



Studio.e Architecture Eugene, OR - 7 Person Firm - Founded 2006

An architecture firm in the Pacific Northwest committed to making beautiful, smart, sustainable buildings designed for living.

01





Trinity College



University of Oregon



14

NEW PROJECTS REPORTED IN 2023

1st

EMBODIED CARBON ACCOUNTING

2

CERTIFIED PASSIVE HOUSES

47%

AVG. REDUCTION OF PREDICTED ENERGY USE

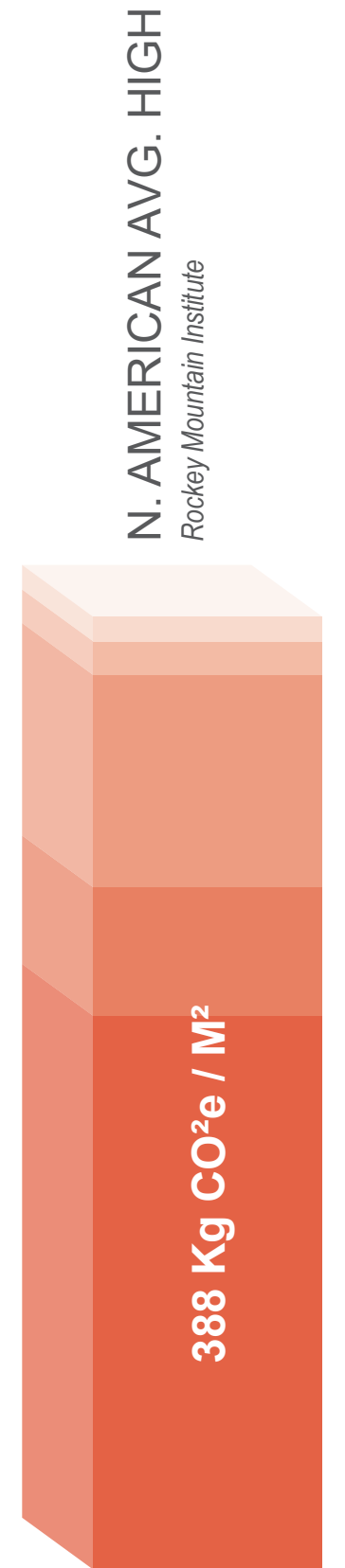
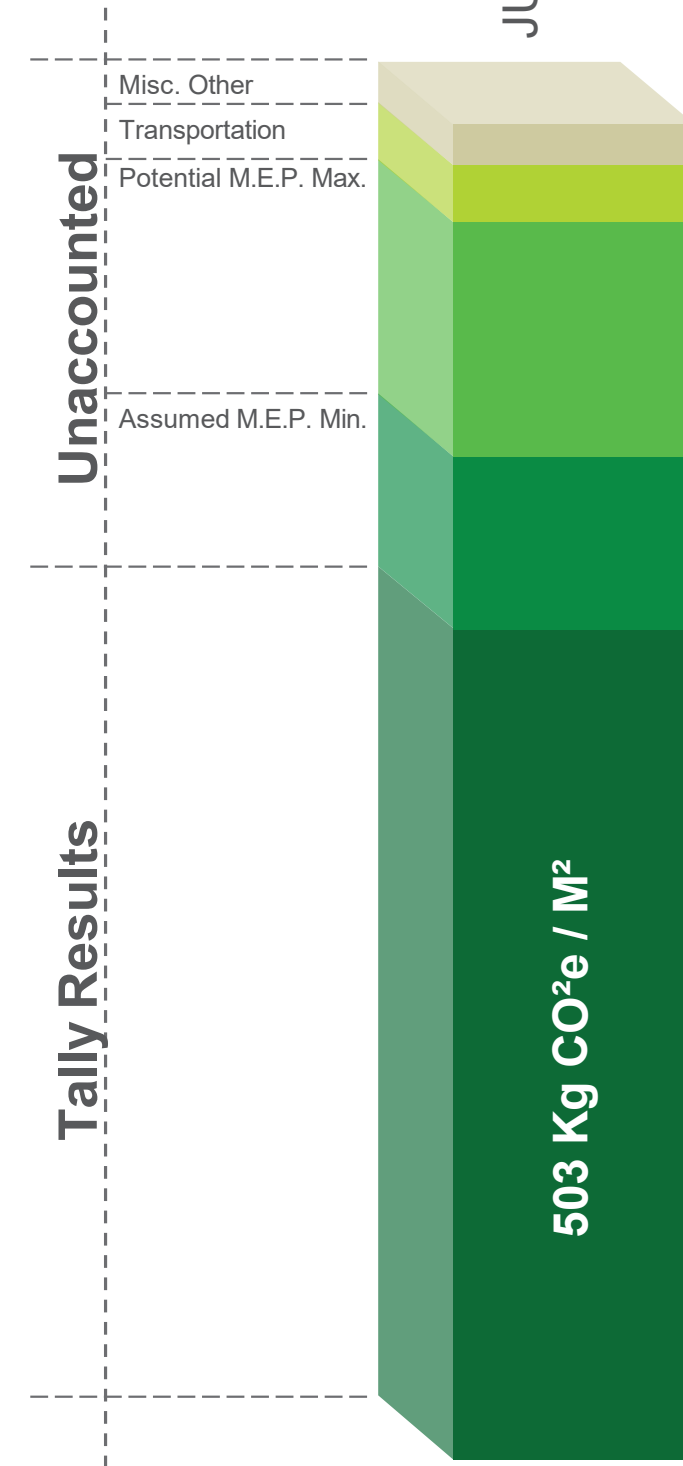
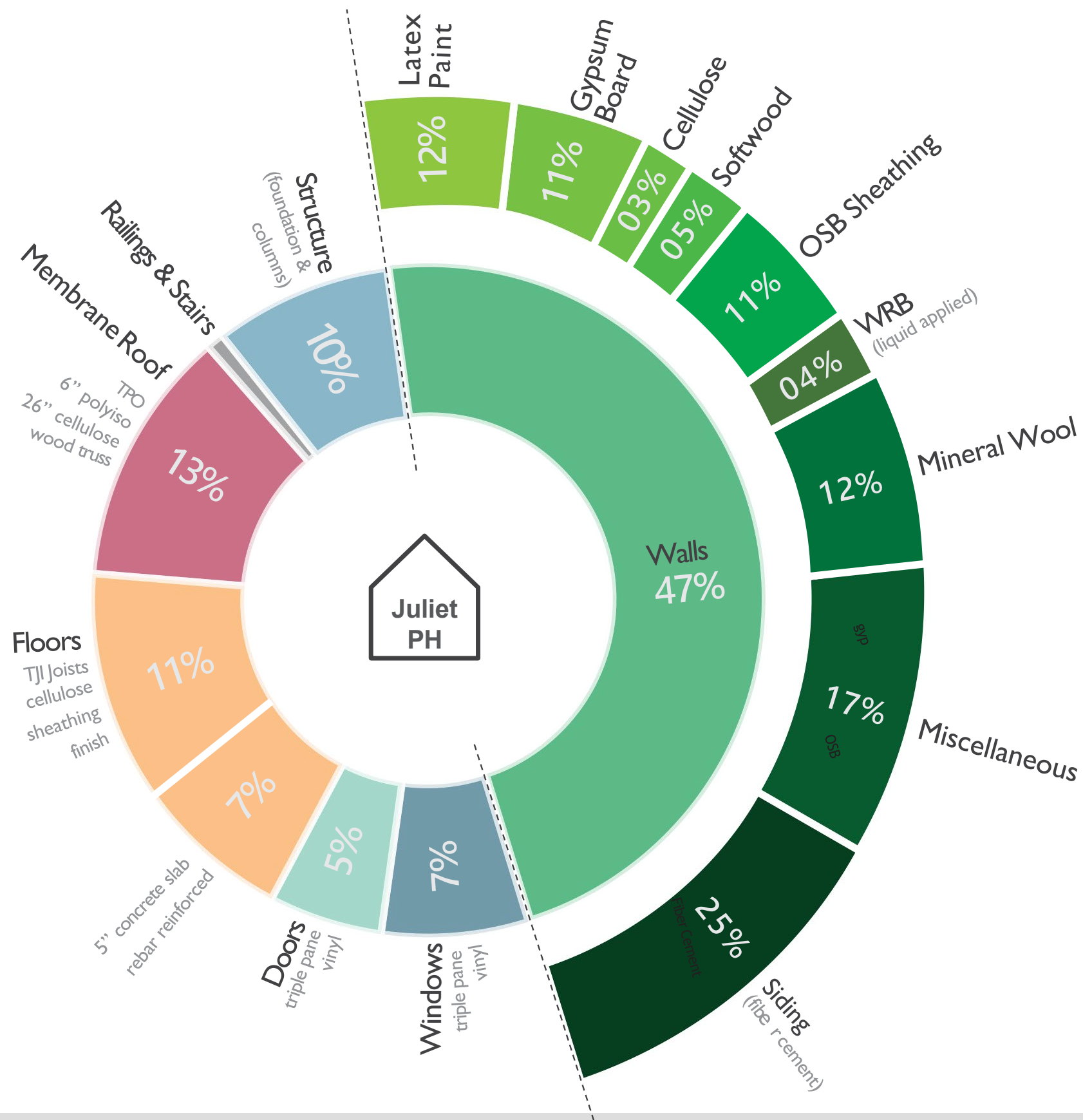
Location:
Talent, OR

