



SUSTAINABILITY REPORT





Chief Executive Officer Statement

I am delighted to introduce GHD's tenth Sustainability Report. This report also serves as an opportunity to introduce "Sustainability @ GHD" our new online sustainability platform.

As one of world's leading privately held companies in our industry, GHD recognises our responsibility to make our operations sustainable for the generations who follow. A sustainable world depends on physical and social infrastructure that advances economic opportunity, protects our environment and improves people's lives. Sustainable solutions and innovation are at the core of what we do, and how we operate. This report highlights our progress over the past year, including our efforts to reduce our environmental footprint.

GHD remains committed to making the United Nations Global Compact (UNGC) and its principles part of our strategy, culture and day-to-day operations, and supports the United Nations Sustainable Development Goals (SDG's) for 2030. The challenges facing people and our planet require innovative thinking and bold actions. Through our professional services, we continue to assist our clients in this regard, whilst also acting in a manner that aligns our own operations to the SDGs that affect us most.

Our commitment to sustainability goes beyond meeting client expectations and complying with environmental rules and regulations at the local, state/provincial and national levels. We have delivered progress across a number of identified focus areas throughout the year. I am especially pleased to see our GHD in the Community program making such a difference to the lives of both our employees and communities around the world. The associated social impact of this effort and many of our other activities can be found in the case studies throughout this report.

Our annual Sustainability Report is also our UNGC Communication on Progress. You will find the SDG icons throughout this Report, indicating how our sustainability efforts connect with those of the SDG's.

We will continue to review and improve our sustainability efforts across our business, to ensure that our programs are as effective and efficient as possible in delivering value to the communities we support.

Your feedback is greatly appreciated. We invite our readers to share comments, suggestions and thoughts on this report by emailing news@ghd.com

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Sustainability Goals



The GHD Sustainability Policy provides strategic direction to our achievement of:

“Encourage and support our clients and other business partners in their efforts to achieve sustainable outcomes. In an organisational context this means integrating social, economic and environmental issues into core business processes to achieve environmentally and socially responsible operations.”

01

United Nations Global Compact

GHD has been a signatory to the UN Global Compact since 2010. The UN Global Compact supports companies to do business responsibly by aligning their strategies and operations with 10 Principles on human rights, labour, environment and anti-corruption. These include:

1	Businesses should support and respect the protection of internationally proclaimed human rights
2	Businesses should make sure they are not complicit in human rights abuses
3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining
4	Businesses should uphold the elimination of all forms of forced and compulsory labour
5	Businesses should support and respect the protection of internationally proclaimed human rights
6	Businesses should uphold the elimination of discrimination in respect of employment and occupation
7	Businesses should support a precautionary approach to environmental challenges
8	Businesses should undertake initiatives to promote greater environmental responsibility
9	Businesses should encourage the development and diffusion of environmentally friendly technologies
10	Businesses should work against corruption in all its forms, including extortion and bribery

Sustainable Development Goals

Launched in September 2015, the United Nations Sustainable Development Goals (SDGs) consist of 17 ambitious goals dedicated to improving the wellbeing of present and future generations. The SDGs aim to tackle the world's most pressing challenges through the promotion of sustainable development over the next 15 years.

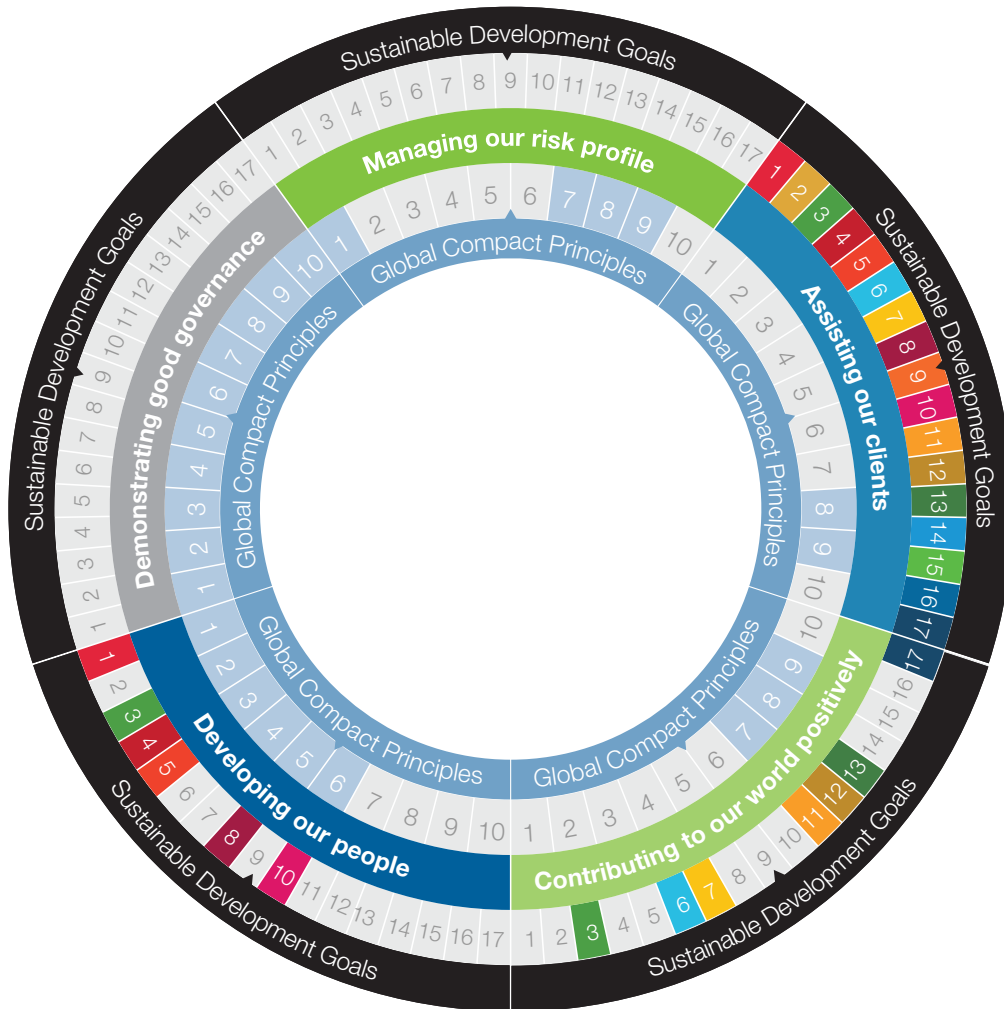
The introduction of the SDGs provides GHD the structure for continual improvement of our Sustainability approach and identify opportunities to further lift our contribution to the SDGs in partnership with other organisations. We have mapped the SDGs that we can most directly help to achieve, against our material issues.

GHD's Sustainability portal describes our approach to Sustainability, our illustrates annual performance against specific criteria and also acts as our UNGC Communication on Progress.



Communicating Progress

The following table indicates the connectivity between the UNGC 10 Principles, the SDG's and the key pillars of our Sustainability efforts.



GHD Sustainability Policy

Managing our risk profile

We understand our risk appetite and manage our business to maximise opportunities by identifying and managing material risks to an acceptable level in accordance with a risk management framework

Demonstrating good governance

Developing our people. We connect our people with a healthy, safe, diverse and rewarding career path. Our people feel valued and secure in their workplace.

Developing our people

We care by minimising our ecological impact through resource efficiency and nature conservation initiatives, and by supporting communities through development initiatives and our GHD in the Community program.

Contributing to our world positively

We create opportunities for our clients to enjoy prosperity and achieve sustainability goals with innovative ideas that embrace our sustainability principles.

Assisting our clients to be more sustainable

We commit to our values and policies. This is reflected in the way we manage our business and interact with our clients and our people.

Managing our risk profile



We understand our risk appetite and manage our business to maximise opportunities by identifying and managing material risks to an acceptable level – in accordance with a risk management framework.

