Macquarie Infrastructure and Real Assets **(MIRA)**

MACQUARIE

INFRASTRUCTURE SUSTAINABILITY REPORT

August 2020

MIRAFunds.com

Energy Development Corporation
Philippines

Important information

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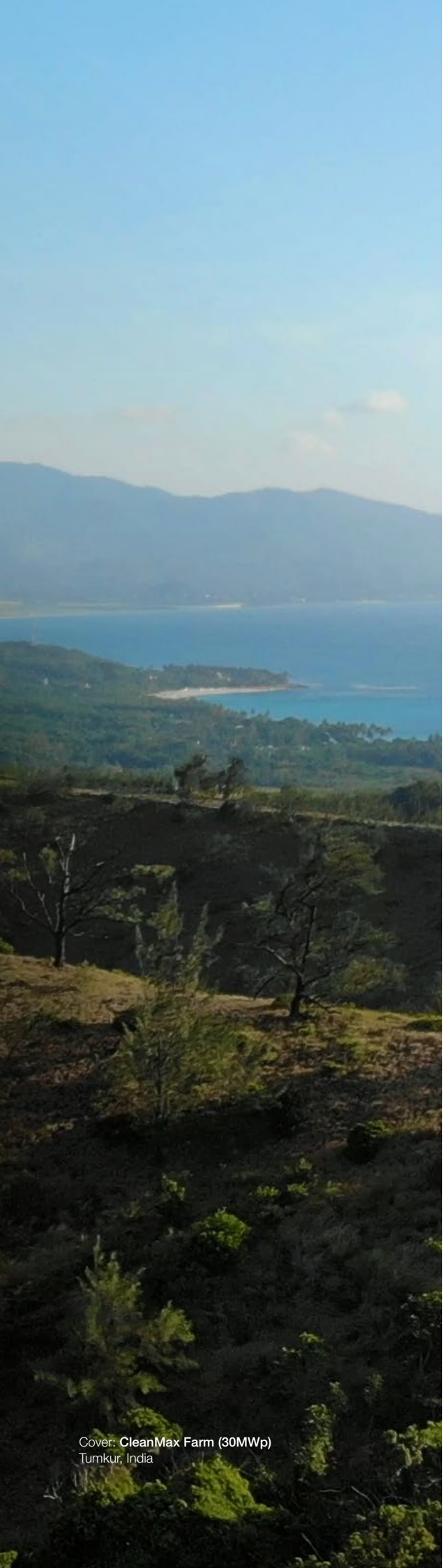

Cover: **CleanMax Farm (30MWp)**
Tumkur, India

About this report

We are pleased to share with you MIRA's sustainability report for our infrastructure business. This sits alongside the sustainability report for our agriculture business published earlier this year.

The report brings together MIRA's approach to sustainability which has been embedded in our business for over a decade, but which we seek to continually evolve and improve as the needs and challenges of our world also change.

We are focused on progressing and integrating our sustainability strategy across MIRA's global platform, including our infrastructure, agriculture, real estate, private credit and transportation finance businesses. As we build on our capabilities and achievements, our aim is to deliver a consolidated MIRA sustainability report across our full platform. We are excited by this progress and look forward to building and improving on our disclosures year on year.

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01 Opening statement

Martin Stanley

Head of Macquarie Asset Management

When we committed to publish our first Infrastructure Sustainability Report earlier this year, nobody could have predicted the situation the world is facing today. The unprecedented health, economic and social impact of the COVID-19 pandemic has had a profound effect on the lives of so many around the world – and is likely to persist for some time to come.

As one of the world's largest managers of infrastructure and real assets, we have been acutely aware of the demands and responsibilities placed upon the providers of critical infrastructure during this period of crisis. In many cases, the companies in which we are invested have been on the front line and have played a significant role in ensuring that customers and communities around the world continue to have access to essential services. I would like to acknowledge the incredible work they have done, and continue to do, in the face of very difficult circumstances.

Of course, being prepared for events like these is part of our job. It is also the very reason why we have put sustainability at the heart of our business.

As investment managers we have an obligation to ensure that the companies we manage today are positioned to provide sustainable goods and services long into the future. Of course, we also have a fiduciary duty to ensure our clients' capital is invested responsibly and sustainably. We firmly believe that sustainability and long-term value creation are fundamentally aligned, and it is for this reason that our ambition is to be the global leader in both.

Environmental, social and governance (ESG, or sustainability) has always been central to MIRA's approach to investment and asset management. However, as our business has grown, as the challenges our world faces become more complex and as the role of private capital evolves, we must continue to intensify our commitment to sustainable investment.

During the past year we have taken meaningful steps towards our ambition to become the leader in sustainable real asset management. We have advanced our commitment to a low carbon future with the introduction of a coal policy and have launched a programme to understand and reduce the greenhouse gas (GHG) footprints of our portfolio companies. We are establishing measurable goals and outcomes that will enhance and capture value through sustainable practice and purpose. We have also invested in our internal expertise with the formation of a dedicated sustainability team.

Whether it is working with our assets to establish a pathway for decarbonisation, investing in clean energy, or developing innovative solutions through the use of technology for social benefit and risk protection, we see tremendous opportunity to create meaningful impact.

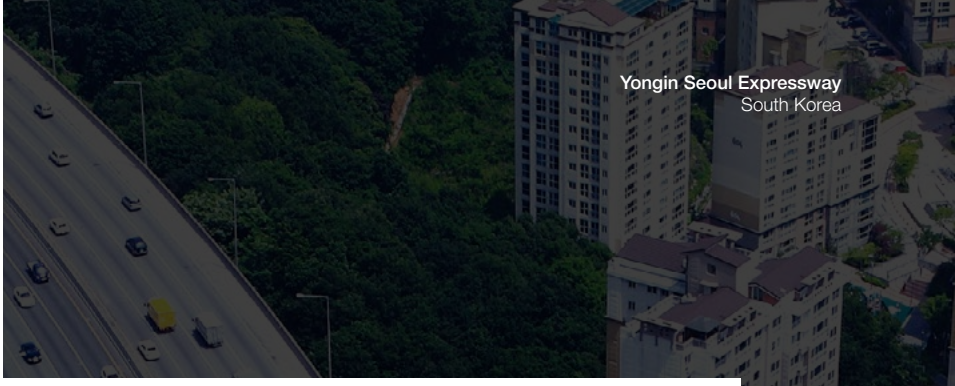
This inaugural report showcases the stories of small initiatives, as well as transformative changes happening across our portfolio. We also hope it demonstrates how our focus on sustainability can drive positive outcomes for the benefit of our portfolio companies, our investors and the communities in which our assets operate.

We acknowledge that we don't yet have all the answers and that there is a lot more work to be done, but we are grateful for your partnership and we welcome your engagement and ideas as we seek to drive a more sustainable future for everyone.

Thank you for your continued support.

Martin Stanley

Puget Sound Energy
United States


Yongin Seoul Expressway
South Korea

02

MIRA and sustainability

WHO WE ARE

MIRA is one of the world's leading alternative asset managers.

For over 25 years, MIRA has partnered with clients, governments and communities to build and manage essential real assets that are used by over 100 million people every day.

Our dedicated team of over 900 people focus on adding real and lasting value for our clients and the people our assets serve.

We partner with more than 650 pension funds, sovereign wealth funds and insurance companies worldwide to manage and invest the long-term savings of the millions of investors they represent.

MIRA

$A215b assets under management[1]

With capabilities across the following businesses:

INFRASTRUCTURE
$A168b
assets under management[1]

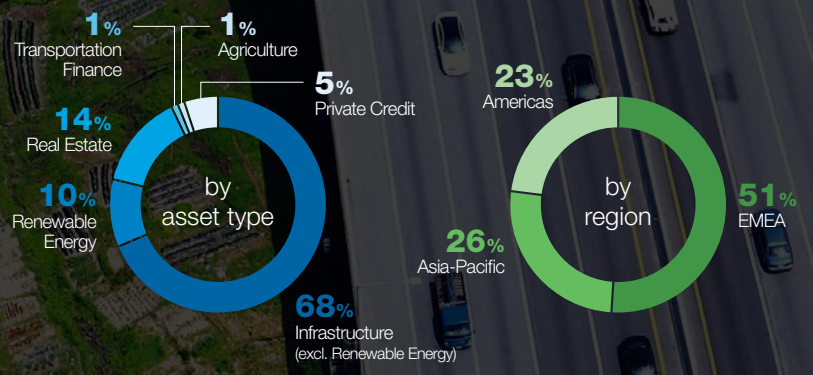
PRIVATE CREDIT
$A12b
assets under management[1]

REAL ESTATE
~500
properties

AGRICULTURE
4.8m
hectares of farmland

TRANSPORTATION FINANCE
191
aircraft on lease

MIRA's portfolio by AUM[1]



1. As at 31 March 2020. MIRA defines AUM as proportionate enterprise value, calculated as proportionate net debt and equity value. For jointly managed funds, the amount is representative of MIRA's economic ownership of the joint venture manager. Adjustments are made when MIRA-managed funds invest in other MIRA-managed funds.

