



Foster + Partners

CSER Report

May 2017 – April 2018



A message from our Head of Sustainability

IMPETUS FOR ACTION HAS NEVER BEEN GREATER

The last year saw significant development for the sustainability community. It was 2 years since the landmark Paris Agreement and COP 23 in Bonn set the agenda for 'Further, Faster Ambition Together'.

We are continuing to develop how best to meet the objective to limit average global temperature rise to 2°C above pre-industrial levels and going further where possible. We are also continuing to align our CSER ambitions with our design methodology and therefore maximising the learning that brings to both projects and our own estate.

Reflecting on these achievements offers us a chance to take stock, formulate priorities and set our goals for the coming year, so we can prepare for the evolving global sustainability landscape, and use our role as designers to help create a more sustainable world.

Things are happening.

Globally, there are also some good news stories that represent new opportunities. New, low-carbon energy technologies are becoming ever more affordable and abundant. Beneath overarching national policy goals there is an increasing focus from cities, municipalities and businesses to effect new, more sustainable ways of operating. Nations and corporations are sourcing renewable energy at record levels.

As environmental, economic and social concerns coalesce, action to become more sustainable has ancillary benefits across multiple aspects of society.

As architects, working at many different scales in many different countries, we have the ability to shape our built environment to be lower carbon, more economically future-proofed and increasingly socially inclusive.

We plan, through our projects and our own efforts in-house, to help lead this transition. We hope you will join us.

Chris Trott

Partner, Head of Sustainability

Opposite: masterplanning workshop.



Introduction

Foster + Partners is a global architecture, urbanism and design practice, founded in 1967 with sustainability at its core. The practice embeds sustainability in all its projects and uses its global influence to promote sustainable design around the world, to help move the built environment to one that is futureproofed environmentally, economically and socially.

We approach sustainability in our own business and on our campus the same way we do in our projects. Each year we identify the environmental, social and economic risks of our operational practices, and search for new ways to push our sustainability efforts further – minimising the impact of our own operations.

We measure our approach to sustainability through our Foster + Partners Responsibility Framework. The Framework allows us to conceptualise and evaluate sustainability under ten key metrics: Wellbeing, Community Impact, Energy and Carbon, Water, Resources, Mobility and Connectivity, Land and Ecology, Social Equity, Planning for Change and Feedback. The metrics offer a broad and holistic methodology to assess sustainability performance.

This year we have made progress across all areas of our Responsibility Framework, with highlights including extending our community outreach, enhancing our availability to provide feedback on and interrogate our campus' environmental performance, and increasing our knowledge sharing and engagement activities with the UN.

Opposite: Main studio at the London office.



Twenty-eight years after the first report from the Intergovernmental Panel on Climate Change (IPCC), we have a much greater understanding of the extent of the problem of global warming. The landmark Stern report from 2006 on the economics of climate change showed that the cost of doing nothing far outweighs the cost of efforts to mitigate climate change impacts.

After more than twenty years of negotiations, governments reached the Paris Agreement on climate change in November 2015, agreeing to aim to limit the rise in global temperatures to a maximum of 2°C above pre-industrial levels. To achieve the goals of the Paris Agreement, annual global greenhouse gas emissions need to peak by 2020 and then start seeing significant year-on-year reductions.

Beyond the signatory countries, positive engagement with the climate change issue by a growing number of sub-national players (states, cities and businesses) reflects a growing global awareness and compliance with the objectives set by the Agreement.

Buildings are a big part of the climate change challenge. Building energy consumption could double or even triple by 2050 if we continue on a business-as-usual path. However, the full use of best practices in the design, construction and operation of buildings could instead considerably lower the energy use and emissions associated with the built environment. Tackling operational and embodied emissions from buildings is therefore a key element of the fight against global warming. The benefits from emissions reductions can be realised along with the other ancillary benefits that well-designed, sustainable buildings can provide.

Trends and Outlook



Key Trends

As awareness grows on the need to lessen the built environment's wider environmental impact, trends are continuing to develop around sustainable building energy use, mobility in urban environments, and sustainable food provision.

Net zero buildings

Around the world, legislation is evolving to push building performance towards 'net zero' – the process of driving down energy consumption in a building through smart design and efficiency to levels that can be matched or offset by renewable energy generation on-site, or from further afield. Alongside this, a growing number of cities are recognising and committing to achieving net zero carbon targets in new buildings by 2030.

Strategies to reduce energy demand and integrate building energy use with low carbon and renewable energy provision are well established. As well as embodying these principles in our projects, we are doing so on our campus – developing new ways to understand and minimise our energy use, providing hot water on site from our own solar thermal hot water heaters and powering our campus with 100% renewable electricity.

Electric mobility

Electric vehicle purchases worldwide are growing rapidly, due to technological advancement and falling costs – and demand for electric mobility is forecast to rise considerably in the coming years. This will have positive effects on local air quality in cities and, together with smart charging technology, can be a component to allow renewable energy generating technologies to be integrated into power grids in an effective fashion.

Electric vehicles will also have large implications on how urban spaces are designed to facilitate charging of vehicles, and effective urban planning – working with building codes – can influence the number, location and form of electric vehicle charging stations.

We plan to engage with electric mobility on our campus by installing electric vehicle charging points and purchasing an electric van to replace operations – including ferrying staff and materials to and from our off-campus workshop site to the east of Battersea Park – that are currently carried out by conventional internal combustion engine vehicles.

Local food and urban agriculture

Food provision and food security pose significant challenges for regional and national governments in many areas of the world. Developing local food provision combined with circular resource practices can offer a sustainable solution to these issues, avoiding the detrimental impacts from intensive energy consumption, land use and transport associated with industrial farming.

