

GO GREEN

APRIL 2021 ISSUE

THE COST BENEFITS OF GREEN BUILDINGS

Green buildings provide financial benefits over the long run.

ISO19650 AND ITS SIGNIFICANCE TO BIM PROJECTS

ISO19650 defines collaborative processes for the effective management of information.

GLUE-UP FOR SIBL MEMBERS

Enable Your Community
to Engage.
Anywhere, Anytime.

PAN-UNITED'S FAMILY RECIPES

Tasty home recipes of
Pan-United staff

LOGISYM ASIA PACIFIC 2021 CONFERENCE

The biggest Asia Pacific
gathering of logistics
expertise

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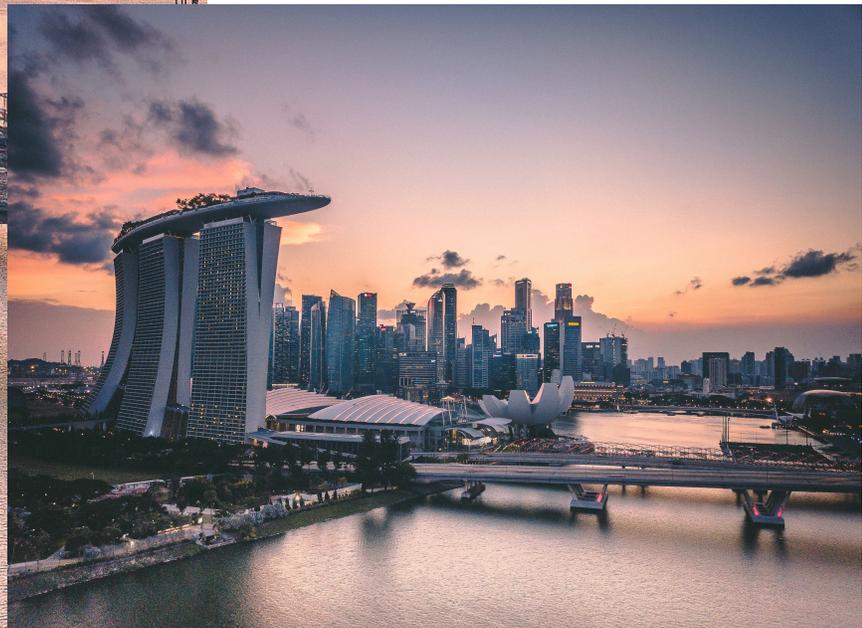
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The Cost Benefits of Green Buildings

Reflections on Singapore Green Economy and Future

The whole nation is moving towards a green and sustainable future. This journey was expedited with the Singapore Green Plan 2030.

Green buildings and green construction play a major role in making the Green Plan a reality.

Through green construction, are we only trying to achieve less negative impact on our environment?

Are there any cost benefits of green construction?

As we know, green buildings focus mainly on reducing the impact on our environment compared to conventional construction.



What are green buildings?

According to the World Green Building Council, “A green building is a building that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on our climate and natural environment. Green buildings preserve precious natural resources and improve our quality of life.”

There are a number of features in a green building including, efficient energy and resource usage, renewable energy usage, waste and pollution reduction measures, non-toxic, ethical, and sustainable material usage, and improvement in good indoor air quality. The quality of life of occupants is another concern through green building designs and construction.

The Cost Benefits of Green Buildings

Are green buildings costly?