OUR INFRASTRUCTURE BUSINESS

MIRA is the world's largest infrastructure manager[2] with a team of over 300 infrastructure specialists managing equity investments in over 120 businesses globally across:

Transportation
Airports, roads and rail services, ports and shipping services, ferries

Utilities
Gas and electricity generation and transmission, water

Renewable energy
Onshore and offshore wind, solar, hydro, geothermal, bioenergy and waste-to-energy

Communications
Telecommunications infrastructure, data centres

Social infrastructure
Healthcare, aged care, land title services

Waste management
Treatment, recycling, disposal

Infrastructure portfolio businesses managed by MIRA[3]

AMERICAS

Brazil
Solví Participações

Mexico
Centauro Energía
Concesionaria Universidad Politécnica
Decarred
Generadora Eléctrica San Rafael
México Tower Partners
Parque Solar Coahuila

United States
Aligned Energy
Bluebird Fiber
Ceres Terminals
Cleco Corporation
Elizabeth River Tunnels
Goethals Bridge
InSite Wireless Group
Lagoon Water Solutions
Long Beach Container Terminal
Lordstown Energy Center
Maher Terminals
MIC Atlantic Aviation
MIC Hawaii Gas
MIC International-Matex Tank Terminals
Netrality Data Centers
NYK Ports
Tunnel Hill Partners
Waihonu Solar Power
WCA Waste
Wheelabrator Technologies

EUROPE

Austria
Energie Steiermark

Czech Republic
České Radiokomunikace
Czech Gas Networks

Denmark
TDC

Finland
Elenia

Germany
BARD Offshore 1
Currenta
Open Grid Europe
TanQuid

Italy
Hydro Dolomiti Energia
Società Gasdotti Italia

Netherlands
HES International

Poland
INEA

Russia
Enel Russia

Slovakia
EP Infrastructure
Towercom

Spain
Compañía Logística de Hidrocarburos
Empark
Viesgo

Sweden
Arlanda Express

United Kingdom
AGS Airports
Arqiva
Cadent
Farnborough Airport
Galloper
Gwynt y Môr
KCOM
Lincs
Lynn and Inner Dowsing
Porterbrook
Race Bank
Rampion
Rhyl Flats
Sheringham Shoal
Westermost Rough

ASIA-PACIFIC

Australia
Axicom Group
Ballarat Water
ElectraNet
Endeavour Energy
One Rail Australia
Land Services WA
New Royal Adelaide Hospital
North Queensland Airports
NSW Land Registry Services
Perth Airport
Port of Newcastle
Prospect Water
Queensland Airports Limited
Land Services SA

China
Enfi Environmental
Hengyang Terminal
Jinko Power
MHL Supply Networks
Shanghai Sineng
Shengyuan Water
Shenyang Zhenxing Wastewater
Tianjin Port Huisheng Terminal
Zhenxing Environmental

India
Adhunik Power & Natural Resources
Ashoka Concessions
ATC Telecom Infrastructure
CleanMax Solar
Gujarat Roads & Infrastructure Company
Ind-Barath Energy
MB Power
Safeway Concessions
Soham Renewable Energy
Fortum Sun BV
Lightsource bp
Swarna Tollways Private Limited

Japan
Central Tank Terminal

Philippines
Energy Development Corporation
GNPower Kauswagan
Light Rail Manila Corporation
Philippine Coastal Storage & Pipeline

Singapore
Universal Terminal
Oiltanking Singapore Chemical Storage

South Korea
ADT Korea
Baekyang Tunnel
Busan New Container Terminal
C&M
Cheonan-Nonsan Expressway
Clenko
Daejon Combined Heat and Power Plant
Daesung Industrial Gases
Incheon Grand Bridge
Incheon International Airport Expressway
Koentec
Kwangju 2nd Beltway Section 1
Kwangju 2nd Beltway Section 3-1
Machang Bridge
Saehan
Seoul Chuncheon Expressway
Soojungsan Tunnel
United Terminal Korea Limited
Woomyunsan Tunnel
Yongin-Seoul Expressway

2. IPE Real Assets Infrastructure Manager Rankings 2020. 3. As at 31 March 2020. Represents portfolio businesses which Macquarie Infrastructure and Real Assets manages on behalf of investors with various direct percentage stakes held in each. List of countries is representative and not exhaustive. In some instances they represent the operations of a single business where it has operations across different countries.

OUR CORE BELIEFS

> At the heart of our approach is a commitment to sustainability.

That's why we invest in businesses that underpin communities and economies – aiming to add real and lasting value for our clients and the people our assets serve. We are in business to seek superior returns, but it is the way we do business that defines us.

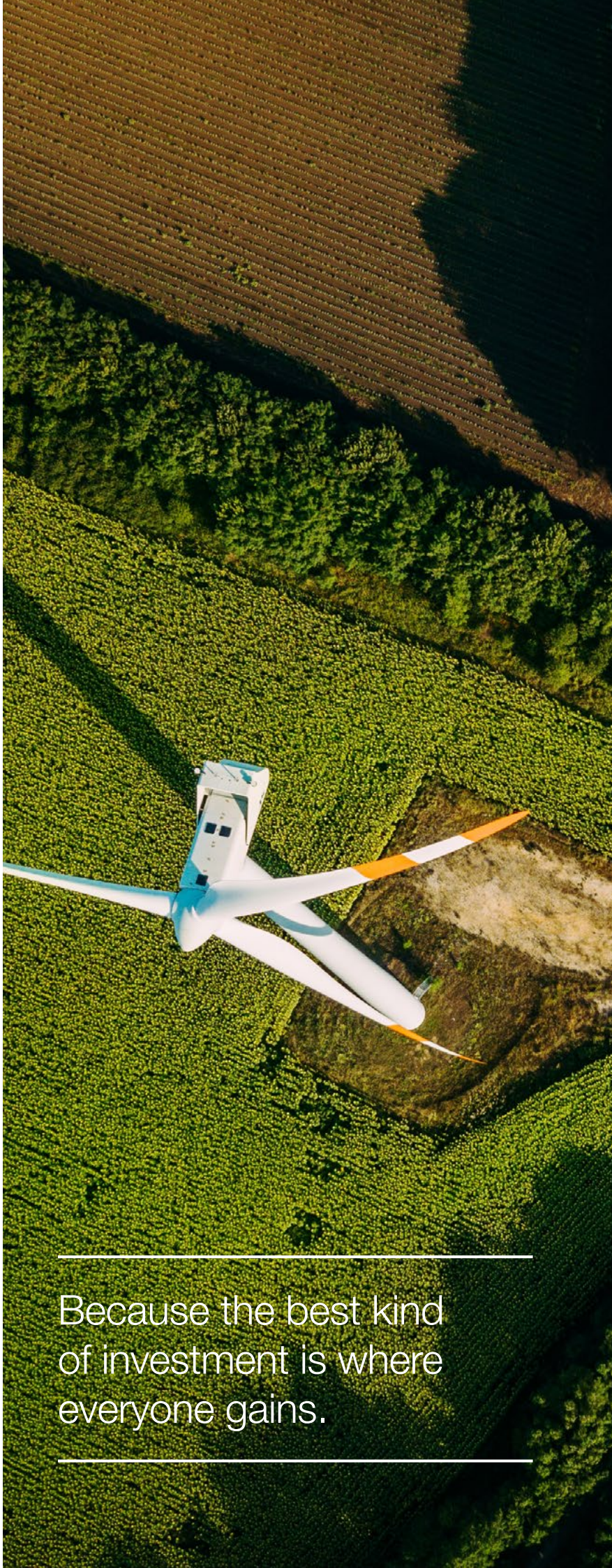
As custodians of these vital businesses we have a **responsibility and opportunity to create stronger, more sustainable investments** and a legacy of which everyone can be proud.

Sustainable infrastructure and other real assets are **fundamental to the global transition to a more sustainable economy**. They bear the physical burden of climate change, yet they are also uniquely suited to drive new climate resilience solutions and preserve the integrity of crucial supply networks and communities.

We define sustainable asset management as seeking to proactively enhance shareholder value by improving the environmental, social and governance performance of the businesses in which we manage investments.

Sustainable, adaptable, resilient businesses are more valuable businesses: they perform better for longer and can attract higher multiples when divested.

Our **ambition** is to be the **global leader in sustainable real asset management**.



OUR CULTURE

> Sustainability is the responsibility of everyone within MIRA and is embedded into everything we do.

At Macquarie, our purpose is to empower people to innovate and invest for a better future. We apply the same principles to sustainability – harnessing real knowledge and skill to encourage innovation.

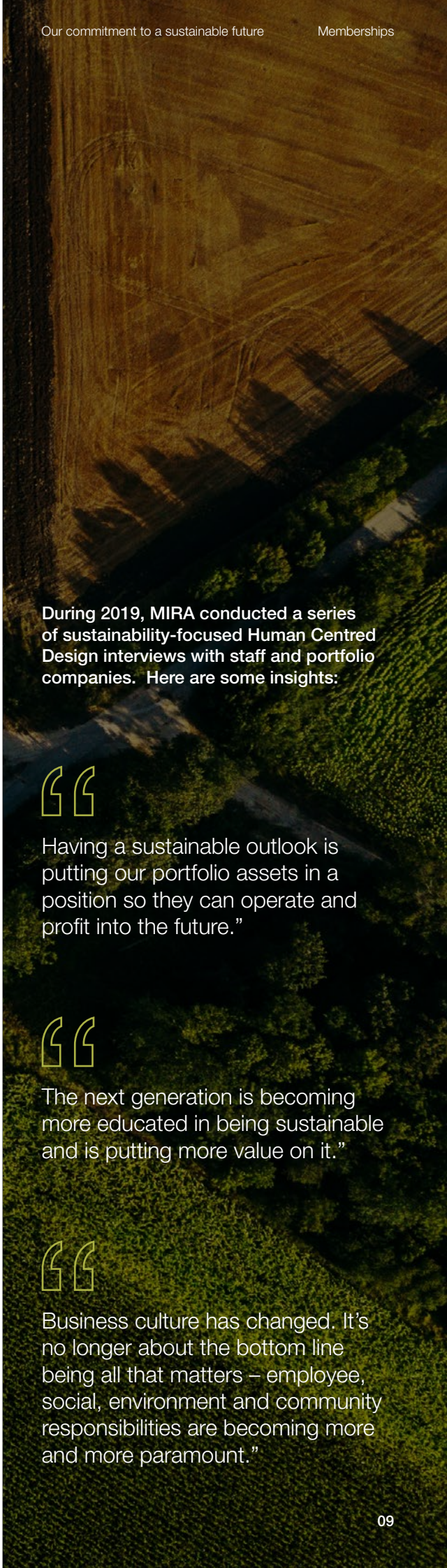
To be successful we must **integrate sustainability awareness and expertise across *all* our teams**. Our MIRA executives work with portfolio company management teams and investment teams to build highly valued, long-term sustainable businesses.