GHD has processes to systematically identify, assess and report on both financial and non-financial business risks. A strategic and operational Risk Report is prepared and analysed by both management and the Audit and Risk Committee of the Board four times a year. The report addresses impacts, risks and opportunities with respect to health and safety, reputation, business practices and ethics.

The Board receives regular reports including: risk, corporate responsibility, HSE, diversity and inclusion, unethical practices and other matters that may affect our reputation.

02

Materiality Assessment

The materiality assessment assists GHD understand the current issues affecting our business and stakeholders. This comprehensive analysis utilises employee engagement and safety surveys, shareholder and investor reports, and group risk reports. There are three main stakeholder groups identifiable: our people, our clients and our shareholders. Undertaking the materiality analysis to determine what economic, environmental and social issues are most important to our business and stakeholders enables GHD to:

- Inform our sustainability strategy and operational programs to develop targeted programs to improve business sustainability
- Identify emerging sustainability trends and issues
- Improve internal decision-making using risk based thinking
- Respond to expectations of our stakeholders.

Analysis

Potential business issues and impacts identified from internal and external sources (shareholder reports, employee engagement surveys, external trends, group risk assessments)

Engagement

- 600 Clients in e-Survey program
- Participation in Beaton Research
- UNGC regarding performance reporting
- Review of peer reporting

Review

Prioritised items identified in the Materiality Matrix feature in the Board and Executive performance reports. And are validated by senior management on regular basis.

Materiality Matrix

The analysis is a consolidated list of 23 economic, environmental and social issues. The engagement phase seeks feedback through surveys from our people (many of whom are shareholders) and clients, which are quantified via risk assessment and plotted on a Materiality Matrix.

The identified material issues have been consolidated, providing greater clarity for our efforts going forward. This consolidation, led to the creation of the following pillars that guide our sustainability efforts. These pillars are codified within our Sustainability Policy and include:

- Managing our risk profile
- Developing our people
- Demonstrating good governance
- Contributing to our world positively
- Assisting our clients to be more sustainable

Detailed information on each of these risks, as well as the strategies implemented to mitigate risk are actively managed using the GHD Risk Register. Status is reported to Executive and Board Risk Committee monthly.

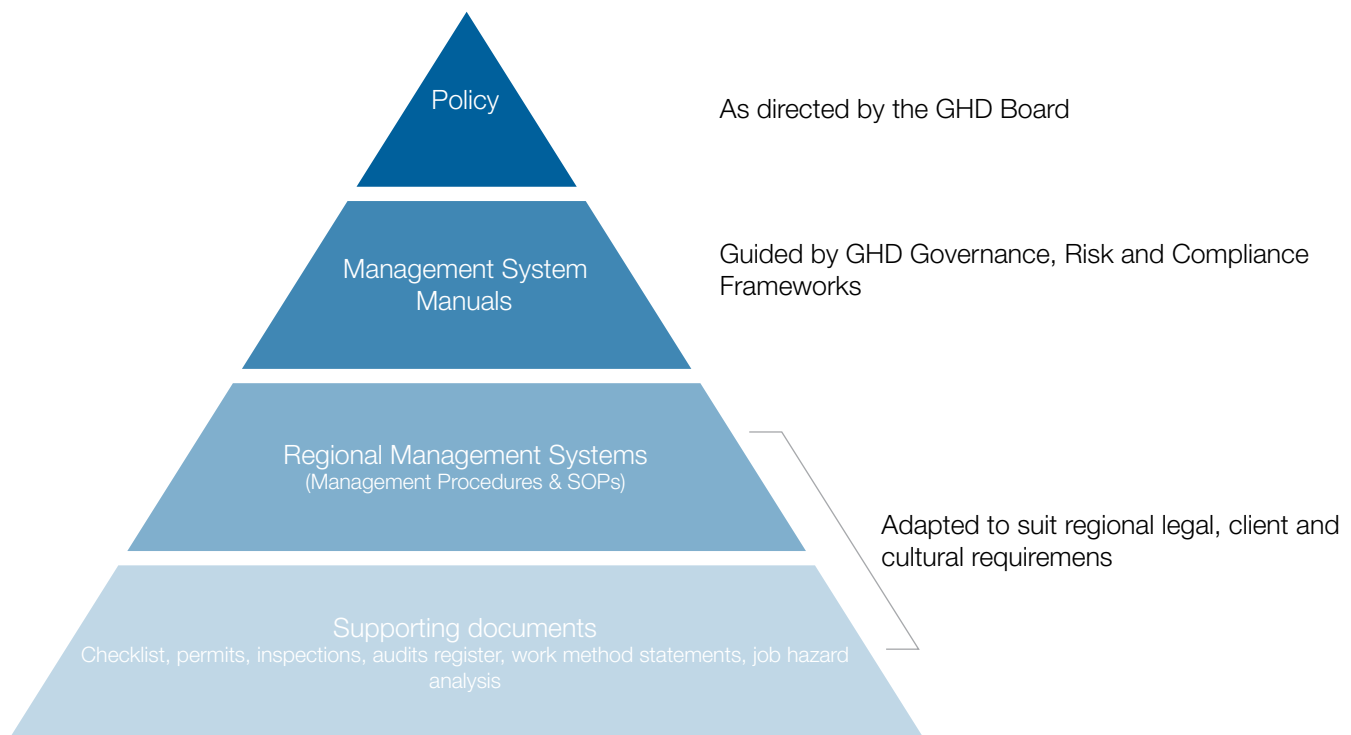


Managing our operations

The General Manager, Operational Support and Risk is responsible for the design, implementation and continuous improvement of the risk management framework. This accountability extends to the development of the GHD risk management culture and the capability of managers and staff to identify, understand and treat risk. Delivering this accountability, the General Manager monitors and reports on the GHD risk profile in addition to providing independent assurance on the effectiveness of key risk management and internal controls in the business to the CEO, Executive Management Group, the Board and its Risk Committee.

In addition, the Board Risk Committee hold annual strategy discussions with the General Manager Operational Support and Risk to align the continuous improvement plans for the framework with the expectations of the Board.

All decision making within GHD should involve explicit consideration of risk to the degree appropriate to the criticality of the decisions being made. The Risk Management Framework provides a structured and consistent approach to risk management across all business activities that aligns strategy, systems and people in order to deliver on GHD's strategic objectives.



Quality Management



GHD's Quality Management System was first certified to ISO 9001 in February 1993. Since that time it has evolved and improved as GHD has grown and expanded.

Lloyds Register Quality Assurance (LRQA), has been part of GHD's journey since the beginning and provides independent auditing of GHD's Quality Management System. GHD's maturity in quality management is illustrated by award of a three year certification cycle.

We have completed our recertification audit and LRQA has recommended an upgrade to ISO 9001:2015 (excluding North America). The upgrade requires greater focus and effort on leadership and risk-based thinking. Our North American operations will seek to have their regional quality system upgraded in FY19/20.

Information Security



GHD maintains information security management systems certified to ISO 27001. Our approach provides a solid governance and a foundation for our continuous efforts to improve the security of the information entrusted to us. To serve our clients who do not use ISO 27001, we have also certified a special environment to NIST 800-53, Revision 4. Our goals over the next few years see us actively aligning and certifying with other information security standards in the regions in which we operate, and further embedding information security into GHD's culture.

Health Safety and Environment Management



Our goal is to be one brand, renowned for client service and a culture of safety. To achieve this goal, we have created a five year GHD HSE Strategic Plan – SAFE You, SAFE Me, SAFE GHD. By regularly reviewing our achievements against the HSE Strategy’s goals, we will continually improve our safety performance.

We embed HSE into every aspect of our operations, and protecting the safety of our people, our clients and the communities and environments in which we operate. This enables us to promote the delivery of our cultural objective: ‘Safe You, Safe Me, -Safe GHD’.

