

Heat Pump Performance Ratings.

» Why are better ratings so important?

PUBLIC

This “Why Metrics Matter” visual illustration slide deck presents four core reasons why energy ratings (metrics) are important. The intended audience is non-technical utility program managers and energy efficiency analysts. The deck provides a high level view of why organizations like NEEA, PG&E and BC Hydro have been working to improve various HVAC and building test procedures and ratings. It sheds light on the risk of using current ratings to project the energy and carbon savings as justification for utility, state and federal programs.

For more technical information, the deck is accompanied by [this white paper](#) that presents examples of rating inadequacy gathered from field and laboratory data gathered between 2017 and 2021.

Good quality ratings are like glasses

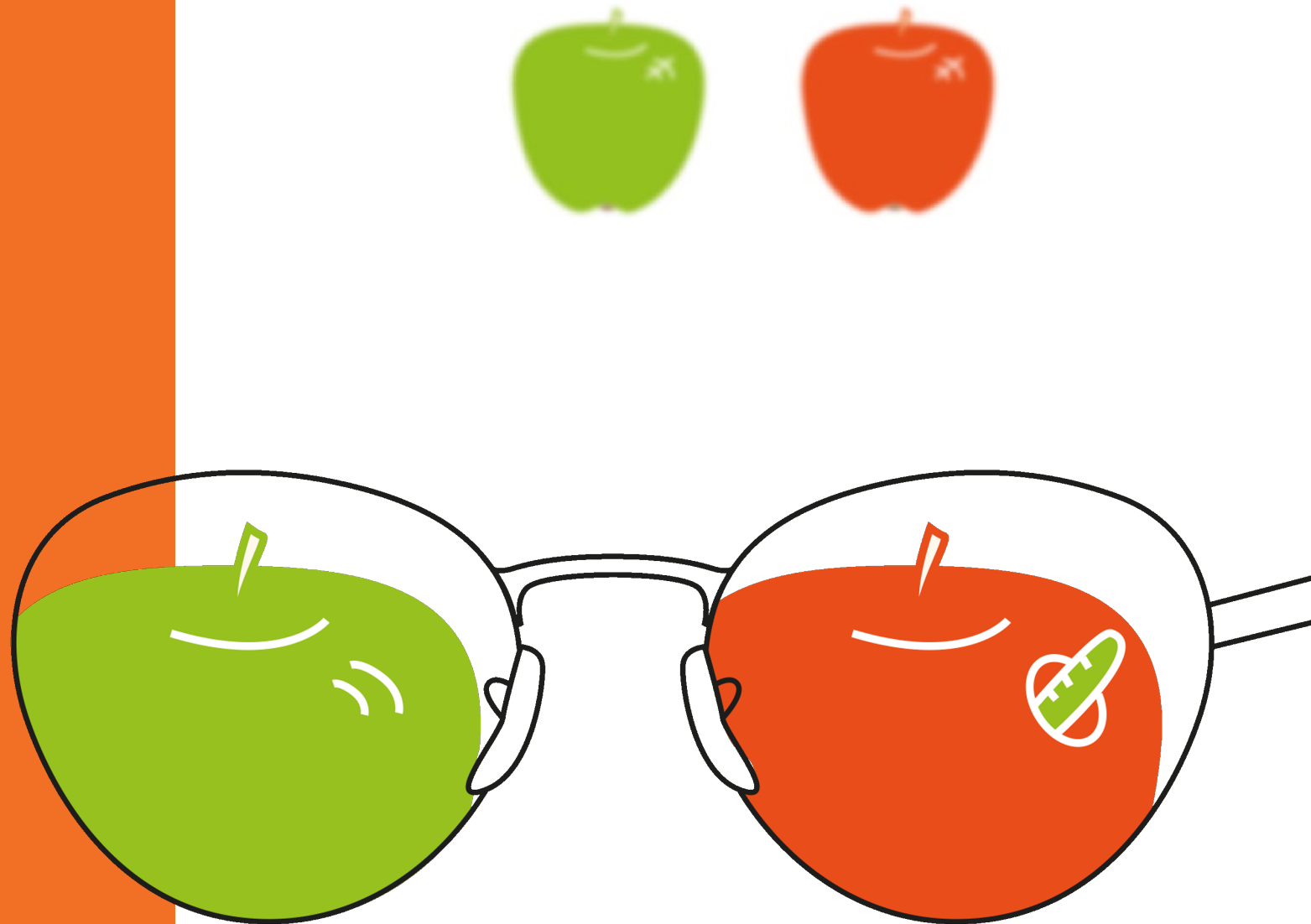
**They help you see
differences and make
informed choices.**





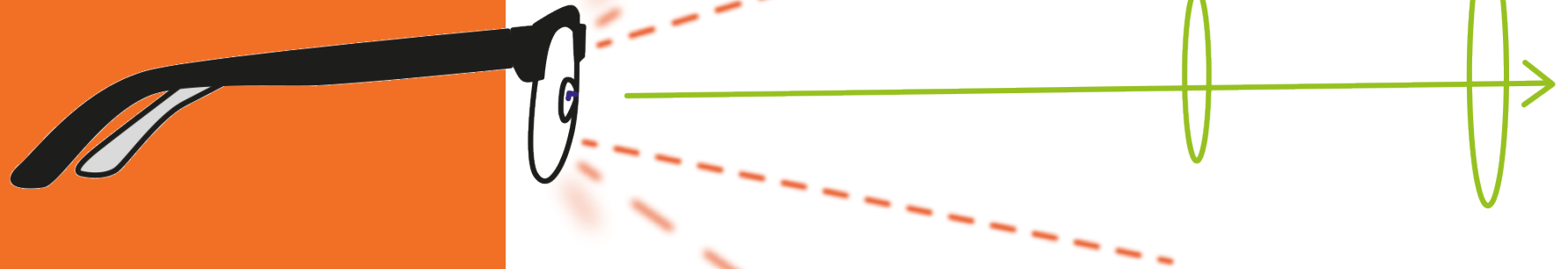
Accurate ratings ...

... let us see key details we otherwise might have missed.





... forecast energy savings,





*...help consumers
choose the best
product for their home
or business,*





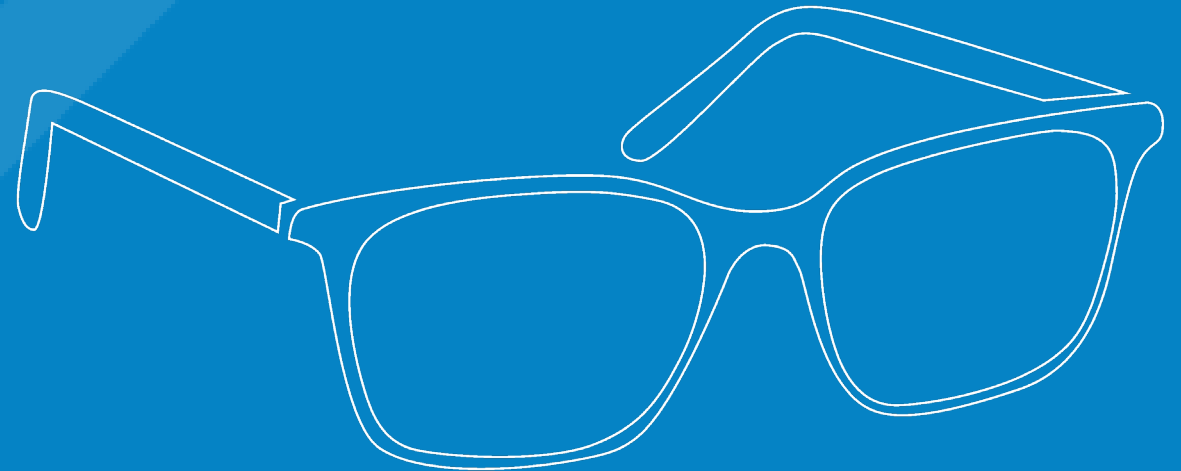
*... and encourage
manufacturers to improve
product performance.*



