



## GAIA Application Form

1. The Award is open to any building that has been occupied for **at least 6 months** from date of CCC/CFO issuance.
2. All applications must be completed and submitted via either online or e-mail to hwachong@irda.com.my or mailed to IRDA at the following address:  
**#G-01, Block 8, Danga Bay, Jalan Skudai,  
80200, Johor Bahru, Johor, Malaysia**
3. Closing date for submissions: All applications must reach IRDA before 5 pm, 21 February 2020
4. Language: All entries should be in Malay or English.
5. Judging: Assessment of eligible shortlisted submissions will be made by an independent panel of professionals in the green building and construction industry.
6. The Organiser's decision is final and no correspondence or communication will be considered following its final decision. The grading details are confidential and will not be shared.

### SUPPORTING DOCUMENTS (to be provided for assessment purposes)

Site Plans

Floor plans

Master plans (for township)

Energy Bill (most recent) (3 months)

Water Bill (most recent) (3 months)

Green Building rating system results (GBI, CASBEE, GREEN MARK etc)

### Category: (Please tick X )

**Commercial/ Individual  
Property  
Township  
Industry Building**

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>



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## Part A: Contact Details

### Applicant Details

Contact Person Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact Person Designation \_\_\_\_\_

Division / Department \_\_\_\_\_

Tel. No. \_\_\_\_\_

Fax. No. \_\_\_\_\_

Email \_\_\_\_\_

Website \_\_\_\_\_

**Organisation Name** \_\_\_\_\_

**Organisation Type** (please place a check mark in appropriate boxes)

Developer

Industry

Others (please specify) \_\_\_\_\_

### Architect

Contact Person Name \_\_\_\_\_

Contact Person Position \_\_\_\_\_

Company \_\_\_\_\_

Tel. No. \_\_\_\_\_

Email \_\_\_\_\_

### Planner/Consultant

Contact Person Name \_\_\_\_\_

Contact Person Position \_\_\_\_\_

Company \_\_\_\_\_

Tel. No. \_\_\_\_\_

Email \_\_\_\_\_



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Facilities Manager

Contact Person Name \_\_\_\_\_  
 Contact Person Position \_\_\_\_\_  
 Tel. No. \_\_\_\_\_  
 Email \_\_\_\_\_

## Part B: Building Details

(please place a check mark in appropriate boxes)

**Address** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Owner's Name** \_\_\_\_\_  
**Tel. No.** \_\_\_\_\_  
**Email** \_\_\_\_\_

**Date of CCC/CFO** \_\_\_\_\_  
**Date of last remodeling (if applicable)** \_\_\_\_\_  
**Site Area (hectares)** \_\_\_\_\_  
**Gross Floor Area, m<sup>2</sup>** \_\_\_\_\_  
**Parking area size, m<sup>2</sup>** \_\_\_\_\_  
**Greenery/landscaping area. m<sup>2</sup> (e.g. garden, vertical wall, green roof etc)** \_\_\_\_\_  
**Percentage Occupancy (approx.)** \_\_\_\_\_

**Green Building Rating Assessment (e.g. GBI, CASBEE, Green Mark etc)**       YES       NO

If YES, please provide details:

### Building Type

Residential	<input type="checkbox"/>	Offices	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Mixed-used	<input type="checkbox"/>
School, Government or institution	<input type="checkbox"/>	Healthcare	<input type="checkbox"/>
		Commercial	<input type="checkbox"/>



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**Part C: Building Efficiency Indicators** (applicants must provide evidence to support the entries).  
*Please also take note that the details you provide below will be verified by the Judges when visiting the site/premises.*

### Energy Conservation and Efficiency

Total Carbon (Energy) reduction:

**Please Refer Appendix B to fill in Building Energy Monitoring & Reporting System (BEMRS) template**

Please list down other energy-saving measures. *Please describe:*

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## Water Efficiency Indicator

Total water consumption (annual)

\_\_\_\_\_

Use water-conserving plumbing fixtures

Use water-saving appliances

Reduce use of supplied processed water

Maximise on-site stormwater management (e.g. through landscaping etc.)

