



# Guideline on National Energy Award 2023 (NEA 2023)

for

# Renewable Energy Category

Organiser



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## **Guideline on National Energy Award 2023 (NEA 2023) for Renewable Energy Category**

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### **1. Background and Objectives**

The National Energy Awards (NEA) is a strategic platform in promoting energy and nurturing the mind of innovating. NEA is the cornerstone of a joint venture between the government and private sector for R&D, innovation in products, solutions and commercialization toward a sustainable green economy. NEA also is an essential platform for promoting the development of Renewable Energy (RE), Energy Efficiency (EE), and Green Energy (GE) innovation focusing on local products and services. The objectives of NEA specifically for the Renewable Energy Category are:

- i) To highlight the best practices and pioneering work in renewable energy (RE) projects in Malaysia.
- ii) To recognize the efforts of the public and private sectors across Malaysia in renewable energy (RE) and shall manifest a positive impact on Malaysians as well as steer green technology awareness on a broad level across the different facets of society.
- iii) To encourage all sector participation in adopting and implementing innovative and creative renewable energy (RE) projects to enhance business growth.
- iv) To promote renewable energy (RE) as another form of energy resource, thus complementing and improving environmental quality in Malaysia.
- v) Exchanging knowledge and experience in the development and maintenance of renewable energy (RE) projects.

### **2. Competition Categories and Definitions**

The sub-categories for Renewable Energy Category under NEA 2023 will refer to the sub-categories competed in ASEAN Energy Award for Renewable Energy Project. The categories are 1) On Grid (National Grid and Local Grid) 2) Off Grid Categories (Power and Thermal) 3) Combine Heat and Power and 5) Biofuels.

The categories and definitions are described below:

#### **2.1. Off Grid**

- a) Power: Electricity generated from renewable energy (RE) sources.
  - i) Typical applications in remote areas where no access to the electricity supply/national grid.
  - ii) Not fitted to any electrical distribution system.
  - iii) Stand-alone systems like solar street lights, solar home systems, etc.
  - iv) It is for own use of the premise itself.
- b) Thermal: Thermal energy generated from renewable energy (RE) sources e.g. solar hot water, drying, biogas for cooking, biomass for steam, solar pump, etc.

- i) Typical applications in remote areas where no access to the electricity supply.
- ii) The heat is used for heating/ cooling purposes.
- iii) Examples, solar for cooking, biogas from animal husbandry, wood stove, which come from renewable resources etc.

\*\*Not applicable for solar water heating applications at households, hotels, hospitals, and industrial uses where access to electricity is available.

## **2.2. On Grid**

- a) National Grid: Electricity generated from all types of renewable energy (RE) sources, Hydro (run-off river only) and waste-to-energy, where consumers are supplied electricity from the grid
  - i) Power system supply provided and/or maintained by the national utility, governed by an act and its regulations
  - ii) RE electricity project with connection to the grid for only emergency purposes
  - iii) Possibility of exporting excess electricity to the grid. Examples; Net-metering and self-consumption (PV or wind) which require grid supply fall under this category (since the inverter type is grid-connected)
- b) Local Grid: Electricity generated from all types of renewable energy (RE) sources, Hydro (run-off river only) and waste-to-energy, where the supply is for the remote communities/for a number of houses/clusters (local grid)
  - i) Power system supply provided and/or maintained by either the national utility, provincial utility, etc.
  - ii) Examples: solar/ wind hybrid system with genset, etc.

## **2.3. Combined heat and power (CHP) generation**

Heat and power generated from all types of renewable energy (RE) sources

## **2.4. Biofuels**

The project uses agricultural products such as but not limited to cassava, sugar cane, palm oil, used vegetable oils, cellulose, etc. as raw material in the production of liquid/solid/gas biofuels e.g. biodiesel, ethanol, palletizing, etc.

### 3. Number of Winners Per Category

The numbers of winners per category are listed in table below:

Name of Category	No. of Winners per Category
Off grid - Thermal	1 winner, 1 runner up
Off-grid - Power	1 winner, 1 runner up
On-grid – National Grid	1 winner, 1 runner up
On-grid - Local Grid	1 winner, 1 runner up
Combined heat and power (CHP)	1 winner, 1 runner up
Biofuels	1 winner, 1 runner up

### 4. Criteria and Distribution of Scores

The panel of Judges will evaluate each project entries/report submission and shall give evaluation scores in view of the substance of the contents and information presented therein in the submitted entry documents in reference to sets of established criteria.