GHD has an internationally certified HSE Management System (OHSAS 18001, AS 4801 and ISO 14001), whereby our HSE Strategy and Management Standards set the expectations for all GHD people. GHD is currently undergoing its certification transition audit to the new ISO45001 standard for health and safety management.

A major initiative has been finalising a global health, safety and environmental (HSE) framework. It standardises definitions and process for many key aspects of HSE across all regions of GHD. We have also finalised a new enterprise wide HSE Strategic Plan, Manual and Management Standards.

Our most recent Safety Culture Survey revealed that our people wanted a more effective and efficient way to interact with HSE. As a result, we have developed and implemented our new SMARTapp in Australia, which enables our people undertake compliance HSE activities and also report hazards and incidents in the field.

We continue to develop and refine our SMART Behaviours Model, which encourages our people to demonstrate desired safety behaviours in their everyday activities. It enables proactive management of safety behaviours in a fair, transparent and repeatable way and allows us to identify undesired or unsafe behaviours, before they create the catalyst for an incident.

While our overall safety performance continues to be extremely credible, we are not satisfied with an increase in our Total Recordable Incident Rate per 200,000 hours worked. Despite maintaining a high level of positive interactions, this has increased to 0.24 from 0.23 in the last year. As a result, we are applying a fresh focus to better understand the human factors that directly impact safety behaviours and also undertaking critical risk analysis of identified operations globally.

Crisis Management

Our emergency response and crisis management processes were tested through a number of major events around the world, including fires, earthquakes, floods and hurricanes. We continue to test our response capability to potential business impacting crises through structured case studies to ensure our business continuity during adverse events.

GHD identifies the credible pathways for emergency or crisis events that may detrimentally affect our business. Crisis Management and Emergency Response Teams are trained and rehearse scenarios on regular basis.





Demonstrating good governance



03

We commit to our values and policies. This is reflected in the way we manage our business and interact with our clients and our people.

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The Board receives regular reports including: risk, corporate responsibility, HSE, diversity and inclusion, unethical practices and other matters that may affect our reputation.

The GHD Board has ultimate authority over the company and regards corporate governance as a critical element in achieving our objectives. Accordingly, the Board has adopted appropriate standards and policies and established a number of committees to discharge its duties. The CEO reports directly to the Board. The Executive Management Group (EMG) is the senior management leadership team for GHD. The EMG advises the CEO with regard to the effective and efficient functioning of our global organisation.

Respective corporate teams (e.g. Business Services Finance, HSE, Quality, etc.) provide independent, objective assurance and advisory services on GHD systems of risk management, internal compliance, and control.



GHD Group Board

The Board is made up of eight directors and a company secretary (of which four are women). Together with the CEO they have the appropriate balance of skills, experience and expertise, and bring independent judgement to bear in decision making.

The role of the Board is to add value through furthering the achievement of GHD's core purpose and it is achieved in four critical areas (left).

When appointing new directors, the Board and its Nominations Committee look to ensure that an appropriate balance of skills, experience, expertise and diversity is maintained.

In 2018, GHD confirmed the election of director Stephen Trainor as a new Board Member. Significantly, women continue to comprise 40 percent of the Board. GHD continues to set a clear cultural, professional and gender diversity standards.

01 **Determination of purpose**

Exploration of and approving GHD's core purpose, goals and strategy to achieve these goals.

02 **Governance culture**

Operating within a high performance culture that celebrates debate, thoughtful challenge, commitment, candour and trust. This requires effective relationships within the board, and with management, shareholders and other stakeholder

03 **Accountability**

Effective demarcation of responsibilities through delegated authorities and policies, providing informed, astute and effective oversight of management, and ensuring senior management selection and succession processes are effective.

04 **Compliance**

Ensuring the company is and remains solvent, probity of financial reports, compliance with the regulatory environment, operating ethically, and is operating consistent with its risk management framework. The election of both executive and independent non-executive directors is undertaken by GHD shareholders.

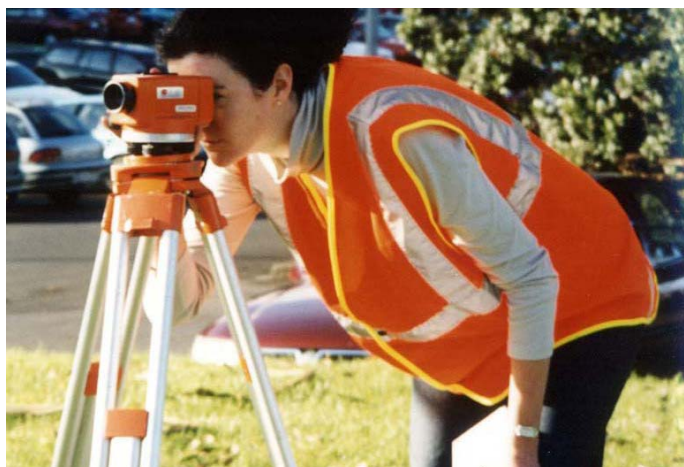
Material Risks and Internal Controls



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Board Committees



The GHD Board Committees (Audit and Risk) are responsible for assisting the Board in fulfilling its corporate governance responsibilities, including:

- Integrity of GHD's financial reporting
- Compliance with legal and regulatory obligations
- Effectiveness of GHD's enterprise wide risk management and accountability structures
- Oversight of the independence of external and internal auditors

The CEO is responsible for the day-to-day management of GHD, with all powers, discretions and delegations authorised from time to time by the Board. GHD's executive management team is the EMG. The group is chaired by the CEO and meets monthly to review the performance of GHD and make decisions that impact the overall operations of the business.

Transparency and disclosure with our people

Engaged and empowered people are a fundamental strength of GHD's organisational culture. The last People Survey was conducted in 2017 and GHD will adopt a new approach in the next People Surveys planned for the second half of 2019. Instead of a one-off engagement survey, the surveys will be conducted once a month over a period of time and involve the use of 'chatbot' technology to probe feedback from employees. This approach aims to allow GHD to conduct check-ins with people more regularly, gain a deeper understanding of engagement levels and experiences of employees, as well as to take timely actions.

In the most recent People Survey in 2017, commitment to clients and conduction work safely were seen by our people as two of our greatest strengths and engagement levels were pleasingly high in North America. In other regions, Asia Pacific and the UK/Middle East have continuing high levels of engagement and Australia showed marked improvement from previous years in the areas of vision, communication and empowerment.



Integrity Management

GHD regards good corporate governance as a critical element in our business practices and culture. GHD is committed to ethical business behaviour. This includes both internal conduct, and our engagement with clients, and the community.

We have an established Integrity Management System. At its core are Integrity Management Policy and Integrity Management Guidelines. The pivotal element of our approach to integrity is a zero tolerance towards unethical or unacceptable business conduct.

GHD's Integrity Management Guidelines establish our behavioural expectations and conduct requirements. As part of this commitment, we comply with the laws of the countries in which we operate, and promote ethical business and personal behaviour consistent with our core values of Teamwork, Respect and Integrity.

Our Child Protection Statement applies to employees, subcontractors and volunteers engaged within the GHD group of companies on international development assistance projects and its implementation facilities. It reaffirms our commitment not to use – directly or indirectly – forced labour or child labour.

During 2018, GHD implemented integrity management system improvements and communicated expectations in the appropriate manner. We held our annual Integrity Day with the focus on “empowering our people to resist bribery and corruption wherever in the world they are doing business”. We have strengthened our Privacy Policy and employees are now able to lodge an online report of suspected or actual data privacy breaches.



