

# **BAY CITY APARTMENT**

Bay City, Metro Manila, Philippines

**Disclaimer:**

Dalam presentasi ini saya akan (*berusaha*) berlaku (*sebaik mungkin*) sebagai “sales”. contoh pemaparan desain pertama dalam presentasi ini adalah desain dengan data fiktif (yang saya sendiri buat dari hasil presentasi sebelumnya). Presentasi ini menggunakan scenario pemaparan desain kepada klien dengan pendekatan green.  
Skenario ini bersifat (*mayoritas*) fiktif.



# BAY CITY, MANILA

Area Bay City di Manila merupakan **area menengah keatas** yang memiliki fasilitas yang lengkap. Akan tetapi **belum banyak fasilitas hunian** yang ada di area tersebut. Oleh karena itu, lokasi tapak di Bay City ini cocok untuk memberikan pilihan kepada eksekutif dan masyarakat setempat untuk memilih tempat tinggal yang sudah dikelilingi berbagai fasilitas umum.



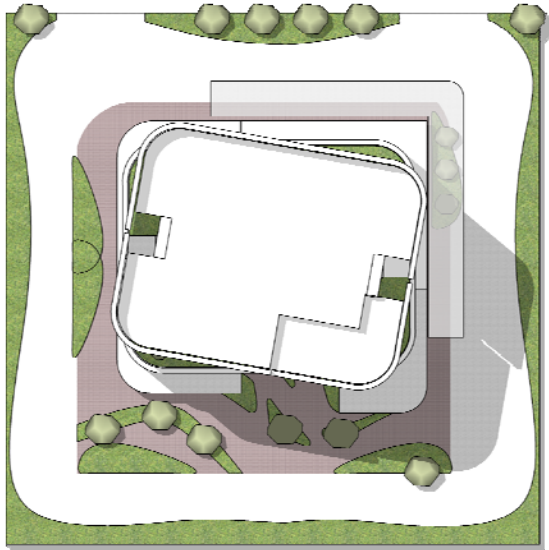
**“Modern Architectural themed  
residentials are in high demand now” –  
Lamudi, Philippines No 1 Real Estate  
Partner**



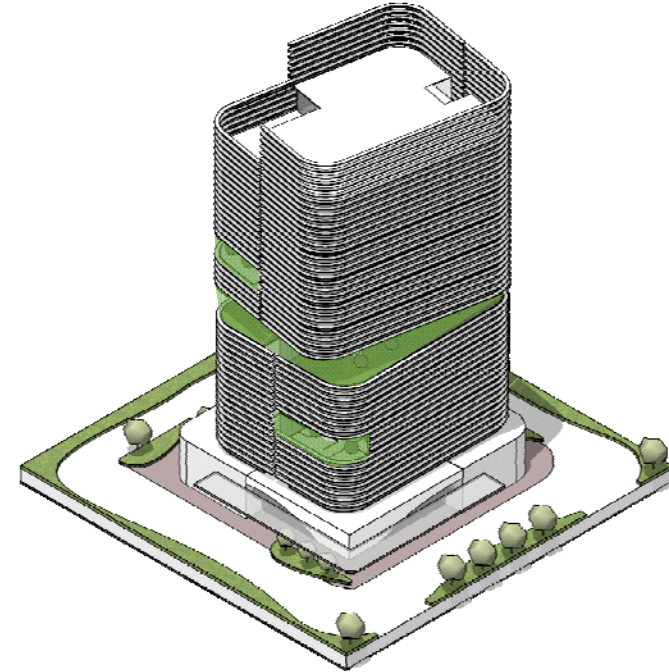


# BUILDING DATA

<b>Site</b>	: 3600m <sup>2</sup>
<b>Building Area</b>	: 5000m <sup>2</sup>
<b>Units</b>	: 50
<b>Occupancy</b>	: 4 people/unit
<b>Function</b>	: Apartment
<b>Floor</b>	: 13 floor (podium included) +
basement	



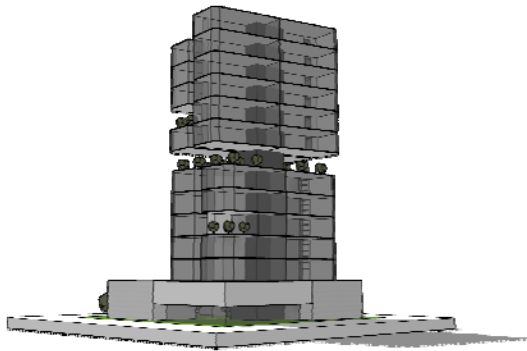
North (and South area) as façade has the **widest area**, minimizing the surface area on the warmer/hotter west (and east) side.



Giving void on building mass to give **green open space as public facility**

**DESIGN CONCEPT** Massing and facade

**Clear as Water**  
Visibility | Reflective



Using a reflective double glass to reflect the surrounding environment

**Flow like water**  
Fluid | Organic



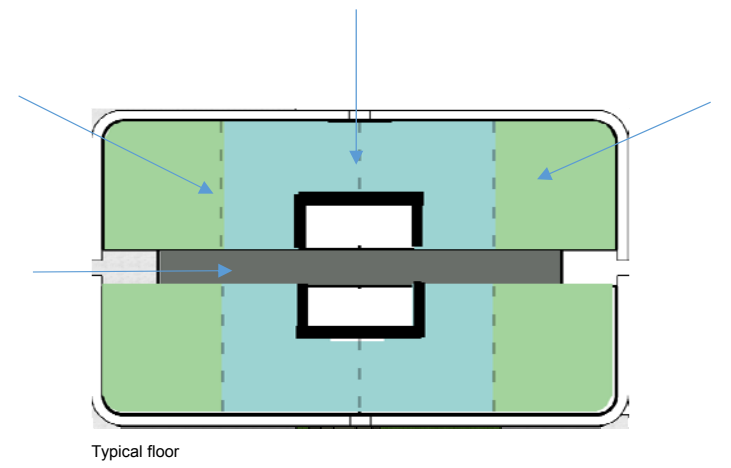
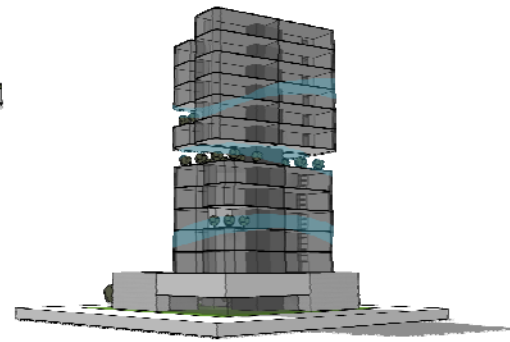
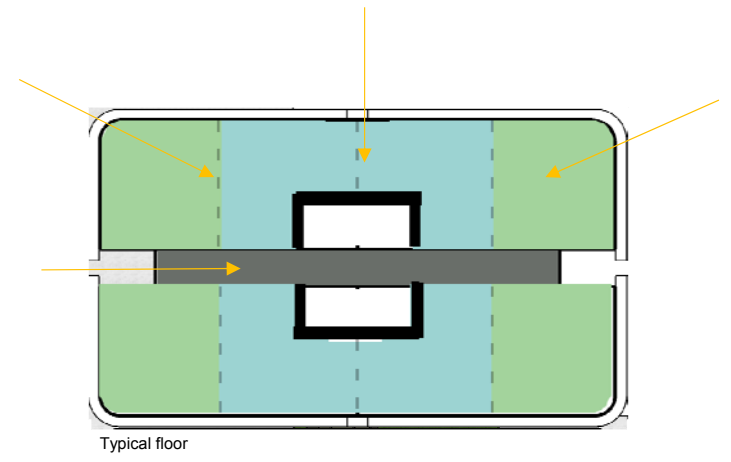
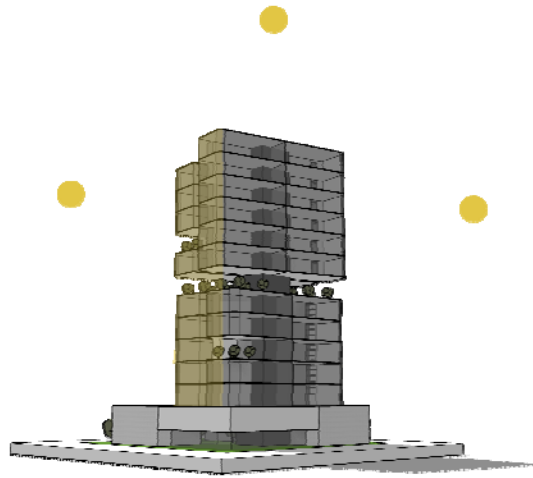
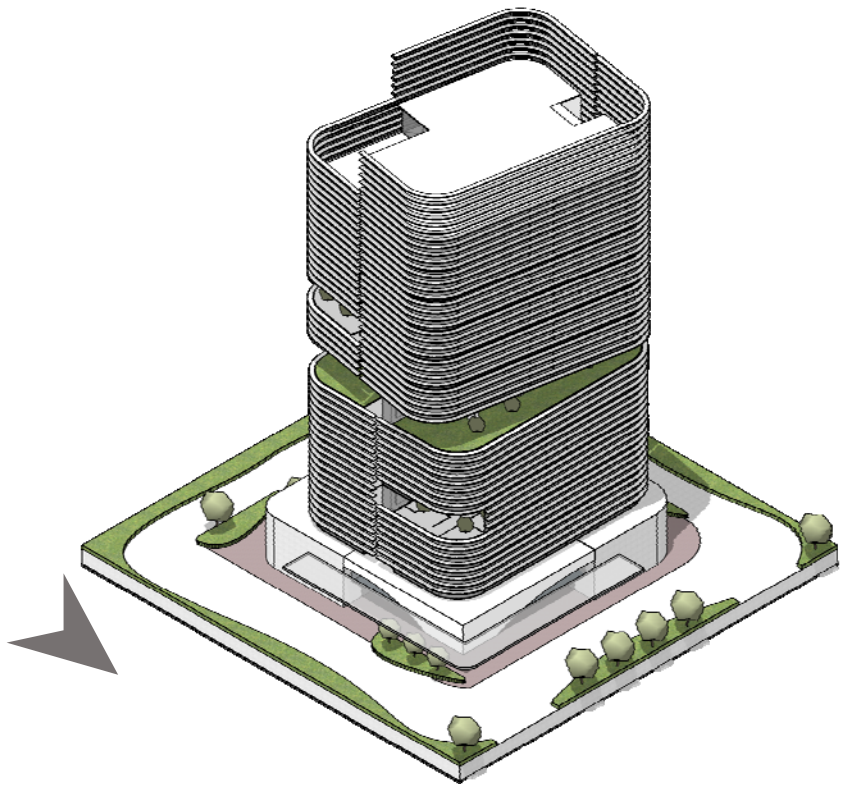
Horizontal shading as double façade giving fluid / organic impression to buildings design



