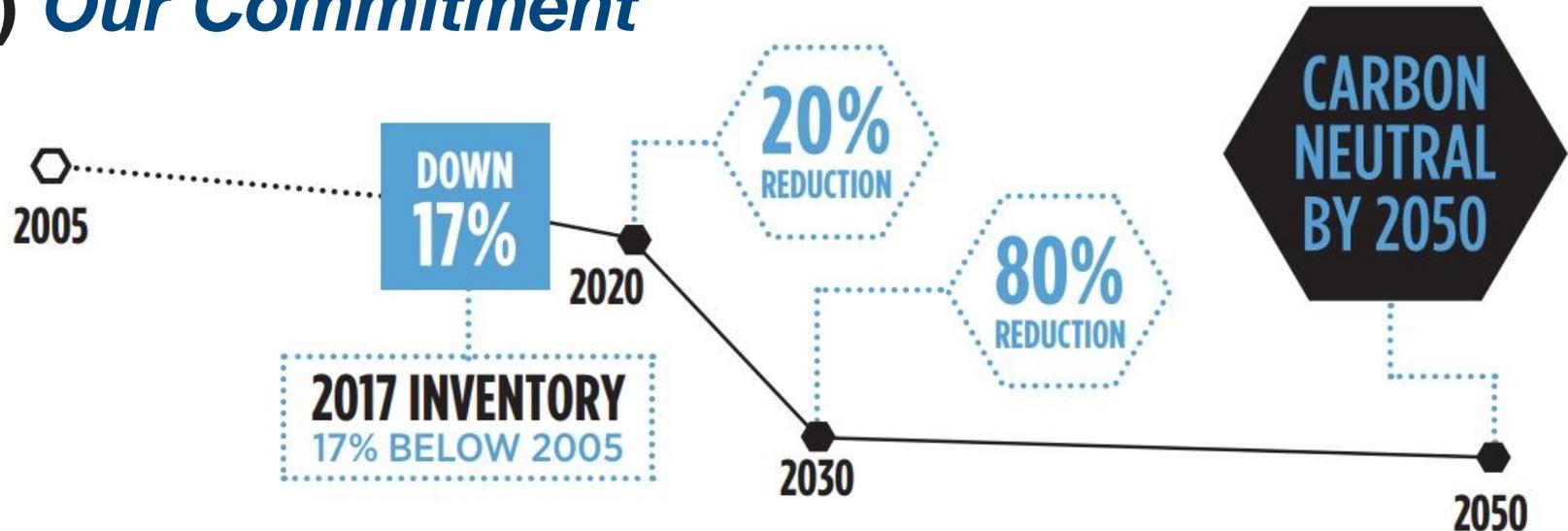




Energy Code – A Community Perspective
Brad Smith – Energy Code Compliance Specialist

1.) *Our Commitment*



2.) *City Energy Policy*

Improve performance of new buildings

- Adopt and enforce current IECC within one year of issuance, with local amendments, advancing efficiency, etc...

Q: If we don't know how to meet or enforce the energy code how can we ensure we're meeting life safety and improving resiliency?

