

# Evaluating the global wastewater's untapped irrigation potential

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**EGU General Assembly 2023, Vienna, Austria**

**27/4/2023**

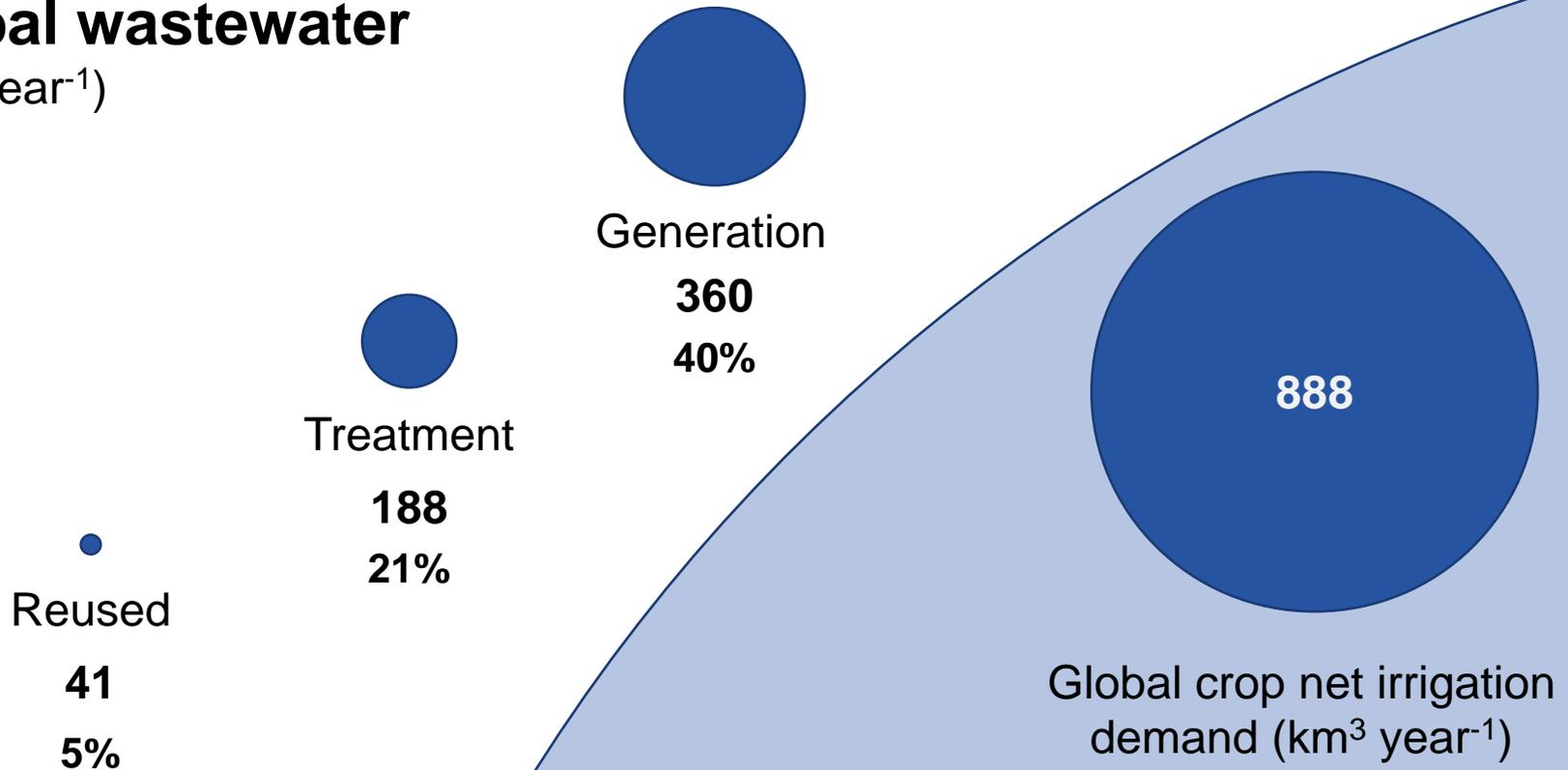


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# Wastewater irrigation untapped potential is *theoretically* high

## Global wastewater

(km<sup>3</sup> year<sup>-1</sup>)

