

GE Water & Process Technologies



Jeff Fulgham
Chief Marketing Officer

Helping the world overcome unprecedented water infrastructure challenges



Increasing Water Scarcity



Threat of Waterborne Illness



Growth of Developing Nations



Rising Cost of Energy



New Stringent Regulations



Massive Infrastructure Needs

Enabling the future with portfolio solutions



奥林匹克全球合作伙伴

Desalination Solutions:

Drawing on the ocean's virtually limitless water resources, GE's desalination technologies are helping water scarce regions to create new freshwater sources that can quench growing demand.

Municipal Solutions:

Facing unprecedented growth and water demand, cities are turning to GE's advanced membrane and water quality measurement technologies to tackle increasingly stringent water and wastewater regulations and the threat of new, virulent pathogens in our lakes and rivers.

Product Water:

Consumers use the products they trust – whether it is pharmaceuticals, food, or beverages. As brands expand globally, GE technologies ensure high quality ingredient water for manufacturing regardless of a plant's location or its water source.

Residential Products:

GE point-of-use and point-of-entry filtration systems are enabling homeowners to produce higher quality water from every tap in the home. This same technology is helping developing countries to leapfrog traditional, costly infrastructure and provide safe water to those who need it most.

Utility Solutions:

GE is optimizing system efficiency & increasing uptime in cooling towers and boilers by reducing energy usage and greenhouse gas emissions. Advanced monitoring systems reduce the risk of pathogen growth, such as Legionella, in cooling systems.

Process Chemicals & Separations:

Silently working in pipes, tanks and process fluids, GE's advanced chemicals protect valuable production assets from corrosion and fouling faced in day-to-day operations, while improving overall manufacturing efficiency and quality.

Industrial Wastewater:

Once considered a by-product, GE's water reuse technology is transforming industrial wastewater into a sustainable, new water source that can often be used many times over—dramatically reducing the strain on our precious water resources.

GE in China

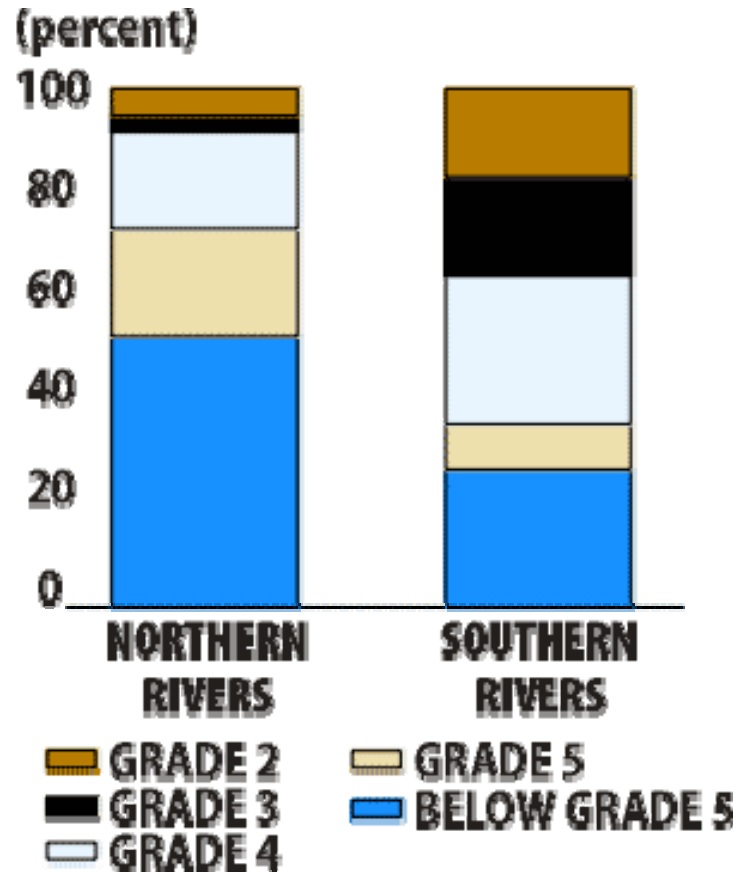


- 1906, started business in China
- 1908, first GE lighting plant in Shenyang
- 1934, starting installation and repair services of imported electric equipment in China
- 1979, resuming trade with China
- 1991, the first JV (GE Hangwei Medical Co., Ltd) in Beijing
- 2005, launched ecomagination in China

