

The background of the cover features a blurred industrial setting with robotic arms and a large keyboard in the foreground. The text is overlaid on this background. The top left corner contains the logo and title, while the center is dominated by the main title. The bottom left corner has the subtitle and date.

CLIMATE GROUP
EP100

Climate critical: The energy efficiency imperative

Progress and
Insights Report

March 2023



Foreword

The enormous potential of energy efficiency has been brought into focus by the war in Ukraine and the global energy crisis. We've been a fierce advocate for energy efficiency for years, and we're pleased to see that some of the world's most powerful politicians have now woken up to its power.

At COP27, the British Prime Minister Rishi Sunak said, "climate security goes hand in hand with energy security." In a world which is increasingly uncertain, being more energy efficient can bring greater resilience and greater certainty.

The ongoing volatility of energy prices shows exactly why we must now invest significantly in energy efficiency measures. Frans Timmermans, European Commission Vice President for the European Green Deal, said in 2022, "saving energy, not using energy, is the cheapest energy." Put simply, it's the fastest and most cost-effective way to cut bills and cut global fossil fuel demand in a sustainable way.

Energy efficiency is a climate imperative

In unpredictable times like these, energy efficiency improvements can unlock your company's net zero ambitions. Many corporates now have net zero aspirations, but far too many don't have a clear

strategy for how they're going to reach these goals. A 'reduction first' approach means reducing the energy you're using in the first place, making the transition to renewable energy quicker and cheaper.

The International Energy Agency (IEA) has called for a "relentless focus" on energy efficiency if we're to have any chance of halving emissions this decade. Their recent report details how 2021 brought a 16% increase in building efficiency investments.

By improving the energy used in their buildings, processes, and products, members of our EP100 initiative are showing climate leadership and making the most of every unit of energy they consume.

Increase your resilience

Energy efficiency has proved valuable to EP100 member [Woolworths Holdings](#). 'Loadshedding', an ongoing issue in South Africa, takes place when the electricity supply can't meet the electricity demand. Woolworths' energy efficiency

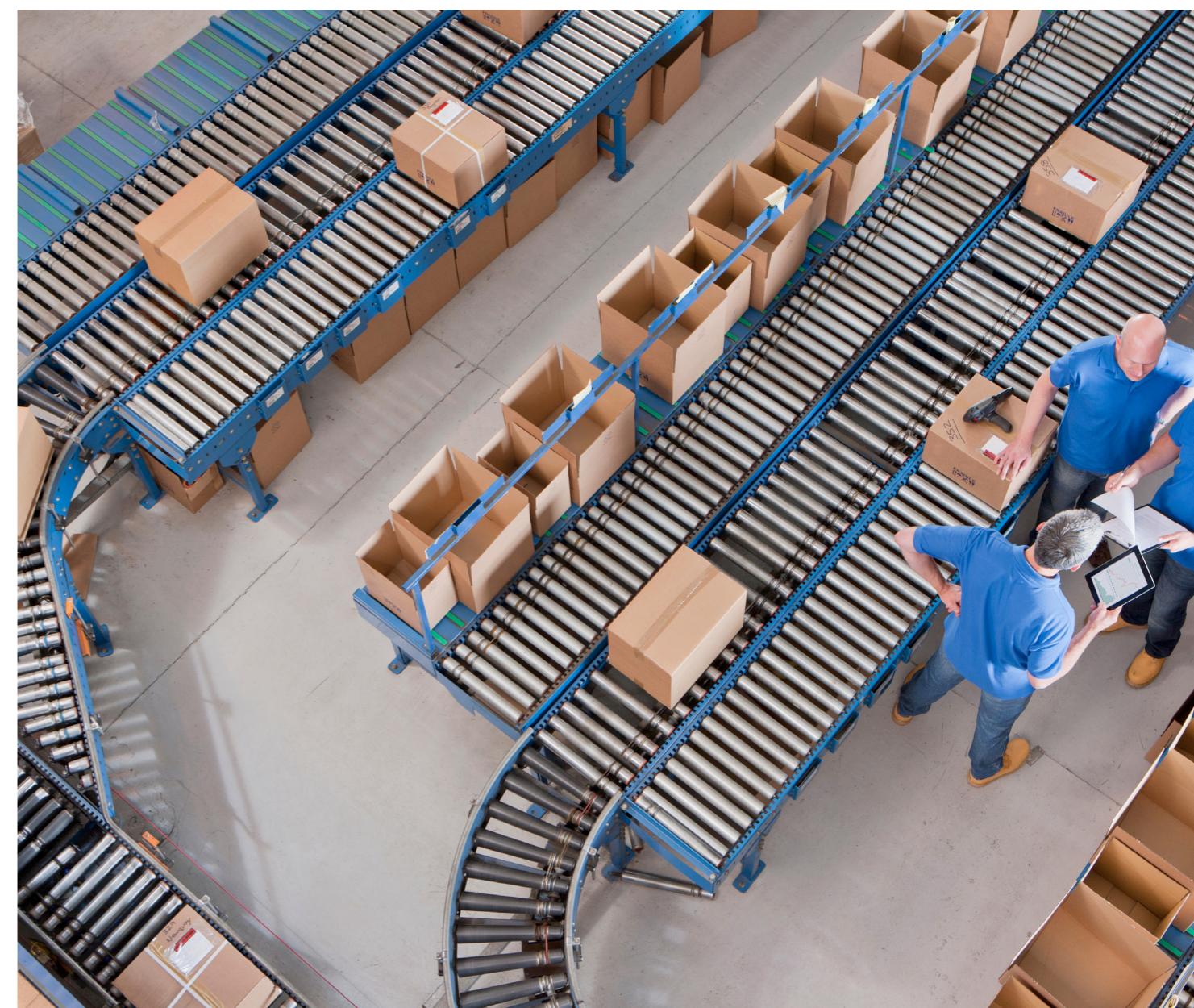
improvements have made the company less reliant on diesel and more resilient when loadshedding occurs.

We are proud to say that EP100 now brings together 125 member companies, operating in 126 markets. In 2022, three of our members achieved their energy efficiency targets, and 81% of our members are ahead of schedule on the EP100 commitments relating to energy productivity and implementing an energy management system.

To date, our members have reduced more than the current annual emissions of Denmark, Italy and Portugal combined.

It's time for more governments and corporates to increase their resilience through increased energy efficiency.

Helen Clarkson, Chief Executive Officer, Climate Group



About EP100

Now is the time to maximise the potential of energy efficiency, and EP100 members are leading the way.

EP100 is a global initiative led by the international nonprofit Climate Group, bringing together forward-thinking businesses committed to working on energy efficiency and reporting on their progress.

The 120+ EP100 members send a clear signal that businesses want and need to be more energy efficient. It's a commitment by members to change the way they operate their buildings and run their businesses, and it's a call to action for policymakers and suppliers to enable these ambitious efficiency goals.

There has never been a better time to invest in energy efficiency and to showcase leadership in saving energy, money, and the planet. EP100 members do this through doubling energy productivity, implementing an energy management system (EnMS), or signing up to the Net Zero Carbon Buildings Commitment.

EP100 membership involves taking energy efficiency from the boiler room to the boardroom, reducing emissions whilst improving competitiveness, and inspiring others to follow your lead.



“ We are working to ensure that energy efficiency is engrained into every corporate strategy.”

Toby Morgan, Senior Manager,
Built Environment, Climate Group

Key findings

CarbonTrust supported Climate Group to review the data from the Double Energy Productivity and Implement an EnMS pathways. The 'Fast progress by our members' data is calculated using data submitted by the Double Energy Productivity and EnMS pathways only.

All Net Zero Carbon Buildings data is independently verified by a third party before submission to the World Green Building Council (WorldGBC) and EP100, in accordance with WorldGBC's signatory requirements.

Responses were received from 86 EP100 members. Eight members of the Net Zero Carbon Buildings pathway are in the two-year reporting grace period allowed for by WorldGBC and were therefore not required to report in 2022. Five members were granted an extended grace period by WorldGBC due to extenuating circumstances. This ensures member companies have an appropriate amount of time to put in place the necessary emissions calculation processes and policies to enable them to report on progress is available in the Appendix and a full break down of Net Zero Carbon Buildings Commitments can be found on WorldGBC's [website](#).

Member data is self-reported and includes annual data from each company's baseline year through to its most recent reporting year (this is each company's latest available 365-day reporting cycle). A summary of member progress is available in the Appendix.

The key findings on the following pages reflect the most recent data submitted by members, accounting for data updates, including re-baselining. Members may re-baseline when there has been a significant change in their business or if they are raising their ambition.

