

Eco Action Day 2020

THE RACE TO NET ZERO

2 June 2020

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THE RACE TO NET ZERO

Amid the coronavirus crisis, climate change is at risk of slipping off the agenda of governments and corporations around the world. With the global economy disrupted, companies grappling with squeezed profits could backtrack on green investments to stay afloat, while governments may ease up on emissions policies in their efforts to salvage jobs and reboot battered economies.

But despite the pandemic, economic and political tides have not ceased to turn against carbon-heavy businesses, while climate change poses ever bigger threats to humanity, bringing record-breaking temperatures and increasingly extreme weather events that imperil assets and supply chains.

At the same time, the outbreak has cast humanity's exploitative relationship to nature in stark relief, raising global awareness of the planet's plight. If anything,

the Covid-19 era has shown that climate action matters more than ever before.

However, companies face persistent obstacles to their decarbonisation efforts. Even in highly developed Singapore, they are hamstrung by a lack of infrastructure and technical expertise, while regulations are not stringent enough to spur firms into action.

Addressing such challenges was the key topic of discussion at this year's Eco Action Day Dialogue Session, a virtual debate held in conjunction with Ricoh's Eco Action Day, one of Singapore's longest-running sustainability initiatives held annually in concurrence with the UN Environment's World Environment Day (WED).

Themed 'The race to net zero', the debate gathered six government and business leaders virtually to discuss the opportunities and obstacles in corporate

decarbonisation in the context of Singapore, and identify ways to communicate the need for corporate climate action.

Now in its 14th year, Eco Action Day 2020 followed on the heels of Singapore's newly updated Nationally Determined Contribution (NDC), building on the original pledge made under the Paris Agreement in 2015, as well as the city-state's decision to part ways with fossil fuel vehicles within two decades.

How can corporates shrink their carbon footprint besides using renewables? What are the current regulatory barriers that prevent the adoption of green technologies, and what are the policies that could accelerate it?

These were the agenda-setting discussions that took place at the Eco Action Day Dialogue Session 2020.

● Recording **LIVE** on Facebook



Eco Action Day Dialogue Session 2020 held on 2 June:

From top left: Jessica Cheam, founder & managing director of Eco-Business; Soren Kvorning, president of the Asia Pacific region at Danfoss; William Hudson, Southeast Asia head at The Carbon Trust; May Liew, head of sustainability and open innovation at SP Group; Tan Kok Yam, deputy secretary of Singapore's Smart Nation and Digital Government, and Strategy Group in the Prime Minister's Office; J.D. Kasamoto, general manager of the service & environment division at Ricoh Asia Pacific; Adrian Lim, head of the managing director's office at Ricoh Singapore; Junice Yeo, deputy managing director at Eco-Business

DELIVERING SDG 7:

Affordable and clean energy in a Covid-19 era

“All across the globe, we are awakening to the profound realisation that our relationship with the natural world has to change. For far too long, we have exploited this relationship and we need to urgently address some fundamental problems in our global economy,” said Eco-Business founder and managing director Jessica Cheam as she kicked off the day’s discussions.

As multiple forces from extreme weather patterns, the increasing proximity of human and animal populations and pollution to social instability, technology disruption and pandemics converge to create unprecedented challenges, it becomes clear that the world cannot ignore the larger issue of climate change, she continued.

“This pandemic is deeply rooted in the climate challenge, and

one question that we should all ask ourselves is how can we rapidly decarbonise in a Covid-19 world?” she noted.

Meanwhile, pressure is mounting on businesses to decarbonise as consumer awareness of the climate crisis increases and governments adopt more stringent emissions and energy regulations, she observed.

“Like other nations, Singapore has recently [stepped up climate action](#). Companies will need to play their part to help Singapore, and other countries they operate in, to shrink their carbon footprint, or confront the risks of inaction,” she said.

According to research group Climate Action Tracker, the world’s present emissions trajectory lies well above emissions pathways consistent with the Paris climate deal.

