



**BROWN &  
CARROLL  
LONDON**

**ENVIRONMENTAL  
REPORT  
2015//**



*“Our ambition is to consistently achieve the best environmental performance in our industry”*

Paul Carroll

This is Brown & Carroll's second environmental report. It spells out our commitment to achieve a leading environmental performance, reflects on our progress, and sets out our future aspirations.

Doing business in a sustainable way is something that we've long been passionate about. We were one of the very first to gain FSC® certification in 2004, at a time when sourcing timber from sustainable forests was far from easy. And continuing to care for our environment is a real commitment that we take very seriously.

The move to our new factory at the end of 2010 enabled us to step up to a new level of environmentally friendly technology. Our investment in a biomass boiler, for example, is now saving over 300 tonnes a year of wood off-cuts and dust from having to go to landfill.

Our ambition is to consistently achieve the best environmental performance in our industry.

We aim to do this in three related ways:

- by supporting our clients' own corporate and social responsibility goals
- by running an operationally efficient, profitable and sustainable company
- by doing all we can to minimise our impact on the environment

2013 and 2014 were two successful years of good growth for Brown & Carroll. We completed many major high profile projects, including fitouts at the Olympic Athletes' Village, Tate Britain, One Hyde Park and Three Quays. Yet despite this good growth, we've been able to reduce many of our environmental impacts such as wood waste to landfill and the amount of fossil fuel used for heating.

As we think beyond environment to wider sustainability issues, we've also added into this report some news about our contributions in other important areas. One major new development is our partnership with Time 4 Trees – a national tree planting initiative dedicated to creating the woodlands of the future. You can also read about our continued support of apprenticeships, a road safety initiative for cyclists, charitable activities and other local community projects.



# FITTING OUT LONDON'S FINEST BUILDINGS AND INTERIORS

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We transform the spaces where others live and go to work – enabling architects to bring their designs to life, contractors to deliver business-critical projects on time and budget, and end clients to create perfect business and living environments. We do it by producing some of the most beautiful, bespoke and practical joinery anywhere in the world.

Ours is a no fail business. We do whatever it takes to have all the resources and staff in place to turn drawings fast into manufactured units of the highest quality – and we're proud that we've never missed a handover date in over twenty years. But we also understand the importance of financial stability to our clients. So we work just as hard to maintain our sound financial position with a strong balance sheet and first class credit rating.

Our close-knit, award-winning team of loyal, highly skilled and motivated people are routinely asked for by name by our clients, time and time again. Many of our total workforce of around 120 full time people, including project managers and foremen, have been with us since we started in 1993. We also run active apprenticeship programmes to help develop new generations of tradesmen.

We're certified members of the following major schemes. They guarantee our commitment to supplying timber products that comply with rigorous, audited procedures:

- The Forest Stewardship Council® (FSC®)
- Programme for the Endorsement of Forest Certification (PEFC)
- The Canadian Standards Association (CSA) Scheme
- The Malaysian Timber Certification Council (MTCC) Scheme
- The Sustainable Forestry Initiative (SFI) Scheme USA

We're accredited and work to these standards through our integrated management system:

- ISO 9001 – 2008 (quality)
- ISO 14001 – 2004 (environment)
- OHSAS 18001 – 2007 (health and safety)
- Achilles (Building Confidence certificate of accreditation)
- SSIP (Safety Schemes in Procurement)

*“We’ve been  
FSC® certified  
since 2004, when  
sourcing timber  
from sustainable  
forests was far  
from easy”*



# REVIEW OF ENVIRONMENTAL PERFORMANCE

## The move to our new factory

Back in 2005, we started our search for a new consolidated site where we could create the best specialist joinery facility in the UK. We wanted a highly efficient manufacturing layout where everyone could work in the best possible surroundings and with the right amount of space.

We knew that a traditional factory building would suit both our still largely traditional manufacturing and highly skilled workforce - and we found such a building at Honeywood Road. Built in the 1960s as a coach works before becoming a printing facility, the ideal layout for our processes was clear to see. All that was needed was some imagination and a plan.

What followed was a complete refurbishment, as well as the addition of modern technology for our recycling, heating, lighting, IT, security and fire protection systems. We now believe we have the best of both worlds – bringing proven tradition into a state-of-the-art new home where the next generation of commercial fit outs and fine interiors are being designed and created.