EP100 snapshot

125 members **126** companies operating **126** markets

2.8+ million employees

\$700+ USD billion in combined annual revenue

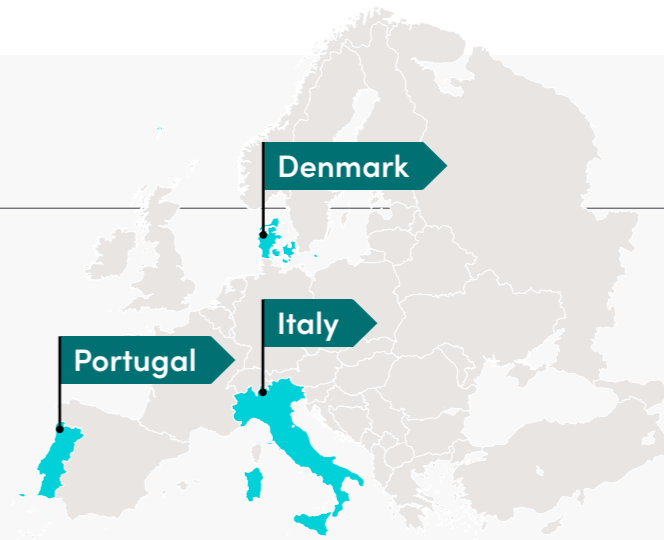
Fast progress by our members

81% percent of members ahead of schedule **61%** average progress towards EP100 goal

7% average annual improvement in energy productivity

Carbon savings

380 million metric tonnes of CO₂e reduced to date



That's more than the current annual emissions of Denmark, Italy and Portugal combined

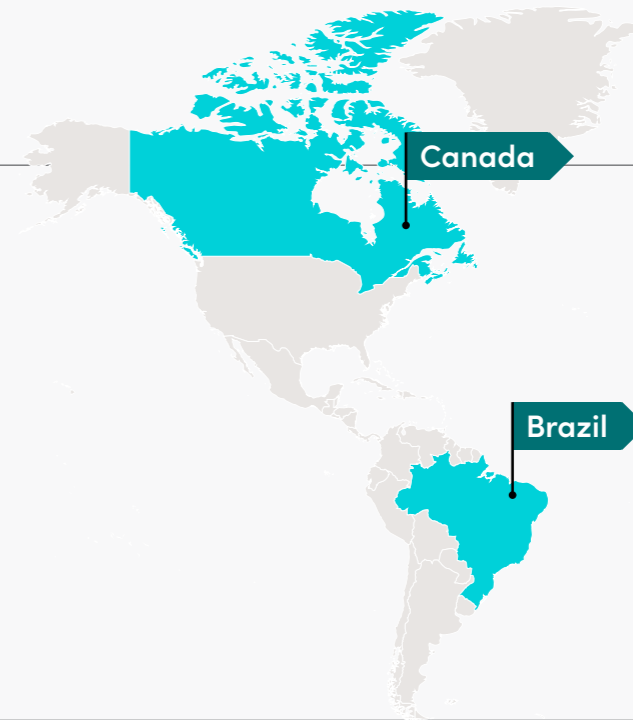
39.5 million metric tonnes of CO₂e reduced last year

That's equivalent to the yearly electricity use of 7.6 million homes



Energy savings

1,085 terawatt-hours of energy saved to date



That's more than the annual electricity use of Brazil and Canada combined

Cost savings

\$140 USD million combined reported cost savings last year

\$1.2 USD billion combined reported cost savings to date – since the implementation of energy efficiency measures

Energy efficiency: If not now, when?



Toby Morgan, Senior Manager,
Built Environment, Climate Group

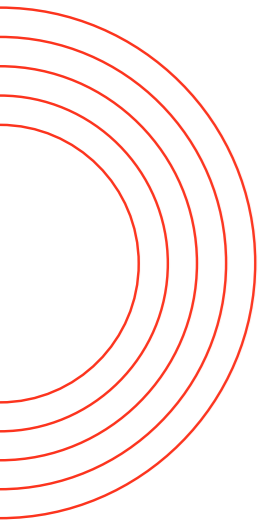
The ongoing global energy crisis, exacerbated by Russia's invasion of Ukraine, has brought the world's energy use into sharp focus. Businesses, as well as households, have been severely impacted by rising prices – with some wondering how they will fight off the cold. With prices having tripled, or even quadrupled over the last year, it is clear we cannot go on wasting energy. Put simply, there has never been a better time to invest in energy efficiency, to improve energy resilience in a sustainable way. **If not now, when?**

54% of Fortune 500 companies have greenhouse gas emissions reduction goals, yet only 13% have a specific energy efficiency target. If businesses are serious about achieving their decarbonisation goals they must take a 'reduction first' approach, prioritising energy efficiency.

The IEA estimates that energy efficiency can deliver over 40% of the necessary global reduction in energy-related emissions over the next two decades. Through Climate Group's EP100 initiative, over 120 energy smart businesses are driving progress in this area; taking energy efficiency from the boiler room to the boardroom. In other words, we are working to ensure that energy efficiency is engrained into every corporate strategy. Not just their decarbonisation strategy, but their business strategy too.

Companies can join our EP100 initiative by deploying an EnMS, by committing to occupying, owning, or developing net zero carbon buildings, or by committing to double economic output from every unit of energy consumed within their operations globally. EP100 provides credibility, validation, and transparency on corporate energy efficiency goals.

54% of Fortune 500 companies have greenhouse gas emissions reduction goals, yet only 13% have a specific energy efficiency target.



Put simply, there has never been a better time to invest in energy efficiency, to improve energy resilience in a sustainable way.

Every corporate net zero commitment must include a dedicated and time-bound energy efficiency target. Luckily for corporates, investing in energy efficiency – whether that be offices, retail, warehouses, or factories – has so many additional benefits alongside reducing bills. For example, having efficient, smart, and sustainable buildings ensures you are optimising the performance of your business. Improved efficiency leads to improved indoor environmental quality, which a growing

body of evidence says helps maintain the health and wellbeing of employees and can even lead to improved performance and productivity.

Understanding when, where and how your energy is being used is the first step on the journey. It can enable you to set effective energy reduction strategies and ambitious targets. For example, implementing a modern EnMS enables companies to effectively measure and then manage their energy use.



In the years to come, a big step-change required in decarbonising our buildings is the electrification of space heating, through modern and efficient heat pump technology. We have already seen ambitious legislation in places such as New York City, which will implement a ‘no new gas’ connection policy for new buildings from 2027. Plus, we need to see

stronger Minimum Energy Performance Standards (MEPS), for both residential and commercial buildings. EP100 will continue to push for these to be included in the EU Energy Performance of Buildings Directive.

An often-overlooked aspect of operational energy use in buildings are the electrical appliances. Just four categories of appliance, lighting, air conditioning, refrigeration, and industrial motor systems, use 40% of global electricity demand. Improving the energy efficiency of these products, through legislation on standards, would have a huge impact and can help reduce emissions and running costs. With the backing of our members, EP100 will continue to work with the IEA throughout 2023 to push for governments to adopt higher standards for electrical appliances.

We must seize upon the opportunities that greater energy efficiency offers. Now more than ever, all companies must play a role in the transition to net zero, making their businesses more competitive, and protecting them against future risk. This begins with a dedicated and time-bound energy efficiency target.

Now more than ever, all companies must play a role in the transition to net zero, making their businesses more competitive, and protecting them against future risk.



Want to hear more about energy efficiency?

Listen to Toby in discussion with the Copenhagen Centre on Energy Efficiency in the podcast episode ‘Energy efficiency: From the boiler room to the boardroom’.

Becoming an EP100 member

To become a member of EP100, you can choose to join one (or more) of these three commitment pathways:



Double Energy Productivity

A company commits to double its economic output from every unit of energy it consumes globally within at least 25 years, from a fixed baseline year no earlier than 2005. The company chooses a relevant energy productivity metric (e.g. units of product/gigawatts (GW); full time employees/megawatt hours (MWh)) to track and report progress.



Implement an Energy Management System

A company commits to implementing an EnMS globally across its operations within at least 10 years. The company also commits to an energy efficiency improvement target and chooses a relevant energy productivity metric.



Net Zero Carbon Buildings

A company commits to occupy, own, or develop net zero carbon operational assets by 2030. The company also commits to maximise the reduction of embodied carbon in new developments or major renovations, compensating for any residual upfront embodied carbon emissions at point of practical completion of the project. Climate group runs this pathway in collaboration with WorldGBC.