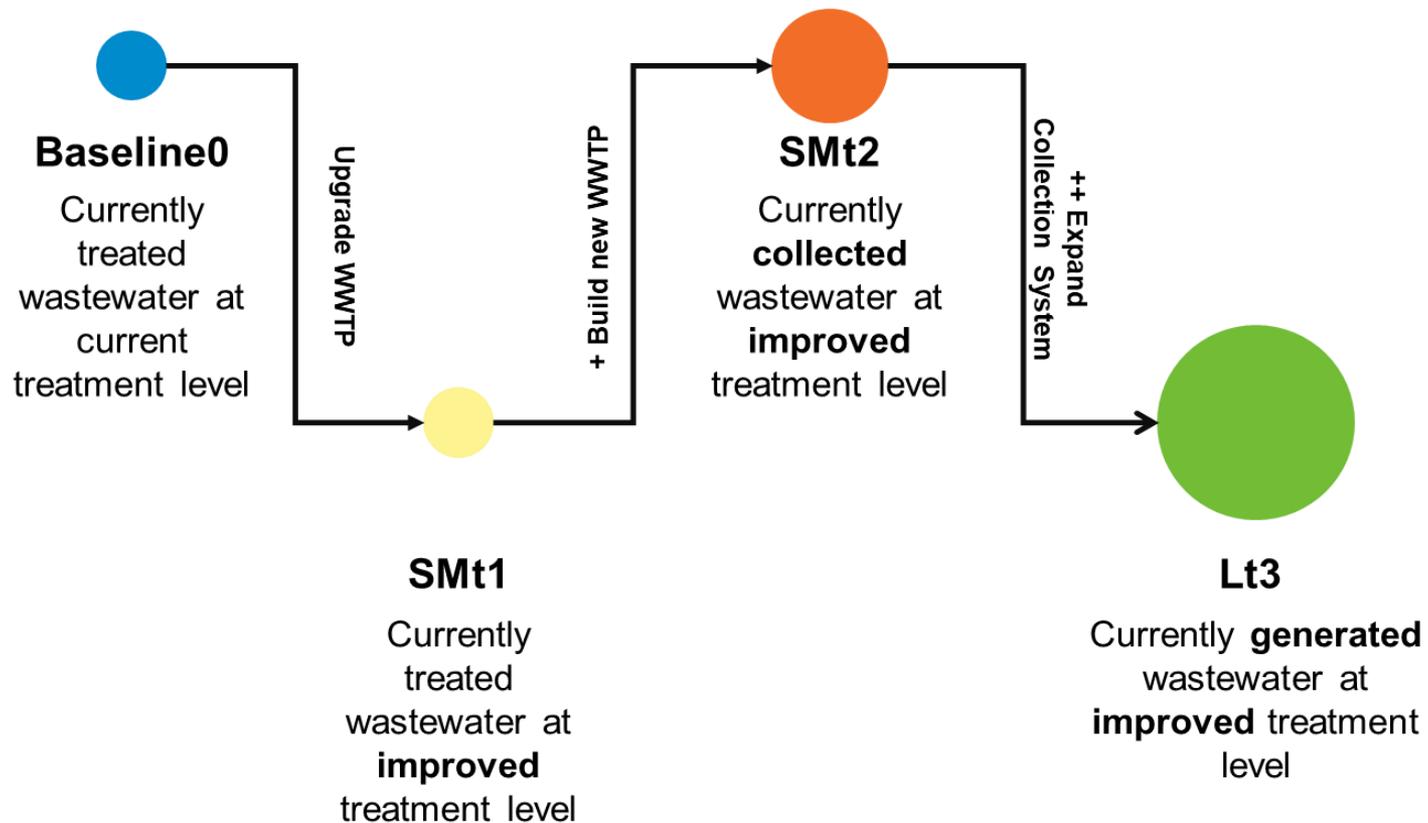


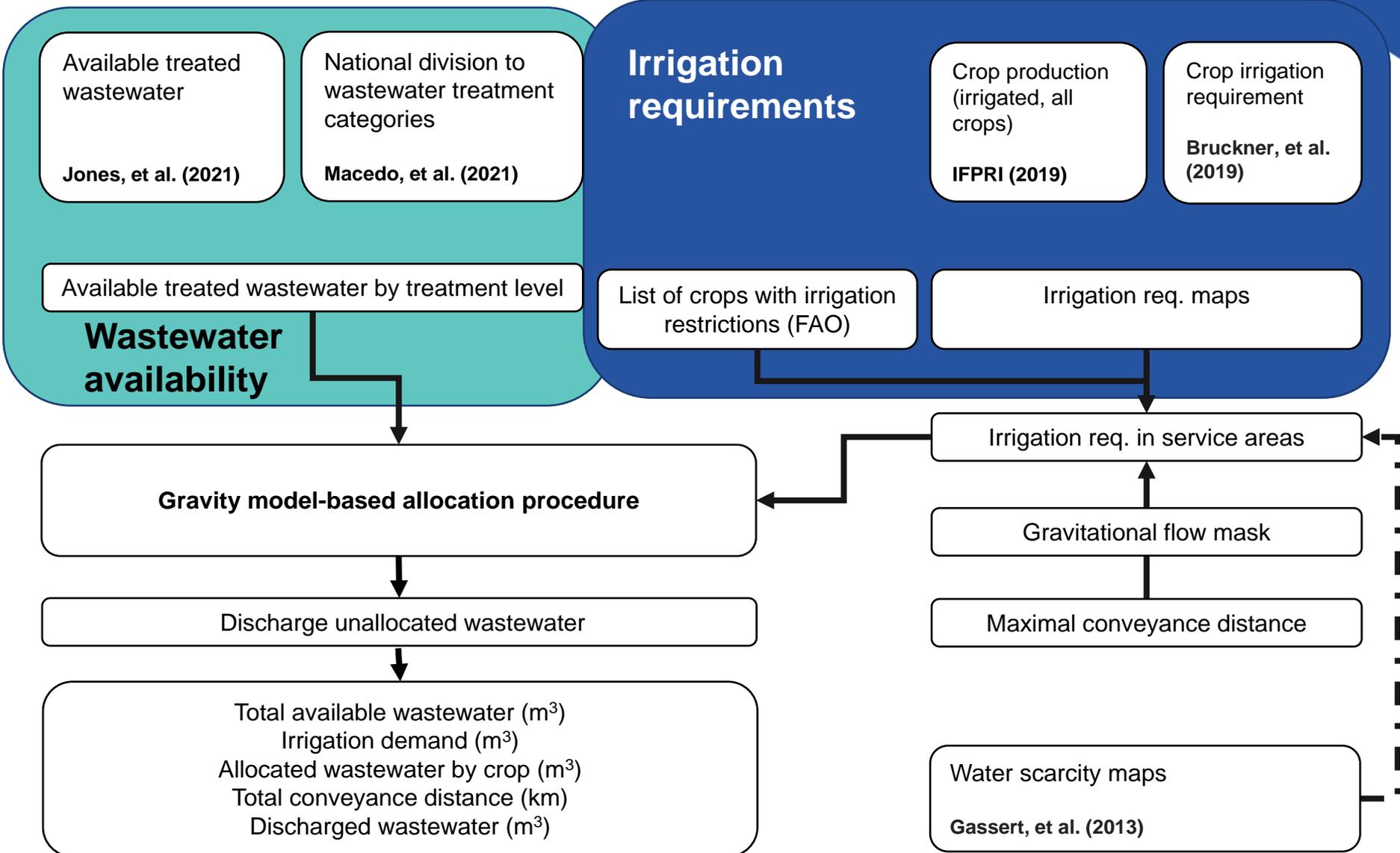
Mekonnen and Hoekstra, 2011;  
Jones et al., 2021

Global crops' water footprint: 7,404 km<sup>3</sup> year<sup>-1</sup>

# Four technological scenarios

In this research we have estimated the **irrigation potential of reclaimed wastewater** at a global, regional, and national scale, under **four different technological scenarios**.





