

The Plan Zero Playbook

Making Zero Carbon Happen

About Mitie

Founded in 1987, Mitie is the UK and Ireland's leading facilities and carbon management services company.

We manage the facilities, assets and buildings through which over 5 million people pass every single day. The company has profound, hands-on knowledge and experience of optimising facilities on behalf of customers in every industry the length and breadth of the UK and Ireland.

Having saved over 300,000 tonnes of carbon, and delivered over €22m in savings in 2020 alone, Mitie is setting and delivering against ambitious sustainability targets on behalf of customers in both the private and public sectors. Our knowledge of estates, combined with our ability to execute a strategy from assessment right through to delivery is, we believe, unrivalled. We help organisations go further, faster, for less.

Please help us to minimise our impact on the environment by not printing this playbook. More information is available online at www.planzerocarbon.com

Contents

02

Executive Summary

05

I. Introduction

Introducing

2. Introducing Plan Zero

17

3 Assessment

23

4. Baselining and Targeting

29

5. Compliance and Certification

33

6. Development

37

7. Execution

Executive Summary

Caring for our planet and averting a potential environmental disaster falls to both organisations and individuals. There is undoubtedly increasing acceptance of this responsibility by both parties. Look no further than the enthusiastic corporate and public response to single use plastics, electric vehicles and plant-based diets for evidence the message is getting through: we all must act.

Mitie has long acknowledged its responsibility towards people, communities and the environment. After all, achieving 'The exceptional every day' influences everything we do, including our approach to Corporate Social Responsibility (CSR) and the delivery of efficient, sustainable solutions for clients.

Over the years, Mitie's achievements and expertise in sustainability have grown considerably. It was therefore only right to match this progress with a range of challenging targets, set in 2020, which will ultimately see Mitie reach net zero carbon by 2025 - a full 25 years ahead of Irish Government targets in the form of the Climate Action Plan. To further build on our pledge, we created Plan Zero; a carefully curated suite of sustainable solutions and processes, which will bring our clients with us on this critical journey.

If net zero is the destination, think of this playbook as the travel-guide to get there. Routes taken will vary, and different businesses will prioritise different things along the way, but ultimately this document represents Mitie's roadmap towards becoming a more sustainable and efficient organisation.

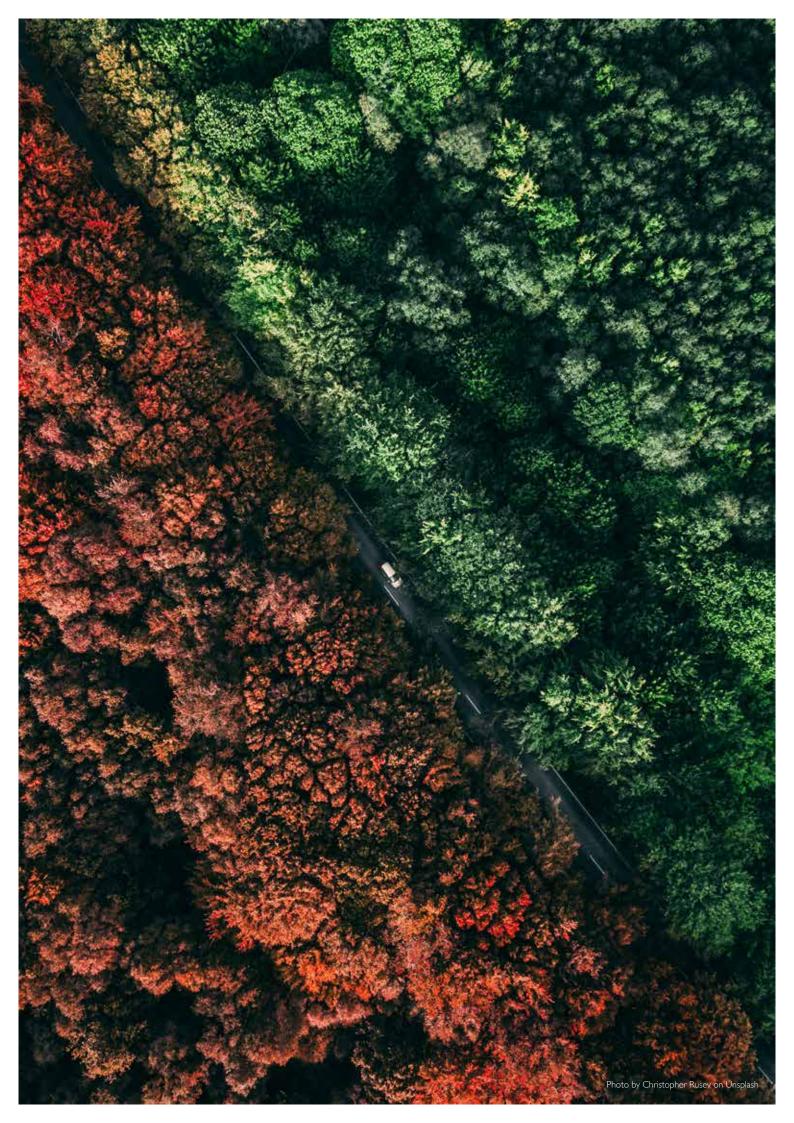
The playbook is divided into seven main sections. The first sets out why achieving net zero carbon is critical and is followed by a detailed explanation of how to achieve net zero carbon and how Mitie is the ideal partner to help deliver Plan Zero. The solutions presented are aligned to our unique approach and draw upon input from in-house subject matter experts experienced in energy, waste, water and more.

The five subsequent sections deal with the key elements that combine to form the Plan Zero offering: Assessment, Baselining & Targeting, Compliance & Certification, Development and Execution. Each stage is thoroughly explained, ensuring clients understand every aspect of how Plan Zero is delivered and why.

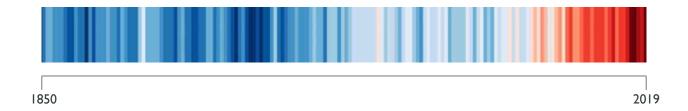
Ultimately this playbook is designed to introduce Mitie's commitment to sustainability, together with corresponding solutions we can deliver for clients. Our pledge to reach net zero carbon by 2025 demonstrates Mitie's dedication to become the FM leader in sustainability, not only working to achieve its own challenging goals, but partnering organisations wishing to do the same.

Plan Zero offers a fully flexible, end-to-end process. Regardless of whether an organisation's sustainability strategy is well advanced or otherwise, this playbook outlines Mitie's approach to support, instruct and deliver bespoke sustainable solutions that set us and our clients apart.

The message that we all must act to secure the future of our planet by reaching net zero carbon is getting through. With Plan Zero, Mitie is proud to be making it happen.



2019 was one of the hottest years on record, yet it is likely to be the coldest in the next 100 years.



Change must happen

^{&#}x27;Warming stripes' represent annual temperatures from 1850 to 2019, with darker reds representing the warmest years. Photograph: Ed Hawkins



The climate is in crisis

Back in 2018, the Intergovernmental Panel on Climate Change (the IPCC), warned: "Without increased and urgent mitigation in the coming years, leading to a sharp decline in greenhouse gas emissions by 2030, global warming will surpass 1.5°C in the following decades, leading to irreversible loss of the most fragile ecosystems, and crisis after crisis for the most vulnerable people and societies."

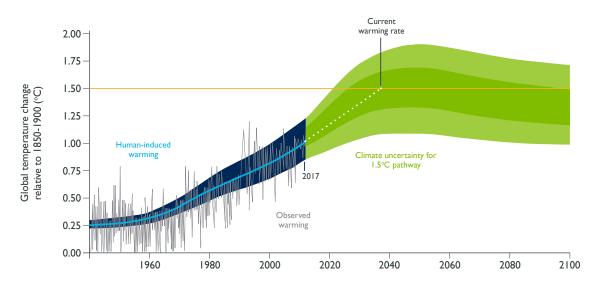
GG

We have a responsibility to move in the direction that Paris has given us — well below 2C as far as possible to 1.5C — a world that leaves no one behind. A world that is fair and inclusive ... We can do it. And we will have a much better and more equal world if we do."

Mary Robinson, Former President of Ireland & European Climate Foundation Leader IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V, P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, PR. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.

The climate is in crisis

% How close are we to 1.5°C? Human-induced warming reached approximately 1°C above pre-industrial levels in 2017



Despite the stark warning, global temperatures have continued to rise at an alarming rate². If we allow this to continue, the impact is likely to be profound.

Everyone on Planet Earth will be affected in some way. Shifting rainfall patterns, rising sea levels, ocean acidification and melting polar ice caps will lead to extreme flooding, heatwaves and drought. Coastal and marine ecosystems will be under existential threat, whilst the extent and ability of the world's forests to absorb the vast quantities of carbon forecasted to be produced, will be vastly depleted. Biodiversity will decrease, which will in turn, affect insect populations and disrupt entire food chains as a result.



Ireland is already encountering climate change, we cannot go along for 30 more years and realise we have done a botched job. There's no space for promises, there's no space for what we might do, there is urgency in doing what we can do now."