This is consistent with the **Macquarie Group principles of accountability, opportunity and integrity** which underpin a culture of ownership to deliver the best outcomes for our stakeholders.

Our people are passionate about this journey. Our asset management teams from around the globe were asked to come up with sustainable value-add initiatives that would be achievable at an asset they managed. A significant number of ideas were generated. Many of these ideas have since been workshopped, refined and implemented – we look forward to reporting on the success of these initiatives over time.

We continue to **step up training, awareness and commitment** to sustainable practices. The variety of sectors, in different regions, with unique market dynamics, require creativity across our business to identify and unlock the right sustainability opportunities. In addition to keeping our internal teams equipped and connected, we take advantage of external resources to make sure we have the best ideas.

To support our people on this journey, MIRA has formed a **global sustainability team** comprising specialists solely dedicated to ensuring we promote and improve the sustainability of our business. These experts assist our people across product development, investment and acquisitions, asset management and reporting – **integrating a sustainable mindset into all that we do**.



During 2019, MIRA conducted a series of sustainability-focused Human Centred Design interviews with staff and portfolio companies. Here are some insights:

> Having a sustainable outlook is putting our portfolio assets in a position so they can operate and profit into the future."

> The next generation is becoming more educated in being sustainable and is putting more value on it."

> Business culture has changed. It's no longer about the bottom line being all that matters – employee, social, environment and community responsibilities are becoming more and more paramount."

OUR SUSTAINABILITY APPROACH

> The assessment and management of sustainability risks and opportunities are formally embedded within MIRA's investment decision-making approach and asset management frameworks.

MIRA's **ESG framework** incorporates a suite of policies which require the identification and management of sustainability issues throughout the investment lifecycle.

Our approach is **materiality-based**. Given the diversity of the portfolio of investments managed by MIRA, there isn't one standardised set of sustainability considerations applicable across all investments.

Rather, we place emphasis on those sustainability issues that are considered most important and meaningful to each business and its community given the industry and type of asset, its physical location, legal jurisdiction, stage in the asset cycle, as well as the specific outcomes of our **rigorous due diligence process**.

Screening

Assets and management teams are evaluated for ESG risks and opportunities.

Due diligence

Risks and opportunities are analysed with internal and external resources and factored into investment analysis.

Acquisition decision

Investment committees evaluate the risks and opportunities in the context of policy, capabilities and financial returns.

Transition

Plans to address risks and opportunities are resourced, implemented and tracked against expectations.

Asset management

Ongoing oversight and enhancements are facilitated through MIRA-nominated Non-Executive Directors, with support from MIRA experts.

Exit

Sustainability advantages and opportunities are integrated into the realisation process.

TDC
Denmark

For more detail, our publication **Environmental, Social and Governance (ESG) – Our Approach** is available to clients on request.

03 A changing world

RESPONDING TO GLOBAL THEMATICS

We believe sustainability in the infrastructure sector will be shaped by the convergence of trends that shape infrastructure demand, and themes that influence the journey to sustainable economies.

The following trends have consistently been part of MIRA's thinking as we contemplate the future of the asset class.

We see four

demand trends

that may shape the infrastructure landscape

Ageing infrastructure

A persistent trend is **the need to replace ageing infrastructure** around the world. The backlog is enormous and growing. The physical reality of our infrastructure constraints is increasingly evident in congestion, disrepair, pollution, inefficiencies and other socially and economically costly burdens. Addressing the backlog is estimated to require between $US5 trillion and $US23 trillion over the next 15 to 20 years[4]. There is no shortage of demand if stakeholders can solve for how to structure and finance the need.

Urbanisation

A related trend is the concentration of this infrastructure in **growing urban centres with evolving needs**. More than half the world currently lives within urban areas and 1.5 million people are added to that urban population each week[5]. A staggering 90% of this growth takes place in Africa and Asia[6]. But it's not just about demographics. The pace, nature, and complexity of urban infrastructure is evolving too. Communities need modern transportation solutions, low carbon energy, circular economy waste management and a wide array of communication technologies and resources to support insatiable appetite for data, among other infrastructure solutions. In short, there are more people, and they want different, better infrastructure.

Digitalisation

Technology and digitisation has created the need for an entirely new class of infrastructure in the form of data centres, fibre networks, and communication channels. It has also transformed how traditional infrastructure is designed, built and managed.

Management teams can design 'digital twins' to explore operating efficiencies, deploy remote sensors and drones to organise predictive maintenance, and artificial intelligence to accelerate decision making. The impact of technology on infrastructure investing will likely accelerate.

Globalisation

The **systemic integration** and interdependencies of infrastructure assets have become important factors for investment selection, risk management and governance. The recent COVID-19 crisis demonstrated how interconnected and interdependent the global economy has become, but also how resilience can be designed-in to protect basic functionality. Both the physical world – heat, drought, floods, storms – and the virtual world – cyber security, financial liquidity, politics – affect the commercial integrity of infrastructure as much as the classic considerations of GDP growth, leverage, and contract strength. We pay close attention to a wider array of issues in order to deliver business continuity in the face of increasing integration.

4. 2018 Revision of World Urbanisation Prospects, Population Division of the United Nations Department of Economic and Social Affairs. World Economic Forum, https://www.weforum.org/agenda/2017/01/unlocking-23-trillion-of-climate-investment-opportunities-is-mission-possible/. 5. 2018 Revision of World Urbanisation Prospects, Population Division of the United Nations Department of Economic and Social Affairs. 6. 2018 Revision of World Urbanisation Prospects, Population Division of the United Nations Department of Economic and Social Affairs.

We track four

sustainability themes

to identify and capture opportunities

Adaptation and decarbonisation

The rise of **climate risks – both physical risks and transition risks** – is as persistent as it is overlooked. Munich Re estimated that there have been $US5 trillion of natural disaster losses since 1980[7], about the time scientific consensus confirmed the global warming trend. 70% of this loss was not insured. Transition risk is less dramatic, but equally consequential. Transition risks include the likelihood that functional assets become unwanted when investors, customers, communities and regulators choose low carbon alternatives over traditional high-emitting projects. Physical and transition risks may materialise in an instant, or build over time. Navigating this context creates challenges as well as opportunities.

Social licence

The **role of private capital** to address social and sustainability challenges has continued to grow, driven by a combination of factors. Most important is the evidence that investment returns are correlated with good ESG governance. There is also a growing body of asset owners that are allocating capital to companies that can help deliver the world they want to live in. Another factor is that the largest asset owners, such as national pensions and insurance companies, are embracing the idea that they can shape the long-term health of markets through sustainability engagement. More than $US86 trillion of capital owners and managers now subscribe to the Principles for Responsible Investment,[8] and their expectations continue to rise.

Value creation

There is increasing appetite to **generate and measure sustainable value creation** from infrastructure, real assets and other investments. MIRA's experience validates the thesis that sustainability practices can reduce operating costs, open new revenue sources, improve the quality of earnings, attract better talent, and contribute to higher exit multiples[9]. There is a plethora of frameworks and methodologies designed to help asset owners and asset managers measure and compare financial and non-financial value creation, including the UN SDGs, SASB, TCFD and GRESB. Infrastructure is an essential part of any decarbonised sustainable scenario, and investors want to know how these investments create positive impact.

Diversity and capability

Sustainability is **shaping the talent pool**. Diversity and inclusion are more important than ever before, key to unlocking greater innovation and outcomes. Businesses need diversity of thinking and capability in order to solve for today and tomorrow's issues and progress the sustainability agenda. Young people enter a work force facing more risk than previous generations. They are looking to align their own values with those of the businesses they work for. We believe that companies with sustainability solutions will attract the most dynamic, diverse and dedicated talent.

The convergence of these themes will provide opportunity for the future.

7. https://www.munichre.com/en/risks/natural-disasters-losses-are-trending-upwards.html. 8. As of March 2020: www.unpri.org. 9. MIRA ESG Pathways Report 2019.

DRIVING OPPORTUNITY INTO ACTION

Together these demand trends and sustainability themes can create an opportunity to generate differentiated financial returns, a chance to contribute meaningfully to one of the most important challenges humanity has faced, and an imperative to partner with our clients to be, again, transformative for our industry and our communities.

But we need genuine partnership to drive change.

To deliver the benefits of this convergence we will need to strengthen our partnerships with clients, governments, and other stakeholders. Governments will need to reverse the chronic decline in infrastructure spending as a percentage of GDP[10]. In the case of emerging markets, sovereigns will need to address market readiness, along the lines of the guidelines provided in the September 2019 CFLI report that Macquarie helped prepare[11]. City planners, engineers, and procurement officials will need to grow adept at allocating risk and return so that the private sector can engage to deliver innovative sustainable solutions. The private sector will have to continue to raise capital and win public trust to deliver value through infrastructure.

