Singapore Institute of Building Limited

THE CASE FOR SUSTAINABILITY

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An Inside Look into Sustainability from Chairman of Sustainability Committee and VP of SIBL

Reflections on Singapore Green Economy and Future

Nearing the first quarter of 2021, we have seen plenty of changes in the green front, and yet there is more to come. I'm excited to be on board as the Vice-Chair for SIBL during these exciting times.

Although sustainability has always been part of Singapore's focus, it has never reached a level that encompasses every detail and aspect of our living. From building, food security, transportation, and most importantly education. So, what is the tipping point or rather the catalyst to it all?

I would share the contribution to be partially COVID. The way we build, think, the philosophy of buildings are being tested a great deal in these times. Without a doubt it has gotten us thinking coupled with the world pressure with environmental commitments spilling out of every organization, it is a healthy competition that benefits the world at large.

F*arizan d'Avezac de Moran, Senior Partner, GreenA Consultants*

Singapore Green Building Masterplan

(Drumrolls...)
Welcoming the 4th Green Building Masterplan.
I could not be more excited. As part of the BCA Green Building Advisory Committee Task Force overseeing the new GM 2021 and as one of the BCA SGBC Green Advocates. I believe we have done very well in this sector, but not without hard work and the determination to see it through.

An Inside Look into Sustainability from Chairman of Sustainability Committee and VP of SIBL

We are the only on the planet that coin the term ' Super Low Energy Building (SLEB)', simple and effective. I have come across other terms, 'Near Zero Energy', ' Low Carbon' which somehow misses a few key rings to it.

In 2018, the plan was rolled out, and excitedly I gave it a go. Singapore has now a handful of projects that have attained the status which proves it to be very much do-able.

Well for those who would like to do a fast reading here are a few pointers on the change:

Most Green Mark criteria have been streamlined into one main document including the SLEB and Zero-energy off-site Renewable Energy Credit (REC) are allowed (subject to some terms and conditions).

There are mainly 3 pathways to get you to SLEB

- Pathway 1: Energy Usage Index(EUI). This shall be based on energy consumption.
- Pathway 2: Fixed Metrics. To meet KPI that make an energy-efficient project.
- Pathway 3: Energy Savings. Enhance energy modelling framework.

An Inside Look into Sustainability from Chairman of Sustainability Committee and VP of SIBL

For overall sustainability

Well, that is it for now.
As part of SIBL members' benefit, do make use of the sustainability advisory dialogue sessions for any questions that you need answers to and we will do our best to reply to your questions.

Dialogue session is on-demand basis and will be conducted on request.

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And for those who are looking at Green Building Incentives for both New and Existing buildings, here are a few pointers:

- Grant for Low-GWP Refrigerant Chillers (LoGR)
- Building Retrofit Energy Efficiency Financing (BREEF)
- Green Building Innovation Cluster (GBIC) Demo

Importance of Sustainable Procurement in Built Environment

Sustainable construction is not only about environmentally friendly designs. It is more than building the structures. With innovative green designs and best practices to manage construction waste, a building design can come up. However, construction procurement plays an important role in overall project success.

In traditional construction projects, procurement is mainly focused on price & quality. However, to make it a sustainable procurement, which aligns with the green building concepts, it is important to identify the best practices. Other than the price and quality, there is a big impact on how they are purchased and what are the practices followed.

As such, sustainable procurement is not just about choosing the environment-friendly products which are mentioned in the project documents. It is all about achieving the value for money considering both economic and environmental aspects.

Importance of Sustainable Procurement in Built Environment

According to the Chartered Institute of Procurement & Supply (CIPS), “Sustainable procurement is the act of adopting social, economic and environmental factors alongside the typical price and quality considerations into the organizations handling of procurement processes and procedures.”

