

Ref: NEA-LSD-CIRCULAR-ECA-00002-2025

Date: 19 February 2025

Designated Company Representatives under the Energy Conservation Act (ECA), Water Heater and Commercial Storage Refrigerator Suppliers

Dear Sir/Mdm

**REQUIREMENTS FOR REGULATED GOODS UNDER THE ENERGY CONSERVATION ACT (ECA)¹
WITH EFFECT FROM 1ST APRIL 2025**

We refer to the circulars dated 10 Mar 2023 (NEA-LSD-CIRCULAR-ECA-00002-2023) and dated 8 March 2024 (NEA-LSD-CIRCULAR-ECA-00002-2024) and reiterate the new and revised Minimum Energy Performance Standards (MEPS) and Mandatory Energy Labelling Scheme (MELS) requirements under the Energy Conservation Act that will take effect from 1 April 2025².

A. New Goods to be regulated under the ECA

2 From 1st April 2025, all commercial storage refrigerators (CSRs) and water heaters (WHs) sold in Singapore must meet the MEPS and comply with the MELS requirements. The requirements and administrative information to register these goods are in **Annex A**.

3 The online registration portal will be ready for registering CSRs and WHs from 3rd March 2025. Suppliers are advised to register their products early to comply with the requirements.

Advisory on the testing of instantaneous water heater

NEA received some test reports for instantaneous water heaters which shows that the calculated recovery efficiency (η_r) and/or the Uniform Energy Factor (UEF) are above 100% and 1.00 respectively. As confirmed with the SS646 expert, based on the technology used in IWHs, such results are not feasible as the thermal energy received by the water (output energy) cannot surpass the input electrical energy. Such anomalous test results are likely due to errors in the data collection or placement of instruments. For the MELS/MEPS registration, NEA will not accept IWH test reports with UEF >1 and/or recovery efficiency >100%. Suppliers are advised to re-test the instantaneous water heaters.

Advisory on the use of flammable refrigerants (e.g. R290) in commercial storage refrigerators

CSR supplier or anyone who intends to supply CSR models using flammable refrigerants such as R290 shall comply with SCDF's regulatory requirements on the usage of flammable refrigerant in stand-alone

¹ The new and revised Minimum Energy Performance Standards (MEPS) and Mandatory Energy Labelling Scheme (MELS) requirements are as specified in the Energy Conservation (Regulated Goods and Registered Suppliers) Regulations 2017.

² Suppliers will be given 1 year grace period, from 1 April 2025 to 31 March 2026, to clear existing stocks that do not comply with the MELS/MEPS requirements. From 1 April 2026 onwards, all regulated goods mentioned in this circular must be registered with NEA and meet the prescribed MEPS and/or MELS requirements before it can be supplied in Singapore.

commercial refrigeration system in Singapore. (https://www.scdf.gov.sg/docs/default-source/fire-safety-docs/downloads/circulars/scdf_circular_on_hydrocarbon_refrigerant_in_commercial_equipment.pdf?sfvrsn=86b65339_1)

NEA will not register models that carry equal or more than 150 grams of flammable refrigerants, unless written approval from SCDF is provided.

B. Revised MEPS requirement for existing regulated goods

4 From 1st April 2025, all televisions with resolution of 33,177,600 pixels (8K TV), single-phase split type air-conditioners (including single-phase VRF), and household refrigerators are required to comply with the revised MEPS requirement as summarised in **Annex B**.

5 NEA would like to reiterate that compliance with the requirements under the ECA is mandatory. Any non-compliance with the supply of regulated goods in Singapore is an offence under Section 12 of the ECA. Companies that are found to be non-compliant shall be liable, upon conviction, to a fine not exceeding \$10,000.

6 This circular is also available on NEA's website at <https://www.nea.gov.sg/corporate-functions/resources/circulars/climate-change-energy-efficiency-circulars>. If you have any queries concerning this circular or need further clarification or assistance, please contact us at Tel: 6731-9952 / 6731-9739 or email: nea_energylabel@nea.gov.sg. Thank you.

Yours faithfully
(Transmitted via email)



Suresh K.
Director
Carbon Mitigation Division
National Environment Agency

NEW MEPS and MELS for Commercial Storage Refrigerators and Water Heaters
Commercial Storage Refrigerator