EP100 and the World Green Building Council

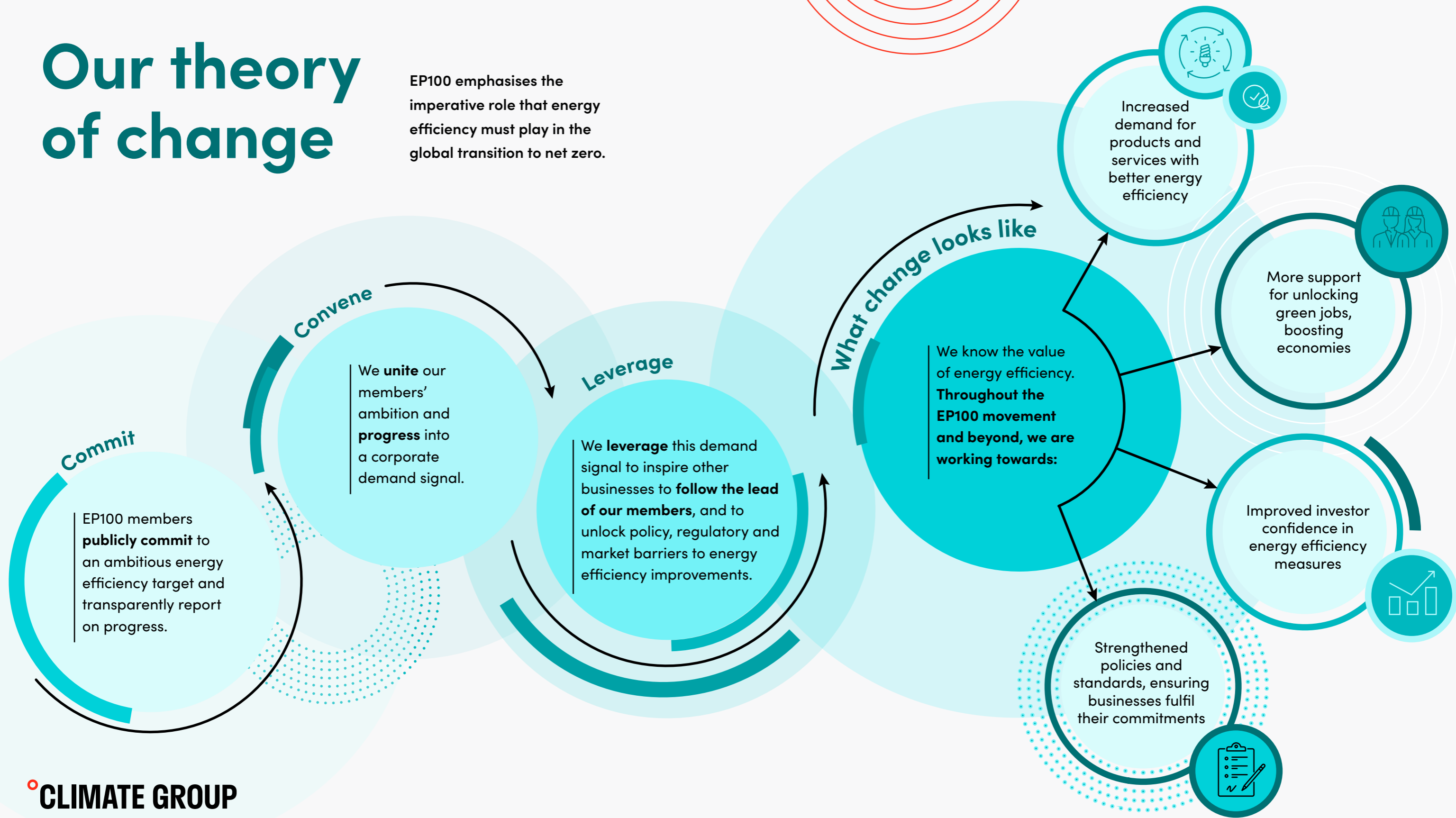
EP100 works in partnership with WorldGBC to deliver the Net Zero Carbon Buildings Commitment. This commitment requires companies to act on energy efficiency first before turning to other decarbonisation options.

We work with our Net Zero Carbon Buildings members on the energy efficiency component of the commitment, while WorldGBC engages these companies on the full range of operational and embodied decarbonisation topics.

Interested in improving your energy efficiency by joining EP100?
Let us know or head to our [website](#) to find out more.

Our theory of change

EP100 emphasises the imperative role that energy efficiency must play in the global transition to net zero.



EP100 commitments and progress around the world



Danfoss, Double Energy Productivity, Denmark. Committed to **Double Energy Productivity** by 2030, relative to a 2007 baseline. Danfoss reached its target 8 years ahead of schedule.

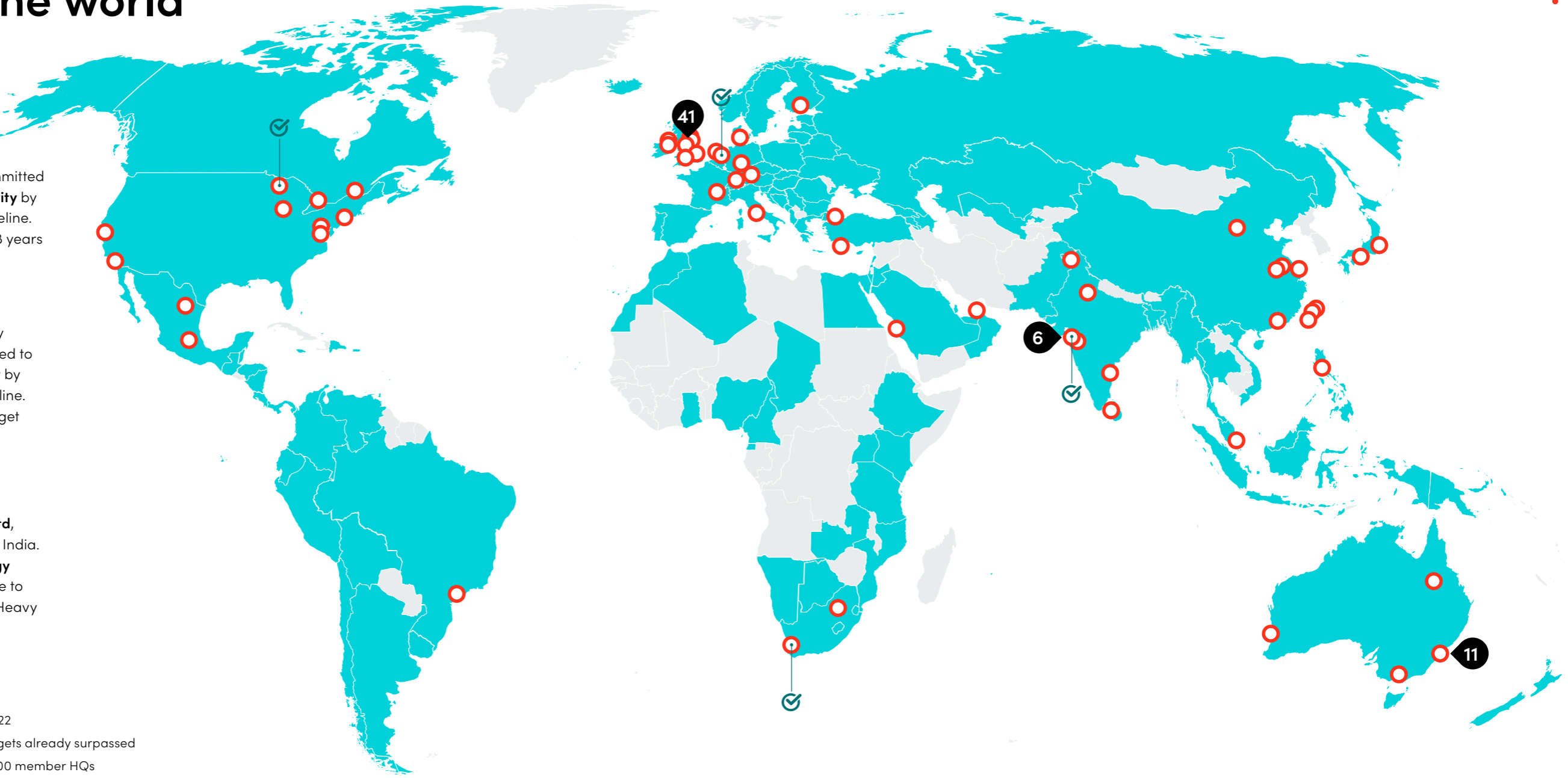


JSW Cement, Double Energy Productivity, India. Committed to **Double Energy Productivity** by 2037, relative to a 2013 baseline. **JSW Cement** reached its target 15 years ahead of schedule.



Mahindra Heavy Engines Ltd, Double Energy Productivity, India. Committed to **Double Energy Productivity** by 2041, relative to a 2016 baseline. Mahindra Heavy Engines reached its target 19 years ahead of schedule.

- EP100 members' HQs 2022
- EP100 members with targets already surpassed
- High density area of EP100 member HQs
- EP100 members' markets 2022



125
member
companies

Operating in
126
markets

\$700+ USD
billion
in combined annual revenue

2.8+
million
employees

27
companies
committed to doubling
energy productivity

23
companies implementing
energy management
systems

77
companies owning,
occupying or developing
net zero carbon buildings



Meet some of our members

Our members are **leading the way in ambitious energy efficiency action** across different regions and industries. The progress and innovation of our members shines a light on the business case for corporate energy efficiency targets.



Double Energy Productivity

A company commits to doubling its economic output from every unit of energy it consumes globally within at least 25 years, with a baseline year no earlier than 10 years from its joining date.

This means that companies joining in 2023 will need to double their energy productivity by 2048 from a 2013 baseline (or later), however we always encourage our members to be as ambitious as possible and many members meet their commitment goal before their target year.

This commitment can be viewed as EP100's most ambitious pathway. It is an impactful choice for companies who already have a good understanding of their operational energy use.

Doubling energy productivity may be suitable for a company that has:

- 1 Implemented an energy management system
- 2 Completed energy audits to identify areas of energy inefficiency

Energy productivity can be an important metric to determine profitability and competitiveness. EP100 members working towards doubling their energy productivity operate in a variety of market sectors, however industrial and manufacturing sector companies are often well-suited to this commitment.

Some of our Double Energy Productivity members include [Swaraj Engines](#), [OMRON](#) and [Ultratech](#).



By promoting efficient energy management at buildings owned by NTT and installing energy-efficient electrical power units, air conditioning systems, telecommunications, and ICT equipment, we managed to continue to reduce or suppress an increase of our electricity usage.

Data traffic is expected to continue to grow significantly into the future. By addressing rising energy use from increased data traffic, we aim to achieve the EP100 target.