As the largest infrastructure investor and operator in the world, MIRA has both an opportunity and an obligation to lead in the global transition to a new energy mix and the creation of stronger, more resilient infrastructure to create a legacy of which everyone can be proud.

GLOBAL COMMISSION ON ADAPTATION

Both Shemara Wikramanayake and Christiana Figueres are commissioners on the Global Commission on Adaptation (GCA). The GCA seeks to accelerate adaptation by building awareness of adaptation and resilience needs, and focusing on concrete solutions.

Shemara Wikramanayake

Macquarie Group Managing Director and Chief Executive Officer

Commissioner, Global Commission on Adaptation

"In our continually evolving world, change is a key constant. Much has changed for the infrastructure asset class since Macquarie played a role in catalysing the sector over 25 years ago. MIRA's inaugural infrastructure sustainability report signals another inflection point – the essential integration of sustainability principles into infrastructure asset management.

Sustainability considerations have existed for decades, given the longevity of infrastructure investments. This remains the case, but today's environmental circumstances require us to go further. Technology, urbanisation, decarbonisation, demographics and dozens of other factors have created challenges, risks and disruptions for the asset class and for society at large. And with them, opportunity.

In aggregate these changes force new perspectives. We must look at infrastructure in the new context of how each investment can turn these challenges into opportunities, to thrive through these changes and contribute to sustainable solutions.

MIRA, its clients and partners face this opportunity together. We are individual community members with local needs affected by global consequences. We are fiduciary stewards, intent on protecting and growing value."

10. Bridging Infrastructure Gaps: Has the world made progress? McKinsey Global Institute, 2017. 11. https://www.weforum.org/agenda/2017/01/unlocking-23-trillion-of-climate-investment-opportunities-is-mission-possible/.

Christiana Figueres

Former Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC) 2010-2016

Commissioner, Global Commission on Adaptation

We have entered the most consequential decade in human history, where science affirms unprecedented action on climate change is necessary. We can either see this as a moment to despair, or as our calling to be the generation that writes the story of the future.

The Paris Agreement, signed by 195 countries five years ago, was in fact forged by the determined optimism of national leaders with sovereign and shared interest at heart – and inspired by the deep commitment and momentum of visionary investor groups, corporate leaders and the persistence of civil society.

Five years later we are all called upon to actualise the promise of the Paris Agreement – to halve global emissions in the next decade, eventually reaching net zero by 2050 or earlier. In the crucible of economic recovery, we must recognise that although time is short, we have the tools, technologies, knowledge and resources to re-frame the economy and build a thriving future. What remains is leadership across all sectors, coming together to do what science says is necessary.

We can't deliver the promise of the Paris Agreement without a transformation in infrastructure – adapting some legacy assets, replacing others with cleaner solutions, and meeting rising demand with greenfield projects designed to allow humans, nature and economies to thrive sustainably.

It is promising to see Macquarie leverage its global scale, long heritage and entrepreneurial enthusiasm to advance dozens of pragmatic value-creating sustainability initiatives.

Your impact on the future can be transformational and I encourage you, with our friends at Macquarie, to seize this moment to build the new, clean future that is in your hands to shape."

Jinko Power
China

04

Our progress

We see sustainability as a journey – one that MIRA embarked upon more than a decade ago when consideration of ESG risks became a formal part of our investment process.

Risk brings opportunity and our focus shifted to also **harnessing the opportunities sustainability brings** – opportunities to create more value for our clients, to meet client needs through specialised products, to better tell our story, and much more.

We recognise that **there is more to achieve on our journey** – and indeed that as the world, our business and our clients evolve our destination will not be an ever-fixed mark.

A key component of our approach to sustainability is our philosophy of continuous improvement.

KEY INITIATIVES IMPLEMENTED IN 2019

Value creation via sustainable initiatives

A major focus over the past year has been harnessing the value that sustainability can bring.

- We encouraged our portfolio assets to **identify sustainability initiatives** that improve the value of their businesses – and supported them in implementation.
- Our assets embraced this opportunity and worked with us to identify:
  - **'Quick wins':** for example switching light bulbs to LEDs (saving energy and improving EBITDA)
  - **Larger initiatives:** for example installation of onsite solar power generation (reducing purchased energy and improving resilience)
  - **Longer term strategic initiatives:** for example transitioning from fossil fuel generation to cleaner sources.

  Many are already implemented. Some are already improving earnings, others will improve the asset's value on divestment. Some are showcased as case studies in Section 5 of this report.
- Acquisition due diligence providers are now asked to evaluate sustainability opportunities as well as risks, and strategic sustainability opportunities are then presented to the relevant Investment Committee as part of each investment proposal.

Restricting fossil fuels exposure

Climate change has been an important consideration in MIRA's investment decision making process for some time.

- In early 2019 we formalised a policy **restricting investments in businesses with exposure to coal**:
  - No further investments will be made in standalone coal fired generation, or in any asset for which more than 25% revenue is dependent on coal.
  - For businesses with a smaller exposure to coal, the investment case must incorporate a transition away from that dependency.
- MIRA is actively encouraging and supporting assets to decarbonise, as described on page 18, with a number of examples, both completed and planned, of transitioning energy from traditional sources to renewable or other cleaner sources.
- MIRA considers exposure to all fossil fuels when assessing climate risk in relation to potential acquisitions and in the current portfolio (for example as part of its TCFD analysis).

Sustainable product development

MIRA is developing sustainable solutions for its clients in both our existing funds and through the creation of new "green" products.

- We now ask portfolio assets to incorporate sustainability considerations in their five-year **business plans**.
- Recent new products include two renewables funds dedicated solely to investment in clean renewable energy.

Decarbonising our existing portfolio

We aim to reduce the greenhouse gas (GHG) emissions intensities of our existing infrastructure portfolio over time.

- In 2019, we launched a global programme to collect quarterly emissions and energy data from our infrastructure portfolio assets. This data will be used to:
  - Compare performance within industries to identify challenges, solutions and opportunities
  - Set targets
  - Track progress over time.
- Some portfolio assets have already engaged experts to assist with determining baseline emissions, setting emission reduction targets and identifying strategic initiatives to achieve these.
  - Over the coming year we will seek to significantly increase the number of assets with decarbonisation pathways in place.

Building our skills and awareness

To succeed we must integrate sustainability awareness and expertise across all MIRA teams.

- **Best practice ideas** are shared across our MIRA team through dedicated industry workshops, guidance materials and regular case studies.
- **Sector-focused sustainability sessions** are held with our portfolio assets' leaders who are encouraged to share their successes. Panel discussions and other training sessions have attracted a diverse range of professionals from across our business and external thought leaders.
- **A dedicated MIRA Sustainability Team** has been created to bring together expertise from across MIRA, increasing MIRA's specialist sustainability headcount.

Listening to our investor needs

Clients are at the centre of our business. An important part of our continued development is engaging with our investors to understand their perspectives and needs.

- Investor initiatives during 2019 included:
  - A significant increase in sustainability-specific client meetings, including as part of dedicated roadshows
  - MIRA's first sustainability-focused global investor survey.

MIRA 2019 ESG Survey

With

150

real asset investors participating

from across the globe, this survey provided valuable insights into our investors' thoughts, needs and concerns relating to sustainable investing which we have taken on board to improve our engagement and promote industry leadership.
The survey report is available on MIRA's website.

North Queensland Airports
Australia

Thought leadership

We have published or contributed to a number of reports and articles in the field of sustainable investing during 2019.

- **MIRA Pathways reports:** covering topics such as the link between ESG and value creation in infrastructure, and the expected impact of electric and autonomous vehicles.
- **MIRA Technical reports:** covering topics such as the feasibility of hydrogen as an alternative energy source, digital twins, immersive technology, industrial drones and stationary energy storage.
- MIRA contributed to the creation of two **United Nations flagship reports on climate change** published by the Global Commission on Adaptation and the Climate Finance Leadership Initiative.

These reports are available on request. Please contact us at mirafunds@macquarie.com.

Transparency and disclosure

MIRA has improved our investor communications on sustainability initiatives and progress during 2019.