*So, what is a
good rating?*

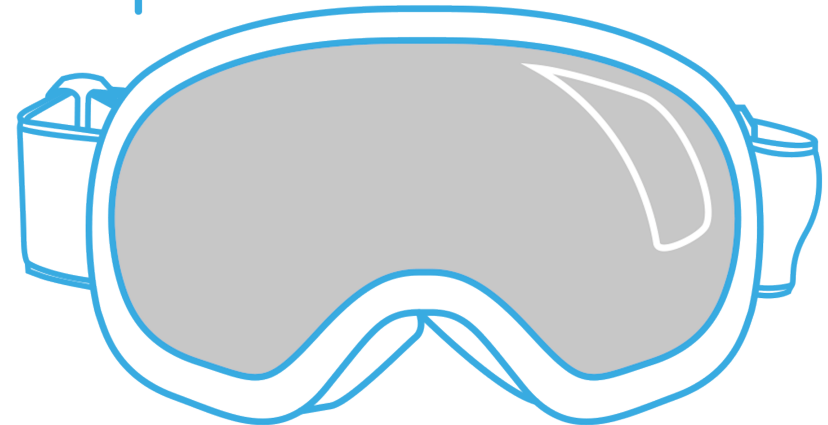
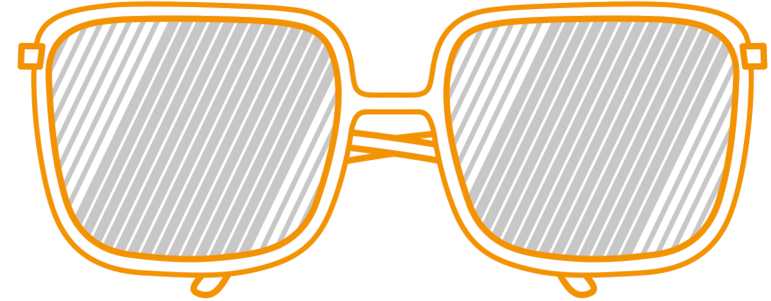
**It depends who
is looking!**

**Customers, Utilities or
Manufacturers**





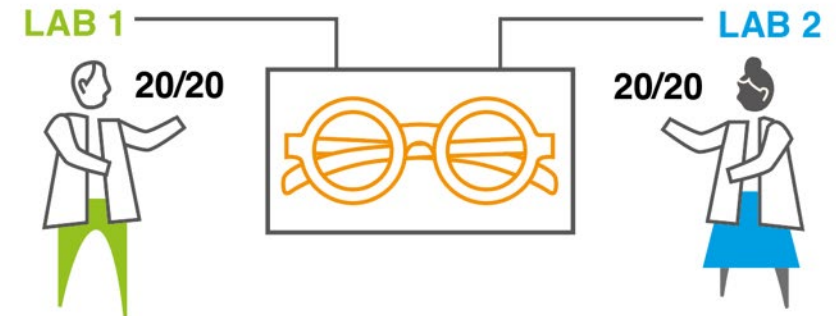
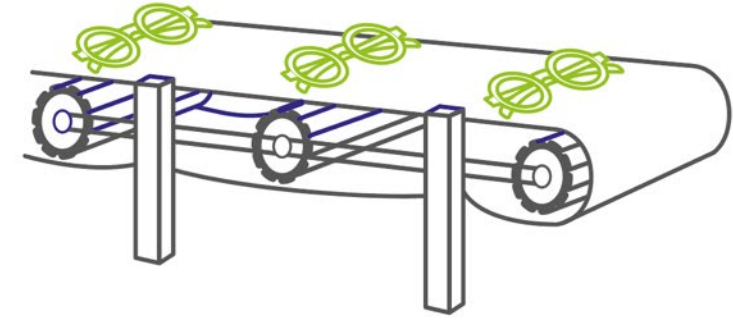
A GOOD RATING IS:
Easy to understand.





A GOOD RATING IS:

- Repeatable (test to test)
- Reproducible (lab to lab)
- Not too expensive

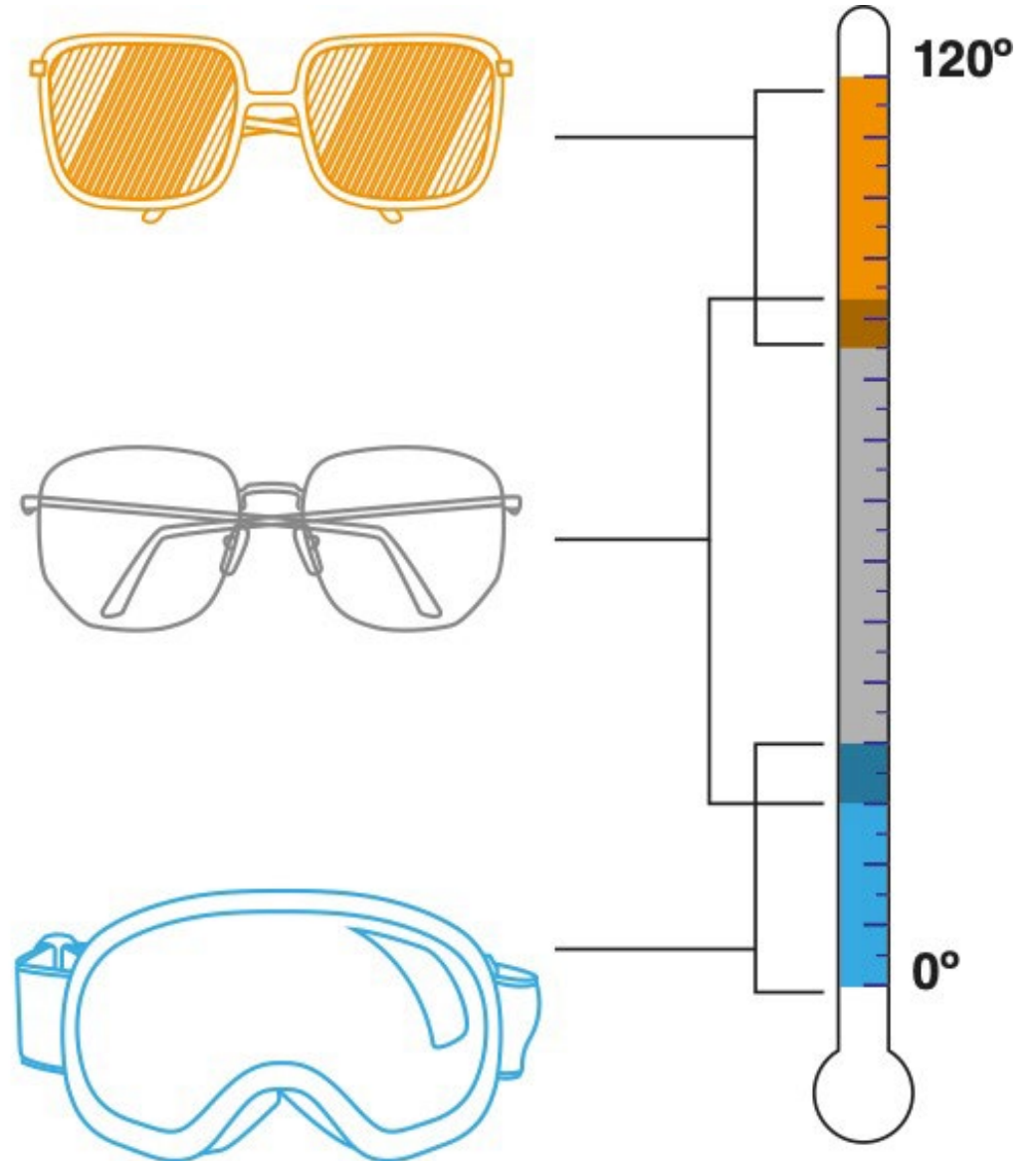




A GOOD RATING IS:

- Representative

This means it is an accurate predictor of in-field performance



Why change current heat pump rating tests?