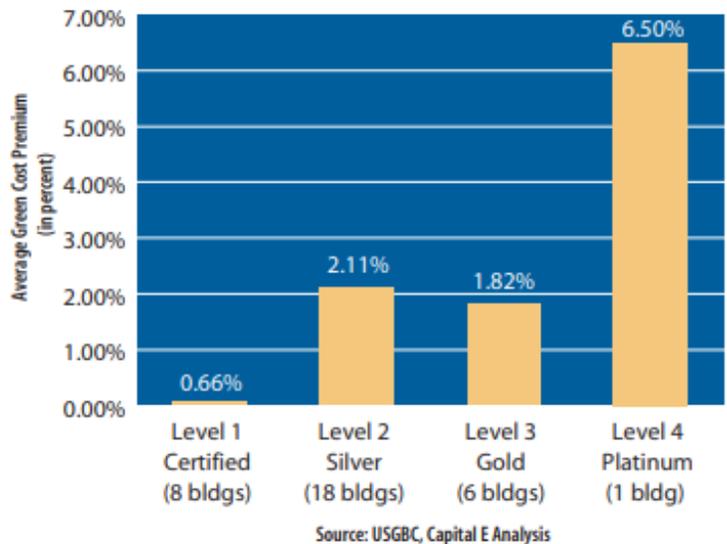
Considering the cost of construction, including the sourcing of environment-friendly materials, design using renewable energy, green buildings are generally considered a lot more expensive compared to standard or conventional building designs. Therefore until recently, most countries around the world did not recognize green buildings as cost-effective. However, green buildings provide long-term cost benefits than conventional designs.



Cost benefits of green buildings

Although green buildings are costly during the design and construction phase, they will bring cost benefits during the operation & maintenance phase until the disposal. Therefore, when considering the cost benefits of green construction, it is important to consider the whole lifecycle of the building.

Figure 1
Average Green Cost Premium vs. Level of Green Certification
for Offices and Schools



The Cost Benefits of Green Buildings

Based on various research findings including a report published by the World Green Building Council, the actual design and construction cost of green buildings are in the range of a cost premium of -0.42 to 12.5% where the latter is of a zero-carbon building project.

However, the increase in upfront cost is proportional to the level of environmental certification the building received.

The buildings designed with the aim of zero-carbon performance have shown a 12.5% increase in design and construction cost against the cost of a standard building.

To reduce the construction costs of green buildings, there are several suggestions proposed by various experts. Some of these include:

- Adopting green strategies and include them in the early stage project budget
- Hire well-experienced design and construction teams
- Use of Integrated Design Process (IDP) from the pre-design phase through to the post-occupancy phase

It is important to note that the increase in upfront costs is covered by the long-term costs of the building with reduced operation and maintenance costs.

