

An aerial night view of a city street intersection. The scene is illuminated by streetlights and building lights, creating a vibrant urban atmosphere. Modern buildings with glass facades and balconies are visible on both sides of the street. The road is busy with traffic, including cars and a bus. Pedestrian crossings and crosswalks are clearly marked. The overall composition is a high-angle, top-down perspective of a city center at night.

# What it takes to **DRIVE the CHANGE**

*.....paving way to mainstream higher sustainability targets*



ADOPTION OF  
SUSTAINABILITY  
CHANGE



SECURING TARGET  
OWNERSHIP FOR  
CHANGE



DRIVING INNOVATION  
CHANGE  
(PROJECT SPOTLIGHT)



THE TREND

# Adoption of Sustainability Change

...*this is where we are now*

**Incentives**


**Compliance**

# Adoption of Sustainability Change

...*this is where we are now*

**Boss Said So**

**Peer Challenge**

A close-up photograph of a person's hands gently cradling a small, colorful globe of the Earth. The globe shows continents in green and yellow and oceans in blue. A semi-transparent white circle is overlaid on the left side of the image, containing the text 'Xecuring Target Ownership for Change' and a horizontal line below it. The background is a soft, out-of-focus brown.

# Xecuring Target Ownership for Change

---



Focus on the people not ONLY technology  
( people aid the technology )

Need people to DRIVE sustainable change and  
BE the change

---



## **Organizational Drivers**

People , Planet, Profit

What happen to the people and planet ?

Over focus on saving \$ / lack emphasis on the  
people /planet outcome



**Choose a Good team  
It will make a difference**



# Driving Innovation Change

## Project similarities / Challenges

*co-mingled projects with different organisational approach*

<b><u>Similarities</u></b>	Digital / IOT/C – lever	PV /BAPV
<b><u>Challenges</u></b>	Thermal Comfort	Perceived comfort
Perceived room for innovation (single use)	Familiarity vs adaptation	Don't see a need for change

You cant improve what you cant measure

- Overused and out of context / more is not merrier
- Reflection and understanding what to do with the data is important
- sometimes less is more

---

# Driving Innovation Change

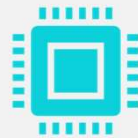
---



We need to inculcate a mind that accepts innovation can be imperfect for perfection to happen



And



Innovation is not only about a singular product technology it's about the harness of different technologies/sectors coming together that brings the best of it - open innovation