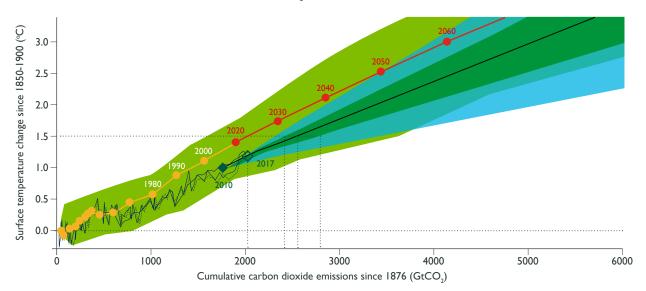
Prof John Fitzgerald, Chairman of the Irish Climate Change Advisory Council

²Allen, M.R., O.P. Dube, W. Solecki, F.Aragón-Durand, W. Cramer, S. Humphreys, M. Kainuma, J. Kala, N. Mahowald, Y. Mulugetta, R. Perez, M. Wairiu, and K. Zickfeld, 2018; Framing and Context. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, PR. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.



An urgent focus on carbon reduction

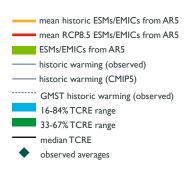
Relationship between CO₂ emissions and surface temperature³



Carbon Dioxide (CO_2) emissions are a major contributor to the increase in global temperatures.

Each and every modelling technique underlines the importance of drastically curbing emissions to reduce the rate of global temperature rise.

The Department for Business, Energy & Industrial Strategy states that 83% of the UK's CO_2 emissions come from a combination of energy, transport, business, industrial processes and the public sector⁴. Clearly, the onus is on working together to identify opportunities to reduce greenhouse gas emissions as fast as possible, and at organisational level. Only then can we truly affect change of the order and magnitude required.



³Rogelj, J., D. Shindell, K. Jiang, S. Fifita, P. Forster, V. Ginzburg, C. Handa, H. Kheshgi, S. Kobayashi, E. Kriegler, L. Mundaca, R. Séférian, and M.V. Vilariño, 2018: Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press. *2019 UK Greenhouse gas emissions provisional figures, 2020. Department for Business, Energy & Industrial Strategy

The business imperative

Increasingly, Irish and UK Government policy is to go further, faster to tackle climate change. From improving the energy performance of rented commercial buildings⁵ to bringing forward the Road to Zero target of ending the sale of internal combustion engine cars ('ICE') from 2040 to 2035⁶, (or even 2030⁷), to ensuring organisations comply with reporting requirements associated with Environmental, Social and Corporate Governance (ESG), initiatives are being launched and legislation is being drawn up to ensure Irish organisations play their part. Those that do not will fall behind and may be subject to penalties. Those that acknowledge and act on the imperative will reap the benefits.



If your Chief Financial Officer is the last person you would think of to take charge on climate change, think again"

Harvard Business Review, January, 2020

⁸https://www.jpmorgan.com/insights/research/covid-19-esg-investing



Shttps://www.gov.uk/government/news/uk-to-go-further-and-faster-to-tackle-climate-change https://www.gov.uk/government/consultations/consulting-on-ending-the-sale-of-new-petrol-diesel-and-hybrid-cars-and-vans

https://www.current-news.co.uk/news/uk-electric-fleets-coalition-calls-on-government-to-bring-forward-ice-ban-to-2030

https://www.theguardian.com/environment/2020/aug/13/moderate-tories-join-greens-to-call-for-fossil-fuel-car-ban-by-2030

The Covid-19 pandemic as a catalyst for Environmental, Social and Corporate Governance

The level of scrutiny under which organisations' response to the Covid-19 crisis is placed has proven a catalyst for procedural change and underlined the importance and value of demonstrating a concerted ESG strategy.

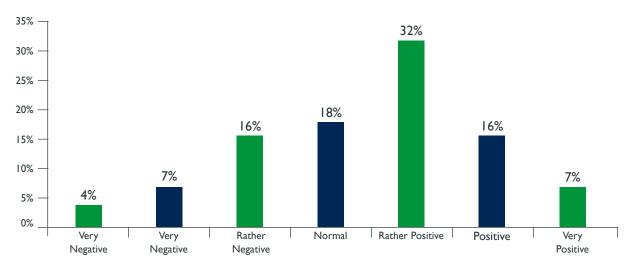
In their recent survey of investors from 50 global institutions⁸. JP Morgan discovered over 71% of respondents said it was 'rather likely,' 'likely,' or 'very likely' that the occurrence of a low probability/high impact risk, such as Covid-19, would increase awareness and actions globally to tackle high impact/high probability risks such as those related to climate change and biodiversity losses.

Accordingly, credibility that would otherwise have taken considerable time to establish, has been secured at pace by organisations whose operating procedures have proven agile and effective in addressing Covid-19.

Organisations demonstrating a solid commitment to ESG are not only likely to take priority by investors, but also employees and customers. Over 88% of millennials say their job is more fulfilling when they are provided opportunities to make a positive impact on social and environmental issues⁹. Many organisations have categorised sustainability and carbon reduction as social values and implemented minimum weighting in tenders. Consultation is currently underway for a 10% minimum weighting for public sector procurement¹⁰, whilst a 2019 Ipsos Mori poll showed that 85% of Britons were concerned about climate change with a majority (52%) 'very concerned''.

Investor expectations of the impact of the pandemic on ESG have positive skew

Distribution of responses to Question 6 in our investor survey: 'In your view, what will be the implications of the COVID-19 crises for ESG investment momentum in the next 3 years?"



Source: J.P.Morgan, Results from the survey "Tracking the ESG implications of the COVID-19 Crises

BB

We believe that pandemics and environmental risks are viewed as similar in terms of impact, representing an important wake-up call for decision makers."

Jean-Xavier Hecker & Hugo Dubourg, Co-Heads of Sustainability & ESG Research, J.P. Morgan

⁹Cone Communications, 2016. Millennial Employee Engagement Study

¹⁰https://www.gov.uk/government/consultations/social-value-in-government-procurement 11https://www.ipsos.com/ipsos-mori/en-uk/concern-about-climate-change-reaches-record-levels-half-now-very-concerned

The economic imperative to ditch carbon–producing fuels

Mitie Energy expects power prices to increase on a steady pace over the next 30 years, driven mainly by coordinated efforts across Europe for the decarbonisation of the energy markets, which will reflect on higher carbon prices. In the period 2020-2050 in all Mitie Energy's projected scenarios, power prices will increase, mirroring the upward momentum of gas and carbon prices. The average annual power price (excluding the price differential from 2020 to 2021) rises by nearly 2% each year to 2050.

Gas prices are expected to increase in the period 2021-2030, due to the transition away from coal generation, which is expected to increase demand for gas. From 2030 to 2050, however, gas contracts will likely come under pressure due to rising carbon prices, which will prompt a further push towards the use of greener fuels and renewables for the production of power generation. The European Commission considers carbon pricing as one of the most effective ways to achieve net-zero and changes to the EU Emissions Trading System (ETS) scheme are expected to come as soon as 2021.

GG

Solar power is now the cheapest electricity in history."

The International Energy Agency, 2020

The International Energy Agency's World Energy (IEA) Outlook 2020, cites four 'pathways' to 2040, all of which predict a major rise in renewable energy sources. The IEA's prime scenario suggests 43% more solar output by 2040 than it expected in its previous Outlook, published in 2018. This is largely due to the discovery that solar electricity is 20-50% cheaper to produce than in 2018, with similarly large reductions in the estimated costs of onshore and offshore wind-generated electricity.

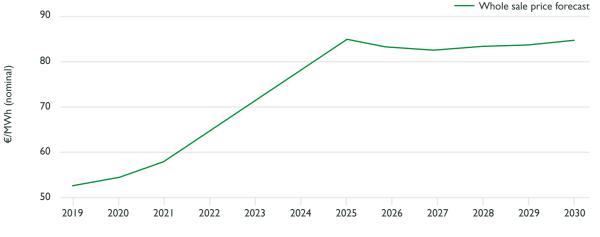
Plan Zero and the Plan Zero Playbook

As an organisation with a national footprint, a large fleet of vehicles and over 1,700 people supporting every industry and every sector throughout the island of Ireland, Mitie has been hard at work identifying and capitalising on opportunities to increase sustainability and reduce carbon in its own operations. And it has had significant success. So much so, Mitie has already committed to reaching net zero carbon a whole 25 years ahead of Irish Government targets. The company will reach this milestone by implementing a series of measures that fall under its 'Plan Zero' initiative.

Mitie knows there is much that can be done to mitigate and perhaps even reverse some of the causal effects of climate change. This Playbook describes the thinking, the process and some of the measures Mitie has devised and pioneered both for itself and its customers; It is the distillation of years of work eliminating waste, reducing energy usage, switching to renewable sources, transitioning to sustainable materials and slashing carbon emissions.

We are committed to sharing our expertise in partnership with Irish organisations looking to set, certify, and exceed sustainability and CO₂ targets.

All-Ireland wholesale price forecast



¹²https://ec.europa.eu/clima/policies/ets_en

¹³https://webstore.iea.org/world-energy-outlook-2020

2. Introducing Plan Zero

Plan Zero

Plan Zero is Mitie's comprehensive, practical approach to achieving Net Zero carbon. It draws upon our empirical, proven experience deploying the kind of carbon reduction measures that have enabled the company to confidently state it will reach Net Zero carbon by 2025 – a whole 25 years ahead of Irish governments Climate Action Plan targets.



Plan Zero

Mitie's confidence and expertise has been years in the making. It is borne out of over 25 years supporting a vast and varied array of Irish and UK organisations, managing often complex estates and challenging environments for exacting customers. And it's for our customers that we are not only making our Plan Zero initiative available, but we are doing so in a form that makes zero carbon possible, at zero cost.