Current ratings do not predict in-field performance accurately

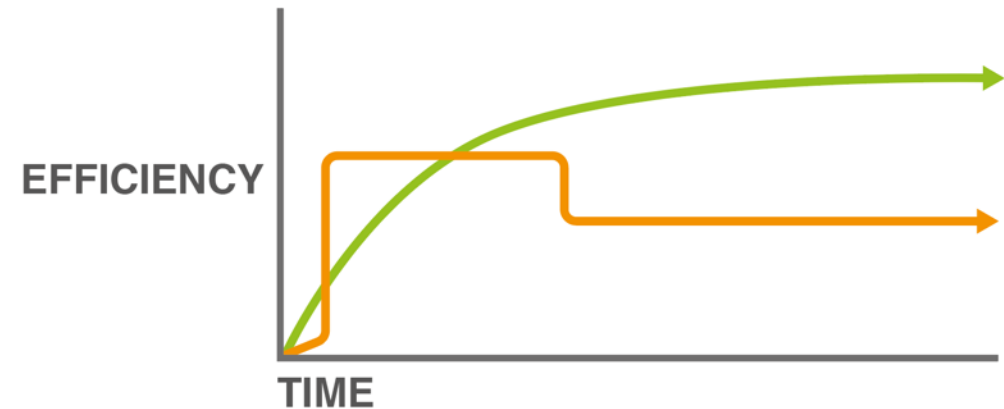
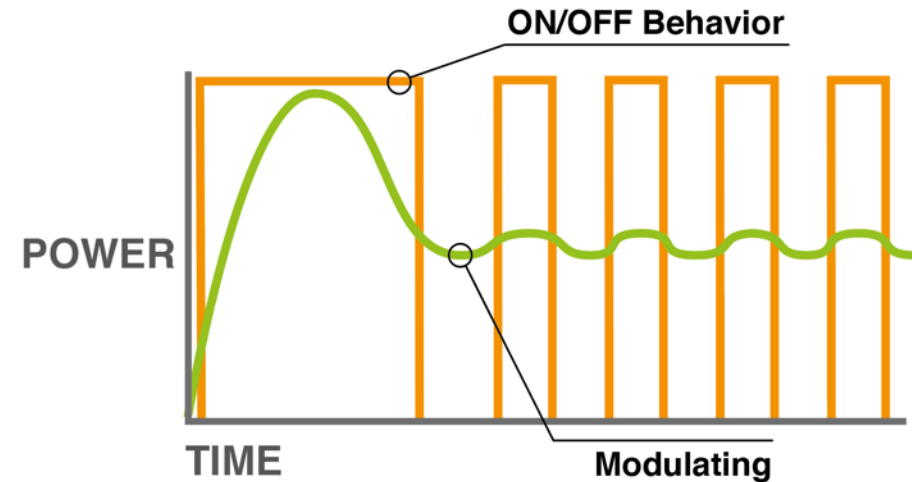
- Easy
- Repeatable
- Reproduceable
- Representative



Old Style vs. New Style

The performance of new style variable speed heat pumps is dynamic

Current tests works well for simple on/off operation



**SINGLE
SPEED**

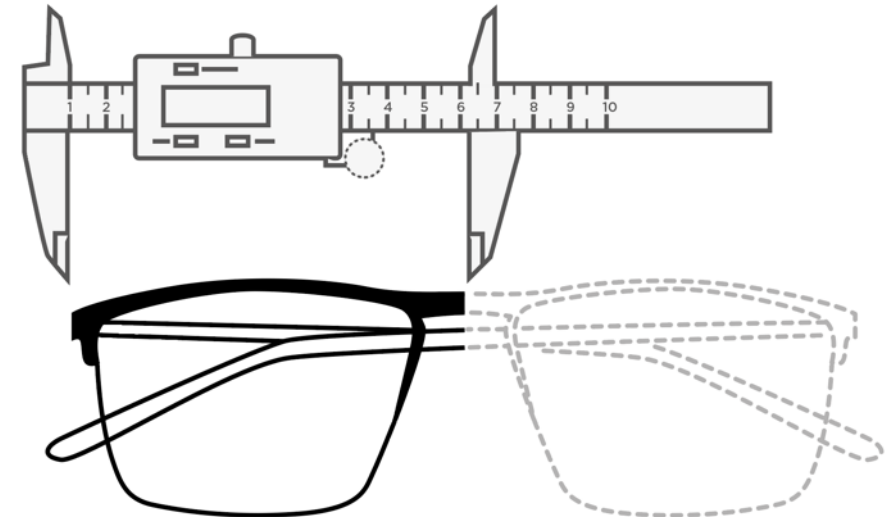
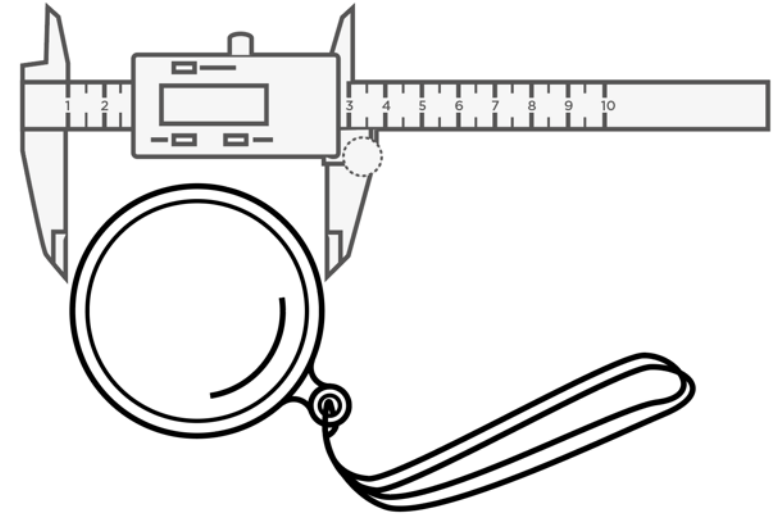


