

LAMPIRAN

A. Perhitungan OTTV melalui EDGE.

The screenshot displays the EDGE software interface for a project named 'Taman doa dan rumah retreat Kristen di Kopeng'. The interface is divided into several sections:

- RESULTS:** A table showing key performance indicators:

Final Energy Use	222.59 kWh/Month/Unit	Operational CO ₂ Savings	0.81 tCO ₂ /Year/...	Base Case Utility Cost	529.09 Thousand Rp/...	Incremental Cost	12,612.37 Thous...
Final Water Use	15.67 kl/Month/Unit	Embodied Energy Savings	101074.39 MJ/Unit	Utility Costs Reduction	176.51 Thousand Rp/...	Payback in Years	5.89 Yrs.
- Project Details:** A form containing project information such as 'Project Name', 'Number of Distinct Buildings' (10), 'Total Project Floor Area' (3,596 m²), and 'Project Owner Name' (Hizkia Kharisma Putra).
- Energy Efficiency Measures (HME):** A list of measures to achieve savings of at least 20%:
 - HME01* Reduced Window to Wall Ratio - WWR of 20%
 - HME02 Reflective Paint/Tiles for Roof - Solar Reflectivity (albedo) of 0.7
 - HME03 Reflective Paint for External Walls - Solar Reflectivity (albedo) of 0.7
 - HME04 External Shading Devices - Annual Average Shading Factor (AASF) of 0.51
 - HME05 Insulation of Roof - U Value of 0.45
 - HME06 Insulation of External Walls - U Value of 0.47
 - HME07 Low-E Coated Glass - U-value of 3 W/m².K and SHGC of 0.45
 - HME08 Higher Thermal Performance Glass - U-value of 1.9 W/m².K and SHGC of 0.28
- Energy Efficiency Measures Chart:** A bar chart comparing 'Base Case' and 'Improved Case' energy consumption. The 'Improved Case' shows a 30.73% reduction in energy use, meeting the EDGE Energy Standard. The chart breaks down energy use into categories like Heating Energy, Cooling Energy, Fan Energy, Home Appliances, Common Appliances, Lighting, and Hot Water.

EDGE Excellence in Design For Greater Efficiency | IFC International Finance Corporation | No image uploaded

RESULTS: Final Energy Use: 222.58 kWh/Month/Unit, Final Water Use: 15.67 kl/Month/Unit, Operational CO₂ Savings: 9.81 tCO₂/Year..., Embodied Energy Savings: 101074.30 MJ/Unit, Base Case Utility Cost: 529.09 Thousand R..., Utility Costs Reduction: 178.51 Thousand R..., Incremental Cost Payback in Years: 12,612.37 Thous..., 3.89 Yrs.

Save | Dashboard | Version 2.1.5 | Preliminary

Design: Energy: 30.73% | Water: 40.79% | Materials: 42.88%

HME11* Air Conditioning System - COP of 3.5
 HME12 High Efficiency Boiler for Space Heating - Efficiency of 95%
 HME13 High Efficiency Boiler for Hot Water - Efficiency of 95%
 HME14 Heat Pump for Hot Water - COP of 3
 HME15 Energy-Efficient Refrigerators and Clothes Washing Machines
 HME16 Energy-Saving Light Bulbs - Internal Spaces
 HME17 Energy-Saving Light Bulbs - Common Areas and Outdoor Areas
 HME18 Lighting Controls for Outdoor Lighting
 HME19 Solar Hot Water Collectors - 50% of Hot Water Demand
 % Hot Water: 50 | Collector Area (m²)/Unit: 0.4
 HME20 Solar Photovoltaics - 25% of Total Energy Demand
 HME21 Smart Meters

*Virtual energy is the amount of energy that will be required based on the assumption that the home or flat will eventually install air conditioning or heating.
 Disclaimer: EDGE is designed as comparative software and is not a design tool. Therefore predicted results for energy, water and materials may vary from actuals.

Save | Next Step: Water

EDGE Excellence in Design For Greater Efficiency | IFC International Finance Corporation | No image uploaded

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Save | Dashboard | Version 2.1.5 | Preliminary

Design: Energy: 30.73% | Water: 40.79% | Materials: 42.88%

Water Efficiency Measures
 Choose water efficiency measures to achieve savings of at least 20%.

HMW01* Low-Flow Showerheads - 8 L/min
 8 L/min
 HMW02* Low-Flow Faucets for Kitchen Sinks - 6 L/min
 6 L/min
 HMW03* Low-Flow Faucets in all Bathrooms - 6 L/min
 6 L/min
 HMW04* Dual Flush for Water Closets in all Bathrooms - 6 L/1st flush and 3 L/2nd flush
 6 1st - L/flush | 2nd - L/flush
 HMW05* Single Flush for Water Closets - 6 L/flush

40.79% Meets EDGE Water Standard

WATER (kL/unit/year)

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RESULTS: Final Energy Use: 222.58 kWh/Month/Unit, Final Water Use: 15.67 kl/Month/Unit, Operational CO₂ Savings: 9.81 tCO₂/Year..., Embodied Energy Savings: 101074.30 MJ/Unit, Base Case Utility Cost: 529.09 Thousand R..., Utility Costs Reduction: 178.51 Thousand R..., Incremental Cost Payback in Years: 12,612.37 Thous..., 3.89 Yrs.

Save | Dashboard | Version 2.1.5 | Preliminary

Design: Energy: 30.73% | Water: 40.79% | Materials: 42.88%

HMM01* Floor Slabs (In-Situ Reinforced Concrete Slab) | 120 mm | kg/m³
 HMM02* Roof Construction Type 1 Clay Roofing Tiles on Timber Rafters | 100 %
 HMM03* External Walls Type 1 Timber Weatherboard on Timber Studs | 100 %
 HMM04* Internal Walls Type 1 Common Brick Wall with Plaster on Both Sides | 100 % | 150 mm
 HMM05* Flooring Type 1 Finished Concrete Floor | 50 %
 Type 2 Ceramic Tile | 50 %
 HMM06* Window Frames Type 1 Aluminium | 50 % | Single glazing
 Type 2 Timber | 50 %
 HMM08 Roof Insulation | No Insulation | U: ~ 2.68 W/m²K

14,000
12,000
10,000
8,000
6,000
4,000
2,000
0

EMBODED ENERGY (MJ/m²)

Disclaimer: EDGE is designed as comparative software and is not a design tool. Therefore predicted results for energy, water and materials may vary from actuals.

Save | Next Step: Express Interest

*A selection must be made for each measure with a thickness entered for floor, roof, and walls.

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Nama : HIZKIA KHARISMA PUTRA

Alamat email : k.phizkia@gmail.com

Fak. / Prodi : ARSITEKTUR DAN DETAILN / ARSITEKTUR NIM : 19.01.0097

berupa (TESIS, TUGAS AKHIR, SKRIPSI, SUMMARY, LAPORAN KERJA PRAKTEK)

dengan judul : TAMAN DOA DAN RUMAH PERRET DI KOPENG

Semarang
Petugas



Yang Menyerahkan,

Dosen Pembimbing

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untuk Yang bersangkutan *