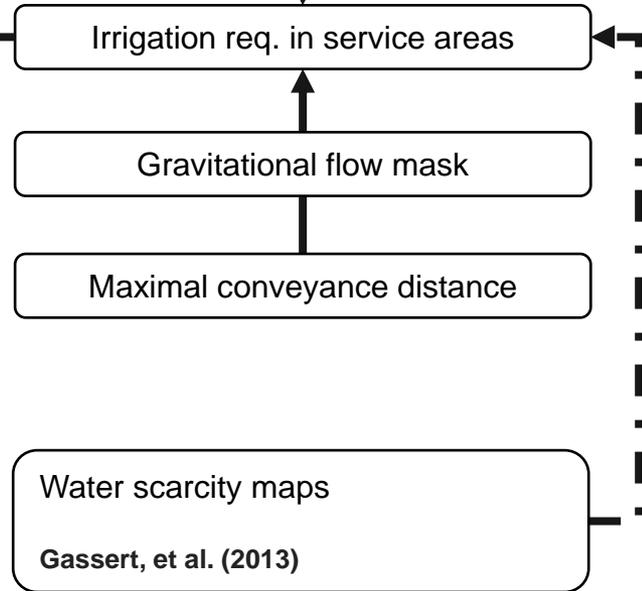
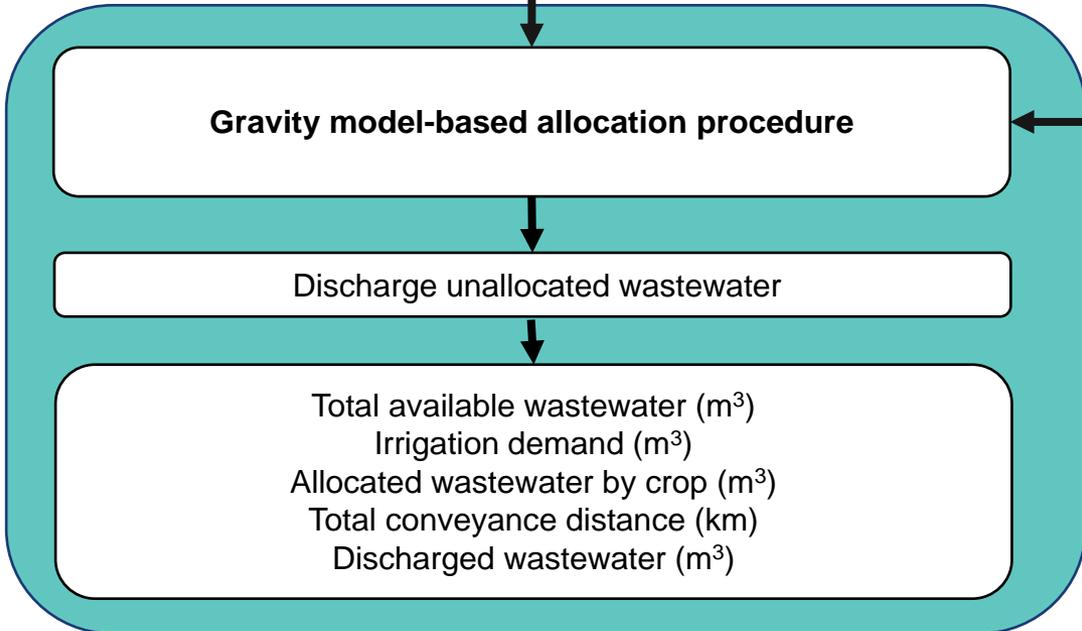
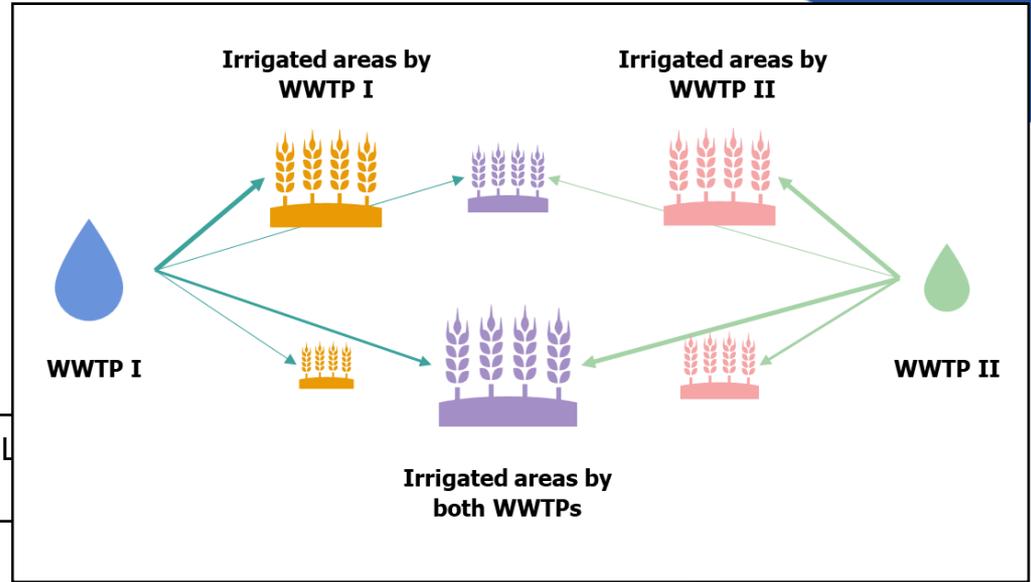
# Water allocation



