

# Owning the Future

Front cover image taken by Andrea Anchor – McLaren Falls, Lower Kaimai, New Zealand

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# From Our Leadership



At the heart of things, engineers and scientists are dedicated problem-solvers. We pursue this field of study and profession specifically because we believe there is always a better way to do things - through innovation, through calculation, through experimentation. Because of this, the businesses of engineering and environmental consultancies are well-placed to solve some of society's most pressing problems.

Hannah Hamling President Asia Pacific Global Lead Sustainable Development

2015 SDR3 Owning the Future

# Why Sustainability?

Working with our clients to achieve sustainable development goals is always a rewarding effort. At Golder, we are encouraged to see the growing trend of business serving as mediators, or even drivers, of change – addressing the challenges of economic and environmental sustainability. Our 2015 Sustainable Development Report showcases those most interesting and significant projects where Golder has partnered with our clients to provide sustainable solutions to business needs.

In 2015, the Global Agenda Council Members at the World Economic Forum identified 10 issues they believe will have the biggest impact on the world. With economic and environmental factors as two of the major areas of concern dominating this list, a clear trend is evident: the long-term economic prosperity of the world absolutely depends on environmental sustainability. The demand for innovative solutions has been accelerating in recent years as our clients are confronting not only the declining natural resources and a changing climate, but the related business drivers of a rapidly changing population growth in cities, and a constrained commodities market.

At the same time, we as a society have been confronted with some alarming changes, many unprecedented in our modern history. Millions of people are being displaced from their homelands by war and drought. The gap between the economic classes continues to widen. Cities are facing chronic housing shortages as they struggle to deal with urban migration.

The changing climatic conditions have had the most profound effect on water resources, and while this has most significantly impacted Asia and Sub-Saharan Africa in the past, the effects are expanding to be felt worldwide and across all economic, urban, and rural environments. Significantly, aquifer decline, is causing land to sink. Most recently, Beijing has lost so much water from its aquifer it's sinking 11cm a year while parts of California's Central Valley are dropping as much as 5cm per month.

Developing countries continue to suffer the most from weather-related disasters and increased water stress caused by climate change. We are unfortunately reminded that much of the world's most biodiverse environments are located in the most impoverished regions of the world and it's the poorest people on earth who make sacrifices to conserve these areas for future generations. Those businesses who have commercial interests in these environments understand this and are seeking to minimise their impacts while bringing much needed jobs to the people and increasing their quality of life. The path to sustainability, is the call to arms we all commonly heed.

As I reflect on the challenges of 2015, there is a quote that resonates for me.

"We are at a critical fork in the road, a period of decision that will dictate the health and viability of our civilization for decades to come."

### Council World Economic Forum

Companies like Golder have the ability, and perhaps the responsibility, to work with our clients in a way that balances economic, social, and environmental needs. We can help choose the direction of the future, taking the right fork in the road to solve some of the most pressing problems facing the environment and today's society, whether it's through restoration of environments or innovative design that attends to the needs of the triple bottom line, paving the way for sustainable economic prosperity. Golder is answering the call, working with our clients to achieve economic growth through development and application of sustainable solutions.

We have worked at leveraging the amazing skills and innovative thinkers we have in Golder to enable our clients to succeed. At the same time we have been focusing on "walking the talk" within our own house, working hard to be a good corporate citizen and minimise our direct impacts on the planet. For over a dozen years now, we have worked to alleviate the desperate situation of orphans impacted by AIDS/HIV and Ebola in Africa through our Golder's Trust for Orphans. In addition, our passionate and committed people are actively volunteering, as well as funding causes that make a difference in our local communities wherever we work and live.

Our efforts are ongoing on all of these fronts. We know this is a path of continuous improvement. Our goal, and our commitment, is to make strides every year.

# About Us

The 2015 Sustainable Development Report describes and reports on our work, environment, governance model and contributions to our community. In particular, it considers our progress in embedding sustainability into our operations as well as in the work we do for our clients. The theme of the report, Owning the Future, reflects our experience responding to challenging market conditions and the beginning of our transition to a new destination and redefined organisation.

### Who We Are

We are scientists and engineers, ecologists and economists, geochemists and geologists, planners and builders, and much more. We are approximately 6,500 employees working from 185 offices on six continents.

### What We Do

Golder delivers design, construction, ground engineering and environmental solutions that help our clients in oil and gas, mining, manufacturing, power, and urban development and infrastructure achieve their sustainable development goals. We do this by providing a wide range of services in our specialist areas of earth and environment.



# Charting a Future

Throughout Golder's history, we have recognised that success comes from strong principles and shared ownership, not merely the pursuit of profit. Sustainability at Golder, both in practice and standpoint, is being further amplified, and this is evident in our commitment to the Global Compact, decided upon at a meeting of global leaders in late 2015 and enacted in 2016. The theme of the 2015 report, "Owning the Future" reflects our experience responding to challenging market conditions and the beginning of our transition to a new destination and a redefined organisation.

Golder's commitment to sustainability was refined in 2015 and builds upon existing commitments formally established in 2012 and detailed in two documents: "Our Commitment to Sustainable Development" and "Sustainable Development Desired State".



We have recently completed an internal program to restate our values and commitments and sustainability was one of the highest ranking values identified by our people and confirmed by our Board, our leadership, and our clients. As such, we have renewed our commitment to programs such as the UNGC, continuing our annual reporting on sustainability under the GRI(4) standards, and complying with in country programs such as the UK Modern Slavery Act.

> Hisham Mahmoud Principal, Global President & CEO

### Our Commitment to Sustainability

As an enterprise:

- » We are a leader in sustainable development and social responsibility
- » We actively strive to reduce impacts to the environment from our internal activities
- » We uphold our commitment to human rights
- » We demonstrate our commitment to our people and our clients, and motivate ourselves to continually improve
- » We will commit to the UN Global Compact and its requirements
- » We will report on our performance through our Sustainable Development Report.

As a service:

- » We pro-actively embed sustainable development in the services we offer clients
- » We strive for innovation in sustainable solutions
- » We provide long-term innovative solutions to our clients' problems and assist them in achieving their aspirational goals on sustainability and social responsibility
- » Through our innovations, we adapt to changing economic conditions and the demands of a growing global population.