Modern Slavery

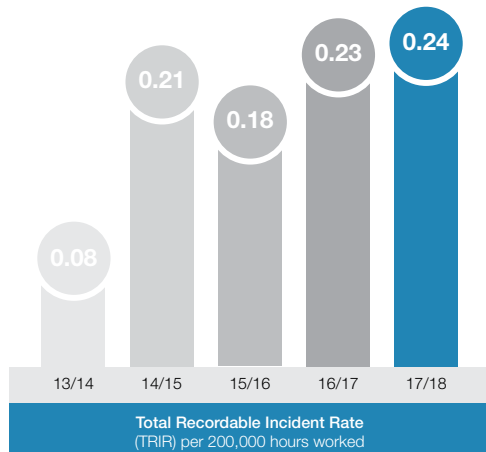
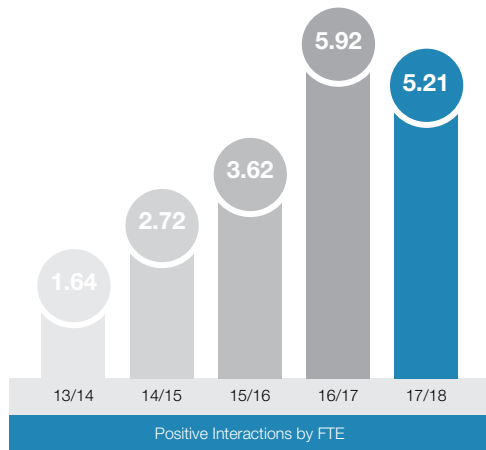


GHD is a sitting member on the United Nations Global Compact Modern Slavery Community of Practice. The group’s purpose is two-fold:

- To discuss the most pressing challenges and obstacles facing business with respect to managing and communicating modern slavery risks and implementing any new legislation and to discuss good practice in responding to these challenges.
- To help provide a business perspective as appropriate to related external discussions, including for example potentially providing collective input to any consultation around government guidance for any new legislation.

Furthering our commitment, GHD has reviewed its Modern Slavery Statement and is in the process of developing key strategies to ensure that modern slavery does not enter the GHD supply chain.

Safety Performance



Why do we measure Positive Interactions?

Traditionally, predictions about a workplace’s ongoing health and safety performance have been made based on past track records (e.g. incidents). Current research suggests that more effective predictions can be made by focusing on the active steps a workplace takes to prevent future incidents.

Referred to as “lead indicators,” these active steps towards incident prevention include any action, behaviour, or process undertaken by a workplace to actively improve health and safety.

Industry and policy stakeholders around the world are increasingly using lead indicators to formally predict future workplace health and safety performance, and consequently reduce workplace injury rates.

GHD is ahead of the curve in this respect, having been recording and monitoring lead indicator performance for many years.

GHD’s combined individual “lead indicator” activities (e.g. project reviews, inspections, behavioural observations) are called “Positive Interactions”. We encourage our 10,000+ people to undertake three Positive Interactions per year and achievement against this target is measured monthly. The rate illustrated in the diagram (5.21) is the average per FTE achieved during the reporting period.



Developing our people



At GHD, people are at the heart of our success, culture and enduring client relationships. Our connected global network comprises a talented group of professionals who are known for their technical prowess, business acumen and long-term commitment to clients and GHD.

04

Developing our people



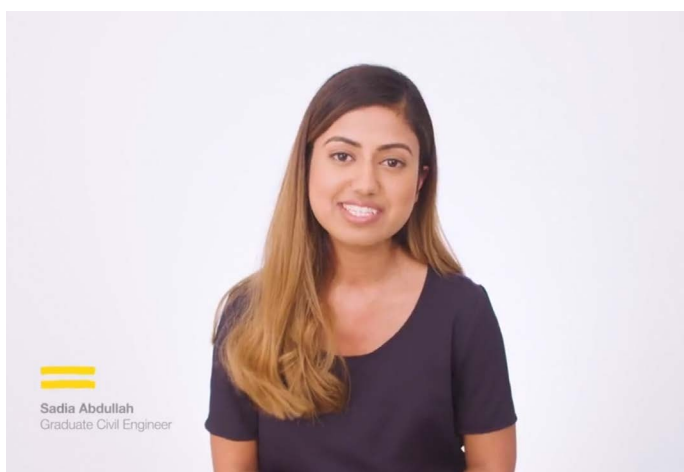
Our 100 percent employee-owned business means our people have a vested interest in delivering and caring for clients. Additionally, GHD’s operational model that supports a connected global environment focussed on supporting our clients and markets provides for our ongoing growth and success.

To achieve this, we focus on the key elements of a great place to work. That is, we aim to create a high performing workplace by embedding organisational behaviours, developing our leaders and investing in our people for today and tomorrow.

GHD maintains a suite of policies which outline minimum requirements for conducting business and the standards to be upheld by all of our people.

Our values of Safety, Teamwork, Respect and Integrity reflect the collective behaviours, values, expectations and attitudes of the company. They reflect ‘the way things are done around here’ and determine how we relate to our clients, both internal and external, and our role as a responsible corporate citizen.

Diversity and inclusion



At GHD, we want our people to feel comfortable to share all aspects of themselves at work. Our commitment toward diversity in the workplace is driven by a strong conviction that genuine inclusion will deliver greater productivity, creativity, and diversity from deeper pools of talent and through fairer processes for all.

Our people are as diverse as the communities we serve across five continents. Embracing diversity of thought, background and experience helps us develop imaginative and responsive solutions for our clients that create lasting community benefit.

GHD’s commitment to diversity and inclusion is embodied within our global strategy and includes: championing gender equality, cultural diversity, reconciliation with Indigenous peoples, adapting to the needs of generational workers as well as flexible working arrangements for our people. Our regionally specific actions continue to position us as an industry leader.

In 2019 we will be setting up our Global Diversity & Inclusion Council to continue to improve the diversity of our business. We continue to see advances in this area with the diversity of new starters in our business (women made up 34 percent of our graduate intake) and initiatives (such as involvement in Career Trackers) being activated across multiple regions.

Watch the video on this link:
<https://player.vimeo.com/video/269769896>

Growing an engaged workforce



Our employee numbers have grown by more than 11 percent in FY2018, with more than 2500 people joining our business globally. In line with our workforce renewal targets, we also achieved a record for graduate recruitment, with 475 people accepting graduate roles globally. The percentage of female graduates, as a proportion of total graduates, has also increased steadily over the past seven years.

Importantly, this growth has been matched by strong employee engagement levels at 76 percent, up 6 percent from the previous engagement survey and also above the global IBM benchmark of 73 percent. These figures show that GHD is a place for aspiring people to thrive, achieve their career goals, and make a lasting impact.

We are placing increasing emphasis on best practice talent management at GHD. This year we introduced a global talent management team, who are tasked with implementing an improved succession planning process across our global business, enabling our leaders to better understand and improve the health of our talent pipeline.

Our recruitment of talent is aided by exciting new tools such as augmented writing applications that are helping us attract diverse candidates, and we are continuing to invest in the global and local leadership programs that help us develop our future leaders, as well as globally consistent assessment tools that provide our employees and managers with the insights they need to help focus their career development.

This year, we implemented strategies to reinforce our position in the talent market and optimise our recruitment processes. For example, our People Team in the UK worked hard in hand with our Young Professionals committee to develop a program that highlights the opportunities offered by a career at GHD. In North America, we streamlined our recruitment strategies and identified focus areas that will ensure a strong talent pipeline into the future

Employee ownership



The sustained growth year on year in total shareholder return in 2018 has continued to underpin a strong demand for employee ownership. Driven by our global Principal and Associate model, GHD continues to attract and retain outstanding professionals who are highly motivated to invest and lead and as a result, inspire others to become owners. The global recognition of our owner leaders as Principals and Associates, reinforces the distinctive ‘owners mindset’ culture in which more than 25 percent of people are material owners of the business.

Connected Network



Mobility opportunities across countries, disciplines, and markets provide career advancement and job enrichment, as well as a multicultural, diverse experience across our globally connected network. In 2018, we launched TalentX, a new talent exchange program targeting high-performing Early Career Professionals (Young Professionals) with 2-4 years’ experience.

