



Charting Our Water Future

Economic frameworks to inform decision-making

2030 Water Resources Group

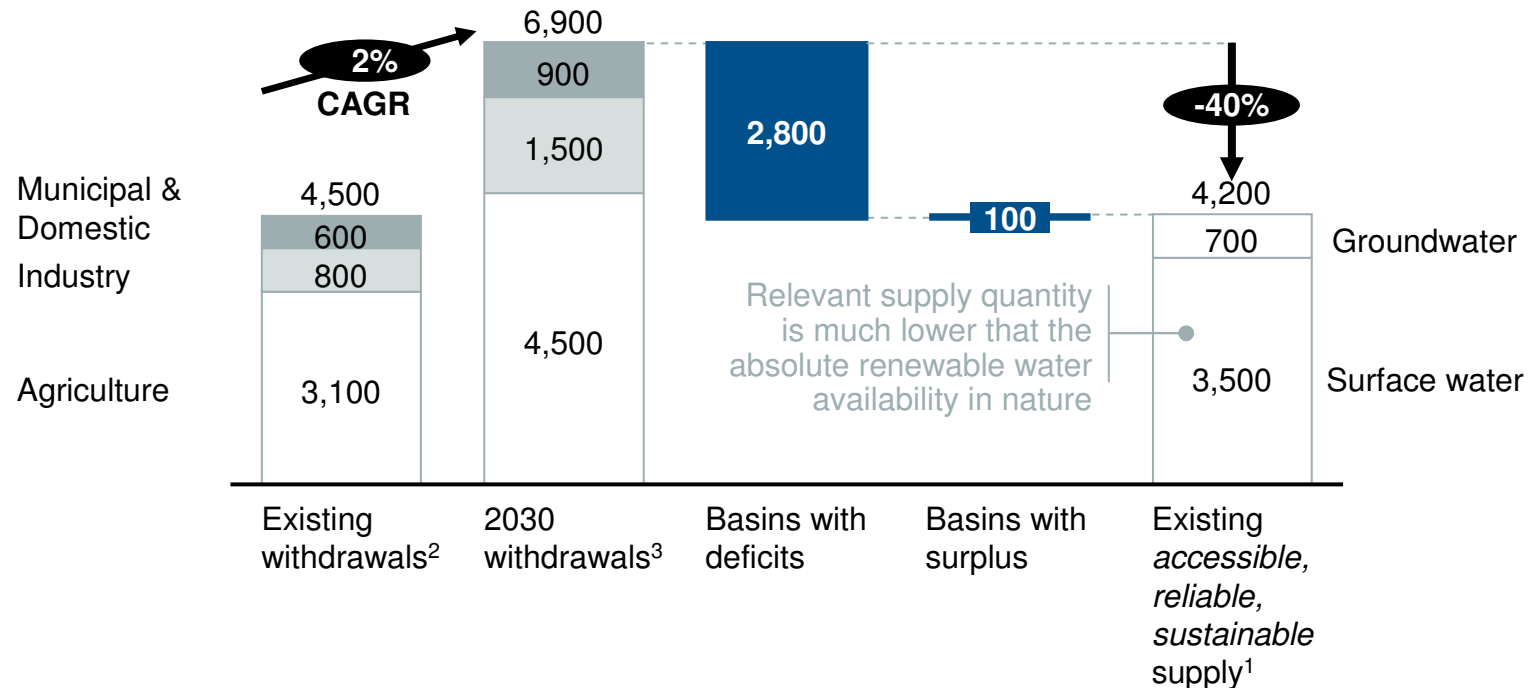
16 March 2010

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Aggregated global gap between existing accessible, reliable supply¹ and 2030 water withdrawals, assuming no efficiency gains

Billion m³, 154 basins/regions



1 Existing supply which can be provided at 90% reliability, based on historical hydrology and infrastructure investments scheduled through 2010; net of environmental requirements