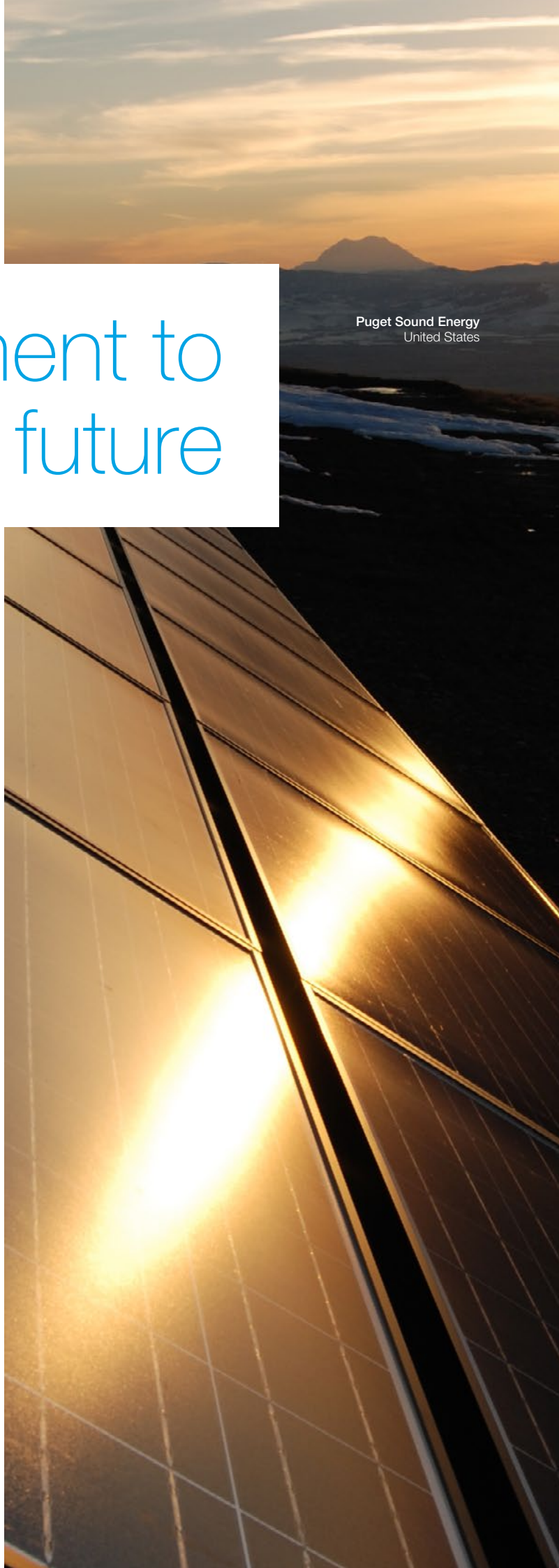
- Launching a MIRA Infrastructure Sustainability Report.
- Improving our website MIRAFunds.com and creating a hub of asset-related case studies.
- Providing more detailed fund quarterly disclosures, “newsbite” communications and annual reporting on sustainability developments. We plan to further improve our investor reporting in the coming year, including in relation to TCFD.
- Increasing our fund and asset participation in GRESB assessments. More detail on our progress is provided in Section 6 of this report.

We are proud of the progress we have made over the past year, and of the important initiatives to which our portfolio companies have committed.

In 2020 and beyond, we look forward to embedding further improvements as we continue our journey towards leadership in sustainable real asset management.

05

Our commitment to a sustainable future



Puget Sound Energy
United States

> Sustainable asset management seeks to proactively enhance shareholder value by improving the environmental and social performance of the business.

Improving investment outcomes for our clients has been an anchoring principle of our business since MIRA's inception. Sustainability provides a valuable approach that our investment teams leverage to increase operating efficiency, improve earnings quality, reduce costs and enhance an asset's value.

In addition to these financial benefits from sustainable asset management, we must seek to continuously improve the delivery, measurement and disclosure of non-financial improvements, namely the environmental and social performance of each business for the customers and the communities in which we operate.

We are long-term asset managers. Sustainability is at the centre of our mindset and our commitment to our clients.

In this report we have identified six key themes that encapsulate this commitment across our infrastructure platform to a more sustainable future.

The following pages describe how **we will seek to drive positive change** at the infrastructure assets we manage across **six key themes**.

Decarbonisation

MIRA aims to reduce the GHG emissions intensities of its portfolio assets. In some cases we have great scope 1 opportunities, in others, the focus is scope 2. Some assets have the capacity to help address scope 3 emissions and even generate carbon offsets[12]. What empowers us is the confidence to buy businesses that we can improve and transition.

Resilience and adaptation

Investors have always expected infrastructure to be long-lasting, stable and resilient, but the operating environment is changing. MIRA teams around the world invested in operating procedure changes, physical enhancements, and even new specialised resiliency features that allowed us to capture new revenue sources, higher terminal value and higher reliability for essential services in the face of climate change.

Operating efficiency

This usually starts with the simplicity of switching to energy efficient lighting and water-efficient appliances, but our teams went much further. The examples that follow show how teams embraced circular economy solutions, reduced costly inputs, and switched in electric drive motors to replace diesel alternatives, among other ideas.

Renewable energy

Infrastructure must play a role in meeting the Paris Agreement 2050 target, especially by helping to replace traditional energy sources with cleaner ones. Macquarie has a long tradition of pioneering this space, and MIRA has been an important part of this story – including managing the world's largest dedicated offshore wind fund.

People and communities

We recognise that we must earn our licence to operate every day – through COVID-19 crises, through bushfires and floods, and more. If we are not creating positive impact for the people that work at and use our assets, we are not meeting our own expectations, let alone others'.

Technology and innovation

The digital age brings untold opportunity to improve the efficiency and the performance of our assets, as well as to reduce risks through improved detection, protection and monitoring. MIRA assets create value by deploying technology and innovative initiatives for social benefit and risk protection.

12. Scope 1 GHG emissions are direct emissions produced by sources owned or controlled a company (eg combusted fuels, process emissions). Scope 2 GHG emissions are indirect emissions associated with the off-site generation of energy purchased by a company (eg residual mix grid electricity, purchased steam). Scope 3 emissions are a consequence of the activities of a company, but occur from sources not owned or controlled by the company. For further information refer to the Greenhouse Gas Protocol: https://ghgprotocol.org/corporate-standard.

Perth Airport
Australia

Decarbonisation

AUSTRALIAN DECARBONISATION PROJECT

In October 2019, the Australian Government's Clean Energy Finance Corporation (CEFC) committed $A100 million towards MIRA's Australian infrastructure platform with the objective of reducing carbon emissions and improving the energy efficiency of infrastructure assets across sectors including airports, electricity, port, rail and water.

In order to achieve this objective, MIRA and CEFC subsequently established an emissions committee and launched MIRA's Australian decarbonisation project. The first step was to facilitate a decarbonisation workshop with representatives from across MIRA's Australian infrastructure portfolio businesses. The workshop provided information and tools to help portfolio businesses to recognise the importance of reducing their GHG emissions, the process of developing Science Based Targets (SBTs)[13] and case studies outlining feasible and tested industry-relevant emission abatement opportunities.

With the help of an external sustainability consultant, several portfolio companies have since measured their baseline GHG emissions footprint and identified initiatives to achieve sustained emissions reductions over time. Work completed includes development of:

- scope 1, 2 and 3 GHG emissions inventories as defined by the Greenhouse Gas Protocol[14]
- business as usual projections for scopes 1 and 2 GHG emissions
- one or more aspirational science-based GHG emissions reduction pathways, based on the framework of the Science Based Target Initiative
- abatement opportunities that could enable each asset to significantly reduce its scope 1 and scope 2 GHG emissions.

"We welcome this exciting emissions reduction focus from a substantial long-term investment manager such as MIRA and look forward to seeing these landmark Australian assets further developed to become an essential part of our sustainable future."

Ian Learmonth, CEFC CEO

cefc

13. The Science Based Target setting process enables companies to set emissions reduction targets that are consistent with the objectives of achieving net zero greenhouse gas emissions by 2050 and limiting global warming to well-below 2°C by 2100 relative to baseline pre-industrial temperatures. 14. In accordance with the SBT setting manual published by the Science Based Target Initiative, a screening approach was employed at some assets to determine whether their scope 3 emissions were significant. For assets at which scope 3 emissions did not comprise >40% of combined scope 1, scope 2 and scope 3 emissions, a detailed scope 3 inventory method may not have been applied.

MIRA AUSTRALIAN INFRASTRUCTURE GREENHOUSE GAS EMISSIONS FOOTPRINT

Total annual scope 1 and scope 2 GHG emissions associated with MIRA's Australian infrastructure portfolio are estimated to be 184,764 tonnes of carbon dioxide equivalent (tCO_2e) as outlined by Table 1, which provides a breakdown of scope 1 and scope 2 GHG emissions by sector.

Table 1 **Greenhouse gas emissions of Australian infrastructure assets by sector[15]**

Sector	Baseline year[16]	Scope 1 emissions (tCO_2e)	Scope 2 emissions (tCO_2e)	Scope 1 and 2 emissions (tCO_2e)	MIRA portfolio emissions (tCO_2e)[17]
Utilities	FY19	22,234	831,535	853,769	121,355
Rail	FY19	141,460	2,072	143,532	52,640
Airports	FY18	10,778	34,880	45,658	8,514
Ports	CY18	2,371	1,507	3,878	1,939
Digital infrastructure	FY19	27	714	741	317
Total		**176,870**	**870,709**	**1,047,578**	**184,764**

Of total scope 1 and 2 GHG emissions, the utilities sector contributes approximately 82% and largely comprises electricity transmission and distribution portfolio companies. For these networks, scope 2 emissions (indirect emissions) comprise the majority of their GHG emissions footprint, which are mainly due to line losses arising from the transmission of electricity over long distances through the network. The resistance in the metal network wires causes heat loss resulting in a portion of energy being lost in transit. As Australia transitions to a greater mix of clean energy generation, this will naturally decarbonise the energy supply transported through the grid and reduce GHG emissions associated with line losses over time. Recent adoption of innovative technology by Endeavour Energy (an electricity distribution network service provider in New South Wales) has illustrated that, based on the findings of a small-scale trial, the rollout of low-voltage regulators across its network could potentially accelerate the decarbonisation of its scope 2 emissions footprint. Please refer to the EcoVAR case study on page 25 for more information.

The rail sector is the second highest emissions-intensive sector, contributing almost 13% of total scope 1 and 2 emissions that are largely attributable to the use of diesel locomotives. The remaining emissions footprint between airports, ports and digital infrastructure together make up less than 5% of total emissions.