The maximum total point score number is 100% marks based on the criteria distribution. The table is served as a guide in evaluating the report submission. The judges may decide the submission and Winner/Runner-up where it does fit. The tables below show the criteria with corresponding maximum percentage point allocation:

#### 4.1. Off Grid, On Grid & Cogeneration categories

No	Criteria	Description	Aspects	Distribution of Score (%)
1.	Originality	Able to highlight the concept of idea, initial issues, awareness, and obligation	a. Design b. Application c. Approach	a. 4% b. 4% c. 2% <b>Total: 10%</b>
2.	Environment Consideration	Clearly describe the impact and advantage of the project physically	a. Waste management b. Amount of GHG emission avoided c. Impact to ecosystem	a. 5% b. 5% c. 5% <b>Total : 15%</b>

3.	Social Consideration	Clearly describe the impact and advantage from the project humanity	a. Community awareness, participation and acceptance b. Corporate Social Responsibility program c. Benefit to user, community and country	a. 3% b. 4% c. 3% <b>Total : 10%</b>
4.	Technical, Economic and Market Consideration	Able to edify with specific explanation of technology applied on the reliability, durability, economically and accountability	a. Technical design (installed capacity, system) b. Technical performance (performance of the system after commissioning against design calculation – to provide minimum 12 months data generation) c. Investment indicator (*investment cost, IRR, ROI, Payback period & effectiveness ratio-cost/MW) d. Financial scheme/livelihood project (fully/semi commercial, government, PPP) e. Funder (government and non-government) f. Market size (potential within 5 years) g. Local Manufacturing/ content of system h. Amount of fossil energy avoided (ktoe, etc.) i. Life of project	a. 6% b. 6% c. 6% d. 2% e. 2% f. 2% g. 2% h. 2% i. 2% <b>Total: 30%</b>

5.	Operation and Maintenance Scheme	The satisfactory description on the optimization and preservation approach to maintaining the project as a successful benchmark and practical.	<ul style="list-style-type: none"> <li>a. Operation hours</li> <li>b. Maintenance scheme (in-house, contracted out service, government, other)</li> <li>c. Other maintenance measures (training, after-sales service)</li> <li>d. Energy conservation practices such as 3R awareness, training to students &amp; etc.</li> <li>e. Local service content</li> <li>f. ISO for Environment and Quality or other standards adopted that are relevant.</li> </ul>	<ul style="list-style-type: none"> <li>a. 3%</li> <li>b. 3%</li> <li>c. 3%</li> <li>d. 4%</li> <li>e. 4%</li> <li>f. 3%</li> </ul> <p><b>Total: 20%</b></p>
6.	Replicability	Literally highlighted the situation or similarity of issues that will think through to adopt the concept of the project.	<ul style="list-style-type: none"> <li>a. Relevance, impact, and efficiency</li> <li>b. Cost-effectiveness's (No/Low/High cost, motivation to proceed with the project)</li> <li>c. Sustainability of project</li> </ul>	<ul style="list-style-type: none"> <li>a. 3%</li> <li>b. 3%</li> <li>c. 4%</li> </ul> <p><b>Total: 10%</b></p>
7.	Presentation of Document (Facts & figures), Figures, Tables and Photos	Presentably shown the dynamic and meaningful fact and evident would reflect clearness on the elaboration	<ul style="list-style-type: none"> <li>a. Figures, tables and photos</li> <li>b. Title/brief of description</li> </ul>	<ul style="list-style-type: none"> <li>a. 3%</li> <li>b. 2%</li> </ul> <p><b>Total : 5%</b></p>

