

# PEECA SAVE UP Program Requirements

## Partner Agreement for Air Conditioners

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Following are the terms of the **SAVE UP** Partnership Agreement as it pertains to the manufacture and labeling of **SAVE UP** qualified products. The **SAVE UP** Partner must adhere to the following partner commitments:

### Qualifying Products

1. Comply with current **SAVE UP Product Specifications**, which defines the performance requirements and test procedures for air conditioners. A list of eligible products and their corresponding *Product Specifications* can be found at PEECA website.
2. Prior to associating the **SAVE UP** name or mark with any product model, the Supplier and each model must be registered with PEECA.

### Using the SAVE UP Name and Marks

3. Comply with current PEECA **SAVE UP Brand Guidelines**, which define how the **SAVE UP** name and marks may be used. Partner is responsible for adhering to these guidelines and ensuring that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance. The **SAVE UP Brand Guidelines** are available on the PEECA Website.
4. Use the **SAVE UP** name and marks only in association with qualified products. Partner may not refer to itself as a **SAVE UP** Partner unless at least one product is qualified and offered for sale in Punjab.
5. Provide clear and consistent labeling of **SAVE UP** qualified air conditioners. The **SAVE UP** mark must be clearly displayed on the product packaging and the top/front of the product, in product literature (i.e., user manuals, spec-sheets, etc.), and on the Partner's internet site where information about **SAVE UP** models is displayed.
6. In order to receive additional recognition and/or support from PEECA for its efforts within the Partnership, the **SAVE UP** Partner may consider the voluntary measures listed in the Annex.

### Verifying ongoing Product Performance

7. PEECA may, at its discretion, conduct tests on products that are referred to as **SAVE UP** qualified. These products may be obtained on the open market, or voluntarily supplied by the Partner at PEECA's request.

### Providing Information to PEECA

8. Provide unit shipment data or other market indicators to PEECA annually to assist with creation of **SAVE UP** market penetration estimates, as follows:
  - 8.1 Partner must submit the total number of **SAVE UP** air conditioners shipped in the calendar year, or an equivalent measurement as agreed to in advance by PEECA and Partner.
  - 8.2 Partner must provide unit shipment data segmented by meaningful product characteristics (e.g., type, capacity, presence of additional functions) as prescribed by PEECA.
  - 8.3 Partners must submit unit shipment data for each financial year to PEECA, preferably in electronic format, no later than October 1 of the following year.
  - 8.4 The submitted unit shipment data will be used by PEECA only for program evaluation purposes and will be closely controlled.
9. Notify PEECA of a change in the designated responsible party or contacts within, and any changes to details relating to **SAVE UP** qualified products.

# SAVE UP Product Specification for Air Conditioners

## Version 1.0

Following is Version 1.0 product specification for **SAVE UP** air conditioners. A model shall meet all of the identified requirements if it is to be **SAVE UP** qualified.

### 1. Definitions:

#### 1.1. Non-inverter room air conditioner

A room air conditioner that employs technologies that controls the output of the compressor by start-stop operation.

#### 1.2. Inverter room air conditioner

A room air conditioner that utilizes technologies to adjust the output of the compressor using methods other than start-stop operation.

#### 1.3. Wall mounted split room air conditioner

A split air conditioner consists of an enclosed indoor unit which includes the evaporator assembly, fan motor assembly, and electrical assembly. This unit is mounted on a wall and is designed to provide conditioned air to an enclosed space, room, or zone.

#### 1.4. Energy efficiency ratio (EER)

A ratio of total cooling capacity to effective power input at any given set of rating conditions. The unit is kW/kW.

#### 1.5. Cooling Capacity

The amount of cooling provided to a conditioned space, measured under the specified conditions.

#### 1.6. Cooling seasonal performance factor (CSPF)

The ratio of the total amount of heat that equipment can remove from indoor air during cooling operation over a year, to the total amount of energy consumed by the equipment during the same period, is represented by the unit Wh/Wh.

#### 1.7. Label

Any written, printed, marked, stamped or graphic matter affixed to or appears upon a room air.