Today, over 40 legal entities in China, more than 14,000 employees

Total revenue + order of GE in China is \$7 billion in 2007

China: Water Scarcity + Water Pollution



Source: The World Bank, *Clear Water, Blue Skies: China's Environment in the New Century*

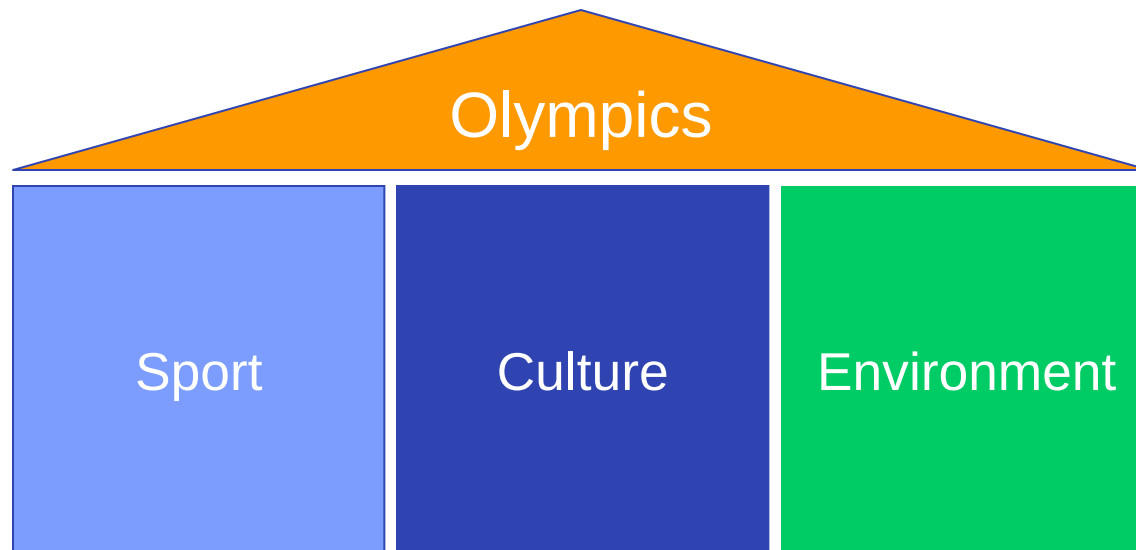
Note: Grades 4 and 5 are deemed unsuitable for direct human contact.

- 300 of 640 major cities face water shortages...100 severe
- Industrial output losses = US\$11 bn annually
- Human health impact = US\$3.9 billion
- 2,800 billion m³ of annually renewed fresh water...fourth in the world
- Second lowest per capita water resources in the world, less than one third the world average
- Northern China...only 750 cubic meters per capita...one fifth the per capita water resources of southern China and just 10% of the world average
- Average groundwater resources in the South are more than four times greater than in the North

Making green the new gold standard



“The IOC’s role with respect to environment is: to encourage and support a responsible concern for environmental issues, to promote sustainable development in sport and to require that the Olympic Games are held accordingly.”