We undertake a citywide Energy Code Compliance Assessment

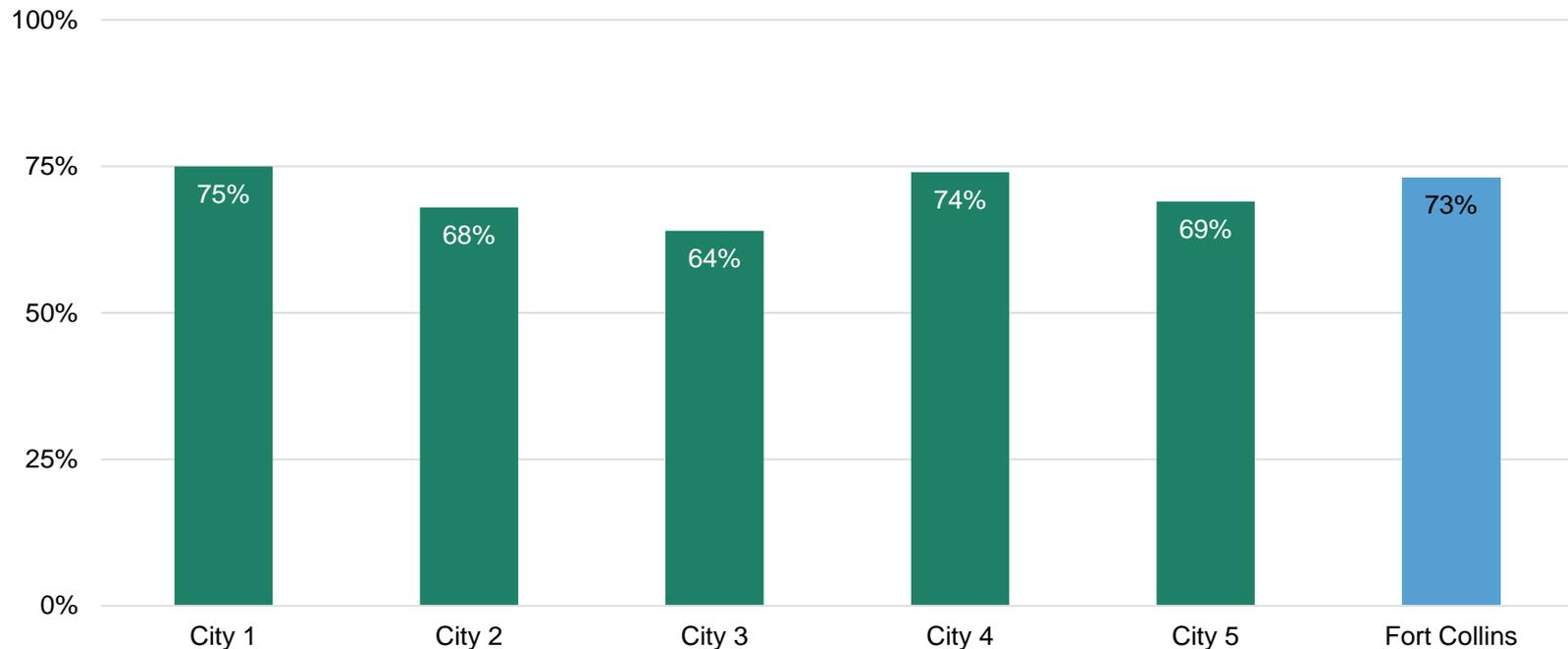
Outcomes: Quantitative and Qualitative

Objectives:

- To what extent is building compliant with current energy code?
- What are the energy impacts of non-compliance with energy code?
- How does plan review and building inspection process work, and how can it be improved?
- What areas of energy code are unclear to builders or difficult to comply with?

Completion of Energy Code Compliance Assessment

Percent Compliance



*Results relative to other cities. Source: Institute for Market Transformation and Natural Resources Defense Council. 2017. *The City Energy Project Assessment Methodology for Energy Code Compliance in Medium to Large Cities*.

Completion of Energy Code Compliance Assessment



*Results relative to other cities. Source: Institute for Market Transformation and Natural Resources Defense Council. 2017. *The City Energy Project Assessment Methodology for Energy Code Compliance in Medium to Large Cities.*

What design temps are used for load calculations?

- We codified Fort Collins specific Manual J design temps

Air tightness in buildings matters.

- All new construction must pass air tightness test.

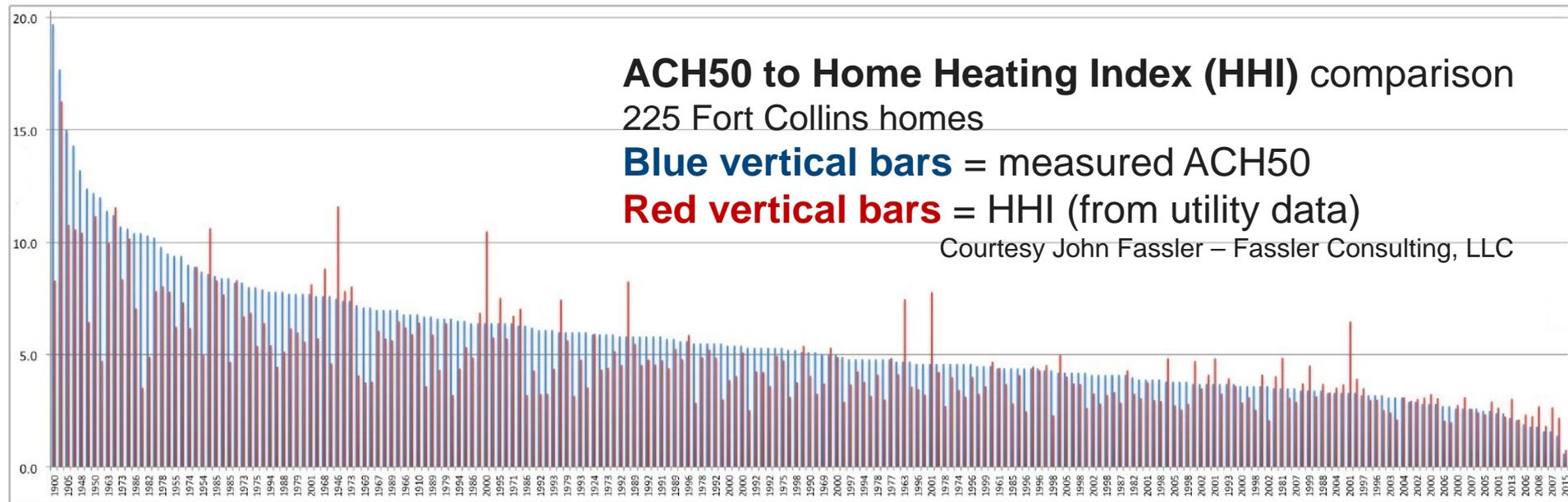
ACH50 to Home Heating Index (HHI) comparison

225 Fort Collins homes

Blue vertical bars = measured ACH50

Red vertical bars = HHI (from utility data)

Courtesy John Fassler – Fassler Consulting, LLC



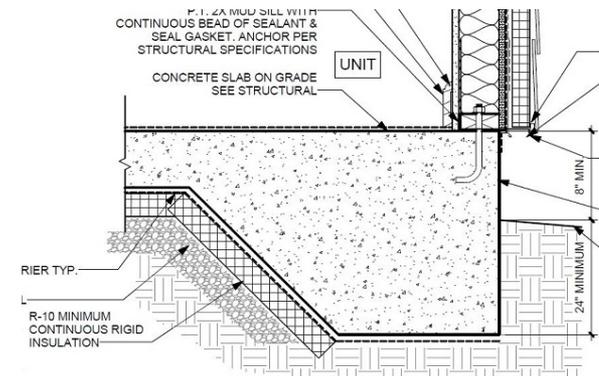
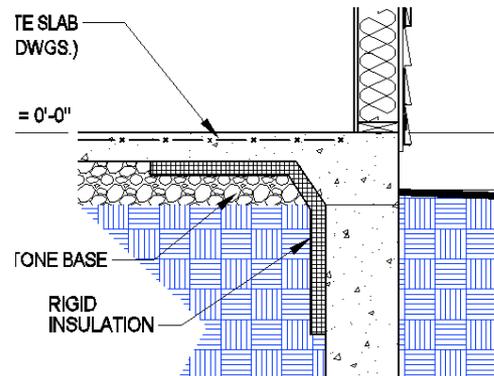
Require RESNET Grade 1 insulation install.

- Put this in code language & educate/inform staff on what this looks like & how to enforce.

We're a cold climate. Slab edge insulation is a big deal.

- Lack of (*or not done correctly*) adds almost 15% to the load.
Can this be traded off? Made mandatory.

Is it there & does it work?



Planning for increased Solar PV and Electric Vehicles

- All new construction single family detached & attached must provide PV & EV ready conduit.
- New construction Multifamily buildings must provide EV ready conduit to 10% of total parking spaces.

Do mechanical systems work as designed?

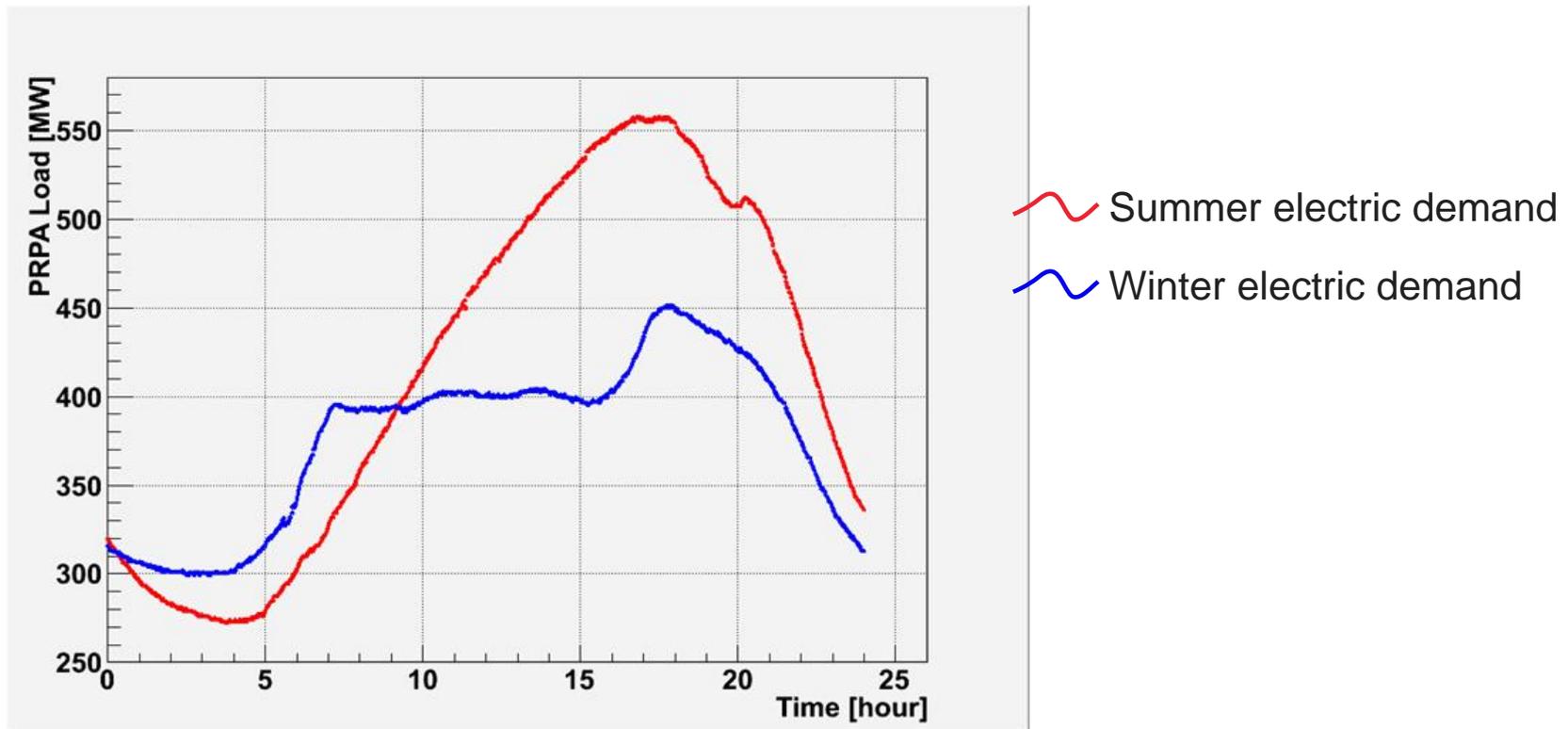
- All residential new construction must complete & submit Mechanical Systems Performance Report prior to C.O..

