



***“Our enduring success as a business is founded on our adaptability and our willingness to rise to the new challenges which come our way.***

*The climate crisis and nature’s decline represent the biggest challenges faced by society today, which is why developing a more sustainable business model for Sir Robert Mc Alpine is so vital. As a family business which understands the importance of leaving a lasting positive legacy, we’re proud to have a purpose beyond profit, and our sustainability strategy is key to delivering on our ambitions.*

*Embedding sustainability into our business requires us to think differently, embrace change and hold each other to account. We are an industry of problem solvers, and we must seize every opportunity to use our engineering excellence to design and build a built environment fit for our future. At Sir Robert Mc Alpine, we’re proudly building Britain’s future heritage. We want to be part of the solution and deliver a future heritage where we address the challenges we all face, working together to become more sustainable.”* – **Paul Hamer, CEO, Sir Robert McAlpine**



*Based around four pillars, our model of sustainability is deliberately agile. This allows us to develop the tools and expertise capable of responding to an evolving, and increasingly regulated sector whilst meeting our clients’ varying needs. Our team of sustainability professionals work tirelessly to embed sustainability into our project delivery, upskilling our people and supply chain partners to ensure that we deliver on our promises.*

*It’s not one individual’s role to deliver on our vision of sustainability. Together we’re making a real difference, changing how we operate and advocating for wider industry change. I’m proud of what we’ve delivered to date but we’re by no means finished!* – **Simon Richards, Sustainability Director, Sir Robert McAlpine**

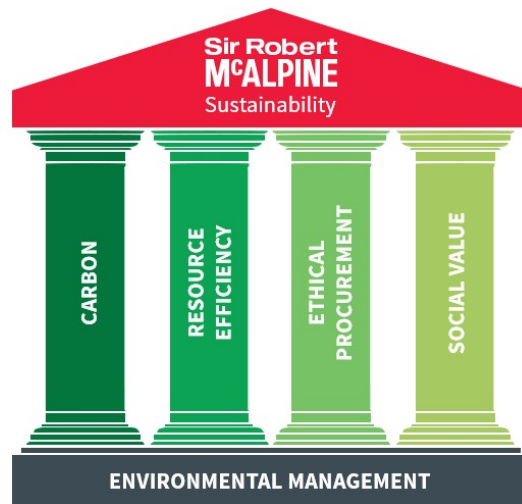
## **Intro**

We develop lasting programmes, tools, and expertise to respond to the ever-evolving needs of our sector and our clients, deeply embedding sustainability into our business.

To do this we’re changing how we operate - From reducing our carbon emissions, transitioning to a more circular model of resource use, to embedding ethical procurement into our working practices and delivering powerful social value.

Our values guide us, and our sustainability strategy gives us freedom to deliver the best solutions for lasting benefit to our local communities and the environments in which we work at project and organisational level, consistently.

Built upon a solid foundation of environmental management our four pillars of sustainability combine to define what sustainability means to us:



# Carbon



## What does it mean to us?

We're committed to decarbonisation with a focus on reducing our emissions to deliver a Net Zero Carbon (NZC) business.

### Our focus

1. Measuring and reducing our carbon footprint in line with our aspiration to reduce our carbon emissions and become Net Zero Carbon (NZC).
2. Evolving our design, procurement, and construction practices to deliver lower carbon solutions for our clients and reduce the built environment's carbon emissions.

We strive to deliver our services with lower carbon emissions and overall environmental footprint. and hand over assets to our clients that are future proofed with low embodied and operational carbon emissions.

To guide us on our pathway to NZC, we are following our Carbon principles. These principles are:



#### Don't Delay

*Don't let the magnitude of the task delay action*



#### Collaborate

*Work with the whole of Sir Robert McAlpine and the wider industry*



#### Be Brave

*We'll have to do things differently and embrace change*



#### Reduce

*Focus on reducing our emissions and long term benefit*



#### Transparency

*We'll be open, honest and transparent always*

What is our target?

Our target is to deliver an annual reduction in absolute carbon emissions and a Net Zero Carbon business.

Our emissions reduction targets will be in line with a Science Based Target initiative (SBTi) verified reduction pathway. We'll report annually against this pathway in line with our carbon principles.