By combining and leveraging Mitie's expertise in sustainability, our award-winning data collection and analysis platforms, and our empirical knowledge of working environments, we are the catalyst and the enabler for customers to define ambitious targets, and we are the means to ensure they achieve them. This is Plan Zero.

Mitie believes the economic and moral case to act is simply too strong to be delayed through lack of finance.



Mitie is one of the exclusive organisations to have signed up to all three of the Climate Group's initiatives to work together to drive climate action



The Climate Group's global EP100 initiative in partnership with the Alliance to Save Energy brings together a growing group of energy-smart companies committed to improving their energy productivity and doing more with less.

By integrating ambitious energy targets into business strategy, leading companies are driving innovation in energy efficiency and increasing competitiveness while delivering on emissions reduction goals.



The world's most influential companies committed to 100% renewable power.

We're working to accelerate the scale-up of renewable power to help us deliver a better, healthier and more sustainable world for what will soon be 9 billion people.

CLIMATE GROUP

EV100 is a global initiative bringing together forward looking companies committed to accelerating the transition to electric vehicles (EVs) and making electric transport the new normal by 2030.

The transport sector is the fastest-growing contributor to climate change, accounting for 23% of global energy-related greenhouse gas (GHG) emissions. Electric transport offers a major solution in cutting millions of tonnes of greenhouse gas emissions per year, as well as curbing transport related air and noise pollution.

Over the next five years, we'll constantly review our emissions and launch new initiatives to ensure we reach net zero. Plan Zero will just be how we do business.

Infrastructure



Decarbonise our heating systems

Use smart building technology to maximise energy efficiency

Resources



Remove single-use materials

Use natural, non-toxic cleaning products

Improve biodiversity

Emissions



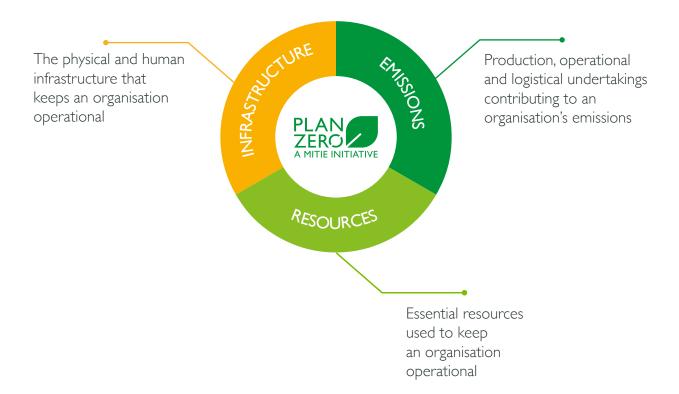
Electric fleet by 2025

Switch to 100% renewable electricity

The Plan Zero approach

No two organisations are the same, so it is important to adopt an approach that is sufficiently flexible to address different organizational structures in different sectors, yet rigid enough to ensure key actions and processes are never missed. Mitie achieves this fine balance with an approach that begins by clearly defining common areas that have a direct, significant bearing on carbon production and sustainability. We call these Focus Areas.

Focus Areas



Each of the three Focus Areas are influenced by aspects of everyday operations. For example, a fleet of vehicles has a direct influence on emissions. The level of waste produced becomes a drain on resources, whilst buildings and building projects affect infrastructure. We call these aspects, Influencers.

30

The Overall quality of Ireland's environment is not what it should be and the outlook is not optimisitic unless we accelerate the implementation of solutions across all sectors of society."

Laura Burke, Director General EPA Ireland, Nov 2020

Influencers

Plan Zero addresses all aspects that have a significant influence on the three focus areas.

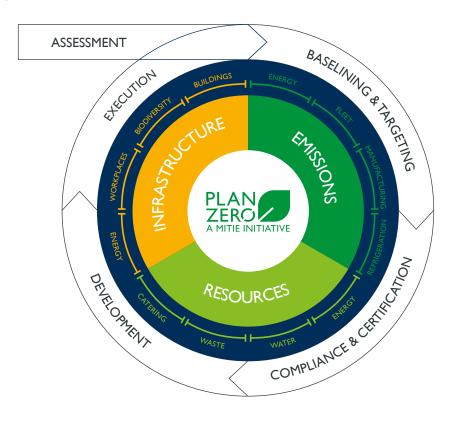


There are 12 key Influencers, each prompting different, sometimes related considerations.

		INFLUENCER	TYPICAL CONSIDERATIONS	
FOCUS AREAS	EMISSIONS	ENERGY	Nature of energy consumed, monitoring, storage	
		FLEET	Emissions, fuel efficiency, readiness for EV	
		MANUFACTURING	Packaging, waste streams, circular economy	
		REFRIGERATION	Efficiency, emissions control	
	RESOURCES	ENERGY	Nature of energy sources (% renewable), storage solutions, regeneration	
		WATER	Reduction & conservation programmes, rainwater retention and recycling, metering	
		WASTE	Volume and nature, recycling provision, collection	
		CATERING	Waste management, materials, supply chain	
	INFRASTRUCTURE	ENERGY	Building design, lighting, cooling/heating	
		WORKPLACES	Occupancy, location, biodiversity	
		BIODIVERSITY	Carbon storage, environmental resilience, biodiversity	
		BUILDINGS	Materials, construction projects, maintenance	

The Plan Zero A to E process

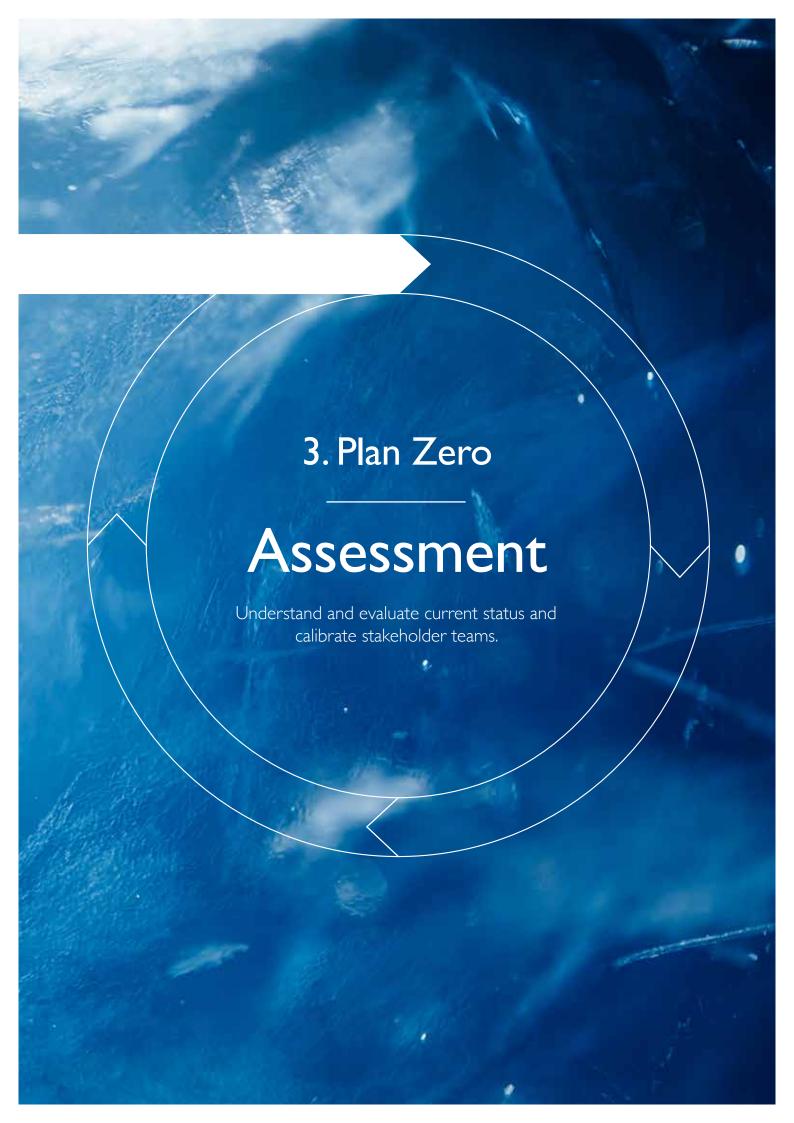
The Plan Zero process has five distinct stages. Each stage involves key actions and deliverables that inform and propel the next, and so on.



A SSESSMENT	B ASELINING AND TARGETING	C OMPLIANCE AND CERTIFICATION	DEVELOPMENT	E XECUTION
Understand and evaluate current status and calibrate stakeholder teams.	Compare against industry norms, set targets and create a comprehensive strategy to meet them.	Ensure compliance to latest regulations and attain certification where possible.	Develop a practical plan, complete with detailed funding proposals, to achieve targets and where possible, deliver zero carbon at zero cost.	Execute the Plan Zero strategy to achieve net zero, deliver CapEx/Opex, elevate ESG, and remove costs.

The process is specifically designed to provide the option to engage at any of its five stages. For example, customers who are aware of the business imperative but are without the skills or resource set realistic, yet ambitious targets and will likely engage at the Assessment stage. Alternatively, customers who may already have set targets, but are unclear about how best to meet them, may want to engage at the Compliance or Development stage.

It is important to note, however, that maximum savings and efficiencies are typically gained the earlier the process is initiated from Assessment, right through to Development and Execution. Mitie is perhaps unrivalled in its ability to deliver as well as provide consultancy, so customers are assured of the skills, resource and collaborative approach that gain maximum impact and provide organisations the platform from which to constantly improve sustainability and eliminate carbon.