Local and urban food production can be aided with new technology such as aeroponics and hydroponics to increase efficiency. When combined with renewable energy provision, sustainability can be further enhanced.

We are investigating the potential to adopt urban farming principles in two sites on our own campus – to provide sustainable food for our canteen, contribute positively to biodiversity on the site, and improve the campus' environment aesthetically.

Our Approach



Foster + Partners Responsibility Framework
Developed almost six years ago by the Sustainability Group, the Foster + Partners Responsibility Framework is based on ten themes (Wellbeing, Community Impact, Energy and Carbon, Water, Resources, Mobility and Connectivity, Land and Ecology, Social Equity, Planning for Change, and Feedback).

These themes capture all the requirements of commonly used sustainability assessment methodologies including LEED® and BREEAM® and are well correlated to the UN Sustainable Development Goals. They also review social justice and equity concepts, which are often poorly captured by entirely environmental-based methodologies.

The Framework ensures we maintain a responsible approach to creating and evaluating buildings, products and cities, as well as operations on our own campus. The Framework is continuously improved and refined based on the feedback received. Our aim is always to improve the efficiency of data acquisition and knowledge transfer.

Six themes – Community Impact, Mobility and Connectivity, Land and Ecology, Social Equity,

Planning for Change, and Feedback – are reviewed and assessed manually using a range of tools. The remaining four themes – Energy and Carbon, Water, Resources, and Wellbeing – are assessed using Arc®.

Visualising Green Building Performance
Last year we installed the Arc display system to allow all staff to see our building performance. Arc is a state-of-the-art platform designed to collect, manage and benchmark performance data. This data is then used to monitor progress; to better inform operational decisions by measuring improvement; and to benchmark our buildings against similar projects, locally and globally.

The devices also offer a means for interaction with the building on multiple levels: visitors can 'see' the building's on-going performance on a physical device installed in the reception area in our Main Studio. Members of staff and other occupants can provide feedback on their experience, and building managers can view trends to make informed decisions to optimise the building – benefiting people, planet and profit.

The data covers five categories – Energy, Water, Waste, Transportation and Human Experience – in a way everyone can understand and relate to.

Our CSER Programme

The concept of sustainability has been embedded within Foster + Partners since the practice was born in 1967 and sustainable design is a critical aspect of the services that we provide. Our expertise in this area means that we have always actively sought to reduce and manage the impacts of our own operations. We also recognise that through our work as designers, the projects that bear our name have a direct impact on the communities that they serve and the wider environment.

Our CSER operational framework mirrors our project sustainability framework to ensure we practice in our own day-to-day operations the sustainability principles we advocate in our designs. This also allows us to transfer innovative ideas between project and operational teams.

Matthew Streets, Managing Partner, has overall responsibility for our CSER policy ensuring it is governed at the highest level.

Our Approach



Supply Chain

Our supply chain ranges from office supplies, technology and transport, to hotel accommodation and external contractors. Of all our supply chains, the flights and accommodation associated with our business have the largest environmental and financial impact.

2017 – 2018 saw us complete 14 projects across the world, from the west coast of the US to Hong Kong in the east, with work taking place in 46 countries. As our projects are global, there is a direct relationship between business activity and our transport footprint. Travel-related emissions, when measured against per unit of turnover, have increased at a relatively low rate. This is in part due to the increased use of video conferencing technology; something that we started monitoring in January 2016 to help track its impact on travel emissions.

Stakeholder Engagement

We engage with external organisations, our staff and suppliers to identify the significant impacts of our company and how we can best meet the needs of each relevant stakeholder. Foster + Partners is a member of and actively collaborates with the following organisations:

- UK Green Building Council (UKGBC)
- US Green Building Council (USGBC)
- Royal Institute of British Architects (RIBA)
- Chartered Institution of Building Services Engineers (CIBSE)
- Waste and Resource Action Programme (WRAP)
- Health and Safety Executive, Working Party Groups
- Centre for Window and Cladding Technologies
- TRADA
- British Standards Institute (BSI)
- New London Architecture (NLA)
- Confederation of British Industry (CBI)

Involvement with the United Nations

The Paris Agreement, ratified in 2016, creates a multi-dimensional framework for economies to implement carbon reduction policies. Recent Conferences of Parties (COPs) on climate change have marked a turning point, with improved participation in climate negotiations from non-government actors, including businesses.

This momentum continued at COP23 in Bonn (Germany) in December 2017, was strengthened by the 'One Planet Summit' held in Paris that same month, and is due to be further bolstered by the Global Climate Action Summit in California in September 2018 and in COP24 in Katowice, Poland at the end of 2018, which we are due to attend and share our research on the built environment and climate change.

Our deepening engagement with the United Nations is demonstrated through our continuous commitment to understanding what the Paris Agreement means for the built environment and sharing this information within the practice and the wider public. We do this via CPDs (our Continual Professional Development workshops that we hold for all our staff to attend), research, and participation in expert events such as the Living Future Conference.

Foster + Partners is a contributor to the debate on climate change and champions strong goals for the building sector.



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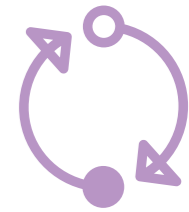
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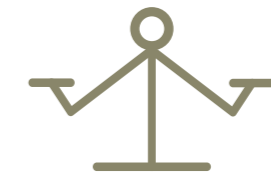
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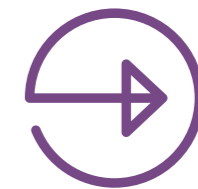
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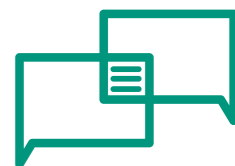
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1. Wellbeing



Approach

Foster + Partners aims to create an environment that allows our people to flourish and achieve their full potential. Our wellbeing programme is designed to protect and improve the environment for all building users, so they work in a healthy and positive space, feel supported whilst being challenged and developed, and can balance work with outside life. This will help us attract and retain a talented and ambitious workforce, who can thrive in their work.