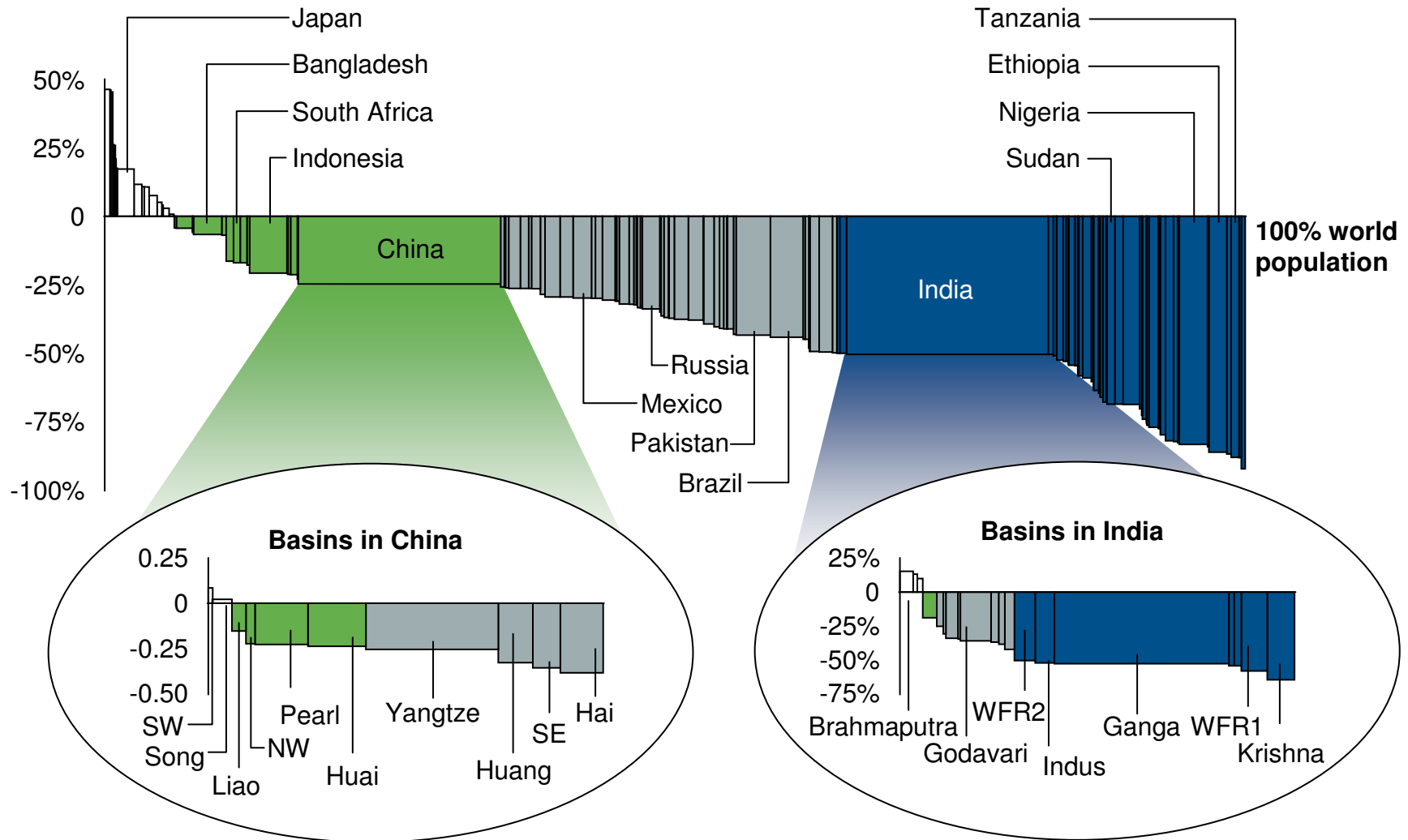
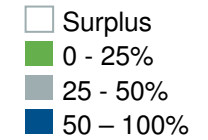
2 Based on 2010 agricultural production analyses from IFPRI

3 Based on GDP, population projections and agricultural production projections from IFPRI; considers no water productivity gains between 2005-2030

SOURCE: Water 2030 Global Water Supply and Demand model; agricultural production based on IFPRI IMPACT-WATER base case