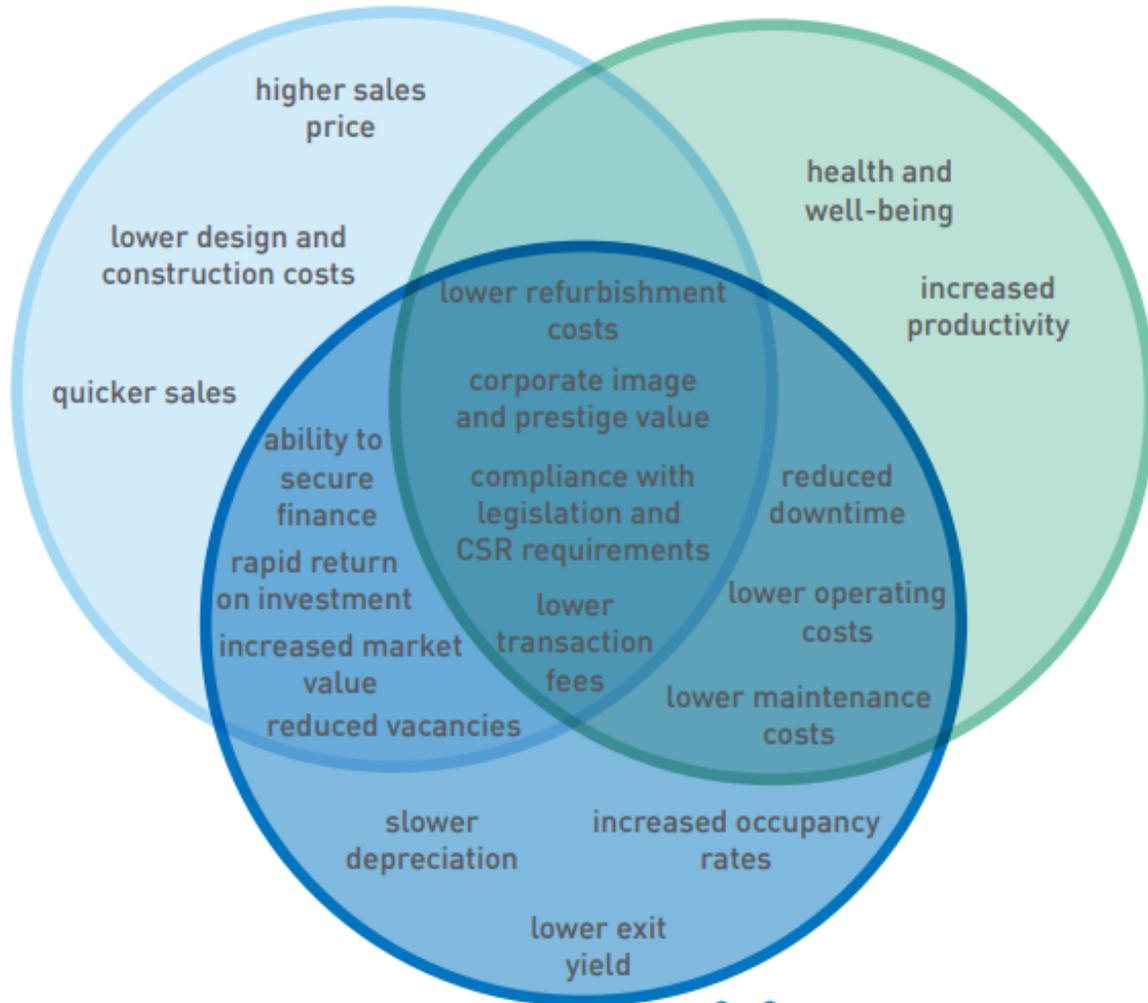
The green buildings that feature high-performance façades and energy-efficient building systems have shown reduced operation and maintenance costs that give cost benefits in the long run.

Starting from energy and water savings to reduced waste, there are many ways a green building benefits financially during the operation and maintenance phase. Improved air and indoor quality on the other way improve greater productivity reducing health costs.

Therefore, green building designs need to be focused on operational costs as well, looking for ways to reduce the maintenance cost in the long run. With optimized capital expenditures, the life of buildings can be improved where lower maintenance costs bring benefits for the whole period of its lifecycle.

 **DEVELOPER**
Why would I want
to build this green building?

 **TENANT**
Why would I want
to lease this green building?



 **OWNER**
Why would I want
to own this green building?

Image is from a recent report published at www.worldgbc.org

On the other way, new additional green features where occupants find health benefits including better indoor quality provides more value for the green buildings compared to the standard buildings. This may result in increased higher property value and increased occupancy rates which generate more interest among the developers and real estate companies.

The Cost Benefits of Green Buildings

Green buildings provide financial benefits over the long run. These benefits come from lower operation & maintenance costs, energy savings, water savings, and enhanced productivity of occupants.

Figure 3
Financial Benefits of Green Buildings
Summary of Findings (per ft²)

| Category | 20-year Net Present Value |
|--------------------------------------|---------------------------|
| Energy Savings | \$5.80 |
| Emissions Savings | \$1.20 |
| Water Savings | \$0.50 |
| Operations and Maintenance Savings | \$8.50 |
| Productivity and Health Benefits | \$36.90 to \$55.30 |
| Subtotal | \$52.90 to \$71.30 |
| Average Extra Cost of Building Green | (-3.00 to -\$5.00) |
| Total 20-year Net Benefit | \$50 to \$65 |

Source: Capital E Analysis

According to recent research and as shown in the figure, the total cost benefits of a green building can be over ten times its average additional cost to make it green. Other than the cost benefits, don't forget the impact of green buildings on our environment towards a sustainable future.