A significant step forward in making international career opportunities more widely available for our people, the aim of TalentX is to develop broad skills in a new cultural and business context.

Successful TalentX candidates are placed in teams with a strong forward workload and matched with experienced managers who are committed to mentoring and making the placement successful. Participants bring new capabilities or ways of doing things to their host locations and take back new learnings and experience back home.

Our Global Executive Development Program equips our leaders with high-level strategic skills. We are also developing our Future Managers Program to help grow our future leaders.

Contributing to our world



We care by minimising our ecological impact through resource efficiency and nature conservation initiatives, and by supporting communities through development initiatives and our GHD in the Community program.

05

Material Risks and Internal Controls



Our Sustainability Policy and HSE Policy confirm our commitment to care for the health and safety of our people and the environment. Support is provided through the consistent applications of these policies which are internationally certified through GHD's HSE Management System. The strategic and operational implementation of HSE at an organisational level is the responsibility of the Executive Management Group (EMG) – chaired by the Chief Executive Officer (CEO).

GHD contributes to the public environmental debate through our involvement with industry associations and United Nations Global Compact community committees. We interact with all levels of government in the countries in which we operate on matters within our sphere of influence.

Sustainability targets and indicators (economic, environmental and social) as they relate to GHD are reported on a regular basis through the Executive Reporting System as well as Executive and Operating Centre management structures.

The GHD Environmental Stewardship approach details the environment specific objectives and targets and the reporting requirements for each.

GHD influences 'downstream' suppliers via procurement processes requirements including Registration of Subcontractors, and Terms of Engagement. PIA is a methodology used by GHD business development and project teams to evaluate the social, economic and environmental impacts of projects and as a way to brainstorm project improvement strategies. This is also supported by the Environment in Design Guidelines for smaller projects. Coupled with partnerships with industry organisations, our people maintain the currency of their discipline via structured technical forums. Additionally, GHD makes the 'best available technology' available to client organisations.

Environmental Stewardship

GHD's approach to Environmental Stewardship is based on proactive identification of measures that will positively affect our environmental footprint. In early 2018, we set ambitious 4 year targets for all of our operations. Select each of the key result areas below to see our targets and how we are tracking.

Office Accomodation (large offices)

- 01** Achieve above average rating via an Energy Performance Rating
- 02** Offices located near public transport

Energy Use (all offices)

- 03** 25% renewable component in energy accounts
- 04** Office lighting operation senses movement and natural light
- 05** High performance fluorescent fixtures
- 06** Efficient heating and cooling
- 07** Server Room efficiency

Office Equipment (all offices)

- 08** Reducing the number of devices
- 09** Energy efficient appliances
- 10** Automatic printer default settings
- 11** Recycling of printer cartridges
- 12** Vampire Loads” are proactively managed

Waste (large offices)

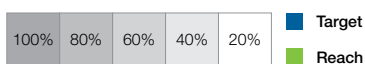
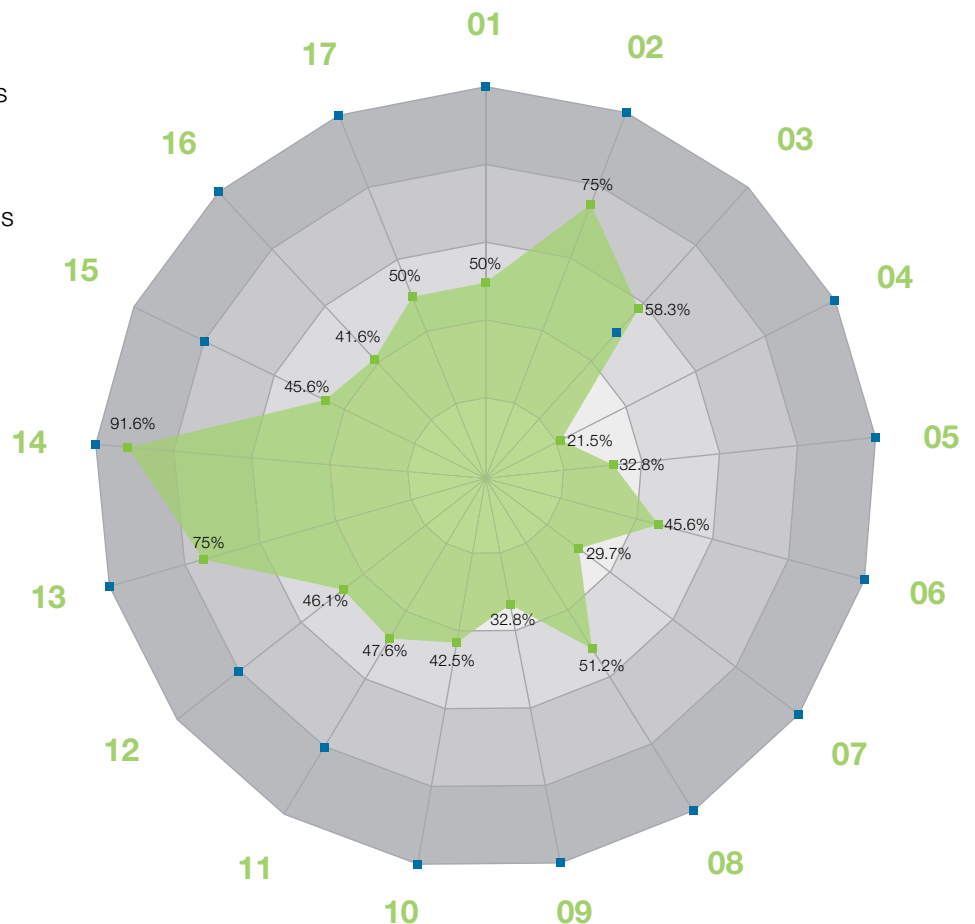
- 13** Separation of office generated waste
- 14** E-waste recycled by accredited provider

Paper (all offices)

- 15** Eco-conscious paper

Commuting (large offices)

- 16** Use of Public Transport for short business travel
- 17** Promote environmentally friendly ‘private’ travel



GHD in the Community (GITC)

In 2011, we established the GHD in the Community program. GITC provides funding and resources support for worthwhile activities in the global and local communities within which GHD operates its business. It is designed to promote the ideal that we all like give back to our communities, in a meaningful way, as an organisation and as individuals.

Generally, the nature of GITC activities is philanthropic and humanitarian, combining the resources of GHD with the enthusiasm, commitment and ideas of our people to engage in beneficial opportunities that make a difference for less advantaged people within our communities and other worthy causes.

The GITC objectives are to:

- support the execution of high impact strategic community projects;
- become a vehicle for direct corporate investment, fundraising and volunteering
- expand opportunities for our employees to be directly or indirectly involved in GITC activities
- raise awareness of GHD corporate responsibility credentials with its stakeholders

GHD recognises and acknowledges employees for their personal contribution in activities that help promote the key themes of education, disaster recovery, skilled volunteering, diversity and inclusion and enterprise development.





Engineers Without Borders in NZ

As a Gold sponsor of the Engineers Without Borders in New Zealand, GHD showcased our work around improving water security in the Pa Enea (Outer Islands) of the Cook Islands. Engineers worked with local government both in Rarotonga and the Pa Enea to provide technical advice, develop plans and design infrastructure to meet the needs of communities and provide them with a resilient source for their water supply.

Projects ranged from the development of water galleries in Aitutaki, to options for repairing concrete water tanks in Mauke, to designing a new water intake in Mangaia. Development of water supply master plans, writing technical standards and providing training material for local staff have also been a focus.



Building better lives and shelters

The Bawinanga Aboriginal Corporation (BAC) represents the Aboriginal people of the homelands and outstations in an area of West Arnhem Land, Northern Territory, Australia. GHD partnered with Engineers Without Borders (EWB) to provide the BAC with recommendations on the repair and refurbishment of six shelters BAC built approximately 20 years ago in Darwin.

