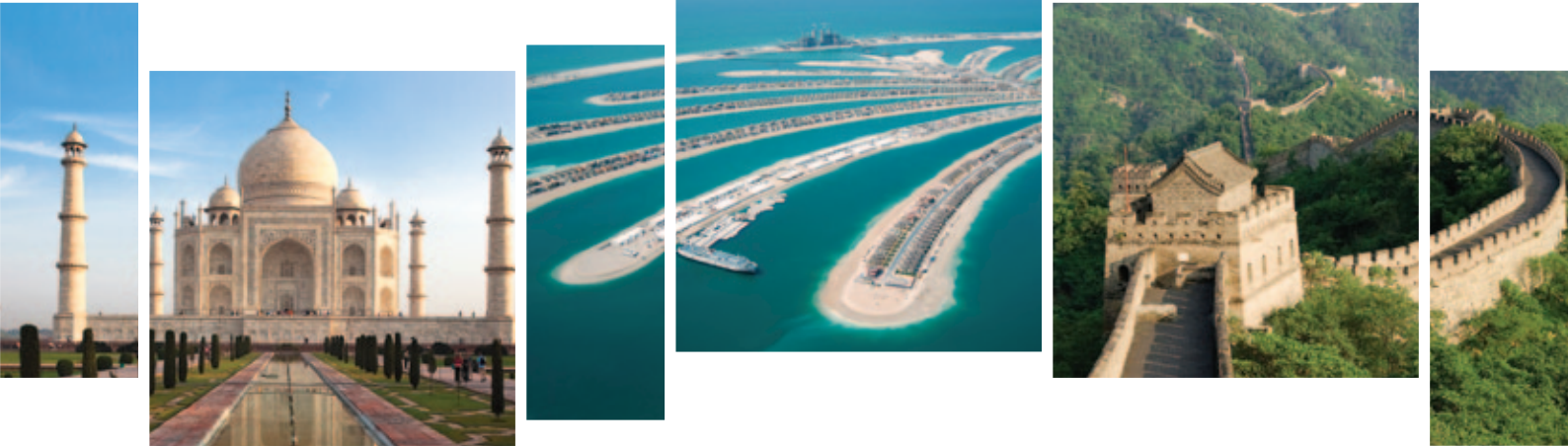


# Export opportunities for Queensland's water and wastewater technologies and services

## Global demand



Queensland companies are developing world-leading expertise in water efficiency, re-use and storage, and water and wastewater treatment. Queensland expertise includes water and wastewater management, research, policy, environmental monitoring, infrastructure planning, precision irrigation, desalination, stormwater harvesting and groundwater management, distribution and storage.

### Global trends

- There are significant ongoing investments in water and wastewater technologies, services and infrastructure worldwide, creating substantial opportunities for Queensland companies.
- Goldman Sachs estimates the size of the global water market at US\$425B with an annual growth rate of 4–6 per cent.<sup>1</sup>
- It is expected the world will invest approximately US\$23 trillion in water infrastructure by 2030.<sup>2</sup>
- Global water use is growing at double the rate of population growth due to urbanisation, higher water intensity in agriculture and greater water use in industry. However, the global water supply is static.
- The water sector is experiencing renewed and significant interest from investors due to increasing global scarcity and very large end-markets.