Water scarcity as percent of total implied demand

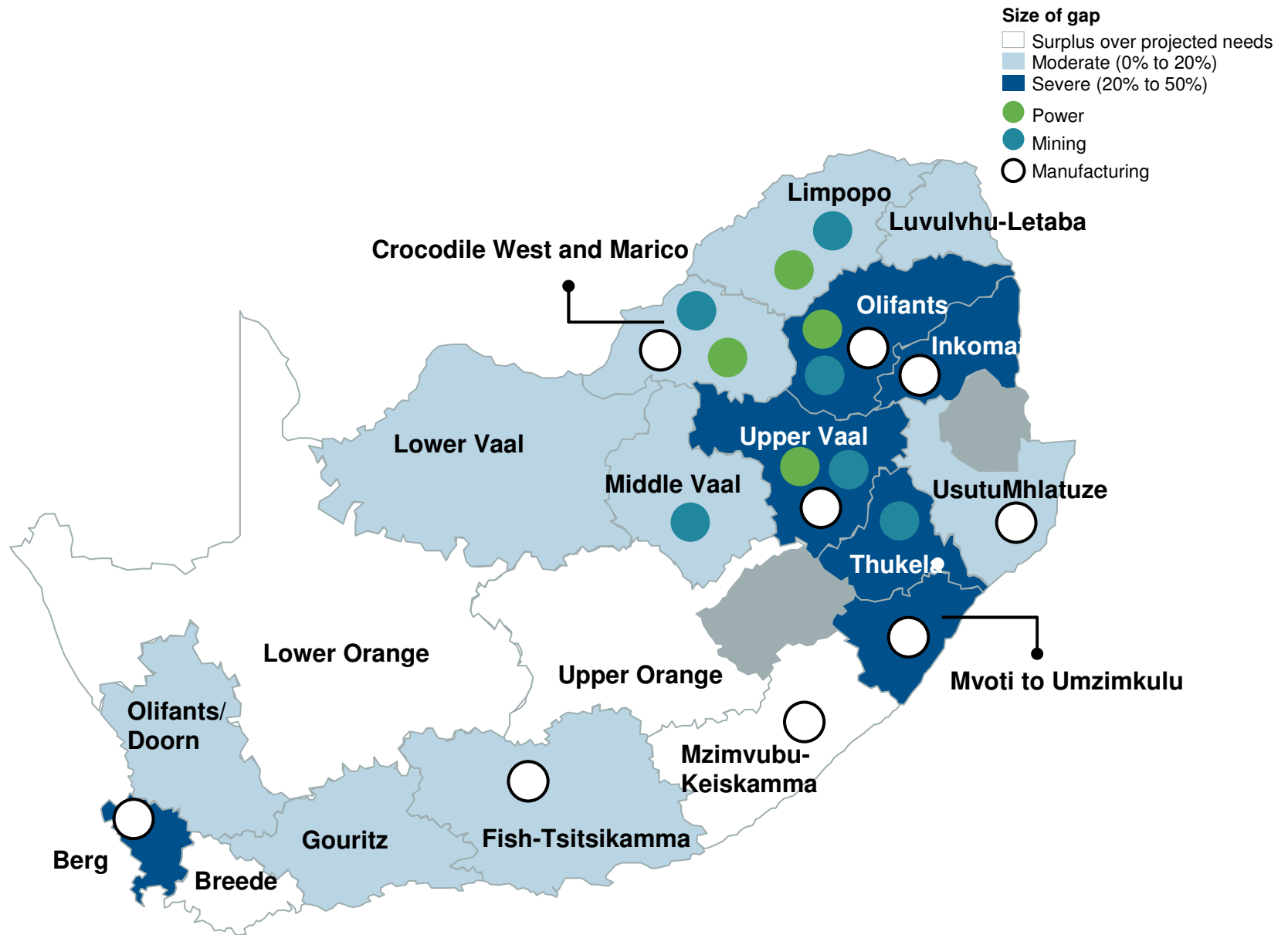
2030 projections¹



¹ 2030 projections, assuming technological innovation and infrastructure improvement investments are frozen at 2010 levels