Our progress in 2021/22

22% Reduction in absolute carbon emissions (scope 1,2&3)

48% reduction in absolute scope 1&2 emissions

22% reduction in absolute scope 3 emissions

Over the course of the last year our focus has been around the following:

- 1. Increasing the scope of our measured carbon footprint and reducing our carbon emissions in line with our current pathway to Net Zero Carbon (NZC)
- 2. External verification of our carbon footprint and proposed 1.5°c aligned carbon reduction targets.
- 3. Evolving our design, procurement and construction practices to deliver lower carbon solutions for our clients and reduce the built environment’s carbon emissions.
- 4. Development and roll out of a carbon literacy programme, to empower our people to reduce carbon emissions.

Our Carbon pillar and the UN SDGs



# Ethical Procurement



## What does it mean to us?

Ethical procurement looks at more than just economic cost. It's a holistic view on procurement that ensures that we buy goods and services in a manner that uphold our strategy aims and business values.

## What are our targets?

Our targets around ethical procurement centre around two metrics:

1. Ensuring the materials we purchase are responsibly sourced to a recognised third party standard.
2. Conducting Site Engagement Surveys and Labour Practice audits on our sites and within our supply chain.

## Our Progress in 2021/22

Responsible sourcing

# 95%

**Key Building Materials Responsibly Sourced**

The materials used in the construction and delivery of our projects have an environmental impact in their production and use. One of the most recognised mechanisms to reduce this impact it to

ensure that we source materials which are manufactured under the control of a third-party certified process, to standards like BES6001 and ISO14001.

We’re consistently able to achieve high responsible sourcing performance and this is a prime example of where using our buying power has helped the industry transition to more ethically sourced materials and transparency within supply chains.

12 Site Engagement Surveys

29 Ethical Labour Practice Audits

With a significant proportion of our spend with our supply chain partners, we have to work with them to address any risks that may result from our procurement decisions.

Labour Practice Audits are conducted both with our directly contracted supply chain partners, and those we don’t contract with but who are still present on our sites. In 2022 continued to conduct our programme of audits which also supports our ongoing work to combat the modern slavery risk within our industry. For more information on what we’re doing, please read our [Modern Slavery Statement](#).

Our Ethical Procurement pillar and the UN SDGs

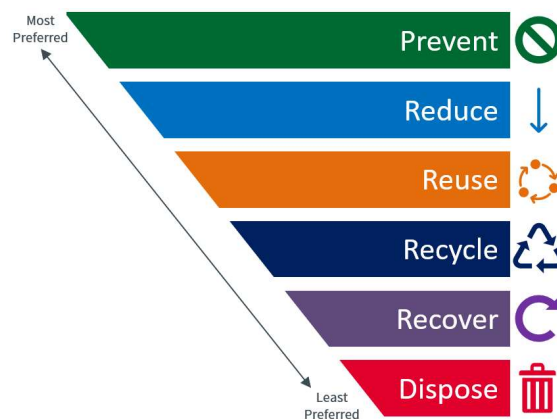


# Resource Efficiency



## What does it mean to us?

Our aim is to make sure we use all resources throughout our business in the most efficient way, to reduce waste. It involves a holistic approach to design, procurement, and construction to reduce resource consumption, increase reuse and recycling, and minimise waste generation in line with the waste hierarchy.



## What is our target?

Firstly, to establish mechanisms that identify waste reduction opportunities as early as possible. Then put in place programmes to deliver an annual reduction in construction waste, in absolute terms.

To ensure transparency with our waste reduction trajectories we also monitor and report construction waste intensity in tonnes per £million turnover to give an indication of waste production in relation to the scale of our business.

### Our progress in 2021/22

**5.5%** Reduction in absolute construction waste

**32.8 t/£m** Construction waste intensity

**98.5%** Diversion from landfill (construction waste)

Over the last year we have delivered an absolute construction waste reduction of 5%. Our total tonnage of construction waste decreasing from 37,731 tonnes in FY20/21 to 35,642 tonnes for this reporting year.