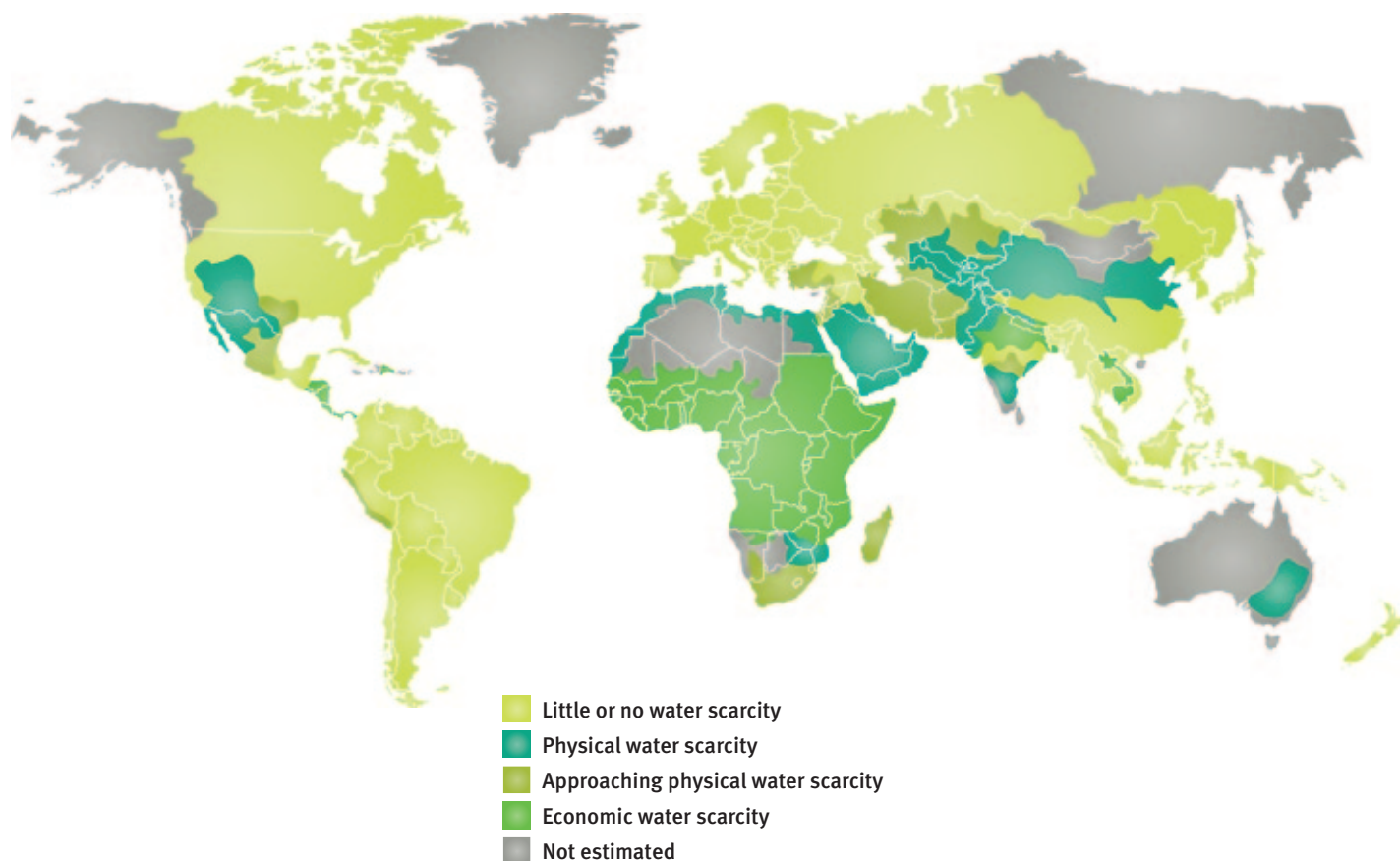
### Opportunities for Queensland companies

- Trade and Investment Queensland has identified opportunities in several markets for Queensland water and wastewater technologies, services and infrastructure including (but not limited to):
  - ▶ joint ventures with overseas firms to offer integrated solutions in water treatment, including performing feasibility studies, designing, technical consulting and providing operation and online maintenance services (India and sub-Saharan Africa)
  - ▶ design, manufacture and installation of various advanced types of wastewater systems, and wastewater treatment technologies (India, Gulf States and sub-Saharan Africa)
  - ▶ water governance and water consulting (including services to develop water conservation policy plans) (India and USA)
  - ▶ agricultural water conservation and water efficiency technology (USA and sub-Saharan Africa)
  - ▶ urban water conservation and water efficiency technology (USA)
  - ▶ water sensitive urban design and management of regional water resources that reduce dependence on imported water (USA and Gulf States)
  - ▶ municipal and household water purification systems (India and USA)