Double façade as horizontal shading to the apartment / unit room

**DESIGN  
CONCEPT**

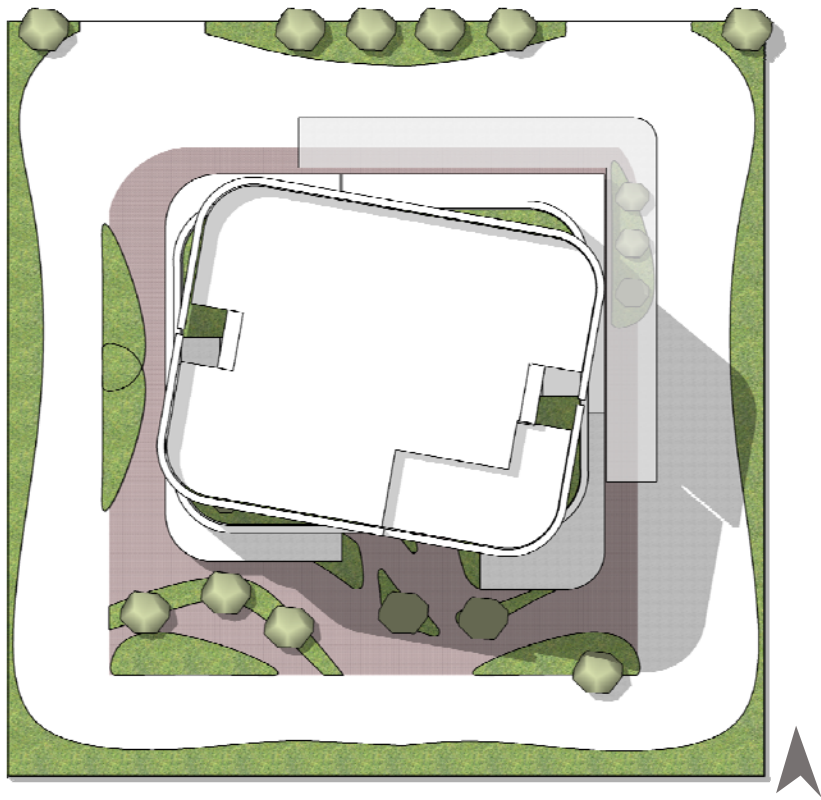
Massing and facade



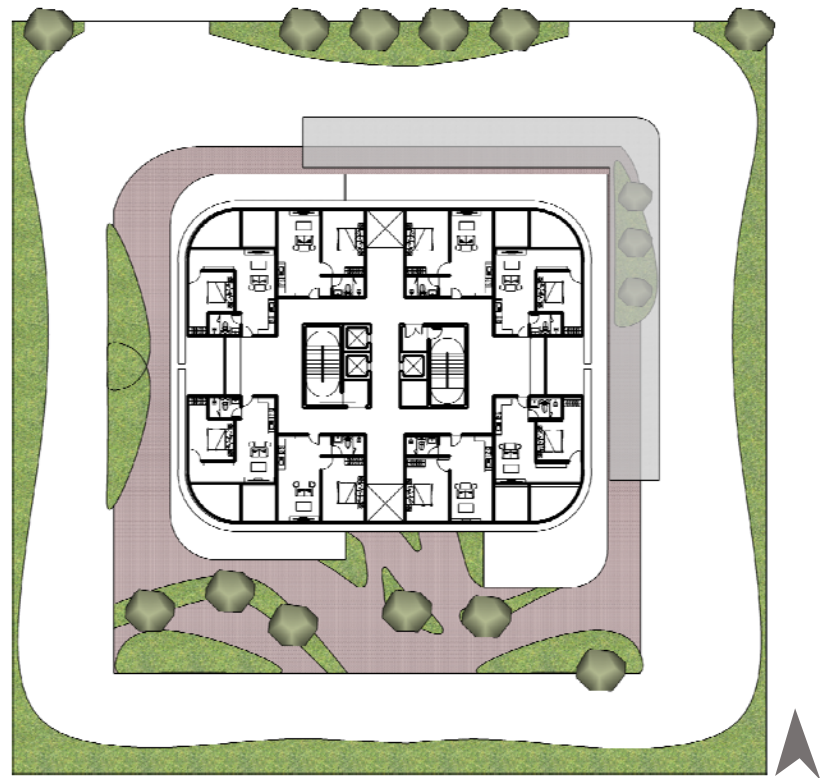
**TYPICAL  
FLOOR**

Daylight and Natural Ventilation

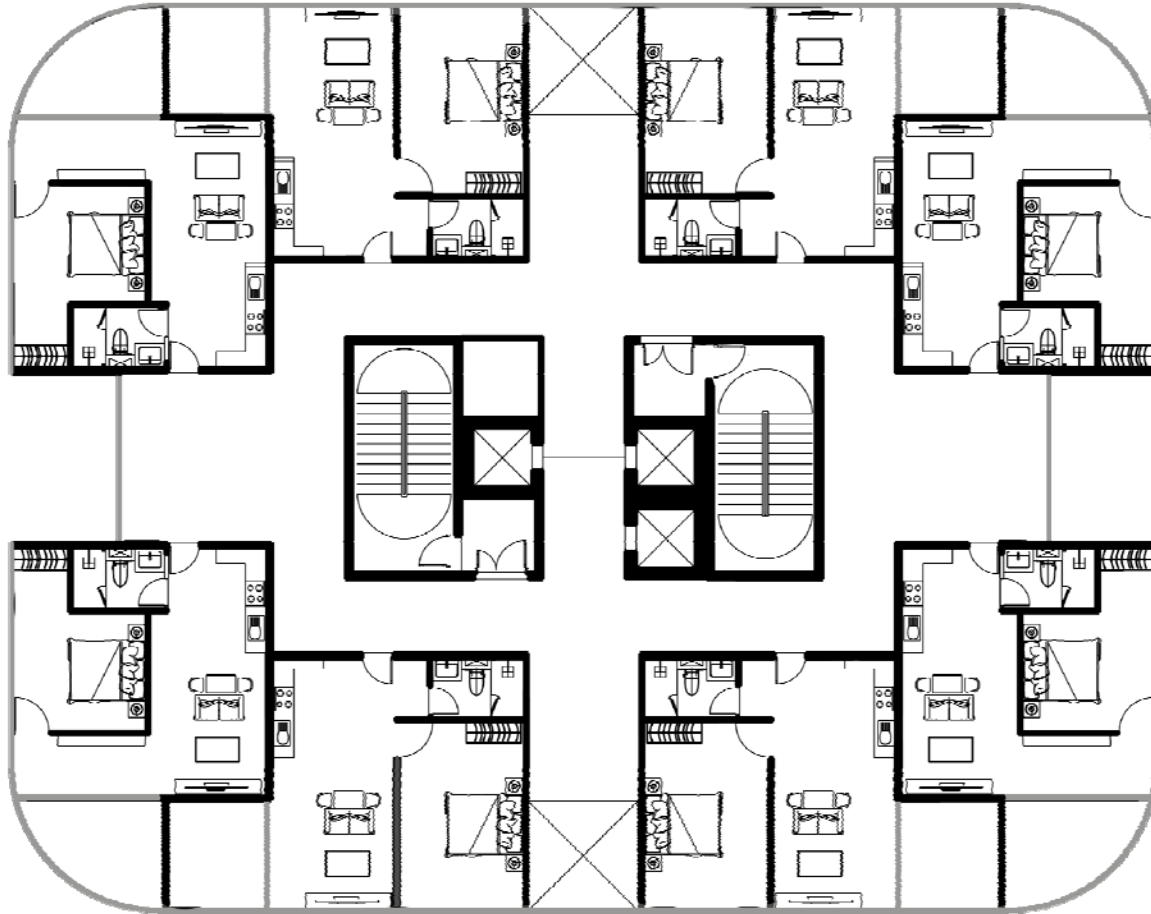




Situation Plan Drawing



Siteplan Plan Drawing



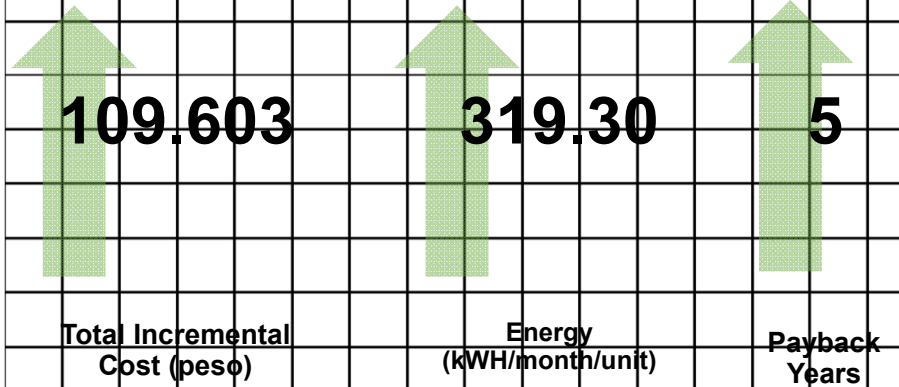
**TYPICAL  
FLOOR**

Plan Drawing





# Bay City Apartment





# Design without green concept



Effects on  
environment



Buildings cost



Not sustainable





**“Sustainable and eco-friendly real estate properties are the latest trend in Manila”**  
– Lamudi, Philippines No 1 Real Estate Partner