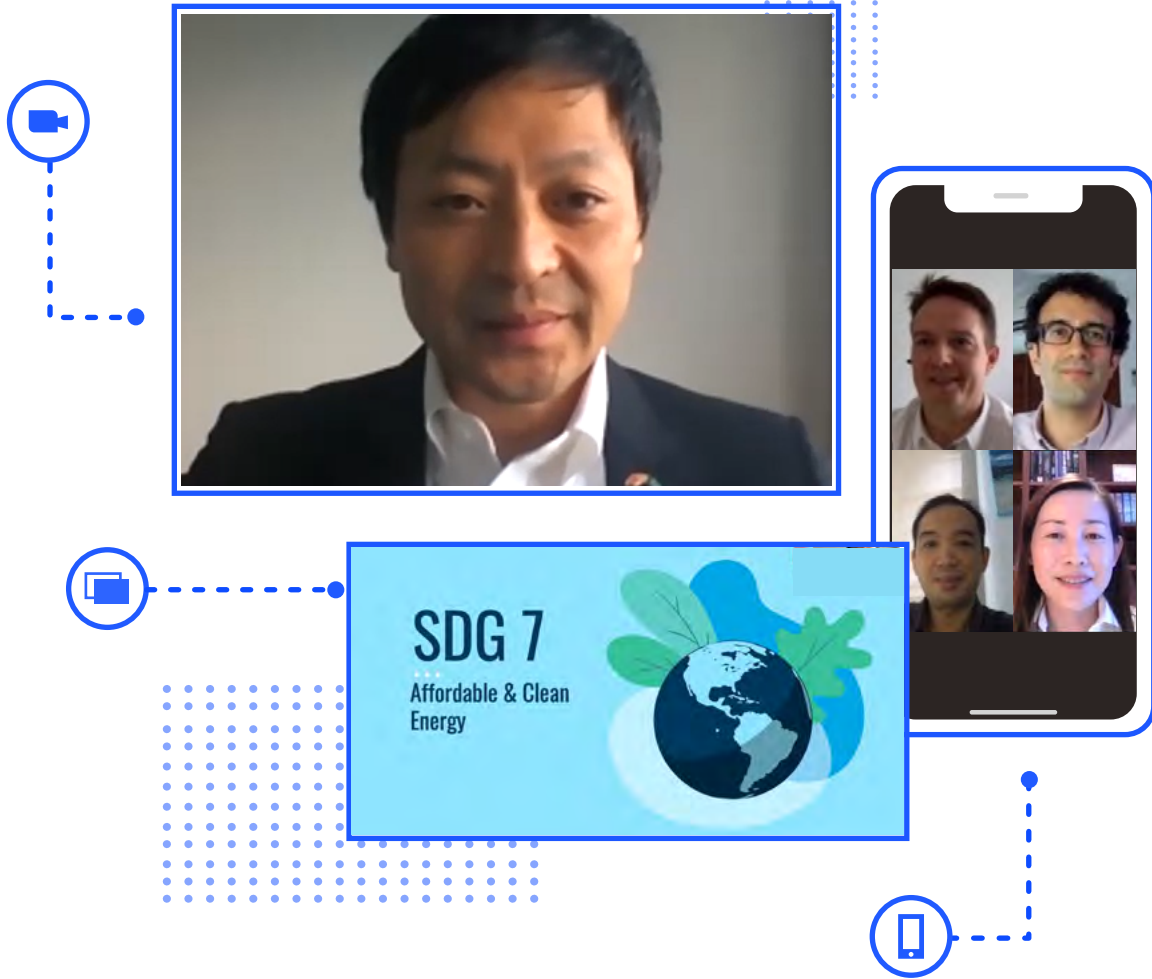
Keeping warming well below 2 degrees Celsius above pre-industrial levels by 2100 requires greenhouse gas emissions to be reduced dramatically in the coming years, and brought to zero around mid-century. This calls for a fundamental transformation of the world economy, and to the way businesses operate, said the discussion leaders.

But rather than economic sacrifice, most changes would bring myriad social and economic benefits, from green, stable jobs and energy independence to clean water and air, observed William Hudson, Southeast Asia head for sustainability consultancy The Carbon Trust.

The popularity that various climate initiatives are enjoying demonstrates how climate actions is gathering momentum around the world. For instance, more than 800 companies have

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Jessica Cheam
Founder & Managing Director
Eco-Business



set science-based decarbonisation targets in line with the Paris climate goals, 225 firms have signed on to RE100 to show their commitment to renewable energy, and 70 firms have joined EV100, an initiative devoted to accelerating the transition to electric vehicles.

Among these companies is Eco Action Day organiser—Ricoh Asia Pacific. Being the first Japanese corporation to join RE100 in 2017, Ricoh [set a science-based target](#) to help limit the global temperature rise to 1.5 degrees Celsius above pre-industrial levels. It aims to curb emissions by 63 per cent by 2030 and is committed to converting 20 per cent of its

transport fleet to clean alternatives by 2025.

All its [manufacturing sites](#) in Thailand, Japan and China that assemble its printers are entirely powered with renewable energy. So is its Singapore office, which also uses energy-efficient technologies.

With its [new manufacturing site](#) at Dongguan, China, Ricoh has reached yet another environmental milestone. The factory—the company's most advanced facility to date—harnesses solar power and natural lighting while using natural ventilation to replace energy-intensive air conditioning systems. By the end of March 2021, the site will

have cut carbon dioxide emissions by at least 70 per cent compared to Ricoh's previous facilities near Shenzhen, China.

Beyond its efforts to reduce emissions, the digital services company aims to create a circular economy for its supply chain and has launched awareness-raising initiatives to encourage responsible consumption and production among Singapore citizens.

Through its annual [Eco Action Day](#) initiative, Ricoh has been encouraging individuals, organisations and schools to change their behaviour for the environment. To date, the firm has received a total of 142 pledges, which it will

match with the same amount of natural gas carbon units from an electricity plant on Jurong Island. The pledges will approximately result in energy savings of 261,259 kWh and a combined 109,415 kg in carbon dioxide emissions savings.

This year, Ricoh [released](#) the first [Asia Pacific SDGs Communication Book](#) to highlight its commitment to the United Nations' Sustainable Development Goals (SDGs), casting a light on different case studies in Asia Pacific and Oceania that align with different SDGs. The booklet also showcases the company's Eco Action Day journey.

J.D. Kasamoto, general manager of the service & environment division at Ricoh Asia Pacific, said: "Having championed sustainability for many years, Ricoh understands that tackling climate change is a collective effort at all levels of society—from national to individual levels. We need robust regulatory frameworks to support green initiatives, and to foster partnerships between the private and public sector for this cause."

"Therefore, we have been actively involving various corporate leaders, governmental bodies and academic experts in dialogues since our first panel

discussion in 2014. We started our first roundtable in 2017 and have been holding it annually ever since," he added.

The event kicked off with an initial set of speeches from Kasamoto, Cheam and Tan Kok Yam, deputy secretary of Singapore's Smart Nation and Digital Government, and Strategy Group in the Prime Minister's Office. These were followed by a virtual discussion moderated by Cheam.

HIGHLIGHT 1:

Regulatory perspectives on driving climate action in Singapore

A tropical and low-lying island nation, Singapore is particularly vulnerable to climate change, observed Tan. According to projections from Singapore's National Climate Change Secretariat, the sea level around the city-state will be about a metre higher by 2100 than it is today, and daily mean temperatures are forecast to rise by as much as 4.6 degrees Celsius.

This will jeopardise Singapore's access to resources such as food and water, while more erratic and intense weather events

could lead to more frequent floods. This being the case, Tan cautioned against allowing the coronavirus outbreak to delay climate action even as it has wreaked havoc on businesses.

"We should guard against climate action being sidelined, delayed or postponed because of this pandemic. If Covid-19 is a disruption, then climate change is surely a longer lasting and more severe disruption," he said.

Like other countries, Singapore faces the twin challenge of

climate adaptation and mitigation. It needs to both alter how it runs its economy in a carbon-constrained world to ensure decent living standards, and safeguard infrastructure and people from increasingly harsh climate change impacts, Tan noted.

Under the Paris agreement, the nation pledged to reduce its emissions intensity by 36 per cent from 2005 levels. In March, it updated this pledge, or Nationally Determined Contribution, committing to an absolute peak emission level of 65 million



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General Manager of Service & Environment Division
Ricoh Asia Pacific

tonnes of carbon dioxide equivalent around 2030 while extending the scope of its pledge to include another greenhouse gas, nitrogen trifluoride (NF3), he told the audience.

With its Long-Term Low-Emissions Development Strategy (LEDS), Singapore has also charted a climate strategy beyond 2030. It aspires to halve emissions from their peak to 33 million tonnes of carbon dioxide equivalent by 2050, with a view to achieving net zero emissions as soon as viable in the second half of the century, Tan said.

