
First published in the *Government Gazette*, Electronic Edition, on 28 September 2018 at 5 pm.

No. S 605

**ENERGY CONSERVATION ACT
(CHAPTER 92C)**

**ENERGY CONSERVATION
(ENERGY MANAGEMENT PRACTICES)
(AMENDMENT) REGULATIONS 2018**

In exercise of the powers conferred by section 78(1) of the Energy Conservation Act, the Minister for the Environment and Water Resources makes the following Regulations:

Citation and commencement

1. These Regulations are the Energy Conservation (Energy Management Practices) (Amendment) Regulations 2018 and come into operation on 1 October 2018.

New Part IIA

2. The Energy Conservation (Energy Management Practices) Regulations 2013 (G.N. No. S 246/2013) are amended by inserting, immediately after regulation 7, the following Part:

“PART IIA

**ENERGY MANAGEMENT PRACTICES
FOR NEW VENTURES**

Definitions of this Part

7A. In this Part, unless the context otherwise requires —

“best available technology” means technology that results in the best energy efficiency, use and consumption;

“energy” has the same meaning as in paragraph 2 of the Energy Conservation (Registrable Corporations) Order 2013 (G.N. No. S 248/2013);

“energy and material flows” means a method of computing —

- (a) the energy and materials provided for and released from the processes and energy-consuming systems in a business activity; and
- (b) the energy conversions and energy use within the processes and energy-consuming systems in the business activity;

“energy commodity” has the same meaning as in paragraph 2 of the Energy Conservation (Registrable Corporations) Order 2013;

“manufacturing and manufacturing-related services” has the same meaning as in paragraph 2 of the Energy Conservation (Registrable Corporations) Order 2013;

“post-assessment design” means a design of a new venture facility that includes any energy efficiency opportunity identified in an energy efficiency opportunities assessment conducted in respect of the new venture;

“supply of electricity, gas, steam, compressed air and chilled water for air-conditioning” has the same meaning as in paragraph 2 of the Energy Conservation (Registrable Corporations) Order 2013;

“water supply and sewage and waste management” has the same meaning as in paragraph 2 of the Energy Conservation (Registrable Corporations) Order 2013.

Application of this Part

7B.—(1) This Part applies to a new venture of any person (whether or not a registered corporation) that is a business activity where —

- (a) the estimated total energy to be consumed by the business activity equals or exceeds the threshold of 54 terajoules per calendar year, derived from one or more types of fuel or energy commodity specified in

the First Schedule to the Energy Conservation (Registrable Corporations) Order 2013; and

- (b) the business activity is carried out at a single site and is attributable to one of the following industry sectors:
 - (i) manufacturing and manufacturing-related services;
 - (ii) supply of electricity, gas, steam, compressed air and chilled water for air-conditioning;
 - (iii) water supply and sewage and waste management.

(2) For the purposes of paragraph (1)(a), the estimated total energy to be consumed by the business activity —

- (a) must be calculated on the basis that the business activity is carried out at full capacity for 24 hours every day throughout the calendar year; and
- (b) must be derived from all fuel and energy commodities estimated to be used to provide or produce the energy to be consumed by the business activity, but excludes energy estimated to be produced from any fuel or energy commodity that is already accounted for in the estimated total figure.

(3) If an estimated quantity of fuel to be used is to be converted to an amount of energy in joules, the conversion is to be done using —

- (a) the default net calorific values set out in the Second Schedule to the Energy Conservation (Registrable Corporations) Order 2013; or
- (b) the net calorific values specified by the person mentioned in paragraph (1) and approved by the Director-General under paragraph (7).

(4) If an estimated quantity of an energy commodity to be used is to be converted to an amount of energy in joules, the conversion is to be done using —

- (a) the default energy content values set out in the Third Schedule to the Energy Conservation (Registrable Corporations) Order 2013; or
- (b) the energy content values specified by the person mentioned in paragraph (1) and approved by the Director-General under paragraph (7).

(5) A person mentioned in paragraph (1) seeking to specify the net calorific value of a fuel must submit to the Director-General a report by a laboratory containing the results of a test conducted in accordance with the relevant ASTM International, International Organization for Standardization (ISO) or other testing standards approved by the Director-General to ascertain the net calorific value of the fuel concerned.

(6) A person mentioned in paragraph (1) seeking to specify the energy content value of an energy commodity must submit to the Director-General the method by which the person derived the energy content value.

(7) The Director-General may approve or reject the net calorific value or the energy content value sought to be specified by a person under paragraph (5) or (6), as the case may be.