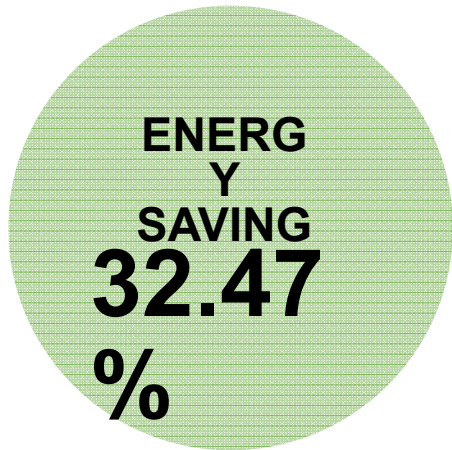
# **BAY CITY APARTMENT**

Bay City, Metro Manila, Philippines

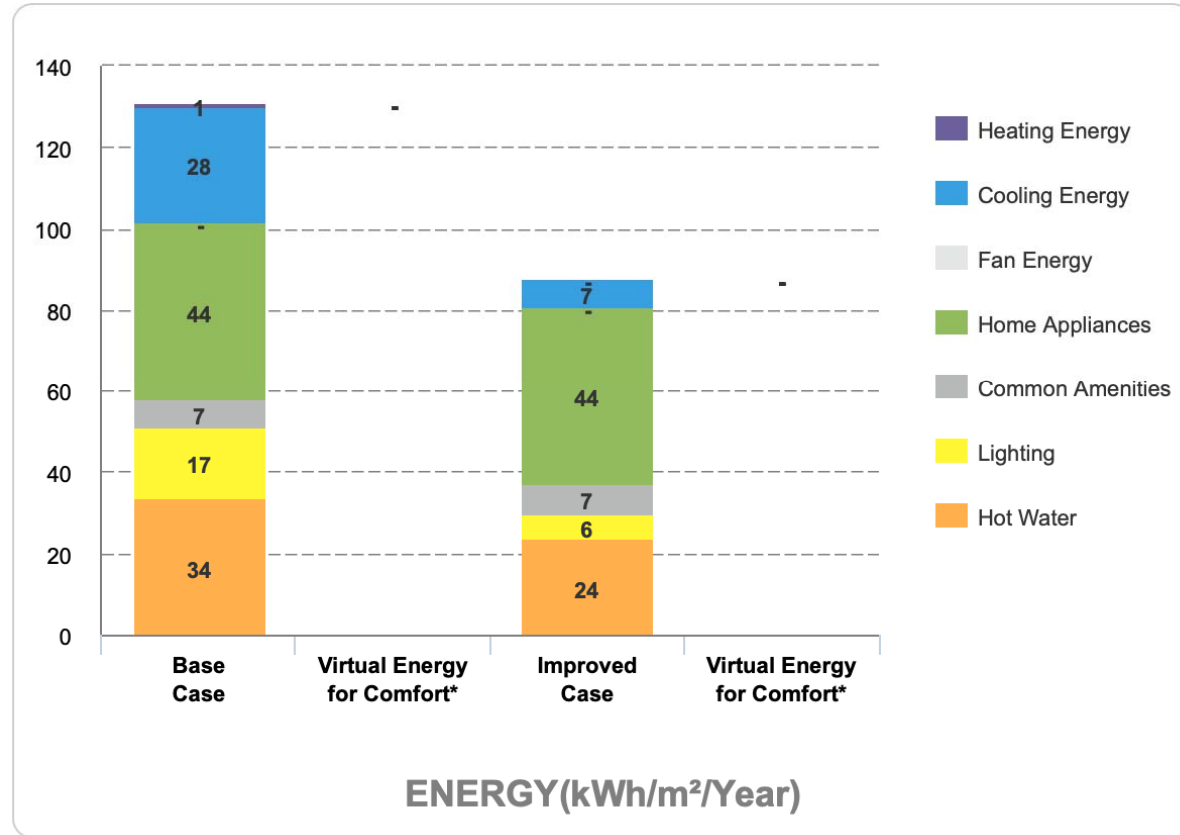
**UPGRADE**

## Energy

- WWR
- External Shading devices
- Low-E Coated Glass
- Natural Ventilation
- Air Conditioning System
- Energy Saving Light Bulb – Internal and External
- Lighting controls for common areas and outdoors



32.47% Meets EDGE Energy Standard



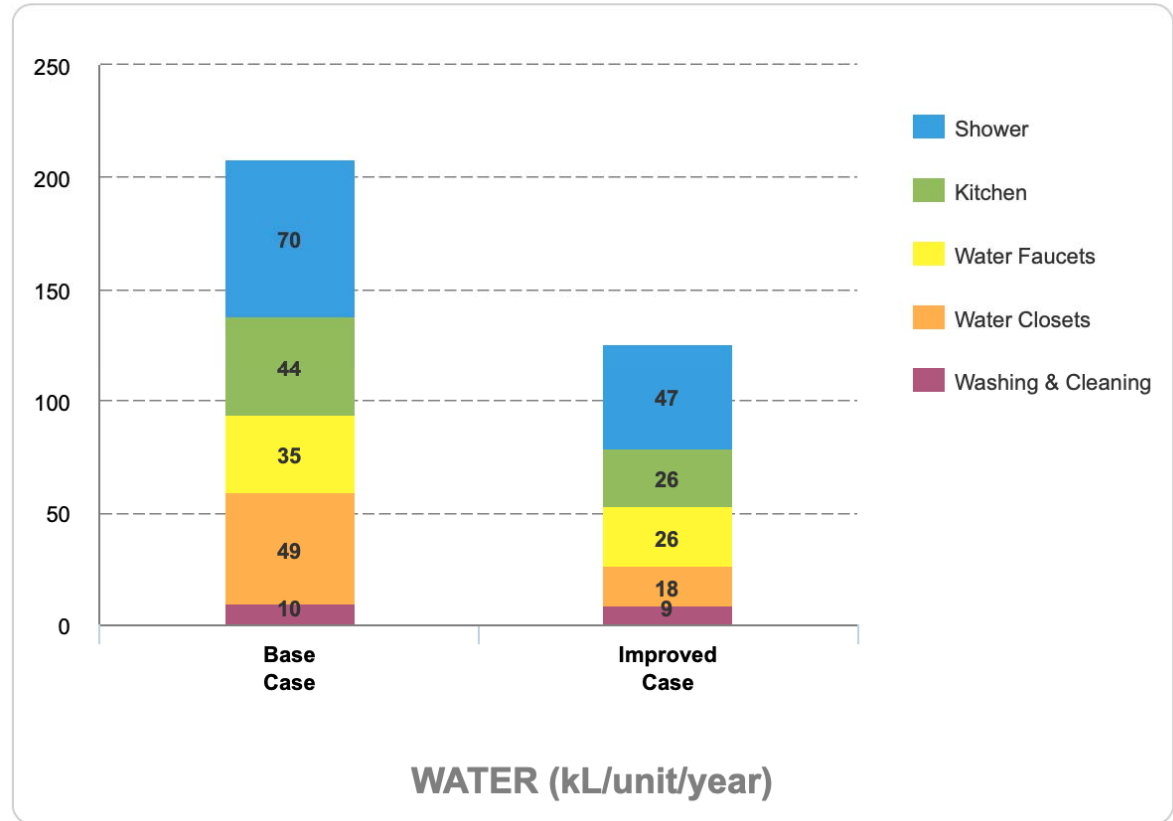
Final selected edge criteria

**WATER  
SAVIN<sup>G</sup>  
39.34%**

## Water

- Low-Flow Showerhead
- Low-Flow Faucets for Kitchen Sinks
- Low-Flow Faucets in All Bathroom
- Dual flush for water closets in All Bathroom
- Rainwater harvesting system