Susumu Yoneoka, Senior Manager (Energy Planning), Technology Planning Department, **Nippon Telegraph and Telephone Corporation**



Johnson Controls

Double Energy Productivity

Johnson Controls is a global leader for smart and sustainable buildings, committed to the decarbonisation of buildings through products, technology, software, and services. It joined EP100 for its launch in 2016 and has continued to lead the way in energy efficiency since then. Having met its target to double energy productivity, Johnson Controls has reduced emissions by 42% since 2017, making good progress against its target to reduce Scope 1 and 2 emissions by 55% by 2030 and to reach net zero by 2040.

Energy efficiency has been the biggest contributor to Johnson Controls' reduction in carbon emissions.

Not only has Johnson Controls utilised the benefits of energy efficiency (through retrofitting, process load management and digital optimisation solutions) within its own operations, it has also used these measures to help customers. Through OpenBlue Net Zero Buildings, the company helps customers leverage building optimisation tools to drive decarbonisation and reduce energy use, for example through digitalised



Buildings make up almost 40% of global greenhouse gas emissions and there is no decarbonising the climate without decarbonising buildings. The good news is that we know the formula to get that job done – through energy efficiency, electrification, and digitalisation. Tools like renewables, heat pumps and digital platforms are the real game changers in the building space and enable us to cut energy bills, slash carbon, and make buildings come alive as strategic and climate-friendly assets.

Katie McGinty, Vice President, Chief Sustainability and External Relations Officer, **Johnson Controls**



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Johnson Controls is one of the founding members of EP100 and has made tremendous strides towards its EP100 target. In fact, Johnson Controls reached its initial goal, and made an even more ambitious one by re-baselining. We're looking forward to working with members that want to increase their ambition and re-baseline after hitting their original EP100 target.

heat pump installation. Since 2000, Johnson Controls has helped its customers reduce CO₂e emissions by 35.2 million metric tonnes.

At its Cork Innovation Centre in Ireland, OpenBlue solutions have been deployed to manage building and operational energy demands. These solutions have also facilitated the tracking of net zero progress. The insights from this management system have led to reduced energy use through modified heating and cooling schedules, and asset fault detection and rectification, helping to reduce unnecessary energy consumption.



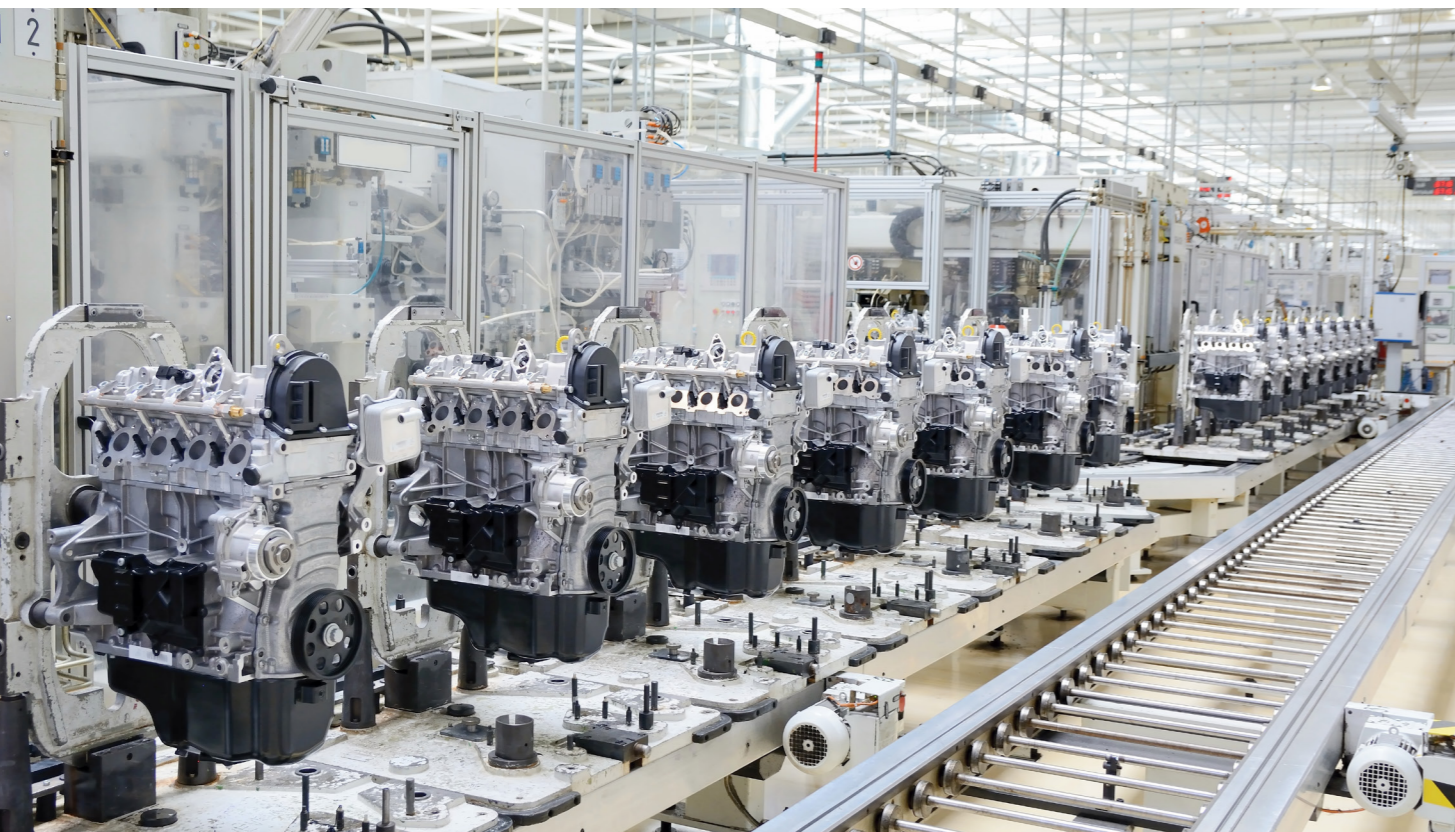
Mahindra Heavy Engines Ltd



Double Energy Productivity

Mahindra Heavy Engines (a subsidiary of Mahindra & Mahindra) specialises in the manufacture of engines for commercial vehicles. It has committed to double its energy productivity by 2041 and joined EP100 in 2018.

Since then, Mahindra Heavy Engines has made energy efficiency measures a key part of its climate strategy. This approach has helped the company reduce reliance on non-renewable energy and implement energy efficient equipment and processes.



Sustainable manufacturing helps minimise negative environmental impacts while conserving energy and natural resources. Sustainability focused manufacturing technologies can reduce costs and waste and create economically sound process. At the outset, it helps employees, community, and all stakeholders to rise.

K. G. Shenoy, Senior Vice President Manufacturing, Auto Division, **Mahindra & Mahindra**

Some of the measures that Mahindra Heavy Engines has implemented include:

- **Switching to LEDs across operations**
- **Upgrading air conditioners to more energy efficient models**
- **Installing energy efficient brushless DC motor (BLDC) air circulators and electronically commutated (EC) paint blowers**
- **Increasing heat recovery from air compressors**

Mahindra Heavy Engines has trailblazed in the manufacturing sector, strengthened by the benefits that energy efficiency can bring – such as a reduction in waste generation, optimised conversion costs through cutbacks in energy use, and a reduction in emissions.



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Mahindra Heavy Engines, one of the four companies that are EP100 members from the Mahindra & Mahindra group, continue to show the strong engagement EP100 has with the heavy industry and manufacturing sectors in India. Together with our other Indian members, they are showing how valuable prioritising energy efficiency is in these energy

intensive industries. In 2022, two members, Mahindra & Mahindra and Godrej & Boyce, facilitated by EP100, embarked on a site visit to share learnings on their energy efficiency journeys. Some practices shared were AI integration to maximise energy efficiency, waste heat recovery, water treatment, and other greenhouse gas (GHG) mitigation strategies.



Woolworths Holdings



One of South Africa's largest retail chains, Woolworths Holdings, is proactively driving energy efficiency measures, resulting in significant energy and cost savings. As part of EP100, the company committed to double its energy productivity by 2020 relative to a 2005 baseline, which it has successfully achieved.

Energy efficiency has proved critical to the company's wider climate and business strategies. An ongoing challenge in South Africa is loadshedding, where electricity supply falls behind electricity demand. Energy efficiency improvements

have made Woolworths more resilient to loadshedding by reducing its diesel consumption. All new stores are fitted with energy efficient technologies, and a retrofitting programme increases the energy efficiency of older stores – for example through closed door refrigeration, LED lighting, with automated control, and energy and water monitoring systems.

Woolworths is proud to have developed a green building protocol, which works like an internal checklist that helps drive and then rate the green interventions included in each store.



Sustainability has always been one of Woolworths' core values and starting to invest early in energy efficiency technologies and employee training has significantly contributed to our reduction in carbon emissions. And because we started early, most of the investment has already paid for itself.

Feroz Koor, Group Head of Sustainability, **Woolworths Holdings**



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Retail is an industry where there are many benefits to embarking on energy efficiency improvements. Through the adoption of LED lighting and energy monitoring systems,

Woolworths is not only saving energy and money, but also improving the customer experience, bringing additional benefits to the business.



Implement an Energy Management System

A company commits to implementing an EnMS in each of its facilities within at least 10 years and commits to a separate energy productivity target.