Through continued discussions and communication with BAC and EWB, GHD was able to gain a good understanding of the challenges being faced, which allowed GHD to successfully carry out a visual structural assessment of the shelters. Making the shelters habitable means the 300-600 homeland residents can make more reasonable choices between accessing services that they need, while still maintaining their important connection to country.



GHD Challenge UK

In September 2018, 80 construction and engineering professionals came together in the Lake District to raise an incredible GBP18,500 for five UK charities; Alzheimer's Research UK, Alzheimer's Society, Candlelighters Trust, Manchester Mind, and Purple Warriors. Over the course of three days, teams competed against each other in a series of mental and physical trials across fell, forest and water in England's biggest national park.

Professional formalities were set to one side and hierarchies forgotten as the teams tackled what is widely regarded as one of the toughest, but most enjoyable, construction industry challenges. Established by GHD in 1997 as part of a combined team building and community outreach program, the biennial challenge has now raised a total of GBP193,500 for UK charities.



Fostering curiosity in the next generation

GHD people all across the world continue to advocate STEM careers, breaking down barriers and talking to children and young people about engineering. We volunteer at local schools to bring STEM subjects to life and demonstrate their value in future occupations. In the UK, our people are working with universities around the country, providing mentoring, workshops and work placement opportunities to pass on knowledge and experience to the next generation of engineers and scientists.



Fostering career choices for women

Partnering with Lendlease in Australia, GHD has established a program designed to directly address the gender imbalance within Science, Technology, Engineering and Maths (STEM)-based industries, in which only 23.3 per cent of employees are female. Eleven Year 10 female students from two Melbourne high schools took part in a simulated project over the course of a week, working closely with GHD mentors where the students acted as architects, engineers, project managers, urban designers and environmental scientists.

The program is targeted at avoiding a looming skills shortage within the engineering, design and construction industry. It is based on the principle that positive role models and encouragement can have a significant impact on teenagers' subject and career choices.



Volunteering for veterans

A passionate team from GHD's Cameron Park and Roseville offices in California volunteered with the local chapter of Habitat for Humanity for their first-ever Veterans Build, an initiative focused on providing homeownership to US veterans, military service members, and their families.

Our GHD people worked on a house being built for the Wirth family. Mark Wirth served 6 years in the US Air Force, and he and his wife, Emily, are now working, pursuing nursing degrees, and raising their two young children, Natalie and Troy. They are also contributing 500 hours of sweat equity to help build their home and were there working on the day that the GHD team participated.

The GHD team got to work alongside the Wirth family and helped with a wide range of tasks, including painting, backfilling the watermain trench to the house, putting up siding, attaching trim boards, and cutting brush.

Habitat for Humanity's Veterans Build also includes programming to help facilitate the transition from military service to civilian life, which includes financial education and financial literacy programs, volunteer and community engagement experiences, and employment opportunities.

Assisting our clients to be sustainable

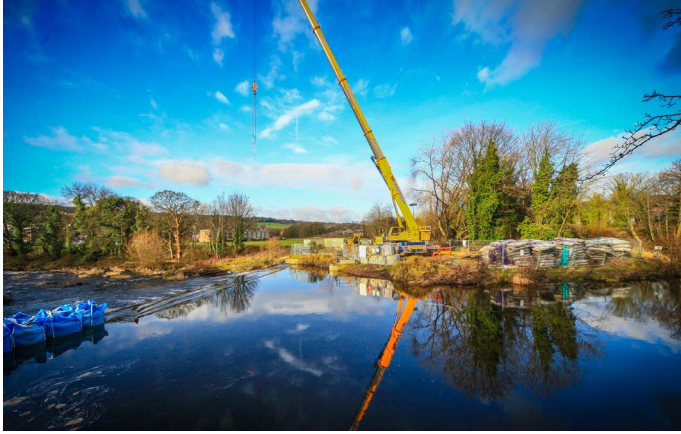


We create opportunities for our clients to enjoy prosperity and achieve sustainability goals with innovative ideas that embrace our sustainability principles.

GHD believes that its most significant contribution to sustainability is through the projects we work on with our clients.

06

Assisting our clients to be sustainable

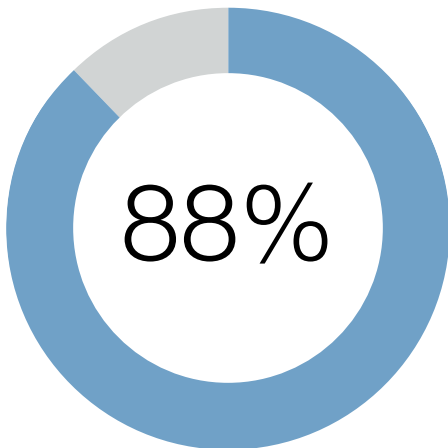


The range of work we do and the clients we assist are broad, and we aim for outcomes that provide a balance of environmental benefits, community advantages and economic prudence.

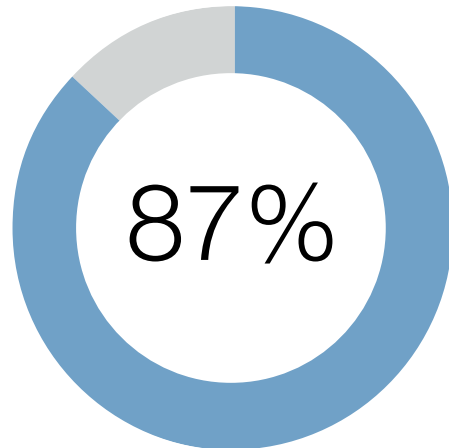
The two key elements of GHD's strategy revolve around leveraging our connected global network to put the best people we have on a project – and a client-service led culture – where we focus on partnering with our clients in the long term.

With the additional economic challenges encountered on many projects, we are finding clients are increasingly interested in innovative concepts, which helps to increase their overall sustainability.

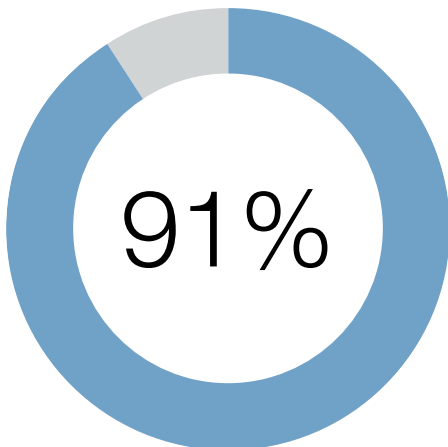
Also, we have a strong interest in having sustainability concepts integrated into real projects. We believe this is the key next step in sustainability worldwide: to make changes in what we build and do.



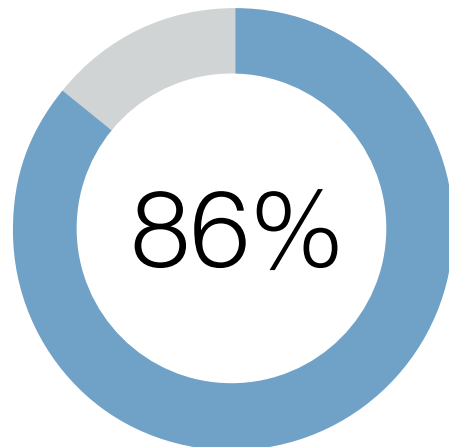
Overall performance



GHD delivers projects on budget



GHD is accessible and responsive



GHD is timely

Investing in big ideas

GHD is accelerating organic growth by encouraging our people around the world to think big; developing new services, products and partnerships that benefit our clients, while creating new revenue streams for the business.

Our approach recognises that, in order to become successful, new opportunities often require initial funding and a risk appetite to try new things.

An example is the launch of the global GHD Digital business, spanning cybersecurity and risk, digital strategy and transformation, smart technology services, digital innovation, and data analytics.