**39.34% Meets EDGE Water Standard**



**Final selected edge criteria**

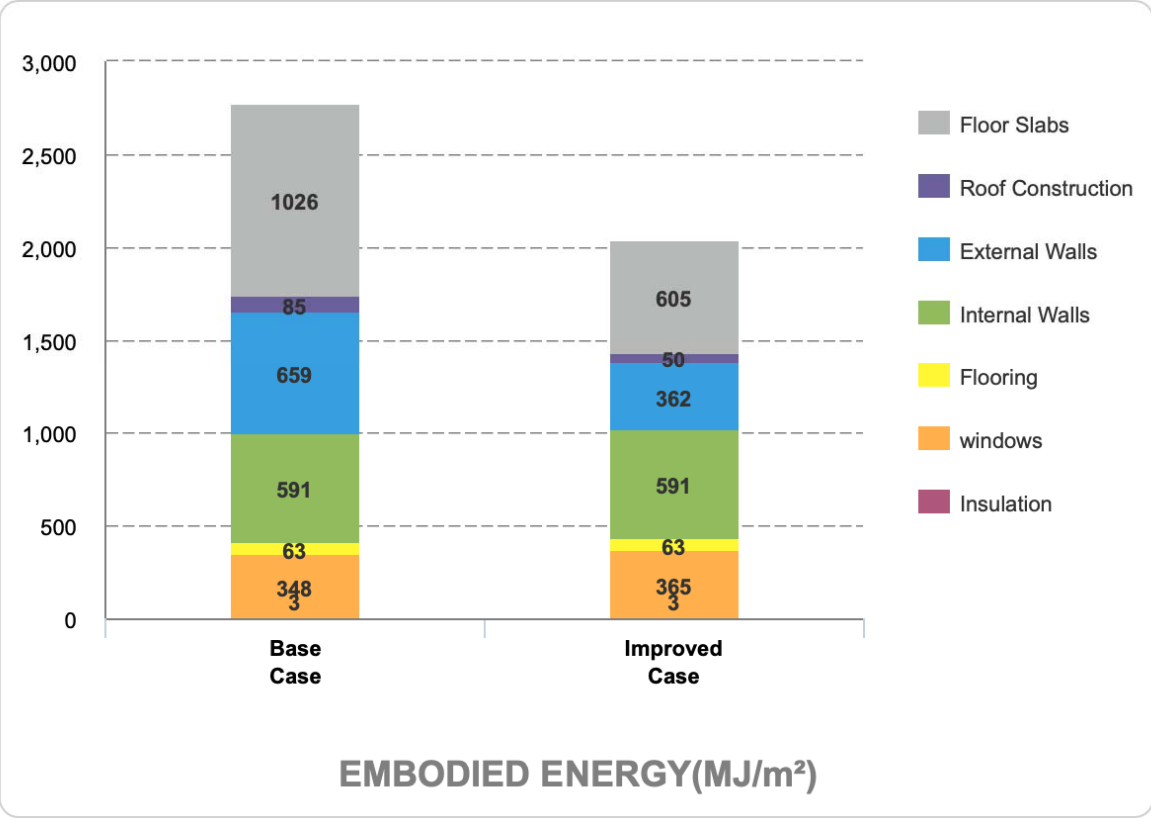


**MATERIAL SAVING**  
**26.50%**

### Materials

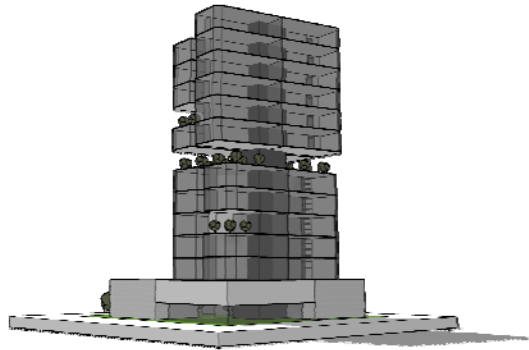
- In situ concrete with >30% FPA for Floor slabs and roof
- Precast concrete panel for external walls
- Common brick wall with plaster on both sides
- Ceramic tile for floor
- Aluminium for windows frame

**26.50% Meets EDGE Materials Standard**



**Final selected edge criteria**

**WWR**  
Window Wall Ratio



31.4% window wall ratio to achieve the most efficient and cheaper cost without bothering the design experiences.

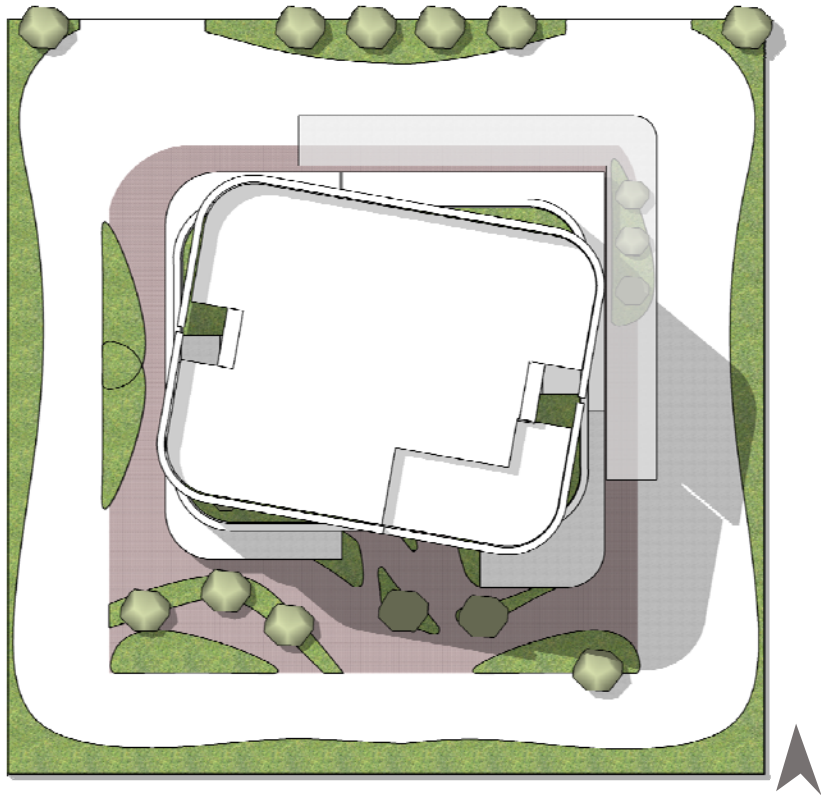
**Natural Ventilation**



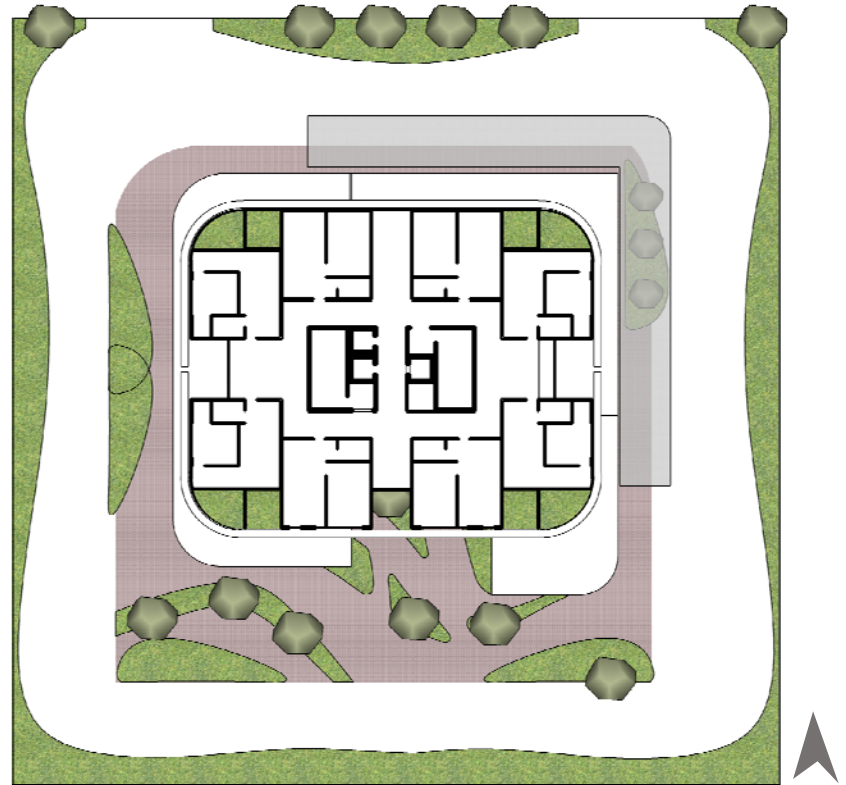
Giving natural ventilation with custom ventilation's design in unit apartment. Giving user fresh air.