SOURCE: 2030 Water Resources Global Supply and Demand model; based on IFPRI data

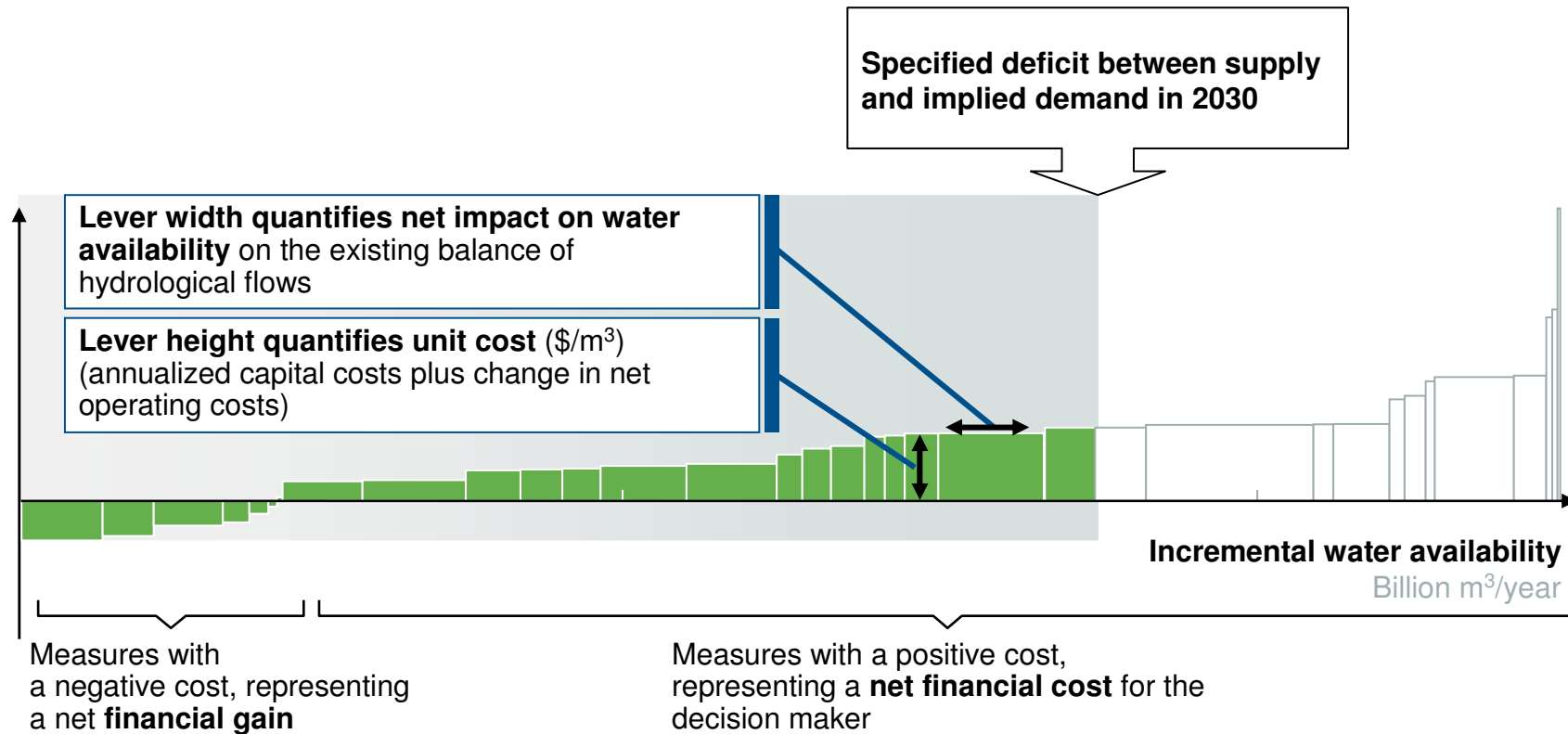
South Africa – Water gap and main industry by water management area