#### 1.8. Registration period

The label period refers to the duration for which a room air conditioner's product registration with the Punjab Energy Efficiency and Conservation Agency (PEECA) is considered valid and compliant with the agency's energy efficiency standards.

#### 1.9. Model or family of models

The model or range of one particular brand, to which a single set of test reports is applicable and where each of the models have the same physical characteristics, energy efficiency level and performance characteristics. The term 'model' is synonymous with a family of models.

#### 2.0 Ton of Refrigeration (TR)

A ton of refrigeration (abbreviated as TR) is a unit of measurement for refrigeration capacity. Originally, it was defined as the amount of heat transfer required to produce 1 short ton (2000 lbs) of ice per day from water at 0 degrees Celsius. According to the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), 1 TR is equivalent to a refrigeration capacity of 3516.85 W or 3023.95 kcal/h. Therefore, a 1 TR air conditioner has a refrigeration capacity of 3516.85 W at the prescribed temperatures.

### 2. Scope

#### 2.1. Included Products

Non-ducted wall mounted split room air conditioners with cooling capacity up to 10.5 kW that can be connected to main power, and which are within the scope of PS: ISO 5151/2013.

## 2.2. Excluded Products

All products that do not fall under the criteria in 2.1

## 3. Performance Requirements

Air conditioners within scope shall meet all the following requirements to register as a **SAVE UP** model.

3.1 Models shall meet or exceed the minimum requirements presented in Table 1, below:

Table 1: Air conditioner SAVE UP eligibility requirements

Rated cooling capacity (kW)	Minimum CSPF <sup>1</sup>
< 4.5	≥ 4.30
4.5 ≤ -≤10.5	≥ 4.00

## 3.2 Refrigerants

All eligible models must be charged with refrigerant with a greenhouse warming potential (GWP) of less than 700, in accordance with the most recent published values defined by the Intergovernmental Panel on Climate Change (IPCC)<sup>2</sup>.

## 4. Calculations

To calculate CSPF, test data shall be taken according to PS: ISO 5151/2013 (or equivalent) and the temperature bin distribution shall follow Table 2.

Table 2: Temperature bin distribution

Bin number j	1	2	3	4	5	6	7	8	9
Outdoor temperature t <sub>j</sub> °C	21	22	23	24	25	26	27	28	29
Fractional bin hours n <sub>j</sub>	0.034	0.038	0.038	0.042	0.051	0.055	0.072	0.088	0.103
Bin hours n <sub>j</sub>	n <sub>1</sub>	n <sub>2</sub>	n <sub>3</sub>	n <sub>4</sub>	n <sub>5</sub>	n <sub>6</sub>	n <sub>7</sub>	n <sub>8</sub>	n <sub>9</sub>
Bin hours (n <sub>j</sub> ) h	78	87	87	96	116	126	164	201	234

Bin number j	10	11	12	13	14	15	16	17	18
Outdoor temperature t <sub>j</sub> °C	30	31	32	33	34	35	36	37	38
Fractional bin hours n <sub>j</sub>	0.109	0.084	0.071	0.058	0.048	0.039	0.023	0.016	0.01
Bin hours n <sub>j</sub>	n <sub>10</sub>	n <sub>11</sub>	n <sub>12</sub>	n <sub>13</sub>	n <sub>14</sub>	n <sub>15</sub>	n <sub>16</sub>	n <sub>17</sub>	n <sub>18</sub>
Bin hours (n <sub>j</sub> ) h	248	192	162	132	110	89	53	37	23

Bin number j	19	20	21	22	23	24	Total		
Outdoor temperature t <sub>j</sub> °C	39	40	41	42	43	44	-		
Fractional bin hours n <sub>j</sub>	0.007	0.006	0.004	0.002	0.001	0.001			
Bin hours n <sub>j</sub>	n <sub>19</sub>	n <sub>20</sub>	n <sub>21</sub>	n <sub>22</sub>	n <sub>23</sub>	n <sub>24</sub>	-		
Bin hours (n <sub>j</sub> ) h	16	14	9	5	2	2	2283		

CSPF for non-inverter type room air conditioner shall be calculated by multiplying EER tested at standard temperature condition by 1.024

<sup>1</sup> As defined in PS: ISO 16358-1, Air-cooled air conditioners and air-to-air heat pumps – Testing and calculating methods for seasonal performance factors – Part 1: Cooling seasonal performance factor.