Other initiatives launched in FY2018 include:

- Commercial partnership with a geospatial company to automate land contamination reporting for the property sector
- Development of industry-specific economic benchmarking tools to inform clients' capital investment decisions
- Strategic recruitment of specialists to expand client service offerings in flood modelling and civil infrastructure, coastal and maritime engineering, power, and operational process redesign
- Pioneering approaches to contain and remediate/remove PFAS contamination in partnership with research organisations and equipment suppliers.
- These growth initiatives are contributing to the future success of GHD and, even more importantly, unlocking the creative and entrepreneurial thinking of our people.



Smart Seeds

Powered by GHD with partners, Smart Seeds is a designed global innovation program focused on complex challenges. What began as an idea to engage GHD's vacation interns in 2012 has blossomed into a multi-national, cross-discipline program bringing together diverse groups of people to co-create integrated solutions.

In 2018, Smart Seeds broadened its reach delivering school and community programs for the first time in Australia, including participants in North Queensland, Central Australia and the Riverina region of New South Wales. These events provided a forum for local communities to collaborate and develop solutions to their most pressing challenges. In New Zealand, Smart Seeds received the 'Christian Dahmen Memorial Award' for Innovation at the New Zealand Human Resources Awards 2018. The award recognised our innovation program for preparing participants for the future of work and driving collaboration with local industry.

Christchurch became the third city to engage in Smart Seeds in New Zealand joining the ranks of popular programs in Auckland and Wellington. Elsewhere, Smart Seeds successfully continued programs in Canberra, Sydney, Perth and London, UK.

To help realise more great ideas from Smart Seeds in 2019, we are excited to expand the program to provide more opportunities for collaboration and prototyping following Showcase Events in each city.



Our Projects

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.



Barwon Water head office
Victoria, Australia



Bayou d'Inde remediation
Louisiana, USA



Expansion of Lithium Carbonate Plant
Argentina



Hespeler trunk sanitary sewer line
Ontario, Canada



Holman Highway 68 Roundabout
California, USA



Novaliches - Balara Aqueduct 4
Manila, Philippines



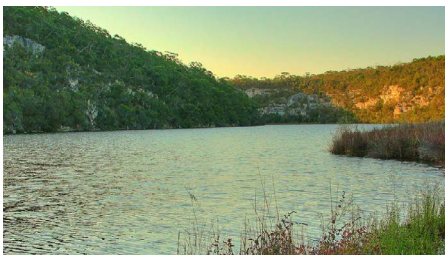
Pesticide Container Management project
Pacific Islands



Saipan dump regulatory closure / Eloy S. Inos peace park
Northern Mariana Islands, USA



State Highway 1 Ellerslie Acoustic Barrier
Auckland, New Zealand



Smart City Framework
Victoria, Australia



Tourian FEED
Teesside, UK



Wickenburg Ranch Water Reclamation Facility
Arizona, USA



Photo credit:
Trevor Mein

Barwon Water head office Geelong, Victoria, Australia

Barwon Water

Designed by GHDWoodhead, the Barwon Water head office in Geelong, Victoria, has been named Australia's best commercial building, receiving the Harry Seidler Award for Commercial Architecture from the Australian Institute of Architects (AIA).

The project also received AIA's inaugural National Sustainability Award for the adaptive reuse of two existing 1970s buildings that retained the energy embodied in the concrete structure, while creating a contemporary workplace and a landmark for Geelong's central business district.

The energy-efficient facility is wrapped in a distinctive high-performance façade that is inspired by the city's industrial history.

According to the jury citation, the project created a workplace that "feels vibrant and domestic" while the façade "gives the building an overall sense of purpose – one that aligns with the qualities of a public authority dedicated to providing one of the most fundamental services."

The citation also said the design "sets an excellent precedent for re-using the aged, underperforming building stock located in regional centres throughout Australia."

This level of recognition highlights the value of GHDWoodhead's integrated design offering, which combines architecture with engineering and other services to help clients realise complex projects.



Bayou d'Inde remediation Louisiana, USA

A unique underwater installation of articulated concrete block mat, and the application of a sand-water slurry were implemented to remediate industrial contamination in Bayou d'Inde, a major tributary of the Calcasieu River located in southern Louisiana.

Numerous contaminants - mainly polychlorinated biphenyls (PCBs) - had accumulated over decades of industrialisation in two distinct areas. To address these environmental impacts in tidally influenced bodies of water required innovative thinking, considerable planning, and precise control at the field level.

In the first area, contaminated sediments were covered and isolated with an impermeable concrete blanket. Over 39,400 square yards of articulated concrete block mat were installed over 2200 linear feet of bayou, with a unique design where the panels were zippered and overlapped to create a continuous bank-to-bank cover.

In the second area, over 21,000 tonnes of sand were pumped into 15.8 acres of fringe marshes, areas that are tidally influenced with varying water levels up to 1 foot. A land-based, logic-controlled slurry system was used to create a sand-water slurry, which was applied in a controlled manner using sprayer barges. The sand cover will mix with existing sediments over the next 30+ years, leading to natural attenuation and protecting wildlife.



Expansion of Lithium Carbonate Plant Argentina

Orocobre Limited

At an altitude of 4000 m above sea level in the Jujuy province of Argentina, the Sales de Jujuy S.A. plant at Salar de Olaroz produces lithium carbonate for export to global markets.

Demand continues to grow for this valuable resource, which is used for making batteries as well as ceramics, glass and chemicals manufacturing.

At Salar de Olaroz, lithium brine is extracted from underground bore wells, fed into evaporation ponds, where brine is concentrated until reaching a desired level of lithium. Then, concentrated brine is sent to the chemical plant where it is filtered and dried, resulting in lithium carbonate.

GHD's role includes:

- Test works to establish design and technological assessment parameter for different processing plant components, with the participation of different equipment vendors and manufacturers
- Detailed engineering design drawing on a variety of disciplines
- Early design and procurement of long lead items.



Hespeler trunk sanitary sewer line Ontario, Canada

City of Cambridge

GHD helped the City of Cambridge in Ontario, Canada to implement an innovative trenchless technology solution for the 45-years-old Hespeler trunk sanitary sewer line, which serves more than 35,000 residents.

After assessing the sewer and reviewing potential options, our team identified cured-in-place pipe as the preferred methodology for rehabilitating the 2 km long, 600 mm and 675 mm diameter trunk sewer. This involves installing a soft, resin-soaked, sock-like liner within the existing sewer using high-pressure air.

This solution saved approximately CAD1 million compared to traditional replacement methods, which would have entailed significant costs and approvals challenges, including the need to clear-cut surrounding forestry within an environmentally sensitive area.

Following the feasibility report, GHD developed the detailed design and tender documentation, and secured the necessary approvals. We also provided contract administration and site inspection services.



Holman Highway 68 Roundabout California, USA

City of Monterey, Pebble Beach Company, Caltrans, the Transportation Agency of Monterey County, Monterey Bay Unified Air Pollution Control District, County of Monterey, City of Pacific Grove, the Community Hospital of the Monterey Peninsula

The Holman Highway 68 roundabout project implemented a multi-lane, sustainable, low-maintenance, user-friendly roundabout to relieve congestion along Holman Highway, one of the Monterey Peninsula's main transportation corridors. The project replaced a signalised intersection joining the Highway 1 on- and off-ramps to Highway 68 and the famous 17-Mile Drive, which previously caused commuter frustration, increased air pollution, and restricted access to the local hospital, compelling impatient drivers to invent detours through adjacent residential neighbourhoods.

GHD provided project management, traffic operations/analysis, and specialty engineering design. Multiple staging and contingency plans were required to mitigate traffic congestion and confusion, while simultaneously maintaining access for residents and emergency services. The design was optimised to minimise harm to the coastal habitat and preserve over 400 Monterey pine trees, protecting the scenic character of the area. The final roundabout solution had significantly fewer impacts and was less than half the cost of a previously planned project.



