

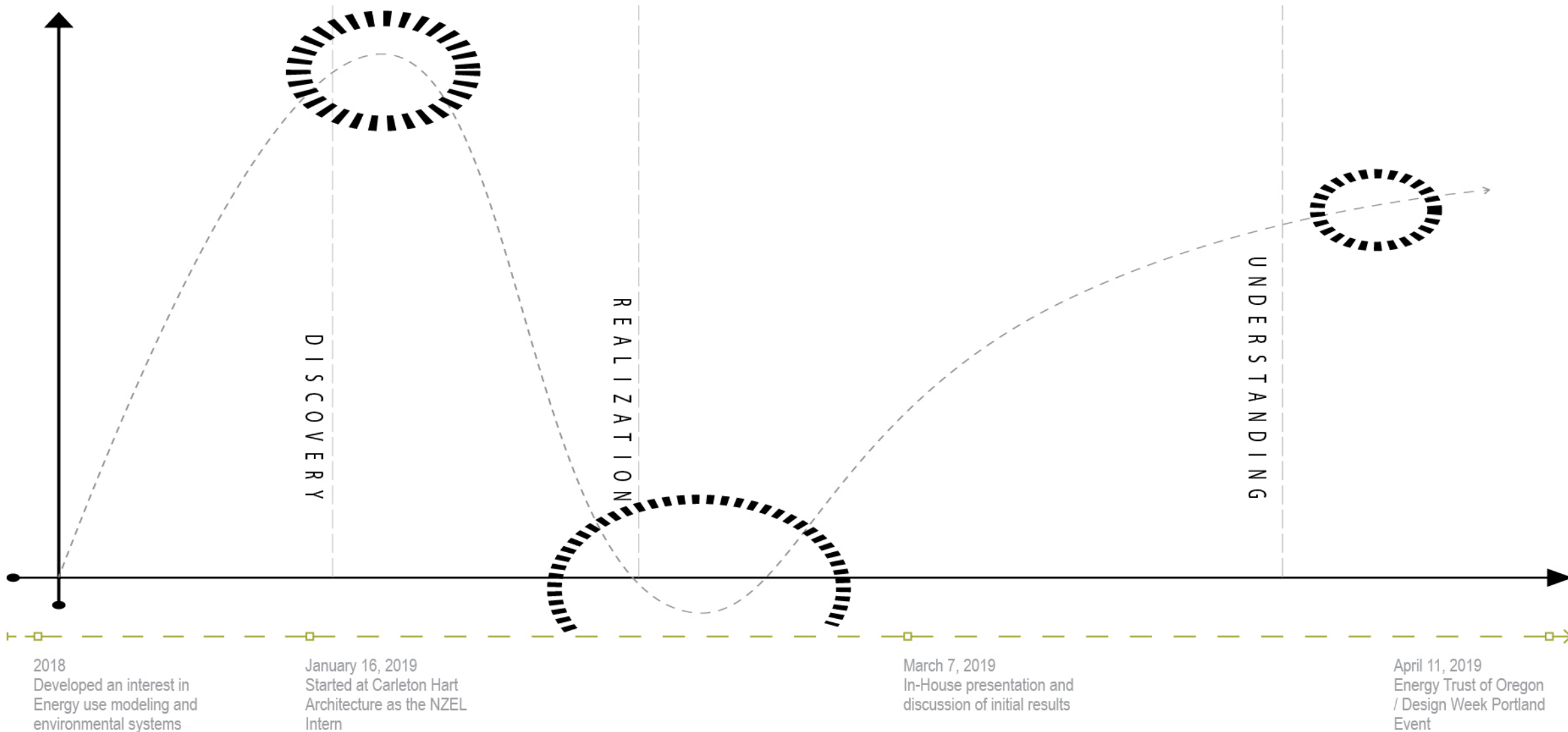


CARLETON HART ARCHITECTURE

Energy Trust Net Zero Emerging Leaders Internship at CHA

NZEL EXPERIENCE AT CHA





Experience at CHA

A group of people, primarily women, are gathered around a table, focused on a collaborative design project. They are using various colored markers to draw and discuss a diagram on a large sheet of paper. The atmosphere is one of active engagement and teamwork. The background is slightly blurred, emphasizing the group's interaction.

INSPIRING COMMUNITY THROUGH DESIGN



Culture at CHA



OLESON WOODS

Portland, Oregon
38,498 SF
32 Units

CLARA VISTA TOWNHOMES (SILVER)

Portland, Oregon
65,352 SF
44 Units

ROBERT LINDSAY TOWER
(Sustainability
Upgrades Feasibility Study)
Portland, Oregon



BRIDGE MEADOWS (GOLD)

Portland, Oregon
48,612 SF
36 Units

IRIS GLEN
Klamath Falls, Oregon
33,065 SF
37 Units

HOOD RIVER CROSSING

Hood River, Oregon
39,859 SF
40 Units

TIGARD KNOLL

Tigard, Oregon
39,859 SF
40 Units

CHAUCER COURT
(Rehabilitation Project)

Portland, Oregon
61,000 SF
84 Units

MIRACLES CLUB (GOLD)

Portland, Oregon
48,860 SF
40 Units

THE MAGNOLIA (SILVER)

Portland, Oregon
46,382 SF
49 Units



GILMAN COURT (GOLD)