# A Visible Sign of Diversity

### Women in Leadership – Shattering the Glass Ceiling at Golder

When Golder moved from seven operating regions to four in 2015, the result was an organisation rich in diversity. As Golder entered this new phase, four women were selected to key leadership roles. All are members of the company's Executive Committee, where with women holding 6 of 11 roles, they are actually in the majority. This gender diversity is unique in the engineering/environmental consulting industry where traditional science, technology, engineering and math (STEM) fields are dominated by males from early education through to business leadership. Considering

the global economy is in a recession and Golder has undertaken a major rebuilding under a new CEO, it is a crucial time in the company's history. The selection of leaders was done with a vision to the skills, capabilities, and passion that could take Golder forward to a strong and resilient future.

What are the challenges for these women leaders? What do they bring to the table that could potentially give Golder a strategic advantage over its competitors? For a start, the four women are highly-accomplished in their technical fields, and all have proven themselves as outstanding leaders.









Hannah Hamling is President of the Asia Pacific region. Based in Auckland, New Zealand, Hannah joined Golder 10 years ago through the acquisition of her own company, where she was the managing director and the only woman among five owners. A biologist by training, over her 30-year career, she has been focused primarily on permitting and due diligence and environmental liability management related to mergers and acquisitions. She has held a number of leadership roles in Golder, including a 5-year term on the company's Board of Directors.

### Anna-Lena Oberg-Hogsta is

President of the European and Middle East region for Golder. She holds a PhD in geotechnical engineering, and is a former professor at the University at Gothenburg in Sweden. She has been with Golder for 14 years, and served in a number of leadership roles in Golder's European operation.

Louise Menard is President of the Americas, Golder's largest region.

A geologist by training, her 20+ year career has seen her move from her native Quebec, where she gained experience in environmental consulting with a focus on contaminated sites management, to increasingly-responsible leadership roles, including Chief Operating Officer for Canada and leader of global business support.

Maria Eugenia Parot is Vice President Latin America, a biochemical engineer by profession and an environmental consultant by experience. Early in her career, she had the opportunity to work with outstanding mentors who encouraged and supported her development as a consultant and project manager. She joined Golder in 2005 through the acquisition of her own company where she was the managing director.

# Balance & Perspective

It has been said that gender is a business issue, not a women's issue – the business case for the advancement and promotion of women is compelling. Organisations with diversity in top positions better reflect the perceptions of their clients and their own employees, and benefit from a broader view of the business.

All of the senior women are strong believers in the value and the effectiveness of high-performing teams.

"I'm passionate in working with people, understanding individual and collective challenges and needs to take the best of every one with a collective sense of success," says Maria Eugenia.

The value of teamwork is a common thread among all the members of the Executive Committee. "We need to lead as a team," says Anna-Lena, "building consensus wherever we can."



"Women often bring the need to analyse situations from different angles before making a decision," says Maria Eugenia. "In our current team we value direct feedback and productive debate."

"It is a question of balance," says Louise.
"I think with diversity in a team, we
explore issues in a broader way, looking
at them from a number of angles. I
believe there is more richness in the
discussion, better listening. And at
the end of the day, I think we arrive at
better decisions."

"The women in our team pick up the complexity of the problems with regard to people management, the markets and the strategy." Hannah agrees. "As a result, I think our leadership team reaches decisions more quickly."

"I definitely see it as a strategic advantage," says **Anna-Lena**. "The diversity brings different perspectives to the decision-making process. That puts us ahead of the game."



NICHOLE BOULTBEE Engineering Geologist, Canada

A Week in My Life article spread from the Breakthrough June/July edition.

A Week in my Life

### **Champions of Change**

Consult Australia, the peak body for the consulting industry in Australia, actively works to increase the participation of women in positions of leadership in this business sector. Through their Champions of Change initiative, Consult Australia members work to promote gender equity and influence change in what are unacceptably low levels of women in leadership in Australia's consulting industry. Members of the Champion of Change network comprise **CEOs and Managing Directors** of leading consultancy firms across Australia. Members share experiences, best practice, data and strategies. They advocate and take practical action to advance this issue. Actions include sponsoring and mentoring women into leadership positions, partnering with schools and universities to raise the level of women in our industry, and encouraging a greater focus on STEM (science, technology, engineering and maths) subjects in schools.

Hannah Hamling, President Asia Pacific, is a member of the Champions of Change network and in her words describes her support for gender equity. "It is well understood that successful companies have diversity in gender and race. Having firsthand experience of the upside of fostering a diverse workforce and the debilitating nature of uniformity, I am passionate about this issue. We can achieve much more by working together to effect positive change than by a singular effort, and I am pleased to be part of a cohort of like-minded people."

# Leading Next Generation in Tunnelling – Nichole Boultbee

Nichole Boultbee was quite busy in 2015.
As an Engineering Geologist based in British Columbia, Canada, she has been intensely involved at engaging young professionals in the tunnelling industry. As well as being on the Board of Directors with the Tunnelling Association of Canada (TAC), she has also helped found a young members' group with the International Tunnelling and Underground Space Association (ITA) and now sits on the steering board for the group

### BREAKTHROUGH

One of their initiatives was creating a new magazine aimed at young ITA members entitled *Breakthrough*. Alongside folks from the Tunnelling Journal, Nichole and the team helped produce the inaugural issue. She has since contributed several articles including *A Week in my Life* feature detailing her day to day activities.

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Golder Associates

### Achievements

In 2015, a global dialogue on psychologically-healthy workplaces began with participation from every Golder region. This was directly correlated to the introduction of Workplace Wellness in our Golder Global HSSE Policy in 2014.

Global best management practices, pertaining to high-risk work, were developed and communicated for use throughout the organisation including aviation safety, marine safety, malaria prevention and thermal stress. In response to user needs, the electronic HaSEP tool was improved and implemented globally.

Travel continued to be one of our greatest risks to our people's health, safety and security. Golder completed over 6300 international trips in 2015, successfully managing security and medical risk to keep our people safe. To serve clients, Golder deployed 73 staff to complete 151 trips to high security risk locations and 112 staff to complete 205 trips to extreme medical risk locations. No work-related security or medical evacuations were required in 2015.

In 2015, Golder launched its first Global Malaria Awareness & Travel Risk Awareness campaigns.

### Highlights

A notable highlight of 2015 was the redefinition of our HSSE purpose. We recommitted to our journey to interdependence as well as new opportunities for employee engagement, visible felt leadership, and improvement.

In 2015, Golder employees participated in 92 corporate HSSE-related committees, across all of our operating regions, in support of our commitments to health, safety, environment, wellness and sustainability.