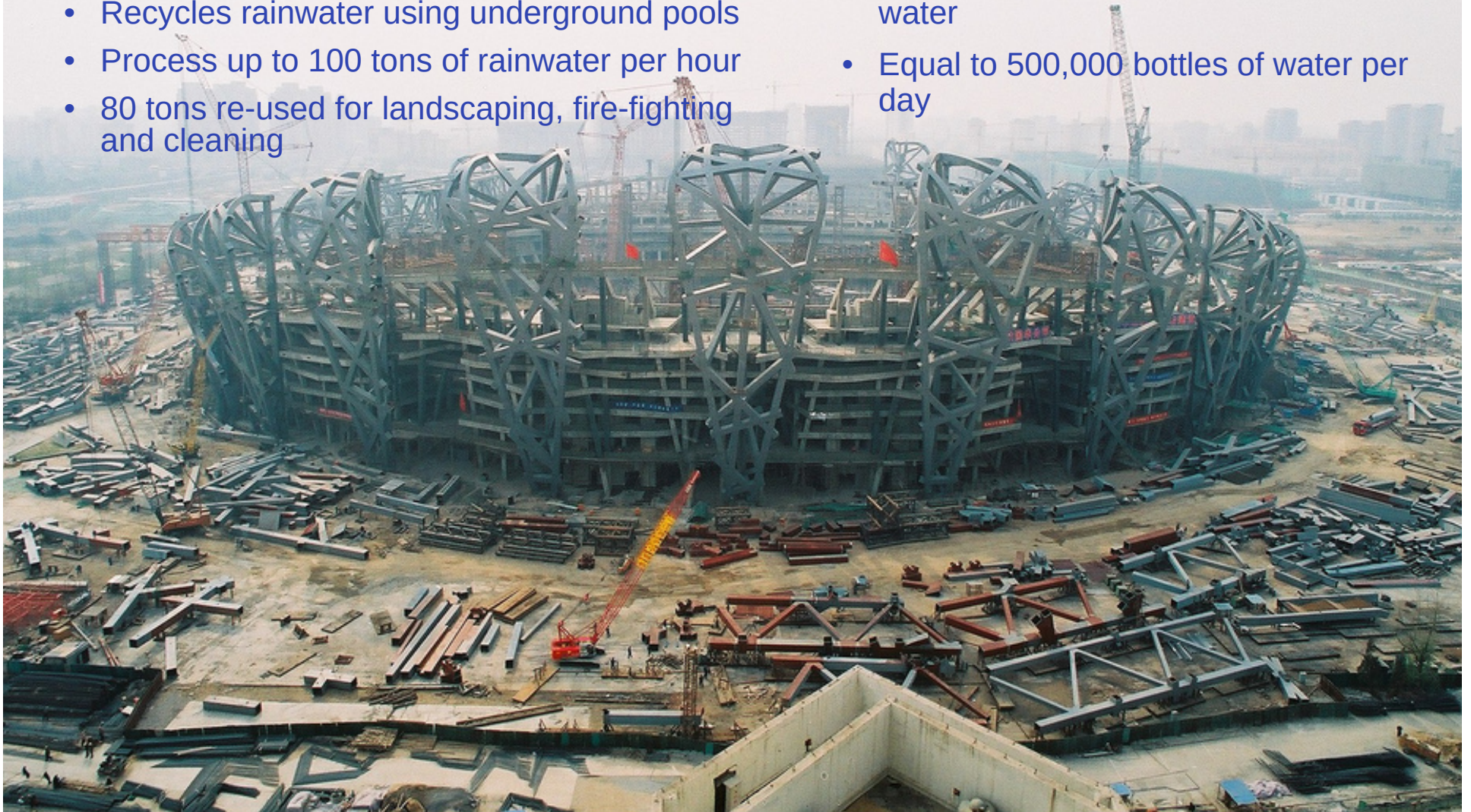
National Stadium Water Projects

Rainwater Recycling Project

- Nanofiltration membranes
- First of its kind in China
- Recycles rainwater using underground pools
- Process up to 100 tons of rainwater per hour
- 80 tons re-used for landscaping, fire-fighting and cleaning

National Stadium Drinking Water

- Pretreatment & Reverse Osmosis
- Providing over 500 GPM of drinking water
- Equal to 500,000 bottles of water per day



Energy-efficient Power Generation



GE is supplying energy-efficient turbines to deliver power, heating and cooling to the Olympic Green area. These systems successfully convert fuels such as natural gases into a cleaner burning energy source.

