

# ENERGY EFFICIENCY ASSESSMENT REPORT

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**Aik Moh**

60 Tuas Basin Link  
638775

Prepared by: Ken Chan  
Email: [kenn@aikmoh.com.sg](mailto:kenn@aikmoh.com.sg)



**SLEB**  
SMART HUB

200 Braddell Road Singapore  
579700

Phone: 6730 4435  
Email: [admin@sleb.sg](mailto:admin@sleb.sg)

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## Purpose of the Document

This Energy Efficiency Assessment Report (“Report”) sets out the predicted energy consumption of the target project as well as the estimated additional cost (green cost) of the energy efficient technologies and solutions that are to be implemented in the target project, by comparing it with that of other similar projects.

The energy savings of the target project are estimated by comparing the predicted energy consumption of the target project to that of the virtual energy model for 2005 code-compliant building(s).

This Report is for project stakeholders’ reference at the project planning stage, for the assessment of the target project’s future energy performance.

## Disclaimer

This Building Energy Efficiency Assessment Report (“Report”) was generated from inputs provided by the user to predict the target project’s energy consumption. While the information in this Report is believed to be correct, neither the Building and Construction Authority (BCA), nor any of its employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favouring by BCA. The views and results of the Report expressed herein do not necessarily state or reflect those of BCA.

## 1. Project Details

Project Name	Aik Moh
Postal Code	638775
Address	60 Tuas Basin Link
Gross Floor Area (m <sup>2</sup> )	3,721
Project Status	In Operation

## 2. Building Details

Number of Buildings in Project	1
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## Building #1

Building Name	Aik Moh
Building Type	Industrial Building

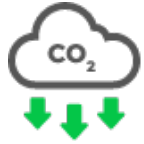
## Summary

The proposed project achieves net Energy Use Intensity (EUI) of 34.1 kWh/m<sup>2</sup>/year. It saves 52.8% energy consumption compared to the 2005 code compliant building.



### Estimated Energy Savings

141 MWh/year



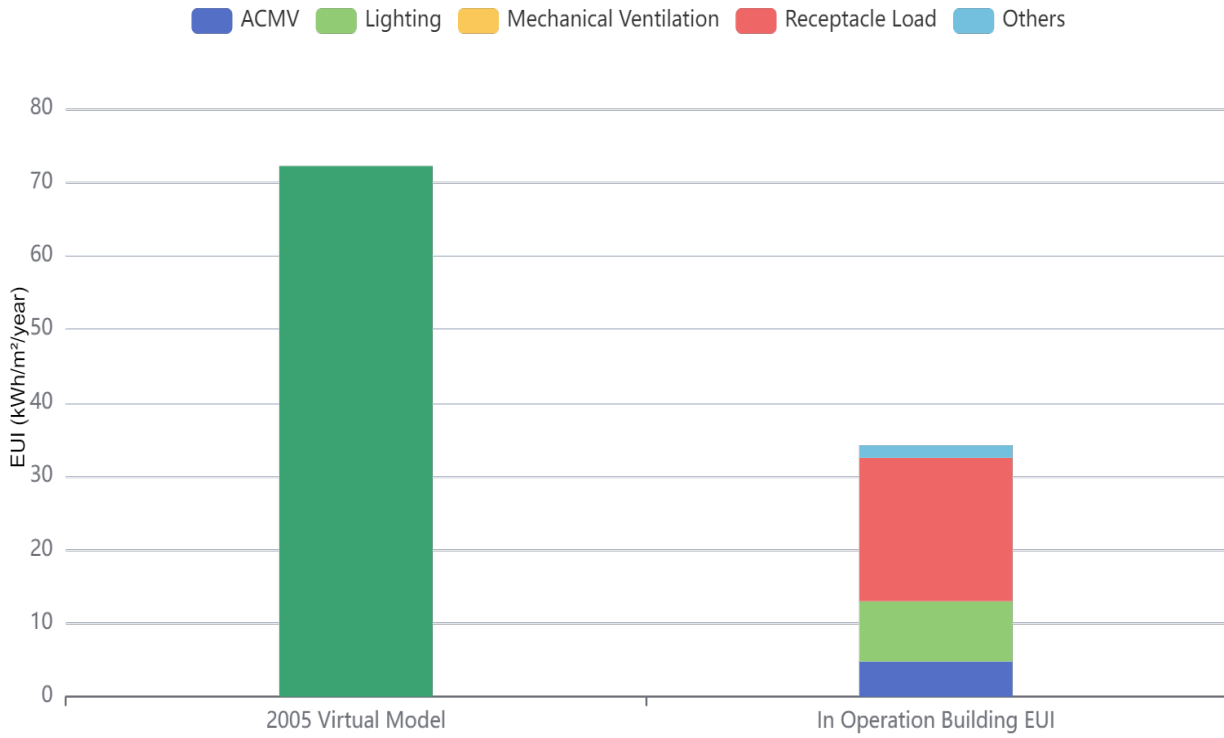
### Estimated Carbon Emission Reduction

57.8 ton/year

## Energy Consumption, EUI and Energy Savings

	2005 Code Compliant Building	In Operation Building
Total Energy Consumption (kWh)	268,544.3	126,972
Renewable Energy Generated or Used (kWh)	-	-
Nett Energy Consumption (kWh)	268,544.3	126,972
Nett EUI (kWh/m <sup>2</sup> /year)	72.2	34.1
Percentage of Energy Savings	52.8%	-

# EUI Benchmark



# Energy Consumption Breakdown

	Proposed Project Energy Consumption (kWh)
ACMV	17,891
Lighting	30,371
Mechanical Ventilation	-
Receptacle Load	72,375
Others	6,332
<b>Total Building Energy Consumption</b>	<b>126,971</b>