2017–2018 Performance Highlights

The wellbeing programme is led by our Human Resources department, supported by Health and Safety, Facilities, and several diversity and social committees. This system is successful because it embeds wellness and inclusion across the business.

We continue to offer several wellbeing initiatives to support a healthy lifestyle for our employees:

Healthy Living

Workplace health and wellbeing strategies can promote and develop a healthy business culture that adds value to our employees' experience. We have a number of initiatives in place to support a culture of health and wellness. These include a variety of different therapies, health checks (blood pressure testing, glucose and cholesterol testing, weight, height and BMI, lung health, and stop smoking campaigns), appointments with our on-site therapist and a large variety of teams and clubs for staff to join to support and promote healthy living and wellbeing. Our Diversity Champions design and implement a number of events to educate, inform and develop a culture of inclusion.

As part of Mental Health Awareness week, we organised a range of activities and provided resources to staff, including a talk on mental health, the provision of information on our Employee Assistance Programme and general themes on improving mindfulness and resilience in the workplace.

Climbing, football, group fitness classes at a gym located only a few metres away from our campus, golf, and yoga are all popular with staff. We also support the organisation of annual events such as the 'Foster + Partners Football World Cup' and an in-house sailing regatta.

Finally, we have a number of healthy eating options in our staff canteen and we are planning to introduce a 100% vegan option to our menu.

Employee Assistance Programme

This programme is provided by Unum Lifeworks as an easy to access, confidential support service available to our staff. It offers our staff and their immediate family members a range of advice related to issues such as legal, bereavement, carers, stress, as well as counselling services.

The service is available 24 hours a day, 7 days a week by telephone or online and offers face to face counselling where appropriate.

Indoor Air Quality

We recognise that higher ventilation rates benefit our staff, as they reduce occupant health symptoms and increase productivity. On our campus, ceiling heights, air distribution systems and monitoring are different in each building, so we have adapted the ventilation rate requirements to each different

space, based on the ASHRAE 62.1–2010 Standard. We achieve good air quality by providing outdoor air ventilation to dilute internally generated contaminants, so they do not reach harmful levels and the indoor atmosphere is pleasant and calm.

Providing our staff with high-quality air is so important that we prioritise it over our buildings' energy performance (as providing better ventilation uses more power). Our commitment to good air quality is furthered through our exploration of new ways to measure quality. These new methods combine indoor air quality evaluations of carbon dioxide and total volatile organic compounds levels with perception (human experience).

Our ongoing data collection and regular review of potential new metrics allows us to improve quality continuously.



Regular health screening



Regular social events

Opposite: Health kiosk at a wellbeing event.



Assessing building experience

We provide a 'Human Experience score' which is based on three data points:

1. Occupant satisfaction
2. Interior carbon dioxide levels
3. Interior total volatile organic compound levels

By collecting this data, we can generate a score between 0 and 100 to help us compare our Human Experience performance over time, as well as with regional and global peers. Each data point contributes individually to the score and collectively offers the overall score for human experience.

Occupant satisfaction is determined using a survey we send to building occupants at least once every 12 months. They are asked, "how satisfied are you with the environment in the building?", rating their experience from 1 (extremely unsatisfied) to 10 (extremely satisfied). Anyone who is dissatisfied can provide more details to help our teams understand and tackle any issues. The score is calculated by taking the average satisfaction levels reported. The higher the overall satisfaction, the better the score.

Going Forward

Air pollution, be it indoors or outdoors, is a major environmental health concern as it can have serious health impacts, such as respiratory diseases. Our Materials Research Centre is currently looking at several "Red Lists" that have been developed specifically for building materials. These lists are typically developed from chemical hazard lists published by government agencies, such as the United States Environmental Protection Agency and the European Union Commission on Environment. Our goal is to explore how we could use these to introduce better procurement policies for green cleaning and small fit-out or construction works on our campus.

To gain a better understanding of the impact of improved air quality we are developing software tools which will allow us to manipulate and interrogate the air quality data we have been gathering and use this to explore the relationship between air quality and staff perception.

Opposite: Indoor air quality analysis.

2. Community Impact



Approach

We can conceptualise our community impact economically and socially, and we have a positive impact in the local area and wider community from both angles.

2017–2018 Performance Highlights

Economic contribution

Foster + Partners contributes to the local economic dynamic in regions where the practice has established sites, as well as in suppliers' labour pools. Theoretically Foster + Partners' employment footprint should be calculated at three levels:

1. Direct jobs, which take into account the group's paid employment;
2. Indirect jobs, which take into account employment generated by purchases of the practice among its suppliers and subcontractors; and
3. Induced jobs, which take into account employment triggered by purchases within the local economy made by direct employees of the practice through the wages they receive and by the employees of Foster + Partners' suppliers.

Foster + Partners' projects from overseas generate 87% of the company's revenue, highlighting the global nature of our business and our contribution from overseas to the UK's economy. This is realised through our substantial tax contribution from our business, our UK supplier spending, and our salaries that are spent largely on rent – and with a substantial further amount within a close radius to our employees' addresses, a large proportion of which are within 2km of the campus. We are also a significant employer in Wandsworth, employing 1,300 people.