<sup>2</sup> See [https://archive.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/ch2s2-10-2.html](https://archive.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html)

## 5. Test Requirements

The following testing standards may be used to assess conformity with these specifications.

- 5.1 PS: ISO 16358-1 Air-cooled air conditioners and air-to-air heat pumps – Testing and calculating methods for seasonal performance factors – Part 1: Cooling seasonal performance factor
- 5.2 PS: ISO 16358-1 Amendment 1 Air-cooled air conditioners and air-to-air heat pumps – Testing and calculating methods for seasonal performance factors – Part 1: Cooling seasonal performance factor Amendment 1
- 5.3 PS: ISO 5151/2013 Non-ducted air conditioners and heat pumps – Testing and rating for performance
- 5.4 All later versions of ISO and those that are technical equivalent are applicable

The room air conditioner shall be measured at the following conditions:

- a) Climate ambient T1, refer PS: ISO 5151/2013
- b) Voltage 230 V, 50H

Measured cooling capacity value shall not be less than 95% of rated cooling capacity.

Measured power input value shall not be greater than 105% of rated power input.

For the 50% load cooling capacity test for inverter room air conditioners, the following tolerance shall be met:

$$50 \% \text{ load} = 100\% \text{ load capacity} \times 0.5 \text{ (tolerance } \pm 5.0 \% \text{)}$$

*Where, 100 % load capacity refers to measured cooling capacity during 100% load capacity.*

## 6. Test Report

A test report shall include the information specified in PS: ISO 16358-1 and PS: ISO 5151/2013.

## 7. Labeling & Packaging

Packaging and marketing claims shall represent the product consistent with its certification.

## 8. Effective Date

The **SAVE UP** air conditioners specification shall take effect on **1 November 2023**. To be considered as **SAVE UP** qualified, a product model shall meet the **SAVE UP** specification in effect on the model's date of manufacture. The date of manufacture is specific to each unit and is the date (e.g., month and year) on which a unit is considered to be completely assembled.

## 9. Future Specification Revisions

PEECA reserves the right to change this specification should technological and /or market changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions. In the event of a specification revision, please note that the PEECA **SAVE UP** certification is not automatically granted for the life of a product model.

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## ANNEX: Additional Voluntary Activities

In order to receive additional recognition and/or support from PEECA for its efforts within the Partnership, the **SAVE UP** Partner may consider the following voluntary measures, and should keep PEECA informed on the progress of these efforts:

1. Provide quarterly, written updates to PEECA as to the efforts undertaken by Partner to increase availability of SAVE UP qualified products, and to promote awareness of SAVE UP and its message.
2. Consider energy efficiency improvements in company facilities.
3. Purchase SAVE UP certified products. Revise the company purchasing or procurement specifications to include SAVE UP. Provide procurement officials' contact information to PEECA for periodic updates and coordination. Circulate general SAVE UP certified product information to employees for use when purchasing products for their homes.
4. Feature the SAVE UP label on Partner website and other promotional materials.
5. Ensure the power management feature is enabled on all displays and computers in use in company facilities, particularly upon installation and after service is performed.
6. Provide general information about the SAVE UP program to employees whose jobs are relevant to the development, marketing, sales, and service of current SAVE UP qualified products.
7. Provide a simple plan to PEECA outlining specific measures Partner plans to undertake beyond the program requirements listed above. The plan may be as simple as providing a list of planned activities or milestones of which the Partner would like PEECA to be aware.
8. For example, activities may include:
  - 8.1. Increasing the availability of SAVE UP qualified products by converting the entire product line within two years to meet SAVE UP Product Specifications.
  - 8.2. Demonstrating the economic and environmental benefits of energy efficiency through special in-store displays twice a year.
  - 8.3. Providing information to users (via the website and user's manual) about energy-saving features and operating characteristics of SAVE UP qualified products.
  - 8.4. Building awareness of the SAVE UP brand identity by collaborating with PEECA on print advertorials and press events.