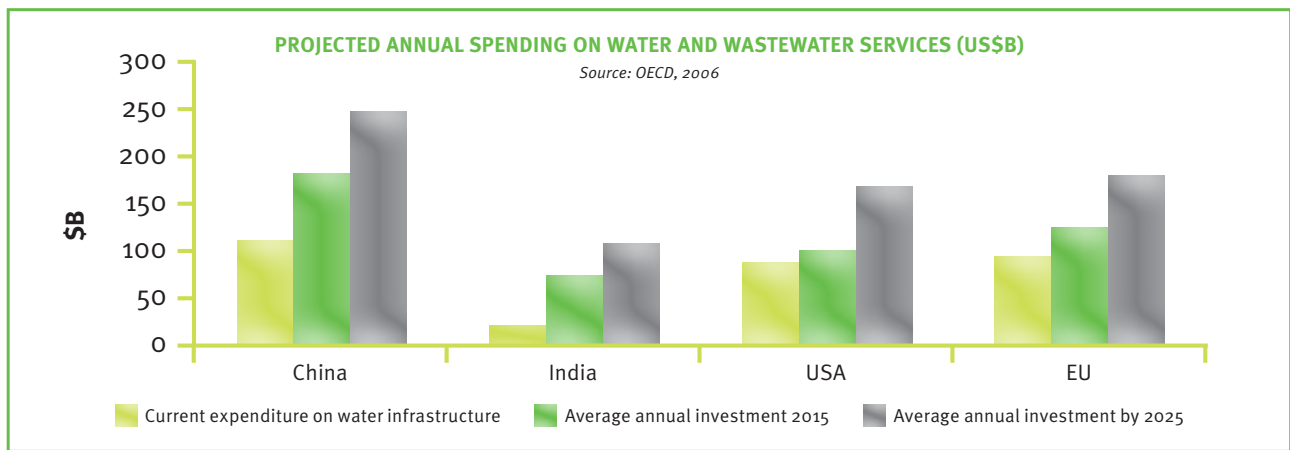
## Opportunities for Queensland companies (continued)

- › design and construction of new water recycling, new wastewater treatment and desalination plants (China, USA and Gulf States)
- › desalination management, water distribution, sanitation and operational consultancies (Gulf States)
- › water supply and management, sewerage and pollution (including sludge) treatment and efficient use and re-use of water (sub-Saharan Africa), particularly in industrial applications for high polluting sectors such as cement, pulp and paper (China, India and Gulf States)
- › design, manufacture and maintenance of equipment for disinfecting water by electrolysis (India)
- › groundwater management solutions that include protection, monitoring and remediation, and to help locate, access and extract water from underground sources (China and USA)
- › high efficiency rainwater collecting and cleaning systems to conserve and re-use rainwater through the provision of better design, manufacture and installation of various types of rainwater harvesting systems (China and India)
- › sewage and septic system rehabilitation, including development of packaged and transportable sewerage and wastewater treatments (India and sub-Saharan Africa)
- › waterless composting toilets (India)
- › water treatment controllers (India)
- › water quality monitoring and early pollution warning system for freshwater lakes, catchments and rivers (China)
- › water use efficiency solutions (including efficient irrigation solutions such as sprinklers, drip irrigations, low-flow faucets and other water use systems) (China and India)
- › water analysis and monitoring instruments (such as water saving household devices and domestic monitoring equipment) installed in apartments, commercial and industrial facilities (China, India, USA and Gulf States)
- › pipe and pump installation and rehabilitation to prevent contamination (China and India)
- › precision irrigation technology (such as underground drip, in-ground hydroponics, moisture meters, telemetry for automatic control of water infrastructure) (Gulf States and sub-Saharan Africa)
- › pipes, valves and nozzles that are used to transport water, primarily between treatment plants and usage points that are higher quality and/or are more sophisticated and represent lower risk of leakage than conventional models (China) and
- › total water cycle management (China, USA and Gulf States).