SOURCE: National Water Resource Strategy; DWAF; 2030 Water Resources Group

The water availability cost curve and specified supply-demand deficit

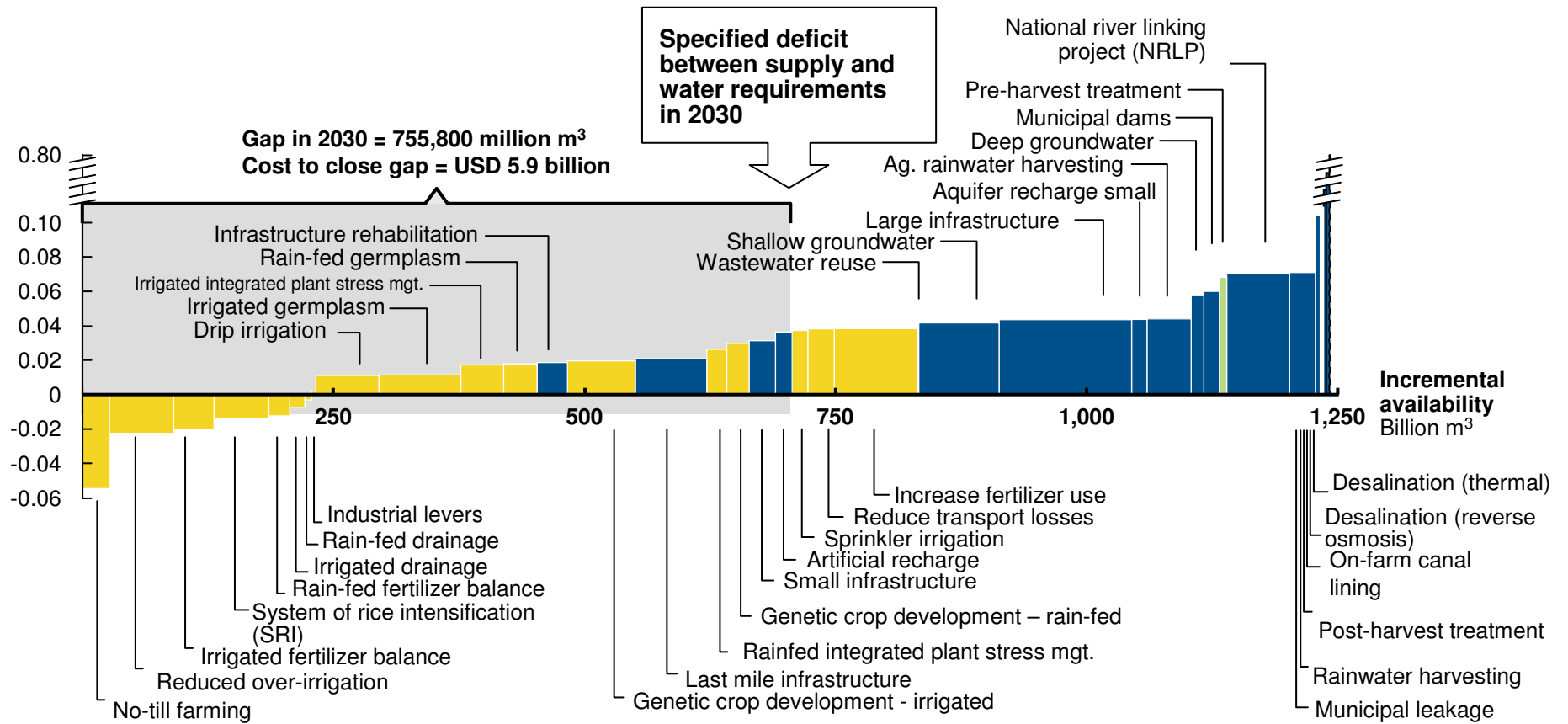
Net marginal cost in 2030
\$/m³



India – Water availability cost curve

Cost of additional water availability in 2030
USD/m³

- Agricultural
- Industry
- Municipal & Domestic
- Supply



SOURCE: 2030 Water Resources Group

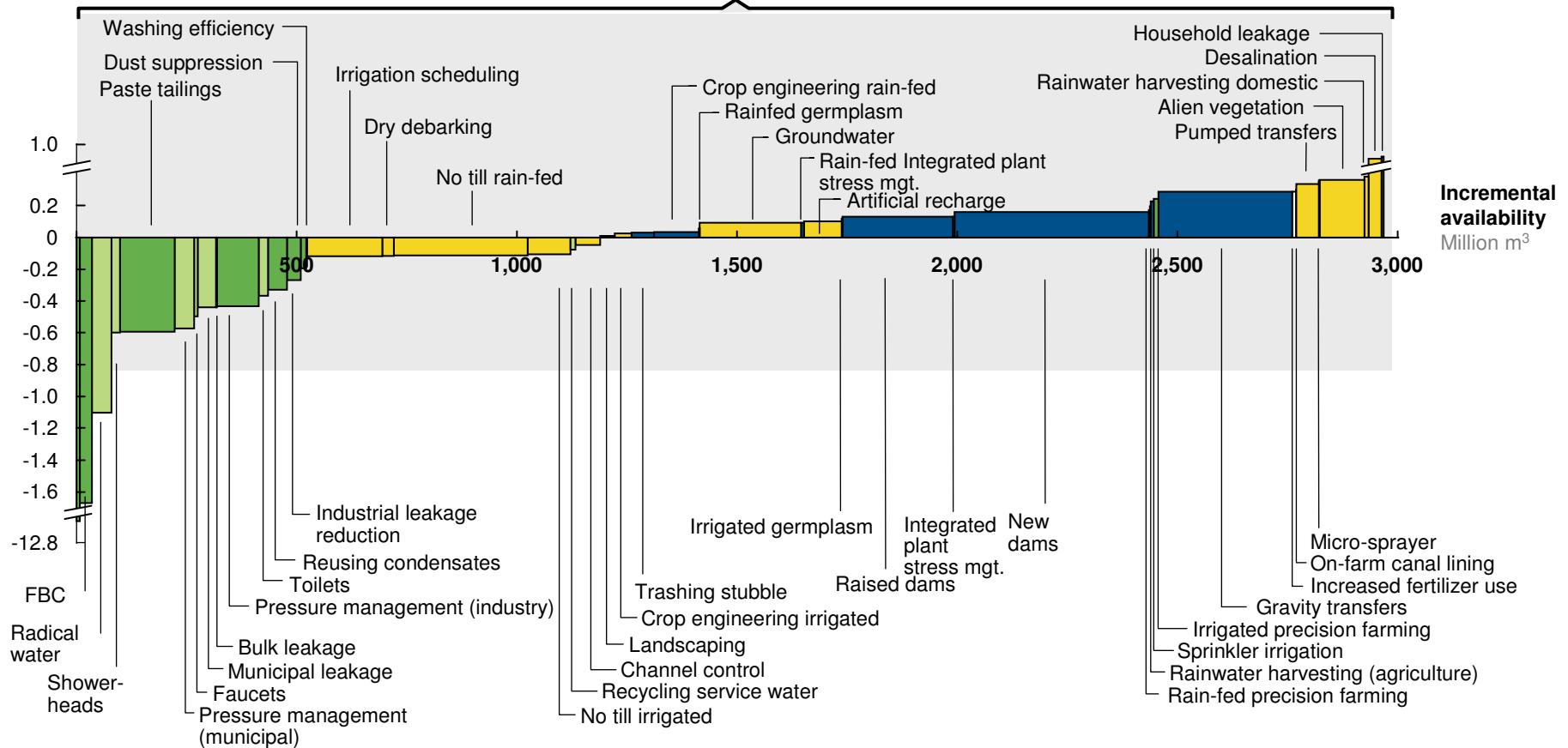
South Africa – Water availability cost curve