## Progress against our goals

In our 2011 environmental report, we set ourselves a number of goals. Here's the progress we've made so far:

**//GOAL:** TO COMPLETE THE BENCHMARKING IN OUR NEW FACTORY BY MARCH 2012

We now measure all the wood waste that's combusted in our biomass boiler, and we're in the process of assessing the volume of dust we generate and combust. We know the amount of waste we send to landfill (less than 2%). We also know how much power we're using and saving.

**//GOAL:** TO SET IN PLACE A NEW ACTION PLAN FOR REDUCING OUR IMPACTS BY SEPTEMBER 2011

We have an action plan in place, and have already made progress on some items including reducing our reliance on natural gas for heating, and reducing electricity consumption by installing eco gates on woodworking machinery.

**//GOAL:** TO DEMONSTRATE A CARBON NEUTRAL POSITION BY DECEMBER 2011 / TO BECOME CARBON NEGATIVE BY MARCH 2013

After looking closely at available schemes for carbon offsetting and trading, we found it difficult to find one that would allow us to make a significant difference in the UK. We also listened carefully to the views of our clients. In the light of all this we decided to take a direction that we believe will be more practical and effective. The result is our tree planting partnership with Time 4 Trees – see pages 7/8.

**//GOAL:** TO WORK WITH OUR CLIENTS AND SUPPLIERS TO ENSURE ENVIRONMENTAL IMPACT OF THE WHOLE SUPPLY CHAIN IS MINIMISED

We make sure all our projects are carried out in line with and meet the assessment standards of:

- the BREEAM design and assessment method for the code for sustainable homes
- BREEAM office
- the LEED green building certification program
- the RICS-operated SKA environmental assessment rating tool for sustainable fitouts

We do this even if the project doesn't require it at the time – making sure that all the elements we install meet our own environmental standards and would allow the client or end user to achieve a credit rating for the building using the environmental record we provide.

### Energy – heat

All of our wood waste is now combusted in the on-site biomass boiler in which we invested in December 2010. It now generates all the hot water for our factory and welfare facilities, all the heat for our spray booths, and all the underfloor and blown air heating for our factory and offices. As well as significantly reducing our energy and running costs, this investment has reduced our reliance on natural gas by 308,000kWh per year and our annual greenhouse gas emissions by 57 tonnes.

### Energy – equipment and appliances

As well as transferring all of our machinery and equipment from our previous factory to our new site, we've installed new electrical appliances such as extraction fans to remove dust from our factory, and new spray booths, heated by our biomass boiler, to spray paint and lacquer onto joinery.

In May 2013, we installed eco gates on all of our factory woodworking machinery. These automatically shut gates in the dust extraction ducts when machines aren't being used. We also fitted an inverter to the main 75kW extraction fan. Pressure sensors 'talk' to the inverter and reduce the fan speed according to how many woodworking machines are active. Instead of running at full design speed regardless of how many (if any) wood working machines are being used, this modification means that the main fan only operates at full capacity if it needs to. The net result is a 12.5% drop in our total electricity usage since making the change – a huge reduction in consumption and carbon emissions.

### Energy – lighting

High quality lighting plays a critical part in ensuring the high quality and finish of our products. Greatly improved natural lighting levels were an important factor in the choice of our new factory. Since our move, we've also installed motion-sensitive PIR switches to lighting in our offices and toilets.

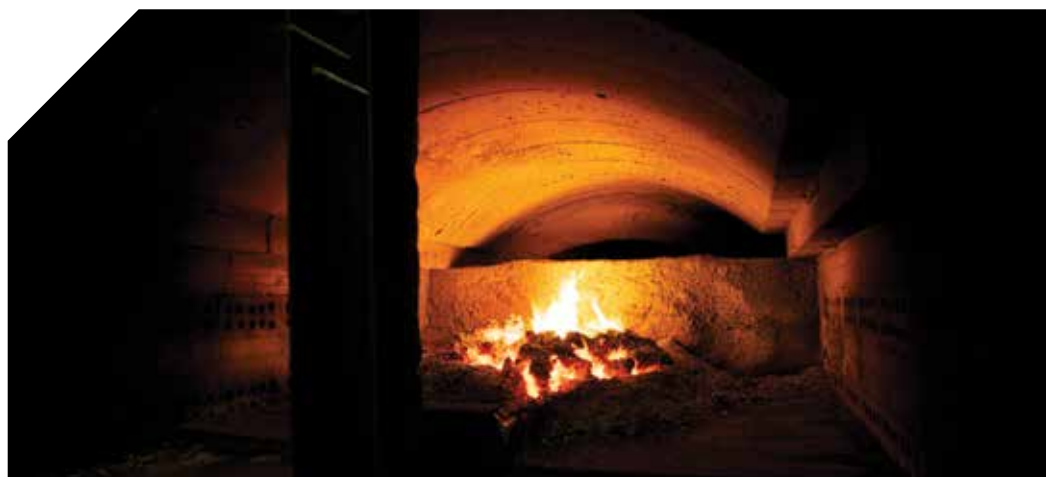
As a next step, we're planning to commission automatic daylight switching using light-sensitive photo cells for the high bay lighting in our main factory area - a move which will reduce our lighting usage on sunny, well lit days.