## Global water scarcity



Source: WaterSISWEB



## Major markets for Queensland companies

Major markets for Queensland water and wastewater technologies, services and infrastructure exports include (but are not limited to) China, India, the USA, Europe and the Gulf States.

- China is the second largest water consumer in the world (behind India) and has the largest water utilities industry in the Asia-Pacific region. According to the World Bank, China's population growth and economic development will continue to drive significant increases in demand for clean water, water extraction, water treatment, water distribution, water use and wastewater treatment.<sup>3</sup>
- China faces the dual challenges of water scarcity and water pollution. With 20 per cent of the world's population, China has less than seven per cent of the world's fresh water resource. China's water resources have declined due to high demand and decreasing natural supplies. Water pollution has also seriously impacted water quality throughout the country.<sup>4</sup>
- The Chinese Government is allocating substantial capital to the development of China's water industries. According to the Organisation for Economic Cooperation and Development (OECD), China will invest over US\$247B annually on water and wastewater services by 2025.<sup>5</sup>
- India's water market is estimated to be worth over US\$4B per annum and growing 10–12 per cent each year.<sup>6</sup> It is estimated that India will invest over US\$108B annually on water and wastewater services by 2025.<sup>7</sup> Water companies from all over the world have established a presence in India to pursue an estimated 70 projects worth several billion dollars in 20 Indian cities spread over several states.<sup>8</sup>
- The USA accounts for the largest share of the global water utilities and wastewater treatment market. The USA is investing heavily in water utilities and wastewater treatment infrastructure over the next several years. The American Recovery and Reinvestment Act 2009 will provide more than US\$6B in funding for water and wastewater infrastructure in the United States. In addition, the California State Government passed a US\$40B package to reform and rebuild the State's water system.<sup>9</sup>
- Several other states in America are also urgently seeking water solutions including conservation, demand management and technology alternatives. According to the OECD, the United States will invest over US\$167B annually on water and wastewater services by 2025.<sup>10</sup>
- The Australian Trade Commission (Austrade) and Water Australia have identified Europe as having major market potential for Australian exporters of water services and technologies.<sup>11</sup> According to the Australian Trade Commission, the main markets of opportunity in Europe for Australian exporters of water services and technologies are the UK, Germany, France, Spain and Portugal, Italy, Scandinavia and the Benelux.<sup>12</sup> The OECD estimates the European Union will invest over US\$178B annually on water and wastewater services by 2025.<sup>13</sup>
- According to the World Bank, the Middle East is the most water-scarce region in the world, as it has less than one per cent of the world's renewable fresh water resources, yet has five per cent of the world's population. More than half of the 22 Arab states are critically short of fresh water, particularly in the Gulf.<sup>14</sup> Arab countries are forecast to reach absolute water scarcity as early as 2025.<sup>15</sup>
- Wastewater treatment and re-use is likely to see widespread adoption across the Gulf States, representing an expanding market for advanced wastewater treatment technologies.<sup>16</sup> Saudi Arabia is expected to invest US\$200B over the next 20 years on water and power plants including water treatment plants, sewage plants and desalination projects.

### Fast water facts

- Globally, water consumption is doubling every 20 years – more than twice the population growth.
- Agriculture currently consumes over 70 per cent of the world's developed fresh water supplies.
- By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world's population could be living under water stressed conditions.
- 40 per cent of the population today is subject to the sanitation health risks associated with inadequately treated wastewater.

