Policy measures and impact on the market for the Room Air Conditioners in India

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Accelerating our transition to a more sustainable world

Mission to improve the energy and environmental performance of appliances and equipment we use every day, accelerating our transition to a more sustainable world
Where We Work

- National
- Regional
- National & Regional

Locations:
- Jakarta
- New Delhi
- D.C.
- Europe
- Nairobi
• The share of space cooling in peak electricity load is projected to rise sharply from 10% today to 45% in 2050
• Room ACs contributed 30-40% of cooling energy consumption in 2017-18, expected to rise to 50% by 2037-38
• RAC ownership expected to rise to 40% by 2037-38
• Key drivers urbanization, increasing cooling degree days, rising incomes
• Efficiency one of the cost effective solutions to curb the growing demand
India’s Labeling Program on Room ACs

2006
Launched voluntary policy
Room AC (fixed speed)

2009
Mandatory of Fixed speed - Room AC policy

2011
Launched voluntary policy of Cassette and Floor mounted AC (fixed speed)

2012 - 2014
Biennial upgradation of 1 star in Energy performance level

2015
Launched voluntary policy of Inverter RAC

2018
Common rating plan based on ISEER for fixed speed & Inverter AC (mandatory Inverter AC policy)

Bureau of Energy Efficiency-Nodal Agency
Labeling Program for Room Air Conditioners (RAC)

**Mandatory Appliance**

Fixed and inverter speed split and window AC upto 11kW/3 TR

**Standard:** IS 1391 (Part 1 & 2) and ISO 16358-1

[https://beestarlabel.com/](https://beestarlabel.com/)

**Star Labeling Parameter**

Indian Seasonal Energy Efficiency Ratio (ISEER)

*Higher is Better*
RAC market size in 2007-08 was 0.3 million, grown by 25 times to 7.6 million in 2017-18
Room AC Segmentation in 2017

- Total production of 7.6 Million RAC.
Periodically, BEE revised the star rating plans RACs to make the energy performance thresholds stringent.

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**Table 1: Revisions in Star Rating Plans for unitary type RACs**

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**Table 2: Revisions in Star rating plans for Split type RACs**

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Since 2007, Star level of Room Air Conditioner (Split AC) of 1 Star has been escalated by 35% and 5 Star has been escalated by 45%
Percentage share of Production registered for 3 Star remained consistent at 66%, compare to 2016-17 level and production share 5 star got reduced from 26% to 18%.
RAC market reached 7.6 million units by 2017-18, the highest sales recorded under the RAC labeling program, and share of variable speed RACs increased to 30%.
Impact at the National Level

- Highest carbon emission reduction reported 9.7 MT CO2 in 2016-17
- 38 MT of carbon emissions have been avoided cumulatively by 2016-17.

Avoided Carbon Emission Reduction due to RAC policy

- Financial year
- CO2 emission reduction (Mton)
Policy option: Increasing MEPS by 4%

- **Baseline scenario**: Biennial revisions and MEPS 3% improvement each year considered as baseline scenario.

- **Accelerated scenario**: MEPS 4% annual improvement from 2021-30, with periodic revision every three years.

- This will result in MEPS with ISEER 3.3 in 2021, and ISEER 4.5 in 2030.
**Policy option: Energy Saving and Emissions Reductions**

- **Accelerated policy scenario** - result in energy savings of 6.9 TWh of electricity in 2030, equivalent to GHG emission reduction of 5.6 MT CO2.

- Cumulative energy savings of 56 TWh of electricity from 2021-2030, equivalent to GHG emission reductions of 46 MT CO2.

- **Baseline scenario** cumulative GHG emissions reduction of 40 MT CO2 can be achieved.
Conclusion

- The RAC market in India grown 25 times in the last 10 years and expected to grow at a CAGR of 11% for next 10 years

- Labeling for variable speed RACs also facilitated the transition to more efficient RACs. Share of inverter RACs went from less than 1% in 2015 to 30% in 2017-18.

- The overall production for RACs reached 7.6 million units in 2017-18, the highest volume recorded under the RAC labeling program.

- The Indian RAC market is ready for an increase in MEPS by 4%

Recommendation:

- Ratchet the energy performance standards for room AC by January 2021

- Increase MEPS by 4% on yearly basis for 2021 to 2030, with periodic revision of every three years

- This will yield cumulative energy savings nearly 56 TWh of electricity from 2021-2030 and the projected cumulative emissions reduction of 46 MT CO2
Thank you