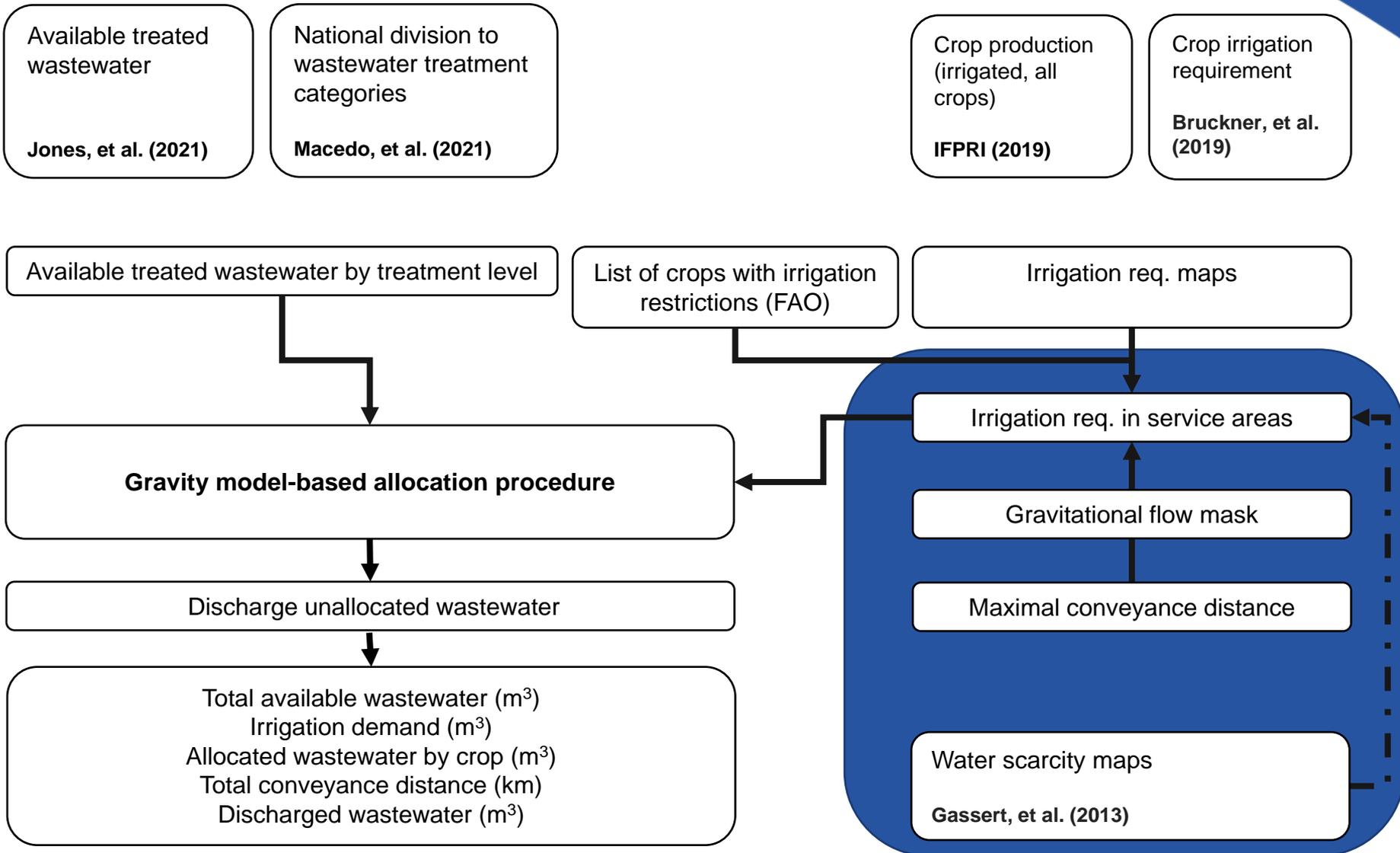
Available treated wastewater  
Jones, et al. (2021)

National division to wastewater treatment categories  
Macedo, et al. (2021)

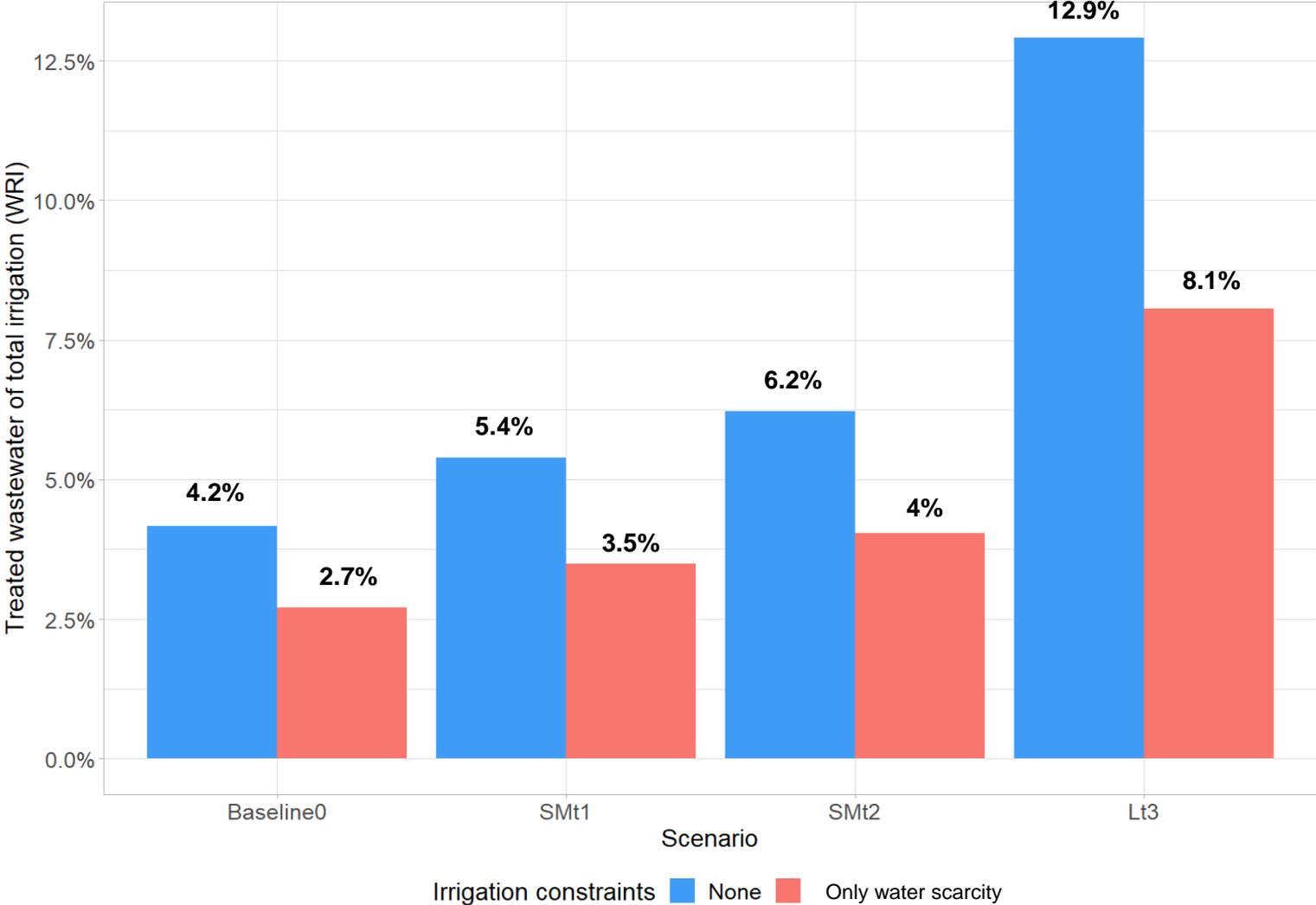
Available treated wastewater by treatment level



