



DEPARTMENT
OF ENERGY

2018 - SCHOOLS ENERGY SAVER COMPETITION



MINISTRY OF
INFRASTRUCTURE
& TRANSPORT

THEME: Energy Efficiency Smarter way to reduce Carbon Emission !!!

The Department of Energy (DOE) is organizing competitions for both Primary and Secondary Schools for 2018. Competitions will be in the form of Posters, Essays, Energy Audits and Renewable Energy Model Competitions. The theme for this year's competition is "**Energy Efficiency Smarter way to Reduce Carbon Emission**" and is critical to what the planet is facing today with regards to the global warming phenomena, sea level rise, overexploitation of our natural resources and the inefficient use of energy. In this regard, students are encouraged to participate and to broaden their knowledge on energy issues, particularly those facing Fiji.

The categories are as follows:

PRIMARY SCHOOL

- POSTER COMPETITION (YEAR 1-8)

- i) Students will be required to use their artistic skills and knowledge based on the theme to design a Energy Saver Logo for the Department.
- ii) Only one entry per student for the Primary Schools Poster Category and a brief 1/2 page description of the logo.
- iii) Posters are to be submitted on A3 size paper (297× 420mm).
- iv) The design will be judged on the originality, appropriateness, content, art-work, general impression on the poster, linkages to the local or national level and the understanding of the theme.
- v) Posters will be divided and judged in two categories i.e. **year 1-4 and year 5-8.**
- vi) **Students must fill the registration form** and attached together with their entry. Failure

for students to do this may result in the elimination of their entry.

SECONDARY SCHOOL (YEAR 9-11)

- ESSAY COMPETITION

Students will be required to write an essay based on the theme.

- i. Only one entry per student for the Secondary Schools Essay Competition.
- ii. The essay will be judged on structure, originality, appropriateness, standard of presentation, referencing and the understanding of the theme.
- iii. All references need to be acknowledged with proper citations.
- iv. Essays should be of (800 —1000 words).
- v. Essay to be typed and binded properly.
- vi. **Students must fill the registration form** and attached together with their entry. Failure for students to do this may result in the elimination of their entry.

SECONDARY SCHOOL

RENEWABLE ENERGY MODEL COMPETITION

- The competition will involve a group of not more than 4 students.
- They will be required to create a working model based on the theme; **“Energy Efficiency Smarter way to reduce Carbon Emission !!!”**.
- The model should imitate possible real-life setup on smaller scale and can either focus on Renewable Energy, Green/Sustainable Buildings, Cleaner Technologies, Supply Chain Issues, Fuel Substitution (Biofuel Production (Ethanol), Electric Cars/Bicycles) and so forth.
- Models are to be constructed solely by students.
- The model should closely portray the real set-up in terms of the technology/resource referred to.
- Hybrid models which use more than one of the technologies/resource listed above is also acceptable.
- Students will be assessed based on the structure, stability, material used, mobility, working model, appropriateness, concept and relevance of ideas and also linkages to the theme at the local or national level.
- Students will also be required to provide a 1 page description/explanation and do a presentation of the model
- Schools can submit more than one entry for Secondary Schools Energy Model Category however the models should not resemble each other in design and concept.
- All written submissions are to be typed or clearly hand-written.

Winners will be judged first at divisional level (Central/Eastern, Western and Northern) and then at National Level. **Registration forms for participation in Model Competition are to be submitted before 28th June, 2018, 4pm at the addresses provided below.** The details of this category will be forwarded to the schools that register.

ENERGY AUDIT

- Group of not more than 4 students. Individual reports from students will be disqualified.
- Must undertake the energy audit of the School. The building should be clearly described in the final report under the Facility Description.
- Plagiarism will not be entertained. Failure for the students to properly reference will result in the deduction of points.
- Final Report must be neatly typed, bound and submitted to the Department at the address provided.

STAGES OF ENERGY AUDIT

The energy audit process is divided into three (3) stages:

- **Desktop Review:** Overview of the sites energy performance based on basic and electricity of fuel consumption data. The students have to liaise with the School Management for the release of the electricity consumption data for at least the last two (2) years. In case the school uses diesel generators, the fuel consumption data must be obtained from the generator operator.
- **Site Inspection:** Assessment of the sites energy consumption and usage patterns aimed at identifying peak energy reduction options that would be consistent with the operational requirements of the site.
- **Data Analysis and Report Preparation:**
Analytical study of acquired data. Identification of energy reduction opportunities and provision of itemized list of recommendations, including management options and capital works where feasible. **All analysis and calculations must be submitted together with the report and attached as Annexes.** This will assist the assessors authenticate your analysis and calculations.



OUTLINE OF THE ENERGY AUDIT REPORT

The outline of the Energy Audit Report is shown below;

- **Executive Summary:**
A brief summary of the recommendations and cost savings
- **Table of Contents Introduction**
Purpose of the energy audit. Need for a continuing energy cost control program
- **Facility Description**
School buildings, electrical equipment, electrical appliances
- **Energy Bill Analysis**
Students will need to analysis the school bills and tabulate findings
- **Energy Management Opportunities**
Listing of potential EMOs, Cost and savings analysis, Economic evaluation
- **Energy Action Plan**
Your recommendations need to be documented here and an implementation schedule
- **Conclusion**
Additional comments not otherwise covered.

Assessment

Entries will be evaluated according to but not limited to Creativity, Appropriateness, Description and so on.

CLOSING DATE:

All Poster, Essay & Energy Audit entries must reach DoE by **14th Sept 2018, 4pm**. Registered Schools will be advised on the evaluation date & Venue for the Model Category.



COMPETITION PRIZES

POSTER COMPETITION: STUDENT'S PRIZES (YR 1-4 & YR 5-8)

1st - \$200 Cheque, 2nd - \$150 Cheque, 3rd - \$100 Cheque

ESSAY COMPETITION: STUDENT'S PRIZES (YEAR 9-11)

1st - \$250 Cheque, 2nd - \$200 Cheque, 3rd - \$150 Cheque

ENERGY MODELS (DIVISIONAL LEVEL)/ENERGY AUDITS: STUDENT'S PRIZES

1st - \$400 Cheque, 2nd - \$375 Cheque, 3rd - \$350 Cheque

ENERGY MODELS (NATIONAL LEVEL): SCHOOL PRIZES

1st - Plaque & \$3000 Cheque, 2nd - Plaque & \$2000 Cheque, 3rd - Plaque & \$1000 Cheque

ENERGY AUDIT: SCHOOL PRIZES

1st - \$1500 Cheque, 2nd - \$1000 Cheque, 3rd - \$500 Cheque

GO GREEN PROJECT PROPOSAL

1st - \$1500 Cheque, 2nd - \$1000 Cheque, 3rd - \$500 Cheque

REGISTRATION FORM

Name:
Age: YEAR.....
School:
Address:
Email: Phone:.....

Option: (please tick)

POSTER

ESSAY

ENERGY MODEL SCHOOL REGISTRATION FORM

A-1

School:
Address:
Postal:
Phone:
Email:

Number of MODELS to be submitted

Registration Due Date: 28th June 2018

ENTRY FORM

A-2

TEAM MEMBERS (4) (Please clearly state the details)

1
2
3
4

MODEL

ENERGY AUDIT

All entries to be addressed to:

**The Director, Department of Energy,
Private Mail Bag, Suva.
OR delivered to
Level 1, Nasilivata House
87 Ratu Mara Road, Samabula.**



For further queries please contact Ashneel Chandra or Ashneel Reddy on **3384111** or email
ashneel.chandra@moit.gov.fj or **ashneil.reddy@moit.gov.fj**