Bolstering Performance Path documentation for C.O..

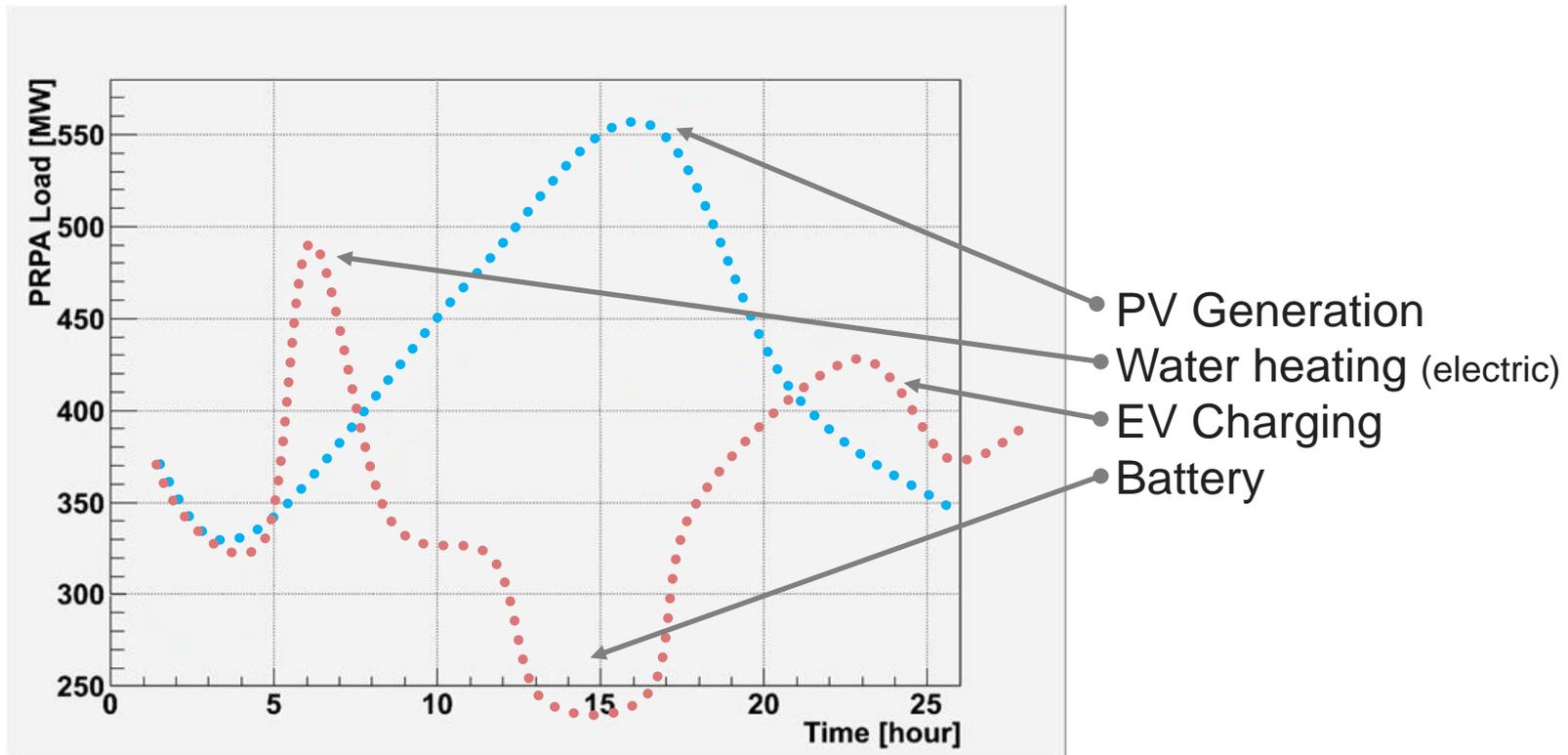
- Requiring a HERS certificate with final documentation means the Rater *must* register the file with RESNET. A QA process then follows.