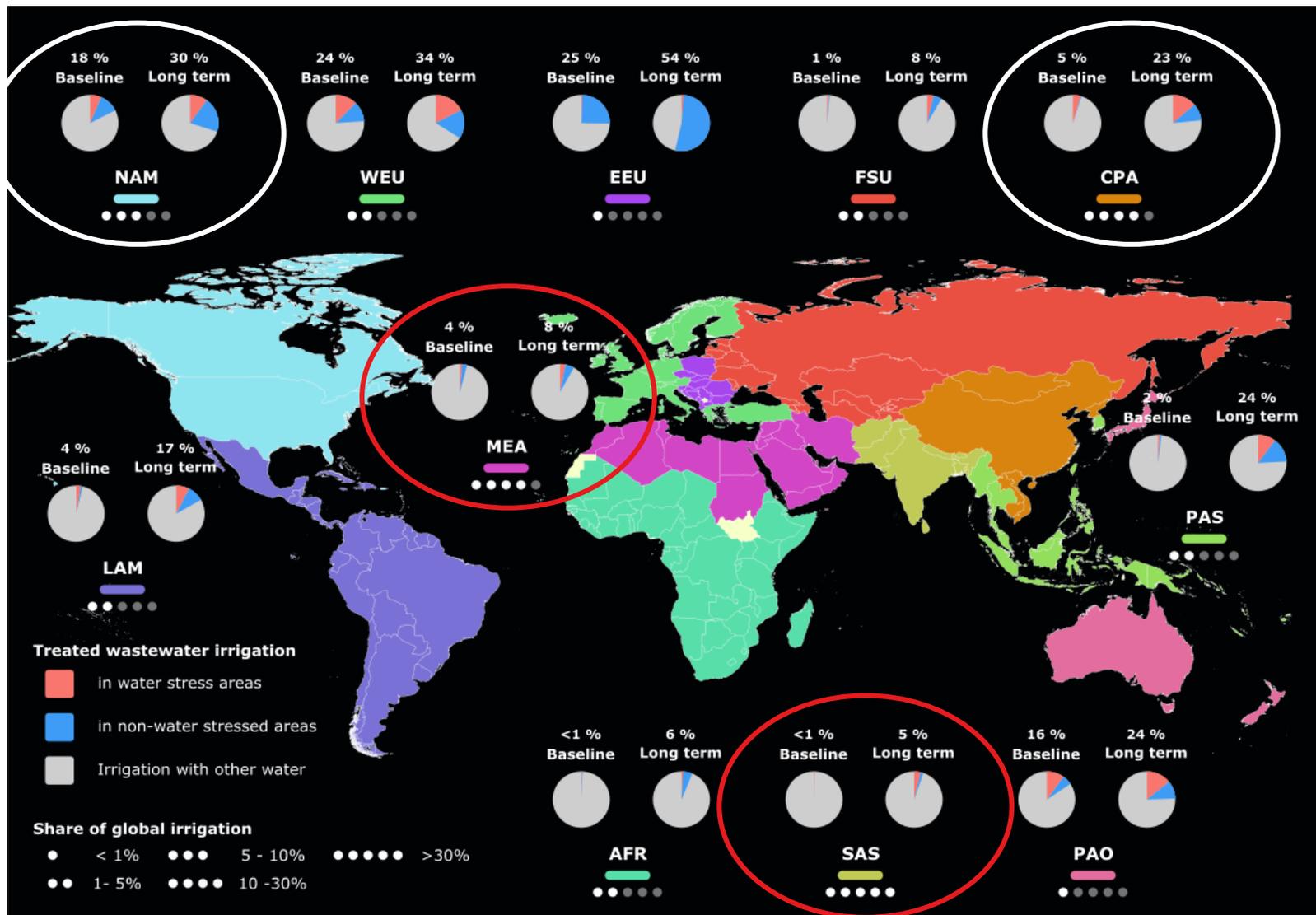
# Irrigation service areas



# Treated wastewater can reach substantial irrigation shares

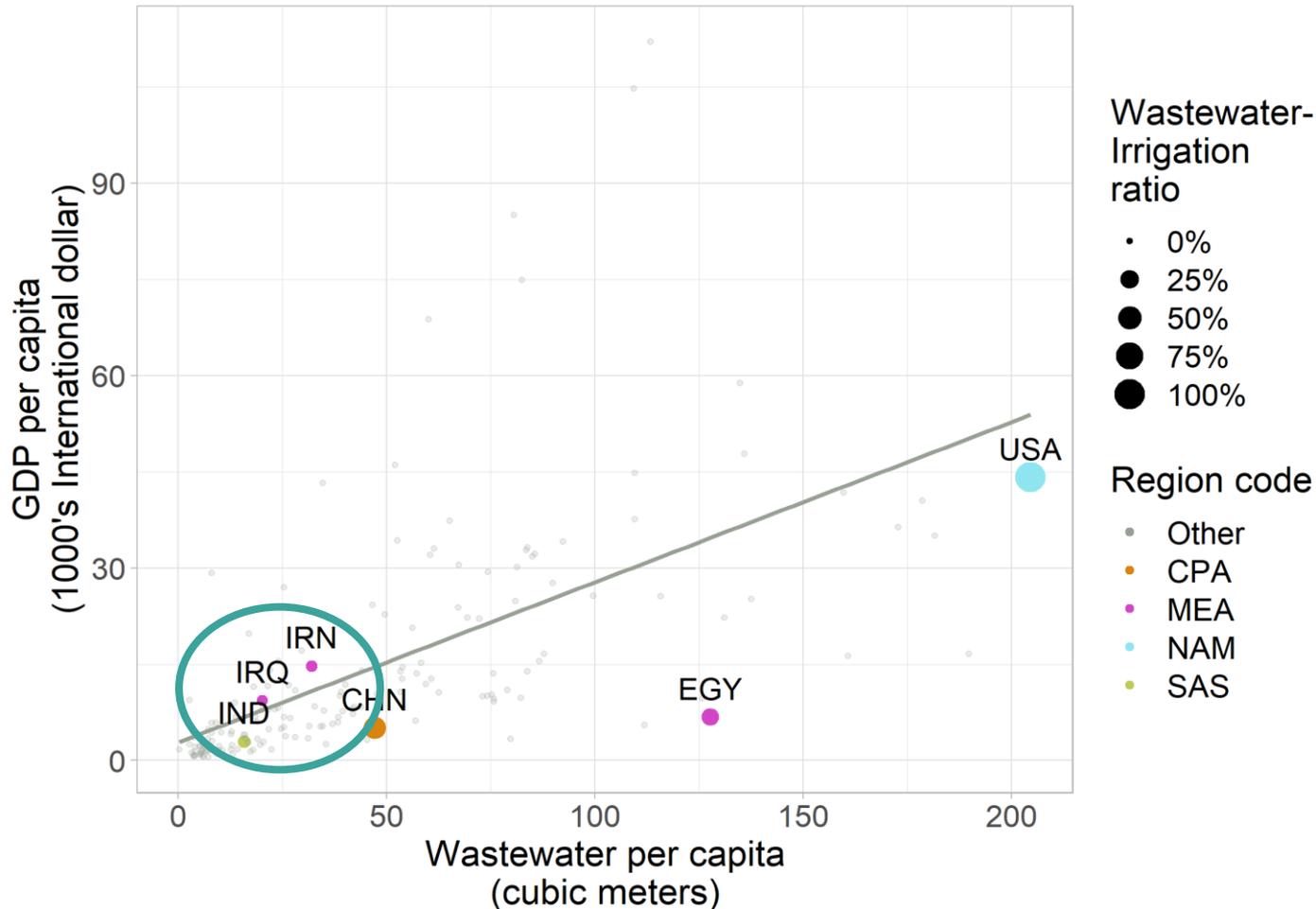


# Irrigation share in major irrigated regions

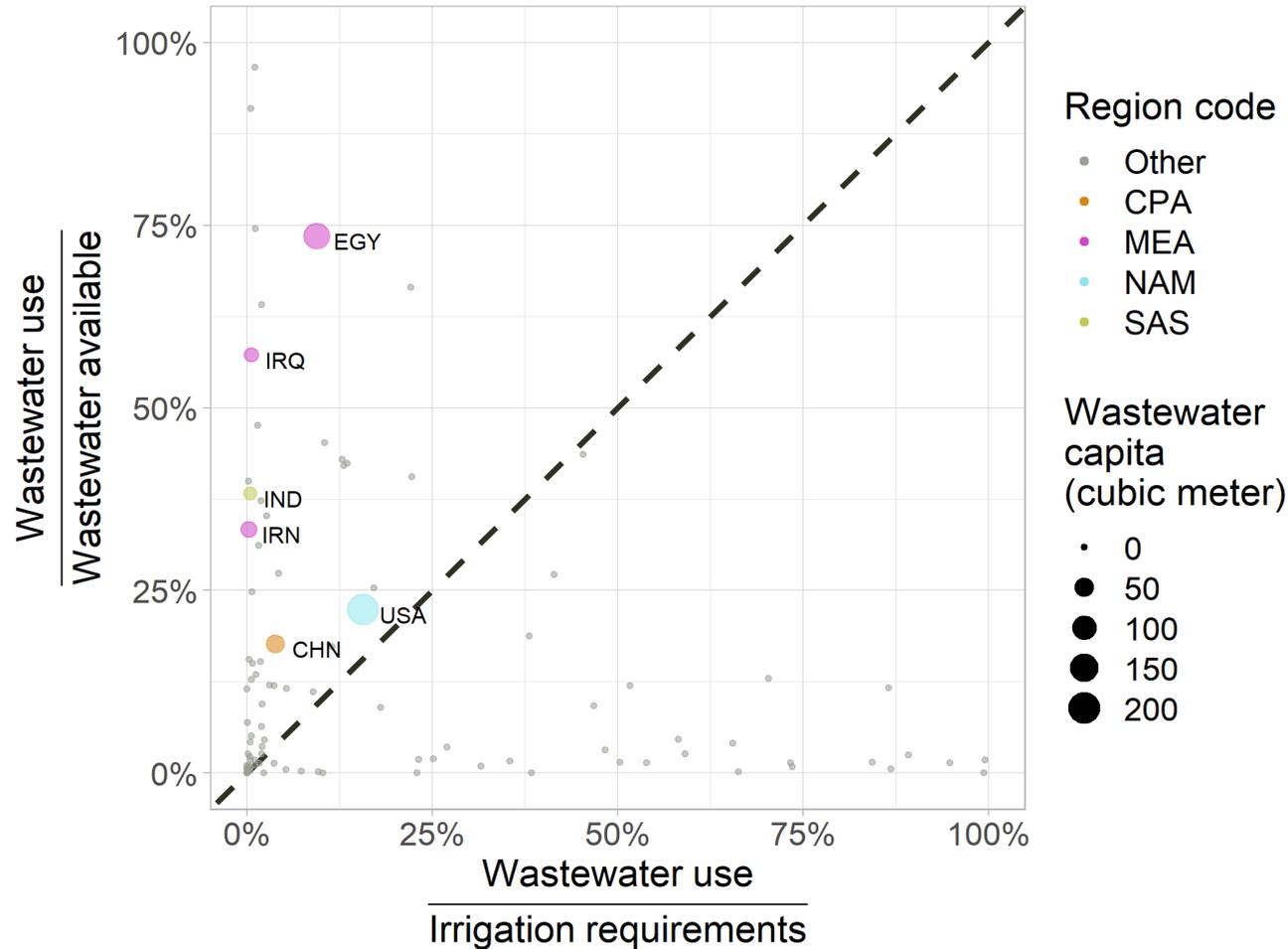