Plan Zero: Assessment

Understand and evaluate current status and calibrate stakeholder teams.

Plan Zero is all about setting ambitious, tangible carbon reduction goals, and developing and executing a comprehensive strategy to achieve them. But before goals can be set, it is vital to undertake an assessment of current status to determine the relevant Influencers and data sources and identify any gaps in skills or technical resource. Armed with this information, a Plan Zero Stakeholder Group, comprising Mitie sustainability experts and customer stakeholders can calibrate against relevant Scope 1, 2 and 3 emissions categories and confidently move on to set ambitious, yet achievable targets.

Assessment involves identifying essential stakeholders and datasets, the tools available to measure and gather information, and the potential returns in compliance, certification, and cost saving. The key actions the Mitie team will undertake are described below.

Define the Plan Zero Stakeholder Group

Plan Zero is a collective undertaking that requires clear communication and buy-in from the entire organization to maximise its impact.

Accordingly, it is important to assemble a Plan Zero stakeholder group with a varied skillset and a combined remit that takes into account finance, procurement, facilities, operations, logistics, human resources, communications and production (where applicable). Whilst it is not necessary for the stakeholder team to include individuals from each separate area, it is certainly important to have access and gain input from all. An understanding of how each area influences each other area is important to provide context and confirm that collective effort will achieve much more than if confined to individual remits.

Mitie works closely with organisations to assemble a Plan Zero stakeholder group that can galvanise internal teams, communicate effectively, and seize the opportunity to execute practical carbon reduction measures that create responsible, visionary, and cost-effective organisations.

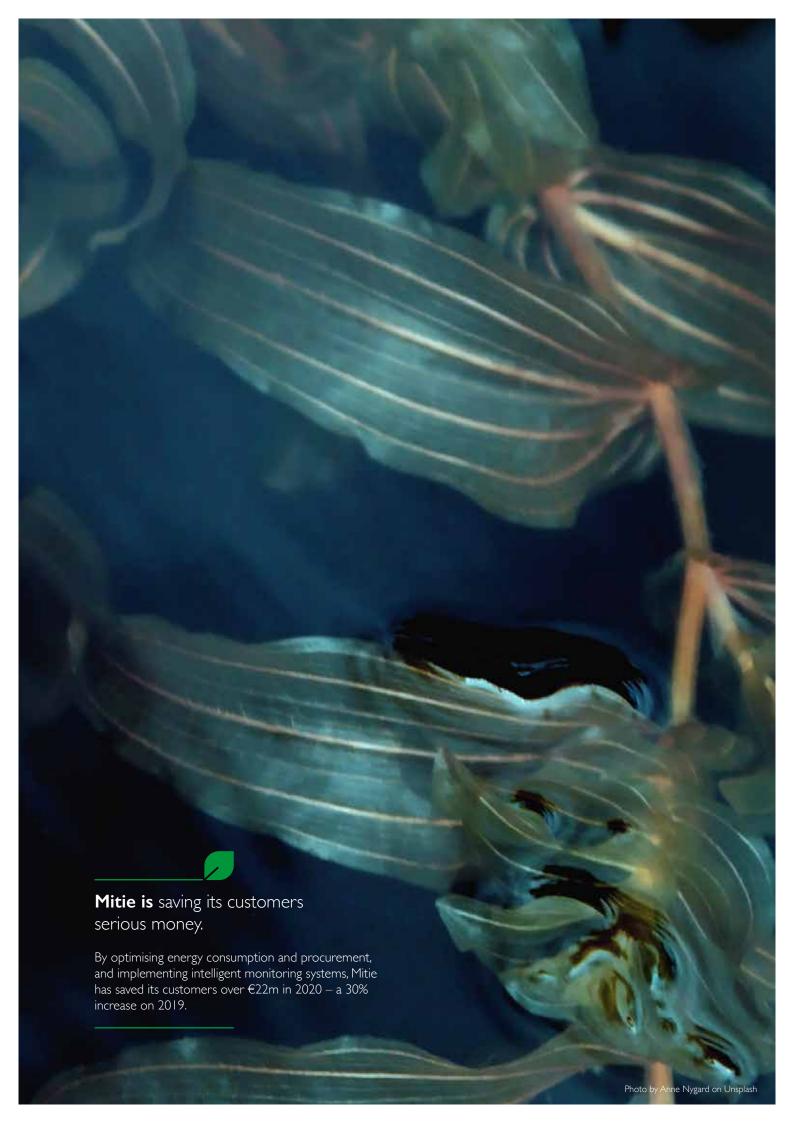




The typical Plan Zero stakeholder group

Sustainability and carbon reduction have company-wide implications affecting efficiency, compliance and governance, so it is important for the Plan Zero stakeholder group to include a C-level sponsor. Often, this is the CEO, CFO or, in larger organisations with an established sustainability agenda, the Chief Sustainability Officer (CSO).

Next, the group may include Engineering and Operations Directors, with functional heads of Facilities, Fleet, Procurement, HR, QHSE and Production also involved. To complete the group, carbon and sustainability expertise will be bolstered and provided by Mitie's Plan Zero experts.



Map Influencers and data sources

As described on page 14, the carbon impact in the three focus areas (emissions, resources, and infrastructure) is affected by several operational aspects. We call these Influencers. Different organisations will have different Influencers. The stakeholder group will identify the Influencers and the associated expertise and data sources that will help determine the potential for carbon reduction across Scope 1 and 2 and formulate a subsequent strategy for Scope 3.

The availability of detailed, quantitative data, of the kind that will help inform the stakeholder group of the impact of each Influencer, will inevitably vary by organisation and by type of organisation.

For instance, data relating to energy or water consumption may be more readily accessible than data relating to say, building occupancy or fleet emissions. Regardless, it is important to confirm all data sources, whether they be derived from automated systems such as BIM, or from manually updated Excel sheets. Where data does not exist for a given Influencer, it will be flagged as a gap, to prompt the stakeholder group to define a process or system to provide the information required to ensure tangible measurement criteria.

Health check

Using the data identified in the mapping exercise, Mitie's sustainability experts will carry out a health check to gauge the organisation's carbon footprint, its readiness to meet 2050 targets and the level of reductions that may be necessary to achieve more ambitious goals.



Scope 1, 2 and 3 emission categories

Scope I emissions are those from direct use of fossil fuels in owned or controlled assets. Significant emissions in this scope typically include those from: diesel or petrol fuelled vehicles, gas boilers, process emissions and refrigerant losses. The main mitigation activity will normally be electrification of vehicles and heating.

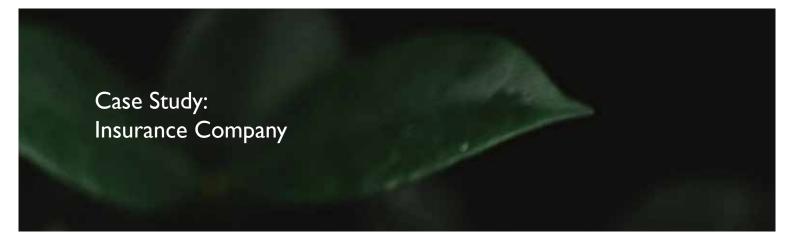
Scope 2 emissions are those indirect use of fossil fuels, typically purchased electricity. The main mitigation activity will be transferring all electricity procurement to electricity from renewable sources.

To support both Scope I and 2 emissions reduction energy optimisation programs should be run. These both save cost to support transition and reduce the grid load.

Scope 3 emissions include all other emissions, typically these would include business travel, supply chain emissions, waste disposal and use of sold goods and services. Mitigation will vary depending on business area but should include consideration of: managing supplier base to reduce their own emissions, waste reduction both directly and in supplier and customer chains as well as use of technology to minimise business travel.

An example map of data sources by scope 1, 2 and 3. Where gaps are identified, as for 'Buildings' in Scope 1, actions must be taken to ensure the Influencer is measurable for subsequent process stages.

FOCUS	INFLUENCERS		DATA SOURCES			
AREAS	INFLUENCERS		Scope I	Scope 2	Scope 3	
		I	I Building Management System			
	ENERGY	2	Energy bureau			
ш		3	Bill analysis			
l R		I	Building occupancy			
	WORKPLACES	2	Average staff commute			
		3	Waste volumes			
STF		-1	Car parking registration - FOH			
Š	BIODIVERSITY	2	Soil depth and carbon stocks			
一		3	Drainage			
_		I	GAP IDENTIFIED			
	BUILDINGS	2	P IDEN'I			
		3	GA			
		I	Building Management System	Procurement and supplier		
ISSIONS RESOURCES INFRASTRUCTURE	ENERGY	2	Energy bureau			
		3	Mitie CEMS			
S		I	Metering			
	WATER	2	Leakage monitoring		Supply chain	
A A		3	Pressure measurement			
l Ö		I	Bin capacity and frequency of collection	data	analysis	
) ES	WASTE	2	Consumption of raw material			
		3	Building occupancy and metering			
	CATERING	I	Waste measurement			
		2	Energy metering			
		3	Sustainable materials			
		I	Mitie CEMS			
	ENERGY	2	Supplier data			
		3	Onsite generation			
		I	Dispatch logs			
	FLEET	2	Expenses			
		3	Fuel cards	_		
		I	Smoke measurement			
	MANUFACTURING	2	Energy bureau			
		3	Waste product			
		I	Manufacturer data			
	REFRIGERATION	2	Carbon Dioxide sensor data			
		3	Refrigerant monitoring			



The initial assessment is a critical part of the Plan Zero journey as it influences every step of the process to follow. Even at this early stage, considerable effort and expertise are applied to ensure Mitie implements a roadmap for Plan Zero that is absolutely bespoke for the organisation concerned. Our approach to assessing an award-winning insurance company provides an ideal example of how Mitie establishes a route towards net zero carbon and improved sustainability.