*To read more about how we manage and reduce our energy consumption, see pages 11/12 – Spotlight on energy*

### Waste

Since moving to our new factory, we've been monitoring our waste with the aim of further reducing the amount we generate. Less than 2% now goes to landfill – down from 3%. We're achieving this by continually managing all our waste streams separately through recycling and re-using materials wherever practicable.

***“All of our wood waste is now combusted in our on-site biomass boiler”***





***“Less than 2% of  
our waste now goes  
to landfill”***

We're also optimising the amount of timber usage from board and solid materials through careful joinery design, the increased use of CNC machinery, and collected data. Even after increasing our productivity, this has allowed us to reduce our timber waste from 500 to less than 300 tonnes per year. All this wood waste, in the form of off-cuts which would have previously gone to landfill, is now combusted in our on-site biomass boiler to generate our own hot water, factory heating and heat for the spraying and drying processes in our spray booth.

*To read more about how we manage and reduce waste, see pages 9/10 – Spotlight on waste*

#### **Transport**

Since many of our clients are in central London, our location in Basildon just thirty miles away means that the large majority of our journeys are short ones. We've operated our own modern fleet of vehicles, all Euro 4 diesels, since 2007. These generally travel full to our larger client sites, or are loaded as multi drops for smaller project deliveries wherever possible.

In April 2014 we gained accreditation to the FORS Fleet Operator Registration Scheme. Monitored by the RTA, it's designed to improve HGV operational standards and protect vulnerable road users like cyclists. In July 2014 we also installed 360° surround view camera systems on all our 4.5 tonne vehicles.

#### **Timber and adhesives**

The timber products that we buy and use come from sustainable sources. 97% are from FSC® chain-of-custody certified (CoC) suppliers, while 3% are from PEFC CoC certified suppliers. This allows us to use our own CoC certification to maintain a full chain of custody to our clients, enabling them to meet the BREEAM and LEED requirements on their projects.

We also use and actively promote only class E1 MDF which has  $\leq 8$  mg/100g formaldehyde content. Since our last report we've introduced low urea formaldehyde resin adhesive for hot pressed veneer panel fabrication, and we're now using this across the board.

#### **Paints and lacquers**

The hazardous nature of paint and lacquer waste and emissions is reducing as suppliers use more innovative, water-based methods of production. Our own use of water-based paint for priming has significantly increased, as has our use of pre-primed timber using water-based paint. We're committed to keeping abreast of new developments so we can advise on and offer different options including the very latest in low VOC paints and lacquers or water-based alternatives. This will include working alongside our supply chain and adopting the new future water-based paint options as soon as the technology is proven, viable and available.





## TIME 4 TREES – TIME TO PUT SOMETHING BACK

As a business that relies on and uses a natural resource, we've always aimed to do all we can to keep our impact on the environment as low as possible. But we've also felt for some time that we wanted to do a lot more. We were looking to make a bigger contribution to help protect important areas of ancient woodland and replace trees. Our thinking was simple. Putting something back is just the right thing to do.

So we spent time looking for the right tree planting programme that we could actively support. There were many sponsorship and credit schemes to choose from. But we wanted something solidly down to earth, practical and proactive. Ideally we wanted to be able to see real results on our doorstep in Essex and London, so we'd know where the trees were and how they were being looked after. We wanted to do far more than just handing over some money and getting a nice logo.

We found the partner we were looking for in Time 4 Trees. They set up an independent tree planting programme in 2006 in the face of a downturn in UK planting projects and severe threats such as ash dieback. Now, as growers and suppliers of indigenous forestry trees, they're committed to placing a million saplings every year into the locations where they're needed most. They do it through an extensive national network of registered planting partners – the tree wardens, wildlife trusts, conservation groups, community projects, farmers and rural landowners who are creating the woodlands of the future, but who need help with funding. And that's where we and other contributors come in.

***“We’ve funded the planting of 2500 indigenous trees in 2013 with a further commitment to fund the planting of 6,000 more trees”***



Our partnership with Time 4 Trees began with their 2013 programme. We've funded the planting of 2500 indigenous trees in 2013 on land owned by the Essex Wildlife Trust as part of the Time 4 Trees living legacy tree programme. The trees are sited at the Abberton Reservoir nature reserve - a wetland site of international importance for wildfowl that's visited by up to 40,000 ducks, swans and geese every year.

In 2014, we've continued to monitor our usage of timber – currently running at just over 1000m<sup>3</sup> per year – with a further commitment to fund the planting of 6,000 more trees. This is based on our aim to plant six trees for every cubic metre of timber we use as part of the UK reforestation programme.

Another planned future development will be to dedicate areas of planted woodland to specific clients who like the idea of being connected with our tree planting programme.

All Time 4 Trees plants are backed up with fully audited traceability, FRM certificates and regular Defra/Fera plant health inspections. 10% of all the sponsorship money they receive is invested into UK renewable energy projects. These in turn generate revenue for educational projects and new planting projects including flood mitigation. Their work is helping to combat climate change, reduce carbon emissions, rejuvenate our rural landscapes, provide new wildlife habits and create a living legacy for future generations. It's good to be associated with a programme as important and imaginative as this – and the perfect way of putting something back.

*“We wanted to do far more than just handing over some money and getting a nice logo”*

Steve Brown



## CASE STUDY SPOTLIGHT ON WASTE

### Waste

We do all we can to minimise and recycle the waste that we produce as a business. Less than 2% now goes to landfill – achieved by continually managing all our waste streams separately through recycling and by re-using materials wherever practicable.

Optimising our use of timber through careful joinery design, the increased use of CNC machinery, and collected data has allowed us to reduce our timber waste from 500 to less than 300 tonnes per year. All of this wood waste, in the form of wood off-cuts which would have previously gone to landfill, is now combusted in our on-site biomass boiler to generate our own hot water and heating.





To keep our biomass boiler operating at optimum capacity and fully meeting our heating needs, we've entered into partnership with five local joinery businesses to take and combust their timber waste and packaging. This helps them reduce their own waste to landfill and environmental impact, as well as giving them the added bonus of lowering their waste removal costs. We also removed and combusted excess wood from the Olympic Athletes Village project in which we were involved.

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We work throughout our supply chain to constantly look for and put into effect new ways of managing and reducing waste. This extends from timber, paint and lacquer suppliers to waste contractors and clients – whom we aim to inform and influence to adopt better environmental practices.

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We use the services of TLM – an established, experienced waste management company based close to us in Basildon who operate a licensed waste transfer station and a waste recycling centre. Hazardous wastes from paint, lacquers and adhesives are handled separately and responsibly by a specialised contractor, Safetykleen Waste Management Services. All our print/toner cartridges are recycled. Any fluorescent tubes that have failed are returned to our supplier to be de-gassed and replaced with the latest energy-efficient tubes.

*“We work throughout our supply chain to constantly look for and put into effect new ways of managing and reducing waste”*



## CASE STUDY SPOTLIGHT ON ENERGY

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### Energy

Our £300,000 investment in an onsite biomass boiler in December 2010 is producing useful returns. Burning up to 300 tonnes of wood waste and dust per annum not only diverts the waste from landfill but is producing just under 600,000 kWh of energy to help heat our factory and offices. The subsequent saving in gas heating bills and waste disposal costs mean that the installation will have paid for itself by early 2015.

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We invested £35,000 in April 2013 in an inverter to our main factory extraction fan, along with eco-gates to all our mill shop machine ductwork. The automatic reduction of fan speed (our largest power draw) to reflect the number of machines operating any one time is making an overall 12.5% saving in our overall power consumption. In the first year of operation the fan reduced electricity consumption by around 90,000 kWh. We anticipate that our investment will be fully paid back within four years.

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In August 2012, we bought a half acre site next to our factory in Honywood Road. Since then we've taken out inefficient 1960s services and brought the whole unit up to current building regulation standards, with energy efficient systems such as a single new gas heater and LED lighting on the perimeter. Currently used for storage, we're looking longer term at redeveloping the site to increase our production capacity – including linking it in to our biomass-fuelled heating system.

*“Our £300,000 investment in an onsite biomass boiler is producing useful returns”*



## SUSTAINABILITY: BEYOND ENVIRONMENT

As an important part of our ambition to consistently achieve the best environmental performance in our industry, we're actively looking at and exploring new projects that could reinforce our commitment to sound, leading-edge environmental practice and further improve our contribution in the future.