Written by:

Amila Nayana Kanthi

Contracts Manager

Sihela Consultants

ISO19650 and its significance to BIM Projects

The ISO 19650 standard is an international standard for managing information over the whole life cycle of a built asset using building information modelling (BIM). It is largely derived from the UK BIM Framework, and hence contains all the same principles and high-level requirements as the UK PAS (Publicly Available Standard) 1192 standards.

The construction site is a complex ecosystem. Delays and errors can easily occur without a system and a structured approach, with a major impact on time and budget. As such, the ISO19650 is beneficial to the construction industry as it allows for significant problems to be solved by applying a system and structure.

ISO19650 defines collaborative processes for the effective management of information. The standard recommends a common approach to the management of information, which enables teams to minimise wasteful activities and increase predictability around cost and time.

There are 6 parts to the ISO19650 standard, each covering a specific part of the building lifecycle.

Part 1 covers the general concepts and principles surrounding information management as covered in this standard.

Part 2 covers the application of these concepts on the delivery phase (construction) of the assets.

Part 3 covers the operation phase (facilities management) of the assets.

Part 5 covers how a user can adopt a security-minded approach to information management, which is useful on most government-commissioned projects.

Parts 4 and 6 are currently in the process of being aligned to the ISO standards and currently exist as a UK standard.