Opening the studio and outreach

We opened the doors of the studio to the community in September 2017 as part of London's Open House initiative, welcoming over 2,000 visitors and enabling them to explore concepts around sustainable design in an interactive exhibition. Also in September, we welcomed 800 walkers from Maggie's Culture Crawl – a sponsored overnight walk along the Thames to raise money for Maggie's Centres which provide cancer support – to the studio for snacks and a cultural exhibition.

In November, some of our architecture staff attended the annual dinner at Providence House

Youth Club – a local community youth centre – to talk about architecture and encourage it as a potential career choice for the young adults attending.

This year we donated our Christmas card budget to the Crisis at Christmas campaign, to support the charity's efforts to provide services for homeless people.

In April we started working with pupils from Arnhem Wharf Primary School in Tower Hamlets for the Open City: Architecture in Schools programme, organising discussions about architecture followed by model workshops, at the end of which the pupils are to submit a model and portfolio to an inter-school competition.

And in May 2018 we hosted a CIBSE Young Engineers Network (YEN) event at the studio – where Andrew Jackson, Senior Mechanical Engineer and Partner, presented to young engineers on exciting future trends in building design, looking at disruptive technologies including artificial intelligence, robotics and biotechnology.





3. Energy and Carbon

Going Forward

Foster + Partners has chaired a Trailblazer Group of 20 architectural practices to create the UK's first Architecture Apprenticeship Standards, in collaboration with RIBA, ARB and over a dozen UK universities. The group has developed two apprenticeship standards: Architectural Assistant, which comprises of Part 1 qualification, and Architect, which includes Part 2 and Part 3 qualifications. Both these standards have now been approved by the Institute for Apprenticeships.

Approach

Our goal is to continually reduce our energy consumption and carbon emissions, both absolutely and in terms of consumption per unit of growth.

2017 – 2018 Performance Highlights

We purchase renewable energy to cover our entire campus' electricity use, and Foster + Partners are proud to be a member of the RE100 initiative. We have continued to push initiatives to use energy across our campus more efficiently, through acquiring and interrogating data more effectively. As well as this, we are continuing our outreach efforts to share our vision of net-zero carbon buildings and cities.

Context

The built environment is responsible for about one-third of the world's final energy consumption and one-fifth of global greenhouse gas emissions. This proportion is set to rise dramatically as emissions contract towards parity across nations – i.e. developing nations increase their living standards – by 2050.

Building energy use has continued to increase this century, increasing by 20% since 2000.

Population growth, urbanisation and improving economies are continuing to drive the demand for new buildings and energy consuming devices.

This has been recognised as a significant issue and throughout the world, countries and markets have started to change this relationship by improving the efficiency of their buildings and setting challenging goals for building energy performance.

Worldwide, governments and regulators are setting new targets for building energy performance, all with a variety of titles:

- Net Zero Energy (NZE)
- Nearly Zero Energy Buildings (nZEB)
- Very Low Energy Buildings (VLEB)
- Net Zero Carbon (NEC)
- Zero Emission Buildings (ZEB)

Sharing our knowledge

In our previous CSER report we committed ourselves to exploring our involvement in other organisations. This led us to engage more actively with the World Green Building Council and the International Living Future Institute.

The World Green Building Council is a global network of national Green Building Councils that have shared interests and encounter similar challenges and opportunities.

The International Living Future Institute is a non-profit organisation working to build an ecologically minded, restorative world for all people.

We shared with these two organisations, and several individual national Green Building Councils, our vision of net-zero carbon buildings and cities, which is based on the targets of the Paris Agreement. Now we are discussing how this vision aligns with the next generation of green building assessment tools.

Improving our campus

While we source all of our electricity from renewable energy, it still makes sense to assess our energy use and look for areas of improvement in saving the energy we use. We are looking to both improve and better display the data we receive from our energy meters.

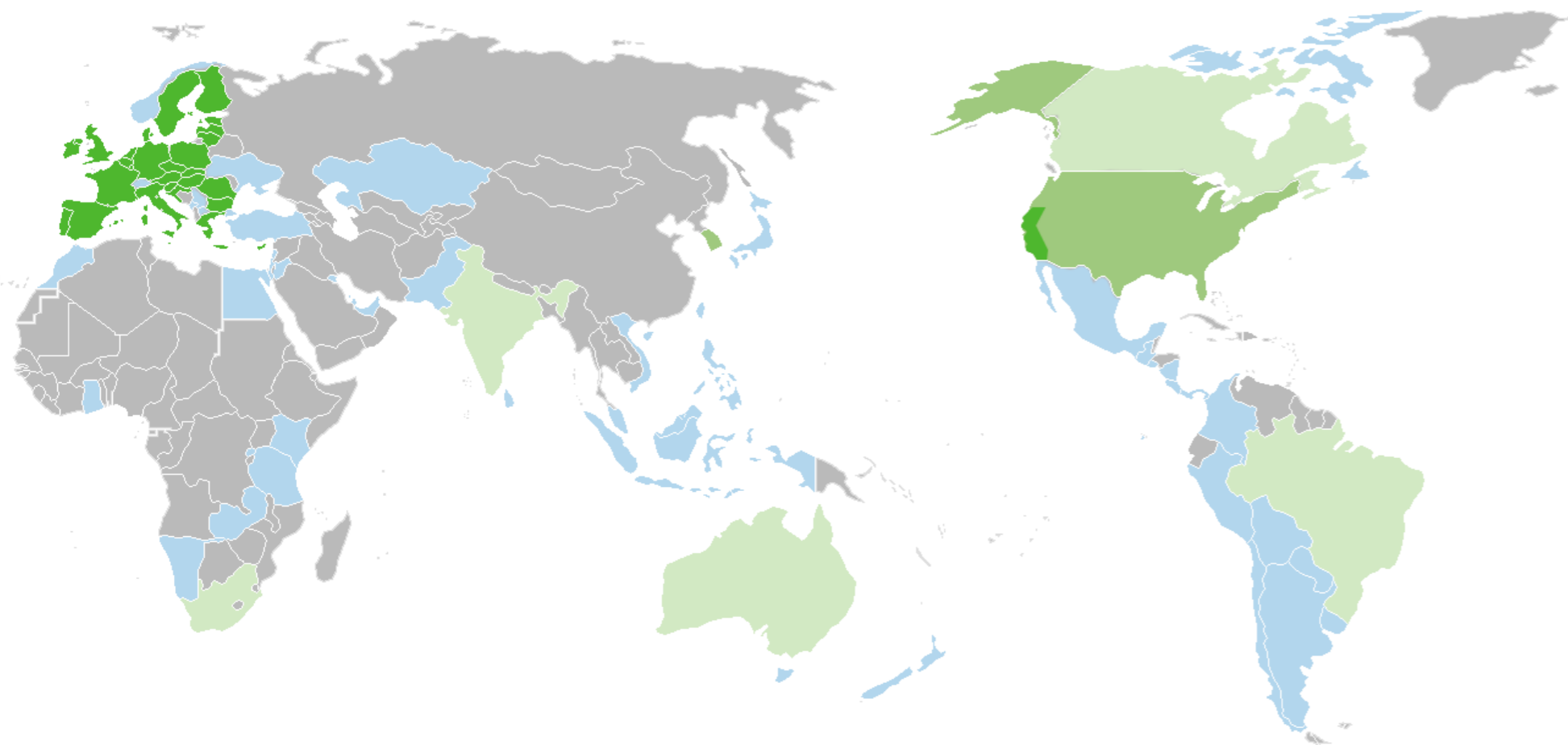


Foster + Partners Campus Energy Use Intensity is 349 kWh/m²/year¹.

3. Energy and Carbon



The map shows nZEB engagement and targets on a global scale.



Key

- Dark Green** New nZEB by 2020 (average)
- Medium Green** New nZEB by 2030 (average)
- Light Green** Creating a net-zero certification (timing in development)
- Blue** Green Building Council member (guidance will be developed)

Source: WGBC From Thousands to Billions Coordinated Action towards 100% Net Zero Carbon Buildings By 2050

Going Forward

We are looking at increasing the overall energy performance of our campus by acquiring new boilers with higher energy performance ratings, as well as installing LED lighting on our Main Studio ground floor. By harnessing data on energy use and other sustainability metrics, we are developing a tool to visualise in 3D our campus' performance to provide us with a more intuitive way to view information and inform our decision-making.

We are purchasing an electric van to carry out operations that are currently done by conventional internal combustion engine vehicles, such as transporting staff and materials to and from the campus to our workshop site east of Battersea Park.

4. Water



Approach

Water is a limited resource, and typically most of a building's water passes through the building and off site as wastewater. This pass-through system reduces stream flow in rivers and depletes freshwater aquifers, causing water tables to drop and wells to go dry.

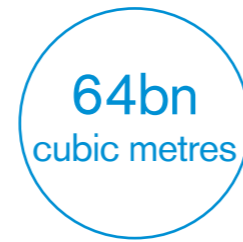
By collecting, managing and benchmarking performance data related to water-use, we now have a clear picture of how water strategies are affecting the campus' performance in this area.

As with energy, we compare our water performance to other buildings across our portfolio in London, the UK, and globally.

2017–2018 Performance Highlights

In our broader work, we understand that scarcity of potable water is quickly becoming a serious issue, as many countries around the world face severe shortages and compromised water quality. Even regions that have avoided these problems due to a historical presence of abundant fresh water are at risk: the impacts of climate change, highly unsustainable water-use patterns, and the continued drawdown of major aquifers portend significant problems ahead. Designing water-responsible buildings and developments is therefore an important goal, and we have this year learned from design projects in densely

populated countries incorporating Sponge City principles, where ecological strategies to mitigate flooding are employed, alongside supply collection and re-use strategies – in projects in India and China.



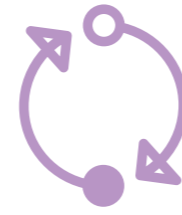
Increase in freshwater demand worldwide every year



Going Forward

We will now develop and share a plan to better engage with building occupants, so we can conserve water and start exploring restoration strategies. We will focus on innovation within our supply chains to conserve or capture more water. As well as working on visualisation methods to display our water use more effectively, we are looking to install aerators in our on-campus showers to save water. We will look to how our knowledge gained from developing sustainable water strategies in our projects can be employed to further boost water sustainability on our campus.

5. Resources



Approach

The topic of materials is one that spans every phase of a building's life cycle. It includes considerations about construction waste, specifying materials for the building's structure in the design and construction phase, making green cleaning choices while the building is in use and determining what happens to the building in the demolition phase.

We are implementing a long-term, waste and material consumption strategy which will progressively adopt the principles of the circular economy (reducing, reusing, recycling and transitioning to circular solutions).

Our aspirational goal is to be 100% zero-waste-to-landfill by 2020. Our strategy for this is threefold: simplify waste strategies in the office to encourage less cross-contamination, look at alternative materials for the next largest volume of waste (cutlery and containers in our canteens and coffee bars), and investigate new waste management providers to see if we can increase the percentage of our waste that is recycled through better data.

2017–2018 Performance Highlights

Coffee cups

Non-recyclable paper cups from our canteen and coffee bars have historically stood out as the highest volume of waste in our general waste stream. To improve our recycling rates, we replaced these unrecyclable beverage containers with compostable ones. However, we have recently discovered that inadequate composting facilities in England mean that despite being compostable, many of these cups still end up in landfill. We recognise the conclusions of the Environmental Paper Network's Cupifesto and join this international coalition of 140 environmental and social NGOs from 28 countries (which include Greenpeace, WWF and Global Witness) in their call for an end to the throwaway culture.