Cost of additional water availability in 2030

USD/m³



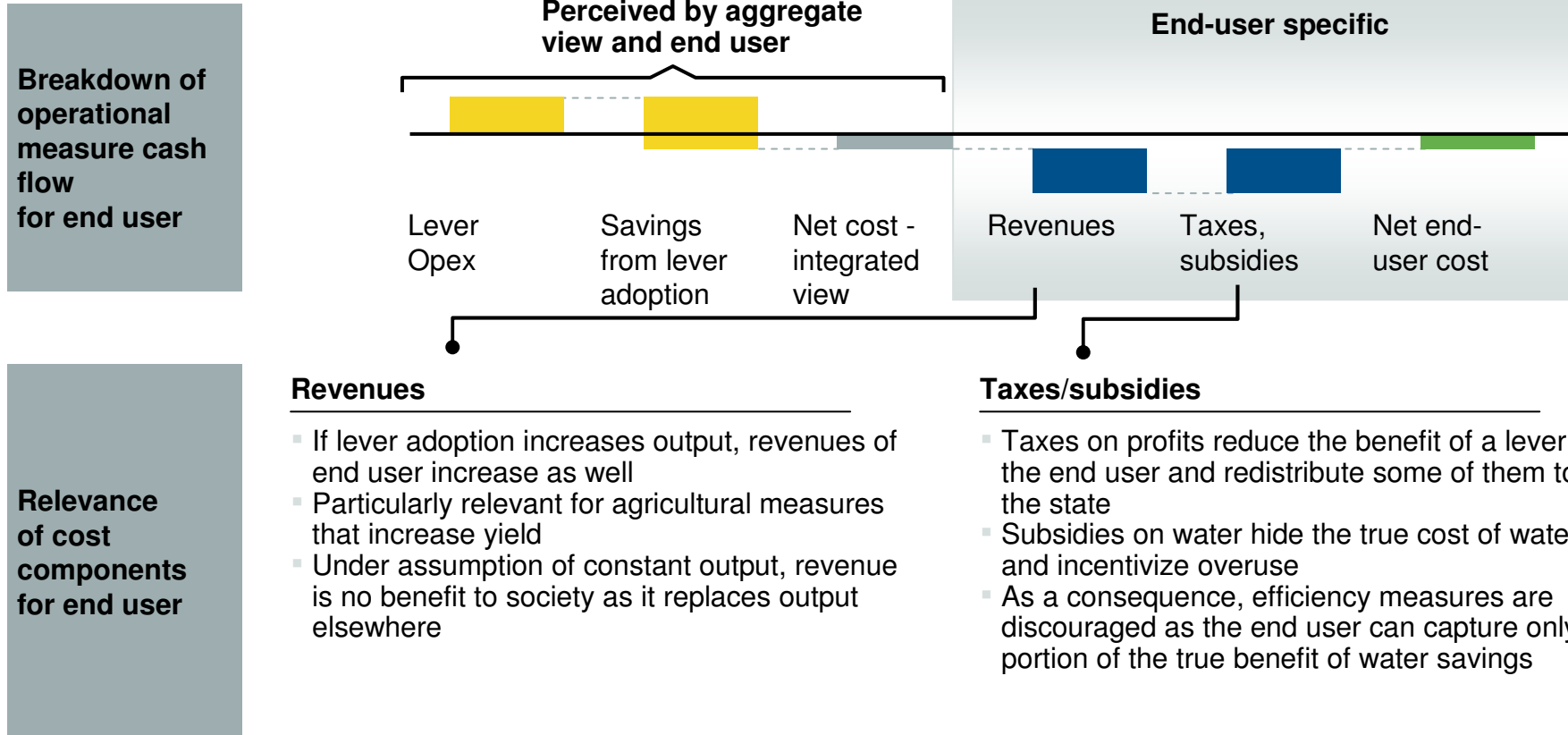
Gap in 2030 = 2,970 million m³
 Cost to close gap = USD -150 million