We continue to maintain our historic performance of high diversion from landfill rates, ensuring that disposal via landfill is the last option in our management options. Our procurement policies and waste management selection processes are well embedded and reflected in 98.47% of construction waste diverted from landfill.

### Our Resource Efficiency pillar and the SDGs





# Social Value



## What does it mean to us?

Social Value is the positive impacts that we have on society, it goes beyond financial returns and considers broader societal benefits that can result from our activities.

We have a commitment to delivering a purpose beyond profit, aligning our strategic aims with those of the communities in which we work. Our family values drive our commitment to making a positive impact on society, as we continue to proudly build Britain's future heritage with a lasting positive legacy.

## What is our target?

As Social Value encompasses a wide range of deliverables. Instead of setting individual metrics for each deliverable we have set a Social Return on Investment target for our business, which aggregates the value created by all our activities into a single SROI number, using our Social Value tool, LOOP.

The target set at a company level is to deliver an annual increase in SROI.

## Our progress in 2021/22

# £39.9

Million SROI

Individual metrics and performance which make up our SROI figure are:



After concentrating on rollout of our strategy and establishing a baseline in FY20/21 this reporting year saw us further embed our Social Value tool, LOOP into our business not only from tender to practical completion, but into our offices and corporate partnerships.

It's not all about tools though, we've invested in expertise and developed programmes to ensure we drive the delivery of social value across our business and encouragingly, our efforts have yielded significant increase in what we have delivered in this reporting year.

### Our Social Value pillar and the UN SDGs



**Sir Robert  
McALPINE**

## EXAMPLES OF SUSTAINABILITY IN ACTION...

### Design Group deliver low carbon solutions.



**Our in-house design expertise, McAlpine Design Group (MDG), embody our desire and capability to deliver low carbon solutions for our clients.**

A great example of this, is our work on three healthcare schemes at Kingsway Hospital, Chesterfield Hospital and the National Rehabilitation Centre. Detailed design reviews were undertaken by MDG with alternative design solutions proposed that delivered significant embodied carbon savings.

On both Kingsway and Chesterfield Hospitals, the original foundation designs were changed to a raft slab on controlled/compacted Type 1 material solution, reducing the embodied carbon by up to 77% and saving over 1,000 t CO<sub>2</sub>e on each project. Whilst the proposed raft foundation and post-tensioned floor slab solution On the National Rehabilitation centre, reduced embodied carbon by 54%, saving 538 t CO<sub>2</sub>e.

These examples demonstrate how Implementing the first principle of low carbon design; use less material, can not only reduce embodied carbon but also costs and time spent on site for our clients.



### **Changes made to lighting specification to improve resource efficiency.**

**The Poole Theatres project team identified an opportunity to improve resource efficiency on the project, by changing the lighting specification, resulting in there being material, waste and programme savings.**

Through a challenge to improve resource efficiency the project team identified an opportunity to change the specified lighting system that delivered the following benefits:

- 3m less cabling per wall switch (total saving of 180m of cabling)
- 90no. less wall switches and faceplates
- fewer conduits and channel supports needed for cabling to and from switches and luminaires.
- reduced construction waste from not needing to create recesses and holes in walls and ceilings.
- installation programme reduced.



### **Low carbon concrete**



**Our HS2 ALIGN JV & 1 Broadgate teams provide a great example of how we're collaborating with our supply chain to improve.**

Our HS2 ALIGN team worked with Tarmac to create and put into application an innovative low carbon concrete solution. A structural slab forming part of the new viaduct pre-cast factory and a vertical wall were poured. The mixes were designed to the HS2 concrete specification and exceeded expectations in both fresh and hardened properties. The test also showed that the new concrete can be

produced in normal concrete plants and placed via mixer truck and by skip with tremie pipe.

This new concrete solution gives a 62% reduction in CO<sub>2</sub>e per cubic metre of concrete, compared to a standard CEM I concrete. The footprint covers all aspects of the concrete production and supply with no carbon off-setting applied, delivering an actual footprint of 133kg/m<sup>3</sup> CO<sub>2</sub>e. This represents a saving of 220 tCO<sub>2</sub>e for every 1,000m<sup>3</sup> produced.