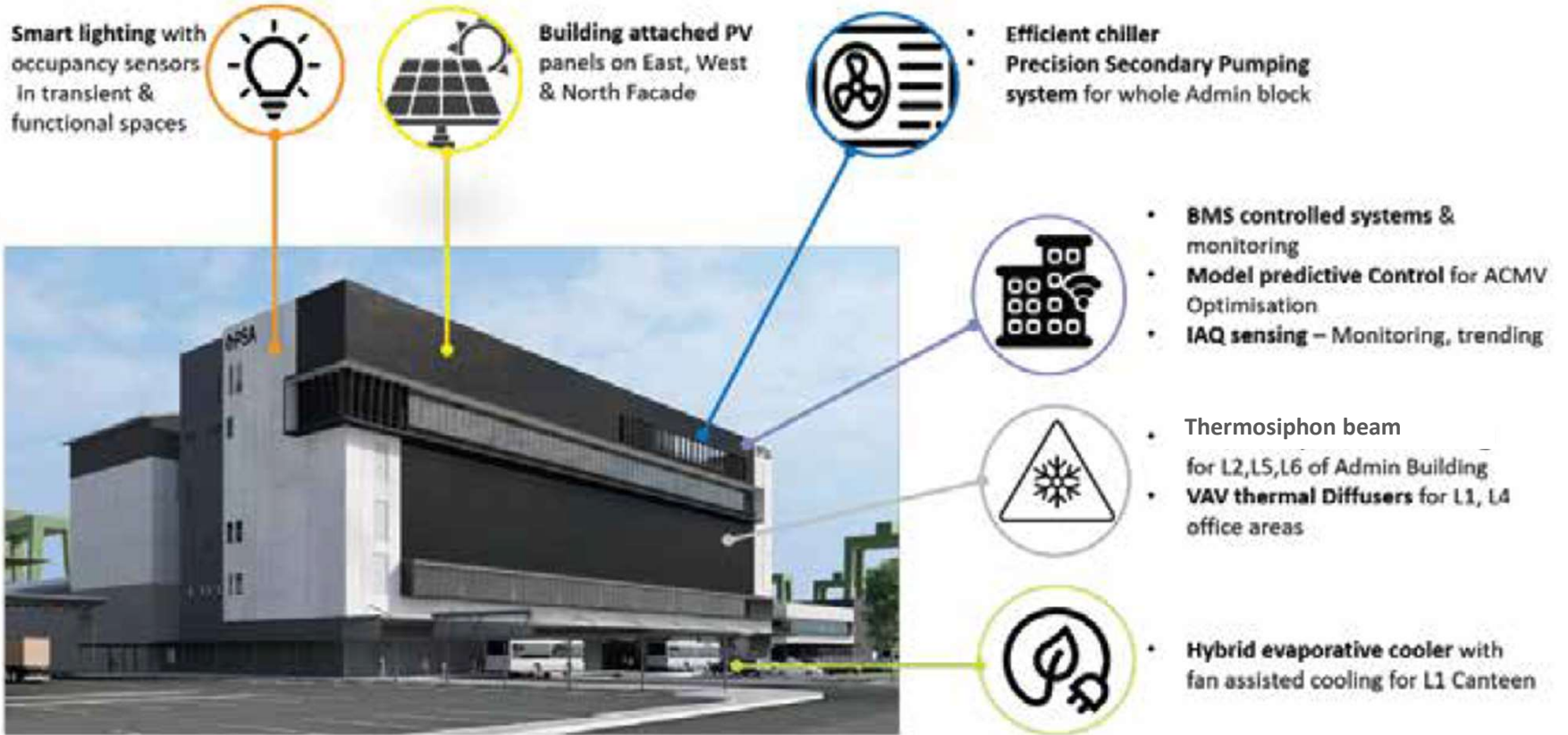
# PSA Singapore's First Super Low Energy Building



*consists of 8 buildings which includes an operations centre which will manage all hitects*



## Active Design Strategies - Admin Block - Aircon, Smart Control & Renewables



### 10 different Technologies

### Single Innovation Open Innovation

1. BAPV
2. Thermosiphon beam
3. Hybrid evaporative cooler
4. IEQ Anyly sence
5. Smart Lighting
6. Precision Sec Pumping
7. Thermal Break
8. AI – Model Predictive control
9. IBMS
10. FCU VAV

## PSA Maintenance Base – Admin Building

**GREEN MARK DISTRICT ( PROVISIONAL )**  
Only in Africa

**Energy**

To encourage energy efficiency by creating optimal conditions for the use of passive and active solar strategies.

**Quality of Life**

Community Services within the District :  
Hospital, School, Retail, Offices.

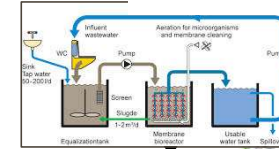


Wastewater Treatment Plant ( District Level)