Portland, Oregon
55,800 SF
60 Units

BARCELONA

Location: Beaverton, Oregon
Size: 40,025 SF
47 Units

LASCALA

Location: Beaverton, Oregon
Size: 47,015 SF
44 Units

ROSEWOOD PLAZA

Location: Gresham, Oregon
Size: 54,710 SF



SUSTAINABILITY
AT WORK
CERTIFICATION

HILL PARK

Portland, Oregon
30,209 SF
39 Units

BRIDGE MEADOWS (PLATINUM)

Beaverton, Oregon
49,100 SF
41 Units

NAYA GENERATIONS

Portland, Oregon
30,209 SF
40 Units

BEATRICE MORROW
(Pursuing GOLD)

Portland, Oregon
32,394 SF
80 Units

COLONIA UNIDAD
(Pursuing GOLD)
Woodburn, Oregon
44 Units

HOLMAN 42
(Pursuing GOLD)
Portland, Oregon
51,605 SF
59 Units

WOODY GUTHRIE PLACE
(Pursuing GOLD)
Portland, Oregon
29,031 SF
64 Units

LEGEND

- LEED Certification
- Earth Advantage
- Green Communities

2002

2004

2006

2008

2010

2012

2014

2016

2018





LaScala Apartments

A 44-unit residential building in Beaverton, Oregon. Earth Advantage Platinum certified.



Woody Guthrie Place

Currently under construction, this 64-unit mix of market rate and affordable housing in Portland's Lents neighborhood is pursuing LEED® for Homes Mid-Rise Gold Certification.



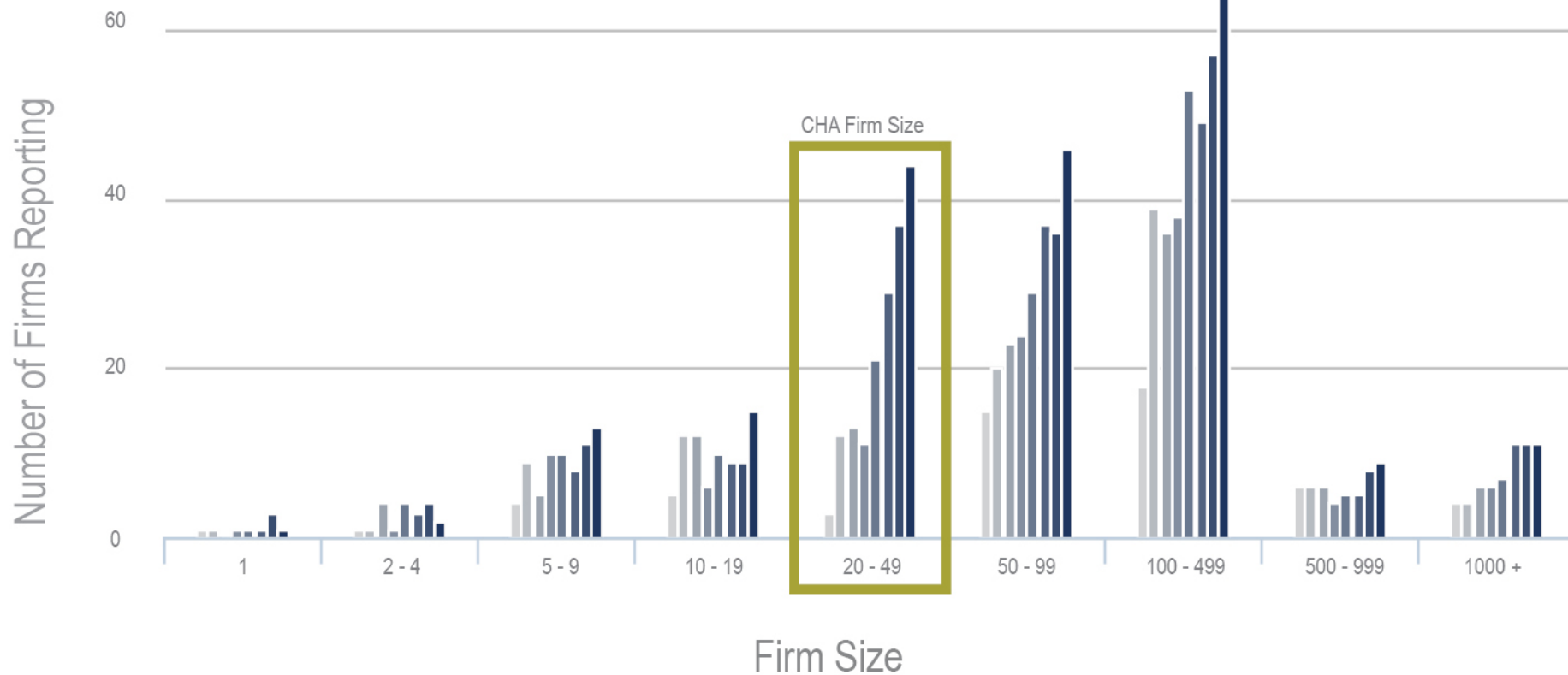
Hill Park Apartments

A 39-unit affordable housing building in Southwest Portland, Earth Advantage Platinum certified.