But we also aim to look beyond environmental performance to all aspects of sustainability – making our impact on our local community, environment and workforce as positive as we can.





### Time 4 Trees

As part of our arrangement with Time 4 Trees - a national tree planting initiative dedicated to creating the woodlands of the future - we're also planning to get involved with local council, community and educational tree planting projects close to our Basildon home and the surrounding area. We'll be aiming to support the Time 4 Trees' "Fruit trees for schools" project that gets children actively involved in planting and harvesting their own fruit trees, as well as launching our own internal school planting programme. This will encourage anyone who works for Brown & Carroll to nominate a child or a grandchild to be recognised for a special achievement by having a tree planted in their name on school grounds.

*To read more about our contribution to the Time 4 Trees national tree planting initiative, see pages 7/8*

### Looking after our people

At just 2.5%, our staff turnover is far lower than the typical 10.6% in our industry. People often move to us from other joinery companies. We do all we can to provide a decent working environment, job security, and a rate of pay above the industry norm.

### Apprenticeships

From giving work experience opportunities to students at local schools to taking on at least two apprentices every year, we're playing our part in helping to train and encourage the next generation of skilled tradesmen and effective managers. Nearly 70% of the apprentices who started and trained with us now work full time in our business. They include Darren Rossiter, now a site supervisor and black hat who trained with us twenty years ago, and Jordon Heard, a current apprentice who won the Joiners and Ceilers craftsman competition in 2014. All our project managers started "on the tools," and understand from the ground up the standards we work to on behalf of our clients.

### Redevelopment of adjacent land

Having bought a half acre site next to our factory in Honywood Road in August 2012, we've commissioned a feasibility study to demolish the existing building and construct a new modern structure. Linking this to our main unit would allow us to increase our manufacturing footprint, improve our storage facilities and expand our business capabilities. It would also extend the use of our biomass boiler in providing heat for the adjacent new area.

***"At just 2.5%, our staff turnover is far lower than the typical 10.6% in our industry"***



*“We’re proud of our excellent health and safety record, with only three reportable incidents over the last four years”*

#### Transport and cyclist safety

Cyclists and drivers need to work together to share London’s busy roads safely. From April 2014 we’ve adhered to WRRR work-related road risk standards with driver training, development and licensing, audible manoeuvring warnings, side under-run protection, blind spot minimisation, warning signage and independent certification.

#### On site safety

We’re accredited to OHSAS 18001 – 2007 standards, and are independently audited every six months. We’re proud of our excellent health and safety record, with only three reportable incidents over the last four years, and work hard to maintain it.

#### Supporting the local economy

Wherever we can, we source services from like-minded specialist companies who share our values and quality standards – first of all close to home in Essex or the outskirts of London, and then in the UK. This includes architectural metal workers, stone, glass and timber merchants.

#### Local labour initiative

Taking on local labour is a normal element of most of the major projects in which we’re involved. We support the local labour initiative in other ways too – for example through our support for other local smaller joinery businesses. As well as having helped them gain FSC® certification, we use them as a source of ready planed and prepared timber – some 59m<sup>3</sup> per year.

#### Riding to work

Our partnership with the Evans Cycles “ride to work” scheme is enabling thirteen out of our 120 people at our Honywood Road site to cycle instead of driving.



### Inspiring students

We're making a contribution to STEMNET - the science, technology, engineering and mathematics network that works with young people at schools and colleges to motivate and inspire them by bringing learning and career opportunities to life. Mike Pearson, our senior QUESH manager, runs workshops with the STEM coordinator, staff and students at the local James Hornsby school in Basildon to give the benefit of his experience and help students make positive choices.

### Roof insulation

We've commissioned Carmichaels Brown to review the energy efficiency of our existing 1960s building with a view to exploring the viability of installing roof thermal insulation and a photo-voltaic array to produce electricity. This will be carefully analysed along with all other planned future improvements to our premises.

### Supply Chain Sustainability School

As part of a new initiative that's been developed and managed by the sustainability school alongside sponsors and partners who we work with regularly, we've undertaken an initial environmental audit to measure our current performance and see where it could be improved. We're now working towards the recommendations detailed in the audit.