In addition, Singapore became the first Southeast Asian nation last year to implement a carbon tax. The country has coupled this with industry incentives and capacity-building efforts to spur corporates to address their carbon footprint, Tan noted.

Foresight, meticulous planning and the use of science and technology have been central to Singapore's decarbonisation strategy, observed Tan. In the early 2000s, the city-state made

the switch from fuel oil to less polluting natural gas, which comprises 95 per cent of the nation's power mix today.

Increasingly, Singapore also harnesses solar energy to complement its existing power sources. In April, the city-state met its 2020 solar target of deploying 350 MWp of photovoltaic capacity, bringing it a step closer to realising its 2030 ambition of producing at least 2 gigawatt-peak of solar energy—enough to power about 350,000 households annually, or around 4 per cent of its current electricity needs.

May Liew, head of sustainability and open innovation at Singapore-headquartered energy firm SP Group, highlighted the need to prepare Singapore's grid for more fluctuating and intermittent solar energy generation.

With Singapore's solar potential constrained by its lack of space and renewable energy sources, the country is also exploring how it could plug into regional power grids to secure sufficient

low-carbon energy, said Tan.

Liew commended plans to import energy from neighbouring countries and [even from as far away as Australia](#). She cited a plan revealed last year to transfer solar power from Australia's Northern Territory to Singapore via the world's longest subsea high voltage cable. However, she cautioned that political barriers and reservations could potentially hamper endeavours to tap energy sources beyond Singapore's borders.

There are other uncertainties on Singapore's road to decarbonisation. Tan said it was at present unclear how emerging low-carbon technologies essential to the country's decarbonisation endeavours would advance in the coming years. They include green hydrogen and carbon capture and storage technologies.

Moreover, at a price of S\$5 per tonne of carbon dioxide emissions, Singapore's carbon tax is far beneath the benchmark of US\$50–US\$100 per tonne of emissions recommended by the



World Bank, remarked Cheam, taking a question from the audience. There is a risk the tax hardly puts a dent on companies' climate impacts in the country.

Tan said the government plans to gradually increase this amount over time to allow businesses to adjust, even as it implements other incentives and builds capacity to cut emissions. Singapore aims to review its carbon price in 2023, with plans to raise it to between S\$10 and S\$15 per tonne of emissions by 2030.

Hudson of The Carbon Trust acknowledged the difficulty of

shifting to a higher carbon tax overnight. But beyond carbon taxation, there are other regulatory and policy levers that the Singapore government could pull to encourage firms to decarbonise, he observed.

He cited a successful tax on industrial emissions that the United Kingdom introduced in 2001. Not only did the policy offer tax relief to encourage companies to set energy efficiency targets and deploy novel technologies, but it was also accompanied by extensive awareness-raising campaigns that encouraged knowledge sharing and provided

sector-specific advice on different low-carbon solutions available.

Generally, policy mechanisms that incentivise decarbonisation efforts require three key features, said Hudson. Firstly, they should make energy efficiency measures one of their key priorities. Secondly, they must provide technical advice to support corporates in adopting new technologies. Thirdly, they need to unlock finance to help companies get their green initiatives off the ground.



HIGHLIGHT 2:

Spotting opportunities in corporate decarbonisation

Today, corporates that continue to operate at the expense of people and the planet feel the heat on various fronts, said Hudson.

Beyond consumers who increasingly demand greener products and changing climate and energy regulations, emerging technologies increase the risk of stranded assets—assets unable to yield returns prior to the end of their economic life due to technology disruption—while irresponsible ventures might see financing sources dry up, he continued.

Even internally, increasing pressure mounts on firms as employees demand more effective sustainability policies, while in the long run, physical risks from climate change threaten to wreak havoc on supply chains, he added.

Businesses must go about their decarbonisation efforts strategically. Hudson said the first step would be to understand one's carbon footprint. Once corporates have taken stock of their main emission sources, they

should identify risks and opportunities in addressing them.

They must then set science-based targets consistent with the Paris climate goals of keeping the increase in global average temperature to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the increase to 1.5 degrees Celsius. The last step would be to develop a roadmap to zero emissions, said Hudson.

