

Survey for NASRC Members

VEIC, a non-profit focused on generating the energy solutions the world needs, is conducting a research project for CalNEXT. CalNEXT is a California statewide initiative to identify, test, and grow electric technologies and delivery methods to support California's decarbonization future. The project itself will develop an energy modeling framework based on OpenStudio, EnergyPlus, and ancillary analysis tools that solves previously identified shortcomings of existing grocery refrigeration analysis tools.

The results of these survey questions are being gathered to inform the VEIC project team on stakeholder input. Published results will be anonymous unless participants enter their name and agree to be contacted for additional input.

To be distributed ASAP and completed either before or during May member meeting.

In which region(s) do you do this work? *Please select all that apply.*

- California
- Other US states
- Outside the US

[IF CALIFORNIA] Which of the following best describe your role with **commercial refrigeration** in **California**?

- I own a commercial facility that uses refrigeration
- I manage a commercial facility that uses refrigeration
- I consult with managers of commercial facilities that use refrigeration
- I maintain or install (i.e., do hands-on technical work with) refrigeration systems at a commercial facility
- Other (please describe)

[IF NON-CA] Which of the following best describe your role with **commercial refrigeration** in **outside of California**?

- I own a commercial facility that uses refrigeration
- I manage a commercial facility that uses refrigeration
- I consult with managers of commercial facilities that use refrigeration
- I maintain or install (i.e., do hands-on technical work with) refrigeration systems at a commercial facility
- Other (please describe)

For the following questions, "low GWP refrigerants" refers to refrigerants that have a GWP below 150, for example, natural refrigerants CO2.

Which of the following best describe your experience with low global warming potential (GWP) refrigerants?

- I've worked with them
- I'm familiar with them but haven't worked with them
- I've heard about them but am not familiar with them
- I haven't heard about them

[If "worked with them" or "familiar with them" or "heard of them"] Compared to traditional refrigerants, how do low GWP refrigerants perform?

- Better than traditional refrigerants
- About the same as traditional refrigerants
- Worse than traditional refrigerants
- Don't know

[If "better" or "worse"] In what way(s) do low GWP refrigerants perform [better/worse] than traditional refrigerants?

- (open ended)

[If "worked with them" or "familiar with them" or "heard of them"] How satisfied or dissatisfied are you with the performance of low GWP refrigerants?

- Very satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied
- Don't know

Does your work include **making decisions** about what types of refrigeration systems to install in commercial facilities in California?

- Yes
- No [Skip to end of survey]

How often do you use **energy modeling** in your work with commercial refrigeration systems in California?

- Frequently
- Occasionally
- Rarely
- Never

[If never or rarely] Why do you not use energy modeling more often?

- (Open ended)

[If using energy modeling more often than “Never”] When you use energy modeling, how often do you compare modeled performance of a system with that system’s actual performance?

- Frequently
- Occasionally
- Rarely
- Never

How confident are you in the **accuracy** of energy models for commercial refrigeration systems?

- Very confident
- Somewhat confident
- A little confident
- Not at all confident
- Don’t know

How influential is **energy modeling** in your decision about which refrigeration systems to install in **new installations**?

- Very influential
- Somewhat influential
- A little influential
- Not at all influential

How influential is **energy modeling** in your decision about which refrigeration systems to install in **retrofit installations**?

- Very influential
- Somewhat influential
- A little influential
- Not at all influential

How familiar are you with the following low GWP system types?

(Have worked with, Familiar but haven’t worked with, Heard of but not familiar, Haven’t heard of)

- TC CO2
- A2L
- HFC
- HFC w/secondary
- Micro distributed

How likely are you to install each of the following low GWP system types in a future project?

(Very likely, Somewhat likely, A little likely, Not at all likely)

- TC CO2
- A2L
- HFC
- HFC w/secondary
- Micro distributed

What would make energy modeling software more useful to you?

Which of the following best describe your experience with integrated HVAC and refrigeration systems?

- I've worked with integrated systems
- I'm familiar with integrated systems but haven't worked with them
- I've heard about integrated systems but am not familiar with them
- I haven't heard about integrated systems

[If have at least heard of integrated systems] How likely are you to install an integrated HVAC and refrigeration system in a future project?

- Very likely
- Somewhat likely
- A little likely
- Not at all likely

If "A little" or "Not at all likely" to the above] Why are you not very likely to install an integrated system?

- (Open ended)

Are you interested in a follow-up discussion regarding this topic? We're scheduling 15-30 minute meetings over the next few weeks.

- Yes
- No

[If yes] What's your name and the organization you work with?

- Name:
- Organization:

[If yes] What's the best way to reach you to schedule a call? *Please select all that apply.*

- Phone:
- Email:

[Submit survey button]

If you'd like a custom end message (e.g., Thank you! Your input will inform... OR We'll share results with NASRC members later this year etc.) please write it here. Otherwise we can default to a generic statement like "Thank you! Your response has been recorded."