2030 CHALLENGE





Participation by Firm Size - AIA 2030 Commitment



Built (Design Closeout Final)

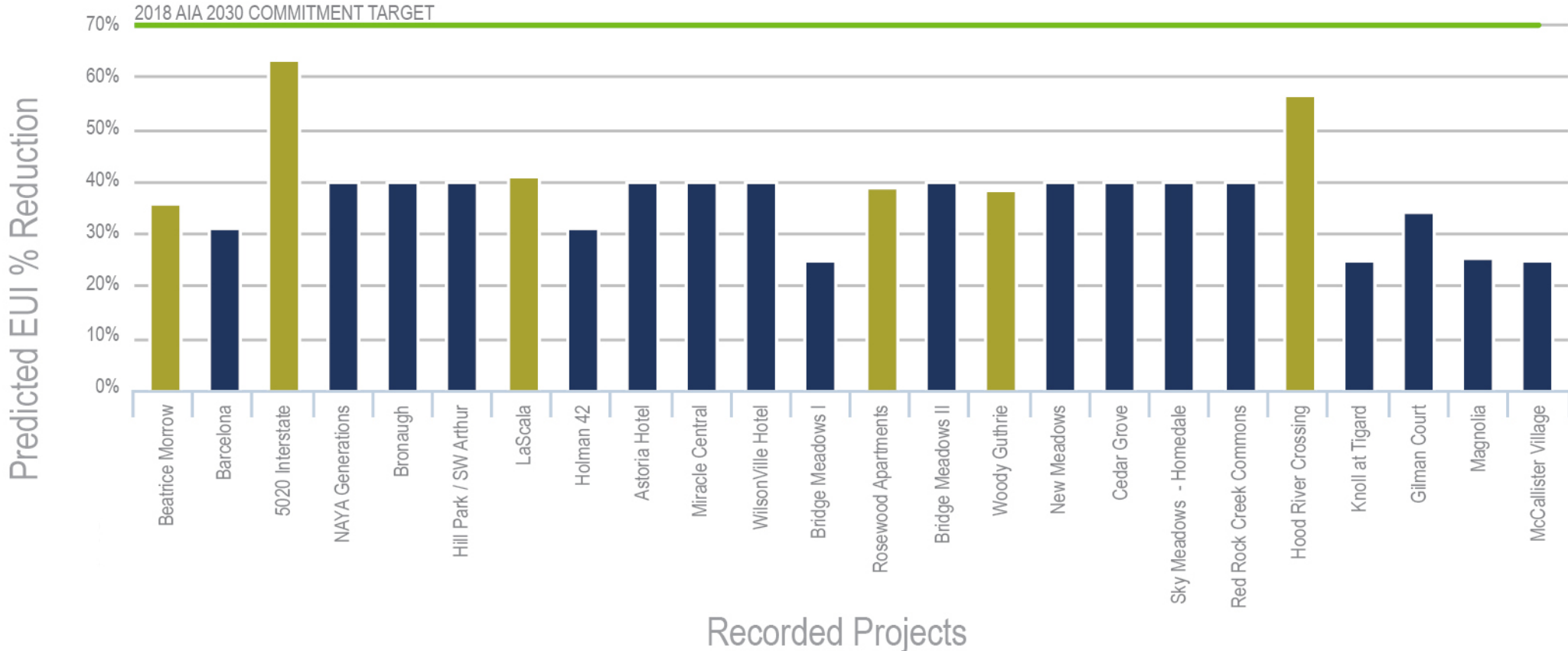


Unbuilt (Design Phase)