The Carbon Trust consults companies on their decarbonisation journey. But, Hudson observed, few companies end up becoming climate leaders. Most companies that The Carbon Trust works with analyse the risks linked to climate change. However, few firms fully embrace sustainability strategies, despite the economic opportunities such strategies present, he said.

There are myriad ways for corporates to cut emissions. But without a silver bullet, companies will need a combination of approaches to reach their green targets, said the participants.

They can invest in energy-efficient technologies, switch to zero-carbon power, move towards zero-emissions transportation and decarbonise heating and cooling. Implementing internal carbon pricing can help mitigate transition risks and improve decision making around low-carbon investments, said Hudson.

Energy efficiency measures have the largest potential to deliver significant emissions cuts while yielding tangible and far-reaching economic benefits. Investing in energy-efficient technologies and services could not only save businesses energy and money but also deliver higher production levels and profits, observed the experts.

Even if the upfront cost of such technologies may be higher, this means companies should take

full life-cycle costs of low-carbon solutions into account, as such investments could enable cost-savings in the long term, said Liew.

Air-conditioning, which consumes 60 per cent of buildings' electricity in Singapore, is a fruit that hangs particularly low, but the political will and investment are currently lacking in the country to pick it, said Soren Kvorning, president of the Asia Pacific Region at engineering firm Danfoss.

"We need cost-efficient and energy-efficient technologies installed everywhere. Energy efficiency is still the cheapest and quickest way to decarbonise," he said. In recent years, Danfoss has managed to reduce its headquarters' energy consumption by 60 per cent.

Liew shared that SP Group's underground district cooling network provides chilled water for air-conditioning to several buildings at Marina Bay, bringing down power consumption by 60 per cent compared to conventional air-conditioning.

Companies unable to generate clean energy themselves due to space constraints could acquire renewable energy certificates to achieve their green targets, said the experts. Liew told the audience that SP Group had launched a platform last year that enabled corporates to buy and sell

international renewable energy certificates.

Famed for its smart nation strategies, Singapore is also harnessing digital technologies to unlock emissions savings, and such initiatives could help companies reach their climate targets faster, said Tan.

He explained that by using technologies such as smart sensors or machine learning, energy could be managed more efficiently, while smart grids could enable Singapore to accommodate more renewables by detecting and reacting to local changes in usage.

Two years ago, SP Group and JTC Corporation teamed up to develop the first smart grid for business parks in Singapore. The network will be implemented in Punggol Digital District (PDD) and is estimated to reduce the carbon emissions of the district by 1,700 tonnes annually. The district will also be equipped with district cooling, said Liew.

Cheam observed with various low-carbon solutions available, companies may lack the expertise to choose the one that will help them on their decarbonisation journey. Hudson noted Singapore could draw on lessons learned in other countries. In the United Kingdom, The Carbon Trust made roadmaps available for every sector, which identify best-in-class technologies suitable for a company's respective industry.

Tan emphasised the importance of collaboration between public entities and private companies, not only to reach climate targets, but also to benefit from new opportunities arising in a carbon-constrained world.

“We should aim for an economy where the public and the private sectors work together to seize green growth opportunities to both enhance our resilience and create new jobs for our people,” he said.

Such opportunities include, firstly, turning Singapore into a green finance hub to spur investments in low-carbon solutions both within the country and across the Asia Pacific region. Secondly, there are plenty of opportunities in the circular economy to cut emissions as well as provide new jobs for Singaporeans.

Thirdly, Singapore is pursuing efforts to foster research and development efforts.

By encouraging organisations to test emerging green solutions in the city-state, Singapore could both drive innovation and eventually export and deploy novel technologies globally. Finally, companies could be encouraged to band together to invest in district cooling solutions, he said.

HIGHLIGHT 3:

Accelerating Singapore's switch to green mobility

Earlier this year, Singapore revealed its ambition to phase out vehicles with internal combustion engines over the next 20 years. However, a lack of charging facilities and incentives are at present making it difficult for companies to switch to clean mobility, noted the discussion leaders.

Cheam said Singapore's plan to bid farewell to fossil fuel vehicles hinged on electric vehicles (EVs) becoming competitive on price. However, Singapore's current policy settings still unfairly taxed EVs, she remarked, taking a question from the audience. Would the country consider

reviewing these policies and perhaps provide further incentives to encourage individuals to shift to sustainable modes of transport?