Health, Safety & Security 12,851

94%

Audited Projects had

an approved HSE Plan

Reported global

28 Recordables for 2015

300 International trips with Internatioanl SOS upporting our needs

887

P&A site visits

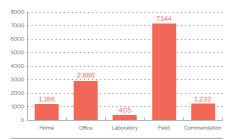
lobal Total Recordable Case Rate - 12% decrease from 2014

12,608,034

### **Learnings & Improvements**

Reporting HSE learnings is an important process used by Golder to prevent injury, illness and loss, improving risk mitigation and hazard control, and strengthening our health and safety culture. Golder also uses reported learnings as a measure of employee engagement in HSE.

In 2015, 12,851 learnings related to HSE losses, near misses, potentially hazardous conditions and commendations were reported in the Learnings Database. This represents 66% of our target of 3 learnings per person per year (based on a total employee count of 6,500). The 2015 number represents 1.6 learnings per person relative to the reported learnings target of 3 or more reported learnings per person per year.



Total learnings posted by incident location

learnings per person

Global total 2015 – target is 3 per person

48,878 hours

Total health & safety training for employees

# Demographics - this is us



### Wave of Juniors

There was significant restructuring during 2015 in response to prevailing market conditions and ensuring the ongoing success of the business. During this time our employee numbers decreased by 23% – the biggest decline for many years.

However, the percentage of juniors increased as we see a new wave of talent enter the workplace. In 2015 juniors made up 35% of Golder's global staff – an increase of 11% from the previous year.



# We're Staying Longer

The average tenure for Golder staff increased in 2015 for both men and women. Men stay on average 7.71 years, whilst women stay for 6.22 years for a total average of 7.13 years – a 4% increase from 6.85 years in 2014.

is the average tenure of our staff

### Diversity

The overall percentage of women in Golder has essentially been constant, fluctuating less than 2% year over year. A slight decrease in administrative and scientist positions was balanced by a similar increase in women in geology, engineering and finance positions.





male workers in 2015 was 4,017.



# Environment Management

Our Global Health, Safety & Environment Policy commits us to protect the environment and prevent pollution, and is realised in our management of our operations and our service delivery to our clients.



2015 Winter Drilling & Sampling Program for the Dominion Diamond Jay Project, Canada

### Global HSSE Work Plan

As a services company, the work we do for our clients offers us a great opportunity to address impacts that can lead to climate change, water scarcity and water quality issues, biodiversity losses, desertification, and many other issues. As scientists and engineers we use our knowledge to help our clients meet their business needs and devise and design solutions to the problems they face, evaluating inherent risks and taking actions that mitigate impacts to the environment. We are equally committed to minimising the environmental impacts of our own operations.

We successfully completed our 2015 Global HSSE work plan in Management of the Environment in the following areas:

- » Review and amendment of the existing Global HSE Policy and Global Procedure 5: Management of Environmental Issues
- » Continued discussions with the Global Sustainable Development Leader and allocated resources to the environment-related sustainable development work
- » Tracking, reporting and analysis of carbon footprint data on our current database.

Building of shared resources and information between regions on environmental learnings, alerts, training and other relevant information.

# Carbon Footprint

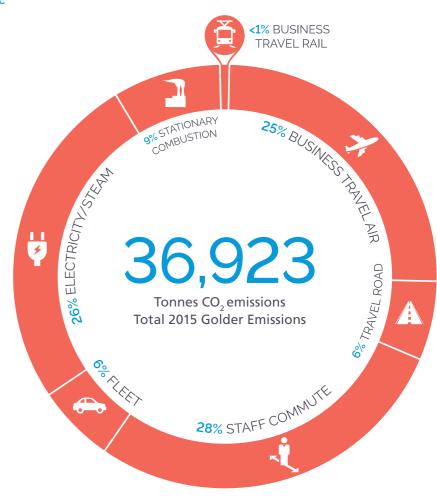
# Managing Energy Use & Carbon Emissions

Across our operations, we are committed to the responsible use of energy and energy resources. We are also committed to the continual improvement of our facilities to optimise energy consumption. In each of our geographic regions, Golder tracks energy use in our workplaces and this is reported into our carbon data collection database.

Golder operations and work activities are dependent upon the use of energy and fuels for travel by air, rail, road and ship, and office, laboratory and warehouse utilities.

Our emissions intensity for 2015 was 5.7 tonnes CO<sub>2</sub>e per person. An 18% global decrease from 2014 in total CO<sub>2</sub> emissions.

At the end of 2015, Golder had 6,500 employees in 185 offices and laboratories in 44 countries. Our staff facilities occupied approximately 180,000 square metres around the world. Our 2015 electricity usage decreased by 9% as compared to the previous year. Total energy usage, which includes natural gas, heat and steam, and electricity, in 2015 decreased 46% when compared with 2014. Golder is proud of this decrease for two distinct reasons: it reflects an improvement of natural gas data collection in some regions and also greater clarity in our estimates through a revised process using vendor invoices rather than estimates based on office size and occupancy. We also believe this means our energy management was better than reported in 2014 as our estimates were likely above actual use. In 2015, our total energy usage intensity was 21 GJ/person or 0.7 GJ/m<sup>2</sup> of occupied workspace compared to 34 GJ/person or 1.2 GJ/m<sup>2</sup> of occupied space in 2014.



### **Employee Travel – Business & Commuting**

During 2015, we travelled approximately 80 million km to support and deliver services to our clients. This compares to 75 million km in 2014 and represents a 7% increase in total business travel (i.e., air, road and rail travel) or approximately 770 km/person in 2015. Our business travel emissions intensity is approximately 1.75 tonnes CO<sub>2</sub>e km/person with business travel by air contributing 25% of the carbon emissions produced as a result of our operations' activities, increasing by approximately 1800 km/person. Although we have experienced a 33% increase in emissions from air travel, we are still well below our emissions produced prior to implementation of our travel reduction program and overall our totals still reflect a significantly lower number than our 2013 marker of 190 million km due

to a committed focus on essential business travel only.

Golder maintains a fleet of vehicles in order to facilitate business travel and to improve the safety, maintenance and environmental sustainability of vehicle travel. Carbon emissions associated with the fleet operations represents 6% of our total emissions. Fleet emissions experienced a negligible increase in 2015 from the previous year. However, emissions from business travel in personal and rental vehicles decreased by 40%, from 2014 to 2015.

While 31% of our 2015 emissions are associated with employee business travel in airplanes, vehicles, and trains, an additional 28% of emissions result from employee commuting. The estimated commuting emissions intensity is 1.6 tonnes CO<sub>2</sub>e/person.