Recorded Projects - Predicted EUI % Reduction





LEGEND

- Energy Modeled
- NOT Energy Modeled / Design Code Equivalent

Recorded Projects - Predicted EUI % Reduction

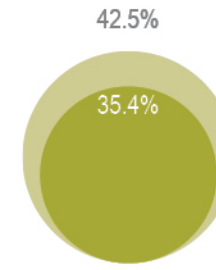


% GSF Energy Modeled

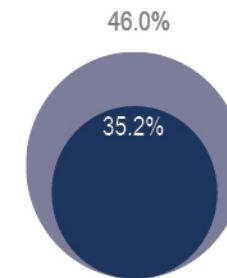
CHA

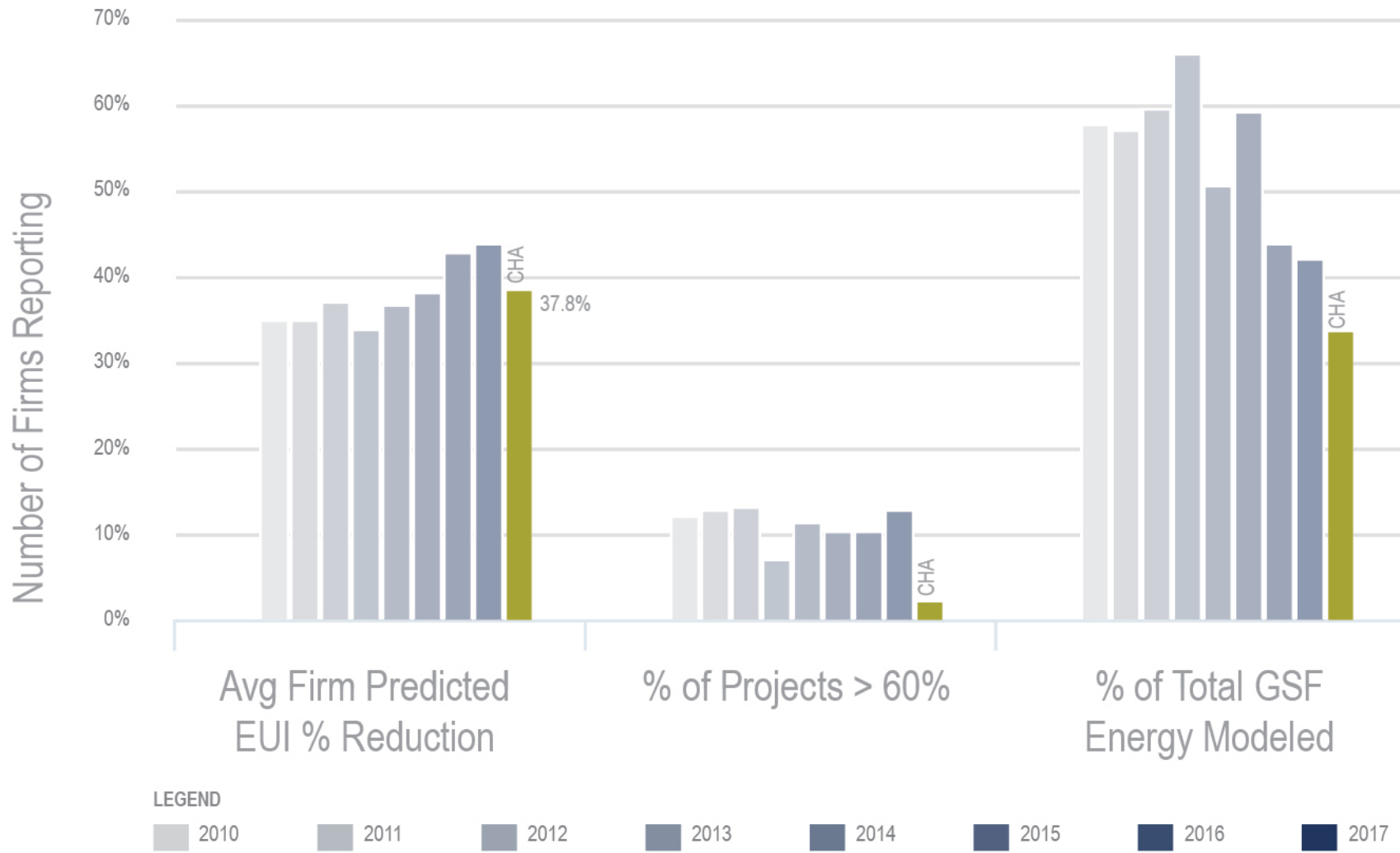


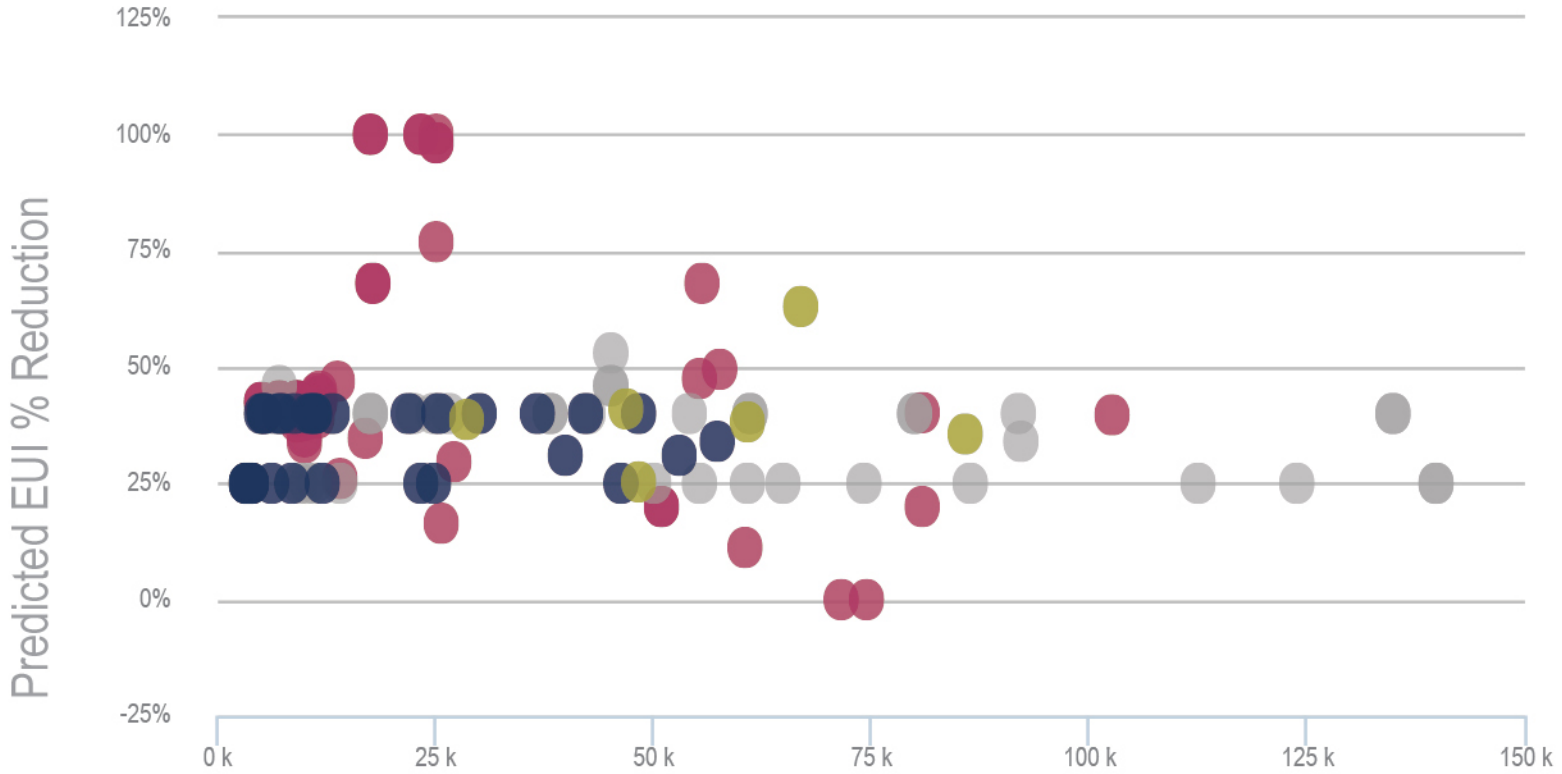