We ask our members to set an energy productivity target to enhance ambition in energy and emissions reduction.

A company can take a vital step in overseeing and interpreting its energy use by implementing an EnMS. This commitment pathway unlocks tracking, analysing, and optimising energy consumption, in turn leading to energy efficiency gains.

By committing to implement an EnMS, our members lay the foundations of best practice in energy management. This pathway is ideal for companies where doubling energy productivity is less feasible in the next few years, often due to energy-intensive operations or due to the company taking significant energy efficiency steps prior to joining EP100. It can be the most accessible way to kick-start an energy efficiency and net zero journey.

Some of our EnMS members include [ABB](#), [NatWest Group](#) and [Sasol Group Services](#).



At Worley, we consume the majority of our energy through the buildings we occupy and our vehicles. Energy efficiency is a key consideration for selection of our office spaces and new vehicles.

Sue Brown, Executive Group Director Sustainability, **Worley**



Arçelik

Arçelik



Implement an Energy Management System

Arçelik's motto is "Respecting the World, Respected Worldwide," which lays the foundations for Arçelik's ambitious sustainability targets. As a global home appliances company, Arçelik has committed to double energy productivity by 2030, relative to a 2010 baseline, and to implement an EnMS across its global production facilities by 2025.

Thousands of projects have been commissioned to improve energy efficiency across a variety of Arçelik's operations, such as insulation, waste heat recovery and process optimisation. Arçelik's flagship Eskişehir Refrigerator Plant has joined the ranks of the world's most advanced manufacturing plants, being recognised in the [Global Lighthouse Network](#) by the World Economic Forum. At this plant, the company commissioned a retrofit project which involved changing older and inefficient central vacuum pumps to new, more efficient alternatives. This change saves 650 MWh/year of energy and reduces GHG emissions by 303 tonnes CO₂e, as well as cutting back on costs associated with spare parts and maintenance. This project has not only improved Arçelik's energy efficiency, but it has also positively impacted process and production quality, as well as production tempo.

As a result of its energy efficiency efforts, Arçelik has reduced GHG emissions by 134,000 tonnes of CO₂e since 2010. Arçelik continues to invest in the implementation of better alternatives and improvements in energy efficiency.



Even in today's economic landscape, we remain committed to our decarbonisation goals by fostering innovation and transforming our manufacturing operations. With a clear focus on promoting energy efficiency and shaping the energy transition, we are becoming part of the change that the world needs.

Hakan Bulgurlu, CEO, Arçelik



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Arçelik is one of EP100's manufacturing sector members, making household appliances such as white goods for numerous markets. Arçelik has set out ambitious climate

goals. By implementing an EnMS throughout its operations, it has taken control of its energy consumption and can refine and tweak its energy saving strategies.



Vornado Realty Trust



Implement an Energy Management System

Vornado Realty Trust manages and develops office and retail assets with a two-pronged approach to energy efficiency focusing on the energy consumed by both the landlord and the tenant.

Vornado has a comprehensive process for reducing landlord-controlled usage, whereby Vornado conducts energy audits (ASHRAE Level II) of its properties, implements the energy savings recommendations that are most feasible, measures them, and then repeats the

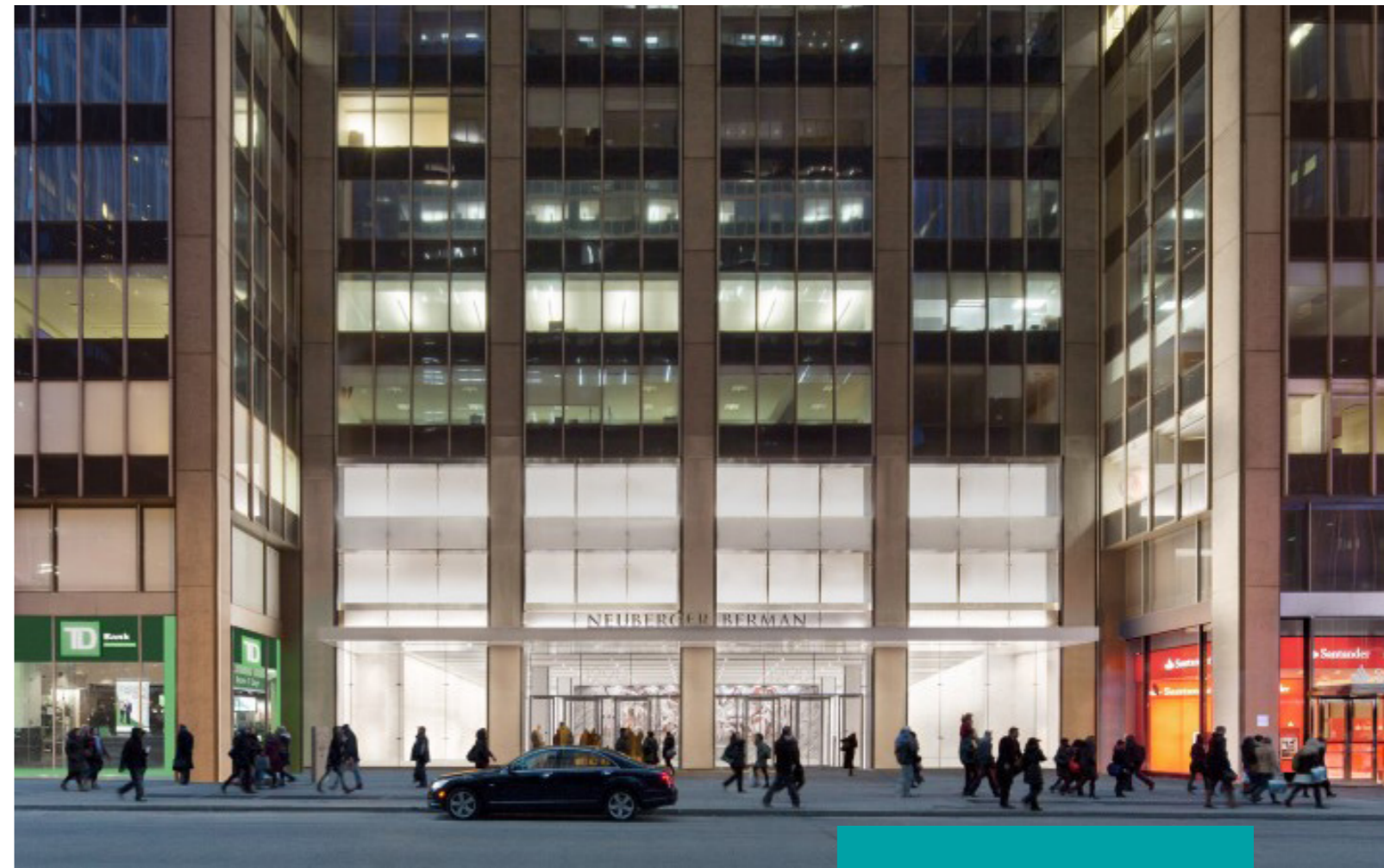
process. The company also builds strong partnerships with tenants to identify areas of excess energy consumption. Vornado bolsters its two-pronged approach with ongoing investments in smart building technology and the evaluation of on-site renewables.

As energy prices increase, energy reduction is more important than ever for Vornado. As a member of EP100, the company has committed to implementing an EnMS aligned with ISO 50001 standards across all in-service office operations by 2029 and to



Vornado's focus on reducing energy consumption through partnerships between the landlord and tenant results in more efficient buildings and healthier work environments for all occupants, and the community at large. The commitment to deep energy retrofits, shared smart building technologies and the health and wellness of our tenants is proven to move us towards our overall goals of carbon emissions reduction and efficiency in operations.

Lauren Moss, Senior Vice President and Chief Sustainability Officer, **Vornado Realty Trust**



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Vornado has been ahead of the curve in terms of installing building management systems to measure, control and manage energy use within its assets. One of the key barriers in the decarbonisation of buildings often stated by stakeholders is the landlord-tenant split incentive. Vornado has been forming partnerships with tenants to ensure alignment on energy management strategies, to ensure they are mutually beneficial. We need more forward-thinking landlords that are willing to adopt such strategies.

improve energy productivity 50% by 2030 relative to a 2009 baseline. Vornado has also made a carbon neutrality commitment accompanied by an approved Science Based Target and will continue to prioritise energy efficiency projects. In 2022, Vornado completed capital energy efficiency projects which are expected to save over 300,000 kWh of electricity and 11 million pounds of steam.

To achieve these energy efficiency targets, Vornado has piloted the installation of a building management system (BMS) tenant interface that allows tenants to securely connect the tenant BMS to Vornado's building management system, so landlord and tenant can mutually share data points. This gives the tenant assurance that lease requirements are being met, while simultaneously giving the landlord the ability to deliver optimal comfort conditions, diagnose problems faster, and prevent wasteful over-cooling or over-heating.



Net Zero Carbon Buildings

By 2030, companies commit to:

- Occupying, owning, or developing net zero carbon buildings
- Reducing embodied carbon in new developments or major renovations of existing assets, compensating for any residual upfront embodied carbon emissions at point of completion

Energy efficiency in buildings is critical to net zero by 2050. EP100 engages companies on the operational emissions component of their Net Zero Carbon Buildings Commitment, a 'reduction first' commitment encouraging companies to prioritise energy efficiency measures as part of their building decarbonisation roadmap.