2015 MATERIALITY SURVEY RESEARCH

189

Principals

Board & Executive

Again we sought to better understand our position in terms of what Golder stakeholders identify as material items of importance to our people, business, clients and communities. To encourage engagement by our people, the survey was simple and concise and provided a good measurement opportunity as the same eight short questions asked in 2014 were repeated. The survey was launched in both English and French language versions to accommodate our large population in the French-speaking Province of Quebec.

### Materiality – Strengths

Overall, survey respondents support the need to balance sustainable choices without compromising our ability to service our clients' projects. They know that to be recognised by our clients as leaders in sustainability, we must demonstrate company-wide commitment to a formalised company sustainability agenda.

Some survey respondents noted support for individual offices taking responsibility for carbon offsetting in a local setting even if it amounted to "just planting trees."

Some respondents highlighted the fact that clients want to work with consultants with defined corporate social responsibility processes and policies and felt that we could improve in defining our commitments so it is easier to demonstrate these to clients.

Stakeholders demonstrated their commitment and challenged our leadership to unanimously support the strategy and identified their investment as critical to our future.

### Materiality - Opportunities for Education and Growth

Based on responses, our employees understand and support our desire to be cost effective in all aspects of our business. Some understand that sustainability is more than the triple bottom line, while others question the need to spend additional resources on implementing best practice in environmental sustainability.

While sustainable development and sustainability can be a source of debate, Golder aims to be as "clean" as practicably possible in our own operation, and encourage our clients, where appropriate, to make decisions about their own operations based on principles of sustainability.

### Materiality – Our Clients

Our key clients were also invited to participate in the materiality survey. The purpose of seeking this information from clients is for Golder to gain a greater understanding of the sustainability issues that are important to clients, and if Golder meets their expectations in this regard.

All respondents considered it important that Golder operates as an environmentally sustainable and socially responsible organisation by minimising waste and carbon emissions and paying attention to the potential for human rights abuses in the supply chain.

Further, all respondents agreed it was important that Golder is recognised as a provider of sustainable solutions to their businesses

We received a 29% response rate, our greatest to date, with a total of 794 employee responses from approximately 2,700 people invited to participate. A select group of clients were also invited to participate in the survey and 12 client responses were received.

### Feedback

As noted in our Energy and Carbon Emissions notes, the very nature of our consulting business will always require travel, the largest contributor to our carbon footprint. However we are looking at ways to offset our carbon footprint through participation in carbon credit and sustainable social programs.

Overall. results indicate we must continue our communication and education efforts to better inform our employees about our commitment to being recognised as a business that operates sustainably and thinks creatively to assist our clients in meeting their own sustainability agendas.

Our stakeholders identified a need to look at ethical procurement and formalise our Corporate Social Responsibility program and Human Rights Policy. Respondents cited examples where clients, growing in sophistication on sustainability measurements, have requested these details as part of project bids, demonstrating an understanding of the supply chain impacts. In addition, respondents noted that when we complete social impact assessments we frequently commit our clients to local procurement and other social best practice measures, and would like assurances that Golder itself has these matters in hand. This represents an opportunity to improve internal communication about Golder's own procurement policies.

The Materiality Survey will be revised for 2016 to further align content with contemporary sustainability issues.

Sustainability and being an environmentally conscious company is a big key to being a successful company today, in my opinion.

66 I'm proud to work for a company that values our environment and promotes sustainable practices.

More and more our clients' procurement practices will reward companies that adhere to the highest standards of sustainability.

Leadership means taking strong stands on issues important to people and our planet. While the last couple of years have been difficult for Golder, we are still blessed with some of the smartest minds in engineering and science, and we should take a firm role in protecting our legacy and being role models for others around the world.

As a company we have the ability to shape projects and have positive immediate and long terms impacts on the environment and local economy. Allowing time for innovative thinking and discussion of new ideas and techniques should be encouraged to prevent repetition of 'old' behaviours and design techniques.

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# **Project Profiles**

### Renewable Energy – Enel Green Power

### **EUROPE & SOUTH AMERICA**

Golder is working with Enel Green Power on the development of renewable energy projects in Europe and South America. Enel Green Power is an Italian renewable-energy business established in 2008. Together Golder and Enel Green Power are preparing Social Environmental and Economic Context Analysis (SEECA) for the development of renewable energy plants, including solar, biomass and geothermal plants. A SEECA analysis includes an environmental and social baseline; stakeholder mapping and identification of community relationships; an outline of competitors and other industrial players in the area; identification of international, institutional or other relevant projects underway in the locale; stakeholder interviews to understand their interests, concerns and expectations of the projects; proposals of actions, and initiatives that will deliver a shared value outcome.

Enel Green Power has adopted a Creating Shared Value (CSV) approach to its business which is aimed at promoting joint projects with local communities that are simultaneously profitable, and adding value to the local economy. Through the SEECA analysis, a profile of the communities and relevant stakeholders in a project is created, and becomes an important resource for planning joint development activities.

So far, SEECA analysis has been undertaken on three proposed biomass power plants in Italy, a photovoltaic park in Peru, and a geothermal power plant in Germany, the first steps in becoming future sustainable energy projects.

### Solid Waste Management Technology Roadmap

### SINGAPORE

In Singapore Golder is working with the National Environment Agency (NEA) to develop a Solid Waste Management Technology Roadmap that establishes pathways in achieving Singapore's 2030 vision goals. For Singapore, a country challenged by the physical limitations of land space, the effective management of waste is an important priority. Singapore's 2030 vision goals relating to waste management include; minimising the land footprint and environmental impact of waste management; maximising manpower productivity while maintaining high levels of public health; keeping the cost of waste disposal affordable; maximising recycling (waste to resource) in meeting the national recycling target of 70% by 2030; and maximising energy recovery.

Golder's approach in developing the Roadmap included a review and assessment of current best practices in waste management, and of emerging (global) trends in waste management technologies relating to collection, sorting, upcycling and treatment. Input and feedback from local academia, industries and government agencies were gathered through a series of stakeholder consultation workshops organised by Golder.

The roadmap and its recommendations will form the baseline for NEA to further evaluate their social, economic and technical relevance in Singapore.

The Golder EHS team in Singapore collaborated with colleagues in the USA, Canada, UK and Australia to prepare this roadmap, which was presented at the Energy Innovation 2016 Symposium in Singapore.