Tan said the government was committed to the switch to green mobility, but that it took time as it required Singapore to encourage both consumers to buy battery-powered vehicles, and companies to provide charging stations. The government will adjust its strategies in step. Singapore looks to implement its EV early adoption incentive (EEAI), a rebate on an extra tax called additional registration fees (ARF) which Singapore citizens

pay when they register a vehicle next January.

Beyond EVs, Singapore looks to have all its public bus fleets run on cleaner energy by 2040, and encourages citizens to use public transport, walk or cycle, Tan added.

Rolling out EVs in Singapore will be no easy task, as the construction of charging facilities will need to rise in tandem with the growth of the nation's EV population. As of last month, there were only 1,147 fully electric cars on Singapore's roads, comprising less than 0.2 per cent of the total number of cars, while the tally of



chargers now publicly accessible was about 1,600.

As SP Group's Liew put it, the sustainable mobility switch presents a chicken-and-egg problem. "There is a whole ecosystem that needs to come into place for the network to operate. There is always a question about which comes first, the chargers or the vehicles. But they need to come together."

She said SP Group aims to support the Singapore government's plans to install 28,000 charging points for electric vehicles across the city-state by 2030. The company has already installed several hundred chargers island-wide and plans to increase this number to 1,000 stations by the end of 2020.

Soren observed that electrifying privately owned vehicles and

public buses was a step in the right direction to cut emissions and reduce noise. However, he added that Singapore should also consider electrifying tugboats and other ships operating in its port, which he said represented a more significant emissions source than public buses and privately-owned cars.

As we face unprecedented times now, the question for us in the energy industry is this: Do we go back to fossil fuels, or do we use this time as an opportunity to reset our society? The answer is clear: Healthcare, the economy and climate resilience are interlinked and must be part of a holistic plan for a sustainable, healthy and green recovery.

May Liew
Vice President, Innovation
SP Group, Singapore



CONCLUSION:

A Covid-19 wakeup call?

Shrinking a company's climate impacts can be a daunting challenge, and the key takeaway from the day's discussions was that no one firm can reach climate targets alone.

Before corporates can switch to electric mobility and renewables, others must put the infrastructure in place. Where clean power is not readily available, companies unable to generate it themselves depend on providers of renewable energy certificates to hit their climate goals. Where technical know-how is lacking, companies depend on experts to draw up roadmaps and point out suitable technology paths.

This calls for better collaboration between the public and private sectors to ensure that the hands of firms are not tied by burdensome regulations, that corporates receive technical advice, and that companies gain access

to green finance. However, cutting emissions also hinges on political will to rethink business operations and a thorough understanding of the potential risks from climate inaction, observed the discussion leaders.

Essential strategies for success are taking stock of one's carbon footprint, identifying opportunities in decarbonisation, setting science-based targets, and developing a roadmap to zero emissions, said the participants.

A theme that repeatedly resurfaced throughout the day's discussions was the role of the coronavirus pandemic in corporate climate action efforts. Despite the difficult times for firms, the experts highlighted the silver lining to the crisis as well as the golden opportunity it presents.

Emissions drops from lockdowns may not slow down global warming, but re-emerging

wildlife and reduced pollution have offered a glimpse of an alternative world. Corporates have realised representatives need not fly to conferences that can be conducted online just as successfully, while some governments are placing climate action at the heart of stimulus packages designed to restart economies.

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We should aim for an economy where the public and the private sectors work together to seize green growth opportunities to both enhance our resilience and create new jobs for our people.

Tan Kok Yam

Deputy Secretary
Singapore's Smart Nation and
Digital Government, Strategy Group



ECO ACTION DAY:

Advancing towards a greener future together



GREEN THE RED DOT JOIN THE MOVEMENT

109,415 kg of carbon dioxide emissions

261,259 kWh of energy

were
SAVED
by the pledges

pledged to reduce carbon footprints and commit to sustainable practices this year.