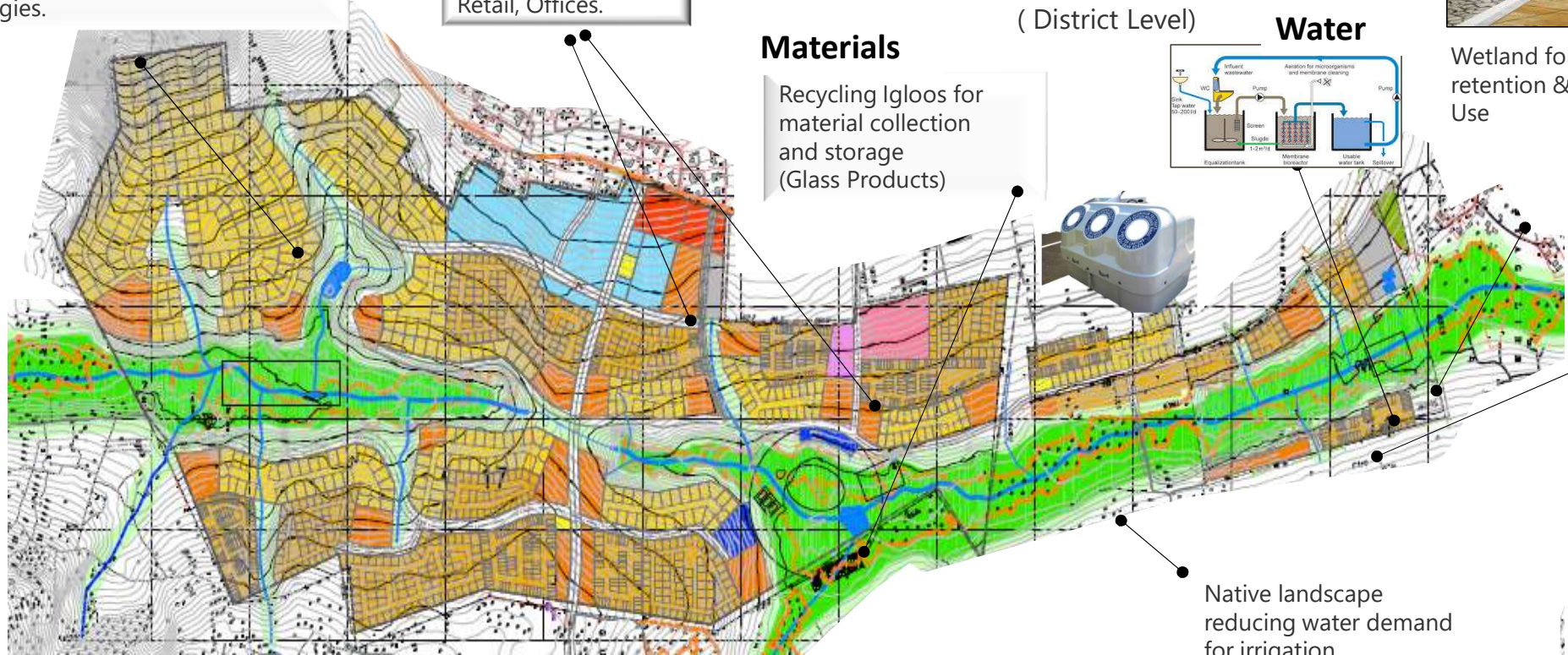
Wetland for storm water retention & Recreational Use

**Water**



**Materials**

Recycling Igloos for material collection and storage (Glass Products)



Regional Materials



Native landscape reducing water demand for irrigation

# KEY ENVIRONMENTAL STATISTICS

## Energy

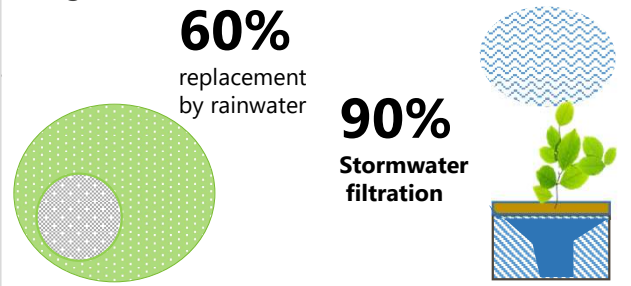
Energy efficiency for the exterior lighting system & public Infrastructure

**>20% Energy Consumption Reduction**



## Water

Wastewater Treatment Plant and rainwater collection for non-portable Proposes / Storm water Management



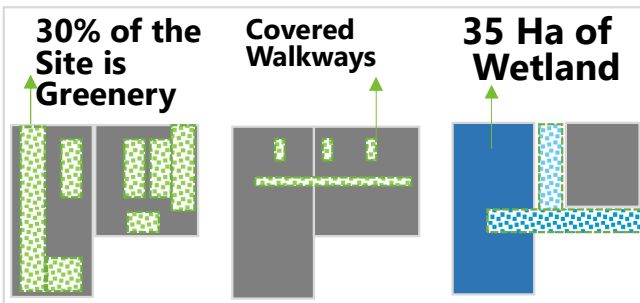
## Material and Waste

50% cut and fill soil will be reused.