% Predicted EUI Reduction Increase



AIA 2030 Program







Multi-Family Residential; North-America;
United-States; Climate 4c.

LEGEND

	Color Key	Qty.	EUI % Reduction
CHA	Modeled	6	avg 41.0%
	NOT Modeled	33	avg 34.3%
DDx	Modeled	56	avg 41.4%
	Not Modeled	36	avg 33.5%

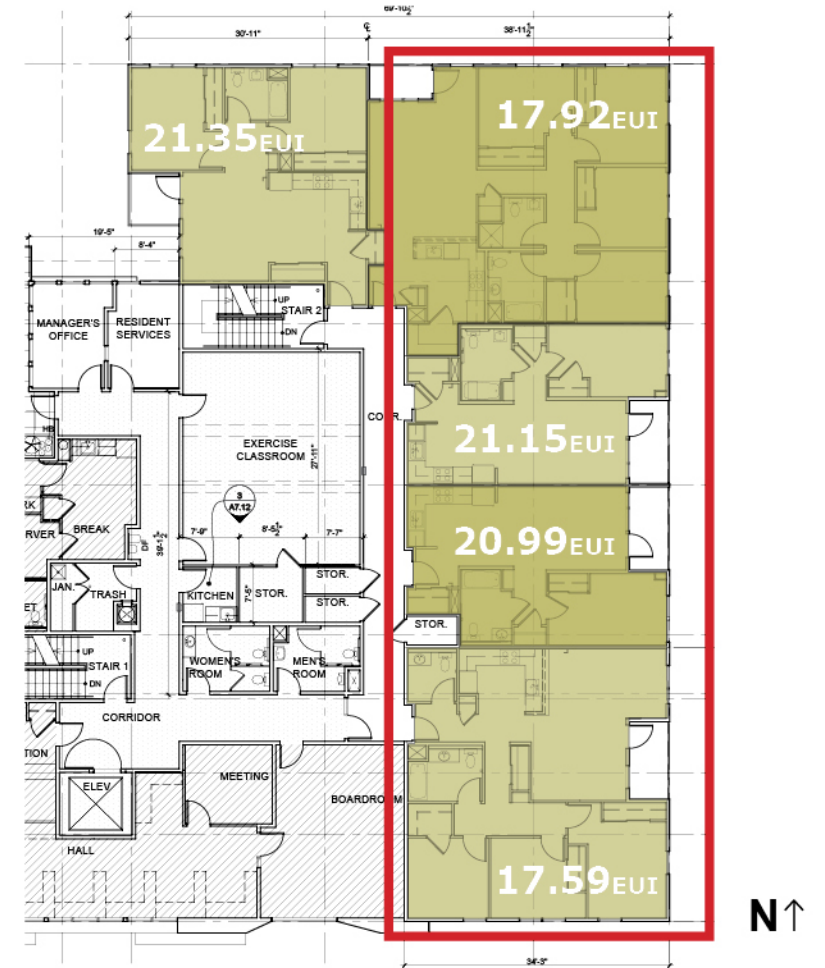
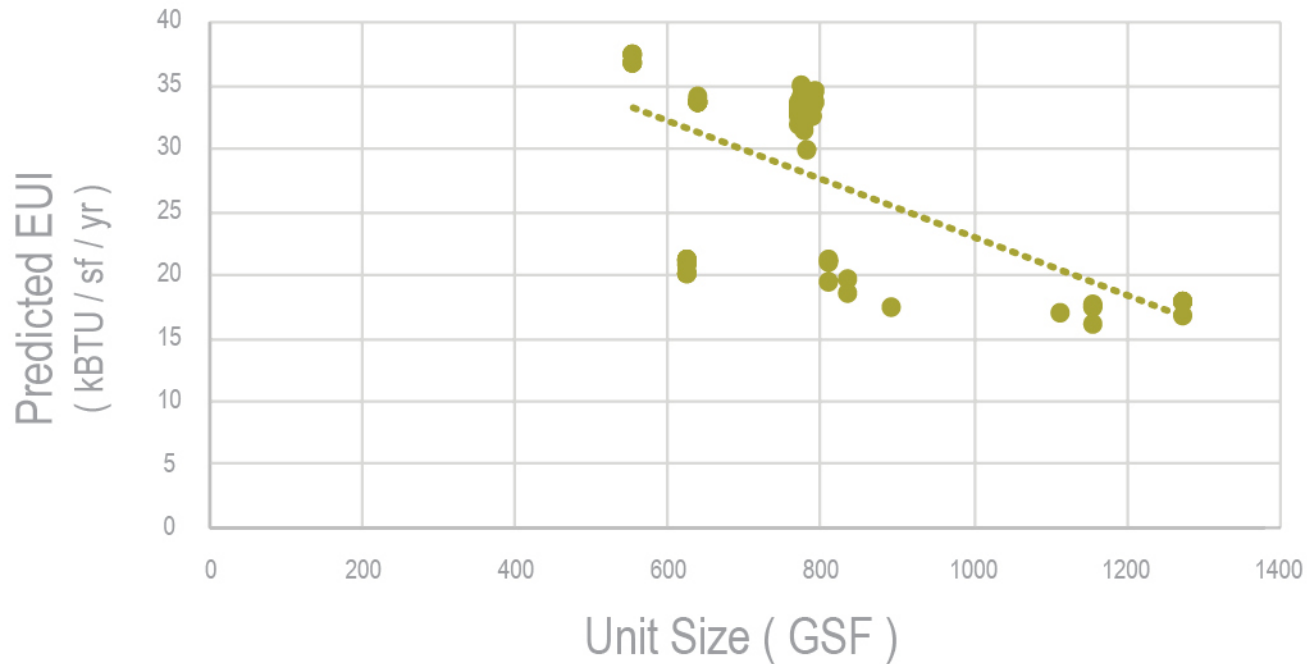