15. Tabulated assets are those assets in which MIRA had an ownership stake during calendar year 2019 and for which GHG emissions data was available at the time of reporting. The table excludes the following assets for which MIRA managed an interest during 2019: Celsius, NSW Land Registry Services, Land Services WA and Sydney Desalination Plant. These non-reported assets combined are estimated to represent less than 1% of the portfolio emission value for the reporting period. Sources of reported data include data reported by external sustainability consultants, publicly available National Greenhouse Energy Reporting data and data self-reported by each asset. Some emissions data included in this section may not have been independently verified or assured to confirm its accuracy. MIRA does not make any claim concerning the accuracy of reported data. 16. Financial years correspond to year ended 30 June. 17. Calculated based on the proportionate share of the emissions profile which reflects the combined interest held by MIRA, its managed funds, its advised funds and its clients as at 30 June 2019.

Endeavour Energy
Australia

AUSTRALIAN DECARBONISATION PROJECT RESULTS

Five Australian infrastructure assets outlined in Table 2 have now established baseline emissions inventories and aspirational science-based emissions reduction targets based on the framework of the Science Based Targets initiative (SBTi). Together, their scope 1 and scope 2 emissions represent over 80% of the total scope 1 and 2 emissions of MIRA's Australian infrastructure assets under management. Of those, four assets are considering emission reduction targets that together represent scope 1 and scope 2 emissions reductions totalling 282,177 tCO_2e. An overview of the results of the Australian decarbonisation project is provided in Table 2.

As part of the next phase of the decarbonisation journey, fund portfolio management teams are undertaking work on the economic feasibility of some of the emissions reduction opportunities identified, to enable assets to be confident in committing to their targets and implementing the opportunities.

The learnings from the Australian decarbonisation project are being incorporated into MIRA's asset management framework with a view to further driving positive change throughout the lifecycle of our investments globally.

Table 2 **Baseline greenhouse gas emissions inventories and emissions reduction targets of Australian decarbonisation project participants**[18]

Asset[19]	Baseline year[20]	Baseline scope 1 and 2 emissions (tCO_2e)	Emissions reduction target year	Emissions reduction target (%)	Emissions reduction target (tCO_2e)	Emissions reduction projects
Endeavour Energy	FY19	668,780	FY35	40%	267,512	• EcoVAR voltage optimisation unit installation • Power factor correction • Onsite solar installation • Hot water efficiency upgrade
One Rail Australia	FY19	143,532	FY30[20]	10%[21]	–[21]	• Locomotive efficiency optimisation • Restrict locomotive idling • Increase train lengths • Reduce aerodynamic losses
Perth Airport	FY18	24,080	FY30	56%	13,455	• Renewable power purchase agreement • Building energy efficiency optimisation • Onsite renewable power generation • Electric vehicle terminal transport
Port of Newcastle	CY18	3,878	CY30	30%	1,163	• Renewable power purchase agreement • Electric vehicle corporate fleet • Onsite electric vehicle charging infrastructure • Onsite solar installation
Land Services SA	FY19	101	FY30	46%	46	• Building energy efficiency optimisation • Electric vehicle corporate fleet
Total		**840,371**			**282,177**	

18. The results of the Australian decarbonisation project represent external sustainability consultant reports and recommendations. Participating portfolio companies reserve the right to adopt these recommended targets or not. Development of emissions inventories, targets and reduction opportunities were informed by information available to the portfolio companies in late 2019 and early 2020. The current status and likelihood of emissions reduction opportunities remains uncertain due to COVID-19 and these opportunities will require further assessment. All tabulated emissions reduction targets are consistent with a "well-below 2°C" temperature scenario except for those of Land Services SA, which is aligned with a "1.5°C" temperature scenario, and One Rail Australia, which is a scope 1 emissions intensity reduction target. 19. Tabulated assets represent those Australian decarbonisation project participants for which baseline GHG emissions inventories and emissions reduction targets have been calculated and reported at the time of reporting. 20. Financial years correspond to year ended 30 June. 21. One Rail Australia's emissions reduction target applies only to their scope 1 emissions intensity.

CASE STUDY
ENDEAVOUR ENERGY ROLLOUT OF ECOVAR INSTALLATION

As part of the Australian decarbonisation project, Endeavour Energy has been working closely with an external sustainability consultant to review and determine its business as usual emissions, potential emission reduction pathways and the impact of identified abatement opportunities in achieving emission reduction targets.

In connection with this work, the business has identified an initiative with the potential to reduce a significant portion of its scope 2 emissions which are largely due to line losses. The initiative would involve the installation of Ecojoule Energy's EcoVAR units that would help regulate voltage swings on the network, thereby lowering line losses and its carbon emissions footprint. The technology would operate autonomously on the network through an algorithm to adjust the current to reduce high voltages and increase low network voltage. The ability to reduce the range of voltage variation on the network could potentially drop total voltage on the network by ~5% and reduce energy consumption by ~3.5%[22]. Endeavour Energy has already implemented a small-scale trial of the EcoVAR technology across four sites, which has successfully demonstrated the capability to minimise voltage variations.

However, the Australian regulatory regime does not currently provide sufficient financial incentives to support a broader rollout of EcoVAR units across the National Electricity Market. Endeavour Energy is therefore considering the deployment of a larger trial across its network, subject to finding external sources of co-funding, with the intent to pursue a rule change application that would allow the EcoVAR investment to roll into the regulatory asset base.

If EcoVAR is rolled out across the National Electricity Market, the annual benefits are estimated to be[22]:

Carbon emission savings of **2.6 million tCO_2e** across the National Electricity Market

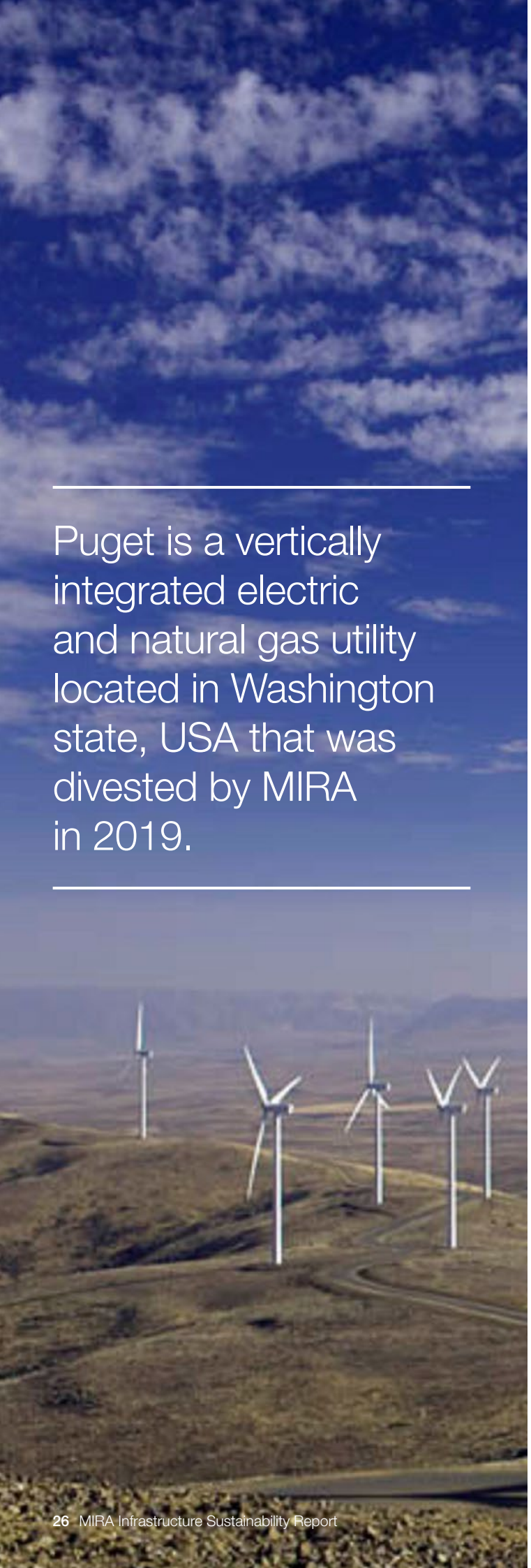
Electricity bill savings of **$A57** per customer

Improved appliance lifetime of **$A35** per customer

Avoided curtailment on solar hosting of **$A3-12** per solar customer

Reduced peak electricity demand **lowering the market cost of energy**

22. Based on estimates provided by Endeavour Energy and EcoJoule.



Puget is a vertically integrated electric and natural gas utility located in Washington state, USA that was divested by MIRA in 2019.

PUGET SOUND ENERGY
10 YEARS OF OWNERSHIP

During the ten years while a MIRA fund was Puget Sound Energy's (Puget) largest shareholder, Puget committed to a substantial reduction in its carbon footprint by committing to close two coal-fired power stations and replacing that capacity with wind, solar, hydro, and gas generation plants, including:

- constructing onshore wind, hydro and solar generation assets across Washington state with a combined installed capacity of 400MW during the ownership period
- constructing a natural gas liquefaction, vaporisation and storage facility in Tacoma to improve Puget's ability to meet peak customer gas demand and provide cleaner transport fuel to the marine trade between Puget Sound and Alaska
- leading community negotiations that resulted in the closure of two coal-fired power stations in Montana by 2020, including a plan to mitigate the economic effects of the closure
- creating approximately 300 new company jobs and a substantial 45% decrease in the company worker lost time injury frequency rate (LTIFR) during period 2009-2018.

The value of Puget at exit was significantly enhanced by its diversified mix of renewable energy and low-emissions power generation technologies. The financial performance showcased the benefits of integrating sustainability and resilience principles into the business strategy, generating value for communities, the environment and investors.

Puget Sound Energy
United States

Resilience and adaptation

ENERGY DEVELOPMENT CORPORATION (EDC)

Energy Development Corporation (EDC) is the world's largest vertically integrated geothermal company with a combined installed capacity of 1.4GW – across geothermal, solar, hydro and wind assets. It represents approximately 20% of total installed renewable energy capacity in the Philippines[23].