As biodegradable, disposable coffee cups require specialist facilities to deal with them correctly, and because they encourage a "single-use" culture, we have begun investigating ways to replace our compostable cup with alternative solutions. We have undertaken a thorough review of reusable cups and are currently exploring the best way to implement this alternative system.

Recycling

This year we partnered with a new waste management provider, who will help us increase the percentage of our recycled waste through a better tracking and data collection system. The new provider supplies closed-loop recycling solutions alongside targets to improve the carbon intensity of its operations, and donates regularly to environmental-based charities. We also provided new bins in all office spaces that help staff to segregate waste more effectively.

Reducing plastic

We are now partnering with a third-party organisation to transform waste from acrylic boards used in our model shops into traffic cones. Although small in numbers and weight, this is significant as acrylic plastic cannot be recycled easily. It is considered a Group 7 plastic, which means in normal recycling facilities it would get treated as waste, not a recyclable material.

Going Forward

One-planet living means not only seeking to reduce our own consumption, but also mobilising against systems that promote unsustainable behavioural patterns. We will now focus on implementing meaningful change by developing tools to understand our waste footprint to aid further reduction and report our performance regularly to staff, all helping with our aim to become a zero-waste-to-landfill practice by 2020.



Opposite: In-house print facility at the London office.

6. Mobility and Connectivity



Approach

Mobility and Connectivity evaluates how people move around the campus, and how they connect to the local area via different methods of transportation.

2017–2018 Performance Highlights

We have opened a cycle repair station on our campus to offer our cyclists a free facility where they can repair their bikes. This will keep our cyclists on the move with minimum disruption in the case of any faults, and also support their safety in the form of well-maintained equipment.

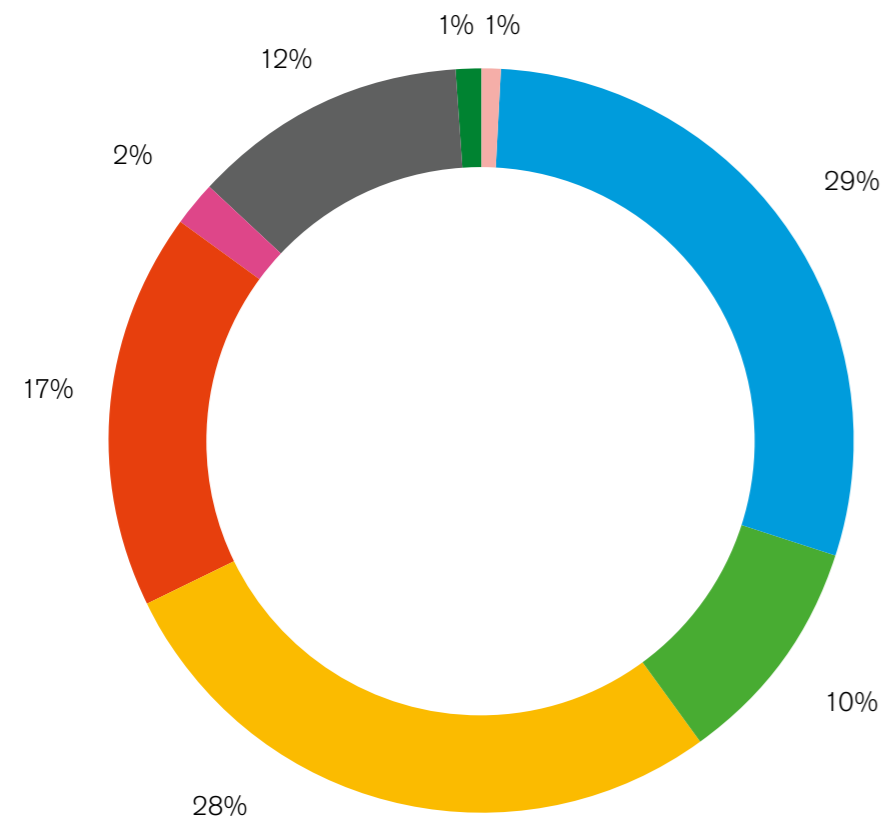
We have maintained our commitment to free bicycle maintenance sessions which benefited more than 250 members of staff this year.

Transportation highlights

In 2017–2018 we started collecting a detailed account of our staff's commuting habits. We are delighted that our current travel patterns show that 55% of our staff use public transport to travel to work, 29% of our staff walk or cycle to the campus and only 14% use a car to commute to work. Around 1% of staff carpool and 1% use fully electric vehicles.

We now intend to collect this data and use it to better understand opportunities for behavioural change, to see if we can get more of our staff cycling or using lower-carbon transport options.