Recorded Projects - Comparison to DDx Portfolio

Case Study: Rosewood Apartments

Comparison of Home Energy Rating Certificates.
 Predicted EUI for individual residential units.

Multi-building residential project with three buildings
 (1 new construction; 2 renovation buildings)



Building C - 2nd Floor Plan

Predicted EUI Distribution

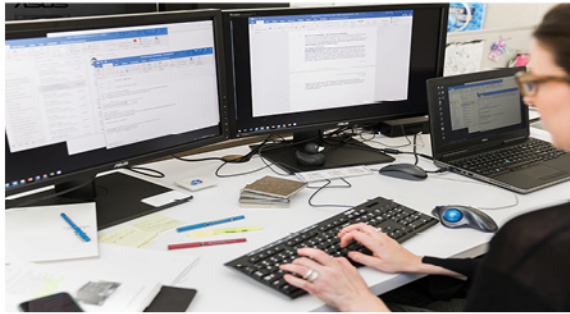




Plug Loads

Energy Demands

- Determined by user
- Determined by program type



Building Envelope

Energy Environment

- Massing, Form, & Orientation
- Exterior Cladding
- Window-Wall Ratio
- Shading Strategies



Mechanical Systems

Energy Consumption

- Heating & Cooling
- Ventilation
- Mechanical Equipment



Renewable Systems

Energy Generation and Supplementation

- Photovoltaic (PV) systems
- Solar Hot Water (SHW) systems
- Geothermal



A photograph of a modern, multi-story building with a mix of white and dark grey panels and large windows. The building has a flat roof and several balconies. In the foreground, there is a paved parking lot with several cars and a white van. There are also some young trees and bushes planted in the area. The sky is clear and blue.

WORKFLOW IMPLICATIONS

For Project Teams:

- Use the ZERO TOOL to set early energy targets!
- TRACK PROJECT DATA with Excel Template for DDx recording at end of each phase to streamline performance tracking.
- In-house project team ENERGY MODELING with Insight! Use the Automated Program Interface (API) to connect Insight projects directly to the DDx to simplify recording.

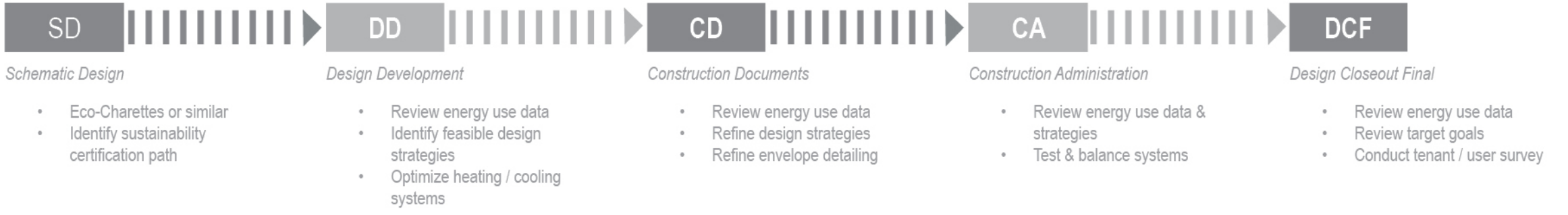
For CHA Sustainability Committee:

- ASSIST project teams throughout recording process at each design phase.
- REVIEW goals and performance with each project team at each design phases.
- UPLOAD annual portfolio via DDx batch upload by annual March 31st deadline.