SOURCE: 2030 Water Resources Group

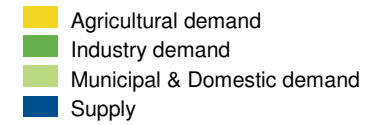
Levers cost as perceived by end users

CONCEPTUAL

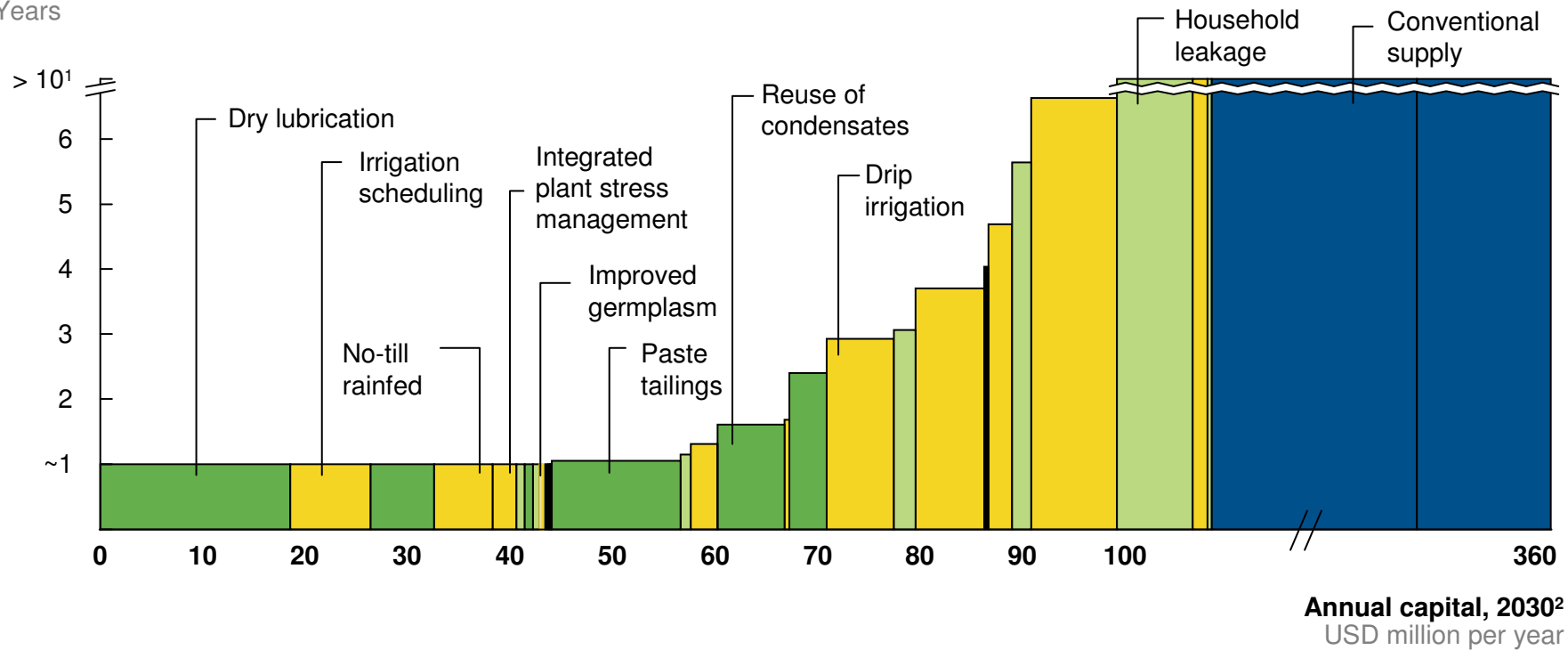


End-user payback curve

SOUTH AFRICA



Payback period
Years



1 Measures with no payback (i.e. only negative cash flows) also shown as > 10 years
 2 Does not include financing cost

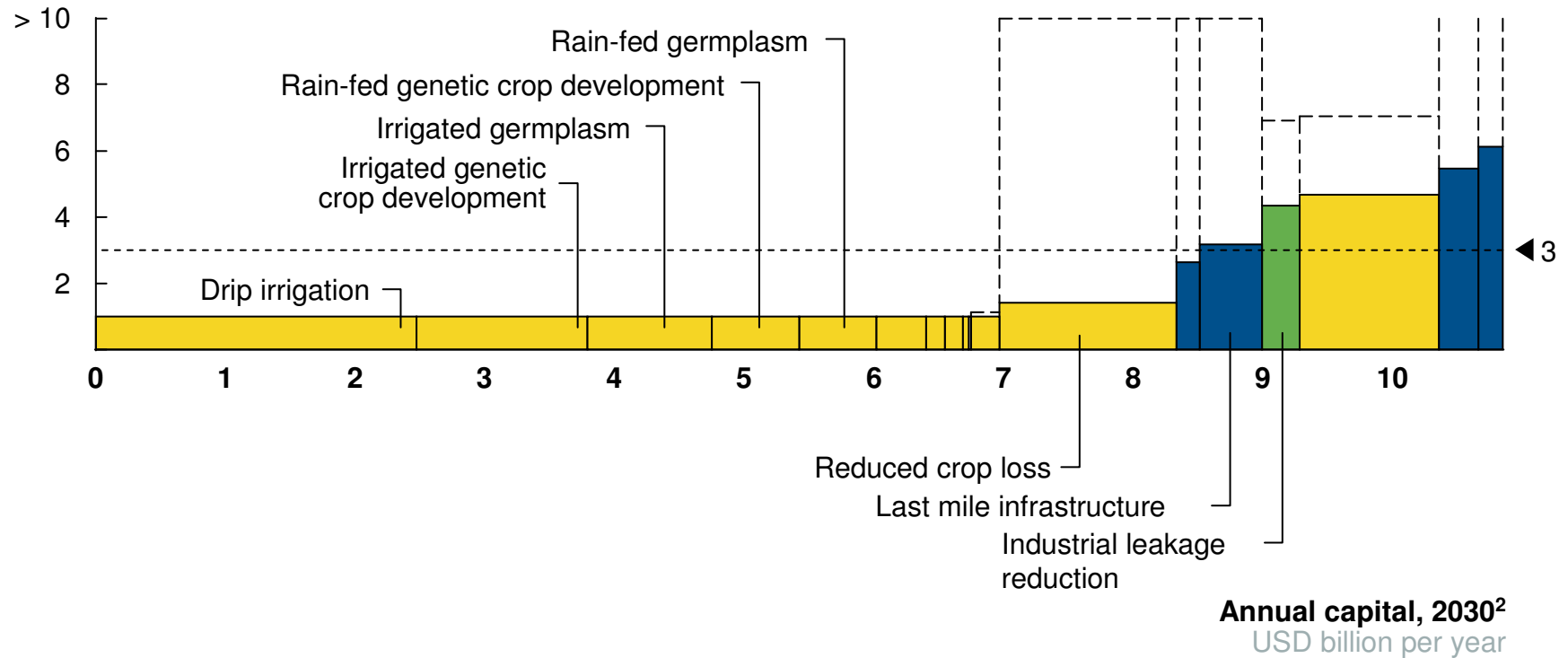
SOURCE: 2030 Water Resources Group

India – Effect of water price increase on payback period

- Supply
- Agricultural demand