**VARIABLE
SPEED**



Current tests were designed for old style heat pumps

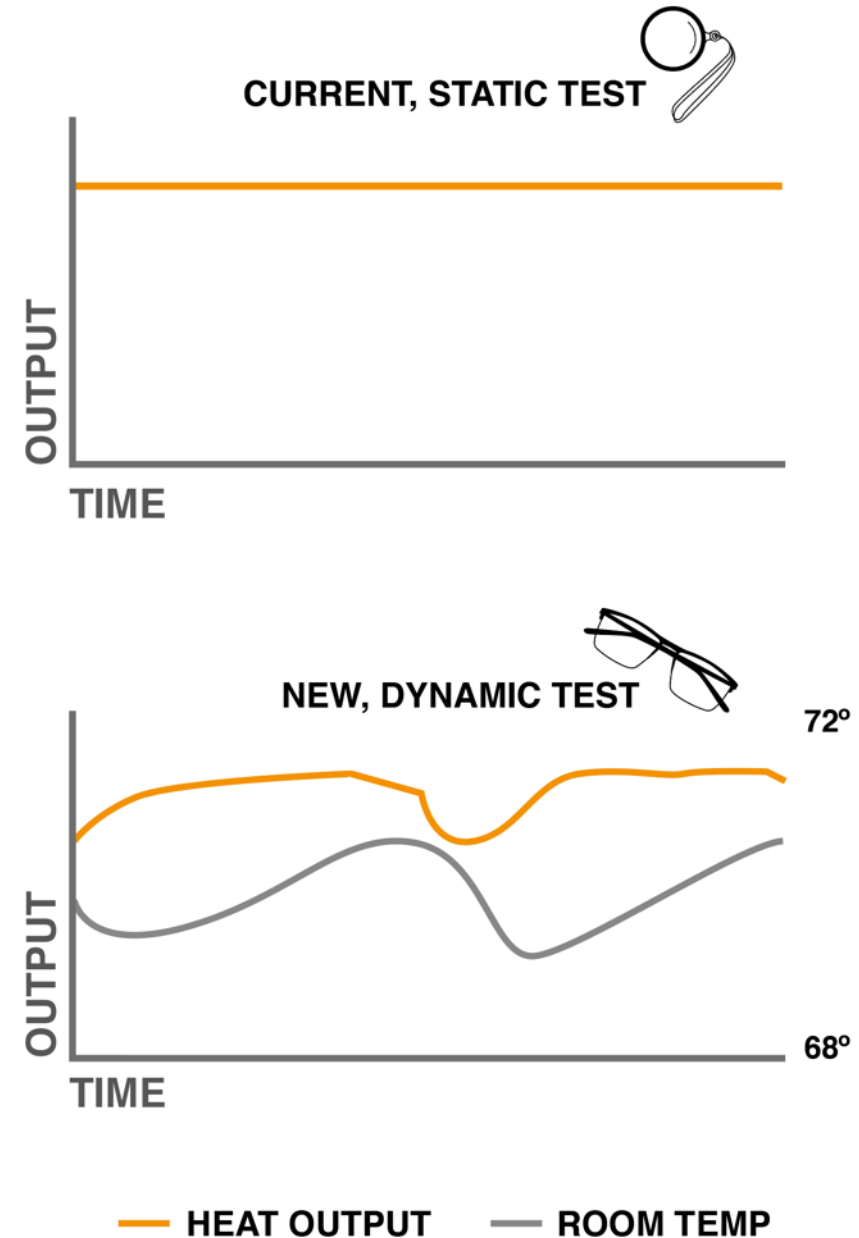
...this only measures part of the heat pump performance