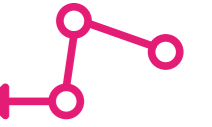
Our modals split



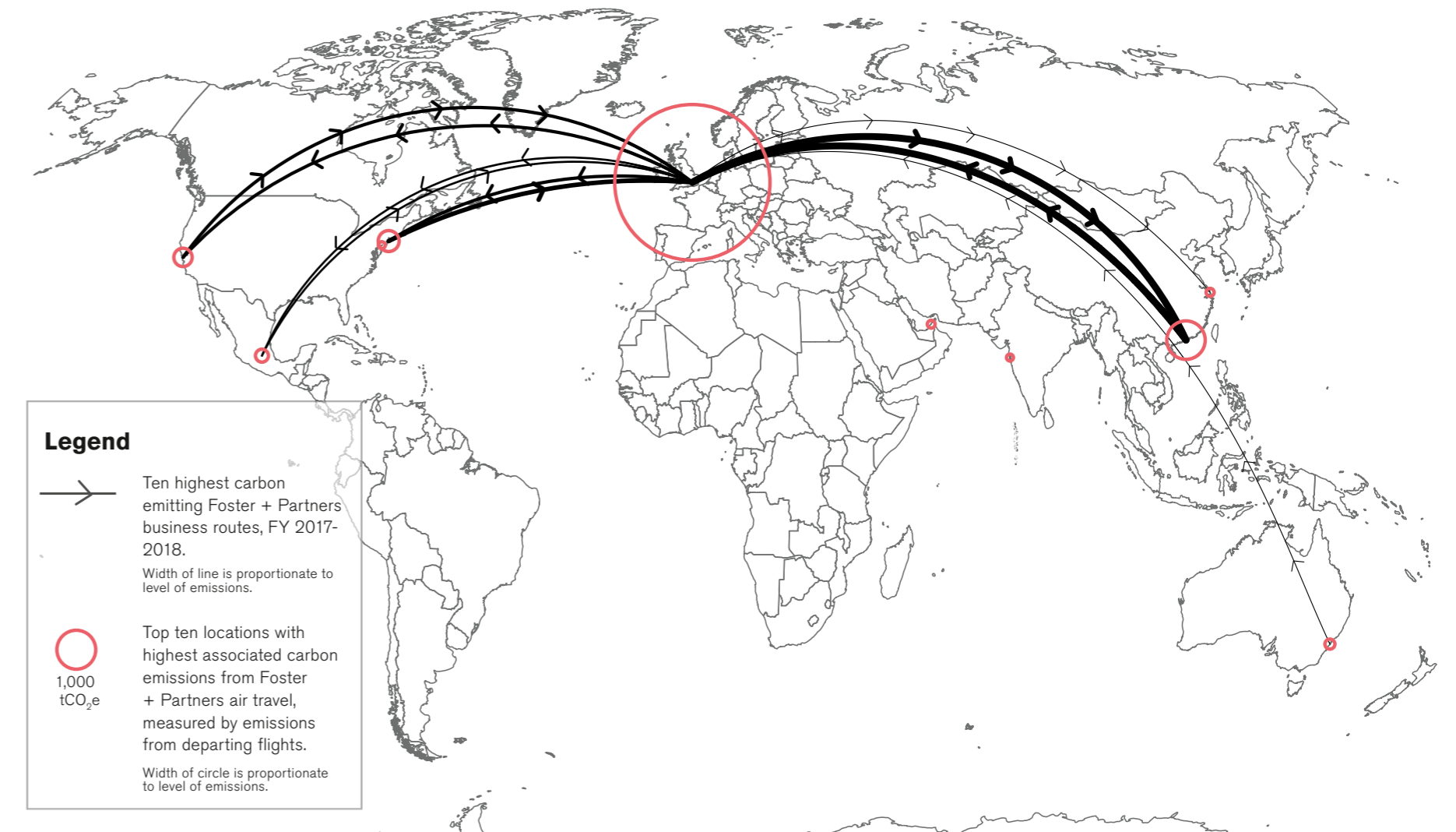
Key

- █ Walk/bike/telecommute
- █ Bus
- █ Tram/light rail
- █ Heavy rail
- █ Motorcycle/scooter
- █ Car: solo
- █ Carpool: 2–3 people
- █ Car: alternative fuel

6. Mobility and Connectivity



Carbon Emission Analysis of Business Trips FY 2017-2018



Legend

- Ten highest carbon emitting Foster + Partners business routes, FY 2017-2018. Width of line is proportionate to level of emissions.
- Top ten locations with highest associated carbon emissions from Foster + Partners air travel, measured by emissions from departing flights. Width of circle is proportionate to level of emissions.

Air travel carbon emissions

We have illustrated our air travel carbon emissions footprint, highlighting both the flight routes that have the highest cumulative carbon emissions (number of flights and emissions intensity of route) and the locations that have the largest proportion of emissions associated with travel departing from that destination.

The thicker lines represent the routes with the highest cumulative emissions over the financial year. A large proportion of Foster + Partners' flight emissions footprint is associated with flights

arriving and departing from London, and connecting London and Hong Kong, London and New York and London and San Francisco.

We are looking at how to lessen our flight impact. As well as continuing to track out flight emissions footprint, and encouraging staff to fly only when strictly needed, we are investing in improved, easy-to-use teleconferencing facilities in our meeting rooms to offer workable alternatives to travel.



Going Forward

We will define criteria to better understand potential trips made by car to see how many of these could be walked or cycled instead. We will also install new charging stations in the car park, to encourage members of staff to switch from internal combustion engines to fully electric vehicles. Also, our new teleconferencing system is being rolled out to meeting rooms later this year.

Opposite: Cyclist fixing a bike at the cycling repair station.

7. Land and Ecology



Approach

Land and Ecology focuses on protecting and maintaining the ecosystems and natural habitats within and surrounding our campus boundaries as well as beyond our campus through the effects of our procurement. We have an impact on the natural environment directly through our own on-site activities, and indirectly through the harvesting and manufacturing of products we purchase from our suppliers. In order to reduce the environmental impact of the products and services, we procure with a green conscience and work with our local community to ensure that our surroundings are well maintained.

2017–2018 Performance Highlights

This year we undertook a BiodiverCity® assessment of our campus, this is a Green Building Rating system which complements Green Building certifications and highlights biodiversity features for our consideration (without necessarily adopting an in-depth assessment of them).

