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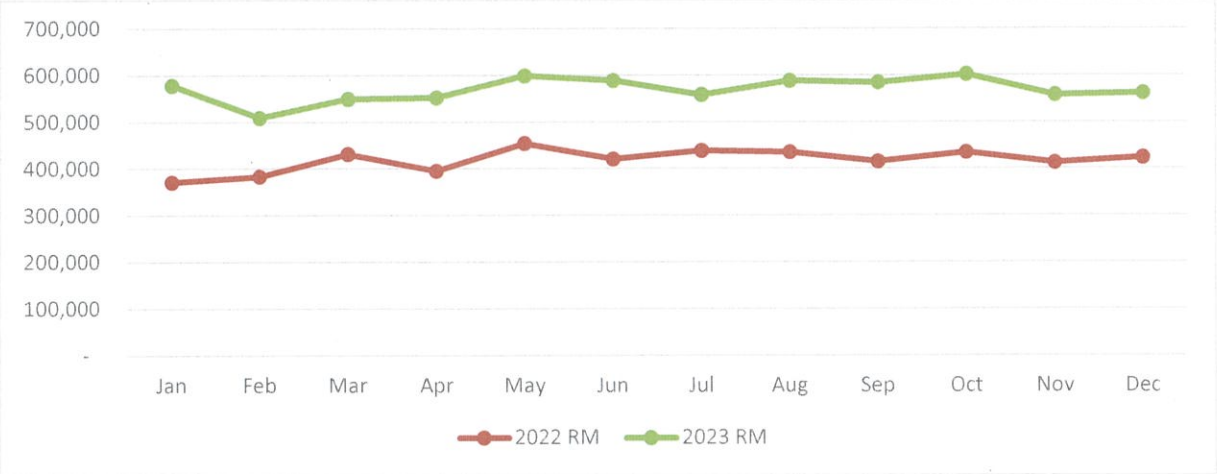
Plaza 33
Audit Report
Year Ending 2023

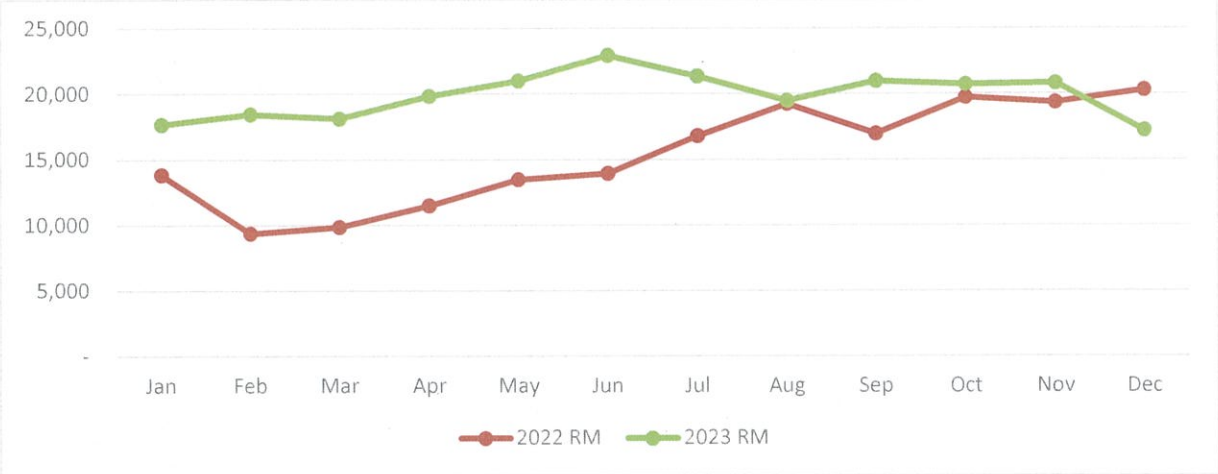
Consumption of Water and Electricity

This report conducts an analysis of electricity and water consumption patterns at Plaza33 from 2022 to 2023. When looking at the increased consumption of electricity and water in Plaza33 from 2022 to 2023, it's important to understand the various reasons behind this rise. While we're dedicated to environmental, social, and governance (ESG) principles, fully grasping why usage changed requires careful consideration. This report aims to explain why electricity and water consumption went up during this time, considering our ESG commitments.