# Partnership Agreement

Through this agreement, **NAME of COMPANY** joins in partnership with PEECA under the **SAVE UP** Programme. The **SAVE UP** Partner recognises **SAVE UP** as a broad partnership designed to promote products that use less energy while providing the same or better performance than conventional designs. The **SAVE UP** Partner wishes to use the **SAVE UP** name and/ or mark in association with qualified products. The **SAVE UP** Partner agrees to use the partnership and the **SAVE UP** label to promote energy efficiency as an easy and desirable option for organizations and consumers to prevent pollution, protect the global environment, and save on energy bills. The **SAVE UP** Partner agrees that it is important to build and maintain the meaning of the **SAVE UP** label as a trustworthy symbol that makes it easy to make a change for the better.

## Partner Commitments

The **SAVE UP** Partner agrees to fulfill all requirements as outlined in the following supporting documents:

- **SAVE UP** Partner Agreements, defining requirements for being recognised as a partner including identifying a responsible party and updating PEECA on the efforts undertaken through the partnership. These include **SAVE UP** product specifications defining the energy and other performance specifications that must be met for use of the **SAVE UP** on and/or in association products; and
- **SAVE UP** Brand Guidelines, describing how the **SAVE UP** name and label may be used. Partner will adhere to these guidelines and ensure that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance.

PEECA will undertake a variety of efforts to build awareness of the **SAVE UP** name and label, maintain the credibility of the **SAVE UP** name and label, and promote the benefits of energy-efficient products. PEECA will strive to:

- increase awareness of the **SAVE UP** name and mark across the residential, commercial, and industrial sectors by distributing key messages on the benefits of **SAVE UP** qualified products;
- make current versions of the **SAVE UP** Brand Guidelines and **SAVE UP** Program Requirements easily accessible through the Internet and other means.
- maintain a Web site where **SAVE UP** Partner can furnish information on its program efforts and responsible key contacts as outlined in the **SAVE UP** Program Requirements; and
- provide **SAVE UP** Partner with public recognition through the Internet and other mechanisms for its efforts in the **SAVE UP** Partnership and its role in protecting the environment.

## Disclaimers

The Partner will not construe, claim, or imply that its participation in the **SAVE UP** programme constitutes government approval, acceptance, or endorsement of anything other than Partner's commitment to the programme. Partner understands its participation in the **SAVE UP** programme does not constitute government endorsement of Partner or its products. Partner understands that the activities it undertakes in connection with the **SAVE UP** programme are voluntary and not intended to provide services to the government. As such, Partner will not submit a claim for compensation to any agency.

## Dispute Resolution

Partner and PEECA will assume good faith as a general principle for resolving conflicts under the **SAVE UP** programme. Both parties will endeavor to resolve all matters informally, so as to preserve maximum public confidence in **SAVE UP**.

In the event informal channels do not produce a mutually agreeable resolution to a matter in dispute, either party to this agreement shall notify the other in writing as to the nature of the dispute, the specific corrective action sought, and their intent to terminate the Partnership Agreement, either as a whole or in part, unless specific corrective actions sought are undertaken.

**Entry into Force and Duration of Agreement**

Both parties concur that this agreement and the terms outlined in the supporting documents will become effective when signed by both parties. This agreement may be updated at any time to add new areas for which **SAVE UP** Partner wants to be recognised as a partner. Both parties concur that this agreement is wholly voluntary and may be terminated by either party at any time, and for any reason, with no penalty. Failure to comply with this Partnership Agreement, applicable Program Requirements, and Brand Guidelines can result in termination of this agreement and authorisation to use the SAVE UP label. PEECA will actively pursue actions for resolving issues of non-compliance.

The undersigned hereby execute this Partnership Agreement on behalf of their party. The signatories of this agreement affirm that they have the authority to execute this agreement on behalf of **SAVE UP** Partner and PEECA.

Partnership Agreement Signatory for PEECA:

Signature:

Name and Title:

Date:

Partnership Agreement Signatory for [NAME of COMPANY]:

By checking this box I affirm that I have read and understand the terms of this Partnership Agreement and am authorized to bind this organisation to the terms of the Partnership Agreement.

Signature:

Name and Title:

Date:

Company Address: