



WHERE SUSTAINABILITY MEANS BUSINESS



Beca is one of the largest employee-owned professional services companies in the Asia-Pacific. With over 3000 employees in 17 offices across the world, they have a substantial footprint which they are using to help create a more sustainable environment.

One of their core philosophies is to keep sustainability at the heart of what they do. This means maintaining consistently high social,

economic and environmental standards and having a strong commitment to internal sustainability. They continuously seek ways to refine systems, policies and processes to have a sustainability focus, and deliver sustainable value to Singapore's built environment through projects like DUO, Marina One, and the Zero Energy Building.

Globally across the Asia Pacific region, Beca supports a myriad of clients with making pragmatic decisions during the design and development of projects. Offering a rich pool of consultancy services and experience, Beca is helping to deliver holistic, integrated solutions that are robust and sustainable in the long-term.

A leader in environmentally-sustainable design (ESD), the company in Singapore has received numerous awards and recognition for their work. From the Building & Construction Authority (BCA) Built Environment Leadership Award in 2010, to their most recent 2016 Business Leadership in Sustainability Award at SCBC-BCA's inaugural Sustainability Leadership Awards.

PIONEERING GREEN BUILDING DESIGN

In Singapore, Beca has been a pioneer in adopting Green Building ESD. They have trained in-house ESD engineers, consisting of Green Mark Managers and Green Mark Professionals who are helping clients achieve BCA Green Mark status.

These designers offer professional advice to owners, developers and architects focused on integrating sustainability in their developments. Complemented by a strong background in building services consultancy, they synergise both passive and active design concepts with state-of-the-art technologies in computer simulation and modelling. Thus enhancing the life-cycle of the building elements, reducing operating costs and improving indoor environmental quality.

When it comes to Green Buildings, Irene Yong has a wealth of experience to share. The mechanical and electrical engineer at Beca is also a pioneer Green Mark Professional.

"Green Mark Professionals bring their holistic vision of a Green Building into a project" says Irene. "Buildings around the world today are being challenged to improve energy-efficiency, water-efficiency and reduce carbon footprint. As the environmental impact of buildings become more apparent, ESD is gaining momentum. Inefficiencies in design can create significant environmental impact and this can be reduced by incorporating sustainable features – in terms of design and also in the operation and maintenance of the building. Not only does this have a direct positive impact on cost savings, but developers also benefit from better yields on leasing and resale value, increased workplace productivity and a positive corporate image."

To date, Beca have helped their clients achieve more than 50 Green Mark Platinum Award projects (the highest tier in the BCA certification), and more than 80 projects that are certified Green Mark Gold Award or higher.



Nanyang Technological University, Singapore

Nanyang Technological University (NTU) has a vision to green all their academic and non-academic buildings within the campus. Beca was engaged as the mechanical and electrical, and ESD consultant to help NTU achieve their goal. In 2016, they received the inaugural Green Mark Platinum Star Champion from BCA – the first of its kind in Singapore – for achieving more than 50 Green Mark Platinum buildings on campus.



DUO, Singapore

This striking mixed-use development lies at the heart of a new growth area in Singapore's CBD. The project successfully attained three Green Mark Awards in 2012 and has anticipated energy savings of more than 25percent over baseline code compliance. A number of features were integrated to conserve energy and resources, including a chiller plant designed to operate at better than 0.65 kW/RT, energy-efficient LED lights in the carpark, heat pipes that recover cool toilet exhaust air for pre-cooling, the use of heat pumps for hot water generation, water-efficient fittings and rainwater harvesting.



Zero Energy Building @ BCA Academy

The Zero Energy Building at BCA Academy has captivated visitors and Green Building delegates from all over the world who are keen to understand and apply the concept of a zero energy building. The building successfully obtained a Green Mark Platinum Award in 2009 and incorporates many state-of-the-art green building technologies and test-bed technologies to achieve a net zero energy consumption. An innovative building design takes advantage of natural ventilation, lighting and solar energy to deliver 45percent greater energy-efficiency than comparable buildings.



Beca Singapore Office, Westgate Tower, Singapore

Beca's new office in Singapore offers a vibrant, collaborative and environmentally-friendly workspace for the team. The office received a Green Mark Office Interior Gold Award in 2016. The open-plan design minimises the construction of new partitioned rooms and maximises natural daylight. Features include energy-efficient T5 lights, lighting circuits to switch on or off in different zones, video conferencing facilities to reduce carbon footprint from travel between offices, and Energy Star-rated office equipment.

LEADING THE INDUSTRY

Beca's Centre of Excellence (CenEx) in Singapore houses a team of mechanical and electrical engineers who specialise in ESD for buildings. The company has an in-house total of eight certified Green Mark Managers, two Green Mark Professionals, two LEED Accredited Professionals, and one Singapore Certified Energy Manager. Committed to keeping staff fully trained and up-to-date with best practice in sustainability, they have sent more than 20 staff to attend Green Mark Manager and Green Mark Professional courses over the year.

The team offers an integrated suite of services to help achieve greener solutions, including capabilities in energy modelling, computational fluid dynamics simulation and computer simulation. On ESD projects, they collaborate with several other professionals from different disciplines, including architects, structural, mechanical and electrical engineers, quantity surveyors and specialist consultants.

Leading the team in Singapore are Tan Kiat Leong and Irene Yong, who have been instrumental in advocating and adopting Green Building design at Beca. Kiat Leong – Singapore Business Director at Beca is also Singapore's inaugural 'Green Engineer of the Year' in 2011. Beca's Emeritus Chairman, Er. Lee Chuan Seng who was conferred the BCA Green Visionary Award in 2015, has also contributed significantly to the built environment as an active advocate in green building policies and regulations. He sits on various advisory boards and was instrumental in having Singapore Green Building Council (SGBC) accepted as a full member of the World Green Building Council (WGBC).