In December 2017, damage resulting from Typhoon Urduja temporarily reduced the generation capacity of EDC's Malitbog geothermal power plant by 50%. Over the following months, MIRA and its co-investors supported significant infrastructure upgrades and business improvements to enhance EDC's resilience against natural disasters and ensure continuity of supply to communities.

Resiliency improvements include the installation of geohazard early warning systems to provide EDC employees with alerts of forthcoming seismic disruptions, providing advanced notice to minimise harm to workers and enabling rapid execution of business continuity plans to minimise power supply disruption. Robust modelling of potential slope failure and landslide risks has also been implemented, with pipes rerouted for added protection and cooling towers re-engineered to withstand typhoons with greater than 300kph winds.

These improvements not only significantly minimised the risks of worker harm, asset damage and forced outages, but also contributed to an estimated 3% increase in generation output and an estimated 14% increase in EBITDA for 2019.

Onshore wind farm and solar array operated by EDC

Energy Development Corporation (EDC)
Philippines

23. Based on total installed renewable energy generation capacity of 7,399MW, 2019 Power Statistics, Philippines Department of Energy.

ELENIA OY

Finland's average temperatures are rising faster than the global average[24]. In recent years, this has combined with more frequent and severe weather events to cause serious damage to electricity distribution networks.

In December 2011, Cyclone Tapani hit Finland with wind speeds of up to 113 kilometres per hour[25], causing some of the worst damage to Finland infrastructure in over 15 years – impacting overhead power lines and causing extensive power outages.

The episode drew attention to the growing implications of storms, snow and tree fall on the resilience of Finland's electricity network. In response, regulation was introduced requiring network operators to exceed certain availability targets by 2028.

MIRA acquired Elenia Oy (Elenia) in 2018 and is supporting the company to become more resilient to weather events through its goal to bury ~26,000 km of new and existing sections of its power line network by 2030. The 'undergrounding' of the network is considered the most effective way to protect it from extreme weather events – minimising the risk of power supply disruption for Elenia's 430,000 customers.

The resilience of Elenia's network is further enhanced by the company's incorporation of smart technology, permitting real-time 24/7 monitoring, control and fault location as well as automatic isolation of faults to minimise the network area impacted by outages.

Trenching by Elenia during installation of underground services conduits to replace overhead wires.

24. Trends in the average temperature in Finland, 1847-2013, University of Eastern Finland and the Finnish Meteorological Institute. 25. Finnish Meteorological Institute.

3

Operating efficiency

WCA WASTE CORPORATION

WCA is a vertically-integrated waste management company based in Houston, Texas, that provides solid waste collection, transfer, disposal and recycling services to more than 700,000 customers in the Southeast and Midwest United States. The company is supported by approximately 1,700 employees and more than 1,000 collection vehicles and currently operates 21 landfills, 27 transfer stations, two municipal recycling facilities and 36 collection operations across eleven states.

WCA continues to add Compressed Natural Gas (CNG) fuelled collection trucks to its operations, which have approximately 30% lower emissions than their diesel counterparts. By the end of 2019, 162 of route vehicles, or 16% of WCA's total fleet, had been converted to CNG. WCA estimates that the current CNG fleet will reduce fuel costs by approximately $US3.2 million annually.

Given the combined commercial and sustainability benefits, the board of WCA are committed to expanding the CNG fleet to 200 vehicles, or 20% of its current total fleet, by 2023. It is estimated this will result annual fuel costs savings of $US4.0 million.

WCA has also adopted route optimisation plans that utilise technology to help drivers identify the most efficient route to travel whilst collecting waste from customers. Route optimisation has further reduced WCA's impact on the environment, whilst also minimising costs related to wear and maintenance across its fleet.

CNG-fuelled WCA waste collection truck with hydraulic tipper engaged

WCA Waste Corporation
United States

ENFI ENVIRONMENTAL

Enfi Environmental (Enfi) owns and operates a high-quality portfolio of seven water and wastewater treatment projects in China, together representing combined water treatment capacity of 1,000,000 metric tonnes of wastewater influent per day.

In late 2019, Enfi acquired a sludge recycling facility to treat residual sludge generated by their nearby wastewater treatment plant and other nearby plants. The new facility treats 120 tonnes of sludge per day, reducing Enfi's sludge treatment costs by $R2 million while also generating additional EBITDA of $R1 million from treatment of residual sludge produced by other wastewater companies. The residual products from Enfi's sludge recycling facility is donated to the local community as an environmentally-safe intermediary organic fertiliser suitable for agricultural, gardening or landscaping applications after further processing.

The facility represents an innovative circular economy initiative that sustainably improves operating efficiency and commercial outcomes.

Aerated lagoon at an Enfi Environmental wastewater treatment facility

Renewable energy

UK CLIMATE INVESTMENT FUND

Approximately 64% of India's electricity relies on fossil fuel-based sources of generation[26]. With national energy demand set to grow rapidly over coming decades[27], India is seeking new ways to power its economic development. The amount of renewable energy is expected to grow significantly[28].

In 2017, UK Climate Investments (UKCI) – a MIRA-managed vehicle which forms part of the UK's International Climate Finance – partnered with Lightsource bp, a major global solar developer, to install green infrastructure across India.

Ground-mounted solar panel array in India developed in partnership with UKCI

UKCI and Lightsource bp commenced with the development of a 60MW solar farm in the western Indian state of Maharashtra. In less than six months, more than 200,000 ground-mounted solar photovoltaic panels were successfully installed over 240 acres of non-arable land.

Connected to the local distribution grid, the solar farm is displacing electricity generated from non-renewable sources and provides enough renewable electricity to meet the needs of approximately 75,000 homes each year[29]. In doing so, the project helps avoid over 80,000 tCO_2e annually as well as harmful air pollutants including nitrous oxide, sulphur oxide and particulate matter emissions[30].

The project is helping to contribute to cleaner air in a country where more than 1.2 million people each year die prematurely as a result of air pollution[31]. In addition to causing serious respiratory and cardiovascular diseases, it is estimated that poor air quality costs the Indian economy the equivalent of 8.5% of GDP annually[32].

Lightsource bp
India

26. 2019 Draft Report on Optimal Generation Capacity Mix for 2029-30, Ministry of Power – Central Electricity Authority. 27. Global Energy Perspective 2019: Reference Case, Energy Insights by McKinsey. 28. BP Energy Outlook 2019: Insights from the evolving transition scenario – India, BP. 29. Internal MIRA estimates. 30. Internal MIRA estimates. 31. The impact of air pollution on deaths, disease burden, and life expectancy across the states of India: the Global Burden of Disease Study 2017, India State-Level Disease Burden Initiative Air Pollution Collaborators (Published December 2018). 32. Cost of Air Pollution: Strengthening the Economic Case for Action 2016, The World Bank and Institute for Health Metrics and Evaluation University of Washington, Seattle.

GIG RENEWABLE ENERGY ASSETS

In August 2017, a Macquarie-led consortium acquired the UK Green Investment Bank, today known as the Green Investment Group (GIG). GIG is one of the world's largest teams of specialist green investors with expertise in project finance and development, construction, investment and asset management of green energy infrastructure.

In its original configuration, GIG accelerated the development of the UK wind sector by backing a portfolio of six offshore wind farm assets with a consortium of public and private investors. The success of these assets has further enhanced GIG's track record and enabled expansion into additional renewable energy investment opportunities abroad.

The nine offshore wind assets, which are currently managed by MIRA, comprise combined capacity of 2.4GW, or up to 3% of the UK's energy needs[33], and supply near-zero emissions electricity to communities and businesses across the UK.

If this same amount of electricity were generated by the UK's residual energy mix, it would result in approximately 2.4 million tCO_2e annually[34]. Together, these nine offshore wind farms represent 5% of all renewable capacity in the UK[35].

Renewable energy technologies can generate significant value for investors and communities while also minimising adverse environmental impacts and supporting the global transition to a low-carbon economy.

Sheringham Shoal Offshore Wind Farm located off England's East Coast

33. At full working capacity. 34. MIRA estimate. 35. As at December 2019 based on information provided by the UK Department for Business, Energy & Industrial Strategy available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877047/Press_Notice_March_2020.pdf.

People and communities

OPEN GRID EUROPE

One of Germany's major challenges during recent years has been the influx of asylum seekers displaced by political conflict from surrounding regions. Nearly 1.4 million registered asylum seekers have entered Germany since 2015[36].

Open Grid Europe (OGE) owns and operates the longest regulated supra-regional gas transmission network in Germany. OGE has taken proactive steps to address this social challenge by focusing on the recruitment and education of young refugee workers.

To promote the integration, support and training of asylum seekers, OGE aims to ensure that approximately 15% of their industrial mechanism apprenticeship program intake comprises individuals with refugee status. OGE offers preparatory courses in mathematics, ongoing German language lessons and intercultural training for its new apprentices.

OGE gas transmission network facility

36. United Nations High Commissioner for Refugees, www.unhcr.org.

Goethals Bridge
United States

GOETHALS BRIDGE

In 2013, NYNJ Link – a consortium comprising MIRA and Kiewit Development Corporation – was awarded a 35-year concession to finance, design, build and operate a new bridge to replace an existing road link between New York City and New Jersey.

As a critical transport connector for two states and two cities, the project had to account for the current and future needs of numerous stakeholders. This required extensive consultation with numerous government authorities, commuters and other stakeholders to optimise the public benefit of a new Goethals Bridge.

