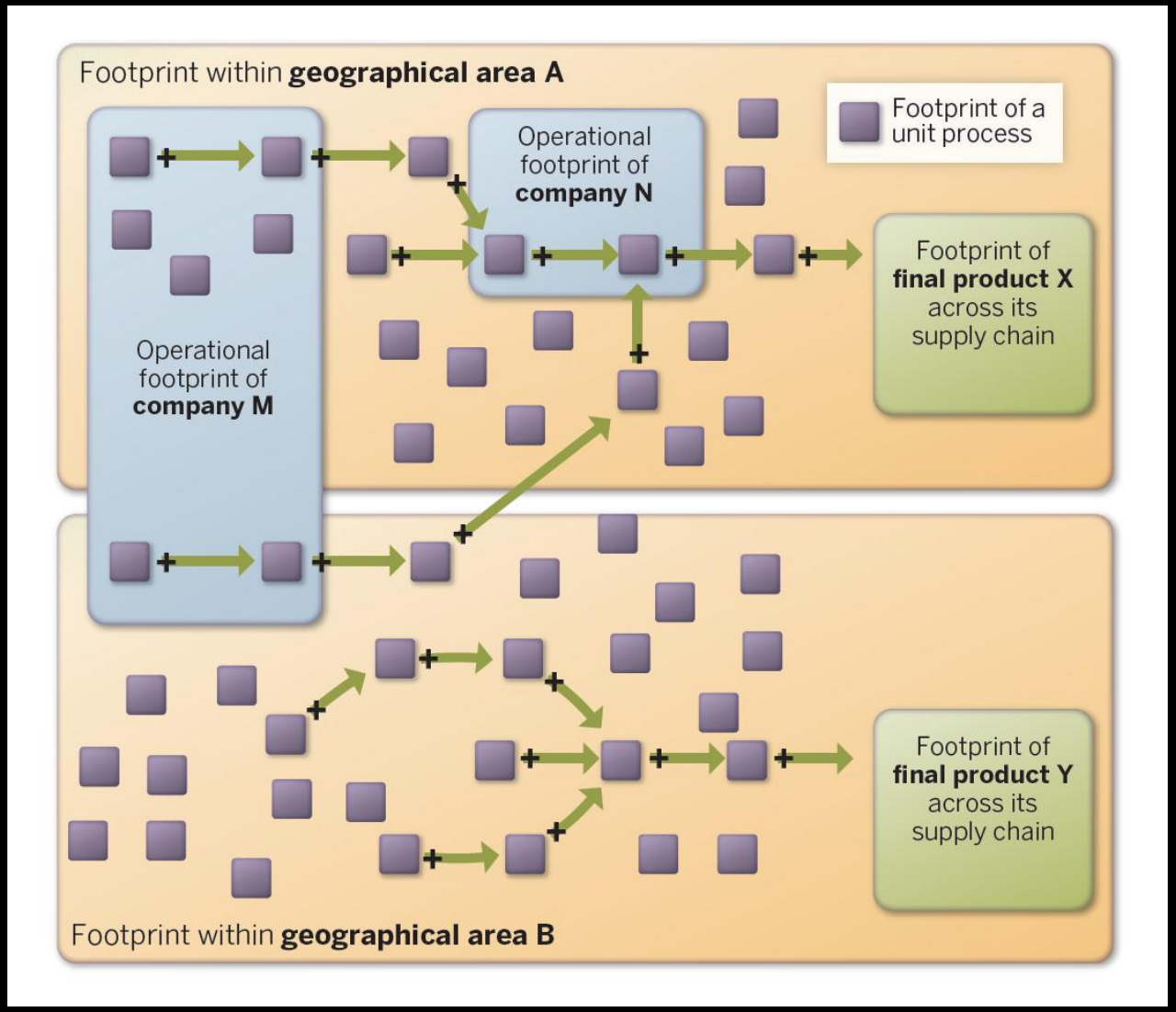

Targets

- global / regional caps
- product benchmarks
- fair shares by community
- resource security



Source: Hoekstra and Wiedmann (2014) Humanity's unsustainable environmental footprint, *Science*