Plaza33 - Electricity Consumption of Year 2022 to 2023



Plaza 33 - Water Consumption of Year 2022 and 2023



The increase in occupancy from 74% in 2022 to 81% in 2023 and return of office tenant after the relaxation of pandemic-related restriction are the significant factors contributing to the rise in electricity and water usage for several reasons:

- **Increase of occupants:** With a higher number of tenants, there are more individuals using facilities and amenities within the office building. This includes using lights, air conditioners, computers, printers, and other electronic devices that require electricity, as well as increased usage of water for drinking and sanitation.

- **Extended Operational Hours:** A greater number of occupants often leads to extended operational hours for the office building. This means that lighting, heating, and cooling systems are running for longer periods, resulting in increased electricity consumption. Additionally, more frequent use of water-related facilities throughout the day contributes to higher water usage.

- **Increased Business Activity:** A higher occupancy rate may also indicate increased business activity within the office building, such as more meetings, events, or client visits. This can result in additional electricity usage for equipment, lighting, and presentation tools, as well as greater demand for water for catering purposes or additional restroom usage. With more people occupying the building, common areas such as cafeterias, break rooms, and meeting rooms are likely to be used more frequently. This leads to higher electricity consumption for lighting, appliances, and cooling systems in these areas, as well as increased water usage for cleaning and maintenance.

- **Increased Business at Podium-Level Restaurants:** A notable contributor to the increased water consumption in 2023 was the improvement in business activity at the restaurant located at the podium level of Plaza33. Following the lifting of Movement Control Orders (MCOs) and the subsequent relaxation of pandemic-related restrictions, patrons increasingly opted for dine-in experiences. As a result, more customers dining at the restaurant led to increased water usage for cooking, washing dishes, and cleaning.

Recommendations for Office Tenants and Retailers in Plaza33:

- **Energy-Efficient Practices:** Encourage office tenants and retailers to adopt energy-efficient practices such as using LED lighting, turning off equipment when not in use, and optimizing heating, ventilation, and air conditioning (HVAC) systems.

- **Water Conservation Measures:** Implement water-saving initiatives such as installing low-flow faucets and toilets, fixing leaks promptly, and promoting awareness among employees and customers about water conservation.

- **Collaborative Efforts:** Encourage collaboration and sharing of best practices among office tenants and retailers to collectively work towards reducing overall energy and water consumption within Plaza33.

Waste Stream

The total amount of waste examined during the audit was 271,830.55 kg compared to 193,928.90 kg for the previous year 2022 resulting in a 28% increase in total waste produced in Plaza33; Of which the following sub-totals for each waste type:

- 17,640.55 kg of waste was successfully diverted for recycling
- 254,190.00 kg of waste was sent to the landfill
- There was a notable decrease in segregable paper and cardboard waste compared to the year prior due to Plaza33's managements' directive to stop providing single use hand paper towel and recommencing used of hand dryer. Provision of single use hand paper towel was part of Plaza33's CoVid19 Contingent Plan.
- There was notable increase in all other segregable waste item category: Metal Cans, Plastic / PET bottles and E-Waste for the year 2023.
- The notable increase of waste is also due to the office workforce returning back to office and more business was recorded for all restaurants upon the lifting of all CoVid19 restrictions the year before.

Waste Type	Amount (kg)		Percent of Waste Type Diverted	Diversion Program Currently in Place?
	Landfill Stream	Diversion Stream		
Metal		1,683.40 (305.60)	100%	Yes
Plastics		1,574.30 (No Record)	100%	Yes
Mixed Paper		11,130.39 (27,414.20)	100%	Yes
Cardboard		3,122.66 (6,608.90)	100%	Yes
E-Waste		129.80 (70.20)	100%	Yes
Office Un-segregable Waste	32,884.87 (31,276.20)		0%	Yes
Building Un-segregable Waste	221,305.13 (159,530.00)		0%	
Totals	**254,190.00 (159,530.00)**	**17,640.55 (34,398.90)**		

*2022 numbers in brackets for comparison**

Diversion Improvement Opportunities

Segregation of waste at the source has remained a key difficulty in increasing the amount of waste diverted from the landfill. Plaza 33 management will continuously issue waste diversion campaign reminder with all tenants to improve the waste diversion efforts. Majority of Office Tenants have also put in place their own waste diversion and recycling programs to segregate their waste before consolidating the waste as the central refuse collection area. The efforts have seen an increase of waste segregation however the challenge of a higher returning workforce has also result in the increase non segregable waste.

Further efforts have been implemented to increase the amount of waste diverted from landfill:

1. Establishing a dialog with Tenants to implement segregation of recyclable waste at their premise prior to sending waste to weigh station and collection area. To expedite the process and safe time and manpower.