In 2021, WorldGBC updated the commitment to increase ambition and include action on embodied carbon emissions, engaging signatories to transition to the updated commitment and accelerate action.

This pathway is recommended to companies focussing on energy efficiency improvements in their built asset portfolio, such as land and property owners and developers, construction firms, and professional and financial services companies. Joining the Net Zero Carbon Buildings Commitment through EP100 shows leadership in building efficiency.

Some of our Net Zero Carbon Buildings members include [Siemens](#), [Mace](#) and [Multiplex Global](#).





Arthaland Corporation



Net Zero Carbon Buildings

The ongoing energy crisis has shown the importance of energy efficient buildings, regardless of the type or size of the development. Arthaland is a leading sustainable developer in the Philippines with a variety of certified sustainable projects, recognised by international building standards. The company has committed to its entire development portfolio being net zero by 2030, spanning both commercial and residential properties.

Arthaland has reduced its greenhouse gas emissions by 59% since joining EP100 and the Net Zero Carbon Buildings Commitment two years ago. It is working to put

energy efficiency at the heart of its net zero strategy, recognising the important role it can play for investors, customers, and tenants.

The global energy crisis is impacting energy availability in the Philippines and energy efficiency measures, alongside renewables, have shown their importance in terms of reducing operational costs and helping to create a more energy-resilient community and energy network.



Let's turn our decarbonisation pledge into scalable action. Two years since our pledge, we are more than halfway through decarbonising our existing development portfolio and have proven that building sustainable developments is possible. In fact, we are expanding our footprint from high-end development to socialised housing projects, where the benefits of a green home matter most.

Oliver Chan, Senior Vice President and Chief Sustainability Officer, **Arthaland Corporation**



The energy efficiency of every building must be addressed as early as the design stage to reduce energy demand and optimise the benefits of energy efficient solutions. A few strategies that Arthaland have deployed include:

- **Implementing passive design (high thermal building envelopes)**
- **Optimising active, energy efficient technologies (energy recovery ventilator, HVAC systems, smart lighting)**
- **Electrification of residential cooking to responsibly address Scope 3 emissions**

Arthaland has achieved the world's first EDGE (Excellence in Design for Greater Efficiencies) Zero Carbon certified project, the Arthaland Century Pacific Tower. This achievement is a

demonstration to the world that boutique developers in emerging markets can aim for net zero operations and encourages others to follow their example.



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Arthaland has taken a 'reduction first' approach to the Net Zero Carbon Buildings Commitment, which is one of the guiding principles of the commitment. We want to see all companies doing this when developing buildings, with the use of offsets minimised.



Lemay



Net Zero Carbon Buildings

The Canadian architecture and design firm Lemay has a strong focus on energy efficiency and has increased renewable energy use across its assets, with clear and transparent reporting on energy efficiency measures being central to its corporate strategy.

Lemay's work in energy efficiency aims to benefit the health and wellbeing of every person that the company's work affects. Throughout the pandemic, Lemay increased its action on energy efficiency

and by 2030 the company is aiming to optimise thermal and electrical storage in its Montreal and Quebec City offices.

A look into Lemay's Montreal office, the Phenix, shows the important role that deep retrofitting can play in the built environment. On this project, Lemay chose to renovate a neglected 1950s-era warehouse, rather than build a new development. Some of the upgrades include improvements in thermal performance, advanced LED lighting systems, an integrated solar wall and rooftop, photovoltaic panels, and the use of electrical energy storage.



Our deepened efforts in energy efficiency for our collective future's built environments has opened up a gateway to address our operational carbon emissions, one that leads to achievable actions which have tangible benefits for both investments and the environment. The world we live in does not simply want zero-carbon and energy efficient structures for a growing movement focused on the crucial task of positive climate action – it demands it.

Hugo Lafrance, Associate, Sustainability, **Lemay**



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

The elephant in the room regarding building decarbonisation is embodied carbon. Operational efficiency has come a long way in the last 30 years, with modern construction techniques, cost effective insulation measures, and stronger building standards making it possible to significantly reduce the amount of energy used within a building. However, new buildings often come with a huge carbon footprint attached, before they have even been used. The manufacture of steel and concrete which goes into these buildings involves carbon-intensive processes.

Working in partnership with WorldGBC, we are on a mission to educate corporates and governments on this critical issue, to reduce the embodied element of buildings as much as possible to achieve a net zero built environment by 2050.

With Climate Group's two heavy industry focussed corporate campaigns, SteelZero and ConcreteZero, we are engaging with the supply chain to accelerate the transition to lower carbon steel and concrete.



petinelli

Petinelli



Net Zero Carbon Buildings

To reach its Net Zero Carbon Buildings target, Brazilian-based engineering firm Petinelli has taken energy efficiency and net zero to new heights by changing the way its office works. Since its last major retrofit in 2018, the Petinelli office has taken its ambition further by producing 100% of its energy on-site.

Petinelli puts energy efficiency at the heart of its decisions, helping to reduce emissions and improve its grid resilience by using less.

Some of the ways in which Petinelli have achieved this include:

- High efficiency lighting systems, using 50% less energy on average
- Variable refrigerant flow (VRF) heating and cooling systems, controlling individualised temperatures in each room
- Building automation monitors to track air quality, thermal comfort, carbon dioxide, total volatile organic compounds (TVOC) and particulate (e.g. PM10)
- A photovoltaic energy system for 100% renewable electricity



At Petinelli, we are dedicated to assisting our clients in designing and constructing zero-carbon buildings. We believe that this is not only crucial for mitigating the effects of climate change, but also for creating healthier, more comfortable environments for building occupants. Through our zero-carbon commitment, we are working to build a better, more sustainable future for everyone.

Guido Petinelli, CEO, Petinelli



Working in the built environment sector, Petinelli is also taking sustainability to its clients, helping with their journeys to net zero.

What's more, through Petinelli's work on energy efficiency measures and renewable alternatives, it has achieved several Leadership in Energy and Environmental Design (LEED) certifications, including gold and platinum buildings, zero energy, zero carbon and zero waste.



EP100 analysis

Toby Morgan, Senior Manager, Built Environment, Climate Group

Latin America is an important region for EP100 due to the large manufacturing industry and the ongoing development of buildings. Energy efficiency is key to reducing emissions from industry and buildings.

Acknowledgments

We would like to thank all the EP100 members for their support and continued engagement with the initiative. A special thanks to **Arçelik, Arthaland Corporation, Johnson Controls, Lemay, Mahindra Heavy Engines Ltd, Petinelli, Vornado Realty Trust, and Woolworths Holdings** who agreed to be profiled, and to **JSW Cement, Nippon Telegraph and Telephone Corporation, Schneider Electric** and **Worley** who have shared quotes. We would also like to thank all eligible members for providing data disclosure for this report.

Climate Group is grateful for the ongoing support of the **We Mean Business Coalition**, as well as our partner, the **World Green Building Council**.

Working with:



We would also like to thank **Carbon Trust** for supporting Climate Group to review data from the Double Energy Productivity and Implement an Energy Management System pathways.



Energy productivity and efficiency is a key strategy for us as it helps us not only to decarbonise but also makes us cost competitive. We have implemented various innovative methods to produce more with less energy.

Mr. Manoj Rustagi, Chief Sustainability & Innovation Officer, **JSW Cement**



Reporting members:

- | | | |
|--|---|--|
| ABB | Godrej & Boyce Mfg.Co | Nippon Telegraph and Telephone Corporation |
| AECOM Limited | Goldman Sachs & Co | Ovo Energy Ltd |
| AESG | Grosvenor Group | Petinelli |
| Aeroporti di Roma | Hudson Pacific Properties | QIC |
| Airport Authority Hong Kong | IPUT Plc | Sasol Ltd |
| AMP Capital Real Estate Managed Portfolio | Jinko Solar Co., Ltd | Savills UK |
| Arçelik | John Sisk & Son | Schneider Electric SE |
| Arthaland Corporation | Johnson Controls Inc. | SEE plc |
| Arup Group Ltd | Joseph Homes | Shaw Contract |
| AstraZeneca | JSW Cement | Skidmore, Owings & Merrill LLP |
| Avison Young UK | Kilroy Realty Corporations | Stanhope PLC |
| Berkeley Group | Kingspan Group PLC | Stockland |
| Bioconstruccion y Energia Alternativa | Land Securities Properties | Subana Jurong |
| Brunswick Property Partners | Lemay | Sungrow Power Co., Ltd |
| Bruntwood | Lendlease Europe Ltd | Swaraj Engines Ltd |
| Buro Happold Limited | LONGi Green Energy Technology Co., Ltd | The Crown Estate |
| Chalet Hotels | Mabe | Trane Technologies |
| Changzou New Wide Knitting & Dyeing Co., Ltd | Mahindra & Mahindra | TRIDL Technologies |
| Citycon | Mahindra Heavy Engines Ltd | Troup Bywaters + Anders |
| Commonwealth Bank of Australia | Mahindra Holidays and Resorts India Ltd | Ultratech |
| Cundall | Majid Al Futtaim Holding LLC | Vornado Realty Trust |
| Daito Trust Construction | Max Fordham | Willmott Dixon Holdings Ltd |
| Daiwa House Industry Co., Ltd | Mitie Group PLC | Woolworths Holdings |
| Dalmia Cement (Bharat) | Multiplex Global Limited | Worely |
| Danfoss | NatWest Group | WSP UK Ltd |
| Deerns | Nightingale Housing | Yanbu Cement Company |
| Derwent fm | | |
| Dexus | | |
| DLL | | |
| EMR Group | | |
| Foster & Partners | | |
| Frasers Property Australia | | |
| Godrej Industries Ltd and Associated Companies (GILAC) | | |