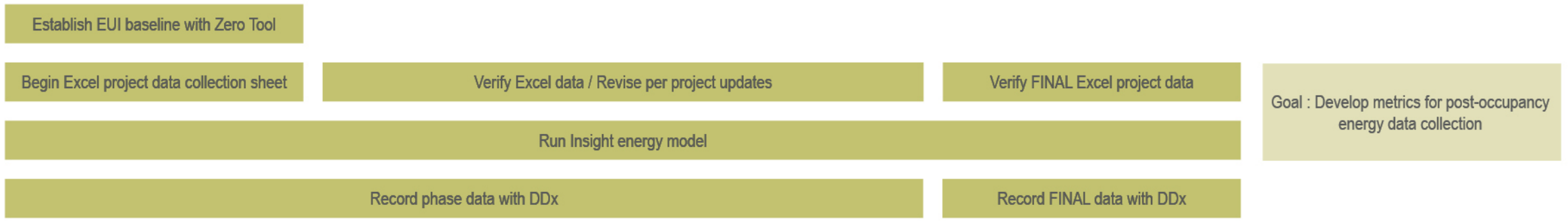
		<i>Insert project information below to complete an inventory of current project energy performance</i>		
General	1. Input Building Specs	Project Name	Beatrice Morrow	
		Project ID - CHA####	CHA15029	
		Project Address	3368 NE MLK Blvd, Portland, OR 97212	
		Climate Zone	<input checked="" type="checkbox"/> 4C - Mixed-Marine <input type="checkbox"/> 5B - Cool Dry <input type="checkbox"/> 6B - Cold Dry	
		Project Category	Non-Residential	
		Construction Type(check one)	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Renovation	
		Year of Occupancy	2019	
		Reporting Year	2018	
		Project Phase	Design Closeout Final	
		Use(write in)	Residential - Mid-Rise/High-Rise 73,068 Mixed Use 12,790 85,858	
		<i>Use Type 1</i>		<i>sf</i>
		<i>Use Type 2</i>		<i>sf</i>
		<i>Use Type 3</i>		<i>sf</i>
		<i>if project is broken into various uses, list all uses and respective square foot area</i>		
		Total Area	85,858	
Target Certification (check one)	<input type="checkbox"/> BREEAM <input type="checkbox"/> Green Globes <input type="checkbox"/> LEED Platinum <input type="checkbox"/> LEED Gold <input type="checkbox"/> LEED Silver <input checked="" type="checkbox"/> LEED Certified <input type="checkbox"/> Living Building <input type="checkbox"/> WELL <input type="checkbox"/> Energy Star for Homes			