The Plan Zero assessment begins with a general audit of the partner organisation, which gives our experts a broad sense of performance in sustainability and also financially. For the insurance company, Mitie referred to all publicly available information, including the organisation's annual report, sustainability reports, website and press coverage.

The firm's achievements in sustainability were subsequently benchmarked against peers in the insurance industry, which showed that while they were making progress, they were lagging behind competitors. Mitie also identified stakeholders within the firm who could steer internal teams and play a crucial role in the delivery of Plan Zero ambitions.

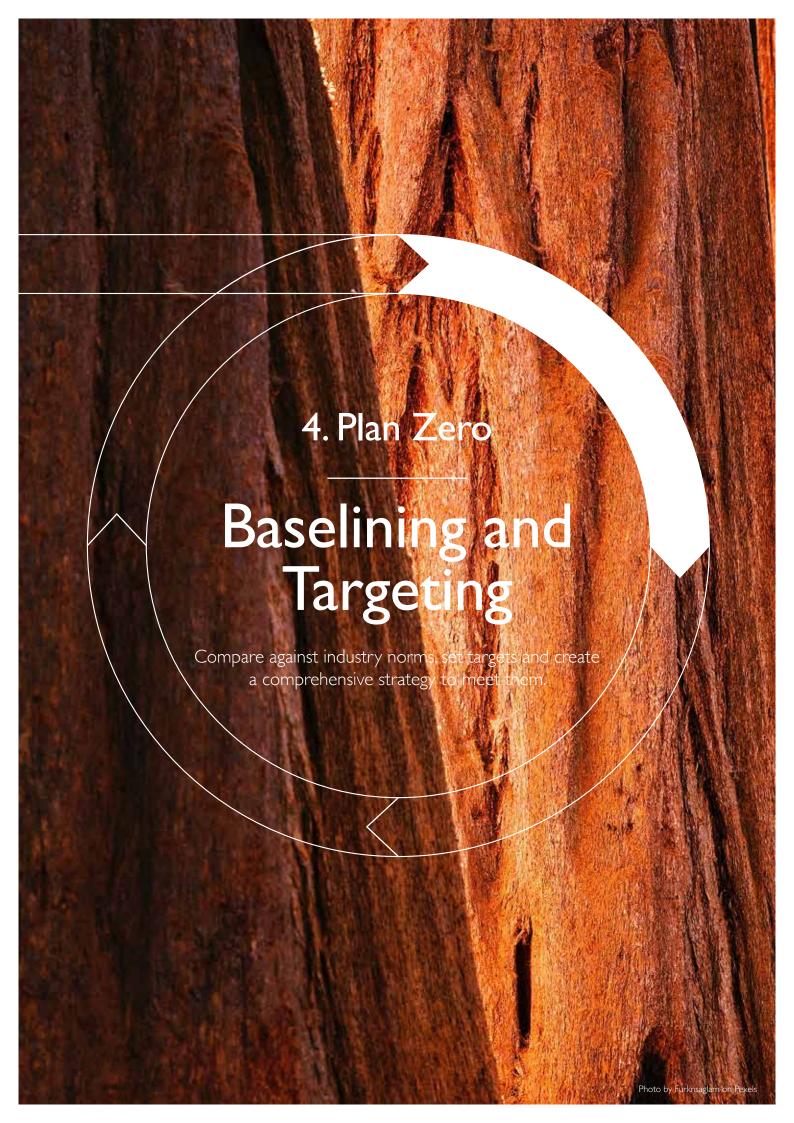
As a result of the assessment, Mitie identified a number of key carbon-reducing recommendations.

- I. As Scope I gas consumption boilers were identified within the estate, we suggested replacing them with more sustainable ground source or air source heat pumps over a ten year period. The move to renewable energy would assist with the client's target to reach net zero carbon.
- 2. Renewable energy was already being procured for some client sites, but we identified that this could be further improved by moving to renewable sources for Scope 2 emissions. In doing so, the organisation would reach net zero carbon by 2030 for both Scope 1 and 2 direct emissions.
- 3. An additional assessment was made of the client's Scope 3 travel emissions. This revealed that in the past year their fleet was seeing increased numbers of hybrid cars replacing diesel models. Similarly, there was a marked decrease in rail and air travel linked to the COVID-19 pandemic, which had already prompted the company to implement a target to reduce business travel by 50% by 2021, from a 2019 baseline.

Results

Having completed the assessment, Mitie hosted a client workshop for senior colleagues to show that by implementing a range of changes, reaching an ambitious target of net zero carbon by 2030 was achievable.

Ultimately the assessment and corresponding proposal were well received and prompted our customer to move on to the next stage of our strategy to ensure they reap the benefits of Plan Zero, to go further, faster.



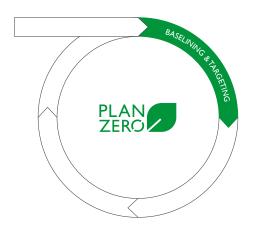
Plan Zero: Baselining and Targeting

Compare against industry norms, set targets and create a comprehensive strategy to meet them.

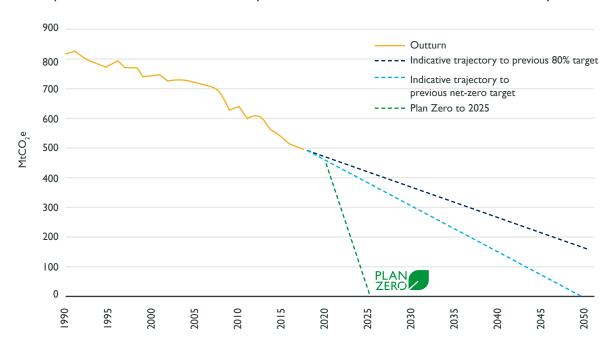
To understand how far a Plan Zero undertaking can elevate an organisation beyond its competitors and peers, it is important to baseline sustainability and carbon reduction performance against similar organisations — and against industry leaders. Doing so creates a useful frame of reference upon which to base targets and create a comprehensive strategy to meet them.



By extrapolating the data identified during the Assessment stage of the Plan Zero process and leveraging Mitie's vast operational experience of organisations in every sector in Ireland, the Plan Zero team will baseline sustainability performance and provide an accurate indication of how an organisation performs against its peers, and industry best-practice leaders. The organisation will be ranked from laggard to leader, with detailed projections made against key Influencers to chart the rate of decarbonisation required.



Example: Rate of decarbonisation required to achieve 80% and 100% reductions by 2050



Target setting

Equipped with benchmarking data and a clear picture of areas requiring special attention, the stakeholder team will move on to setting targets. These may be organisation-specific, such as Mitie's own accelerated program to reach Net Zero by 2025, and they may be Science-Based¹⁴.

The Science Based Targets initiative enables businesses to choose from three target-setting approaches:

- Sector-based, where the global carbon budget is divided by sector and then emission reductions are allocated to individual companies based on its sector's budget.
- (2) Absolute-based, where the percent reduction in absolute emissions required by a given scenario is applied to all companies equally.
- (3) Economic-based, where a carbon budget is equated to global GDP and a company's share of emissions is determined by its gross profit, since the sum of all companies' gross profits worldwide equate to global.

If Science Based Targets (SBTs) are relevant and applicable, the Plan Zero stakeholder group will engage different functions of an organisation to gain the collective buy-in necessary to (a) agree the appropriate approach and, (b) sign a commitment letter which indicates a pledge to set the SBTs.

Such pledges can and should be publicised and the Plan Zero team will advise on the appropriate channels through which to promote what constitute important commitments that boost customer and investor confidence and drive competitive advantage.

Benefits of setting sciencebased targets

- Credibility and brand reputation sciencebased targets have become the expectation for corporates taking climate action,
- Drive innovation and competitive advantage short and long-term pathways to emissions reduction will drive innovation and shape long term business strategy,
- Increase resilience against upcoming regulation reducing emissions in line with the science reduces exposure to future carbon emissions-related regulation,
- Boost investor confidence carbon reductions in line with the science is increasingly being considered by the financial institutions,
- Engage internal and external stakeholders create a 'buy-in' from stakeholders that helps your organisation achieve and even exceed your targets,

With SBT pledges made and registered, the Plan Zero stakeholder group will formulate a comprehensive strategy to meet each and every commitment, taking into account Scope 1, 2 and 3 emissions.

Where target-setting falls outside the remit of the Paris Agreement, or refers to ESG commitments that are not directly related to SBTs, such as social values or corporate governance, the Plan Zero team will ensure targets are specific, measurable, achievable, relevant and aspirational, before moving on to formulating a strategy to meet them.