Get in touch

For more information on EP100, or to join the initiative:

- Visit theclimategroup.org/EP100
- Contact EP100@theclimategroup.org

Appendix

2 Double Energy Productivity

| Member | CDP Sector | Joining Year | Headquarters | Metric | Baseline Year | Target Year | Percentage Improvement (since baseline) |
|--|---|--------------|----------------|--|---------------|-------------|---|
| Arçelik | All Other Sectors | 2021 | Türkiye | Net Sales (M€)/GJ | 2010 | 2030 | 64.1% |
| AstraZeneca | Biotech, Healthcare & Pharma | 2020 | United Kingdom | Revenue/MWh | 2015 | 2025 | 64.2% |
| Chalet Hotels | Hospitality | 2021 | India | Revenue/GJ | 2015 | 2028 | 22.9% |
| Daito Trust Construction | Construction | 2020 | Japan | Net sales/GJ energy | 2017 | 2030 | -7.8% |
| Daiwa House Industry Co., Ltd. | Construction | 2018 | Japan | Net sales/GJ energy | 2015 | 2040 | 45.9% |
| Dalmia Cement (Bharat) | Materials | 2016 | India | Cement revenue (INR)/GJ | 2010 | 2029 | 43.8% |
| Danfoss A/S | Manufacturing | 2016 | Denmark | EURm net sales/GWh | 2007 | 2030 | 103.9% |
| DLL | Services | 2020 | Netherlands | FTE/kWh | 2013 | 2030 | 167% |
| GILAC (Godrej Industries Limited and associated companies) | Manufacturing | 2018 | India | Mass of product (Tons)/ TJ | 2011 | 2030 | 18.2% |
| Godrej & Boyce Mfg Co.Ltd | Manufacturing | 2020 | India | Manufactured Value Add in INR (Factory Conversion Cost)/ kWh | 2017 | 2030 | 36.5% |
| John Sisk & Son | Land and Property Ownership & Development | 2018 | Ireland | Turnover (£) /kWh | 2014 | 2039 | 40.8% |
| Johnson Controls Inc | Manufacturing | 2016 | United States | Revenue (US\$ Million)/GJ | 2009 | 2030 | 177.9% |
| JSW Cement | Materials | 2021 | India | Mass of product sold (tonnes)/GW | 2013 | 2037 | 186.3% |
| Land Securities Properties | Land and Property Ownership & Development | 2016 | United Kingdom | Sq.m of floor area/ kWh | 2014 | 2034 | 51.2% |

| Member | CDP Sector | Joining Year | Headquarters | Metric | Baseline Year | Target Year | Percentage Improvement (since baseline) |
|---|------------------------|--------------|----------------|---------------------------------|---------------|-------------|---|
| Mahindra & Mahindra Automotive | Manufacturing | 2016 | India | Equivalent Vehicles Produced/GJ | 2009 | 2030 | 55.3% |
| Mahindra & Mahindra Farm Sector | Manufacturing | 2016 | India | Equivalent Tractors Produced/GJ | 2009 | 2030 | 60.8% |
| Mahindra Heavy Engines Limited | Hospitality | 2018 | India | Equivalent vehicles produced/GJ | 2015 | 2040 | 122.2% |
| Mahindra Holidays and Resorts India Ltd | Services | 2016 | India | No. room nights booked/ GJ | 2010 | 2030 | 93.3% |
| Mitie Group PLC | Services | 2020 | United Kingdom | Revenue/kWh | 2018 | 2043 | 43.4% |
| Nippon Telegraph and Telephone | Manufacturing | 2018 | Japan | Data traffic (Gbit)/GJ | 2018 | 2025 | 95.7% |
| OMRON | Manufacturing | 2022 | Japan | Net sales/GWh | 2016 | 2040 | New Member |
| Ovo Energy Ltd. | Energy Utility Network | 2020 | United Kingdom | Revenue/kWh | 2018 | 2030 | -7.9% |
| Schneider Electric SE | Manufacturing | 2017 | France | Euro/ MWh | 2005 | 2030 | 75.7% |
| SSE plc | Energy Utility Network | 2019 | United Kingdom | Revenue (£)/GJ | 2010 | 2030 | 297.5% |
| Swaraj Engines Limited | Manufacturing | 2019 | India | Number of Engines/GJ | 2015 | 2040 | 45.6% |
| Trane Technologies | Manufacturing | 2019 | United Kingdom | Revenue/MWh | 2013 | 2035 | 45.9% |
| Ultratech | Materials | 2018 | India | Revenue/PJ | 2010 | 2035 | 91.6% |
| Woolworths | Retail | 2017 | South Africa | Area (sq.m)/ kWh | 2005 | 2020 | 185.4% |

Appendix



Implement an Energy Management System

| Member | CDP Sector | Joining Year | Headquarters | Current % of Operation Covered by EnMS | Target Year for Full EnMS | Metric | Baseline Year | Target Year for Target EP Improvement | % Improvement Goal for EP | % EP Improvement Towards Goal |
|---|------------------------------|--------------|----------------|--|---------------------------|---|---------------|---------------------------------------|---------------------------|-------------------------------|
| ABB | Manufacturing | 2021 | Switzerland | 47% | 2030 | Revenue \$/Gj | 2019 | 2030 | 20% | 121.2% |
| Aeroporti di Roma | Transportation Services | 2019 | Italy | 100% | 2019 | PAX*m2/kWh | 2006 | 2026 | 150% | -28.2% |
| Airport Authority Hong Kong | Transportation Services | 2019 | China | 100% | 2020 | Revenue (HKD\$)/kWh | 2018 | 2035 | 10% | -203.6% |
| Ansell | Biotech, Healthcare & Pharma | 2022 | Australia | 0% | 2028 | USD\$/MWh | 2020 | 2040 | 5% | New Member |
| Arçelik | All Other Sectors | 2021 | Türkiye | 58% | 2025 | Net Sales/Gj energy | 2010 | 2030 | 100% | 64.1% |
| Derwent fm | Services | 2020 | United Kingdom | 100% | 2019 | FTE/kWh | 2020 | 2050 | 40% | -31.8% |
| E Ink | Manufacturing | 2022 | Taiwan, China | 50% | 2030 | Revenue/MWh | 2018 | 2040 | 100% | New Member |
| EMR Group (*Reporting on UK operations only for 2022) | Non-Energy Utility | 2020 | United Kingdom | 8% | 2030 | Tonnes processed/kWh | 2020 | 2040 | 20% | 42.2% |
| Hilton Worldwide | Hospitality | 2018 | United States | Data not available | 2014 | Revenue (\$) owned and managed hotels only/energy (MWh) | 2008 | 2030 | 40% | Data not available |
| Jinko Solar Co., Ltd. | Manufacturing | 2019 | China | 33% | 2030 | Revenue/energy input | 2018 | 2025 | 30% | -36.8% |
| LONGi Green Energy Technology Co., Ltd. | Manufacturing | 2020 | China | 29% | 2025 | RMB/kWh | 2015 | 2025 | 35% | 83.9% |

| Member | CDP Sector | Joining Year | Headquarters | Current % of Operation Covered by EnMS | Target Year for Full EnMS | Metric | Baseline Year | Target Year for Target EP Improvement | % Improvement Goal for EP | % EP Improvement Towards Goal |
|--|---|--------------|----------------|--|---------------------------|---|---------------|---------------------------------------|---------------------------|-------------------------------|
| Mabe | Manufacturing | 2020 | Mexico | 27% | 2030 | Units Produced/Gj | 2018 | 2030 | 30% | 106.2% |
| NatWest Group | Financial Services | 2019 | United Kingdom | 100% | 2019 | FTE/GWh | 2015 | 2025 | 40% | 89.6% |
| New Wide Changzou Knitting & Dyeing Co. Ltd. | Apparel | 2020 | China | 100% | 2025 | Total revenue/energy input | 2015 | 2030 | 15% | 32.3% |
| Pacific SOGO | Retail | 2022 | Taiwan, China | 10% | 2028 | US\$/kWh | 2018 | 2028 | 50.5% | New Member |
| Sasol Ltd. | Energy | 2019 | South Africa | 95% | 2028 | Production (ton)/energy (Gj) | 2010 | 2030 | 30% | 62.6% |
| Sungrow Power Co. Ltd | Manufacturing | 2022 | China | 60% | 2028 | Revenue (10-thousand -yuan)/MWh | 2018 | 2028 | 35% | 66.6% |
| Taiwan Cement Corp. | Materials | 2022 | Taiwan, China | 100% | 2021 | Product revenue (WTD) | 2016 | 2040 | 50% | New Member |
| TCI Co., Ltd. | Biotech, health care & pharma | 2019 | Taiwan, China | Data not available | 2026 | Revenue/kWh | 2017 | 2040 | 35% | Data not available |
| TRIDL Technologies | Services | 2018 | Taiwan, China | 91% | 2028 | Number of products/kWh | 2018 | 2048 | 30% | -154.0% |
| Vornado Realty Trust | Land and Property Ownership & Development | 2019 | United States | 92% | 2029 | Sq ft/BTUs | 2009 | 2030 | 50% | 99.3% |
| Worley | Services | 2021 | Australia | 100% | 2030 | Aggregated revenue (\$ million AUD)/GWh | 2020 | 2030 | 25% | 104.3% |
| Yanbu Cement Company | Materials | 2019 | Saudi Arabia | 100% | 2020 | Clinker (tons)/Gj | 2010 | 2025 | 30% | 55.7% |