Energy efficiency opportunities assessment for new ventures

7C.—(1) A person required to conduct an energy efficiency opportunities assessment for a business activity of a new venture under this Part must determine the following:

- (a) the methods and processes of the business activity to be assessed;
- (b) the energy-consuming systems of the business activity to be assessed;
- (c) the objective of the assessment;
- (d) the time period for the assessment;

- (e) the methods and processes to be used to conduct the assessment;
- (f) the individuals conducting the assessment, including each individual's role and experience.

(2) For the purpose of paragraph (1)(c), the objective of the energy efficiency opportunities assessment must include —

- (a) identifying the energy efficiency opportunities that are available in respect of the business activity, including taking into account any dependencies in respect of the processes and energy-consuming systems of the business activity, after reviewing —
 - (i) the optimum methods or processes of the business activity;
 - (ii) the proposed energy-consuming systems estimated to consume a total of at least 80% of the estimated annual energy consumption of the business activity, including the proposed location, arrangement and best operating practices of these energy-consuming systems; and
 - (iii) available alternative technology choices (including best available technology) for the business activity, and the proposed energy-consuming systems mentioned in sub-paragraph (ii);
- (b) assessing the technical and economic feasibility of implementing each such energy efficiency opportunity based on a comparison, between a case if the energy efficiency opportunity is implemented and a case if the efficiency opportunity is not implemented, of all the following:
 - (i) the estimated investment and operation cost;
 - (ii) the estimated annual energy savings;
 - (iii) the estimated specific energy consumption;

- (iv) the estimated annual greenhouse gas emissions;
 - (v) the estimated financial savings;
 - (vi) the estimated returns on investment;
 - (vii) other criteria, including non-energy related benefits such as greater productivity or improved reliability, as may be appropriate; and
- (c) determining which such energy efficiency opportunities are to be included in the post-assessment design of the new venture facility.

(3) If any proposed energy-consuming system mentioned in paragraph (2)(a)(ii) is replaced with another proposed energy-consuming system during or after the energy efficiency opportunities assessment, a further energy efficiency opportunities assessment must be conducted in respect of the replacement energy-consuming system —

- (a) if the replacement energy-consuming system forms part of the proposed energy-consuming systems estimated to consume a total of at least 80% of the estimated annual energy consumption of the business activity; and
- (b) in accordance with this regulation.

(4) The energy efficiency opportunities assessment must be conducted —

- (a) on the basis that the business activity is carried out at full capacity for 24 hours every day throughout the calendar year; and
- (b) on the basis of sound and reliable information or documents, including information or documents from the supplier of the energy-consuming systems mentioned in paragraph (2)(a)(ii) and replacement energy-consuming system mentioned in paragraph (3), if any.

Energy efficiency opportunities assessment report for new ventures

7D.—(1) The report on the energy efficiency opportunities assessment conducted under regulation 7C must include the following:

- (a) an executive summary that summarises the important findings of the energy efficiency opportunities assessment;
- (b) general information of the business activity assessed, including —
 - (i) the type of business activity;
 - (ii) the intended outputs of the business activity; and
 - (iii) the estimated full capacity of the business activity and intended outputs of the business activity;
- (c) the matters mentioned in regulation 7C(1) (read with regulation 7C(2)), (3) and (4);
- (d) information about the post-assessment design of the new venture facility within which the business activity assessed is to be conducted, comprising —
 - (i) the proposed layout of the new venture facility;
 - (ii) the proposed process flow diagram and energy and material flows in respect of the business activity;
 - (iii) a description, and the proposed location and arrangement, of every proposed energy-consuming system estimated to consume a total of at least 80% of the estimated annual energy consumption of the business activity;
 - (iv) the estimated annual quantity and unit of measure, of each type of fuel or energy

-
-
- commodity to be used by the business activity, including each energy-consuming system mentioned in sub-paragraph (iii);
- (v) the net calorific value of each type of fuel and energy content value of each type of energy commodity to be used by the business activity;
 - (vi) the estimated annual quantity and unit of measure of each intended output of the business activity, including from each energy-consuming system mentioned in sub-paragraph (iii);
 - (vii) the estimated specific energy consumption of the business activity, including by each energy-consuming system mentioned in sub-paragraph (iii); and
 - (viii) the estimated annual greenhouse gas emissions of the business activity, including from each energy-consuming system mentioned in sub-paragraph (iii);
- (e) the reasons for including or excluding the energy efficiency opportunities mentioned in regulation 7C(2)(a) in the post-assessment design of the new venture facility;
- (f) if any energy efficiency opportunity mentioned in regulation 7C(2)(a) is excluded in the post-assessment design of the new venture facility—
- (i) the processes and energy-consuming systems of the business activity in respect of the energy efficiency opportunity so excluded; and
 - (ii) a comparison of the information mentioned in paragraph (1)(d)(iv) to (viii) between the processes and energy-consuming systems mentioned in sub-paragraph (i) so excluded with the processes and energy-consuming systems included in the post-assessment design;