# Remediating an Industrial Site for Agricultural Use

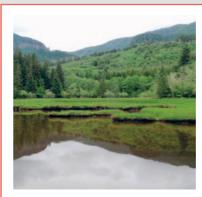
### RIVAROLO, ITALY

The introduction of advanced farming systems is a seldom explored solution for the redevelopment of contaminated brownfield sites. The environmental liabilities and economic constraints connected to contaminated sites often make it hard to implement innovative urban land uses that go beyond building new residences or commercial premises; in many cases these sites remain empty and have no clear future.

The idea with this project is to go one step back, bringing abandoned industrial sites located in rural areas, to the agricultural use they had before industrialisation, but at the same time go one step forward, by using innovative soil-less farming techniques. This concept has been applied in a feasibility study developed jointly by Golder and TRA (architects) for Eaton, the owner of the of the brownfield site in the Metropolitan City of Torino.

From an environmental point of view. the site shows a residual contamination due to past production activities, and remediation of soil and groundwater are currently being performed, with no major risks or technical difficulties anticipated. In redeveloping the site the need for construction activities would be minimised and the spaces and buildings already available would be reused, to create a hub for innovation in the agricultural sector. The main shed, approximately 12,000m<sup>2</sup>, would suit indoor hydroponics agriculture. The rest of the site can accommodate activities linked to advanced agriculture, such as a logistics hub, research and education areas, recreational spaces and accommodation structures.

# Project Profiles



### Vancouver Island

### VANCOUVER, CANADA

On Vancouver Island, Golder is helping one of our First Nation communities, the Pacheedaht, upgrade the water supply for the benefit of the community. The Pacheedaht community of approximately 130 people live in a communal setting at Gordon River on the west coast of Vancouver Island. The community is 2km from the village of Port Renfrew and one and a half hours from the nearest service centre. The community is located on the relatively flat delta between the San Juan and Gordon Rivers. The sand and gravel deposits were highly vulnerable to potential contamination from surface sources and consistent access to drinking water has been a problem for the Pacheedaht.

Golder was initially engaged to conduct a groundwater exploration program and find a confined aquifer to enable a consistent and quality water supply. Additional project work was required including an environmental assessment, an environmental management plan, and monitoring of the installation of the infrastructure.

The groundwater exploration program included drilling and construction of one test well and a hydraulic testing program to assess the quantity and quality of the water from the test well. Golder identified an alternative aquifer approximately 60m below ground level which recharges naturally that could be used to provide the community with a reliable and healthier water supply.



### Bluefish Lake Pygmy Whitefish

### BLUEFISH LAKE, CANADA

While monitoring fisheries at Bluefish Lake for the Northwest Territories Power Corporation, Paul Vecsei, and a Golder fisheries team from the Yellowknife office in Canada, have found evidence of the rare Pygmy Whitefish.

The Pygmy Whitefish is the smallest member of the subfamily Coregoninae. It has large scales, large eyes, a blunt snout and a cylindrical body and rarely exceeds 140mm in length. Curiously, extensive fisheries surveys in Great Slave Lake have not yet detected this species. Golder was contracted to undertake fisheries monitoring at Bluefish Lake, which also acts as a reservoir for the Bluefish Hydroelectric Plant, owned and operated by Golder client, Northwest Territories Power Corporation.

Monitoring activity revealed six individual Pygmy Whitefish, only the second observation of this species in the Northwest Territories, and the first report of their presence in the Great Slave Lake Basin. The finding is interesting because of the questions it raises regarding the uneven spread of fauna across the northern landscape following the last ice age 8,000 years ago. This discovery has caused much excitement for the scientific community with findings published in the Canadian Field Naturalist, and presented at the Canadian Conference for Fisheries Research in 2015.



# Managed Aquifer Recharge (MAR) Pilot Project

### HINDS, ASHBURTON, NEW ZEALAND

In many parts of the world, communities are seeking to find cost effective and environmentally friendly solutions to issues of water scarcity. In the Hinds catchment and elsewhere in New Zealand, Golder is successfully developing this Integrated Water Management Systems (IWMS) approach through the development of catchment-scale Groundwater Replenishment Systems (GRS). The New Zealand national government is also interested in Golder's approach, and has provided funding for two Golder led projects as part of the national water infrastructure program.

Starting in 2014, Golder has led the

design, permitting and construction of the Hinds MAR pilot site, thought to be the first project of its kind in New Zealand. Golder continues to be the lead for both operations, technical analysis and community outreach and education. After only four months of operations for the MAR Hinds pilot, results have indicated that both groundwater levels and contamination concentrations are improving in the area adjacent to the site. With these positive results the community is now setting up a governance structure to develop a catchment-wide GRS and include a diversity of stakeholder interests to ensure that the economic, environmental and cultural outcomes are balanced and sustainable. If successful, it is likely to be one of the first community-based MAR systems in the Southern Hemisphere.

# **Industry Recognition**

# Best Workplaces for Waste Prevention & Recycling

### WASHINGTON, US

The Golder team in the Redmond office has been recognised for its waste prevention and recycling effort in the King County Solid Waste Division's 10th-annual Best Workplaces for Waste Prevention & Recycling list. The team has been included on this "list" for five consecutive years and was recently awarded with "Honour Roll" status, for creative approaches to sustainability, waste prevention, and recycling, including establishing an environmental issues register, which contains tactics to identify, manage, and improve upon the environmental challenges in the Redmond workplace. Challenges such as waste management, reducing corporate travel and improving their carbon footprint by promoting and encouraging the use of video-conferencing and instant messaging, continuous improvement in recycling and composting programs, using printers with eco-smart defaults and delivering e-reports. Additionally incentives are offered to people that use alternative commuting to reduce single occupancy in vehicles, while also encouraging staff to "power-down" at the end of the day and weekends to reduce unnecessary energy consumption.

### The Golden Pile (Guldpalen)

### STOCKHOLM, SWEDEN

The Commission on Pile Research, together with the Swedish Association for Foundation Engineering, annually award The Golden Pile (Guldpalen) to the person considered to have made the most significant contributions to piling technology and piling industry in Sweden. Mikael Creütz, Senior Ground Engineer at Golder received this honour in March 2015.

Mikael has 20 years of experience in ground engineering and his technical skills are highly regarded by his clients and colleagues.