**DESIGN  
CHANGES**

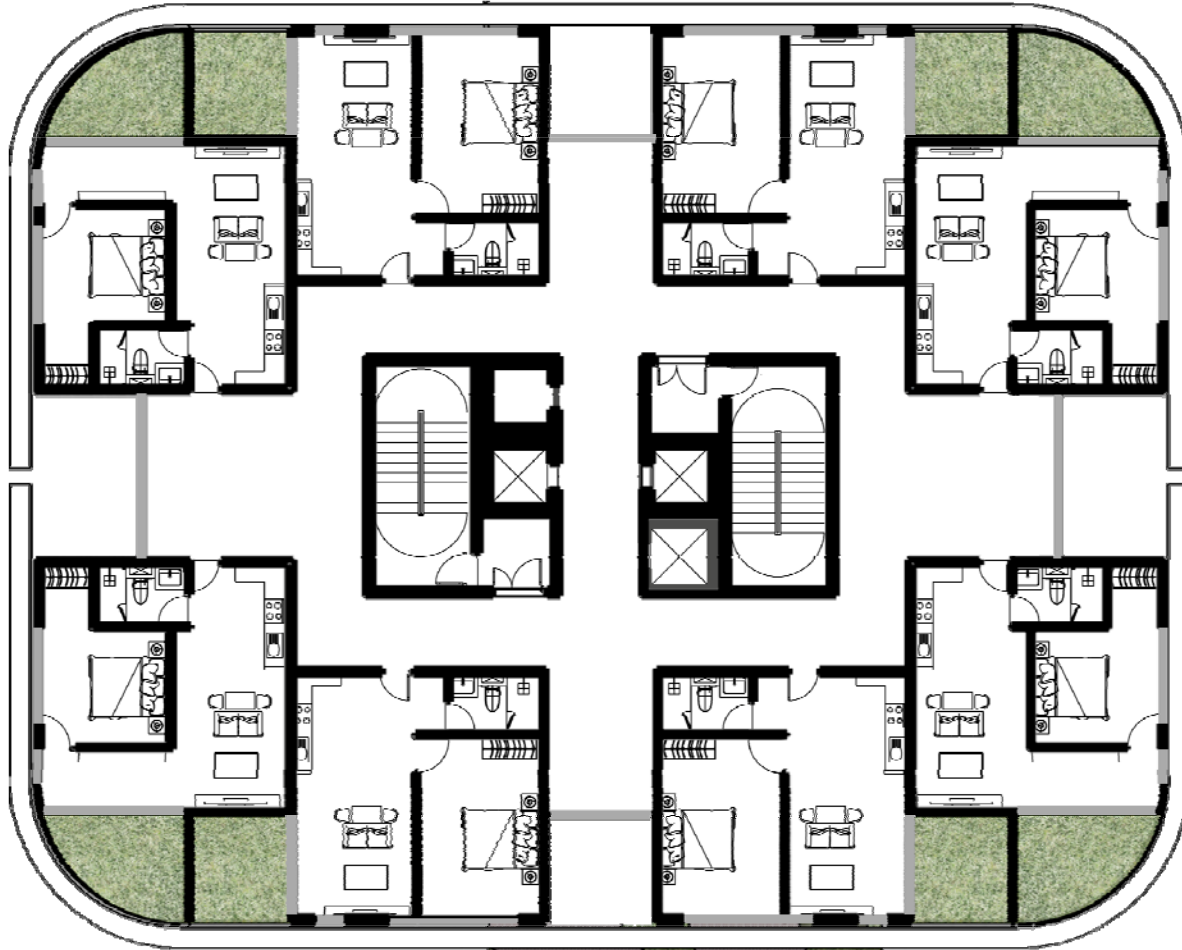
Façade and  
Interior



Situation Plan Drawing



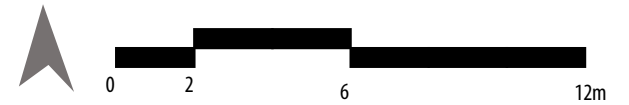
Siteplan Plan Drawing



Typical Floor Plan Drawing

**TYPICAL  
FLOOR**

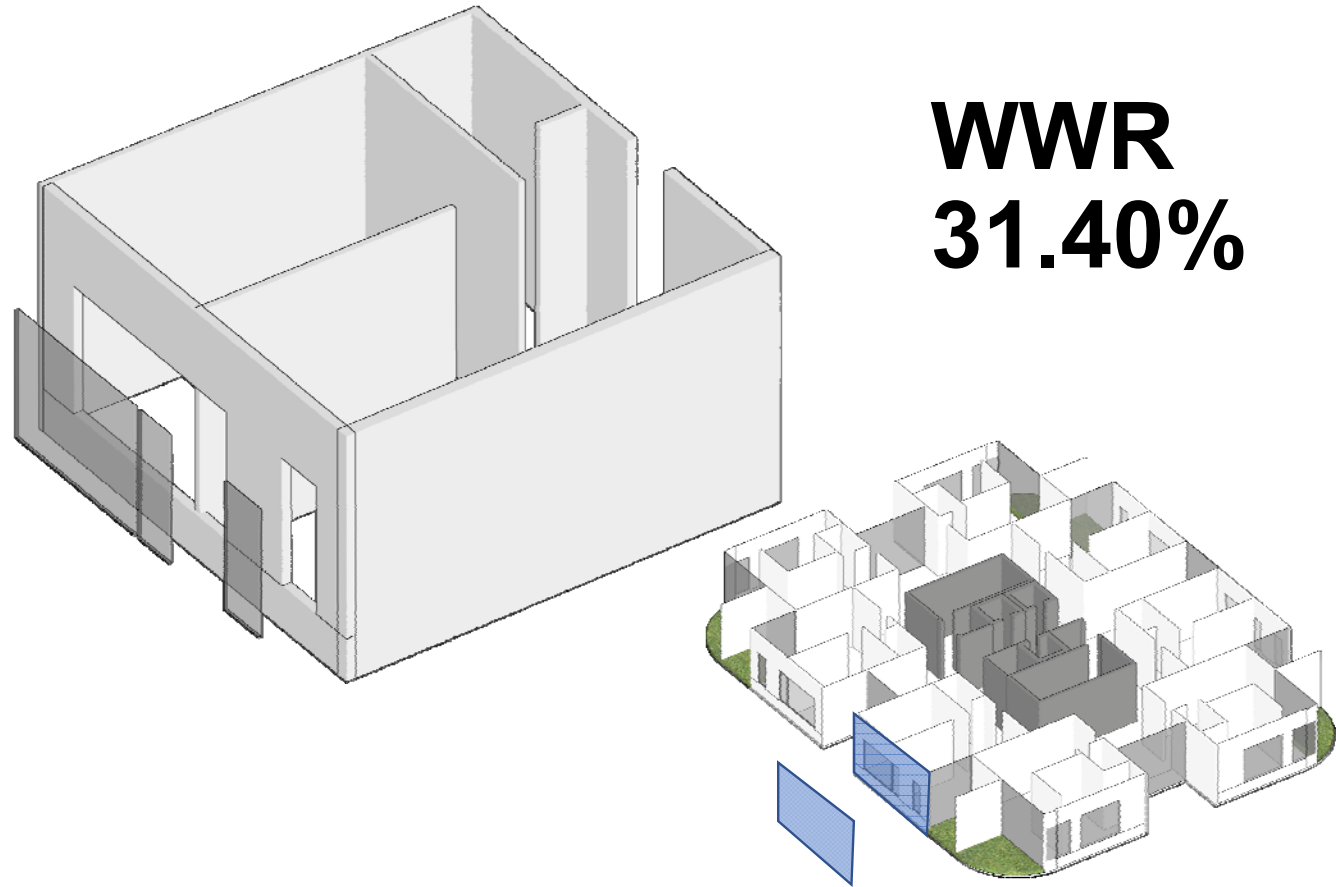
Plan Drawing



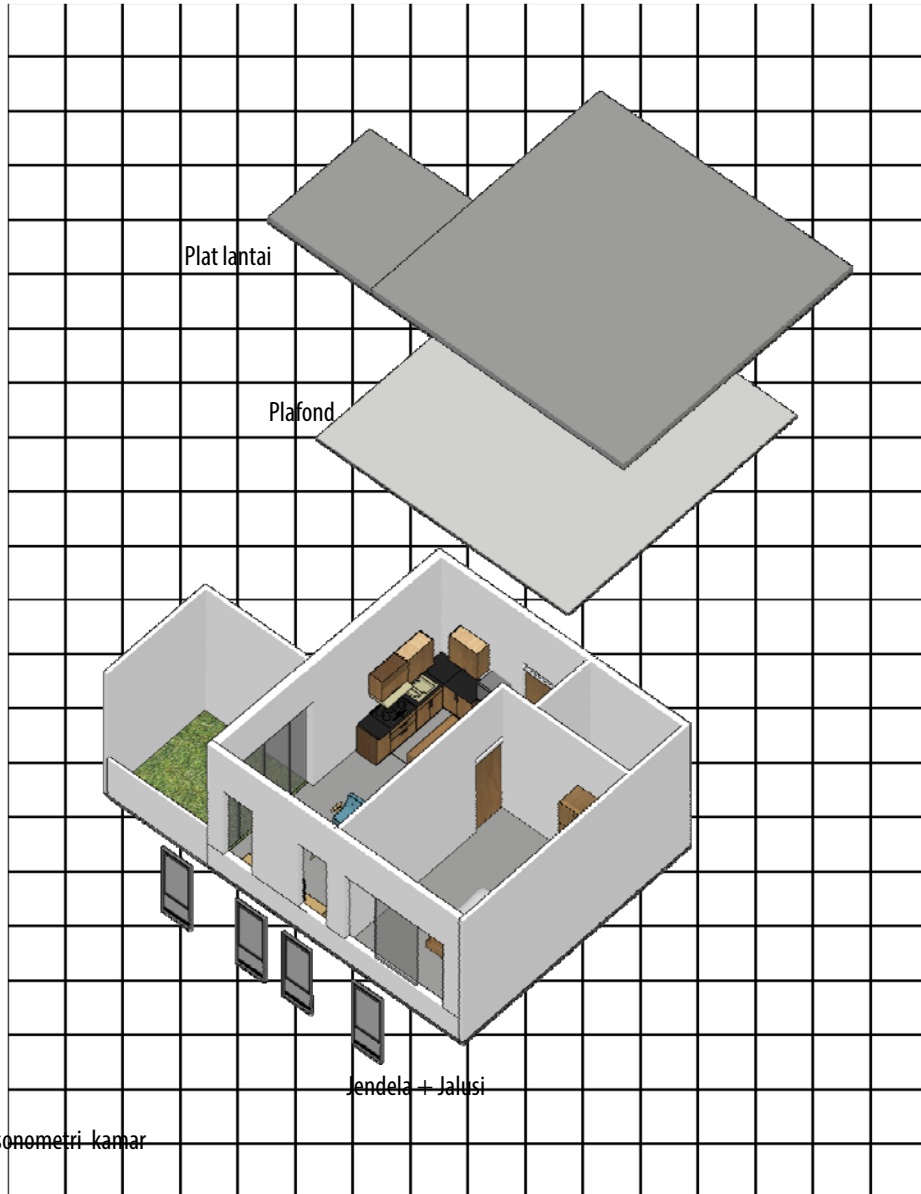


## Energy

- **WWR**
- External Shading devices
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**WWR**  
