



Stakeholder Consultation Report

Safe storage, replacement and disposal of refrigerant used in Room Air Conditioners

A stakeholder consultation to discuss on the “Safe Storage, replacement and disposal of refrigerant used in Room Air Conditioners” were organized by EESL on 26th November 2019 at EESL corporate office, New Delhi. Among others, representatives from different entities including AC manufacturers, E-waste agencies, CLASP, ESCOs, the World Bank, ADB, EESL officials, etc. took part in the consultation. List of participants is enclosed at Annexure -1.

This stakeholder consultation was conducted as a part of the ongoing AC initiatives and also as a part of the DLI-4 requirement” under the World Bank Program-for-results loan. the

Key points emanating from the consultation is given below:

Mr. S.P. Garnaik, Executive Director, EESL welcomed all the participants. He started the discussion explaining about EESL’s past experience in super-efficient AC program especially the initiative with Mahindra & Mahindra Group. He informed that under the program, old ACs were bought back by Vendor (Daikin) and a Green Certificate was provided to the consumers. He opined that EESL could not be involved completely in the management of old ACs.

- a) Various aspects for standards and protocols for recycling and waste collection, standards were raised and It was mentioned that the existing scheme already includes buy-back of old and used ACs. Type of protocol needs to be developed
- b) Standard to be developed for the procurement
- c) The buy- back policy and providing Green Certificate need to be a part of Section 4 of EESL’s tender.

Mr. Garnaik, highlighted the importance of safe disposal and informed the gathering that DLI-4 specifically captures this aspect and further strengthens & mandates the existing EESL practices.

Subsequently the floor was opened for open discussions and suggestions:

1. **Ms. Archana Walia, Director CLASP** shared the efforts of CLASP, in the finalization of standardization & labelling programme of BEE. She also informed the gathering about the Eco-Friendly certification of Government of India and requested EESL to come forward in widening the scope of Eco-friendly certification in the field of EE appliances and e-waste management.

She also said that Customers, manufacturers have to be involved & equally responsible for e-waste disposal. For that a specific criteria need to be set. multilateral and bilateral agencies may be involved to share international best practices **Ms. Deepa Balakrishnan, Environment Specialist, the World Bank** highlighted the following points:

- enforcement of standards for e-waste recycling is available in the country.
- Best practices needs to be followed
- Gas flaring to the environment should be prohibited
- Proper training & certification of Technicians Involved In repair and maintenance



- Proper guidelines on Safe Disposal of gases and hardware used
- Detailed record of keeping documents after repair and maintenance of ACs
- Uses of various organizations like TERI
- Issuance of notifications/orders on guidance to service personnel

2. **Mr. Karan Daryani, Namo Waste Agency** briefed the process of Safe storage, replacement and disposal of refrigerant used in Room Air Conditioners, which are as follows:

- Segregating the type of AC viz. window or split
- Separating the material types. such as gas, electronics, plastic and metals, etc.
- Dismantle using dry process
- Reclaiming the gas (after checking for impurity in the gas, segregation of the gas)
- Filing of Form 6 for issuance of green certificates by CPCB

He also highlighted that almost 5796 metric tonne gets recycled per annum through their company. He also informed that R600 and R290 is highly inflammable than R32.

He also stressed that recycling of refrigerant needs special equipment & facility and hence cannot be dealt by all e-waste recycler.

3. **Mr. Rishi Punia, Environment Specialist, ADB** highlighted the following points:

- Environmental Safeguard Policy of ADB
- Review Framework of ADB
- IFC guidelines on hazardous management
- List of activities to be covered for safe disposal of refrigerant.

4. **Mr. Anant Shukla, AGM (Technical), EESL** gave a presentation on the current status, challenges in the ongoing Super-efficient AC Program of EESL and briefly stated the following points;

- India's Cooling Action Plan which targets the reduction in cooling demand, Increasing the efficiency of cooling equipments and need of trained personnel.
- Shifting from high GWP and ODP to low GWP and ODP and later to more environment friendly gases and technologies
Direct & Indirect Impact of use of old ACs and recycle and reuse procedure of refrigerants.

5. **Mr. R. Rajmohan, CEO, DESL** shared his experience in industrial cooling and highlighted the various process used in various countries for safe storage, replacement and disposal of refrigerant used in ACs. He also suggested the following for the EESL super-efficient AC program:

- EESL has to ensure the recycling of the product.
- International best practices to be identified and followed, etc.



6. **Mr. Gaurav mehtani**, briefed about Sri Lanka - Colombo pilot project wherein a reclamation centre was created to collect the refrigerant from ACs. He highlighted the following issues:
 - Recyclers come with varying recycling costs. How to verify the quality of recycling.
 - Bluestar works with their own dealers, buy back scheme. Most of the time, the recycler offers the buyback of Rs. 2500-3500,
 - India has no e-waste or hazardous recycling facility.
 - Training the technicians to be organized
7. **Mr. Vikash Bhan, Godrej** has expressed that training of the technicians is a challenge. He also suggested that any e-waste agency should follow BIS rules, standards of disposal, recycle and reuse and few reclamation centres should be developed in India. He also proposed to include BIS, MoEFCC and CPCP in next meeting.

The meeting concluded with a vote of thanks to all the participants.