2. Issuance of quarterly reminders to all Tenants to remind them of ongoing recycling and waste management program and establishing a recycling goal of 50% of waste to be diverted. Establishing a Waste Management Policy for Plaza 33 and distribute to all Tenants for their information.

3. In house waste audit facility, platform weighing scale to measure incoming / outgoing waste. Our Facility Manager in charge of waste will manage and record the amount and type of recyclable waste.

4. An In-house monthly audit to compile and record total waste generated trends and total diverted from landfill.

5. Tenancy handbook, fit out and renovation manual to include mandatory Waste management and recycling policy.

6. Increasing new recycle material drop off points, eg. Collection area and separation bins in various location to promote and remind tenants and visitors to practice recycling.

Source Reduction Opportunities

The following opportunities should be considered for source reduction:

- Packaging and contaminated waste comprises the highest volume of waste audited. The Management will be sourcing products with greener packaging options and where possible, ordering office supplies in bulk so as to reduce the packaging produced monthly.

Generation of Solar Energy

Table 1 PV System Production in Year 2022 & 2023 - Phase 1

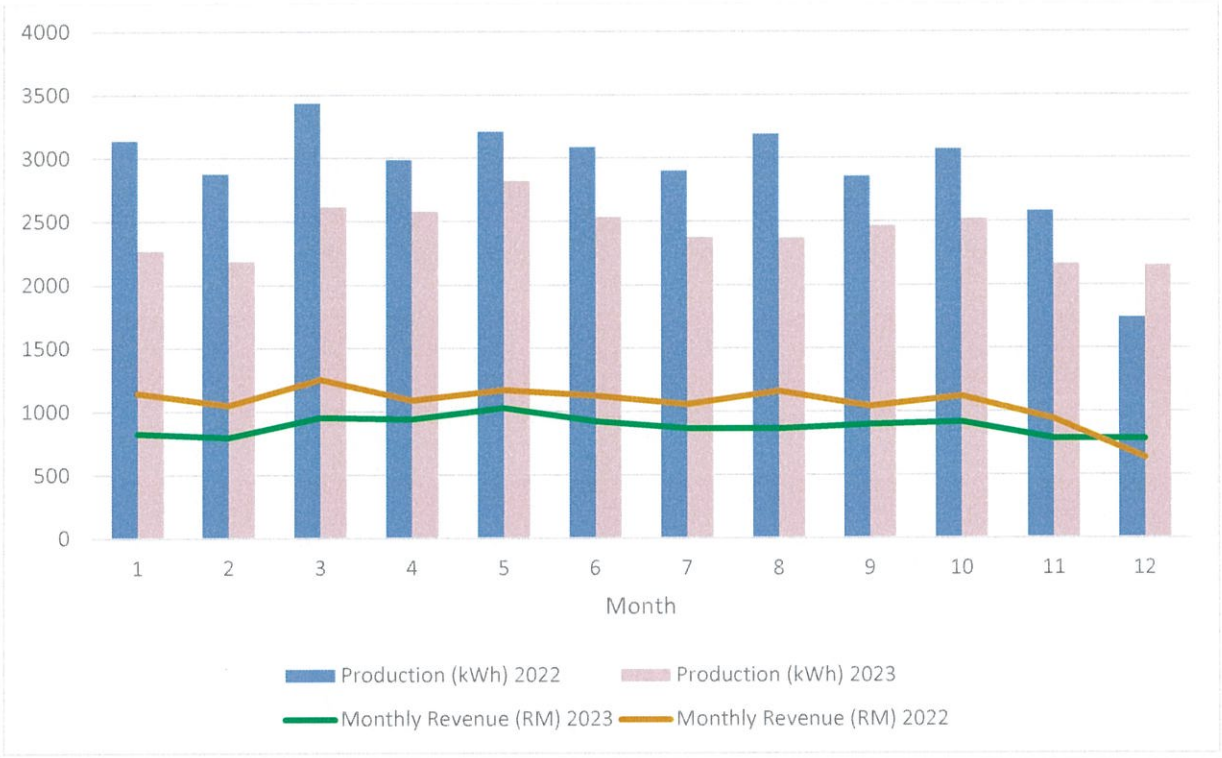
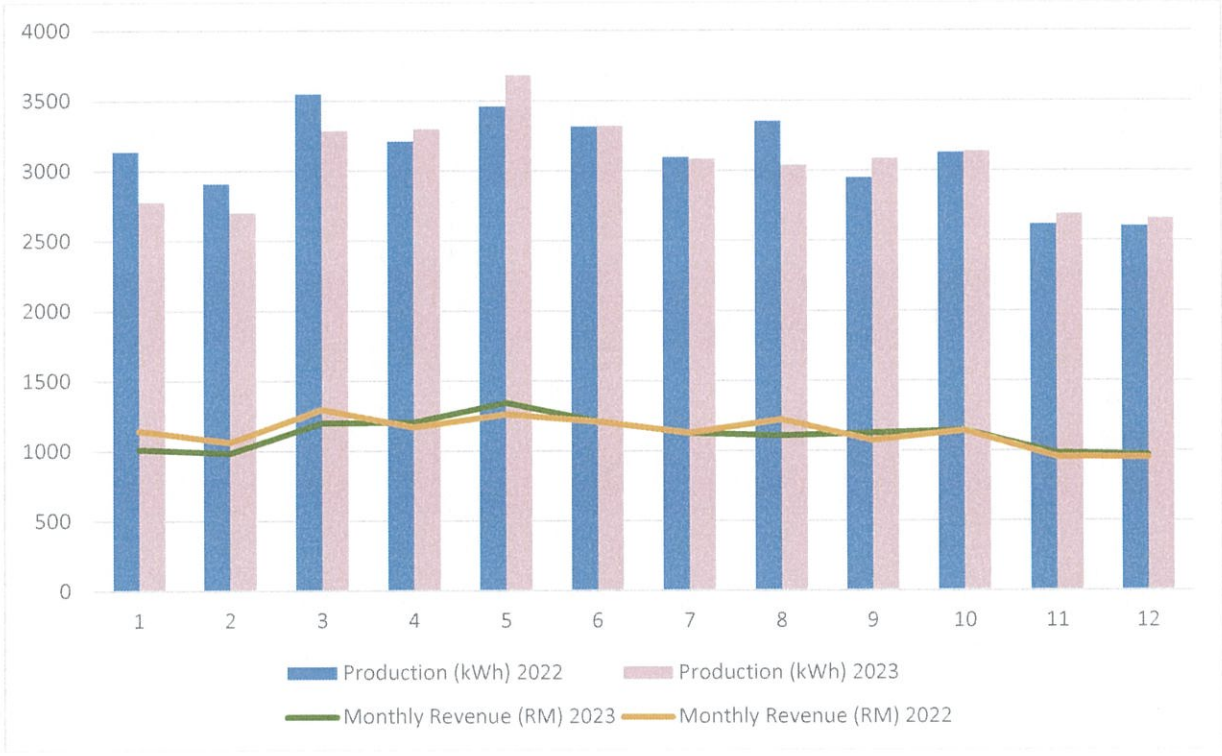