### Golden Gecko Awards – Finalist 2015

### WESTERN AUSTRALIA, AUSTRALIA

Launched in 1992 by the Western
Australia Department of Mines and
Petroleum, the Golden Gecko Awards
recognise excellence and leadership
in environmental practice, and
acknowledge outstanding contributions
industry has made to develop Western
Australian resources in a sustainably
responsible manner.

Golder was recognised as a finalist for the work undertaken with Premier Coal on the remediation of a mine pit lake at Lake Kepwari in the south-west of Western Australia. The recommendation adopted by our client has been to create a flow-through system by allowing degraded local river waters to mix with the acidic waters, greatly improving the environmental conditions of the lake and allowing for a range of beneficial uses for the local community.

Geckos are among the last species to return to an area after land disturbance, and the presence of geckos are an indicator of health of the environment.

# Admittance to the Chemistry Industry Association of Canada (CIAC)

### CANADA

In 2015 Golder was admitted as an associate member of the Chemistry Industry Association of Canada (CIAC) the first environmental consultant member in an association whose members are chemical producers. Golder's membership was sponsored by BASF and Dupont. The CIAC membership requires members to be committed to responsible care – which is the program of health, safety and sustainability for the chemistry industry. Golder has signed off on responsible care commitment and as the first environmental consultant associate member, CIAC will work with us to develop a verification program for associate members.

# Industry recognises Golder Excellence in Chile

### CHILE

Golder Chile has been acknowledged as the *Top Performer* in the *Specialised Engineering category of the Conceptual, Basic and Detailed Engineering* section of the 2015 Mining Contractor's Ranking. The purpose of the survey, conducted by the local consultancy firm Phibrand since 2012, is to recognise the top firms operating in the single most important economic sector in Chile – mining, and to provide quality information about services to the local mining industry.

### Léonard Environment Award

### MONTREAL EAST, CANADA

Golder was awarded a *Léonard*, a "symbol of outstanding quality in engineering", in the environment category in recognition of its role in the Dow Chemical and Petromont consortium project involving the remediation of contaminated soil at a former manufacturing site.

Petromont, is a former polyethylene and petrochemical manufacturing plant in Québec. Golder was engaged to develop a treatment method that would integrate sustainable development considerations into the remediation process of soil contaminated with polycyclic aromatic hydrocarbons (PAH) and heavy petroleum hydrocarbons. More than 120,000m<sup>3</sup> of soil was required for excavation and remediation. After laboratory and field pilot treatability testing, a biological treatment process using innovative technologies consisting of large-scale biopile and co-composting treatment, was designed and deployed on site.

By opting for sustainable technologies, the Dow-Petromont consortium is significantly minimising its ecological footprint. The contaminated soil is treated directly on the site and reused as backfill, with the site's future development needs in mind.

# Local Initiatives



### Volunteering at the Animal Shelter – Turkey

GAT-GAIMS Coordinator Gizem works as a volunteer at the animal shelter of the Animal Rescue Association Turkey (ARAT), which helps animals who need special care and rescues them from the streets. Stray animals are a major issue in Turkey and each year hundreds of animals are rescued, treated and adopted by the members of ARAT.

Gizem adopted a little stray dog and named him "Bambam" and brought him to the Golder Ankara office. A year after the adoption Gizem started a campaign with her colleagues working in the Ankara office and collected money to buy food for the other animals at the shelter as a celebration for Bambam's first birthday. Golder employees visited the shelter and gave the food to the dogs, helped exercise the dogs, and spent a time with the animals in the shelter.

(Right top) Bambam is almost 3 years old now and frequently visits the Golder Ankara office.



### Spudley September – Sustainability Calendar - New Zealand

At Golder New Zealand we run a 12 monthly Sustainability Calendar, encouraging our staff to participate in the health and wellbeing of themselves and their environment. We have a very limited budget and try to be as sustainable as we can.

'Spudley September' has to be one of the most memorable events – for a donation of \$1 to cover costs, everyone was supplied with a bucket, some compost and a couple of seed potatoes. Competition was fierce, feeding the buckets with worm wee, compost and who knows what! The exciting part is that you cannot see what is going on in a bucket and it was not until the shoots started to emerge we had any idea our potatoes had survived. For 3 months, we watered and fed, the display of buckets in the Auckland office was quite impressive. On the eve of our Christmas function we revealed our crops – they were awesome. Prizes were awarded for the Tallest Potato Plant, Biggest Crop, Most Effort with Least Gain and Strangest Smelling Spud.

### Abrigando Corazones – Anti-Frost Campaign – Peru

During July and August 2015, Golder Peru launched the "Abrigando Corazones" (literally "heart warming") campaign with the aim of lending a helping hand to those living in southern Peru, an area that is subject to intense frost during winter. The goal was to donate warm clothing and bedding to children and young people in foster homes run by Fundacion Don Bosco in Arequipa and Ayacucho, where temperatures fall significantly.

Golder employees collected 200 garments (warm clothes), 34 mugs and 180 polar blankets (through the collection of money internally).



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Golder Association

# Golder Trust for Orphans

Inspired by the "teach a man to fish" theory, the Golder Trust for Orphans incorporates a business model which focuses on improving lives through sustainable solutions to ultimately create empowerment within the community. We are extremely proud that 100% of donations go directly towards projects.



### How did the Golder Trust for Orphans begin?

Soon after the establishment of Golder in Africa in 2003, many employees became acutely aware of the havoc the HIV/AIDS pandemic was wreaking on the healthy development of families and communities all over Sub-Saharan Africa.

Living, working, and travelling all over the world has helped Golder employees to understand that we have the ability and responsibility to make a difference in the world. Rather than standby and watch, Golder decided to act – a decision which resulted in the formation of the Golder Trust for Orphans. Golder's vision is to support and partner with organisations that aim to improve the quality of life of orphaned children and young adults in communities impacted by the HIV/AIDS pandemic.

Inspired by the "teach a man to fish" theory, Golder Trust for Orphans incorporates a business model which focuses on improving lives through sustainable solutions to ultimately create empowerment within the community.

Golder Trust for Orphans projects incorporate:

- » Agriculture cultivation of green peppers, dairy, bees, chickens
- » Food programs breakfast feeding schemes, weekly community food packs, holiday food packs
- » Manufacturing/production water projects, honey, bakeries, cheese
- » Education schools, bursaries, vocational training
- » Healthcare programs general health care, X-ray machine for TB patients
- » Other Income generating business enterprises to ensure sustainability of support to the children.

