



# **GHD** Water

**“The continued impact of climate variability requires a sophisticated management approach to secure water supplies, today and in the future. At GHD, we deliver integrated water solutions that reduce consumption, improve efficiency and optimise systems, in ways that balance the needs of our communities and the environment.”**

Chris Hertle - Market Leader - Water, Australia



**For more than 80 years, we have been at the forefront of the water industry, delivering sustainable outcomes for our clients across the globe. We're committed to sustaining the communities in which we operate, our integrated water solutions address every element of the water cycle - from catchment to tap - for urban, rural and industrial water applications.**

**As part of our client-centric approach, we expand the boundaries to leverage innovative technologies and new procedures that meet or exceed your needs.**

### Who we are

With considerable experience in delivering landmark water projects, GHD has a powerful knowledge base to share. We offer a broad range of services covering feasibility studies, planning, design, project management, construction and asset management services as well as operational optimisation.

Our people use selective research, perform pilot trials, fine-tune existing systems and transfer technologies from other industries to improve quality and manage asset costs. That's why we can be of real benefit to your team.

### Services

#### Drinking water systems

- Catchment management
- Dams - including safety monitoring & planning
- Distribution & reticulation networks & storage
- Water quality & treatment
- Water efficiency, leakage management & metering
- Desalination

#### Wastewater systems

- Wastewater collection & treatment systems
- Biosolids & odour management
- Pump stations & pumps
- Recycled water systems, renewable energy sources

#### Environmental

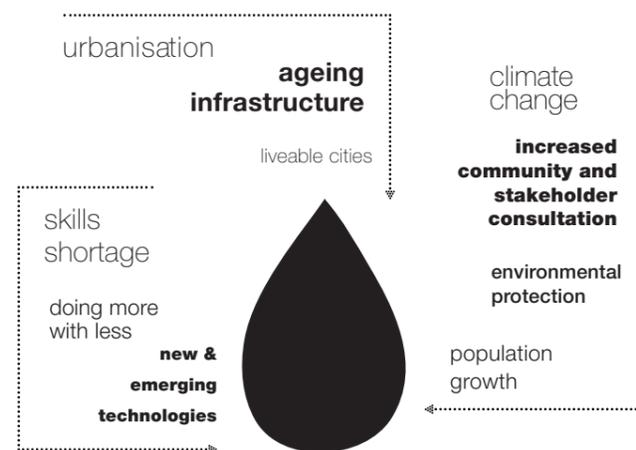
- Waterways & coastal
- Surface & groundwater management
- Environmental flows
- Environmental management, audits & impact assessments
- Flood management & mitigation

#### Industry-wide

- Climate change & risk analysis
- Asset & facility management
- Integrated water management
- Irrigation
- Industrial water & waste management
- Planning, policy advice, pricing & regulatory reforms
- Water economics

### Our approach

We understand what influences industry



#### Asset lifecycle management

We offer 'cradle to grave' comprehensive services covering every facet of your asset's lifecycle - from the planning, to investigation, design and delivery, through to operation and renewal.

#### Independent advice

Consulting is our business. We take pride in offering independent advice on the most appropriate technologies, methods of construction and project delivery to maximise outcomes.

#### Why we are different

**Integrated Water Management (IWM)** is a strategy that brings together all facets of the water cycle — water supply, treatment, wastewater and stormwater management to deliver more resilient water systems and liveable cities.

In response to the myriad challenges facing the global water industry, GHD has developed an Integrated Water Management (IWM) Toolkit that brings together more than 80 years' experience in all facets of the water cycle to help you achieve sustainable social, environmental and economic outcomes.

**Water efficiency** or the effective management of water resources is fast becoming an essential part of the water cycle equation. Our clients consider us industry leaders in all aspects of water loss reduction and water system efficiency improvements.

Water efficiency measures deliver triple bottom line outcomes, particularly in the context of utilities wishing to minimise their carbon footprint. To date, we have partnered with water utilities and municipal authorities to seamlessly implement water loss management initiatives with social, financial and environmental objectives as priority.

**Desalination** offers a reliable source of water supply that is not climate dependent. Water utilities around the world are turning to desalination to improve the security of their water supply to deliver significant social and economic benefits. GHD's work has included significant desalination projects in Australia, the USA and in the Middle East with plant capacities of up to 410 ML per day.

#### Where we've done it well

Onondaga County, New York selected GHD to lead a team of three engineering companies to upgrade the County's 318 ML per day Metro Syracuse Wastewater Treatment Plant to meet more stringent water quality discharge standards for nitrogen and phosphorus.

GHD identified technologies and led full-scale pilot studies to evaluate potential methods of retrofitting the existing facility to achieve low level effluent ammonia and phosphorus performance.

Following the pilot study, GHD led the design effort for a two-phase construction project to implement biological aerated filters (BAF) and high rate flocculated settling (HRFS) technology at the facility.

Following implementation, the completed facility is able to achieve less than 2 mg/L ammonia and 0.12 mg/L total phosphorus during cold weather conditions of 8 degrees C or less, meeting all regulatory requirements.



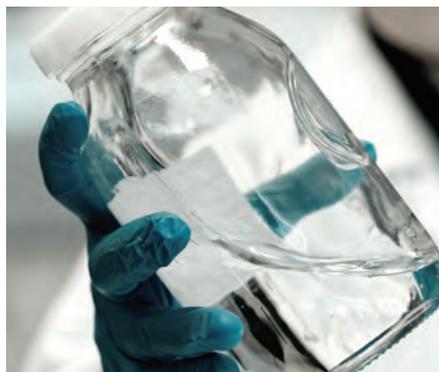
## Where we've done it well

GHD's work with the ACT Electricity and Water Corp (ACTEW) on the Cotter Dam is helping to secure Canberra's water supply and raising the bar for sustainable construction. The AUD363 million project involves building a new 80 metre high wall to increase the main dam's capacity from 4 to 78 gigalitres, and building two saddle dams with walls 15-20 m high. Working in an alliance with ACTEW and construction companies Abigroup and John Holland, GHD has been responsible for engineering design, stakeholder liaison, environmental approvals and safety and quality control during construction. GHD's analysis identified the best location for the dam wall, and a cost-effective construction method using roller compacted concrete (RCC).



## How we can help you

Today more than 1500 GHD water professionals provide secure, clean, reliable and sustainable water supply and sanitation to communities around the world. If you want to move confidently towards smart water cycle solutions underpinned by experience, engage GHD.



## About GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, architecture, environmental and construction services to private and public sector clients.

Established in 1928 and privately owned by our people, GHD operates across five continents – Asia, Australia, Europe, North and South America. We employ more than 8500 people in 200+ offices to deliver projects with high standards of safety, quality and ethics across the entire asset value chain. Driven by a client-service led culture, we connect the knowledge, skill and experience of our people with innovative practices, technical capabilities and robust systems to create lasting community benefits.

Committed to sustainable development, GHD improves the physical, natural and social environments of the many communities in which we operate. We are guided by a Practice Quality Management System, ISO 9001:2008 and an Environmental Management System, ISO 14001:2004 which are certified by Lloyds Register Quality Assurance.

In alignment with the global demands of water, energy and urbanisation, our aim is to exceed the expectations of our clients and contribute to their success.

For more information, visit [www.ghd.com](http://www.ghd.com)