SRES Regional division: NAM: North America; WEU: Western Europe; EEU: Central and Eastern Europe; CPA: Centrally planned Asia and China; FSU: Newly independent states of the Former Soviet Union; MEA: Middle East and North Africa; LAM: Latin America and the Caribbean; AFR: Sub-Saharan Africa; SAS: South Asia; PAO: Pacific OECD; PAS: Other Pacific Asia

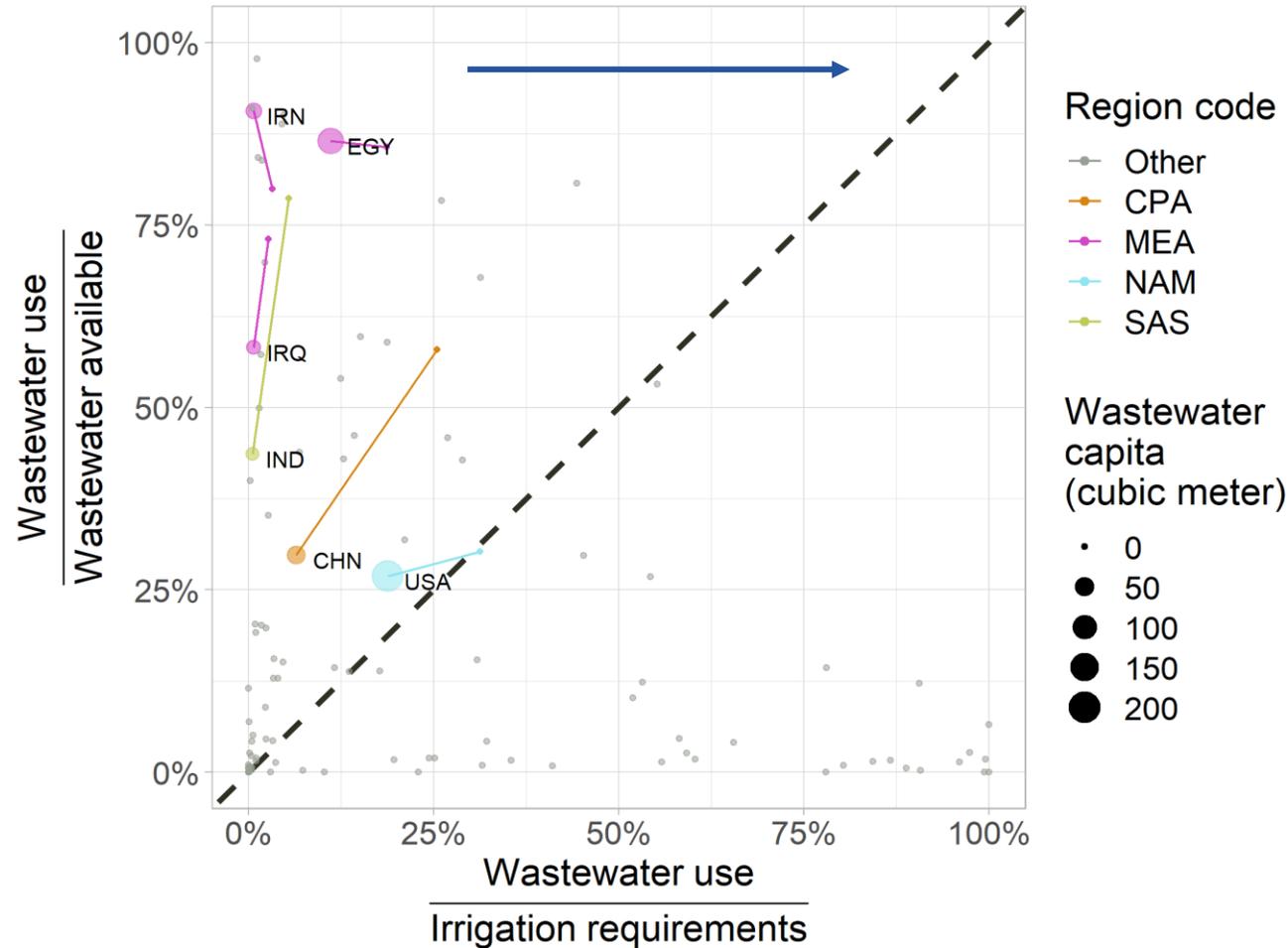
# Economic growth can increase wastewater irrigation potential