- Payback period before increase
- Municipal & Domestic demand
- Industry demand
- End-user threshold

End-user payback period

assuming increase in price of water
Years

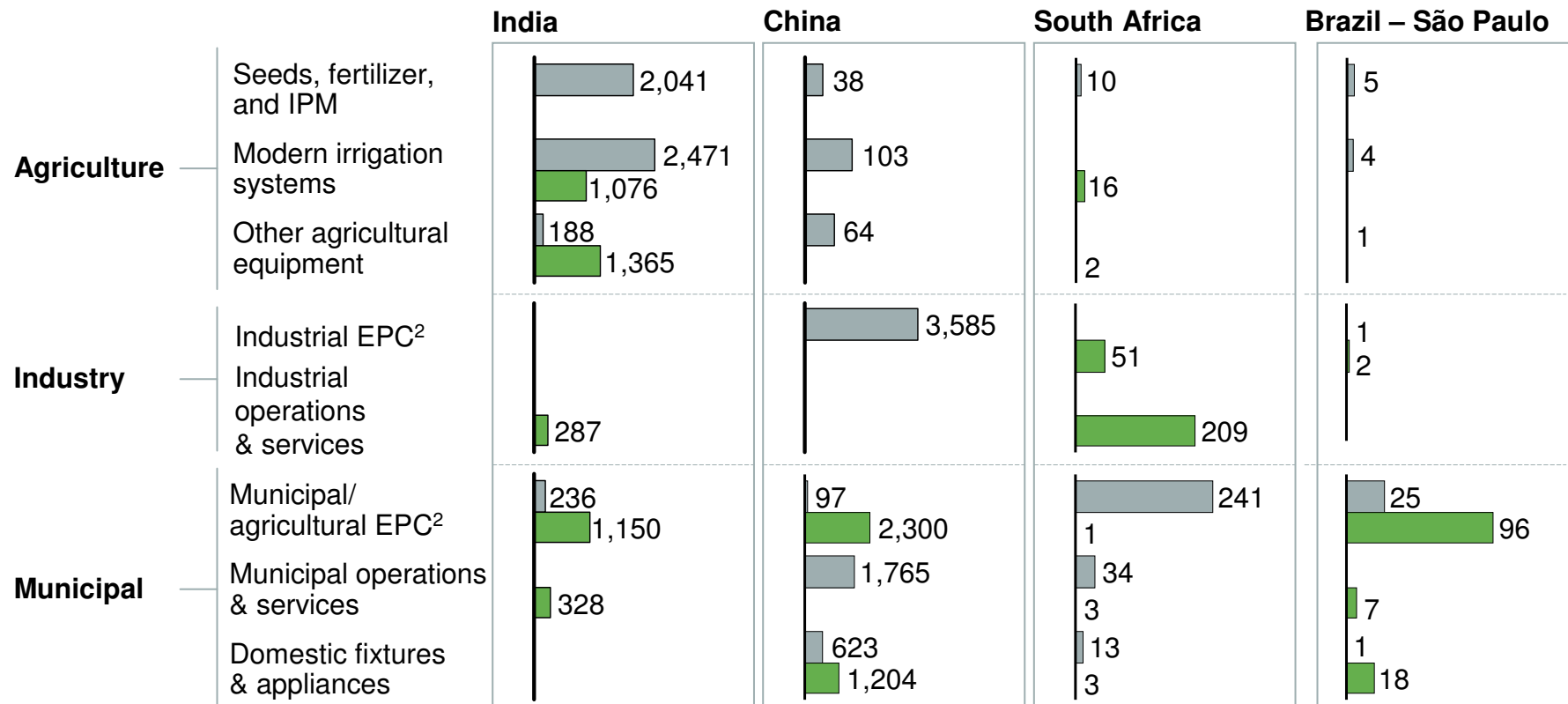


1 Measures with no payback (i.e. only negative cash flows) also shown as > 10 years
2 Does not include financing cost

Incremental annual expenditure by 2030¹

ROUGH ESTIMATES

■ Attractive end-user economics
■ Unattractive end-user economics



¹ Based on the least-cost solution to close the gap

² Equipment, procurement, construction