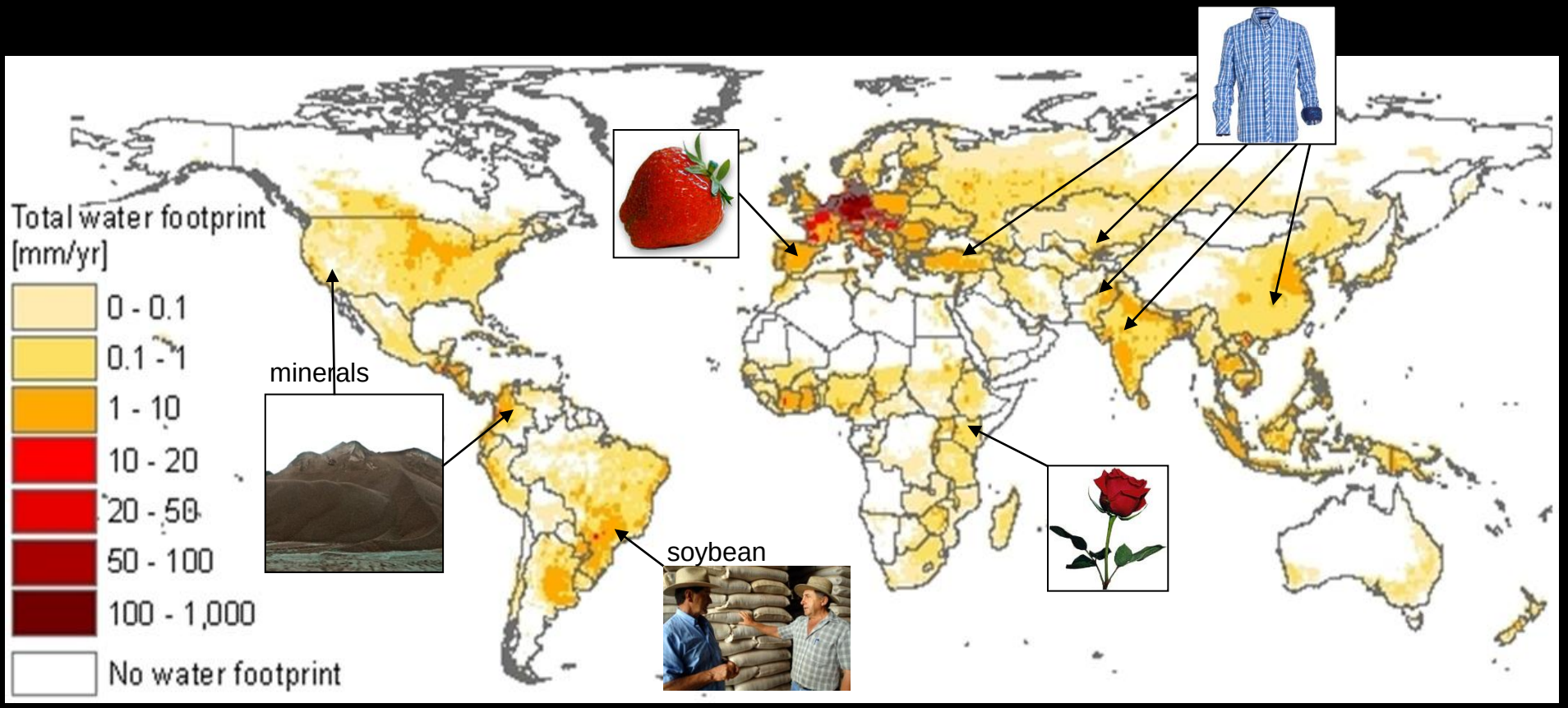
# Environmental footprint accounting over supply chains






Source: Hoekstra and Wiedmann (2014) Humanity's unsustainable environmental footprint, *Science*

# Global water footprint of German consumption




- 69% of Germany's water footprint is outside its own borders
- Germany ranks no.4 on list of largest net virtual water importers



Source: Mekonnen & Hoekstra (2011) *National Water Footprint Accounts*, UNESCO-IHE.