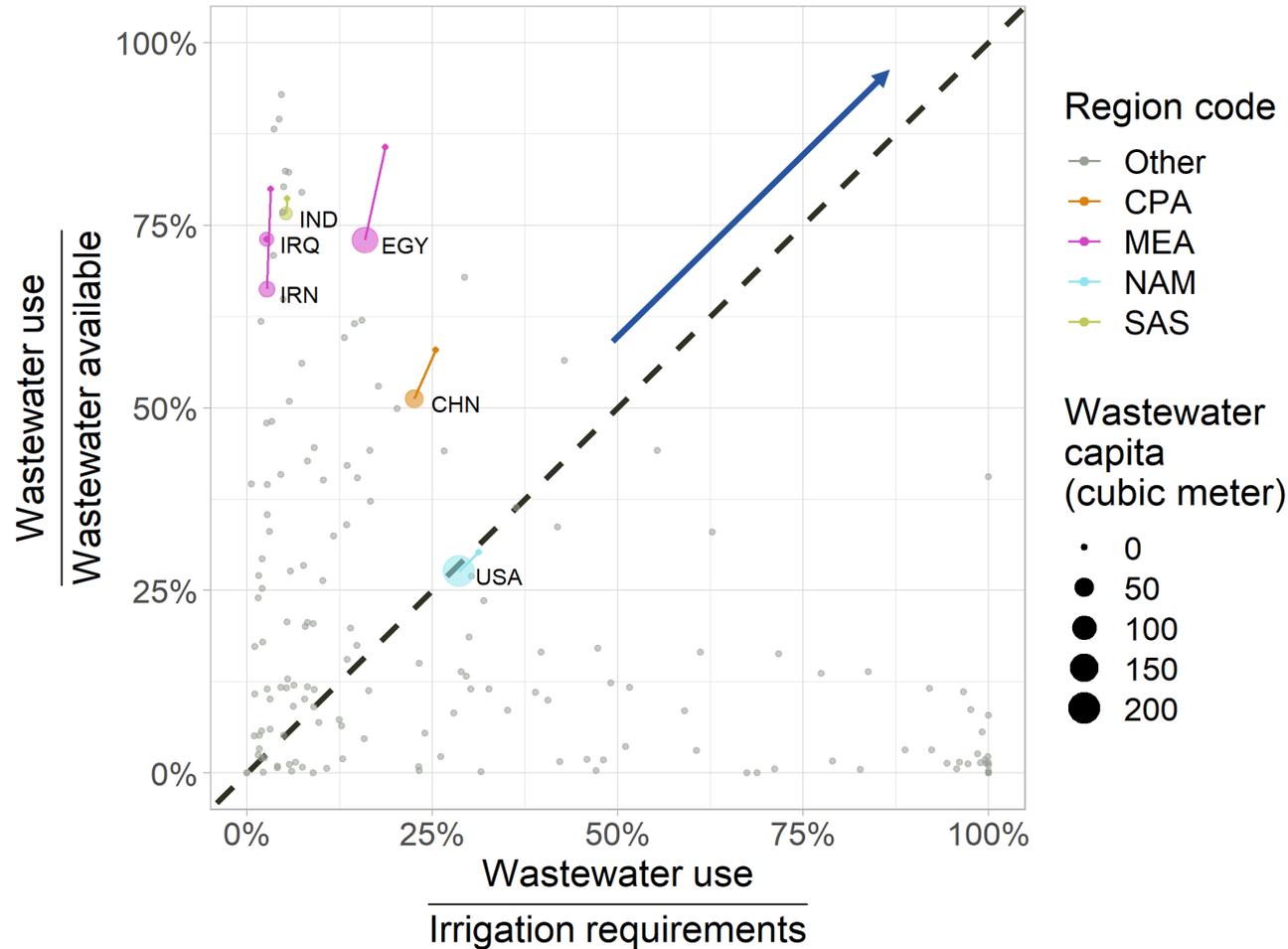
# Wastewater reclamation at baseline scenario



# Investments in wastewater treatment plants as an expansion strategy

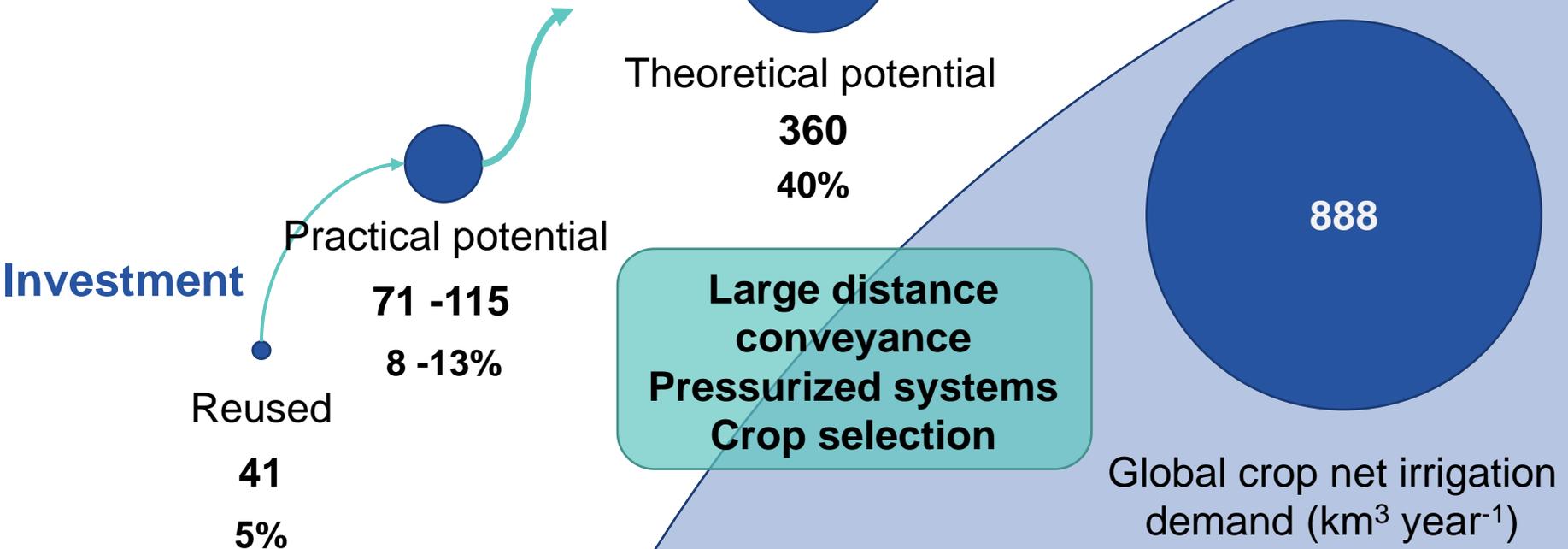


# Wastewater conveyance as an intensification strategy



# Bridging the gap between the 'practical' and 'theoretical'

## Global wastewater (km<sup>3</sup> year<sup>-1</sup>)



Mekonnen and Hoekstra, 2011;  
Jones et al., 2021

Global crops' water footprint: 7,404 km<sup>3</sup> year<sup>-1</sup>

# Thank you for listening.

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**GATWIP**

The project was funded by the IIASA Innovation and  
Bridging Funds