Science-based targets (SBTs)

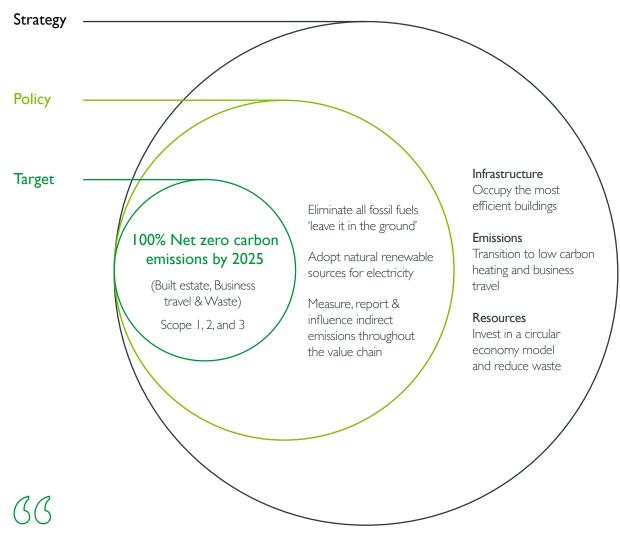
Science-based targets are a set of goals developed by a business to provide it with a clear pathway to reduce greenhouse gas emissions. It is 'science-based' if it is developed in line with the scale of decarbonisation required to keep global warming well below 2°C from pre-industrial levels.

 $^{{\}it 14https://www.carbontrust.com/what-we-do/strategy-and-advice/science-based-targets}$

Create a strategy

No two organisations are the same, so it is vital to account for operational nuances that can have a distinct influence on carbon production. An effective strategy will address each and every target and detail a policy to mitigate accordingly.

Example: High-level strategy for achieving 100% Net Zero Carbon Emissions based on built estate, business travel and waste.



Worldwide there is growing recognition of the moral imperative to ramp-up efforts to tackle the climate crisis. And here in the UK and Ireland there's also a strikingly clear economic rationale for making it a key plank of our post-pandemic recovery."

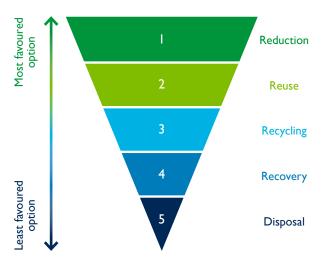
Matthew Fell, Chief Policy Director, CBI.



Mitie is reducing waste at every level of Irish and UK organisations

All projects involving waste analysis and mitigation are undertaken with a focus on the most favoured option: significantly reducing the amount of waste produced.

At the other end of the spectrum, the least favoured, most inefficient option, is disposal of waste product. Disposal yields no gains and represents a costly environmental overhead.

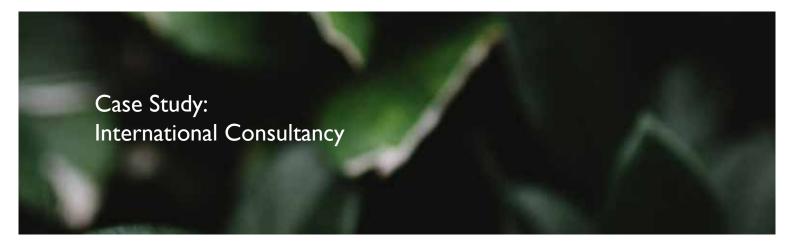


By focusing on reducing waste produced, Mitie has slashed the volume of waste sent to landfill by its customers by over 92,000 tonnes per annum, and by recycling food waste, provides over 12,000 homes with electricity every year.

Our **Waste Match** service helps customers avoid costly disposal of old or unused office furniture and assets which would otherwise by disposed of. Under **Waste Match**, we:

- Enable customers to reuse otherwise redundant assets.
- Provide an online portal to help clients trade surplus assets.
- Re-engineer redundant furniture to ensure it is fit for purpose.
- Support charities, social enterprises and community groups.
- Dismantle unrecoverable assets into raw materials for reprocessing.





Sustainability is a key priority of most leading organisations. After all, it is an essential part of ensuring future profitability. Naturally some businesses are further on in their sustainability journey, which is what makes baselining both sustainability and carbon reduction performance against similar organisations so important.

Mitie undertook this aspect of Plan Zero on behalf of the UK and Ireland branch of an international consultancy, for which the Mitie Smart Energy Procurement Team procures energy for 40% of its assets on a renewable energy contract.

Mitie's dedicated Sustainability Manager worked alongside the organisation's Global Sourcing and Procurement Director to complete an audit of relevant data. The scope included usage and carbon emissions related to:

- Electricity
- Gas
- Water
- Waste
- Travel (Flights, rail and taxi journeys)

Once the data had been supplied and collated, it was uploaded into a dashboard to assist with illustrating how the company compared to competition in the same sector. This showed that the firm was behind other organisations in some respects. Catching up to align with or surpass competitors is indeed a key driver for many businesses when setting challenging sustainability targets.

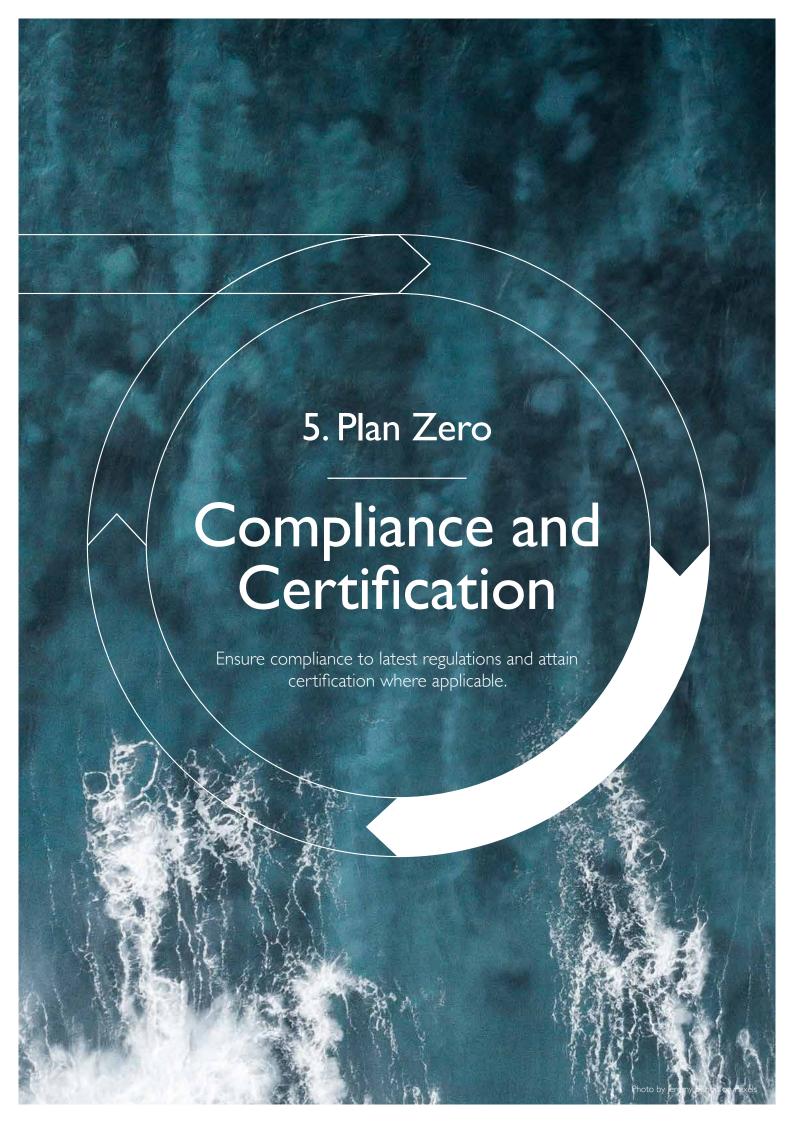
The outcome of the baselining exercise was presented to the company's sustainability steering committee and some changes have already been implemented. For example, rather than simply sending waste to landfill, the firm is now attempting to support the circular economy by recycling or repurposing materials. They also use compostable food containers rather than single-use, non-recyclable and non-compostable equivalents.

Mitie also made corresponding science-based target recommendations with a five-year projection. Such targets are the globally accepted standard for companies wishing to reduce their carbon footprint and are bespoke to each organisation. They specify what participants need to do to help limit global warming to below 2°C above pre-industrial levels, and to pursue efforts to further limit the extent of warming to below 1.5°C.

Mitie's recommendations would see a 4% reduction, year-on-year.

As a result of baselining it was found that transport proved to be a key contributor to the client's total emissions. In fact, in 2019, Scope 3 emissions accounted for 71% of total emissions, with transport responsible for over 90% of this. The client was therefore above the Science Based Target Initiative's 40% threshold, which meant reporting of additional emissions was required for an accurate reflection of carbon footprint. It was also necessary in order to qualify for an approved science based target acknowledgement.

Without benchmarking, this information may have been overlooked and a review of transport policy and ingrained culture would not have been a client priority. The organisation is now considering options, including offsetting, to mitigate its significant footprint.



Plan Zero: Compliance and Certification

Ensure compliance to latest regulations and attain certification where applicable.

Increasing sustainability and reducing carbon is not optional. Irish and UK organisations will have to comply with reporting requirements encompassing infrastructure, resources and emissions going forward e.g. Resource Efficiency Action Plans, SEAI M+R,

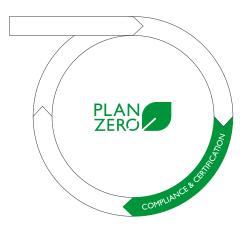
The regulation exists for good reason. Organisations that keep track of their maintenance regimes and ensure appropriate energy and emissions certification are those positioned to leverage their Environmental, Social and Corporate Governance (ESG) performance. And as outlined in Section 1, performance under ESG has a direct bearing on ability to secure investment. Put simply, businesses that do not pay attention to their obligations under ESG, will be significantly disadvantaged.