**31.40%**



Even though the window ratio to the wall become smaller, user can still got a big window to see the scenery and get the fresh air

## Energy

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AGC Group

## PT ASAHIMAS FLAT GLASS Tbk

### Sinergy

*Sigma Euro Gray 6mm*

U Value : 4.4

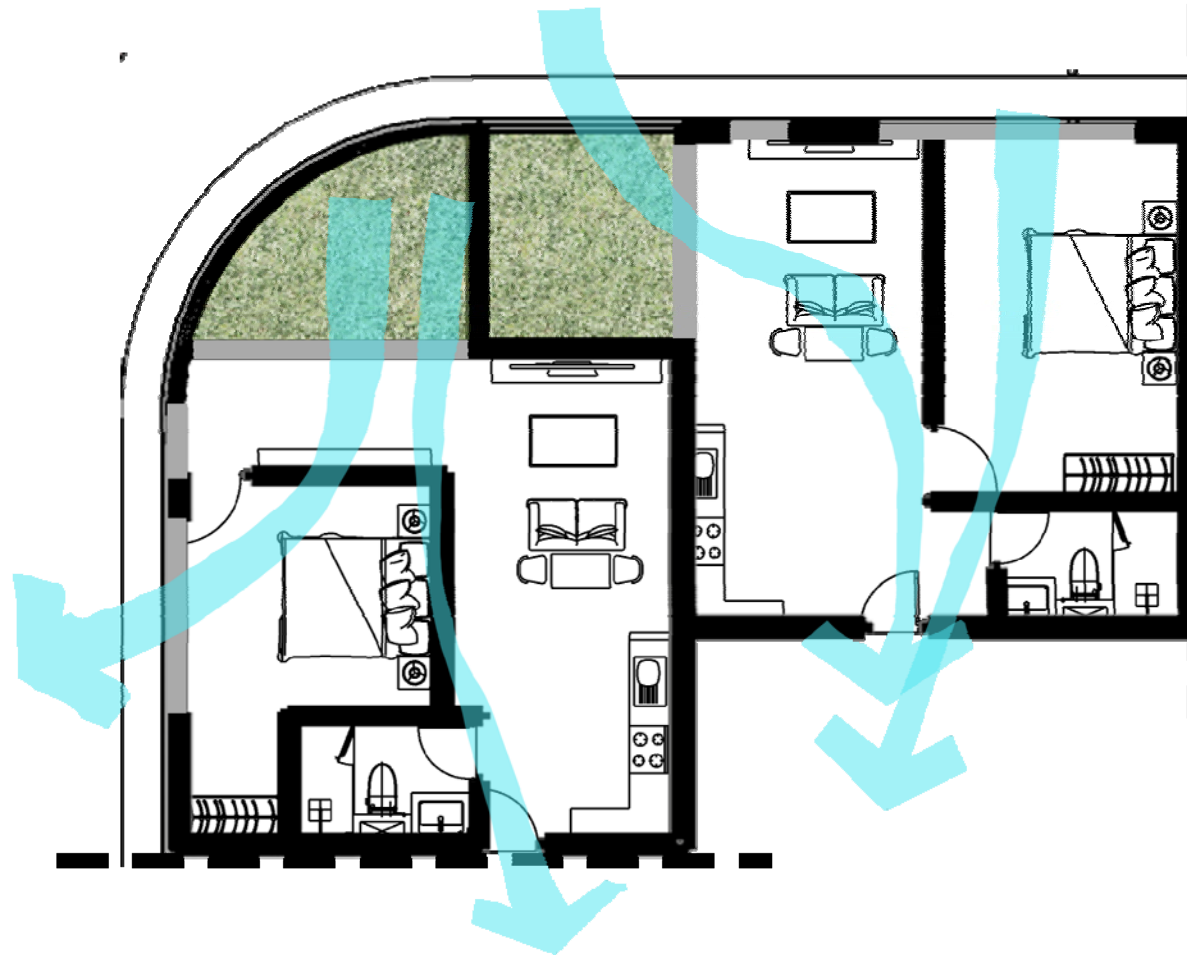
SGHC : 0.41

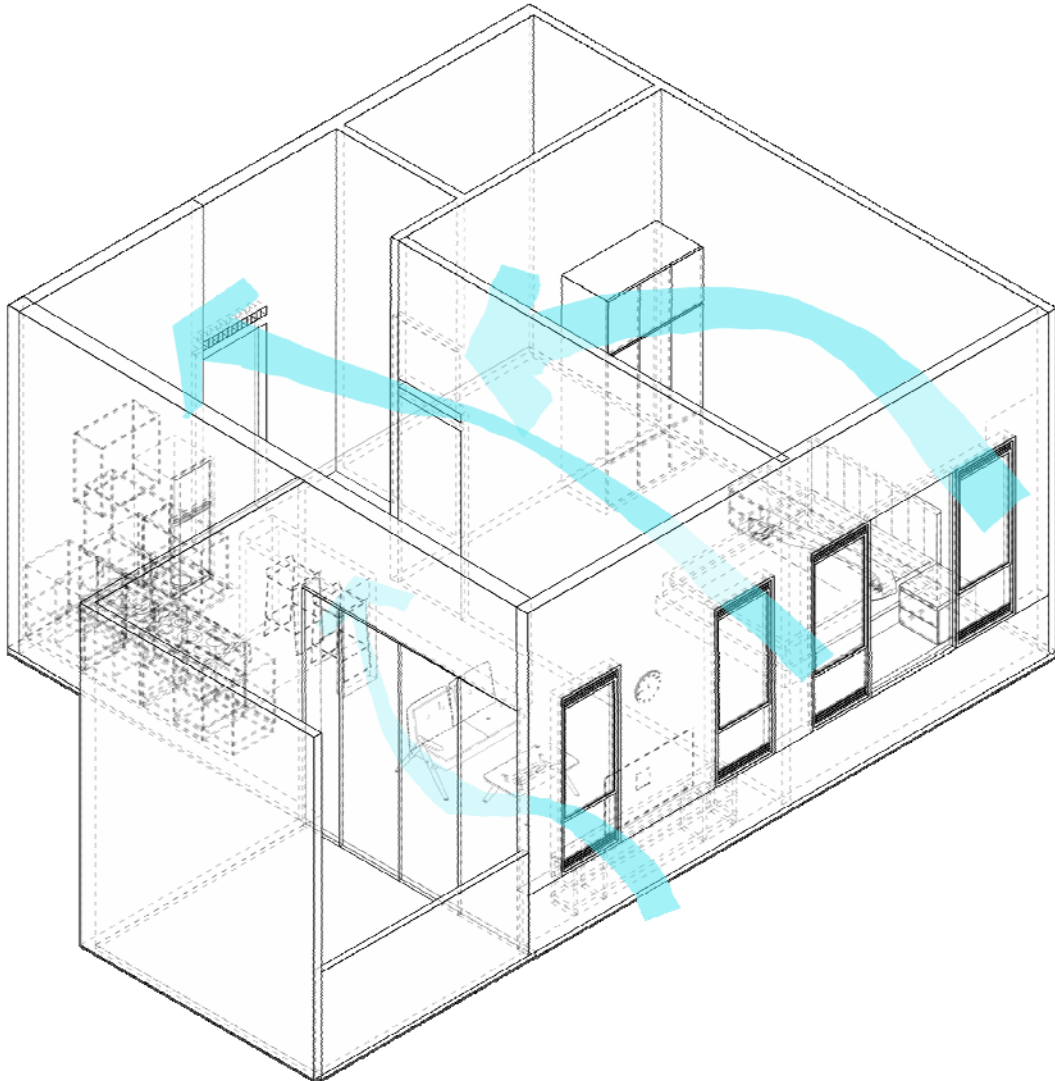


Sigma Euro Grey (SNSGE)	6	#2	25	8	27	22	7	71	36	0.41	4.4
	8	#2	21	7	26	18	7	75	33	0.38	4.3