Use of water saving measures and appliances for landscape maintenance (e.g. moisture sensors, drip irrigation etc)

Practise rainwater harvesting


**Total Carbon (Water) reduction:**

\_\_\_\_\_

**Please refer Appendix A for carbon emission reference**

Other water-saving measures. <i>Please describe:</i>

## Use of Sustainable Materials / Reduce, Reuse, Recycle

Maximise use of salvaged / recycled materials

Construction and demolition waste is/was recycled (e.g. during construction or remodeling)

Use sustainably harvested wood (e.g. FSC certified)

Use wood alternatives (e.g. bamboo)

Provide a dedicated space for handling recyclables


Other sustainable measures. <i>Please describe:</i>

**Total Carbon (Construction waste) reduction:**

\_\_\_\_\_

**Refer Appendix A for carbon emission reference**



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### Outdoor Environmental Site

- Use native plants in and around building/development
- Limit pesticide-use / use alternative eco-friendly methods
- Preserve existing vegetation and ponds
- Have a dedicated green wall or roof garden
- Building built on brownfield or previously occupied site


### Indoor Environmental Quality (IEQ)

- Use low or no-VOC, formaldehyde-free paints, carpets, furniture
- Undertake surveys to evaluate satisfaction of building occupants (IEQ parameters - thermal comfort, acoustics, ambient quality, air quality etc.)


### Renewable Energy / Green Energy / Innovation

- Use electricity powered by solar / Photovoltaic (PV) systems
- Use solar thermal (e.g. solar hot water)
- Use geothermal heat pump, wind turbine, biomass systems


Other renewable energy technology used. *Please describe:*

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### Quality of Services

- Respect & protect heritage, aesthetics, biodiversity / natural ecosystems and cultural values
- Provide safe physical and social environments for residents / communities (pedestrian spaces, green parks, walkways, bicycle lanes etc)
- Enhance existing landmarks, views & vistas (minimise impact on sensitive natural environments (coastlines, mangroves, rivers, ponds and lakes)
- Street frontage visually appealing
- Universal design (disabled-friendly)
- Reduce car dependence (safe and attractive pedestrian spaces, walkways, bicycle lanes)




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Other efforts to increase quality of services. *Please describe:*

Sustainability / CSR initiatives in place /Commitment (in relation to green and low carbon lifestyle, conservation of natural areas etc. Please describe (if any) :

Summary:

**Total Estimated Carbon reduction (annually) :** \_\_\_\_\_ kg CO2



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## Appendix A

### Carbon Emission Reference

Energy		Source
	<ul style="list-style-type: none"> <li>• <b>1kwh emits 0.68-0.7kg CO2</b></li> <li>• A normal streetlight bulb consumes 250-400W of energy and emits 0.17 kg of CO2.</li> </ul>	www.gg-energy.com
Forest/Tree Planting		
	<ul style="list-style-type: none"> <li>• 1 hectare of tropical forest captures 4.3 tCO2/year to 6.5 tCO2.</li> <li>• 1 tropical tree forest absorbs 5.5 kg of CO2/year.</li> <li>• 1 hectare of tropical forest captures 4.3 tCO2/year to 6.5 tCO2/year.</li> <li>• 1 tree absorbs approximately 1,000 kg of CO2</li> <li>• 1 hectare of trees stores 2,600 kg of carbon/year (tree cover for urban areas is about 204 trees/acre, for forests it is about 480 trees/acre) (Source:).</li> </ul>	redevelopmenteconomics.com  <a href="http://www.conservationfund.org/gozero">www.conservationfund.org/gozero</a>  coloradotrees.org
Transportation		
	Car (Petrol) <ul style="list-style-type: none"> <li>• 1 km travel by car (petrol) emits 0.162 kg of CO2.</li> </ul> Car (Diesel) <ul style="list-style-type: none"> <li>• 1 km travel by car (Diesel) emits 0.169 kg of CO2.</li> </ul> Car (NGV) <ul style="list-style-type: none"> <li>• 1 km travel by car (NGV) emits 0.130 kg of CO2.</li> </ul> Car (EV) <ul style="list-style-type: none"> <li>• An electric car generates 0.135 kg of CO2/km.</li> </ul> Bus (Diesel) <ul style="list-style-type: none"> <li>• Average 64.4 km/bus/day = 1.6 kg of CO2 emission</li> </ul> Bus (NGV) <ul style="list-style-type: none"> <li>• NGV emits 0.2 kg of CO2/km</li> </ul>	redevelopmenteconomics.com  ACTR- Public Transit vs. Single Occupant Vehicle Carbon Emissions to Climate Change
Development of Infill/ brownfield/ Greenfield		





