

Attachment 1: Description of Emission Reduction Measure Form

Please fill out one form for each emission reduction measure. See instructions in Attachment 2.

Title: Early Replacement of Residential Central Air Conditioners and Heat Pumps

Type of Measure (check all that apply):

- | | |
|---|---|
| <input checked="" type="checkbox"/> Direct Regulation | <input type="checkbox"/> Market-Based Compliance |
| <input type="checkbox"/> Monetary Incentive | <input type="checkbox"/> Non-Monetary Incentive |
| <input type="checkbox"/> Voluntary | <input type="checkbox"/> Alternative Compliance Mechanism |
| <input type="checkbox"/> Other Describe: | |

Responsible Agency: Air Resources Board and/or California Energy Commission

Sector:

- | | |
|---|--|
| <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Electricity Generation |
| <input type="checkbox"/> Other Industrial | <input type="checkbox"/> Refineries |
| <input type="checkbox"/> Agriculture | <input type="checkbox"/> Cement |
| <input type="checkbox"/> Sequestration | <input type="checkbox"/> Other Describe: |

2020 Baseline Emissions Assumed (MMT CO₂E):

Percent Reduction in 2020: 0.28 MMT CO₂E in 2020 or 5 MMT CO₂E cumulative in 2020 if measure is implemented in 2008

Cost-Effectiveness (\$/metric ton CO₂E) in 2020: 224 \$/metric ton CO₂E

Description: This proposal advocates for a mandatory replacement of old, inefficient residential central air conditioners and heat pumps that do not meet the federal minimum energy efficiency standards of 13 SEER/7.7 HSPF. More specifically, the proposals would require home buyers, during the purchase of a home, to replace the central air conditioning or heat pump system if the equipment is five years old or older and if its minimum energy efficiency is below the federal standard of 13 SEER/7.7 HSPF.

The federal minimum energy efficiency standards for central air conditioners and heat pumps (13 SEER/7.7 HSPF) became effective on January 23, 2006. However, it is estimated that over 1/3 of existing homes sold in 2007 in California are equipped with central air conditioners and heat pumps that are 5 years of age or older and rated at efficiencies below the current federal minimum standards. Replacing these inefficient systems at the time homes are sold with equipment meeting the current federal standard, could save the state of California, if the proposal is implemented in 2008,

approximately 5 MMT CO₂E of greenhouse gas emissions by year 2020 (cumulative). The proposal is effective in reducing greenhouse gas emissions only if it is immediately implemented. Waiting until year 2020 for implementation will be of very limited value as the vast majority of air conditioners and heat pumps will be at the federal minimum at that time. This measure could be implemented as part of the California Energy Commission Title 24 Building Energy Efficiency Standards.

Emission Reduction Calculations and Assumptions: see attached spreadsheet

Cost-Effectiveness Calculation and Assumptions: see attached spreadsheet

Implementation Barriers and Ways to Overcome Them: None foreseen.

Potential Impact on Criteria and Toxic Pollutants: None

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