

# State of California Air Resources Board

## Board Item Summary

**Item # 25-6-1:**      **Public Meeting to Consider Research Contract with the University of California, Berkeley, Titled “Laboratory and Community Evaluation of Advanced Portable Air Cleaners and HVAC Filters for Indoor Gas Pollutants”**

### Staff Recommendation:

The California Air Resources Board (CARB or Board) staff recommends that the Board approve \$600,000 in funding for a proposed research contract with the University of California, Berkeley titled “Laboratory and Community Evaluation of Advanced Portable Air Cleaners and HVAC Filters for Indoor Gas Pollutants”

Note: This item is listed on the agenda to comply with Board approval requirements in Government Code section 1091, since Board Member Shaheen and Dr. Stefano Schiavon (who is the project Co-PI) both hold appointments in the Department of Civil and Environmental Engineering at UC Berkeley.

### Discussion:

The primary objectives of this research study are to evaluate the effectiveness of various air cleaning filtration technologies in removing Volatile Organic Compounds (VOCs), odor-causing substances and other air pollutants such as Nitrogen Dioxide (NO<sub>2</sub>) from indoor air through both controlled chamber experiments and real-world field deployments. The study aims to assess different filtration technologies, analyze the retention capacity and longevity of carbon-based filters, and provide recommendations for selecting the most suitable air filtration solutions tailored to specific indoor air quality needs. Additionally, it seeks to determine which affordable and accessible air cleaning technologies best support residents in disadvantaged communities experiencing poor indoor air quality. Finally, the research will inform the development of a guidance document outlining best practices for improving air quality in buildings, including specific guidance for buildings that house vulnerable populations—such as schools, senior or day care centers, and hospitals—particularly those located in areas with persistent or recurring high levels of VOCs, odors, and NO<sub>2</sub>.

Indoor exposures to non-particulate pollutants like NO<sub>2</sub>, VOCs, and odor causing substances like Hydrogen Sulfide can impact the health of Californians. These pollutants can originate from outdoor sources as well as indoor sources.

### **Summary and Impacts:**

The findings could be used by CARB and other agencies to develop improved guidance and mitigation strategies for exposure to odorous compounds and other VOCs, potentially influencing updated building standards, community assistance programs, and wildfire smoke response guidance for indoor environments. This project's objectives and deliverables are directly aligned with CARB's mission to protect public health and provide tangible benefits for communities by empowering them with effective tools to improve their indoor air quality.