The Golder Trust for Orphans provides one-time grant funding, enterprise development/investment funding, skills development, and education funding. While we have a history of funding the building of educational facilities, such as schools, in 2015 we recognised the need to distribute our funding in a more innovative way. We set strategic objectives to adhere to our unique funding strategy of 20% grant funding, 40% skills development/education and 40% enterprise development.

### Bulembu Swaziland

Bulembu, a small town in Swaziland, is redefining and rebuilding itself. The local mine was closed down in 2001 and the future looked bleak for the community. The people of Bulembu were left with nothing. As HIV/AIDS ravaged the country, children and babies were abandoned. But a team of entrepreneurs and social developers saw the potential of Bulembu and the spirit of its people. Today Bulembu has a goal to create a totally self-sustaining community.

The balanced objectives of economic and community development in Bulembu is commendable. The ultimate vision for Bulembu is to provide safety, dignity and hope to everyone in the

from HIV/AIDS, poverty, abuse and abandonment, by creating health services, orphan care, education, and spiritual nurturing. Developing a thriving economic environment by creating employment, and generating income, Bulembu will create a sustainable community and provide all services required.

helped this project by:

- » Providing monthly orphan care to Bulembu Babies
- » Funding for the expansion of the water bottling plant
- » Installed solar heating systems for ten houses.

### GTO 2015 Overview











# **2015 Milestones**

- » Volunteer Trip to Rhotia Valley
- » Appointment of a new Trust Manager, Kim Lloyd

### Some 2015 GTO Projects

Zimbabwe, South Western Zimbabwe

» Installed satellite internet for better communication as Willard has no signal of any sort

### Mission Station of Carlos Vilanculos

Vilanculos, Mozambique

- » Solar pump, tanks and stand for the borehole at the feeding cent
- » Funding to build the feeding center.

Bulembu, Swaziland

- » Providing monthly orphan care to Bulembu Babies
- » Funding for the expansion of the water bottling plant
- » Installed solar heating systems for phase 2 (10 houses)

### Love Trust, Nokuphila School

Tembisa, South Africa

» Funding for the building of the new  $\,$ Nokuphila School.

### Hope Farm

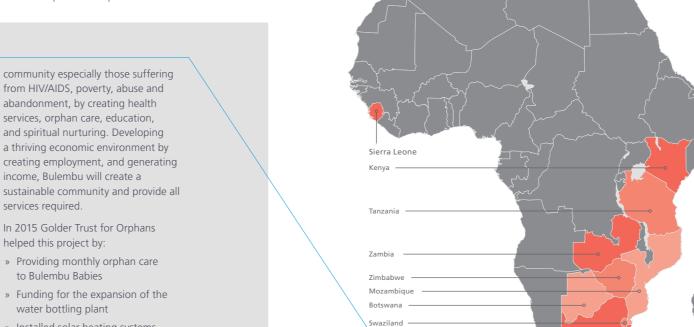
Cato Ridge, South Africa

- » Funding of a new enterprise a tented camp (glamping)
- » A scoot (type of wheelchair) for the one year old adopted orphan

### Kwasizabantu Schulzendal

Malelane, South Africa

» Funding for the building of the expansion for the school.



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### Golder Foundation Awards

# Meet Golder





The Golder Foundation was created in 2013 to expand the reach of the knowledge and learning created through the technical work undertaken by Golder by opening the up the technical archives of our founders and some senior staff to students to explore.

### **Presenting the Winners**

The Golder Foundation Awards recognises students who have undertaken research on important topics in Golder core service areas of Ground Engineering and Site Contamination.

Presented for the first time in 2015, 30 submissions were received from students in Australia, Canada, Europe and the United States.

Responding to the topic

Managing subsurface risks and buildability from design to construction.



### Huu Duc

University of Queensland, Brisbane, Australia

Suffusion Potential Assessment by Self-filtration Criteria



### Eren Komurlu

University of Queensland, Brisbane, Australia (currently at Karadeniz Technical University, Trabzon, Turkey)

Improved Performance of Rock Bolts using Sprayed Polyurea Coating



### Alejandro Martinez

Georgia Institute of Technology Atlanta, USA

Exploiting Innovative Multi-Sensor Technology for Geomaterial Multi-Scale Response Prediction and Disturbance Isolation Studies Responding to the topic

Sustainable remediation technology solutions for contaminants in groundwater.



### Sai Rajasekar

Chandrasekar Rajajayaval

McGill University, Montreal, Canada

Enhanced Reductive Dechlorination of Trichloroethylene by Sulfidated Nanoscale Zero Valent Iron



### Mohan Basnet

McGill University, Montreal, Canada

Nanotechnology Enabled Remediation Solutions for Persistent Contaminants in Groundwater Environments



### Valentina Yie Kuan Wong

University of New South Wales Sydney, Australia

Bioremediation of Chlorinated Solvents

### Governance

The Board of Directors of Enterra Holdings Ltd, the holding company owning the Golder group of companies, is the highest governance body within the organisation. The Governance and Compensation Committee of the Board takes responsibility for ensuring that an appropriate governance framework is in place and for monitoring its effectiveness. Decision-making within the governance framework is delegated to our global President through a regularly reviewed Delegation of Authority. The Principals and Associates of the company, its majority shareholders, are actively involved in the decisions affecting their individual areas of responsibility.

Composition of the Board and the Board committees is transparent.
At December 31, 2015, the Board structure consisted of the President/ Chief Executive Officer, seven directors selected by the shareholders from around the world, and two external directors. Except for the external directors, Board members are all Principals of the company.

Every year each director is required to formally identify any actual or potential conflicts of interest to the Lead Director, who then advises the full Board. Directors selected by shareholders hold a four year term with the ability to seek an extension of two years. The terms are defined in advance and structured to promote stability and continuity.

The Board is organised into five committees:

- » Governance and Compensation Committee
- » Investment Committee
- » Finance and Audit Committee
- » Risk and Health, Safety and Environment Committee
- » Sustainability Committee



EHL Board, 2015

At year-end the Board was reviewing its committee structure in line with its evolving and anticipated workload. Work by the Governance and Compensation Committee concluded that our Board composition reflects diversity in ethnic, cultural, and professional background, but its gender balance needs on-going attention. Board members who are employees received no recompense in 2015 specific to being a Board member, but there is alignment in their compensation as an employee based on regional and local market assessment. The compensation for External Directors is assessed by the Governance and Compensation Committee to ensure that it is market based. As part of our regular operations, Board performance is reviewed annually.