Current tests are locked into static test modes

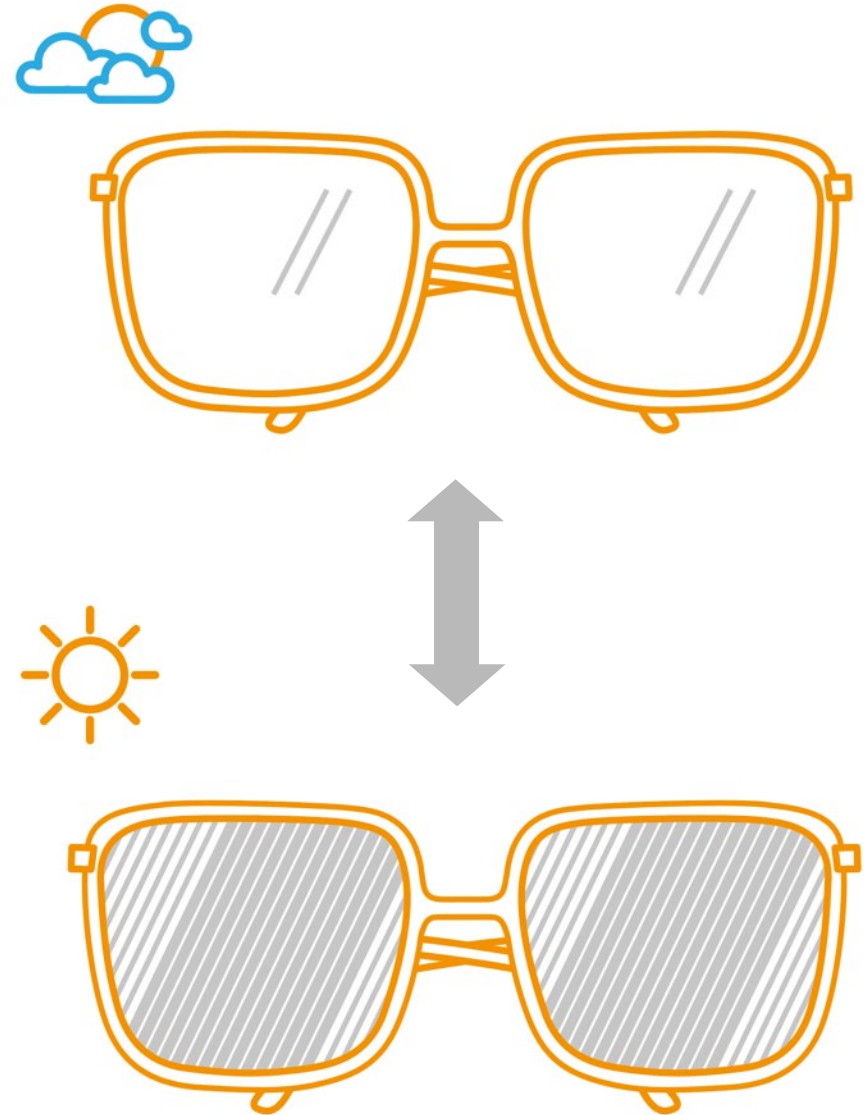
...new test works under realistic, dynamic conditions, using the heat pump's own controls





Current tests apply to only one climate

...new tests will predict how the heat pump will perform in different climates



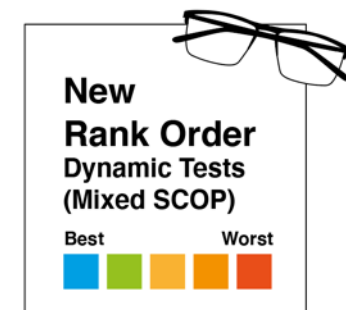
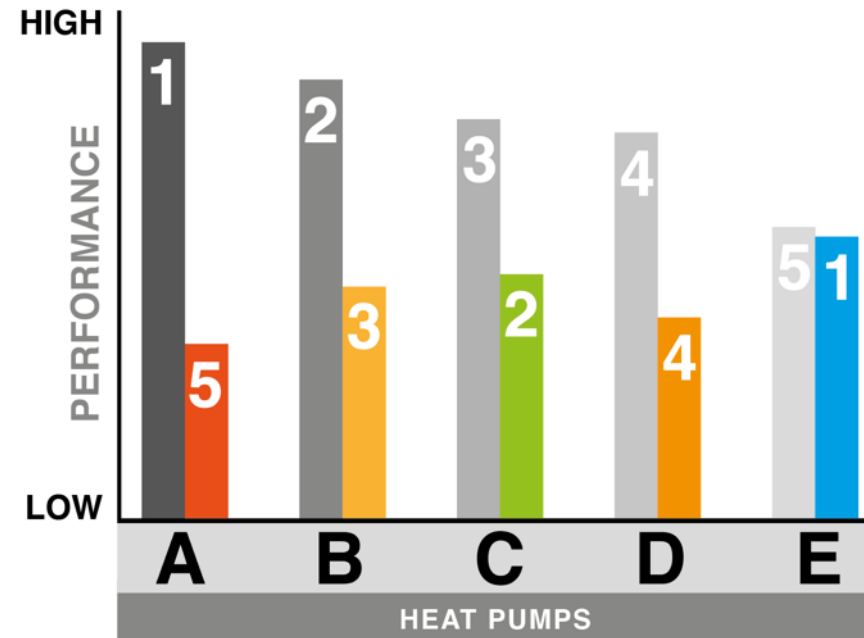