Novaliches - Balara Aqueduct 4 Manila, Philippines

NovaBala Joint Venture Corporation (NBJVC)

One of the largest water supply infrastructure projects undertaken by Manila Water, a new tunnel aqueduct is being constructed, traversing one of the world's most densely populated cities.

The Novaliches to Balara Aqueduct 4 (NBAQ4) will enable Manila Water to secure water supplies for Metro Manila and also progressively rehabilitate its three existing aqueducts between La Mesa Dam and its Balara Water Treatment Plant.

NBAQ4 will convey 1000 ML/d of water to Balara Treatment Plants 1 and 2 from the La Mesa Reservoir. The project entails the construction of a new intake facility at La Mesa Reservoir, a 7.3 km long by 3.1 m diameter tunnel, a 30 m above-ground outlet tower as well a mini-hydro power plant, access bridge and road and downstream ancillary pipework and civil roads. The tunnel will be constructed using a TBM (Tunnel Boring Machine), which is the first time Manila Water has used such technology in its history.

GHD was engaged by construction contractor NBJVC, an international consortium of companies (Chunwo, CMC Ravenna, First Balfour), to develop the tender detail design and is currently involved in the early stages of construction as NBJVC's technical advisor.

Once constructed, the project will provide drinking water to approximately 7 million people within Metro Manila.



Pesticide Container Management project Pacific Islands

Secretariat of the Pacific Regional Environmental Program

This is the third award GHD has received for this project; it also won the 2018 Western Australia Australian Institute of Project Management Award and the 2018 National Australian Institute of Project Management Award.

GHD was engaged by the Secretariat of the Pacific Regional Environmental Program to improve the management of used pesticide containers in the region in alignment with the UN Millennium Development Goals. In many Pacific Island countries, used pesticide containers are reused for water storage or burned, posing high risks for human health and the environment.

The project team conducted baseline surveys of pesticide container management in 14 Pacific Island countries, and developed an integrated waste management strategy for Fiji, Samoa and Tonga, including a legislative review.

A particular complex aspect of the project was the need to consider sustainable changes to waste management practices within the constraints of small island countries. Having identified a preferred waste management model, GHD recommended that the model be trialled in one country, refined and then expanded across the Pacific region.

“We’re extremely proud to win this third award for our management of this important environmental project in the Pacific region,” says Daniel Todd, GHD’s Technical Director – Environment, Queensland. “Once again this represents a very strong endorsement of the robust project management skills we can bring to international development assistance work, including our ability to successfully coordinate the efforts of team members across multiple countries.”



Saipan dump regulatory closure / Eloy S. Inos peace park Northern Mariana Islands, USA

Office of the Governor/Capital Improvements Program

Saipan, the largest of the Northern Mariana Islands and a US commonwealth in the Western Pacific, closed the Puerto Rico dump in 2003. At the time, the dump had grown to a 90-foot-high mound with an estimated 1.75 million cubic yards of waste, and required remediation to comply with the Resource Conservation and Recovery Act under the US Environmental Protection Agency.

GHD's Saipan office oversaw the engineering and construction management that went into transforming the landfill into a park with walking paths and lookouts for visitors to enjoy sunsets over the Philippine Sea and Pacific Ocean. The USD27.2 million project included the installation of a thick liner system and extensive stormwater drainage and tribar revetment protection system to drastically reduce the amount of contaminated water entering the lagoon and protect the slopes from erosion.

Features that collect and safely vent landfill gas were also designed and installed. The closure is now fully in compliance with USEPA's requirements.



State Highway 1 Ellerslie Acoustic Barrier Auckland, New Zealand

NZ Transport Agency

The Ellerslie acoustic barrier project was initiated by the local community and the New Zealand Transport Agency to mitigate the noise and air pollution effects of more than 100,000 vehicles travelling on this section of State Highway 1.

GHD designed nearly 1 km of acoustic barriers, made up of 233, 3-metre-high panels, sitting on a fibre-reinforced concrete footing, which varies in dimension to fit the narrow corridor.

The core design philosophy was to create a continuous wall with consistent elements, instead of discrete post and panels that usually make up noise walls.

The result is a seamless piece of infrastructure that responds to the overall road corridor, complementing road structures and landscape. The design is inspired by the history of early Maori settlers, who used 'waka' canoes as their main form of transportation. The noise panels incorporate Maori decorative elements symbolising spiritual warning and protection developed by Maori artist and designer Johnson Witehira.



Smart City Framework

Victoria, Australia

Glenelg Shire Council

Glenelg Shire in far south-western Victoria, covers a large area around Portland, which is home to Victoria's second-largest export port built on forestry, aluminium, agriculture and aquaculture.

Like many regional communities Glenelg Shire has challenges around the cost of service delivery, employment growth, retaining young adults and communications infrastructure. Glenelg Shire Council is very progressive and fully recognises the potential of smart technology to help the community achieve three key attributes of liveability, workability and sustainability.

GHD was appointed to prepare a smart city framework, roadmap and governance process. We engaged widely across the community to identify initiatives that are tailored to the region. Our client was particularly pleased with the time our team spent in the community and our open and friendly, collaborative working style. We have since introduced a potential partner who may be willing to fund one of the identified smart technology trials which would enable the Council's limited available funds to be leveraged further.



Tourian FEED **Teesside, UK**

Tourian Renewables Limited (TRL)

GHD has completed the Front End Engineering Design (FEED) for an innovative project in Teesside, UK, that will make valuable products such as fuels, oils or chemicals from waste plastic.

The project, developed to date by Tourian Renewables Limited (TRL), targets end of life plastics that have no further useful recycling value and will contribute to the goal of reducing the amount of plastic currently being disposed of in landfill sites.

Local GHD experience in supercritical steam and combustion systems, as well as electrical, civil and mechanical engineering expertise, was coupled with process plant design knowledge from GHD's oil and gas team in Australia.

The project team deployed specialist technical process design knowledge alongside multi-disciplinary engineering capability to develop a robust FEED for the new facility.

This pioneering project will be the first of its kind in the UK whilst the application of technology to achieve the range of end products from the waste plastics feedstock will be a world-wide first. TRL is asset managed by Armstrong Energy, a leading investor and developer of low carbon and other 'circular economy' projects.



Wickenburg Ranch Water Reclamation Facility, Arizona, USA

Wickenburg Ranch community

The 2160 acre Wickenburg Ranch community in Arizona was isolated from the existing water and wastewater infrastructure and needed a robust wastewater treatment system to support its future growth and development. The Town of Wickenburg also wanted a long-term solution that would reduce the amount of groundwater used by golf courses and landscaping for irrigation.

A new 100,000-gallons-per-day (gpd) water reclamation facility has been built to provide Class A+ reclaimed water, reducing the demand on the aquifer by up to 29.2 million gallons annually during Phase 1 operations and by 106.58 million gallons annually during the future Phase 2 expansion.

A high-quality water reclamation system was selected as the wastewater treatment process that provided the most beneficial reuse. Membrane bioreactor technology was chosen as it requires less daily interaction, while also producing consistent and compliant effluent, even under extremely variable loading conditions. Use of design optimisation tools during the master planning efforts resulted in a symmetrical design that promotes ease of operations and maintenance, while providing sufficient space planning for the ultimate facility build-out at 1.2 million gpd.



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- Project Management
- Railways
- Renewable Energy
- Resource Evaluation
- Risk
- Road Network Management
- Road Systems
- Security
- Spatial Sciences
- Stakeholder Engagement & Social Sustainability
- Structures
- Tailings (Mines & Residue)
- Transportation Planning & Traffic Engineering
- Tunnels
- Waste Management
- Wastewater & Stormwater Collection Systems
- Wastewater Treatment & Recycling
- Water & Wastewater Strategy & Planning
- Water Efficiency
- Water Transmission & Distribution
- Water Treatment & Desalination
- Waterways & Coastal