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	<ul style="list-style-type: none"> <li>1 acre of development in infill and brownfield area emits 7,000 kg of CO<sub>2</sub> emission Note: savings of 3,000 kg of CO<sub>2</sub> compared to greenfield development</li> <li>1 acre of developed Greenfield area emits 10,000 kg of CO<sub>2</sub>.</li> </ul>	Congressional Research Service, 2009
<b>Dump Truck (Waste)</b>		
	<ul style="list-style-type: none"> <li>1 km trip of dump truck = 0.85 kg of CO<sub>2</sub> via air pollution</li> <li>1 km trip of dump truck = 10.03 kg of CO<sub>2</sub> via diesel use</li> <li>Total 1km= 10.88kg of CO<sub>2</sub></li> </ul>	Guidelines to Defra, 2009
<b>Walking/Cycling</b>	<ul style="list-style-type: none"> <li>Walking and cycling emit zero 0 CO<sub>2</sub> emission</li> <li>1 km round trip walking and cycling saves 6 kg/day of CO<sub>2</sub> (carbon savings per day compared to the use of car)</li> </ul>	<a href="http://www.smartertavelsutton.org">www.smartertavelsutton.org</a>
<b>Construction</b>		
	<ul style="list-style-type: none"> <li>1 kg of tile production emits 0.46 kg of embodied CO<sub>2</sub></li> <li>1 kg of HdPE pipe production emits 2.0 kg of embodied CO<sub>2</sub></li> <li>1 kg of plasterboard production emits 0.38 kg of embodied CO<sub>2</sub></li> <li>1 kg of plywood production emits 0.81 kg of embodied CO<sub>2</sub></li> <li>1 ton of cement emits 0.93 ton of CO<sub>2</sub>.</li> <li>1 ton of aluminium emits 8.24 tons of CO<sub>2</sub>.</li> </ul>	Guidelines to Defra, 2009 <a href="http://www.extranetevolution.com">www.extranetevolution.com</a>
<b>Solar Panel</b>		
	<ul style="list-style-type: none"> <li>1 m<sup>2</sup> of solar panel saves 796 to 1088 kg of CO<sub>2</sub> /year for roof-top system.</li> <li>1 m<sup>2</sup> of solar panel saves 429 to 565 kg of CO<sub>2</sub> /year for façade system.</li> </ul>	<a href="http://www.gg-energy.com">www.gg-energy.com</a>
<b>Water</b>		
	<ul style="list-style-type: none"> <li>1 million litres of water emits 276 kg of CO<sub>2</sub>.</li> </ul>	<a href="http://www.water.org.uk/home/policy/reports/sustainability-indicators-2007-08">www.water.org.uk/home/policy/reports/sustainability-indicators-2007-08</a>
<b>Green roof/wall/vegetation</b>		



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	<ul style="list-style-type: none"><li>• 1m<sup>2</sup> green roof reduces about ~was 1.703 - 1.889 kgCO<sub>2</sub>/yr</li><li>• 1m<sup>2</sup> green plant absorbs about 0.44-3.18kg CO<sub>2</sub>/yr</li></ul>	MDPI Journal  <a href="https://academic.oup.com">https://academic.oup.com</a>
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