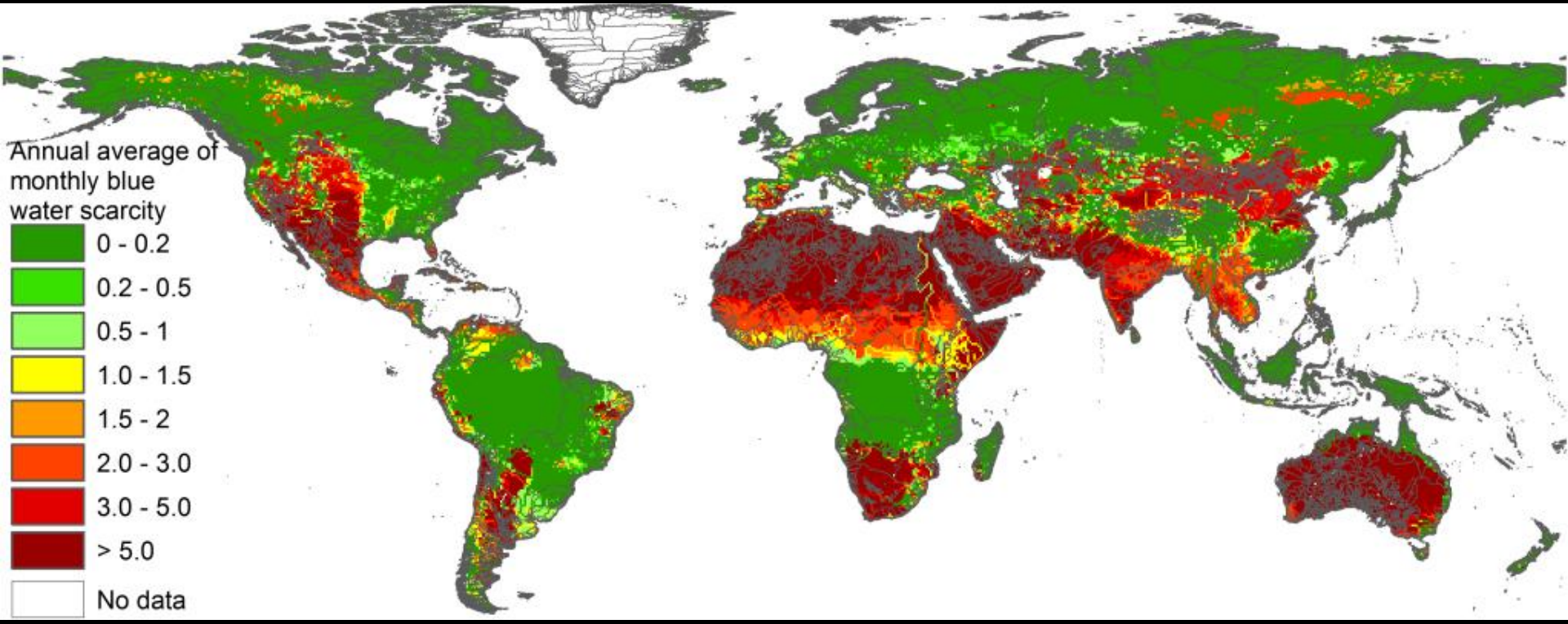
# Cotton from the Aral Sea Basin, Central Asia


Source: NASA

UNIVERSITY OF TWENTE.