Table 2 PV System Production in Year 2022 & 2023 - Phase 2



There was a slight decline in the solar energy generation from 2022 to 2023. Total production for phase 1 was 35,052.69 kWh (RM12,794.23) in 2022, compared to 29,047.45 kWh (RM10,602.32) in 2023. Conversely, the total production for phase 2 in 2022 was 37,299.20 kWh (RM13,614.21), which was slightly decreased to 36,738.95 kWh (RM13,409.72) in 2023.

In summary, the total amount of solar energy production for phase 1 in 2023 decreased by roughly 17% compared to 2022, while for phase 2, the decrease was approximately 2% in the same period. Factors that can affect solar panel energy production are: -

- **Weather:** Solar panels rely on sunlight to generate electricity through the photovoltaic effect. Cloud cover, fog, smog, and other atmospheric conditions can reduce the intensity of sunlight reaching the panels, thereby lowering energy production. Additionally, the duration of sunlight exposure during the day directly influences the total energy production of solar panels as well.

- **Temperature:** Solar panels are typically rated for optimal performance at a specific temperature. As temperatures deviate from this optimal point, the efficiency of solar panels can decrease. Most solar panels experience a reduction in efficiency as temperatures rise above this optimal point.

- **Aging of equipment:** Solar panels deteriorates by 1% every year. Over time, solar panels undergo wear and tear due to exposure to environmental factors such as sunlight, temperature fluctuations, and moisture. This leads to a gradual decrease in the efficiency and performance of the panels, resulting in reduced energy production. As solar panels age, the ability to convert sunlight into electricity may diminish. Consequently, older panels may produce less energy compared to when they were new.

- **Maintenance and cleaning:** Dirt, dust, bird droppings, and other debris can accumulate on the surface of solar panels. This buildup creates a barrier between the sunlight and the photovoltaic cells, reducing the efficiency of energy conversion. Regular cleaning helps to remove these obstructions and maintain optimal performance.

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DATE: 14th March 2024