142

2,000



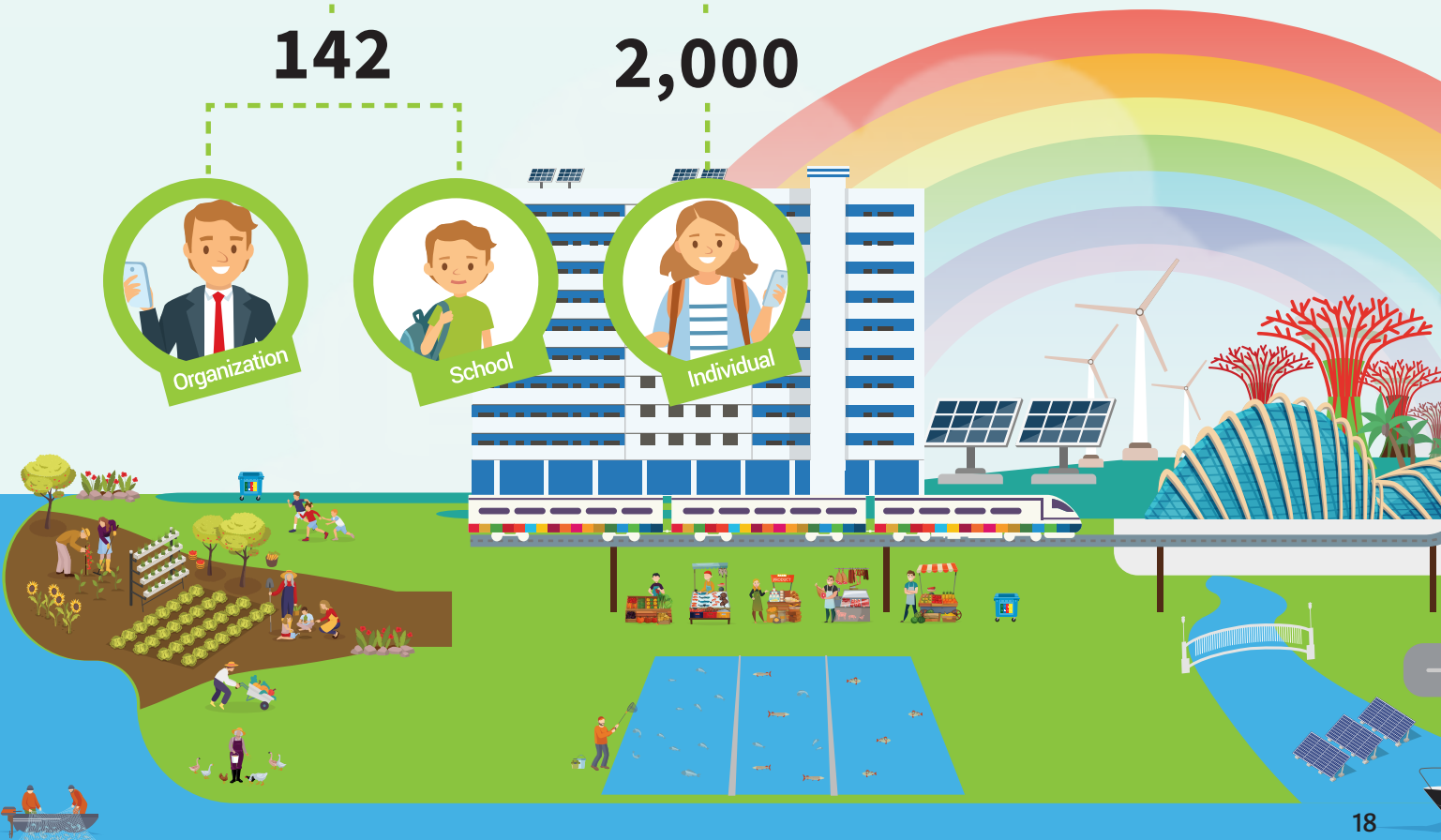
Organization



School



Individual



7: AFFORDABLE & CLEAN ENERGY



Ricoh kickstarted its 14th annual Eco Action Day (EAD) campaign in April 2020, tackling the United Nation's Sustainable Development Goals (SDGs) 7, 12 and 13—Affordable and Clean Energy, Responsible Consumption and Production, and Climate Action.