At 1 Broadgate, the team successfully increased the amount of GGBS content in the hard and soft piles to 70% and 95% GGBS respectively, with the soft pile mix a specially developed low carbon solution containing less 12.5 kg cement per m3 of concrete.

The team took this further in a later phase of piling by working with the supply chain to specify EcoPact Max concrete, an innovative cement alternative technology from Aggregate Industries that utilises alkali activated cementitious materials (AACMs)

and high levels of GGBS (95%) to remove the need for any cement at all. This resulted in a 20% reduction in embodied carbon (A1-A3) vs a typical mix, saving 356 tCO<sub>2</sub>e.

Overall, the project reduced the average carbon intensity of the piling mixes by 43% when compared to the Stage 4 proposals and we continue to work with our supply chain to explore, trial and upscale low carbon concrete solutions.

### **Transition to low carbon fuels**



**Reducing the amount of carbon intensive fossil fuels we use, such as diesel, is critical to our climate ambitions.**

With alternative fuels such as HVO (Hydrogenated Vegetable Oil), reducing CO<sub>2</sub> emissions by up to 90%, we've recognised HVO as a key transition fuel on our decarbonisation journey as we move towards low and zero carbon energy sources.

We have actively rolled out over 360,000 litres of HVO fuel to our projects, saving nearly 900 tCO<sub>2</sub>e.

Our A19 Highway Maintenance project alone saved nearly 175 tCO<sub>2</sub>e, where the project team identified the plant and vehicles which could switch to HVO from diesel.

In total we have transitioned over 50% of our vehicle fleet to run on HVO, with plans in place to increase this to ~80% by the end of 2023.

### Long term engagement with Clapton Girls Academy

We are now in the 5<sup>th</sup> year of engagement with Clapton Girls Academy with a relationship that is focussed on engaging with students from Year 8 upwards, encouraging more young girls and women to consider a career in construction, with a particular focus on supporting minority groups.



The main elements of the Clapton Girls Academy Programme are:

- **Curriculum Engagement:** Hosting curriculum-based workshops with students. This academic year this session was part of a Careers Carousel with various SRM staff visiting the school to discuss their role within construction. Culminating with a Maths activity based around Quantity Surveying.
- **Mentoring:** Five students were matched with SRM mentors, with regular sessions to talk through different careers choices within construction, as well as wider skills development.
- **Work Experience:** In Summer 2022, 8 students from Clapton Girls Academy attended a work experience placement at 1 Broadgate and 21 Moorfields. The students spent time with different disciplines and learnt about how construction projects are operated and delivered, as well as the opportunities available.

Partnerships like this help us highlight careers in construction and attracting talent into the industry.



### **As-built life cycle Assessment at Edinburgh Park**



**At Edinburgh Park we used our in-house capability to undertake an as-built Life Cycle Assessment of the carbon emissions at the completion of construction for our client.**

A Life Cycle Assessment (LCA) is a procedure for quantifying the carbon emissions and other environmental impacts associated with a building. For an LCA to be an accurate representation of a building's environmental impact, it is critical it reflects the actual materials & products installed on site, as well as the construction methodologies employed by incorporating as-built data.

Supported by our reporting procedures, tools, and supply chain relationships, we ensured the assessment included:

- Quantity and type of material/product delivered and installed.
- Transport distances for materials and products
- Product specific carbon emission factors through the provision of environmental product declarations (EPDs) where applicable
- Fuel, electricity and water consumption and waste generated during construction.

The assessment also enabled us to quantify the carbon savings achieved by the project, with over 1,000 tonnes of carbon saved through initiatives such as:

- The reuse of steel casings for piles
- Increased % of cement replacement.
- Low carbon aluminium window frames
- The use of a 100% renewable energy tariff to supply electricity during construction.

In line with our carbon principles, an as-built LCA report was produced detailing our methodology and inputs, alongside the carbon savings realised and the carbon emissions associated with the project at practical completion (upfront carbon – A1-A5) and end of life (life cycle embodied carbon

- A1-A5, B1-B5 & C1-C4). We also captured lesson learnt from the process, to improve the efficiency and accuracy of assessments on future projects.