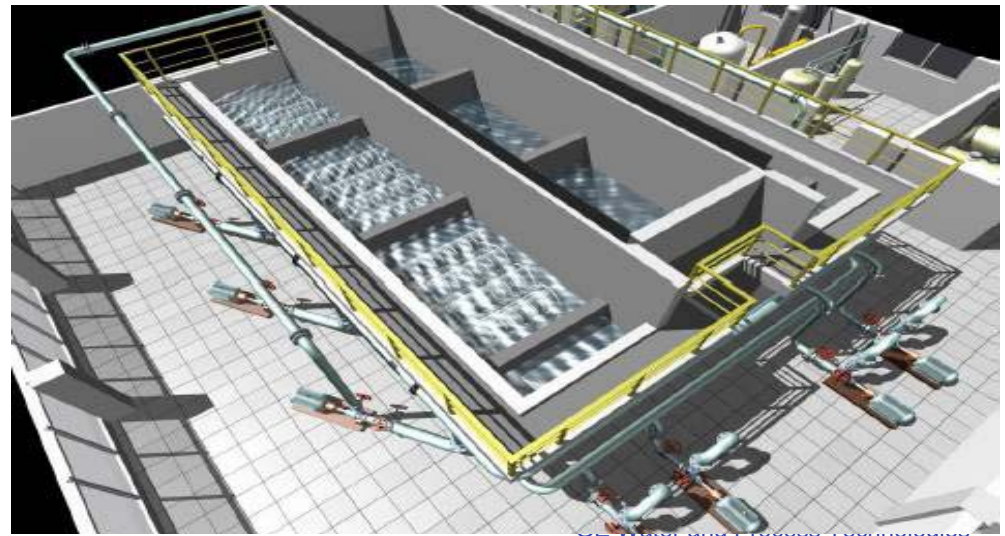
Two high-efficiency GE Jenbacher Tri-generation energy units, which operate on natural gases, will be used at the Jing Hui Garden Hotel, a 14-story hotel and conference center that will host media during the Games.



Qinghe Water Reuse for the Olympic Village



- Supply water for the Olympic lake, landscaping and non-drinking water applications
- Recycle and filter >80,000 m³ (21 MM Gal) of waste water daily
- Reduce costs and cut energy consumption by up to 30% over the next five years
- Immersed ultra filtration membrane technology (ZeeWeed)
- Frees up enough fresh water for half million people per day
- Largest municipal wastewater membrane reuse project in China
- Recommended by Chinese government as the *best available technology* to use in future wastewater plant construction.



Sustainable China Water projects



- Shenhua ZLD...1st ZLD in China



- Mobile water solution for rural drinking water



- Lanzhou "River To River" project...Total water solution

Zero Liquid Discharge



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Rural Drinking Water



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Yellow River



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Sustaining Improvement



- **Localization**...manufacturing and research to align needs and solutions
- **Operating & production improvements**...reduce carbon and water footprint
- **Education**....continuing thought leadership and adoption of best in class technologies
- **GE Footprint**...Olympic infrastructure programs fund and grow GE China
- **Partnerships**...MOU with Ministry of Utilities, NDRC
- **Green is Green**...Portfolio of solutions deliver documented ROI
- **Regulatory**...recognition that economy and clean water are linked
- **Green Development**...population migration driving change

ecomagination – China

- China Mainline Evolution locomotive
- “Cleaner Coal” IGCC technology
- GEnx aircraft engines
- Wind Energy
- Jenbacher engines.
- Silwet* Super Spreaders
- Consumer & Industrial
- Water reuse and desalination



Aligning with Government imperatives and playing a role in Public policy



Legislation ... climate policy

- Governments & NGOs



Regulation

- Setting the bar high



Funding

- Federal, State & Local



Locally

- Permitting and coding