Beca's ESD team are also committed to research works pertaining to energy-efficiency and improvement. In 2013, they completed six tracks of research under the Singapore Economic Development Board "Innovation Development Scheme". In 2015, they collaborated with SinBerBEST – a joint collaboration between University of California Berkeley and three universities in Singapore – in research to benchmark energy consumption of office buildings in Singapore. And in 2016, they will embark on a two-year study as Co-PI with NTU and the University of California Berkeley in their research under the Green Building Innovation Cluster entitled "Scalable and Smart Building Energy Management System".



SUSTAINABILITY AT THE CORE

“Engineers are passionate people – passionate about creatively transforming our world to be a better place to dwell in. Sustainability in its entirety is at the core of this passion” – Ben Henson, Buildings Operations Manager at Beca.

Beca’s commitment to sustainability starts at a corporate level. A Group-wide environmental commitment document signed by the Group CEO commits the company to the principles of sustainable development and to the continual improvement of environmental sustainability. It seeks to incorporate environmental sustainability into projects, influence key suppliers in the adoption of sound environmental practices, reduce carbon footprint and waste generation, and raise awareness of environmental issues by being a leader in sustainability.

Complementing Beca’s environmental commitment is a strong track record for community engagement. The company takes part in a number social initiatives and pro-bono projects with an aim to make positive and lasting change in their local communities. They support causes and projects that matter to their people and align with their values, skills and resources. They also employ whole life costing expertise to projects, which considers the total cost of an asset from design through to construction, operations and maintenance.

Beca’s commitment to sustainability is communicated to employees throughout the business. The aim is to cultivate positive habits and raise awareness around being environmentally and socially

considerate both at work and at home. In many offices are Green Teams which consist of like-minded people, passionate about cultivating a culture of sustainability through coordinating and promoting sustainability initiatives.

CREATING A SUSTAINABLE FUTURE

Lee Ang Seng, Singapore’s Managing Director says, Beca is committed to creating a sustainable future, which means seeking continual improvements in all that they do. “The company continually measures and monitors their environmental performance and proactively seeks ways to reduce their environmental impact and prevent unnecessary pollution from activities.”

In Singapore, Beca is in their third year, and New Zealand and Australia, their fourth year of collecting and monitoring internal environmental data. This includes carbon emissions, energy consumption, travel, waste generation and paper consumption. The information is analysed and shared with Beca’s management team who agree and set future sustainability targets.

In Singapore, energy, water and waste management improvement plans provide a framework for Beca’s environmental initiatives within the office. Electricity and water sub-meters are installed on each level and recycling bins are provided to encourage staff to reduce landfill. Electricity, water and paper usage are tracked on a monthly basis and the trending data is displayed in the office’s ‘Green Corner’, to create awareness amongst employees.



The office aims to reduce energy consumption by 5percent in the next three years by installing energy-efficient office equipment, virtualisation of IT equipment, employing a capped water usage of 22m3 per month, and employee awareness campaigns.

Each year, Beca reviews their global sustainability practices and produces an internal Sustainability Report which aligns with Global Reporting Initiative (GR13) Sustainability Reporting Guidelines. The report presents financial, social and environmental performance for the year including internal and external sustainability initiatives and projects, and the progress made towards sustainability goals.

WHERE TO NEXT?

Beca's long-term goal is to be a flagship organisation for the promotion of sustainable and innovative design for the built environment.

"I would like to think we are catalysts for transforming projects into green projects" says Irene. "One day, I really hope to see Singapore recognised as a leader in Green Building design, not only in Asia, but around the world."

In the short to mid-term, Beca's Singapore office seeks to establish themselves as the seeding ground to their other offices in Asia and across the globe. This will involve propagating their 'Green' knowledge through in-house training and technical sharing, mapping current and emerging technologies in pursuit of sustainable and innovative design, and identifying and communicating the vision to those who may influence the future direction of the company.

For Irene, helping buildings go Green has a deeper purpose beyond a career pursuit. "I think everyone has a key role to play in sustainable living" she says. "We want to pass on a green, sustainable, healthy environment for our children to live in."

"In order to achieve these goals, we believe that the power lies in nurturing the next generation. By fostering our younger leaders and teaching them the importance of integrating sustainability into all that they do, we hope to mainstream sustainability values and create young enthusiasts, passionate about 'going green' in both their work and personal lives." 🍀

All images courtesy of Beca Carter.



put wellbeing at the heart of your building.



Why "Better Places for People" ?

Research shows that a building's design impacts the health, wellbeing and productivity of its occupants.

The World Green Building Council's 2014 global report *Health, Wellbeing and Productivity in Offices* raised awareness of this issue by outlining the evidence linking office design with occupants' health and productivity. The same features commonly associated with green buildings have a measurable impact on human wellbeing. This strengthens the ongoing business case for energy-efficient, resource-efficient, healthier buildings.

Better Places for People builds upon the foundation provided by the report.

What Are Our Aims and Activities?

Better Places for People aims to accelerate the demand and supply of buildings that support people in living healthier, happier lives by raising awareness of how buildings impact people, and by presenting the business case for action.

SGBC, BCA and our Programme Partners - owners, investors and real estate managers, will engage and collaborate with tenants through a range of activities to help drive action on the ground.



Key Activities

- Outreach to tenants through owners, investors, real estate managers and more!
- Providing tenants with the knowledge and means of creating greener spaces and offices.
- Creating a database of information on tenant expectations and concerns, to better understand changing trends and needs.

Get Involved in the Campaign!

Singapore Green Building Council (SGBC)

CONTACT:
outreach@sgbc.sg
TEL:
6732 5518