### **College Material**

**Roofing redesigns and changes to construction materials have led to significant savings on our Gradel Quadrangles project.**



As part of a preconstruction services agreement with the client, we delivered a mock-up of the main quadrangle roof to explore construction techniques, temporary works, and the overall aesthetics. As a result, it was decided that the roof be redesigned. We therefore undertook a feasibility study exploring six alternative construction types and 15 different coverings with embodied carbon a key consideration for each option.

A glue laminated timber structure with tessellated aluminium tiles on a single ply membrane was chosen as the optimal solution for the buildings. The switch to this roof type slashed the embodied carbon for the roof by 202.6tCO<sub>2</sub>e to 16.7tCO<sub>2</sub>e.

Apart from the roof, our project team found ways to reduce the embodied carbon of the piled foundations and substructure by replacing cement with ground granulated blast furnace slag (GGBS), saving 433tCO<sub>2</sub>e.

The use of local Ancaster limestone for cladding shaved off almost another 100tCO<sub>2</sub>e, proving the importance of local sourcing in carbon reductions.

Further carbon savings of 25.5tCO<sub>2</sub>e were achieved from the use of zero carbon electricity on the site. Another 17tCO<sub>2</sub>e were saved by encouraging staff to use park and ride, bus and train – rather than their cars – to get to site.

The buildings are also compliant with the Passivhaus Standard and the development's space heating and cooling demand is less than 15kWh/m<sup>2</sup>/year.

The successful carbon saving initiatives undertaken by the team have earned the project ICE Carbon Champion status.



## Social Value in Edinburgh

With practical completion achieved at Haymarket B1 we highlight what the project delivered through our targeted social value strategy.

By outlining a clear strategy, we were able to forecast and plan our deliverables, which the project team were then able to make a positive impact on the local community. Throughout the duration of the project the Social Return on Investment (SROI) was £1.05 million, the individual metrics and performance which make up the SROI figure at Haymarket B1 were:



When combined with the **£58.6million** of direct economic impact through supply chain spend, this project emphasizes the incredible socio-economic benefits we can provide to our local communities.

## Volunteering with Manchester City of Trees

In May, ten volunteers from SRM were at the Princes Spinney community Garden in Manchester making use of one of their four permitted days for volunteering that all our staff get each year.



Throughout the day our team of volunteers removed non native species and replanted English Primrose which will attract butterfly species and other insects. They also tackled invasive species and removed fly tipped waste from the area. In all, a great day spend appreciating and enhancing the local biodiversity so that it can be enjoyed by the local community and provide an outdoor learning space for children to grow their interest in the natural environment.

## Sustainability Impact Reports (SIR)

## Using out data to effectively communicate and demonstrated what's been delivered.

With our mature reporting processes, expertise and datasets, we now undertake Sustainability Impact Reports on all our completed projects. These are an impact assessment which summarise all the sustainability achievements on the project with case studies and lessons learnt. A recent summary infographic for our completed project at Pinewood Studios can be seen below:

### Executive Summary

This report has been produced by Sir Robert McAlpine (SRM), to capture the positive sustainability impact of the Pinewood RED project on wider area.

The following is a summary of the projects sustainability performance:



These Impact reports are helping us demonstrate what can be achieved through targeted focus on sustainability deliverables and a valuable resource for our clients in demonstrating what has been achieved throughout the construction phase of a project's delivery.

# Future Focus

	Revising out NZC pathway, verification of our SBTi emissions reduction strategy and continuing to invest and explore opportunities to decarbonise.
	Supply chain mapping and an improved material procurement and control process to support sustainability and wider deliverables like Safety Critical Materials defined by the Building Safety Act.
	Working to better highlight resource efficiency measures early in design and construction. Continued collaboration with Digital Construction and our MMC strategy to drive opportunities and efficiencies.
	Work with our partner LOOP to better define SV deliverables for the construction industry and improve transparency. Continue to develop programmes and toolkits for our sites to efficiently deliver SV requirements.

Across all elements of sustainability, we're:

- Improving data accuracy and efficiency through governance, expertise and tools
- Engaging with our Supply chain to ensure that they're aware of our requirements and we engage with them to underrated capability and expertise to offer best solutions to our clients.
- Continuing to embed sustainability into our business, driven by our sustainability department.