(g) if any energy efficiency opportunity mentioned in regulation 7C(2)(a) is included in the post-assessment design of the new venture facility —

(i) the processes and energy-consuming systems of the business activity in respect of the energy efficiency opportunity so included; and

(ii) a comparison of the information mentioned in paragraph (1)(d)(iv) to (viii) between the processes and energy-consuming systems mentioned in sub-paragraph (i) so included with any processes and energy-consuming systems reviewed but excluded in the post-assessment design of the new venture facility, if any;

(h) such other information or document as the Director-General may require.

(2) The report specified in paragraph (1) —

(a) must be signed by the person principally responsible for conducting the energy efficiency opportunities assessment;

(b) must be endorsed by the chief executive of the person mentioned in regulation 7B(1);

(c) must be made —

(i) using the relevant form provided in the electronic service provided at <http://www.nea.gov.sg>; and

(ii) in the manner specified by the Director-General; and

(d) may be submitted by an employee of, and authorised by, the person mentioned in regulation 7B(1).

(3) Every application under section 31B(2) of the Act for a waiver of the application of section 26A(1) or (2) of the Act must —

- (a) be in writing;
- (b) state the reasons for the person's inability to comply with the requirements; and
- (c) be accompanied by supporting documents.

Records to be kept for new ventures

7E.—(1) A person mentioned in regulation 7B(1) must keep and maintain complete and accurate records of the information and documents in respect of the following for at least 5 years after the date of the certificate of statutory completion issued in respect of the new venture facility:

- (a) the matters mentioned in regulation 7C(1);
- (b) the energy efficiency opportunities identified in regulation 7C(2)(a);
- (c) the assessment of the technical and economic feasibility of implementing each energy efficiency opportunity mentioned in regulation 7C(2)(b);
- (d) the determination of the energy efficiency opportunities to be included in the post-assessment design of the new venture facility;
- (e) any other matters relied on by the person in preparing the report submitted under regulation 7D.

(2) In this regulation, “certificate of statutory completion” has the same meaning as in section 2(1) of the Building Control Act (Cap. 29).”.

Amendment of regulation 8

3. Regulation 8 of the Energy Conservation (Energy Management Practices) Regulations 2013 is amended —

- (a) by inserting, immediately after paragraph (4), the following paragraph:

“(4A) Despite paragraph (4), if the relevant business activity to which the energy use report relates is a new venture that is a business activity

(called in this regulation new business activity), then in the report —

- (a) the quantity of each type of fuel or energy commodity used for the purposes of producing or providing energy in respect of the new business activity, during the calendar year covered by the report, and their net calorific value or energy content value, and unit of measure, but excluding any fuel or energy commodity used for the purposes of any emergency standby generator, must be expressed as a measured value; and
 - (b) the information mentioned in paragraph (4)(d) must include the information of every energy-consuming system of the new business activity, the aggregate energy consumption of which is at least 80% of the total energy consumption of the new business activity.”;
- (b) by deleting the word “Any” in paragraph (6) and substituting the words “Subject to paragraph (6A), any”;
- (c) by inserting, immediately after paragraph (6), the following paragraph:
- “(6A) Despite paragraph (6), any quantity or figure required in paragraph (4)(d)(iii) to (vi) —
- (a) must, in respect of every energy-consuming system of a new business activity, the aggregate energy consumption of which is at least 80% of the total energy consumption of the new business activity, be expressed as a measured value; and
 - (b) may, in respect of the energy-consuming systems of the new business activity not

mentioned in sub-paragraph (a), be expressed either as a measured value or an estimated value.”; and

(d) by inserting, immediately after paragraph (7), the following paragraph:

“(8) Every application under section 31B(4) of the Act for a waiver of the application of section 27 of the Act requiring any quantity or figure to be expressed as a measured value must —

- (a) be in writing;
- (b) state the reasons for the person’s inability to comply with the requirements; and
- (c) be accompanied by supporting documents.”.

[G.N. No. S 752/2017]

Made on 28 September 2018.

ALBERT CHUA
*Permanent Secretary,
Ministry of the Environment and
Water Resources,
Singapore.*

[MEWR C030/01/129 Vol. 6; AG/LEGIS/SL/92C/2015/8 Vol. 1]