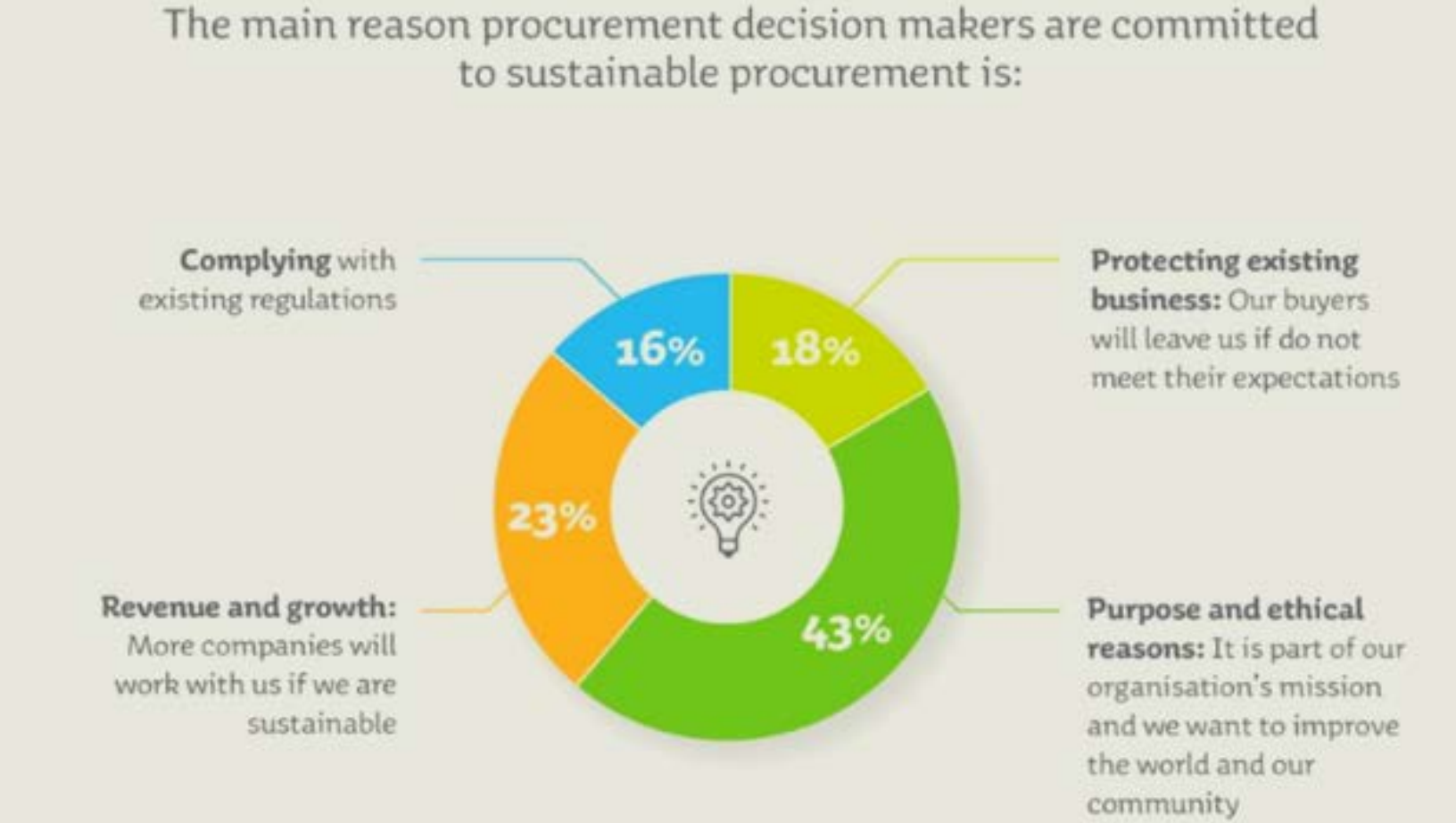
To achieve sustainability in construction procurement, companies can identify the best procurement methods which ensure benefits both environmentally and socially while they operate profitably.
The below figure shows various stages of the procurement process which include sustainable methods.

Importance of Sustainable Procurement in Built Environment

Why Sustainable Procurement Matters?

According to CIPS, sustainable procurement matters because it ensures that an organization operates within its mission statement while building reputation and trust amongst the target consumers and partners.

Benefits of Sustainable Procurement in the built environment



Importance of Sustainable Procurement in Built Environment

Benefits of Sustainable Procurement in the built environment

Sustainable procurement is based on the value for money concepts which consider the benefits to the society, environment, and the economy. It also assesses the benefits to the procuring organization.

Therefore some of the benefits of sustainable procurement in the built environment include,

- Encouraging innovation in the supply chain.
- More efficient and effective ways of using natural resources.
- Reduce the impact of pollution and wastage.
- Improvement in the organization's corporate social responsibility (CSR)
- Reduce the impact of hazardous substances.

Further, the benefits of sustainable procurement can be identified in key areas such as cost reduction, revenue growth, and reputation.

Sustainable procurement focuses on cost reduction, which prevents unnecessary costs in transferring and in energy consumption.

By implementing sustainable procurement practices, companies ensure social sustainability as well, which prevents purchasing from organizations that follow bad practices such as child labour, pollution, etc.
This practice allows the business to keep its brand value. As a result, revenue growth is expected with the increase in brand equity and loyalty.

By procuring more efficient and sustainable goods, the overall building operation cost can be reduced which affects long-term financial savings.

Further, this will create demand for sustainable solutions which increase market competitiveness. By applying sustainable procurement, it is possible to reduce the disposal costs at the end of the life cycle of the building. The disposal will be at a minimal impact on the environment.