The Mitie Plan Zero team has profound knowledge of the myriad regulations and certifications that not only ensure an organisation is compliant, but categorically ahead of competitors and peers. It will carry out a comprehensive compliance review, charting an organisation's status and readiness to comply with both mandatory and recommended certificates.



It won't be easy and will require hard political decisions – no decision is not an option anymore."

Eamonn Ryan, Minister for Environment, Climate and Communications



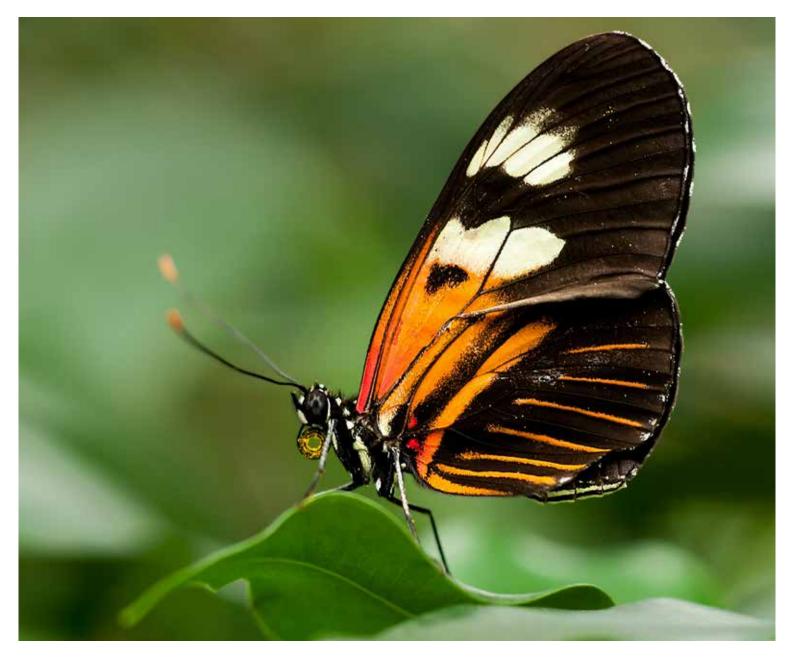
Integrated carbon reporting and certification

To help organisations gauge and understand the various carbon-producing aspects of their operations and their associated bearing on mandatory and recommended reporting and certification, Mitie uses its unique Carbon and Energy Management System (CEMS).

Based on the operating procedures of both the ISO50001 Energy Management Standard and the Carbon Trust Standard, CEMS provides a pathway to achieve either of these accreditations (following third party verifications) or the possibility to use the platform as a guide to integrate into existing management systems.

With access to CEMS, customers record and store data to support carbon and energy reporting requirements and draw upon the expertise of Mitie's Plan Zero team to build an extended compliance and certification programme at both site and corporate levels, that ensures compliance, whilst reducing the costs.

¹⁵Maximum fine issued by Environment Agency for non compliance of ESOS regulations





Mitie is transforming outdoor areas into sustainable green spaces.

Mitie is helping customers re-invest cost savings from carbon reduction to future-proof organisations and increase Environmental and Social Governance.

Carbon Storage

Introducing sustainable green space initiatives helps offset emissions. Trees store CO₂ as they grow and increasing green space near or on buildings helps to reduce the demand for heating and air conditioning.

Environmental Resilience

Creating sustainable green space helps build environmental resilience against human impacts, like climate change, deforestation and pollution.

Biodiversity

Biodiversity flourishes in a well-managed green space. A diverse ecosystem benefits us all, increasing species populations and helping to regulate our climate.

Waste as a resource.

Repurposing damaged wooden pallets with no further use into planters, and then planted with wildflowers defined as being beneficial to bees and butterflies by the Royal Horticultural Society. Promotes biodiversity through the introduction of flora and fauna.

Mitie has planted wildflowers covering over 2,000m² and worked with customers to win 28 Green Apple Awards.

Case Study: High Street Bank

Compliance with stringent regulations is essential for all organisations working to reduce carbon emissions and improve sustainability. Mitie works with a high street bank, for whom we deliver a wide range of mandatory environmental compliance, as well as voluntary certification.

The client has a varied estate with a presence throughout the United Kingdom. The contract, which represents one of Mitie's largest accounts, includes a dedicated Head of Sustainability, assisted by two colleagues as part of a wider team of Energy & Sustainability professionals. The team take a consultative approach to supporting the bank with the development of its sustainability strategy, which includes assisting with compliance and certification.

Mitie has supported / is supporting the client as follows:

- Project managed three successful re-certifications for Carbon Trust Standard for Carbon, including gathering data and qualitative information, and making the submission.
- TM44 inspections/audits of air conditioning systems with a cooling capacity of over 12kW.
- Full Energy Savings Opportunity Scheme (ESOS)
 Phases One and Two compliance service, including management of the submission to the regulator after sign-off from the client. We recently started a series of additional audits as part of the ESOS Phase Three compliance programme.

- Annual assistance with the client's CDP submission since 2013.
- Facilitated client's sign-up and membership to RE100 and EP100.
- Supported greenhouse gas (GHG) and streamlined energy and carbon reporting (SECR), alongside other external environmental reporting (e.g. waste and water).
- Full environmental targets performance tracking service.
- Competitive award submissions, ensuring the client's activity is publicised in the sector. Recent competition entries have related to the client's efforts to reduce waste.

Businesses need a compliance partner that understands the complexities of relevant regulations and makes things easy for them. Mitie's expertise makes for a seamless process when it comes to gaining such crucial accreditation. Our SMEs have years of experience in energy, waste, water, and more, together with the knowledge required to ensure clients are appropriately compliant in each area.

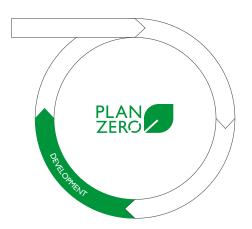
Our approach has benefited the high street bank, allowing its teams to concentrate on the organisation's core business purpose, safe in the knowledge all necessary compliance is being dealt with by Mitie.



Plan Zero: Development

Develop a practical plan, complete with detailed funding proposals, to achieve targets and where possible, deliver zero carbon at zero cost.

Armed with benchmarking information, clear targets, compliance and certification goals and detailed strategies to achieve them, the Plan Zero team will develop a clear, fully costed implementation plan. Doing so requires buy-in from the entire organisation and the sponsorship and support of C-level stakeholders, as the plan will outline detailed cross-organisational measures to achieve targets.



Implementation

The implementation plan will address each of the three Focus Areas (Infrastructure, Resources and Emissions), and specify the associated savings, emissions reductions and any related Capital Expenditure (CapEx).

Reduction measures	Tech Solution Examples	Operational Carbon (Tonnes)	Cumulative Reduction (Tonnes)
Optimise	Remote connectivity	20,960	188,640
Energy Saving Measures	LED & PIR Sensors	18,864	169,776
Low Carbon Heating	Ground Source Heat Pump	42,444	127,332
Renewable onsite power	Solar PV	28,013	99,319
EV	Transition fleets & Infrastructure	18,000	81,319
Smart Energy Procurement	Power Purchase Agreement	75,819	5,500
Waste	Reuse / Recycle / Divert	5,500	2,250
Biodiversity	Wild Flowers & Mini Forest	2,250	0

Example extract from implementation plan depicting mitigation measures and associated carbon reduction%, based on operational carbon production of 209,600 tonnes.

Of course, not all recommended measures will require CapEx, with some simply being procedural adjustments or best practice, but for those that do need asset or infrastructure investment to unlock savings and reduce emissions, Mitie provides a solution to deliver zero carbon for zero cost.

Zero carbon for zero cost

Investment in zero carbon is investment in a sustainable, responsible future. It creates a platform upon which organisations can build and grow efficient, environmentally aware operations that secure preferential finance and tax relief, and attract motivated, customers and employees.

But when the present is uncertain, investment in the future becomes a challenge. For this reason, Mitie has formulated a programme that ensures organisations can achieve a zero carbon future without the downsides associated with Capital Expenditure, but with all the upside of increased efficiency and offset savings. In other words, **Zero carbon for zero cost.**

Following assessment, baselining and compliance checks, our Plan Zero team will compile a detailed report with optimisation and asset replacement and upgrade recommendations. The report will cover Infrastructure, Resources and Emissions, and will gauge the suitability of an organisation to leverage **Zero carbon for zero cost.**

The speed at which CapEx will be negated (and possibly become cost negative) will be assessed, and a proposal submitted. Mitie will organise capital and execute and manage an organisations: transition to zero carbon. The customer pays a simple regular fee.

The culmination of the Plan Zero team's proven expertise in significantly reducing carbon production and energy consumption, **Zero carbon for zero cost**, is a truly gamechanging means of securing a zero carbon future.



Mitie has saved

over **300,000 Tonnes** of carbon in 2020 Equivalent to the power output of **370,000** homes





The Development stage of Plan Zero sees Mitie experts creating funding proposals for each of the recommended solutions. Not only does the implementation have to be practical, but where possible, we attempt to deliver zero carbon for zero cost through related savings.

Every plan must be bespoke for each customer and reflect the sustainability targets of the organisation at hand. This process proved particularly robust during a collaboration with a large leisure company.