## Building Information

Building Name	Aik Moh
Address	-
Postal Code	-
Gross Floor Area (m <sup>2</sup> )	3,721
Number of Storeys	2
Year of TOP/CSC	2021
Operation Schedule (hr/week)	52
Building Type	Industrial Building

## Existing Building Energy Parameters

Average Monthly Energy Consumption (kWh)	10,581
Percentage of Air-Conditioned Area (%)	11
Air Conditioning System Type	Unitary Air-conditioning System
Air Conditioning System Efficiency (kW/RT)	0.91
Air Distribution System Type	-
Air Distribution System Efficiency (kW/RT)	-
Percentage use of LED lights (%)	-
Total Mechanically Ventilated Area (m <sup>2</sup> )	-

## Envelope and Façade

	Parameter
Percentage of Naturally Ventilated area converted from AC area (%)	-
Reduced Window to Wall Ratio	-
Insulation of Roof	Roof U-Value (W/m <sup>2</sup> ·K): -
Insulation of External Walls	Wall U-Value (W/m <sup>2</sup> ·K): -
Use of High Performance Glass	Glass U-Value (W/m <sup>2</sup> ·K): - Glass SHGC: -
Use of Solar Window Film	Solar Window Film U-Value (W/m <sup>2</sup> ·K): - Solar Window Film SHGC: -
Use of Thermally Broken Window Frames	Window Frame U-Value (W/m <sup>2</sup> ·K): -
Use of Reflective Paint/Cool Paint	Solar Reflectivity: -
Installation of External Shading Devices	Shading Coefficient: -

	Parameter
Air Conditioning System Type	<input type="checkbox"/> Water-cooled Chilled Water Plant <input type="checkbox"/> Air-cooled Chilled Water Plant <input checked="" type="checkbox"/> Unitary Air-conditioning System <input type="checkbox"/> District Cooling System
Percentage of Air-Conditioned Area (%)	11
Energy-Efficient Chiller	Efficiency (kW/RT): -
Energy-Efficient Chilled Water Pump	Efficiency (kW/m <sup>3</sup> /s): -
Energy Efficient Condensing Water Pump	Efficiency (kW/m <sup>3</sup> /s): -
Energy-Efficient Cooling Tower	Efficiency (L/s/kW): -
Energy-Efficient Unitary Air-Conditioning System	Efficiency (kW/RT): -
Air Conditioning System Optimisation	<input type="radio"/> Yes <input checked="" type="radio"/> No
Use of Variable Speed Drive (VSD) in AHU/FCU	<input type="radio"/> AHU-VAV <input type="radio"/> FCU-VAV
Air Distribution System Type	<input type="checkbox"/> AHU-CAV <input type="checkbox"/> AHU-VAV <input type="checkbox"/> FCU-CAV <input type="checkbox"/> FCU-VAV
Use of Alternative Cooling Technologies	Percentage of Application (%): -
Energy Efficient Air Distribution Fan	Fan Efficiency (W/CMH): -
Demand-Controlled Ventilation of AC Area	<input type="radio"/> Yes <input checked="" type="radio"/> No
Use of Energy Recovery Ventilation System	Efficiency (%): -
Use of Fans to Offset Cooling Load	Percentage of Application (%): -

## Lighting

	Parameter
Use of Energy Efficient LED Lights	<div data-bbox="735 280 1075 320">1★ 2★ 3★ 4★</div> <p>Efficacy (lm/W): 140 Percentage of Use (%): 100</p>
Use of Smart Lighting Control	Percentage of Application (%): -
Use of Daylighting	Percentage of Application (%): 20

## Mechanical Ventilation

	Parameter
Energy-Efficient Mechanical Ventilation Fan	Fan Efficiency (W/CMH): -
Demand-Controlled Ventilation of MV Area	Percentage of Application (%): -

## Others



	Parameter
Smart Plug Load Control	<input type="radio"/> Yes <input checked="" type="radio"/> No
Use of Energy Efficient Appliance	<input type="radio"/> Yes <input checked="" type="radio"/> No
Use of Energy Efficient Hot Water System	COP: -
Use of Solar Hot Water Collectors	<input type="radio"/> Yes <input checked="" type="radio"/> No Percentage of Hot Water Supplied (%): -
Use of Energy Efficient Lift	<input type="radio"/> Yes <input checked="" type="radio"/> No
Use of Energy Efficient Escalator	<input type="radio"/> Yes <input checked="" type="radio"/> No
Implementation of Building Energy Management System	<input type="radio"/> Yes <input checked="" type="radio"/> No
Installation of Rooftop Photovoltaic (PV)	Rooftop Solar Panel Area (m <sup>2</sup> ): - Rooftop Solar Panel Efficiency (%): -
Installation of Building Integrated Photovoltaic (BIPV)	BIPV Solar Panel Area (m <sup>2</sup> ): - BIPV Solar Panel Efficiency (%): -

## Other Green Features

Note: The costs of other green features are not included in the green cost calculation.

S/N	Description of Green Features
1	Zero Product + Waste Water Recycle System used in the factory
2	

## Report Sign-Off

Name	Role in project	Signature & Date
Ken Chan	Report Author	kenn@aikmoh.com.sg; 24/02/2022
		
Tan Keng Hong	General Manager Approver	 24 Feb 2022

To whom it may concern:  
You may scan the QR Code below to check the summary of this assessment report at SLEB.sg website.  
Thank you.





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200 Braddell Road Singapore  
Postal code: (S) 579700  
Phone: 6730 4435  
Email: [admin@sleb.sg](mailto:admin@sleb.sg)