# The water footprint of humanity: not sustainable

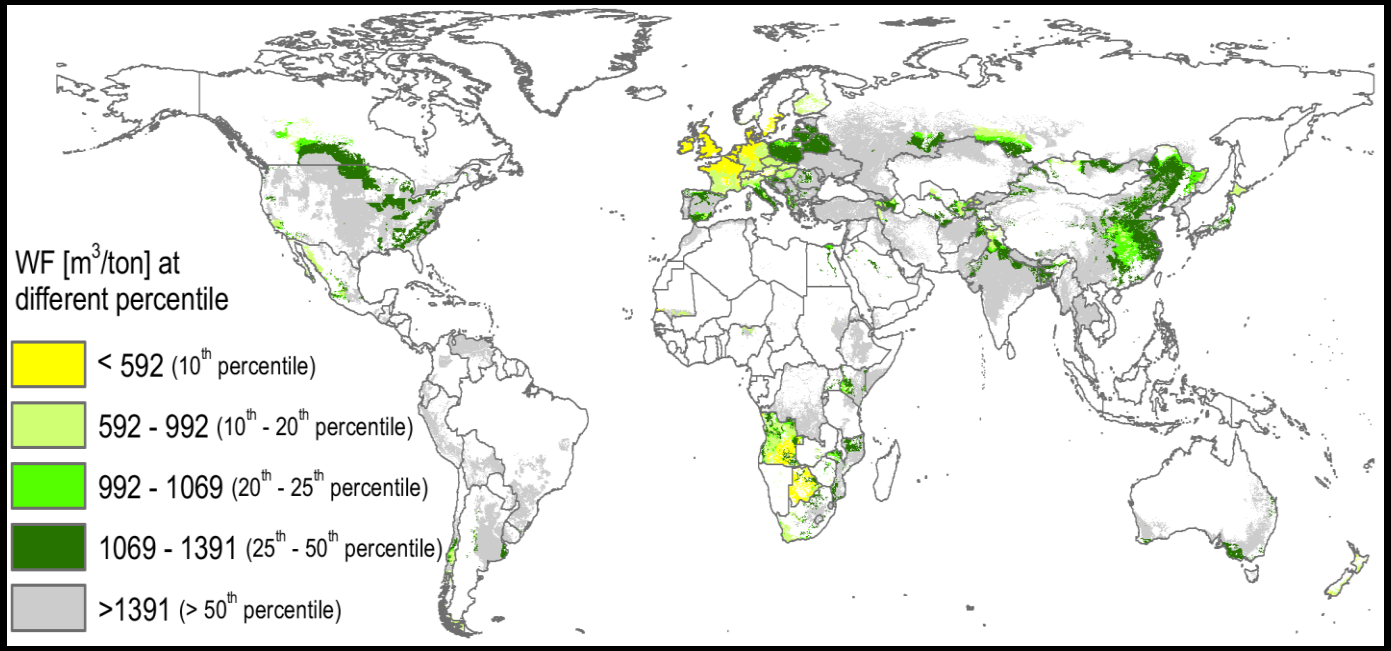
Blue water scarcity = blue water footprint / blue water availability




Source: Mekonnen & Hoekstra (2014)

# The water footprint of humanity: not efficient

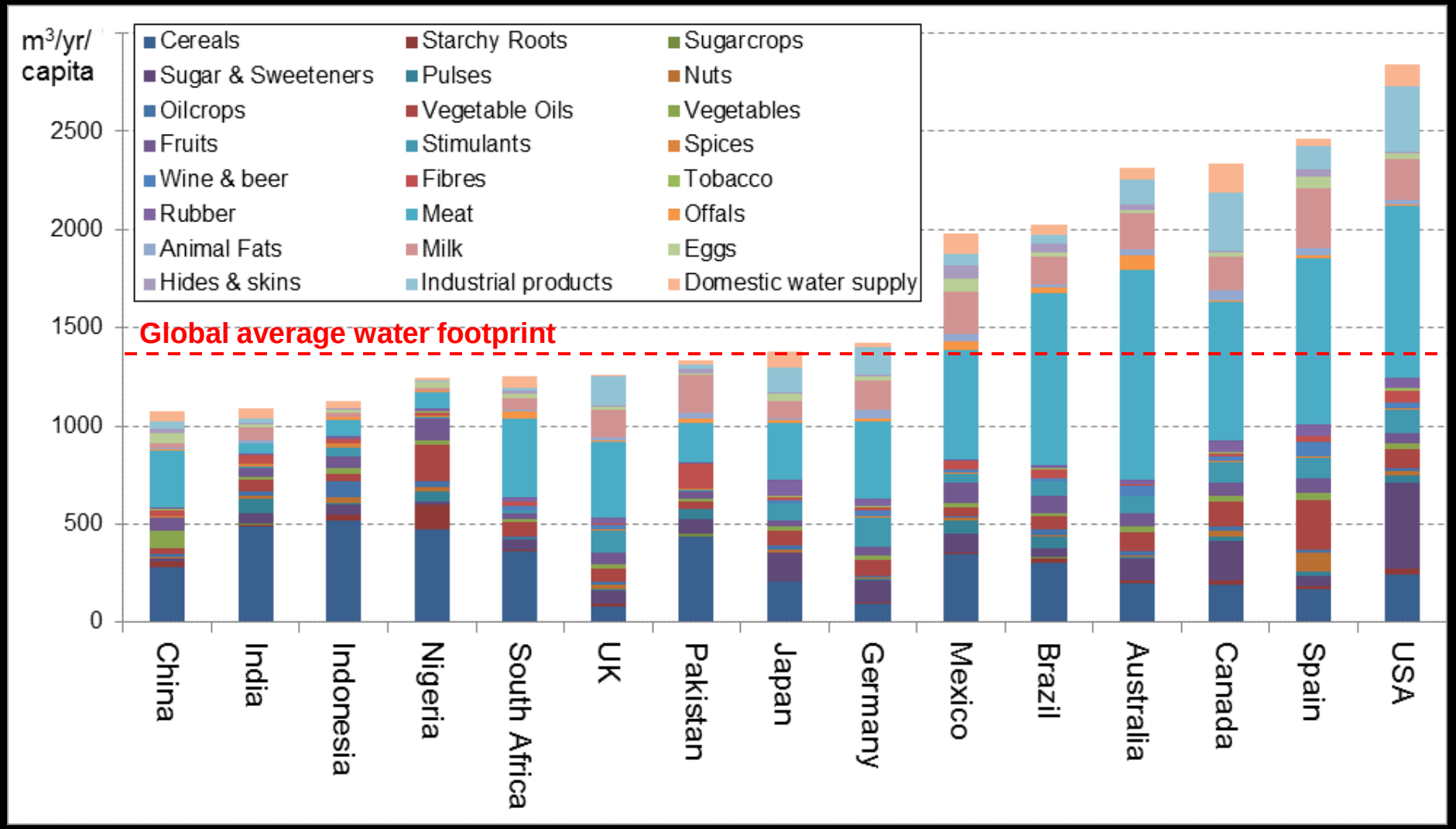
Spatial differences in the water footprint of wheat