Sources: International Water Management Institute, Goldman Sachs and the United Nations

## Market challenges

- Entry into some international water and wastewater technologies, services and infrastructure markets is difficult as international competition to enter is high and the existing market may be dominated by a small number of large international players.
- Queensland companies can also expect strong domestic competition in some markets such as in China where domestic players enjoy solid working relationships with product end-users and relatively low product and labour costs.
- In the USA water utilities market, large international conglomerates can use their reputations to secure supply contracts and large economies of scale engendered by the provision of services to many regions to reduce costs.
- Queensland companies may also encounter political hurdles, such as in India where privatisation of the water industry may be highly contentious, and/or reaching key decision makers in the municipal departments may be difficult.
- Trade and Investment Queensland advises that it is important for Queensland firms that are considering exporting to:
  - › research the opportunities and their potential competition in the marketplace
  - › consider partnering with local firms and projects as part of their market strategy (China, India and USA), working with Australian partners that have an existing market presence (USA), or setting up representative offices or companies as part of a market entry strategy (China)
  - › identify niche market opportunities for their water and/or wastewater technologies and services
  - › recognise that new technology can encounter initial resistance and delayed uptake in some markets including the USA
  - › clearly demonstrate the competitive advantages and innovations of their water and wastewater technologies and services in the market
  - › mitigate payment and foreign exchange risks, consider intellectual property protection, consider the use of distributors, and ascertain financial obligations and commitment as some water projects are Build-Operate-Transfer (BOT) type, which require the bidder or supplier to finance the project
  - › in the case of tendering for projects, foreign companies may need to be represented by a local agent (the Gulf States).



**Water and energy are inextricably linked, with often overlooked implications for both climate change and water scarcity.**

**Typically, energy has been valued over water, but this is a situation that must change. A critical driver of success will be how policymakers, companies and investors balance competing demands for energy and water as well as the associated risk factors. Water presents a tremendous investment opportunity in emerging markets.**

**Ernst and Young**

**The demand for water – the natural resource with no substitute – continues to escalate at an unsustainable rate, fuelled by population growth and industrial expansion. The world’s fresh water supply is also shrinking due to pollution, draining of underground aquifers, and climate change.**

**As a result, we expect to see a sustained focus and investment in the global water sector for years to come.**

**Goldman Sachs Group**



## Can Trade and Investment Queensland assist you?

Trade and Investment Queensland is headquartered in Brisbane and maintains representation across the State and in 16 global locations.

In 2009–10, Trade and Investment Queensland assisted Queensland companies to make over \$613M in export sales, and assisted 3077 clients (45 per cent from regional Queensland) to become export ready or to make export deals.

The agency provides a wide range of exporting services to Queensland companies in delivering global assistance and support.

Trade and Investment Queensland provides export advice, market information and skills development programs to help companies make informed export decisions and achieve success in overseas markets. It supports businesses through industry-focused trade missions, business introductions linked to inbound trade visits, and other export promotional events held within the State and internationally.

## Other issues in the series

Issue 1 – Queensland water and wastewater technologies, services and infrastructure export opportunities: USA

Issue 2 – Queensland water and wastewater technologies, services and infrastructure export opportunities: China

Issue 3 – Queensland water and wastewater technologies, services and infrastructure export opportunities: India

Issue 4 – Export opportunities for Queensland's water and wastewater technologies and services: Gulf States

## Coming soon

Queensland water and wastewater technologies and services opportunities: sub-Saharan Africa

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<sup>12</sup> The Australian Trade Commission, 2008.

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<sup>14</sup> World Bank, United Nations, Business Monitor, International and Queensland Water Commission

<sup>15</sup> World Bank 2010

<sup>16</sup> Frost and Sullivan, 2009

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### **For more information**

For more information about global water and wastewater technologies and services, market trends and opportunities for Queensland exporters, please contact Special Projects, Trade and Investment Queensland on +61 7 3224 4035.

Interested companies can also visit [export.qld.gov.au](http://export.qld.gov.au)