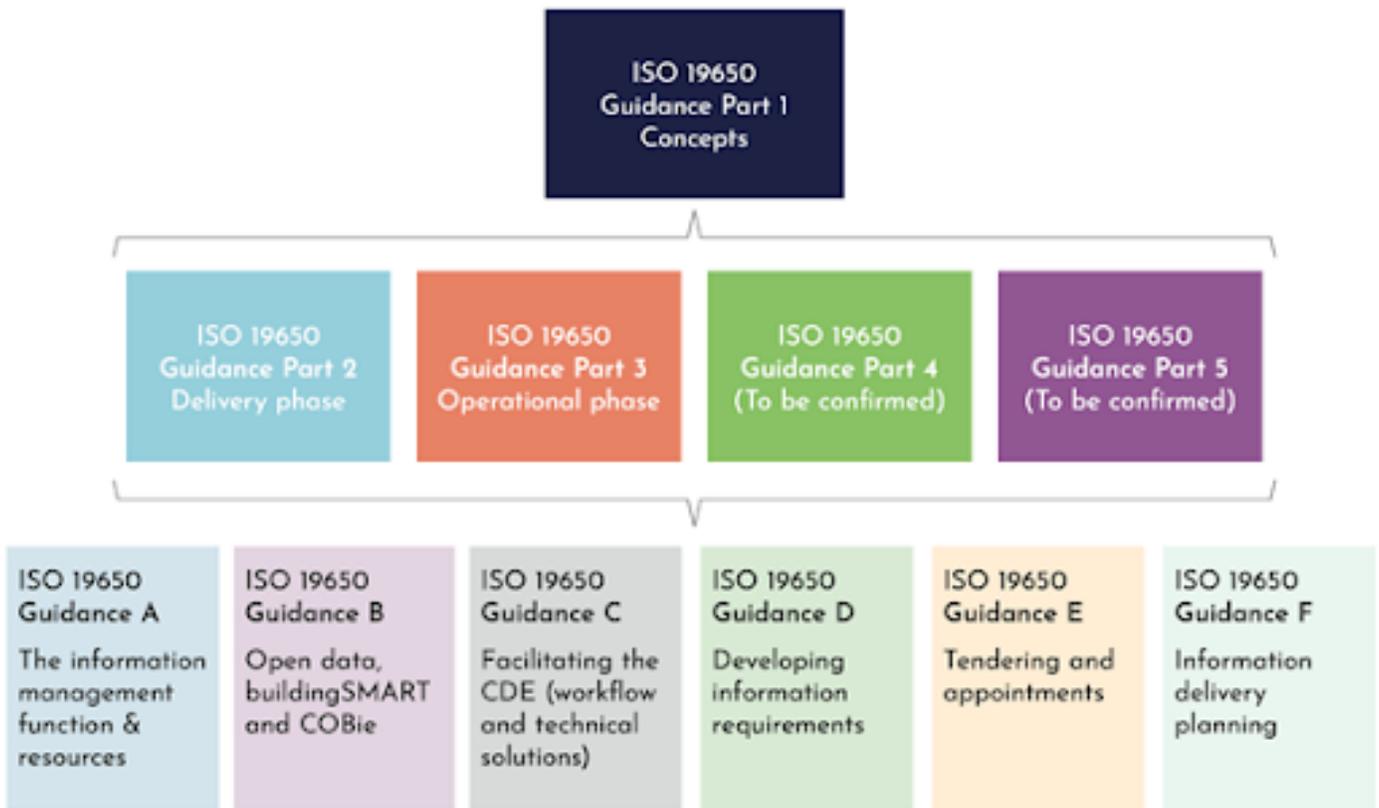


Image reproduced from <https://www.ukbimframework.org/standards-guidance/>

Part 4 covers the handover information exchange which heavily features COBIE (Construction Operations Building Information Exchange).

This is significant as it has achieved a consensus among all members of the ISO and represents a common way of working at an international level.

Part 6 provides those tasked with managing health and safety with the knowledge and skills to develop detailed implementation plans within a collaborative project environment.

In general, standards help the construction industry make more effective and efficient projects by establishing design, construction, and manufacturing processes. An international standard for BIM can support the different construction markets to work together based on a common language.

ISO19650 has been aligned to ISO's editorial requirements in the process of its evolution from UK PAS1192.

ISO19650 and its significance to BIM Projects

A common definition of BIM will help remote teams collaborate efficiently and increase construction sector efficiency and quality.

Another benefit of using ISO 19650 is that the new international standard reinforces the client (ISO 19650: appointing party) to provide a structured process to support BIM project implementation.

The standard highlights the client's leading role in the early stages of the digital collaboration to establish the project's information requirements and the collaborative platform, the Common Data Environment (CDE).

These requirements will set the basis for the design, construction, and operation of the asset. The client influences the digital collaboration and the quality of deliverables and is also responsible for providing information requirements in line with ISO 19650.

By Vanessa Tang, AcePLP



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

Glue-Up for SIBL Members



Enable Your Community to Engage.
Anywhere, Anytime...

Glue-Up is a platform that all SIBL members can use to manage their SIBL membership, with exclusive access to your payments, payment history, events, and webinars. This enables you to get the best mileage out of your SIBL membership.

You can choose how you want to set-up and receive your notifications on SIBL events via Glue-up.

Download 'MyGlue' Mobile App

All-in-one member mobile app

Engage, network and receive information of our events, newsletter, memberships and more from your smartphone!

- All your event registrations and payment history in one place
- Get a personal QR Code for check-ins
- Access session Documents & PPTs
- Review Newsletters
- and network with other members of the community!
- Business Card Exchange
- Member-to-member private chat
- Live Event Wall and Private Groups

Access All Events information

Find updated information about your past and future events and engage with other assistants.

- Browse Event information and resources accessible 24/7 (Time & Venue, Speakers, Agenda, Organizers, sponsors & partners)
- See who else has registered to an event on the Event Community
- Interact with the other attendees on the Live Event Wall

Glue-Up for SIBL Members

Talk with other people

Develop lasting relationships with other members, and be part of the community!

1-on-1 Chats allow

- GIFs and Emojis
- Media & Location Sharing
- Meeting request
- Custom Privacy Settings

Adjust your Profile settings

Personalize your profile settings, including:

- Profile information
- Payment Methods
- Notificaciones Settings
- Member Directory
- Saved Business Cards

Manage your Membership

Get the most of your memberships from the palm of your hand.