## 4.2. Biofuels category

No	Criteria	Description	Aspects	Distribution of Score (%)
1.	Originality	Able to highlight the concept of idea, initial issues, awareness and obligation	a. Design b. Application c. Approach	a. 4% b. 4% c. 2% <b>Total : 10%</b>
2.	Environment Consideration	Clearly describe the impact and advantage from the project physically	a. Waste management b. Amount of GHG emission avoided c. Impact to ecosystem	a. 5% b. 5% c. 5% <b>Total : 15%</b>
3.	Social Consideration	Clearly describe the impact and advantage from the project humanity	a. Community awareness, participation and acceptance b. Corporate Social Responsibility program c. Benefit to user, community and country	a. 5% b. 5% c. 5% <b>Total : 15%</b>
4.	Technical, Economic and Market Consideration	Able to edify with specific explanation of technology applied on the reliability, durability, economically and accountability	a. Technical design (installed capacity, existing production capacity) b. Technical performance (performance of the system after commissioning against design calculation – to provide minimum 12 months data generation) c. Investment indicator (*investment cost, IRR, ROI, Payback period & effectiveness ratio-cost/MW)	a. 5% b. 4% c. 4%

			<ul style="list-style-type: none"> <li>d. Financial scheme/ livelihood project (fully/semi commercial, government, PPP)</li> <li>e. Funder (government and non- government)</li> <li>f. Market size (potential within 5 years)</li> <li>g. Local Manufacturing/ content of system</li> <li>h. Amount of fossil energy avoided (ktoe, etc.)</li> <li>i. Life of project</li> </ul>	<ul style="list-style-type: none"> <li>d. 2%</li> <li>e. 2%</li> <li>f. 2%</li> <li>g. 2%</li> <li>h. 2%</li> <li>i. 2%</li> <li><b>Total : 25%</b></li> </ul>
5.	Operation and Maintenance Scheme	The satisfactory description on the optimization and preservation approach to maintaining the project as a successful benchmark and practical.	<ul style="list-style-type: none"> <li>a. Operation hours</li> <li>b. Maintenance scheme (in-house, contracted out service, government, other)</li> <li>c. Other maintenance measures (training, after-sales service)</li> <li>d. Energy conservation practices such as 3R awareness, training to students &amp; etc.</li> <li>e. Local service content</li> <li>f. ISO for Environment and Quality or other standards adopted that are relevant.</li> <li>g. Farm management, sustainability supply and resources of raw materials</li> </ul>	<ul style="list-style-type: none"> <li>a. 2%</li> <li>b. 3%</li> <li>c. 3%</li> <li>d. 3%</li> <li>e. 3%</li> <li>f. 3%</li> <li>g. 3%</li> <li><b>Total : 20%</b></li> </ul>



6.	Replicability	Literally highlighted the situation or similarity of issues that will think through to adopt the concept of project.	a. Relevance, impact and efficiency b. Cost effectiveness (No/Low/High cost to proceed with the project) c. Sustainability of project	a. 3% b. 3% c. 4% <b>Total : 10%</b>
6.	Presentation of Document (Facts & figures), Figures, Tables and Photos	Presentably shown the dynamic and meaningful fact and evident would reflect clearness on the elaboration	a. Figures, tables and photos b. Title/brief of description	c. 3% d. 2% <b>Total : 5%</b>

## 5. Rules and Format of Submission

### 5.1. Submission Format

Standardization of project entries/report submission in high resolution would make easy to capture the important points:

- i) Format (A4, Times New Roman 12 cpi, topics sequential).
- ii) Number of pages for Off Grid, ON Grid, Biofuels & Cogeneration - Total 15 pages + attachment (no limit).
- iii) Project entries/report submission must be submitted using NEA 2023 Report Submission Form.
- iv) Noncompliance/incomplete documents or information will automatically get a reduction 5% from total score.

### 5.2. Submission Procedure

- i) All project entries/report submission must be submitted in softcopy (by email) and six (6) original colored hardcopies which sealed in an envelope. The submission of all documents is address to the NEA 2023 Secretariat.
- ii) Authorization by the owner for NEA Committee and Secretariat to visit the project must be submitted along with the complete report documentations. This can be done via Certification and Endorsement Form attached in Report Submission Form
- iii) After the submission deadline, the NEA 2023 secretariat shall review and ensure that all submissions are in full compliance with the rules and requirements of the competition.

### **5.3. Pre-Qualification Requirement**

- i) The fuel source of the project must originate from renewable sources e.g. biomass, biogas, hydro (run-off river), solar, wind, geothermal, etc.
- ii) Number of installed capacity for the project shall be stated.
- iii) The project in operation at least 1 (one) year from the Commercial Operating Date (COD) and supported with performance and generation data.
- iv) There is no specific capacity requirement.
- v) The project must be installed in Malaysia.