Oct 2018 we commit to 100% clean, renewable energy by 2030.

What does demand look like now?

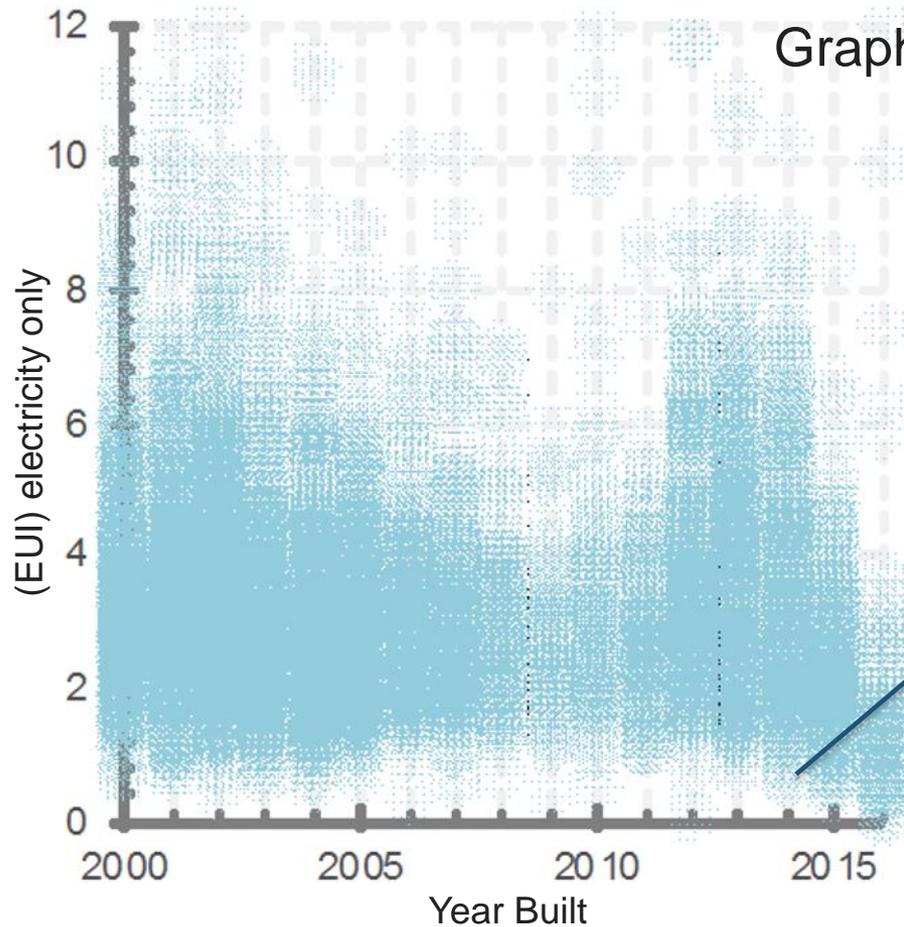


What might demand look like in the future (hypothetical).



*Stronger energy code & improvements to building envelopes can lower building loads & help manage future demand, improving grid management.

Analyzing data to measure codes impact



In 2014, City of Fort Collins adopts 2012 IECC – shortly after EUI scores start downward trend indicating lower energy use in homes.

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