- Manage your Renewals
- Edit your company and your own virtual membership card
- Invite and remove colleagues
- Browse the Membership Directory
- Newsletters & Notifications

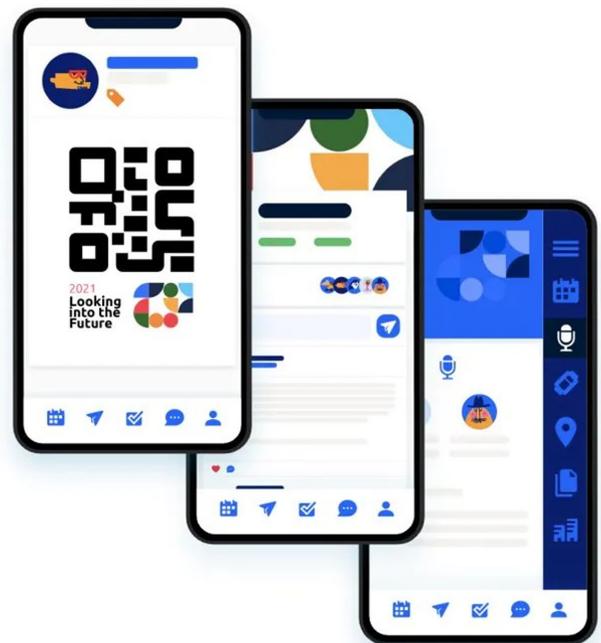
Network

Create and share your own digital business cards, save contacts of your interest, and effectively network with everyone no matter where they are

- Business Card Scanner
- Personal QR-Code
- Individual CRM

How to use My Glue mobile app?

1. Download the My Glue App on App Store or Google Play
2. If you are a new user, register to My Glue, otherwise log in to your existing account.
3. Select the server to log in to, from our three options: .com (default), and .ru (Russia-based users), .cn (China-based users)
4. Start exploring My Glue!



Glue-Up for SIBL Members

Access My Glue on your Desktop

Access My Glue from any search engine [HERE](#) and find what your organization has to offer.

- Community
- Live wall
- Member directory
- Events
- Memberships
- Subscriptions
- Committees

Engage with your groups and community

Be part of the conversation from your community's dashboard.

- Find general information of your community and members
- View your groups
- Live wall
- Members directory

Your event's details

- Date and time
- Send direct messages to other attendees
- Share information with your community
- Documents and Presentations

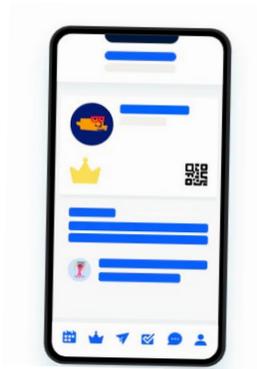
Manage your memberships

Find your membership information and manage your personal details.

- Membership status
- Membership Id#
- Start Date
- Edit your profile
- Transactions

Manage your subscriptions and committees

Subscribe or unsubscribe to the subscriptions and committees available to you.



Start conversations

Connect directly with other members of your event or membership community via 1-on-1 chats with the option to share business cards.



Pan-United's Family Recipes

This month, Pan-United Corporation released its FY2020 Annual Report as well as a one-of-a-kind employee recipe e-book titled "Family Recipes: Inspirations from the Kitchen", comprising home recipes of Pan-United staff.

The recipe e-book serves as an ode to the staff of Pan-United, who worked diligently through the pandemic to continue designing innovative concrete mix "recipes" and digital solutions to facilitate and ensure safe distancing in the built environment sector, aside from cooking up a storm for their loved ones at home.



Pan-United also weaved in the culinary concept of the employee recipe e-book into the visuals of its FY2020 Annual Report, to depict its business of constantly innovating concrete mixes to sustain and advance smart cities for the future.