## Energy

- WWR
- External Shading devices
- Low-E Coated Glass
- **Natural Ventilation**
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There are ventilation boxes above the door and ventilation boxes on the window so the natural air can circulate



## Energy

- WWR
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**LG**

**COP: 5.69**

**VRF Multi V5**

## Water

- Low-Flow Showerhead
- Low-Flow Faucets for Kitchen Sinks
- Low-Flow Faucets in All Bathroom
- **Dual flush for water closets in All Bathroom**
- Rainwater harvesting system



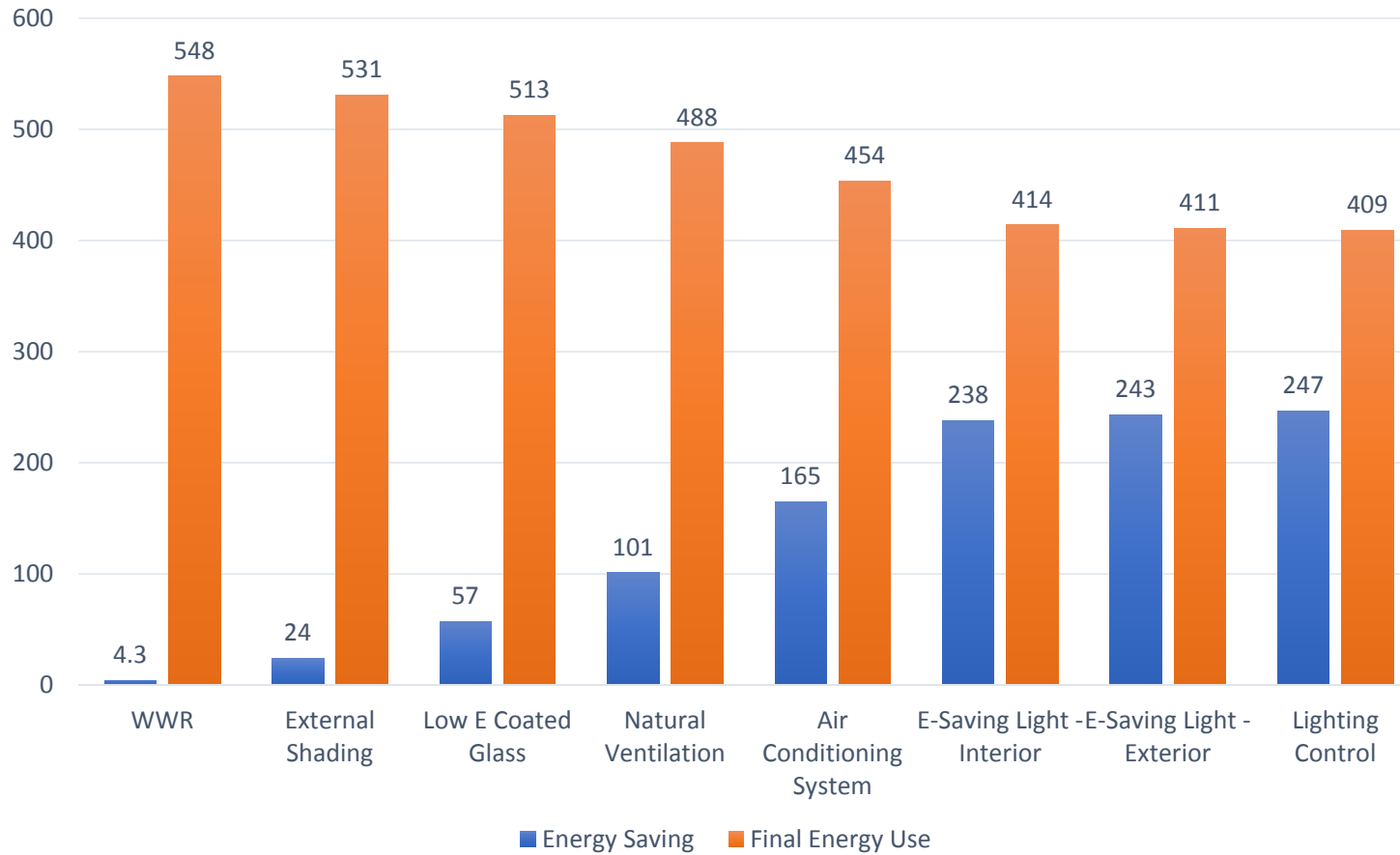
## CW635PJ/SW635JP1 (P-Trap)

4.5 / 3 L Dual Flush

Solid Duroplast Seat & Cover

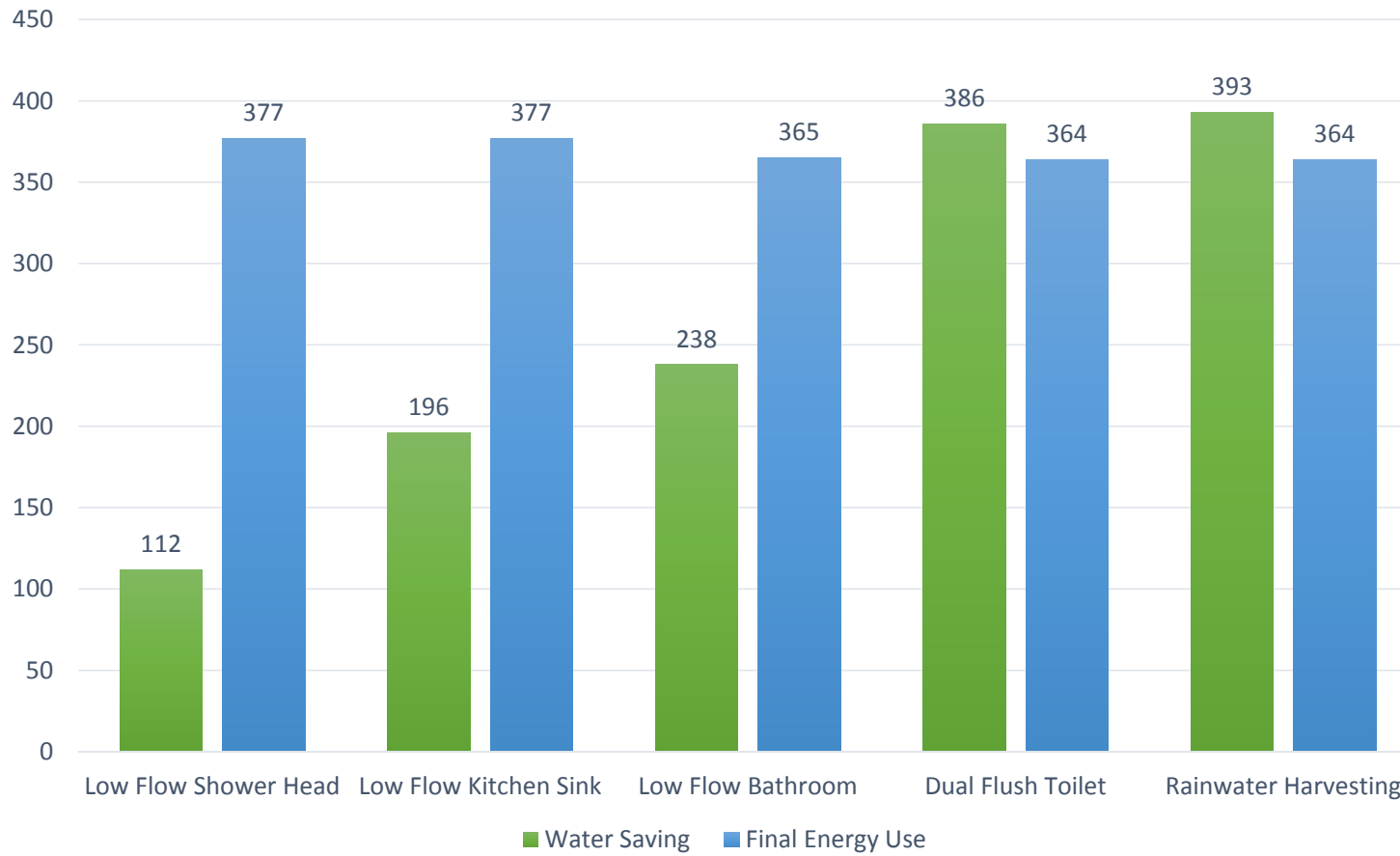
Bowl Shape: European Std.