### Charitable activities and fund-raising

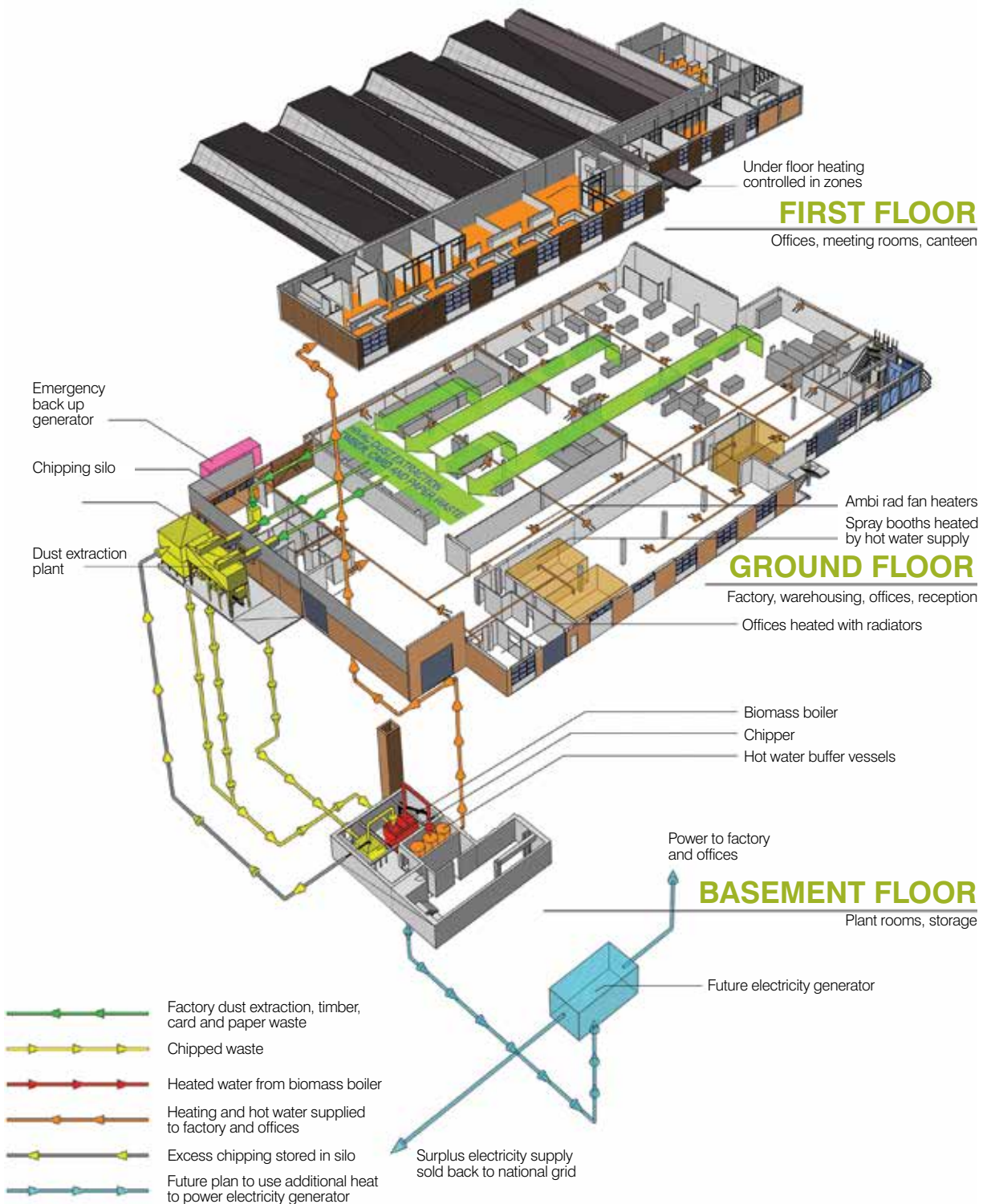
Many people who work at Brown & Carroll - as well as clients, suppliers and partners - take part in both local and national fund-raising activities for worthwhile causes. We do all we can to support them. As a company we also sponsor and take part in charitable events, including supporting the local St John's hospice and entering a sailing team in the annual Little Britain Challenge Cup.

*“We're helping to motivate and inspire young people at schools and colleges by bringing learning and career opportunities to life”*





# HOW WE POWER OUR PLANT



*“Brown & Carroll continues to make sound progress in support of its ambition to retain its position as a market leader in sustainability. The hard work done to benchmark its operations is now bearing fruit with some well designed new initiatives taking shape. The company’s awareness of its role in the local community and its strong commitment to replenish the resources it uses back into the environment is particularly pleasing to see.*

Dr Simon Gerrard: Visiting Fellow, School of Environmental Sciences, UEA, Norwich





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