Size:
2,679 sq. ft.

Design Standard:
Certified Passive House

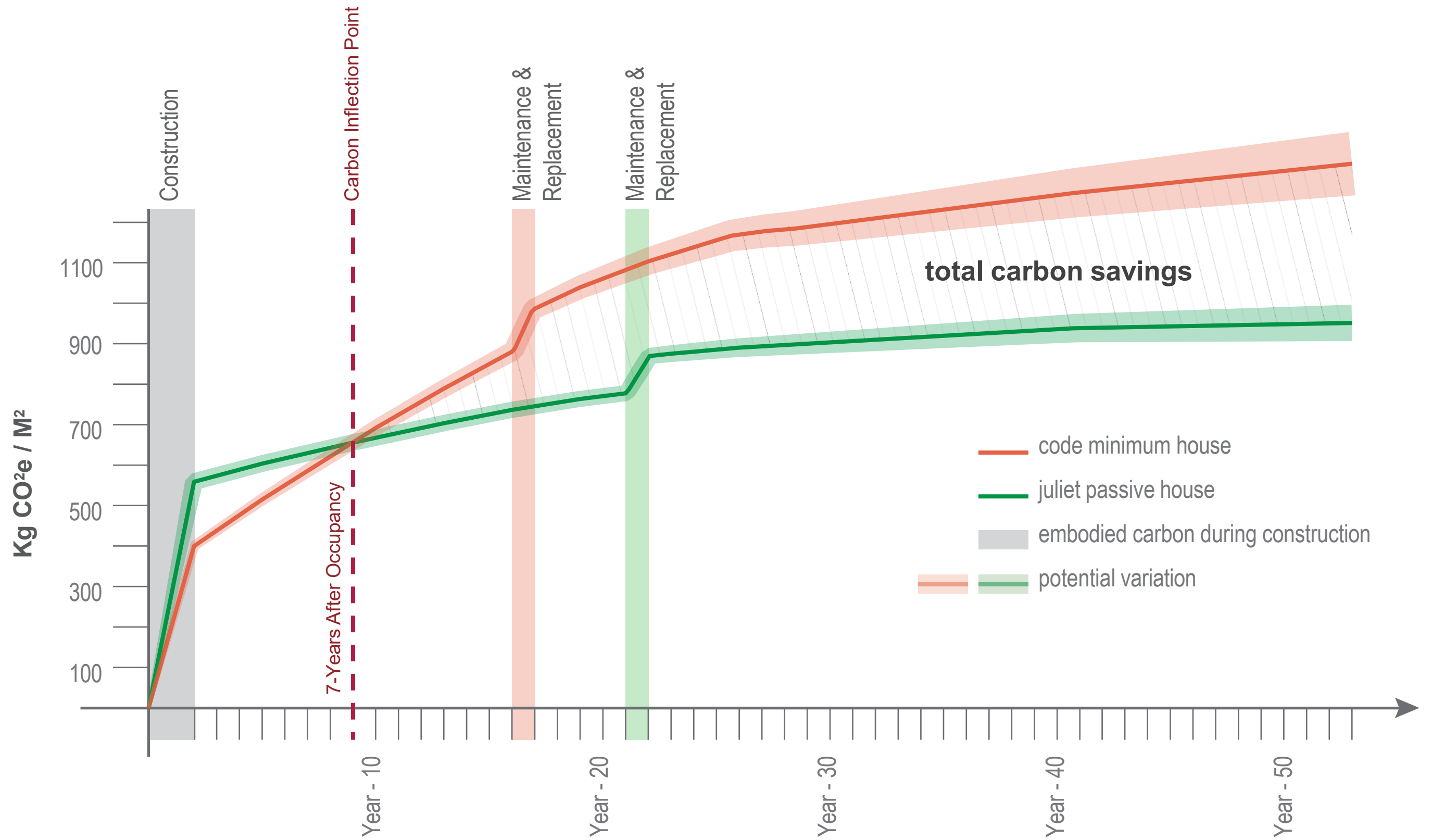
Dwellings:
Two-Story Duplex





EMBODIED CARBON- Tally Results

OPERATIONAL & EMBODIED CARBON



Upfront Carbon

294

LIFETIMES OF
SMART PHONE CHARGES

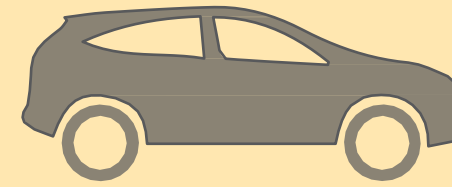


*50 Years
Carbon Savings*

600

2,909

EUGENE-TO-PORTLAND
CAR TRIPS



5,950

146

ACRES OF ANNUAL
FOREST GROWTH



300

KILOGRAMS OF CARBON DIOXIDE EQUIVALENT

Juliet Passive House

07



340 Kg CO²/M³

317 Kg CO²/M³

274 Kg CO²/M³

259 Kg CO²/M³

~210 Kg CO²/M³

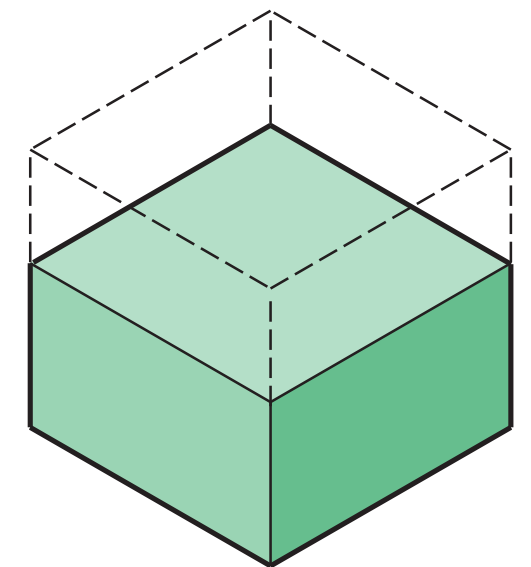
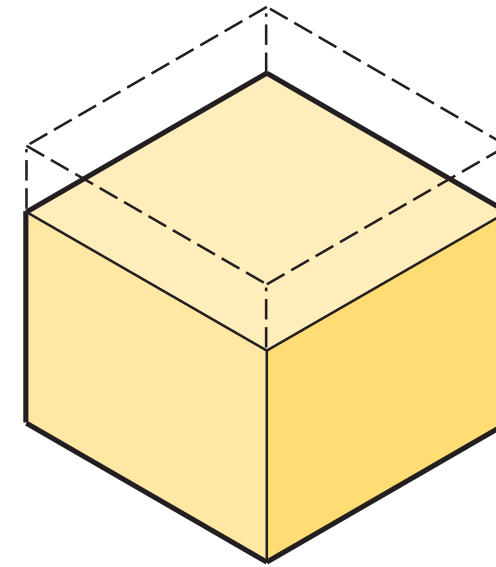
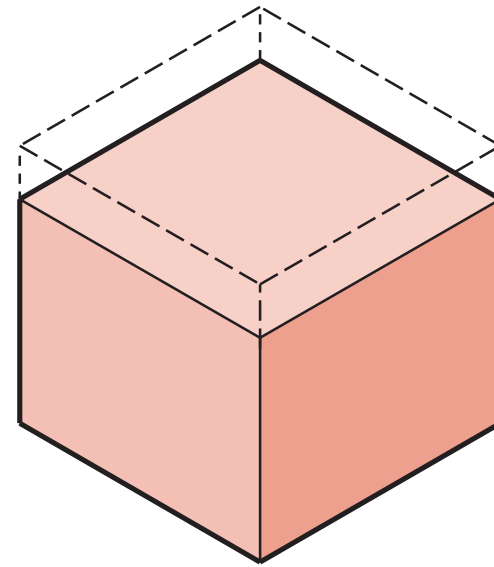