Every year, Ricoh, along with various supporting partners, engages its employees, customers, corporate neighbours, government organizations and the wider public to take steps to

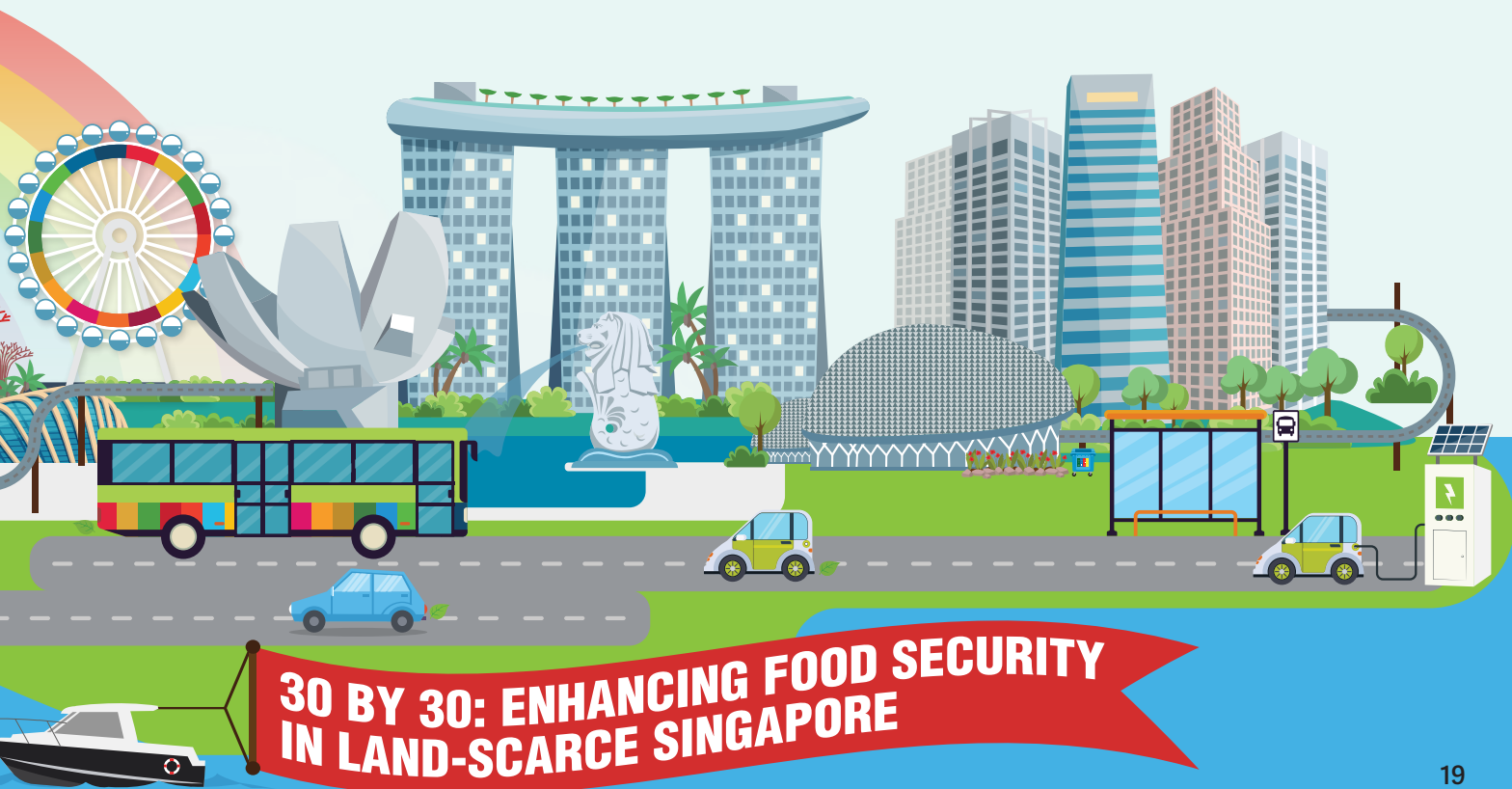
reduce their impact on the environment.

Among the various industry leaders participating this year were long-time supporters Mitsubishi Electric Asia, Singapore Pools, PacificLight Power and Sunseap.

Besides the highly successful EAD pledge campaign, this edition of Ricoh EAD also comprised of a seed distribution campaign. More than 2,000 seed packs have been distributed to

the community in partnership with North West and South West Community Development Council, Sustainable Singapore Gallery and several local schools.

Across the Asia Pacific and Oceania regions, more than 900 organisations and 6,000 individuals have pledged to go green, as part of the “[Ricoh Global SDGs Action](#)”—a global initiative that seeks to raise awareness and spur climate action amongst the private and public sectors.



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