1960-2008

- Ecological Footprint

2008-2050, Scenarios

- Moderate business-as-usual
- Rapid reduction

y-axis: number of planet earths, x-axis: years

Source: Global Footprint Network
Resource Consumption

Hunter/Gatherer: 3kg/day
Agrarian Society: 11kg/day
Future Society: 44kg/day
Trend: Demographic Pattern: Urban VS. Rural

- Total Population: 7.3 b - 2011: 9.0 b - 2050
- Urban Population: 3.6 b - 2011: 6.3 b - 2050
- Rural Population: 3.4 b - 2011: 3.0 b - 2050: 1.6 b - 2100
- Waste: Exponential Growth with increase in affluence
Trend: Goods Consumption Current and Future

- 2030: Middle-class consumers will triple
- 2030: 300% growth of Middle classes in developing countries
- World GDP is projected to grow by 325% between 2007 and 2050
- 60% of GDP is consumer spending on goods and services
- 70 million people each year are entering an income bracket equivalent to between US$ 6K and US$ 30K

Source: Goldman Sachs, 2008
"Wouldn't it be better to simply turn off the taps?"
The use of water grew 6x.
Global Water Challenge through 2030

• Globally, agriculture accounts for approximately 3,100 billion m³, or 71% of water withdrawals today, and without efficiency gains this will increase to 4.500 billion m³ by 2030.

• Industrial withdrawals account for 16% of today’s global demand, growing to a projected 22% in 2030. The growth will come primarily from China (where industrial water demand in 2030 is projected at 265 billion m³), which alone will account for 40% of the additional industrial demand worldwide.

• Demand for water for domestic use will decrease by 2030 as a percentage of the total water withdrawals, from 14% today to 12% in 2030, although it will grow in specific basins, especially in emerging markets

(WRG Report, McKinsey & Co. 2009)
WATER STRESS BY COUNTRY

ratio of withdrawals to supply
- Low stress (< 10%)
- Low to medium stress (10-20%)
- Medium to high stress (20-40%)
- High stress (40-80%)
- Extremely high stress (> 80%)

This map shows the average exposure of water users in each country to water stress, the ratio of total withdrawals to total renewable supply in a given area. A higher percentage means more water users are competing for limited supplies. Source: WRI Aqueduct, Gassert et al. 2013

AQUEDUCT

WORLD RESOURCES INSTITUTE
Modern Ulaanbaatar
Ger District
Figure 5: Existing and Projected Annual Water Use in Ulaanbaatar

Economic Instruments

• Water utilities service charges
• Fees for use of natural resources (Water royalty) - increased 2-3 times in 2013
• Waste water fee / Water pollution fee- not yet fully implemented - challenges / complexities of regulation
• The revenues go directly to local authorities and minimum 30% must be used for environmental protection including protecting water sources
• No mining in watershed and water source areas
WATER BASINS OF MONGOLIA


All 29 River Basin Organizations are established, 2012-2014
Mongolia’s Protected areas
Gobi Desert
LAKE KHUVSGUL
KHATAN TUUL RIVER