### **Executive Committee**

The Golder Executive Committee, as outlined in Operating Structure, is responsible for implementing the company strategy through the dayto-day operations of the organisation. Key responsibilities are to lead and manage Golder to ensure its long-term sustainability and value, and thereby look after the best interests of shareholders. These responsibilities are to be achieved while maintaining the effective management of the operating affiliates, and actively promoting our culture and ownership model in accordance with the overall vision and objectives approved by the Board.

# Principals & Associates – Leadership by Owners

Golder's Principals and Associates are responsible for achieving the desired outcomes set out in our strategy, through leadership within their own individual areas of practice and responsibility. Our Principals and Associates provide technical leadership, direct and manage projects, interface with clients, conduct business development, and mentor other employees. The Principals and Associates community forms the core of our employee ownership model and its intergenerational sustainability.

# Operations

### **Promoting Compliance** Throughout the Organisation

Our reputation is an important part of our competitive advantage and influences many aspects of our company from clients selecting us to solve their problems, to developing teaming relationships. Golder combats ethical violations in the workplace by providing employees with two mechanisms for reporting unethical behaviour in confidence and without fear of retribution. Employees can report potential ethics and compliance issues to their management, or through an external "whistleblower" service provider. Employees who have been the victim of or have witnessed unethical behaviour can contact the hotline 24 hours a day, seven days a week in multiple languages. All reports are treated as confidential and the individual reporting can track the concern throughout the process. The hotline prepares a report that is immediately forwarded to appropriate senior management in Golder who are responsible for investigating the allegations and seeing that appropriate actions are taken and documented.

### Code of Conduct

A plan to expand the annual review of the code of conduct to include our business ethics policies was finalised in 2015 for implementation in 2016. It requires employees to undertake comprehensive training on various aspects of the Code of Conduct in relation to the following policies:

- » Anti-Bribery and Corruption
- » Gifts, Entertainment and Contributions
- » Related Party Transactions
- » Insider Trading

At the conclusion of the training, employees are required to acknowledge their understanding as well as their agreement to comply with all tenets of these business ethics policies.

Operating ethically is a core value, fundamental to Golder's continued success and the actions and conduct of our staff, as well as others acting on our behalf, are key to achieving this goal.



### Information Security

At Golder, our clients, third parties, employees and other business partners trust us to protect the information we hold about them. To help maintain this trust, Golder established a dedicated Information Security Office in 2013, under the leadership of our Chief Information Security Officer. The Information Security Office is responsible for working with the IT community in Golder, our Project Teams and other business functions to help ensure that all sensitive information is handled in a safe and confidential manner throughout its lifecycle.

Our information security policy and procedures have been developed to align with the ISO27000 standard,

the global guideline for Information Security. These sit within our Integrated Management System and include specific guidelines for the handling of confidential Client information.

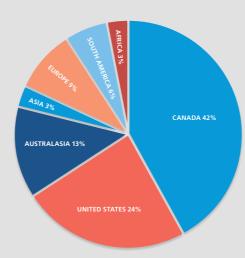
At Golder, we believe that effective information security is not just about compliance to a policy - it's about having a security focussed culture, where all employees are aware of the need to protect information, and about having the tools and systems needed to protect it. In 2015 we commenced "Project Safeguard", a program of security investments across the global organisation that aim to increase awareness of security and deliver technologies to help protect our employees, systems and information from security threats.

# Countries We Operate In



185 Offices

As part of our Strategic Plan, we continue to ensure that we are able to meet the needs of our clients by offering them the services they need in the countries in which they operate.



2015 Revenue by Region

### **Operating Structure**

Golder has operating subsidiaries doing business in Africa. Asia. Australasia. North and South America and Europe, represented by registered companies and offices in 44 countries.

The President and CEO has overall responsibility for operations and is supported by a team consisting of the four regional Presidents of the operating subsidiaries, and five corporate Vice Presidents. Our global management team works in a truly "global" fashion, all based in their office of origin. At the close of 2015, Golder employed 6,498 people working in 185 offices worldwide.

### Countries We Operate In

» Argentina » Australia

» Brazil

» Mexico » Mongolia

Guinea

» Poland

» Portugal

» Russia

» Singapore

» Botswana » Mozambique

» New Caledonia

» Canada » New Zealand

» Chile » Norway » Papua New

» China

» Colombia

» Peru » DR of Congo » Philippines

» Denmark

» Finland

» France

» Germany

» Ghana

» Hong Kong

» Hungary

» India

» Indonesia

» Ireland

» Italy

» Kazakhstan

» South Africa

» Spain

» Sweden

» Turkey

» United Kingdom

» United States

» Zambia

Golder Associates



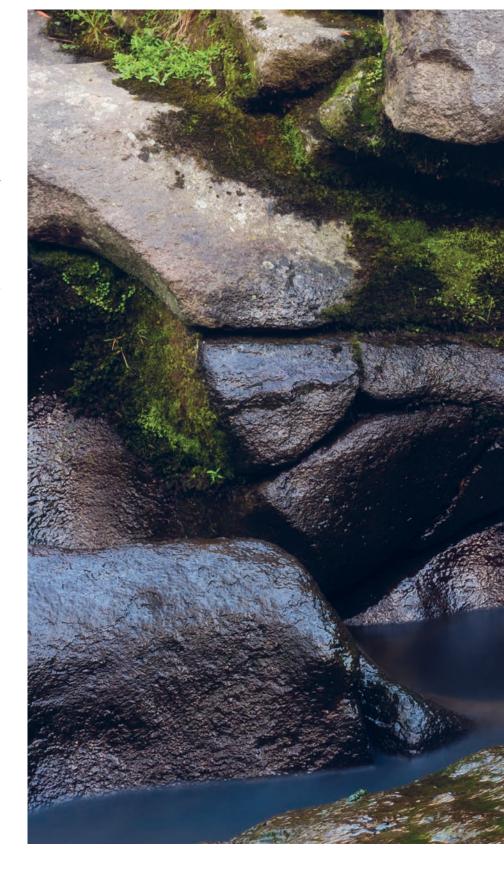


# 2015 SDRS Owning the Future

### HIGHLIGHTS REPORT

Thank you for reading our 2015
Sustainable Development Report.
We hope it has given you a
sense of Golder's commitment to
sustainability and the practical nature
of that commitment through the
many and varied project profiles and
the descriptions of our interactions
with the communities we are part of.

Golder's commitment to sustainability is steadfast and we look forward to sharing our future successes with you over the coming years.





www.golder.com