## Planning

Green and blue spaces for recreation / Optimized solar orientation design



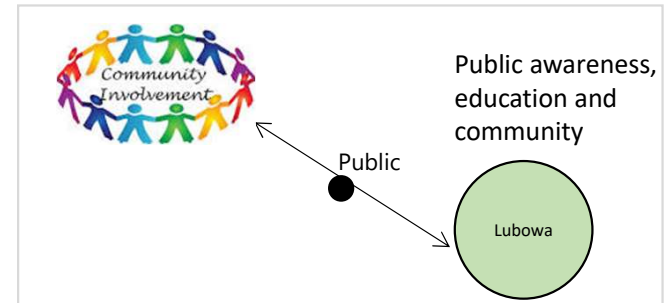
## Green Design

Green Urban Design Guidelines & Green Transportation strategies



## Community & Innovation

Shared facilities and Public Amenities for the Community



# Sustainability in Other countries

Driven by Resource Scarcity instead of all the below  
Environmental message is deeper

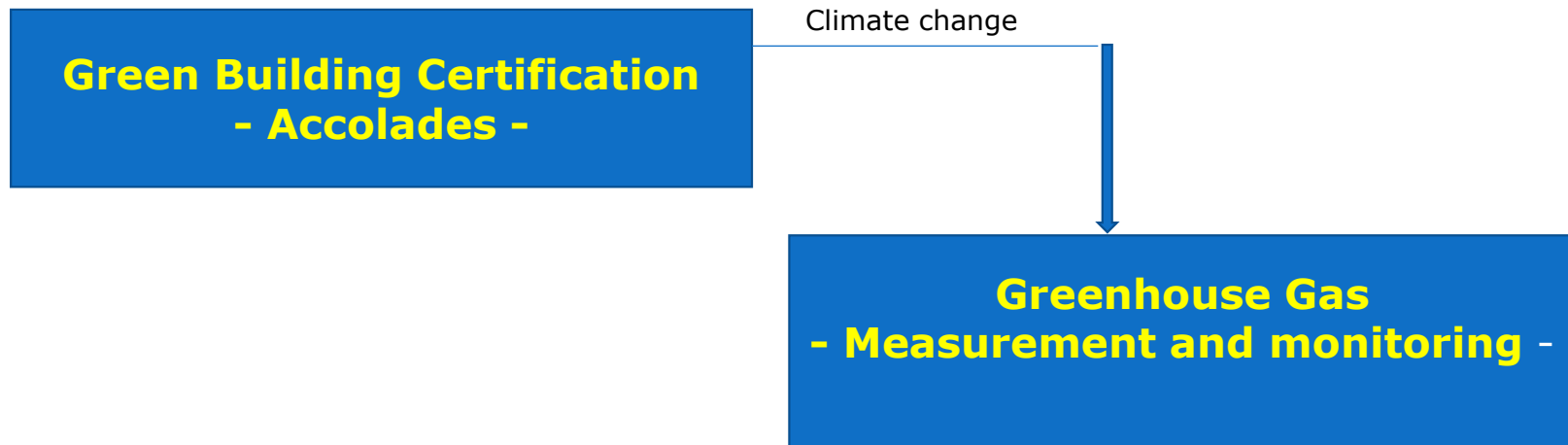