Appendix

Net Zero Carbon Buildings

| Member | CDP Sector | Joining Year | Headquarters | Target Year |
|---|---|--------------|----------------------|-------------|
| Active Super | Services | 2019 | Australia | 2030 |
| AECOM Limited | Services | 2020 | United States | 2030 |
| AESG | Services | 2019 | United Arab Emirates | 2030 |
| AMP Capital Real Estate Managed Portfolio | Land and Property Ownership & Development | 2018 | Australia | 2030 |
| Argent Services | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| Armstrong Fluid Technology | Services | 2019 | Canada | 2030 |
| Arthaland Corporation | Land and Property Ownership & Development | 2020 | Philippines | 2030 |
| Arup Group Ltd | Services | 2020 | United Kingdom | 2030 |
| Assura | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| Atelier Ten | Services | 2020 | Australia | 2030 |
| Avison Young UK | Services | 2020 | United Kingdom | 2030 |
| BAM Construct UK Ltd | Construction | 2020 | United Kingdom | 2030 |
| Bennetts Associates | Services | 2019 | United Kingdom | 2030 |
| Berkeley Group | Land and Property Ownership & Development | 2018 | United Kingdom | 2030 |
| Bioconstruccion y Energia Alternativa | Services | 2020 | Mexico | 2030 |
| Brandix | Manufacturing | 2019 | Sri Lanka | 2023 |

| Member | CDP Sector | Joining Year | Headquarters | Target Year |
|--------------------------------|---|--------------|----------------|-------------|
| Brunswick Property Partners | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| Bruntwood | Land and Property Ownership & Development | 2018 | United Kingdom | 2030 |
| Buro Happold Limited | Services | 2019 | United Kingdom | 2030 |
| Cbus Property | Land and Property Ownership & Development | 2018 | Australia | 2030 |
| City Developments Limited | Land and Property Ownership & Development | 2021 | Singapore | 2030 |
| Citycon | Land and Property Ownership & Development | 2020 | Finland | 2030 |
| Commonwealth Bank of Australia | Financial Services | 2019 | Australia | 2030 |
| Cundall | Services | 2018 | United Kingdom | 2030 |
| Deerns | Specialised Professional Services | 2019 | Netherlands | 2025 |
| Deloitte LLP | Services | 2021 | United Kingdom | 2030 |
| Deutsche Bank | Financial Services | 2022 | Germany | 2030 |
| Dexus | Land and Property Ownership & Development | 2018 | Australia | 2022 |
| Foster & Partners | Services | 2019 | United Kingdom | 2030 |
| Frasers Property Australia | Land and Property Ownership & Development | 2018 | Australia | 2028 |
| Goldman Sachs & Co | Financial Services | 2019 | United States | 2030 |

Appendix

Net Zero Carbon Buildings

| Member | CDP Sector | Joining Year | Headquarters | Target Year |
|------------------------------|---|--------------|----------------------|-------------|
| The GPT Group | Land and Property Ownership & Development | 2022 | Australia | 2030 |
| Grab Taxi Holdings Pte. Ltd. | Services | 2022 | Singapore, Indonesia | 2030 |
| Grainger plc | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| Grimshaw Architects | Services | 2020 | United Kingdom | 2021 |
| Grosvenor Group | Land and Property Ownership & Development | 2019 | United Kingdom | 2030 |
| Hoare Lea LLP | Services | 2020 | United Kingdom | 2030 |
| Hudson Pacific Properties | Land and Property Ownership & Development | 2019 | United States | 2020 |
| Introba | Specialised Professional Services | 2018 | United States | 2030 |
| IPUT Plc | Land and Property Ownership & Development | 2020 | Ireland | 2030 |
| JLL UK | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| Joseph Homes | Land and Property Ownership & Development | 2020 | United Kingdom | 2025 |
| Kilroy Realty Corporation | Land and Property Ownership & Development | 2018 | United States | 2030 |
| Kingspan Group PLC | Other Materials | 2019 | Ireland | 2030 |

| Member | CDP Sector | Joining Year | Headquarters | Target Year |
|---|---|--------------|----------------------|-------------|
| Kojamo Oyj | Land and Property Ownership & Development | 2020 | Finland | 2030 |
| Lemay | Services | 2020 | Canada | 2030 |
| Lendlease APPF Commercial | Land and Property Ownership & Development | 2019 | Australia | 2025 |
| Lendlease APPF Industrial | Land and Property Ownership & Development | 2019 | Australia | 2021 |
| Lendlease Europe Ltd | Land and Property Ownership & Development | 2020 | United Kingdom | 2025 |
| Lendlease International Towers Sydney Trust | Land and Property Ownership & Development | 2019 | Australia | 2021 |
| Lendlease One International Towers Sydney Trust | Land and Property Ownership & Development | 2019 | Australia | 2021 |
| Lloyds Banking Group | Services | 2021 | United Kingdom | 2030 |
| Mace LTD | Land and Property Ownership & Development | 2021 | United Kingdom | 2030 |
| Majid Al Futtaim Holding LLC | Retail | 2018 | United Arab Emirates | 2030 |
| Max Fordham | Services | 2020 | United Kingdom | 2030 |
| Mott MacDonald Group | Services | 2020 | United Kingdom | 2030 |
| Multiplex Global Limited | Construction | 2019 | Australia | 2030 |
| NatWest Group | Financial Services | 2020 | United Kingdom | 2030 |

Appendix

Net Zero Carbon Buildings

| Member | CDP Sector | Joining Year | Headquarters | Target Year |
|--------------------------------|---|--------------|----------------------|-------------|
| Nightingale Housing | Land and Property Ownership & Development | 2018 | Australia | 2020 |
| Petinelli | Specialised Professional Services | 2019 | Brazil | 2030 |
| QIC | Services | 2020 | Australia | 2028 |
| Savills UK plc | Services | 2020 | United Kingdom | 2030 |
| Shaw Contract | Manufacturing | 2018 | United States | 2030 |
| Siemens AG | Manufacturing | 2021 | Germany | 2030 |
| Skidmore, Owings & Merrill LLP | Services | 2020 | United States | 2030 |
| Stanhope PLC | Services | 2020 | United Kingdom | 2030 |
| Stockland | Land and Property Ownership & Development | 2018 | Australia | 2030 |
| Surbana Jurong Private Ltd | Services | 2020 | Singapore | 2030 |
| The Crown Estate | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| Tritax Big Box REIT | Services | 2020 | United Kingdom | 2020 |
| Troup Bywaters + Anders | Services | 2020 | United Kingdom | 2025 |
| United Metal Coatings | Manufacturing | 2020 | United Arab Emirates | 2030 |
| Watkins Payne Ltd | Services | 2021 | United Kingdom | 2030 |
| Wereldhave | Land and Property Ownership & Development | 2020 | Netherlands | 2030 |

| Member | CDP Sector | Joining Year | Headquarters | Target Year |
|-----------------------------|---|--------------|----------------|-------------|
| Willmott Dixon Holdings Ltd | Land and Property Ownership & Development | 2020 | United Kingdom | 2030 |
| WSP UK Ltd | Services | 2020 | United Kingdom | 2025 |
| YLVA | Services | 2019 | Finland | 2025 |

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EP100

EP100 is a global initiative led by the international nonprofit Climate Group, bringing together over 120 energy smart businesses committed to measuring, optimising, and reporting on energy efficiency improvements. Energy efficiency is essential to net zero as it can deliver over 40% of the reduction in energy related emissions needed to achieve global climate goals by 2040. Taking energy efficiency from the boiler room to the boardroom, members are reducing emissions whilst improving competitiveness and inspiring others to follow their lead. **#EP100**.

CLIMATE GROUP

Climate Group drives climate action. Fast. Our goal is a world of net zero carbon emissions by 2050, with greater prosperity for all. We focus on systems with the highest emissions and where our networks have the greatest opportunity to drive change. We do this by building large and influential networks and holding organisations accountable, turning their commitments into action. We share what we achieve together to show more organisations what they could do. We are an international nonprofit organisation, founded in 2004, with offices in London, Amsterdam, Beijing, New Delhi and New York. We are proud to be part of the We Mean Business Coalition. Follow us on Twitter [@ClimateGroup](#).



The World Green Building Council (WorldGBC) is the largest and most influential local-regional-global action network leading the transformation to sustainable and decarbonised built environments for everyone, everywhere.

Together, with 75+ Green Building Councils and industry partners from all around the world, we are driving systemic changes to:

- Address whole life carbon emissions of existing and new buildings
- Enable resilient, healthy, equitable and inclusive places
- Secure regenerative, resource efficient and waste-free infrastructure

We work with businesses, organisations, and governments to deliver on the ambitions of the Paris Agreement and UN Global Goals for Sustainable Development (SDGs).