## Energy Saving



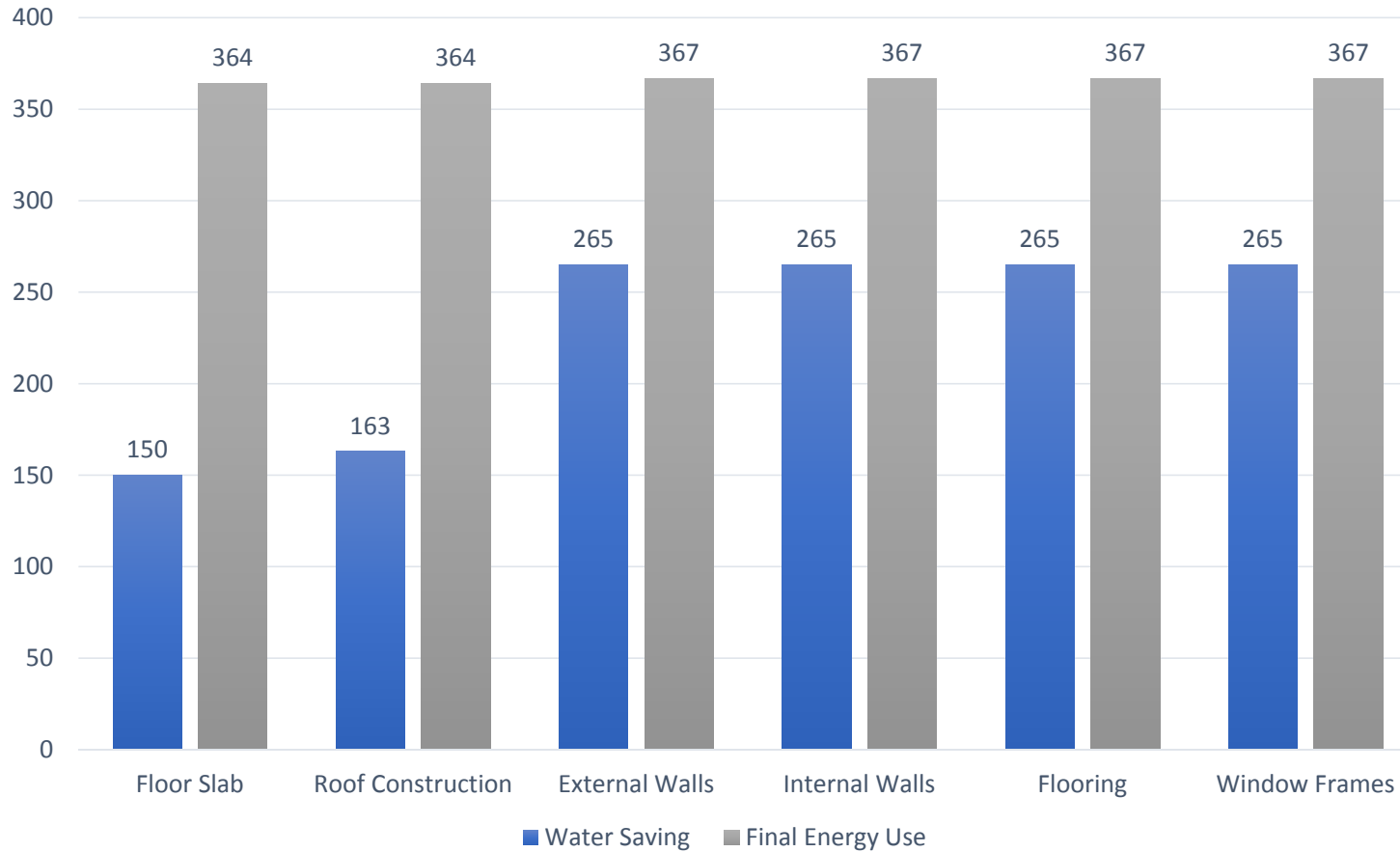
## Incremental Progress

## Water Saving



## Incremental Progress

## Material Saving



## Incremental Progress

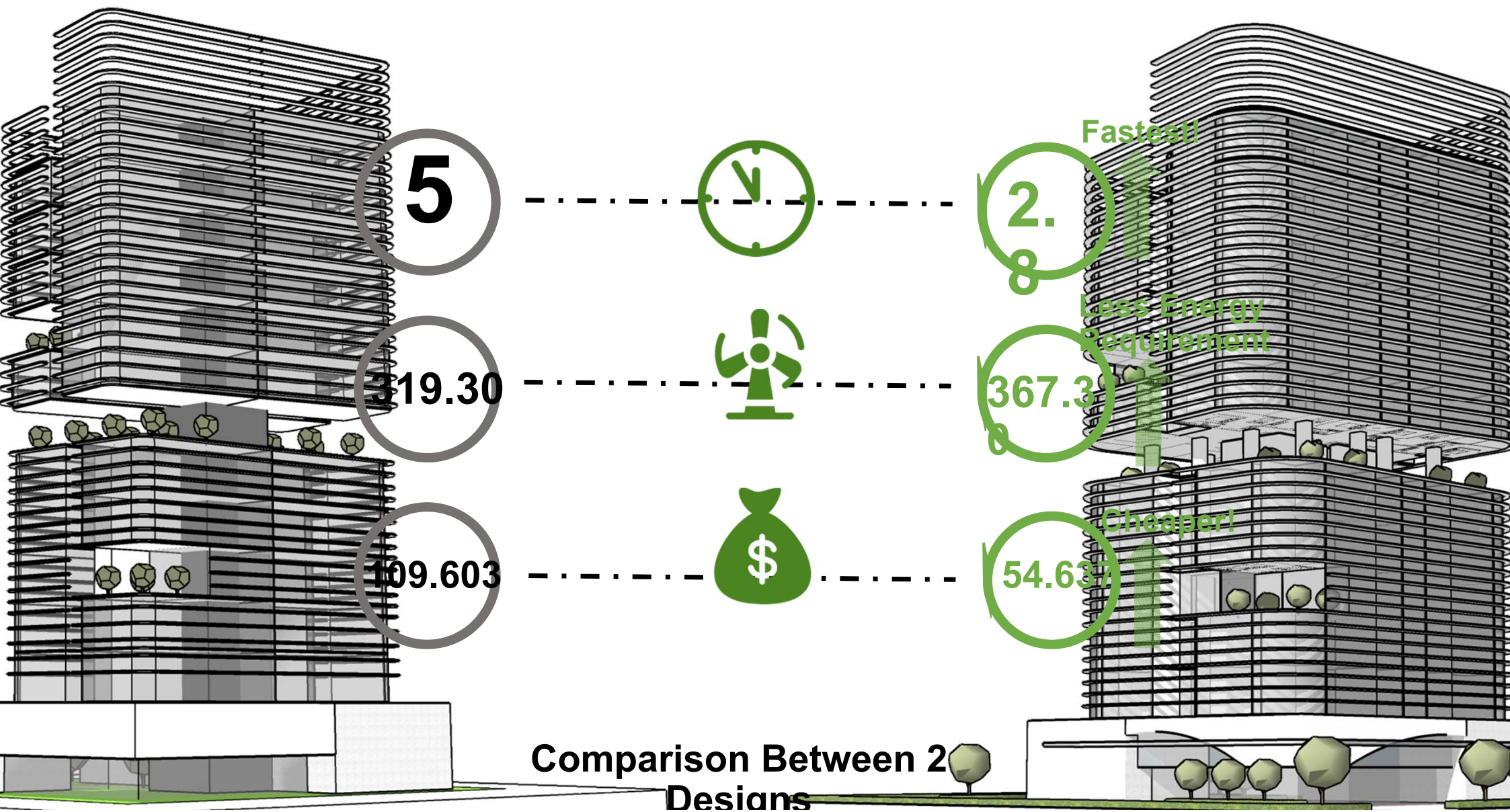


# Quantities final from edge

Final Energy Use kWh/Month/Unit	Final Water Use kL/Month/Unit	Total Incremental Cost (peso)*	Payback Period (years)	Total CO <sub>2</sub> saved (tCO <sub>2</sub> )	Total Embodied Energy of Materials Saved
367.63	10.52	54,637.69	2.82	1.26	37,341.30

Final Energy Use	367.63 kWh/Month/Unit	Operational CO <sub>2</sub> Savings	1.26 tCO <sub>2</sub> /Year...	Base Case Utility Cost	4818.45 PhP/Month/...	Incremental Cost	54,637.69 PhP/...
Final Water Use	10.52 kL/Month/Unit	Embodied Energy Savings	37341.30 MJ/Unit	Utility Cost Reduction	1,616.78 PhP/Month/...	Payback In Years	2.82 Yrs.

\*54,637.69 peso = IDR 14,943,061.17 jt



Comparison Between 2 Designs

**Have you  
decided yet?**



**Muhammad Nu'man Muttaqi  
48116**