**Incentives**

**Compliance**

**Boss Said So**

**Peer Challenge**

# The Trend

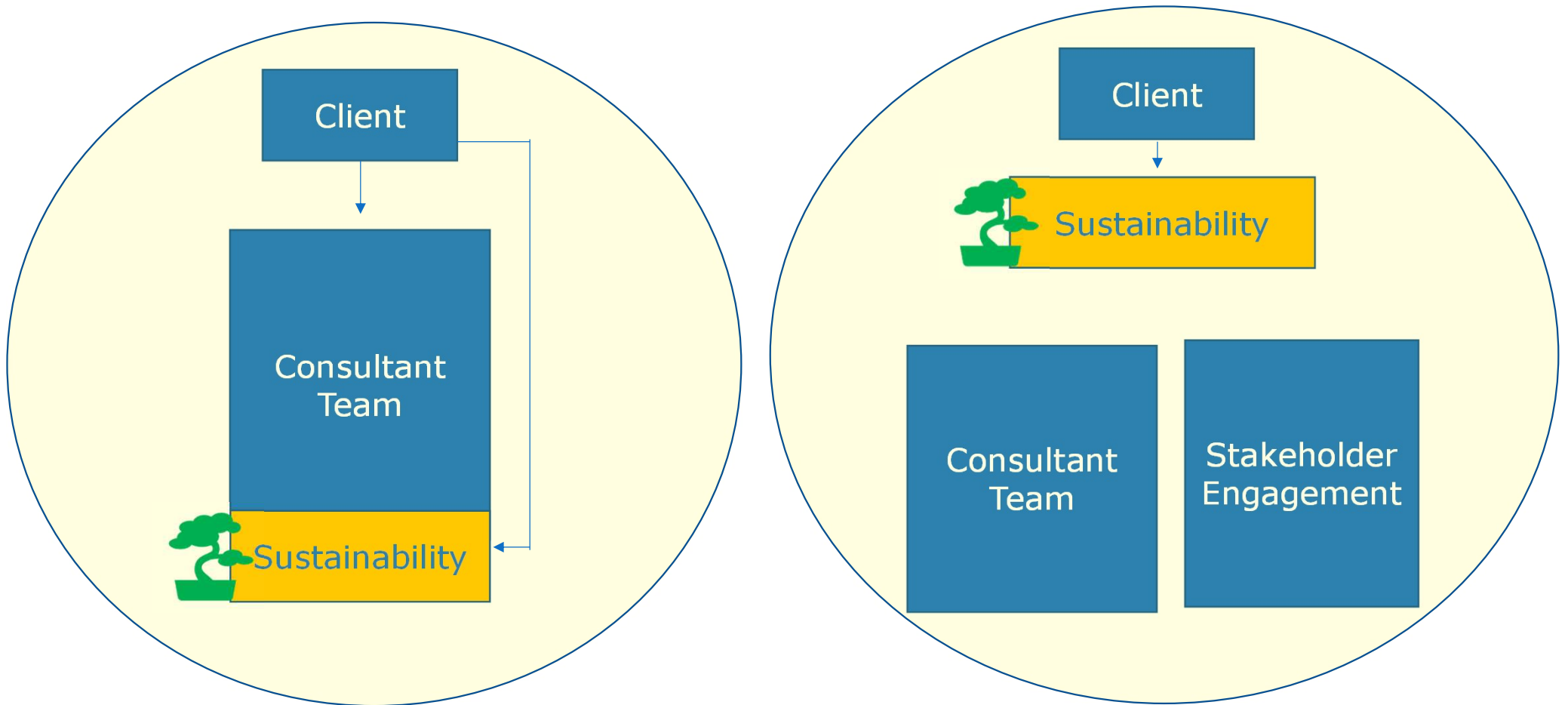



Everyone comes up with a plan / roadmap /etc  
but..  
If you don't have **a realistic** plan – you still fail



# The Trend

*Interesting shift in Project management ( sustainability at forefront)*





With appreciation for the environment comes  
deep change to mainstream higher sustainability  
targets

*Farizan d'Avezac de Moran*  
**GreenA Consultants Pte Ltd**  
*farizan@greenaconsultants.com*