*In a lab test comparison
(shown here)*

*...new tests revealed big
changes in ranking &
performance*

(Reference: Why Metrics Matter paper)

RANKING ORDER CHANGED



How does this benefit you?

**Good quality
ratings help
everyone to make
better decisions.**



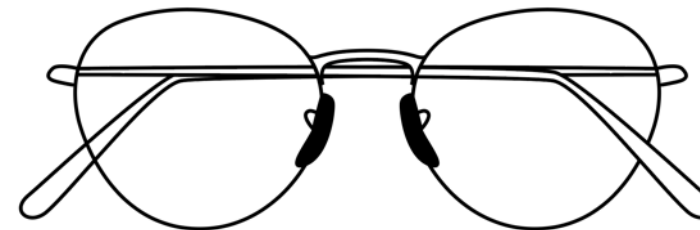
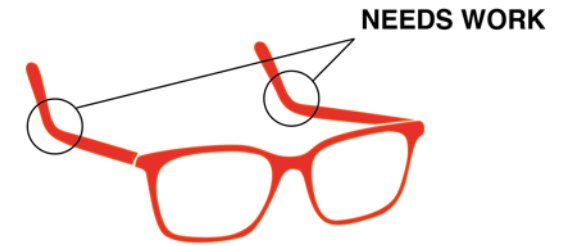


Satisfied customers

Machines that are sold are correct for the climate



Low performing manufacturers are encouraged to improve.

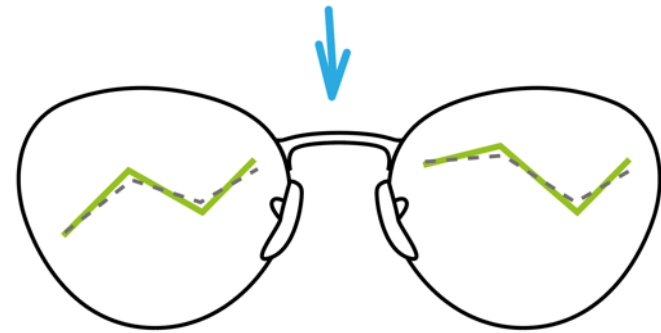
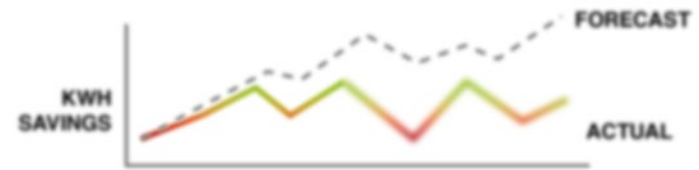


Consumers get the comfort, quality and savings they were expecting.

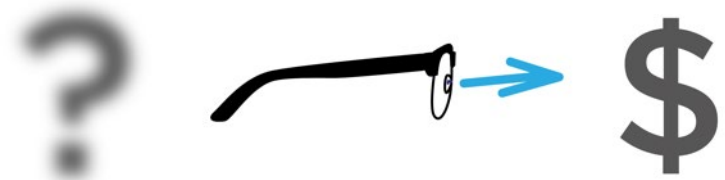


Program Goals are Met

More Accurate Carbon and Energy Forecasting



Program Savings are REAL



What can you do?

1

Read “Why Metrics Matter” Full Report

[NEEA reports](#)

2

Use climate specific, representative metrics (don't rely on HSPF and SEER)

3

Join the Advanced Heat Pump Coalition

[Click here](#)

» Thank you

Christopher Dymond, Sr. Product Manager
cdymond@neea.org