Through the BiodiverCity® assessment, we identified urban farming as an initiative that could contribute positively to our local ecosystem, improve the aesthetics of our campus, and provide sustainable food for our canteen and neighbours. To facilitate this, we selected two possible areas in our campus where we can test urban farming strategies.



Going Forward

We will explore the amount of food that could be produced and the kind of urban farming strategies that could be implemented in the two identified areas. We will then engage with our neighbours and the local authorities, to understand the initiative's feasibility.



8. Social Equity



Approach

Social Equity aims to ensure prosperity without exclusion, achieving added value through design optimisation and performance.

2017–2018 Performance Highlights

Gender pay gap

From 2017, the UK government has asked organisations with more than 250 employees to calculate and publish their gender pay gap annually, including data on the mean and median gender pay gap relating to both salaries and bonuses, the proportion of men and women receiving a bonus, and the various proportions of men and women in the quartile pay bands.

In 2017-2018, we have conducted our first analysis looking at the gender pay gap according to the UK government's rules.

At Foster + Partners men and women are paid equally for doing equivalent jobs across the practice. We believe in creating an inclusive working environment for all, which is based on merit and encourages our talented team to produce their best work. As of 5 April 2017, our median pay gap was 10.5%. Our mean pay gap on the same date was 23.8%. This is because our practice currently has more men, with longer service, in senior higher-paid roles within the practice. Women are approximately 35% of our total workforce, representing 20% and 34% of staff in the two highest-paid quartiles respectively; over the past five years we have been actively encouraging more diversity at a senior level and have promoted more women to Partner and Senior Partner levels as well as appointing the first woman to our Management Board.

While women are over-represented in the two lowest-paid quartiles, this is largely the result of our efforts to improve balance between genders within the practice by increasing the number of women we hire: when people join the practice (which is typically early in their careers), our objective is to achieve an equal balance between genders. The practice understands that this is a complex issue and that it will take time to achieve the right balance. We are committed to closing the gender gap and ensuring diversity and inclusion at all levels.

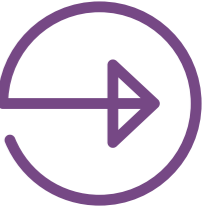
Equal opportunities

This year Foster + Partners became the first major global architecture studio to commit to change in the light of the Move the Needle campaign initiated by Dezeen.

As an equal-opportunity employer Foster + Partners is committed to addressing diversity and providing appropriate career opportunities for everybody. We appreciate the importance of creating an inclusive culture and believe that it is key to running a successful business. To facilitate this, Foster + Partners launched the 'Diversity in Practice' initiative with the introduction of the Diversity and Inclusion committee chaired by Matthew Streets, Managing Partner, and Charlotte Sword, Global Head of HR, and supported by 'Diversity Champions'. The Champions are senior colleagues who are ambassadors for Diversity and Inclusion. This has led the way for diversity forums and events to celebrate and educate in all areas of inclusion. An example of this is the first practice Pride Celebration we plan to have this year.

Foster + Partners also partnered with and helped support the Architectural Review's Women in Architecture campaign, as well as carrying out a benchmarking survey to help aid the campaign.

Opposite: Celebrating diversity in the Practice.



9. Planning for Change

Going Forward

At Foster + Partners, we are encouraging more of our women into leadership roles to improve diversity at senior level, and this is supported by our leadership development programme. We are aware there is more work to do and we'll be actively participating in the Women in Architecture Forum and the Move the Needle initiative, as well as developing our mentoring, leadership and career opportunities and practice diversity engagement forums and events.

Approach

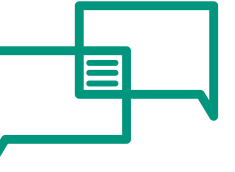
Planning for Change encourages future thinking in the design process covering issues like climate change, certifications and technological developments.

2017–2018 Performance Highlights

Addressing climate change, and also responding to the effects that climate change will bring, means that buildings need to be designed to be low carbon in both operation and in terms of the embodied carbon dioxide associated with their construction – as well as being resilient to future climatic changes.

We have been carrying out research to understand whether the top scores available from green building

rating systems produce buildings that are compliant with the aims of the Paris Agreement. We aim to synthesise this thinking in an approach to push our most sustainable projects even further, and to add a new category in our project tracking system to represent projects that are in line with the emissions reductions needed to keep the global rise in temperatures to 2°C.



10. Feedback

Approach

Feedback is concerned with a range of data collection and engagement issues, and how this information can be used to improve design and operations.

2016–2017 Performance Highlights

Last year we introduced the Arc system to enable data on our Energy, Water, Waste, Transportation and Human Experience performance to be displayed to all staff in an intuitive and easy-to-understand manner.

This year we have begun developing tools to enable our energy and performance data to be displayed intuitively in a 3D environment,

to offer more effective feedback on our operations.

This will build on similar work and tools we use for our projects to demonstrate design decisions in 3D in real-time: offering designers the means to obtain instant feedback on design decisions and how they affect energy use, proportion of renewable energy generation or water use associated with a project, among other metrics.

Developing these performance visualisation tools will build on other work we have done to improve our data collection, analytics and communication methods, including installing more daylight and air quality sensors; extracting better data from our electricity meters; and looking for ways to improve energy and resource efficiency and thus, the office environment.

Going Forward

We will continue to develop our methodology towards progressing zero-carbon buildings, and look at how to adequately account for other ecological impacts from our projects, through a broader eco-footprinting approach to more holistically capture our projects' impact on the environment.



Going Forward

We will continue to refine our understanding of our processes and operations by developing our 3D Campus Viewer tool so it can effectively display our estate and visualise its performance, and we will install more sensors to gain a clearer picture of our campus' performance.

Opposite: Norman Foster and Grant Brooker at the Graduate show.

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