Source: Mekonnen & Hoekstra (2014)

Worldwide reduction of water footprints of crops to benchmark levels set by the best 25% of global production, would result in a global water saving of 40%.

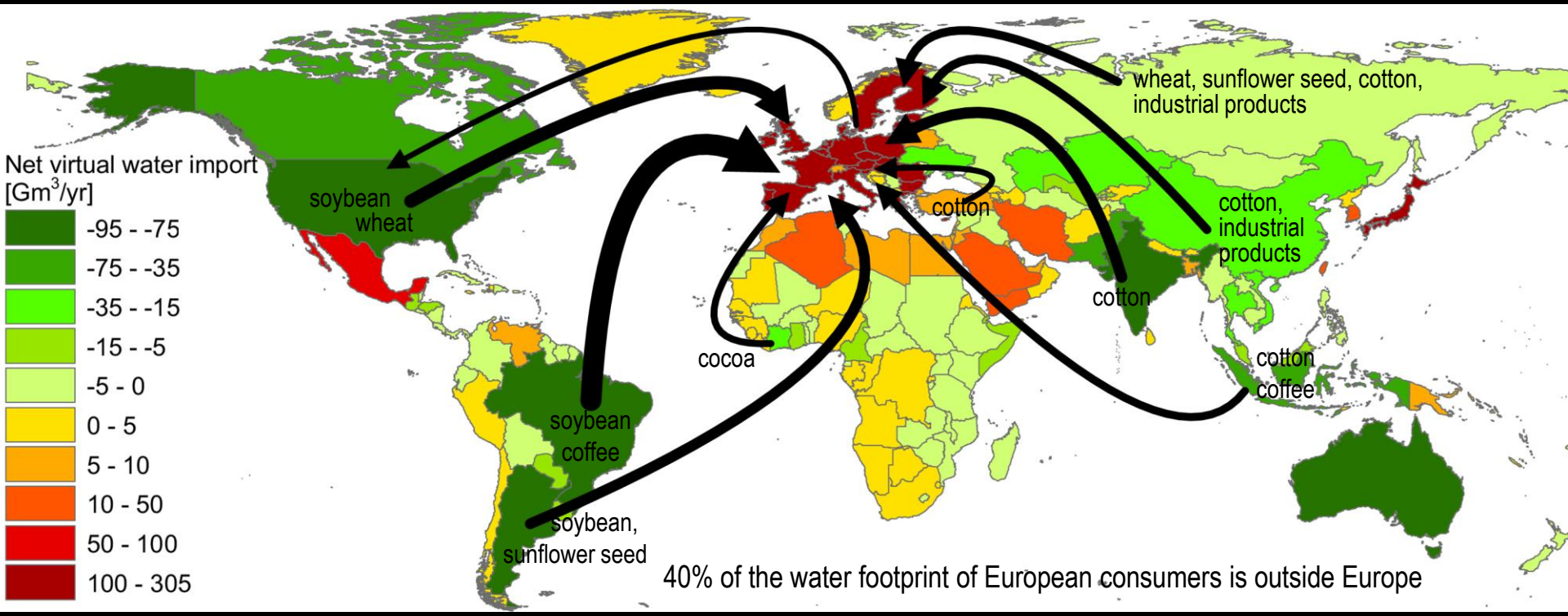
# The water footprint of humanity: not fairly distributed