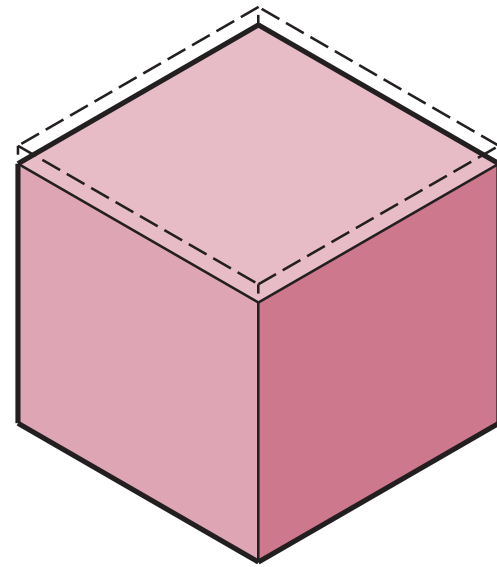
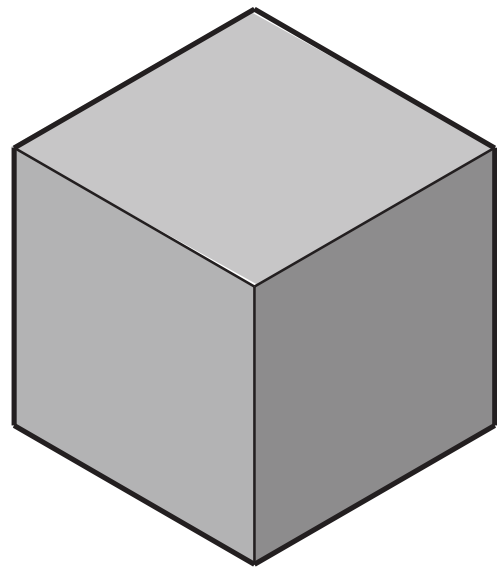
Baseline

-6.75%

-19.50%

-23.75%

-39.25%



Type I & II Portland
(current industry standard)

1L Cement
(standard by 2025)

30% Slag
Replacement

1L Cement &
30% Slag

1L Cement &
30% Slag &
Solid Carbon™
(biochar)

CONCRETE CARBON REDUCTIONS

Options Available in Oregon

08





Ground Granulated Blast Furnace Slag

01 Design with Less Concrete

- more achievable with above grade uses

02 Be Precise With P.S.I. Calculations

- higher P.S.I. means higher levels of cement and carbon emissions
- get engineers involved in the process

03 Specify Slag Cement

- can replace up to 30% of cement

04 Specify 1L Cement

- 1L cement is about to become the standard in Oregon

05 Specify Biochar for Further Reductions

- Solid Carbon™ is a Portland company that uses biochar as partial aggregate



01 High Variability in Product Data

- whether industry standards or EPDs the variations can make dramatic differences in final outcome

02 Software is Still Cumbersome

- specify industry standard material or EPD in Revit during modeling

3. Start With the Low Hanging Fruit

- concrete
- petroleum based foam
- gypsum board
- compare specific EPDs

4. Biogenic Materials = 2-for-1

- use low-embodied carbon or biogenic materials to reduce both embodied and operational carbon

Lifetime Carbon Use
(50 years)