Ms. May Ng, Chief Executive Officer of Pan-United, said: “Together with our partners and customers, we are constantly experimenting and developing new concrete mixes that meet the contemporary and rigorous demands of today’s building landscape. Our spirit of creativity goes beyond innovating concrete ‘recipes’ –

this time, we tapped on the culturally diverse culinary talents of our employees to launch a unique recipe e-book, reminiscent of the daily collaborative work we do in creating new concrete mixes.”

In line with Pan-United’s goal of reducing waste generation by 5% by FY2020, both the recipe e-book and the annual report are only available via electronic means.

For more information, please refer to their annual report, which can also be downloaded from Pan-United’s corporate website and SGXNet.

Pan-United's Family Recipes

A Sneak Peek

Asian Coconut Cooler

"Since young, my refrigerator has always had a ready stock of colourful jellies. The cheerful sight never fails to bring a smile to my siblings and me to this day. I also love fresh coconut water. One day, I saw both items in my fridge, and an idea struck me. The result turned out to be a refreshing and thirst-quenching combi! Years later, I have replaced agar-agar with gelatin for convenience, and it is still my favourite cooler to serve when I have guests over."

-Anne Than, Marketing

Ingredients

2 fresh young coconuts (husked Thai coconuts from the supermarket is best)
2 cups coconut water
½ cup tapioca sago pearls
2 packets gelatin powder, in two colours
4 tablespoons white sugar
mint leaves for garnishing
slices of lime

Method

Coconut

Use the water from the fresh coconuts to make 2 cups. Scrape or finely shred the young coconut flesh into strips to make 1 cupful. Refrigerate.



Pan-United's Family Recipes

Jellies

Dissolve the gelatin in the prescribed amount.
Bring to boil over low heat.
Add 2 tablespoons sugar per packet.
Stir until dissolved. Turn off the heat once it starts boiling. Pour the mixture into separate containers, cool, and refrigerate to set. Dice into small cubes or shred into noodles. Set aside.

Tapioca sago

Boil 4 cups of water. Add the sago, lower the heat and simmer for 10 minutes or until the sago is completely translucent. Rinse in cold water, drain and set aside. If the sago sticks, add some water and stir to loosen.



Mixture

Pour the chilled coconut water into a bowl. Add the coconut strips, tapioca sago, and jellies. Stir well and refrigerate. Serve in a bowl or in glasses with ice cubes and garnish with mint and lime.



HAPPENING ON 19-20 MAY 2021
At the Singapore Expo and ONLINE



The biggest Asia Pacific gathering of logistics expertise is coming May 19-20. Join us for professional networking and development in one of the most rapidly developing and growing industries that extend to built environments in new and challenging ways.

Meet other logistics and supply chain professionals for face-to-face networking at the Singapore Expo in our safely distanced conference. Or join us virtually from your desk for presentations and panels as well as virtual networking with 2,000 other guests..

The two-day conference includes the CargoNOW exhibition with booths to visit in-person at the Singapore Expo from exhibitors like SSI Schaefer, Blulay, and One NNetwork and many more at our easy to browse virtual booth exhibition online.

You'll have the opportunity to learn directly from system experts and ask questions at our interactive panels and presentations that include:

- Urban Sustainability Solutions: From renewables as a growing part of your energy source to deploying water optimisation solutions and low-carbon technologies, learn more about cities and sustainability.
- Digital Transformation: The intersection of people, businesses and technology, and the dynamic transformation that comes with a real growth strategy for digitization
- AI & Automation: AIs are leading the way in automation, and SMEs need to be on track for the newest technologies now.
- ...and more!

Don't miss this chance to talk directly with your peers and experts in the logistics and supply chain community. Brought to you by the Logistics & Supply Chain Management Society for the 9th year running, this is the conference that keeps you at your professional peak.

If you are a shipper or manufacturer, contact us at elee@lscms.org for complimentary passes to the LogiSYM Conference & CargoNOW Exhibition at the Singapore Expo. Tickets to the in-person event are S\$150 for two days.

Virtual tickets are FREE..

Get your tickets now!

<http://www.logisym.org/asiapacific2021/>





**Singapore Institute
of Building Limited**