Over the five-year period, the construction of the project recorded over three million hours in local union craft service[37], with a lost time injury frequency rate of 1.2 (well below industry averages) and injected over $US870 million of economic activity into the local area[38]. The innovative bridge design gave the structure a service life of 150 years, allowing it to meet the evolving needs of the region such as future mass transit expansion.

The Goethals Bridge Replacement Project has been recognised for its innovation, collaboration and safety record. It was chosen unanimously by judges of the Engineering News Record Awards to be New York's 'Project of the Year' for 2018. It was also named New York's 'Best Project' in the highway/bridge category and also received the 'Excellence in Safety' award[39].

37. The Port Authority of New York and New Jersey. 38. Press Release, Governor of New Jersey. 39. New York's 2018 Best Projects Awards, Engineering News Record.

Technology and innovation

STRIDE CLIMATE INVESTMENTS

Stride Climate Investments (Stride) operates renewable solar facilities in India with combined power capacity of 414MW which is supplied to residents, businesses and infrastructure via the local grid.

Innovative use of drone technology with thermal imaging capability has allowed Stride to improve business efficiency, reduce GHG emissions and mitigate employee safety risks.

The use of drones allows Stride to more efficiently monitor its solar arrays, which span 2,630 acres, ten times faster than handheld methods. More frequent, rapid and accurate monitoring allows Stride to respond faster to issues impacting solar array performance in order to maximise power generation productivity during sunshine hours.

The technology has also resulted in reduced fleet vehicle fuel consumption, fleet vehicle GHG emissions and personnel safety risks associated with alternative handheld monitoring methods, including heat exhaustion and dehydration.

Stride has also used innovation to solve for local issues. At Stride's Punjab site, neighbouring farmers would regularly burn their leftover crop residue seasonally. This not only resulted in a fire hazard, but also diminished local air quality and Stride's power generation due to reduced sunlight penetration and accumulation of ash on its solar modules.

Stride negotiated an agreement with locals to collect and donate 2,700 metric tonnes of unwanted crop residue to a nearby biogas generator for use as feedstock biomass, avoiding 4,716 tCO_2e, and improving local air quality, community relations and Stride's solar power generation output.

Crop residue collected and donated by Stride

Techem
Germany

TECHEM

Techem provides sustainable heat supply and energy efficiency services along the entire energy value chain in real estate. Over the past decade, Techem has been transformed into a leading global energy efficiency provider active in more than 20 countries.

The real estate sector represents around 40% of the world's energy consumption and contributes up to 30% of global emissions[40]. While new design and construction methods continue to create more sustainable buildings, significant investment is required to enhance the energy efficiency of established properties to help meet global emissions reduction targets.

Techem has been a leader in the development of quality technologies in the areas of energy and water measurement, billing and management since the early 1950s. Since taking full ownership in 2009, MIRA has partnered with management to invest more than €1 billion in developing a suite of highly efficient and cost-effective products to enable apartment buildings and commercial properties to further reduce their overall energy consumption. Over this period, Techem added sustainable heat supply solutions, enhanced fire protection monitoring and products to improve drinking water quality to its extensive service offering.

Techem's continuous innovation and range of integrated and digitalised customer solutions saw the business extend its market leading position in Germany and expand into new markets. At the time of MIRA's divestment, Techem had approximately 51 million devices servicing 11 million dwellings across 20 countries[41], which combined help to avoid an estimated seven million tonnes of carbon dioxide emissions each year.

Techem head office, Germany

40. Sustainable Real Estate Investment – Implementing the Paris Climate Agreement: An Action Framework (February 2016), United Nations Environment Programme – Finance Initiative. 41. Techem.

06

Memberships

INDUSTRY RECOGNITION AND ENGAGEMENT

MIRA's commitment is demonstrated through our membership of and alignment with a number of industry bodies and suitability-focused global organisations.

GRESB

GRESB's mission is to enhance and protect shareholder value by assessing and empowering sustainability practices in the real asset sector.

MIRA has been a member of GRESB Infrastructure since it was launched in 2016 and is represented on GRESB's Infrastructure Benchmarking Committee. MIRA is also a member of GRESB Real Estate.

GRESB assessments provide us with valuable insights as we develop sustainability strategies for our assets and opportunities for best practices within our portfolio and across industry sectors.

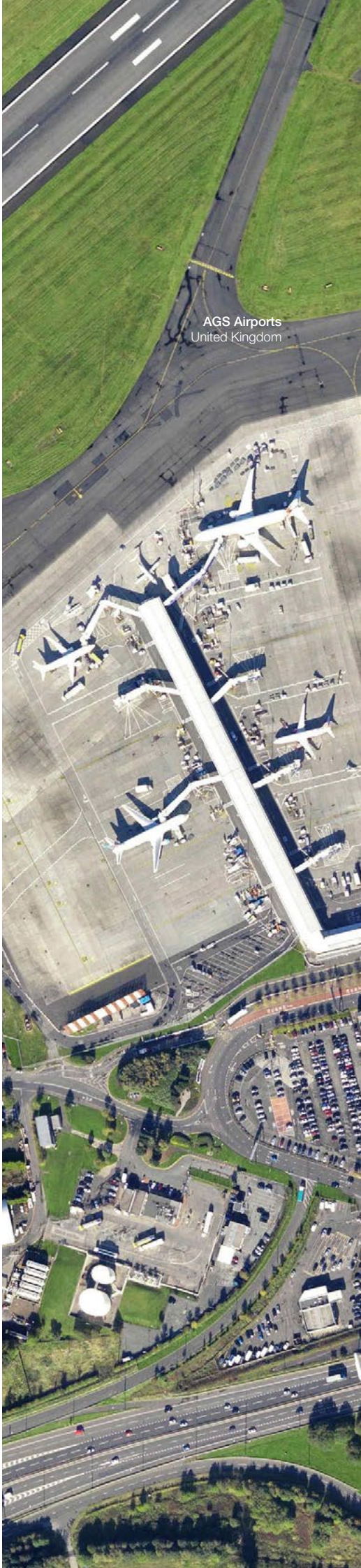
2019 GRESB results

We are proud that a number of MIRA assets and funds were peer group leaders and/or top quintile performers (receiving a prestigious five-star GRESB rating) in the 2019 assessment.

Of note from our asset portfolio, Viesgo was ranked one of the most sustainable companies globally, coming first in the energy generation (ex-renewables) super-sector. Elenia Oy also came first, One Rail Australia second and Perth Airport third in their respective peer groups, with all four assets receiving five-star GRESB ratings.

Details of the GRESB Infrastructure 2019 results and a list of overall sector leaders are available on the GRESB website: https://gresb.com/2019-infrastructure-results.

An increased number of MIRA funds and assets are participating in the 2020 assessment, with MIRA's aim being full portfolio participation.



AGS Airports
United Kingdom

Our infrastructure asset managers increasingly utilise the **United Nations Sustainable Development Goals (UN SDGs)** as a tool to assess the contribution made by our portfolio assets to global development.

This approach has been formally adopted by some of our funds as a way of reporting impact. These include the MIRA-GIG funds as well as our agriculture funds which align themselves with four key UN SDGs.

Macquarie Asset Management (MAM) has been a signatory to the **Principles for Responsible Investment (PRI)** since 2015 and is represented on PRI's Infrastructure Advisory Committee.

MAM's most recent PRI Transparency Report has been made publicly available online at www.unpri.org. In 2020, MAM received above median scores of A and A+ across all relevant categories, including an A+ in 'Direct – Infrastructure' which relates wholly to MIRA's infrastructure business.

MAM is a signatory to **Climate Action 100+ (C100+)**, an initiative led by investors to actively engage with investee companies identified as the world's largest corporate greenhouse gas emitters to implement climate change governance, action and disclosure.

Macquarie affiliations

Under the leadership of Macquarie Group Managing Director and CEO Shemara Wikramanayake, Macquarie is also participating in several new climate initiatives that build on our long-standing commitment to maintaining carbon neutrality and ongoing climate disclosure through the CDP:

- Global Commission on Adaptation
- Climate Finance Leadership Initiative
- US Alliance for Sustainable Finance
- Task Force on Climate-related Financial Disclosures
- RE100 by The Climate Group.

GLOBAL COMMISSION ON ADAPTATION

In December 2018, Macquarie CEO, Shemara Wikramanayake, was appointed to the Global Commission on Adaptation by co-chairman Ban Ki-moon and Bill Gates. The UN Commission was formed to help drive insight and attention to the current and future adaptation and resilience needs of society given the climate changes that are already manifesting. MIRA contributed thought leadership to the Infrastructure Chapter and other dimensions of the report. We continue to engage with stakeholders to originate projects that help showcase the principles and opportunity of resilience infra described in the report.

CFLI CLIMATE FINANCE LEADERSHIP INITIATIVE

In January 2019, Shemara Wikramanayake accepted an appointment by UN Special Envoy on Climate Change Michael Bloomberg to become a member of the Climate Finance Leadership Initiative (CFLI). CFLI was formed to help identify the barriers and opportunities to increase capital formation for climate change mitigation globally, and especially in emerging economies. MIRA provided thought leadership to a seminal report on mitigation finance including a section on investment readiness suggestions for growing economies.

Both the GCA and CFLI reports were released in conjunction with UN Climate Week in 2019 and garnered significant media coverage.

Shemara Wikramanayake is the only executive who serves on both bodies which for Macquarie, underlines the importance of elevating the consideration of infrastructure as a solution for some of society's most material sustainability challenges – Mitigation, Adaptation and Resilience. We have a unique set of experiences which we will continue to bring to bear for our sector to help advance the thinking and smart deployment of capital.

Visit

MIRAFunds.com

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