As an existing Mitie client, the firm was keen to explore ways in which we could assist them in becoming more sustainable, and to benefit from related savings. The project focused on producing a net zero carbon management plan for one of their sites, which was heavily reliant on gas, with the possibility of introducing renewable energy.

Mitie experts conducted a site visit to assess possible issues and solutions with the following strategic aims:

- Eliminate all Scope I emissions from fossil fuels
- Adopt natural renewable sources for Scope 2 emissions (electricity - solar, wind, hydro)
- Measure, report and influence Scope 3 emissions throughout the value chain

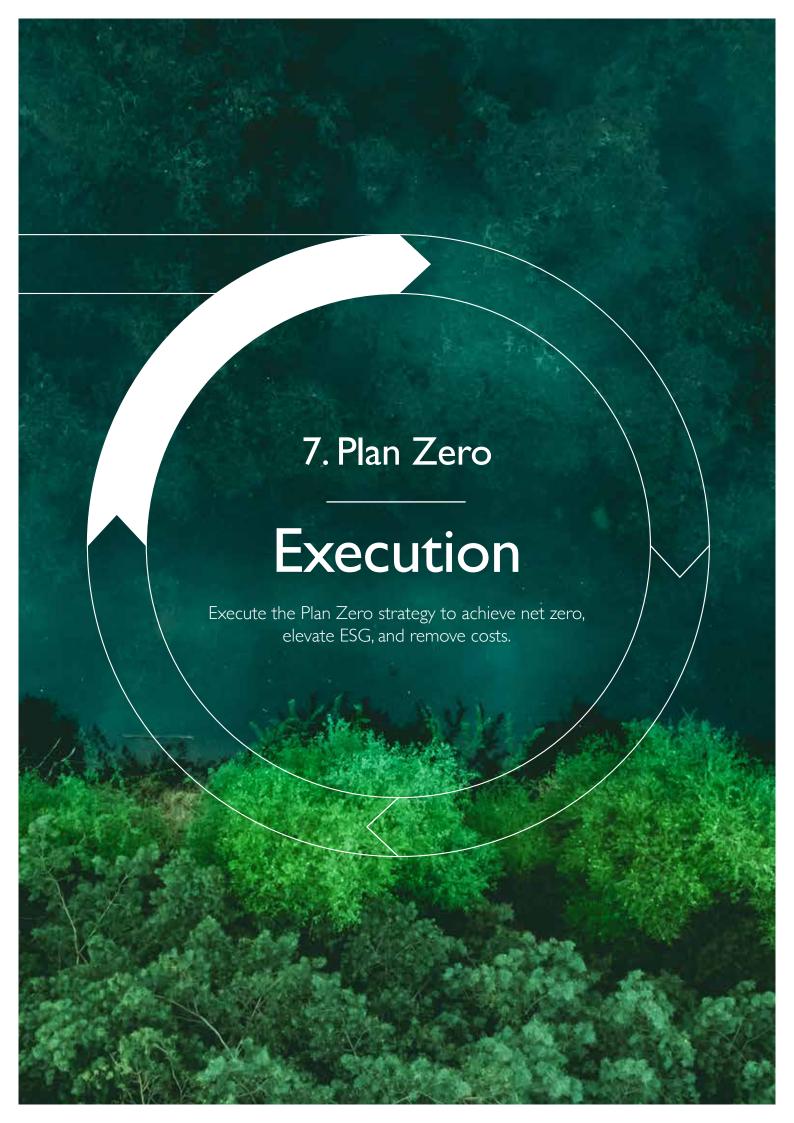
Six Mitie colleagues with expertise in energy management, BMS controls, sustainability and energy infrastructure, spent three days surveying the site and evaluating if achieving net zero carbon would be possible. Electricity, gas, liquefied petroleum gas, water and waste were all taken into account.

The team's subsequent recommendations included a full suite of optimisation measures for the existing central plant and a behaviour change and awareness programme, which combined would save an estimated 1,898 tonnes of CO₂. Awareness programmes will be essential to reaching net zero carbon for any business: Government Committee on Climate Change advisors estimate behaviour change will achieve as much as two thirds of the cuts in emissions required between now and 2050.

Further recommendations from the site visit included:

- Optimisation of BMS sensors and controls
- On-site renewable energy generation and storage solutions **estimated to save €2million**
- Implementation of ground source heat pumps, EV charging and electricity infrastructure upgrades estimated to save €2.2million

The subsequent report was well received by senior members of the client's executive team and talks are ongoing regarding future plans. The Development stage of Plan Zero is of course just as important as the preceding and subsequent stages. Producing a practical, organisation-specific Plan Zero strategy is a vital step towards its execution.



Plan Zero: Execution

Execute the Plan Zero strategy to achieve net zero, elevate ESG, and remove costs.

Mitie manages the facilities, assets and buildings through which over 5 million people pass every single day. The company has profound, hands-on knowledge and experience of optimising facilities on behalf of customers in every industry the length and breadth of the UK and Ireland.

Having saved over 300,000 tonnes of carbon and delivered over €22m in savings for our customers in 2020 alone, Mitie is setting and delivering against ambitious sustainability targets on behalf of customers in both the private and public sectors. Our knowledge of our customers' estates, combined with our ability to execute a strategy from assessment right through to delivery is we believe, unrivalled.





When a Plan Zero strategy has been finalised, the Plan Zero team oversees its execution and works closely with customer stakeholders to ensure the plan meets its objectives. A great example of a Plan Zero strategy executed precisely to not only achieve, but in practice exceed expectations, is at a multinational telecommunications company.

Delivering over €11m in savings and the equivalent of over 25,000 tonnes of CO₂ for a multinational telecommunications company.

Our customer is serious about reducing its carbon footprint and its impact on the environment. It is investing in solar and wind-powered base stations, sustainable end-user devices, energy-efficient data centres, and recycling initiatives as fundamental elements of its Corporate Social Responsibility commitments. And to help the company meet its commitments, it has enlisted Mitie's Plan Zero team.

Over the course of just three years, Mitie has helped our customer substantially reduce its carbon footprint, saving 100 gigawatt hours (GWh) for energy, worth over €1 I million, and the equivalent to 25,000 tonnes of CO₂.

Naturally, a comprehensive review of the client's estate was required in order to achieve such a result.

From the Assessment stage onwards, Mitie collaborated with the telecoms company to audit 90 of its buildings for energy usage and efficiency, including offices and contact centres. The tests checked that each building's lighting, heating and air conditioning systems were operating at the highest energy efficiency rating, with subsequent optimisation measures validated by the third-party energy auditor, Energy Efficiency Verification Specialists (EEVS).

At more complex locations, where 24/7 power is essential to keep the network running, such as data centres and Mobile Telephone Exchange (MTX) network sites, our Connected Workspace sensors provided real-time data to identify energy saving opportunities. For example, temperature sensors in data centres enabled airflow to be adjusted remotely, ensuring equipment was stored in the correct environment in the most energy efficient way.



Mitie delivering

In Infrastructure, Mitie's delivery capabilities encompass Building Management Systems, remote energy optimisation, asset and occupancy monitoring, insulation, lighting, low carbon heating and cooling solutions, and biodiversity.

In Resources, Mitie's delivery capabilities encompass waste management, rainwater retention, metering, energy procurement and storage, and wind and solar power (re)generation.

In Emissions, Mitie's delivery capabilities encompass remote asset and emissions monitoring, fleet transition to EVs, waste systems, refrigeration, renewable energy sourcing and storage.

Similarly, in offices and call centres, sensors in air conditioning systems enabled air temperature to be managed remotely and at speed. This modification reduced energy use and improved the comfort of colleagues within the building. Since 2017, the client's data centres, offices and retail stores have been ISO50001 Energy Management standard accredited.

Further energy savings were produced by helping the organisation to reduce the number of buildings open at weekends and on bank holidays. During the COVID-19 lockdown, many staff were required to work from home, which meant Mitie could use its tried and tested processes to assist with hibernating more buildings than usual.

Carbon Compliance and Certification



ISO:5000 I

Stage I accreditation in the data centres 2017

Stage 2 offices and retail stores throughout 2019

Sustainability Lifecycle Assessments for key product selection

Smart Energy Procurement



Bureau including Energy Procurement, meter operating tender, water procurement programmes

Landlord invoicing

Risk Management Services

Reducing Carbon & Energy



Optimisation programmes Airflow management, CRAC control optimisation, Early Friday finish programming and bank holiday shutdown

Carbon reduction projects EC Fan upgrade projects LED upgrade projects Retain Mini BMS Solution

The expert execution of Plan Zero strategy for the telecoms company has already produced considerable savings, but Mitie continues to support the client in becoming even more sustainable. They are investing in solar and wind-powered base stations, sustainable enduser devices, energy-efficient data centres and further recycling initiatives.

Over the next 1.5 years, we forecast the client will save a further 147 GWh.

Such efficiencies are truly transformational and categorically confirm that a Mitie Plan Zero strategy, executed in partnership from Assessment right through to Execution enables organisations to go further, faster, and for less.







Mitie: Making it happen

Mitigating a climate disaster is a huge challenge, and one for which we all bear responsibility. While the scale of the predicament is vast, this playbook distils the undertaking to solve this challenge into practical, proven steps, borne from Mitie's unique perspective, knowledge of sustainability and carbon reduction and proven delivery.

Mitie stands ready.

We look forward to providing expert guidance to your organisation as we move towards a more sustainable future together.