Importance of Sustainable Procurement in Built Environment

In a recent speech at the SG Sustainable Procurement Forum, Minister for Sustainability and the Environment, Ms. Grace Fu said,

"By including more sustainable requirements into tenders and actively sourcing for and developing more sustainable alternatives, buyers of goods and services can send a strong and clear message that sustainable procurement is the way forward. When more businesses buy sustainably, others within the supply chain would be encouraged to do so. Collectively, we can all play our part to drive sustainable demand in Singapore."

According to the Design Buildings Wiki, organizations can address the sustainability objectives in the early procurement process.
This can be done by identifying the business needs, by defining the sourcing strategy, and by identifying the suppliers. It is equally important to manage performance and relationships while reviewing and learning from the sustainability procurement process.

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Accrediting Green Building Professionals

The SGBC Green Mark Professional Qualification Scheme succeeds the BCA Green Mark Specialist programme and aims to uplift, upskill and recognise green building competencies of professionals active in the built environment sector.

Certification Types

Green Mark AP

The Green Mark AP certification qualifies industry professionals with the knowledge and expertise needed for the implementation of Green Mark projects.

- Green Mark Accredited Professional *(Green Mark AP)*
- Green Mark Advanced Accredited Professional *(Green Mark AAP)*

Green Mark AP (FM)

The Green Mark AP (FM) certification qualifies industry professionals with the knowledge and expertise needed to maintain and operate green buildings.

- Green Mark Accredited Professional (Facilities Management) *[Green Mark AP(FM)]*
- Green Mark Advanced Accredited Professional (Facilities Management) *[Green Mark AAP(FM)]*

Continuing Professional Development

A key feature of the SGBC Green Mark Professional Qualification Scheme is the establishment of a Continuing Professional Development (CPD) framework for all Green Mark APs. Through a host of meaningful programmes and activities, Green Mark APs are able to remain abreast of industry trends and stay ahead of sectoral developments.

Green Mark AP certifications are renewed annually upon fulfillment of the renewal requirements.

Renewal requirements **for Green Mark AP and Green Mark AP (FM)** → **12** SGBC-GMAP CPD Points

Renewal requirements **for Green Mark AAP and Green Mark AAP (FM)** → **18** SGBC-GMAP CPD Points

About the scheme

Upcoming CPD activities

Renewal Requirements

Frequently Asked Questions

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The 10 Essential Digital Use Cases for IDD

Integrated Digital Delivery (IDD) is the use of digital technologies to integrate work processes and connect stakeholders working on the same project throughout the construction and building lifecycle. This includes design, fabrication, and assembly on-site, as well as the operations and maintenance of buildings.

IDD builds on the use of Building Information Modelling (BIM) and Virtual Design and Construction (VDC), which have been implemented in many projects over the past few years.

Let's take a close look at the 10 digital essential use cases for IDD.

1. Digital Request for Information (RFI): Using digital means to raise, communicate and track issues and facilitate resolution. Examples of the use include issues and resolution dashboards, as well as digital notes of the discussion.

2. Integrated Concurrent Engineering (ICE) Meetings: Conduct meetings with project team members in a collaborative way enabled by digital technologies and BIM. Examples include digital records of decisions and the use of federated models for discussion.

3. Visualisation and design checks: Use BIM models together with Augmented Reality, Virtual Reality, or Mixed Reality to seek feedback and validate the design, space requirements, buildability, and constructability. Deliverables include rendered models.

4. Digital Submission and Approval: Submit deliverables required by various stakeholders for decision through digital platforms. Deliverables include information required for tracking and decision records.

5. BIM-based tender documentation: Prepare tender documents based on information primarily generated from BIM models. Deliverables include BIM models, drawings, and tender specifications.

6. Digital logistics: Plan prefabricated production schedule, track and monitor production, delivery, and installation of prefab components digitally. Deliverables include production schedules, digital logistic delivery records, and simulations of logistic paths and conditions.

The 10 Essential Digital Use Cases for IDD

7. Construction Planning and Scheduling: Plan and monitor construction activities using digital construction scheduling, simulation, and sequencing. You can do this by combining a construction schedule in Primavera or Microsoft Projects to Synchro Pro.

8. Digital Progress Monitoring: Monitor site progress using digital solutions, scanning and update schedules and 3D models for progress reports and payments. Deliverables include records of site progress pictures, progress reports, updated schedules, and 3D models.

9. Digital QA/QC inspections: Record observations and track follow-ups during QA/QC inspections. This process produces digital audit trails of resolution and approvals

10. Digital defects management: Manage and track defects and rectification using digital checklists and dashboards. Deliverables include a master defects list, digital defect location record, and defect rectification reports.

These 10 essential digital use cases span across project stages such as Design, Fabrication, Construction, and Asset Management stages.

If you have implemented these use cases in your project and are a witness to productivity improvements, please share your story with us!

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