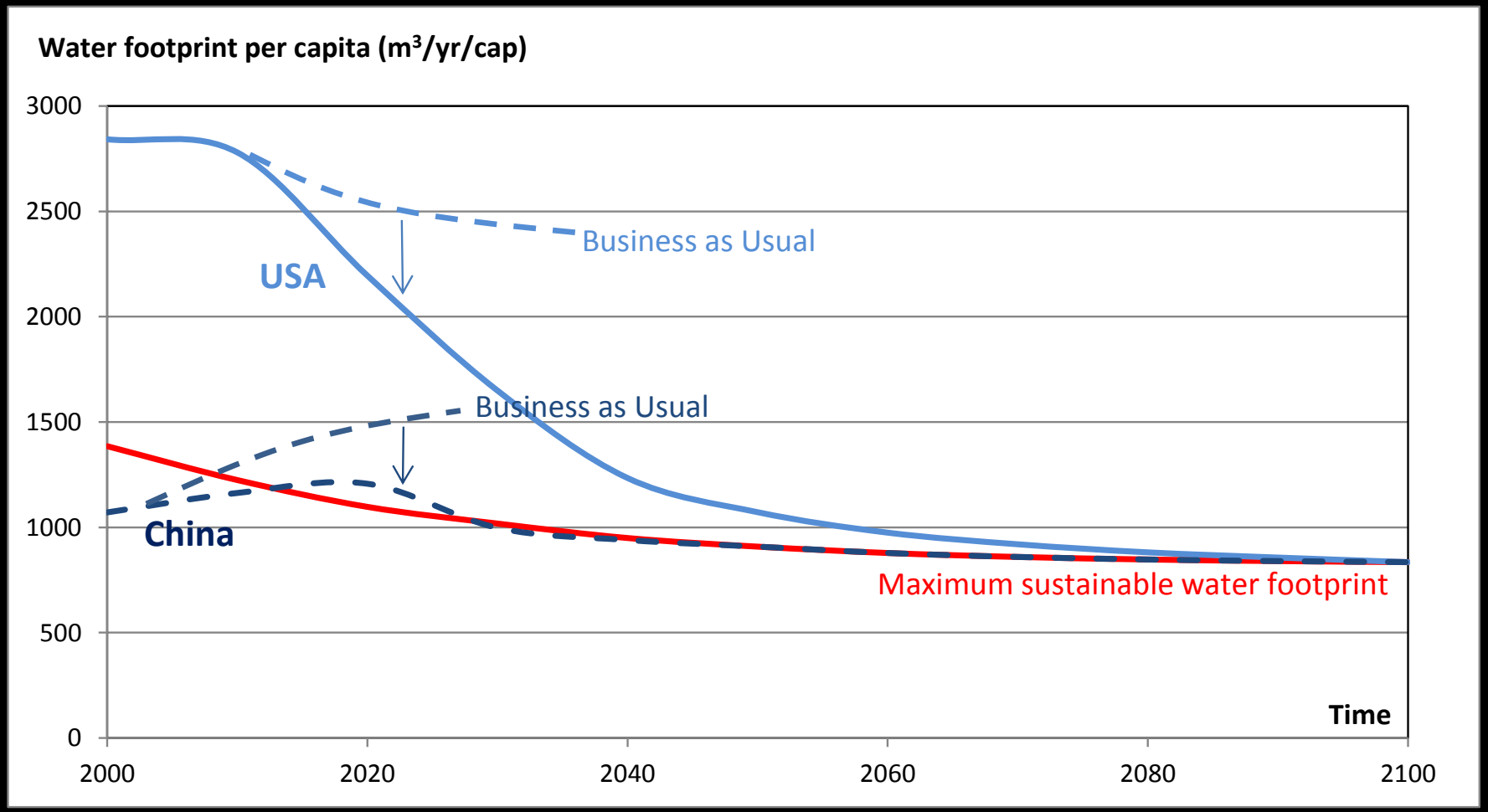

Source: Hoekstra & Mekonnen (2012) The Water Footprint of Humanity, *PNAS*

# Europe's external water footprint: not secure



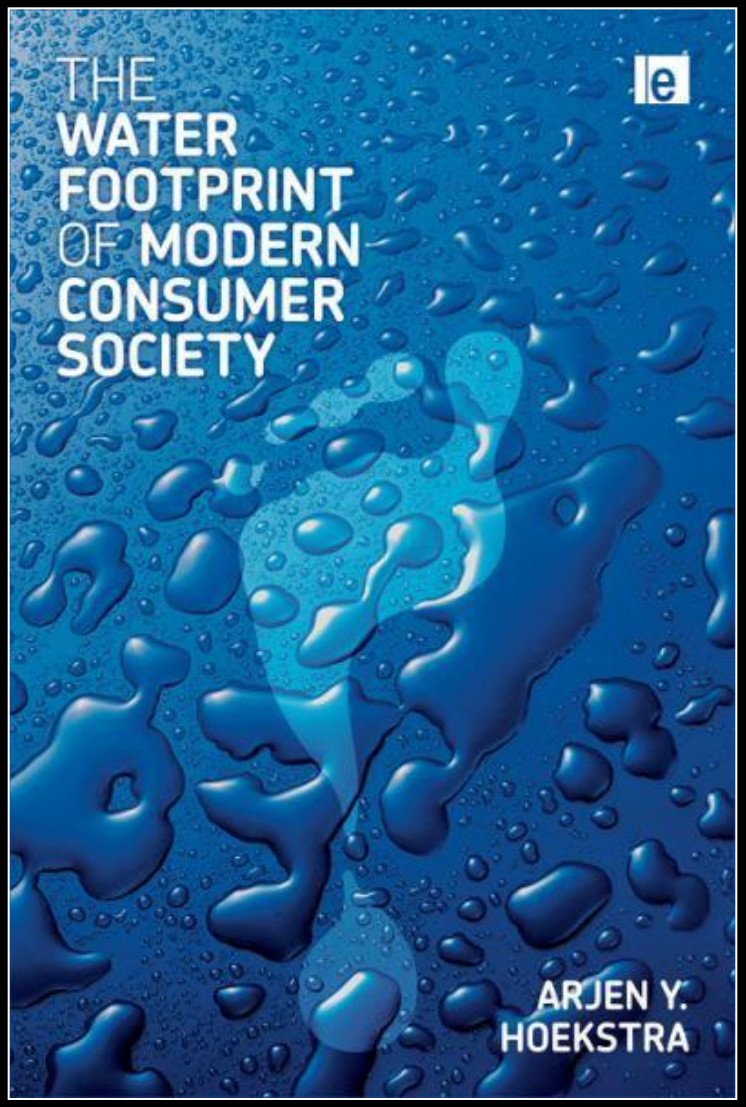

Source: Hoekstra & Mekonnen (2012) The Water Footprint of Humanity, *PNAS*

# The need for contraction and convergence






Source: Hoekstra (2014) *Wise freshwater allocation*, UNESCO-IHE




Further reading

- Water for food, feed, fuel, fibre or flower

- Water footprint caps by river basin
- Water footprint benchmarks by product
- Fair water footprint shares by nation
- Water self-sufficiency by region

www.ayhoekstra.nl