Type of Commercial Storage Refrigerator covered	All capacities of chillers, freezers, and combinations type CSR
Energy Efficiency Requirements	
MEPS Requirements	• $EEI \leq 95$
MELS Requirements	• 1 Tick (Low): $80 \leq EEI \leq 95$ • 2 Tick (Fair): $60 \leq EEI < 80$ • 3 Tick (Good): $40 \leq EEI < 60$ • 4 Tick (Very Good): $20 \leq EEI < 40$ • 5 Tick (Excellent): $EEI < 20$
Registration	
Requirement	Importers and manufacturers (suppliers) of regulated CSR must register themselves and their models with NEA. More information on the registration process is available at: 1. Registration of suppliers 2. Registration of regulated goods
Registration Fees	Registration of supplier: No charge New registration of goods: \$70 per model Renewal of certification: \$50 per model Each registration is valid for 3 years. Renewal must be done before the expiry of the Certificate of Registration (COR).
Other requirements	
Test Standard	ISO 22041
Test Report	A test report from any of the following laboratories is acceptable: 1) Manufacturers' in-house test laboratories; 2) Test laboratories that have been accredited by the Singapore Accreditation Council (SAC) to carry out the test in accordance with the applicable test standards; or 3) Overseas test laboratories that have been accredited by their local accreditation bodies and have signed a Mutual Recognition Arrangement with SAC to carry out the test in accordance with the applicable test standards. Test Report must be prepared in the format stipulated by NEA at https://www.nea.gov.sg/our-services/climate-change-energy-efficiency/energy-efficiency/household-sector/test-report
Display of Energy Label	A registered supplier is required to ensure the following: a) Energy label is affixed or displayed on all units. b) Energy label is displayed in all locally circulated publicity materials (digital & non-digital) such as local websites, newspapers, advertisements and promotional flyers.

Water Heater

Type of Water Heater covered	All water heater types that are intended for household use:		
	Type of Water Heater	Rated Input Power	Rated Tank Capacity
	Electric Storage Water Heater	≤ 12 kW	≤ 500L
	Electric Instantaneous Water Heater	≤ 12 kW	NA
	Gas Instantaneous Water Heater	≤ 59 kW	NA
	Heat Pump Water Heater	≤ 6 kW	≤ 500L
Energy Efficiency Requirements			
MEPS Requirements	• UEF ≥ 0.40		
MELS Requirements	• 1 Tick (Low): 0.40 ≤ UEF ≤ 0.55 • 2 Tick (Fair): 0.55 < UEF ≤ 0.70 • 3 Tick (Good): 0.70 < UEF ≤ 0.85 • 4 Tick (Very Good): 0.85 < UEF ≤ 1.00 • 5 Tick (Excellent): UEF > 1.00		
Registration			
Requirement	Importers and manufacturers (suppliers) of regulated water heaters must register themselves and their models with NEA. More information on the registration process is available at: 1. Registration of suppliers 2. Registration of regulated goods		
Registration Fees	Registration of supplier: No charge New registration of goods: \$70 per model Renewal: \$50 per model Each registration is valid for 3 years. Renewal must be done before the expiry of the Certificate of Registration (COR).		
Other requirements			
Test Standard	SS646		
Test Report	A test report from any of the following laboratories is acceptable: 4) Manufacturers' in-house test laboratories; 5) Test laboratories that have been accredited by the Singapore Accreditation Council (SAC) to carry out the test in accordance with the applicable test standards; or 6) Overseas test laboratories that have been accredited by their local accreditation bodies and have signed a Mutual Recognition Arrangement with SAC to carry out the test in accordance with the applicable test standards. Test Report must be prepared in the format stipulated by NEA at https://www.nea.gov.sg/our-services/climate-change-energy-efficiency/energy-efficiency/household-sector/test-report		
Display of Energy Label	A registered supplier is required to ensure the following: a) Energy label is displayed on all units. b) Energy label is displayed in all locally circulated publicity materials (digital & non-digital) such as local websites, newspapers advertisements and promotional flyers.		

Annex B

REVISED MEPS for Televisions, Split-type Air-conditioners (including Single-phase VRF), Household Refrigerators

Television with resolution of 33,177,600 pixels (8K TV)

Type	New MEPS	New Standby Power requirements
TV with resolution of 33,177,600 pixels [8K TV] (Effective 1 Apr 2025)	$P \leq 0.42 \times (20 + 4.3224 \times A)$	Passive standby power $\leq 0.50W$

Split-type Air-conditioners

Type	Cooling capacity	Revised MEPS	
Single-Split (inverter)	Up to 17.6kW	$COP_{weighted} \geq 4.86$	Standby power $\leq 18W$
Single-Split (non-inverter)		$COP_{100\%} \geq 4.86$	Standby power $\leq 18W$
Multi-Split (inverter)		$COP_{weighted} \geq 5.50$	Standby power $\leq (7 \times N) W$
Multi-Split (non-inverter)		$COP_{100\%} \geq 5.50$	Standby power $\leq (7 \times N) W$

- $COP_{weighted} = 0.4 \times COP_{100\%} + 0.6 \times COP_{50\%}$
- N is the number of indoor and outdoor units

Household Refrigerator

Type of Refrigerators	Adjusted Volume (L)	Revised MEPS
Without freezer	Up to 900L	$AEC \leq [(368 + 0.892 \times V_{adj\ tot}) \times 0.332]$
With freezer		$AEC \leq [(465 + 1.378 \times V_{adj\ tot}) \times 0.312]$
With freezer and through-the-door ice dispenser		$AEC \leq [(585 + 1.378 \times V_{adj\ tot}) \times 0.298]$

- $V_{adj\ tot}$ is defined as the sum of the adjusted volumes of the refrigerator compartments.
- “Through-the-door ice dispenser” means an automatic ice maker coupled with a device that delivers ice on demand externally through a door.
- “AEC” means Annual Energy Consumption.