PROJECT WORKFLOW

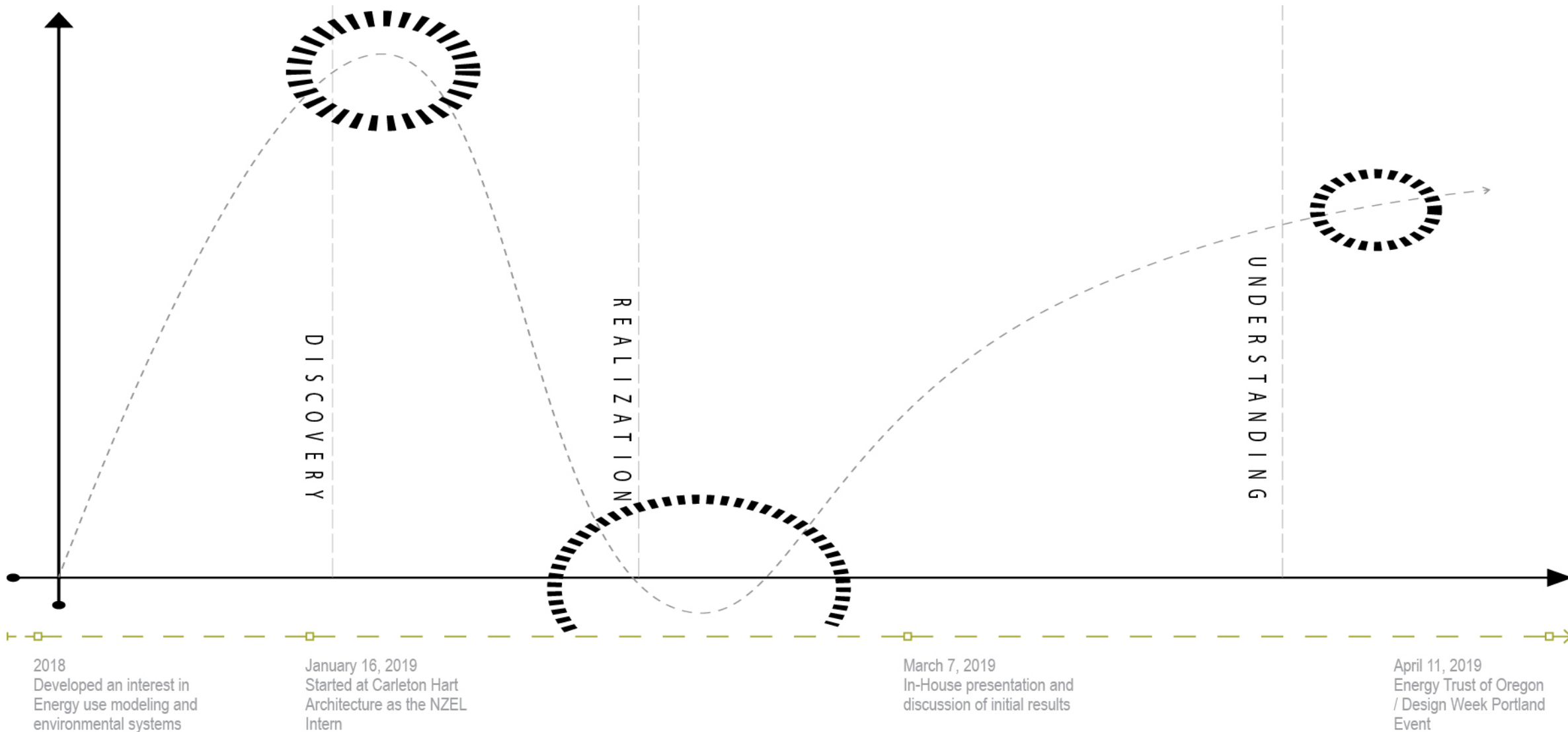


DOCUMENTATION

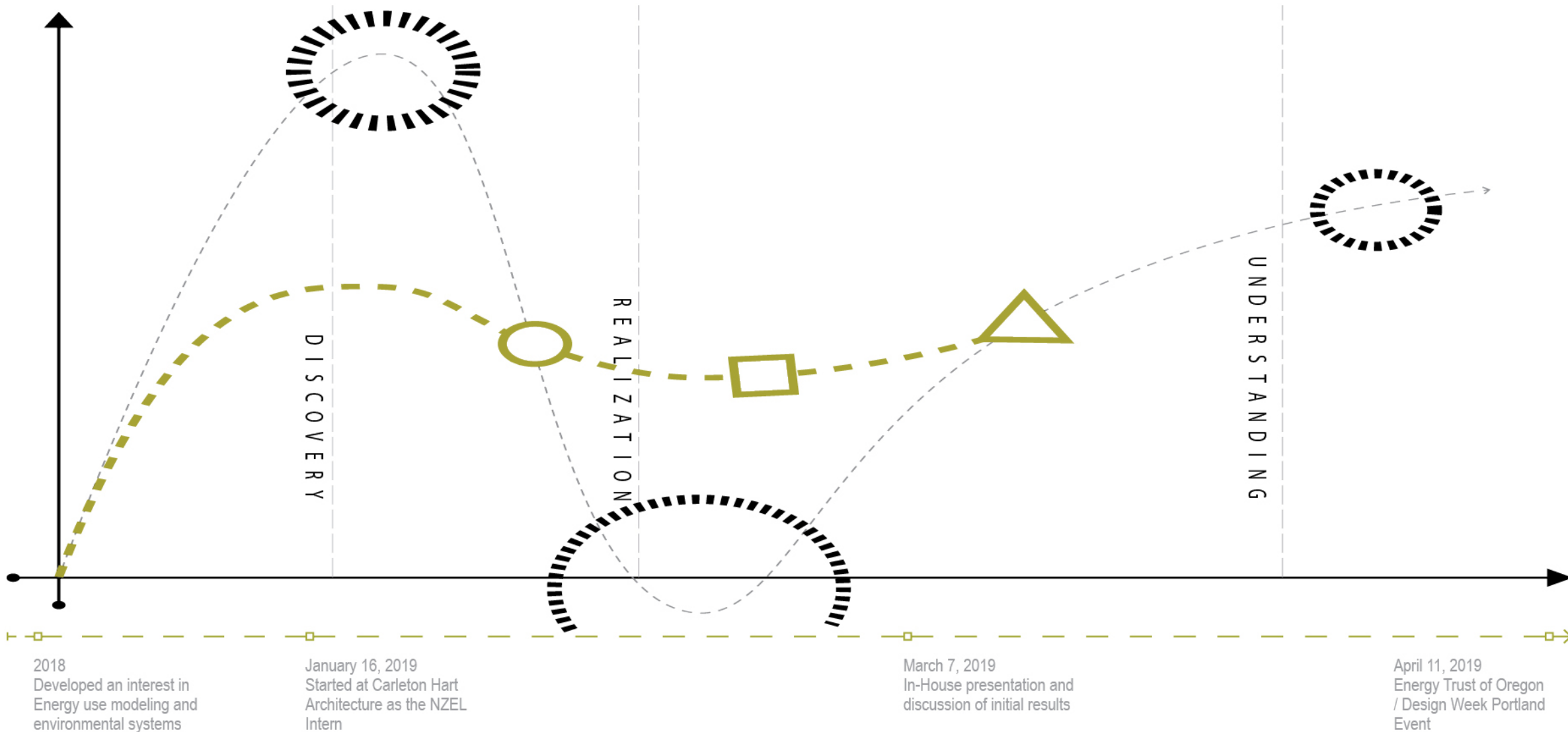


NZEL EXPERIENCE AT CHA





Experience at CHA



Experience at CHA



Thank you!