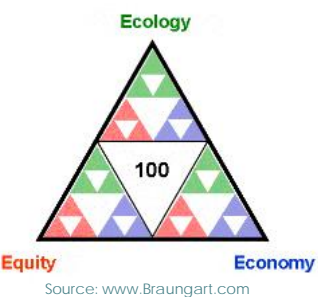



SUSTAINABILITY CONTEXT

AFFORDABILITY
ZERO CARBON
NET ZERO



Source: www.Braungart.com

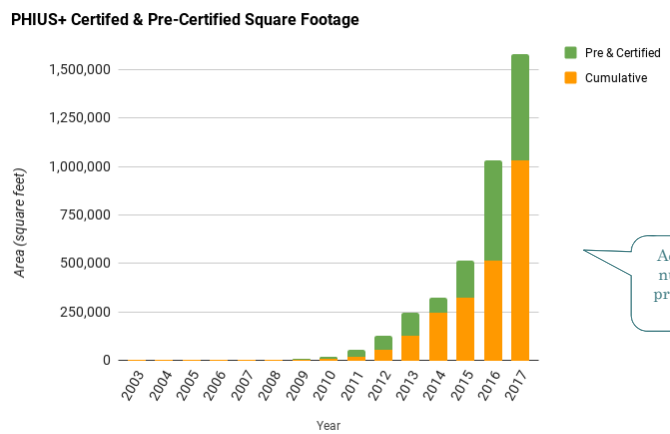


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PHIUS+ 2015 quite successful

PHIUS+ Certified & Pre-Certified Square Footage



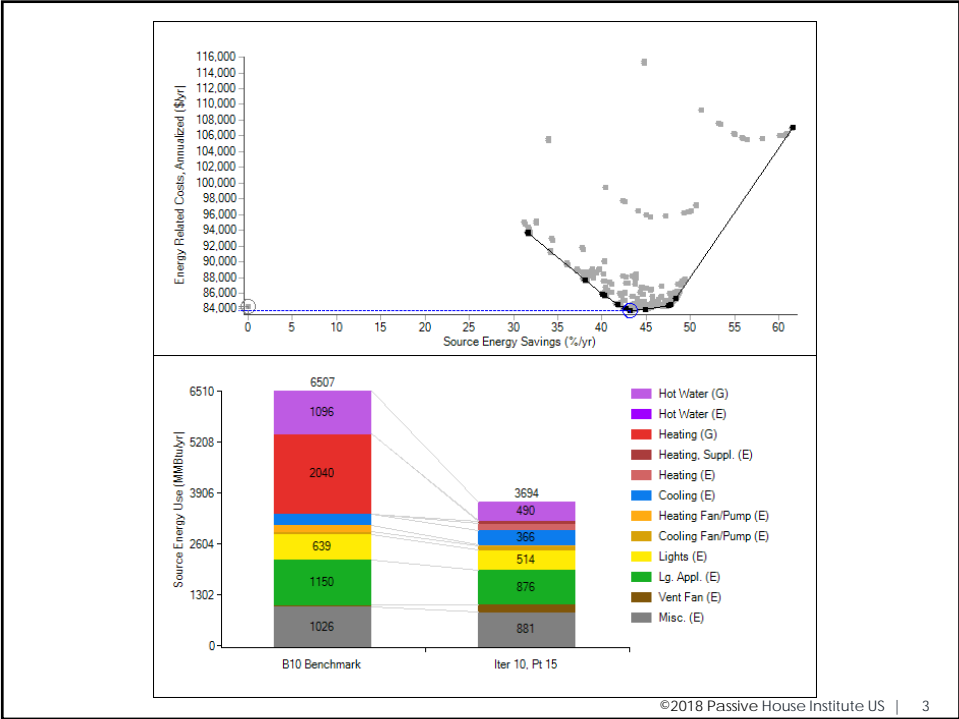
Year	Cumulative (sq ft)	Pre & Certified (sq ft)	Total (sq ft)
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	~10,000	~10,000	~20,000
2012	~20,000	~20,000	~40,000
2013	~50,000	~50,000	~100,000
2014	~100,000	~100,000	~200,000
2015	~250,000	~250,000	~500,000
2016	~500,000	~500,000	~1,000,000
2017	~1,000,000	~500,000	~1,500,000

Actual project numbers – no predictions are included.

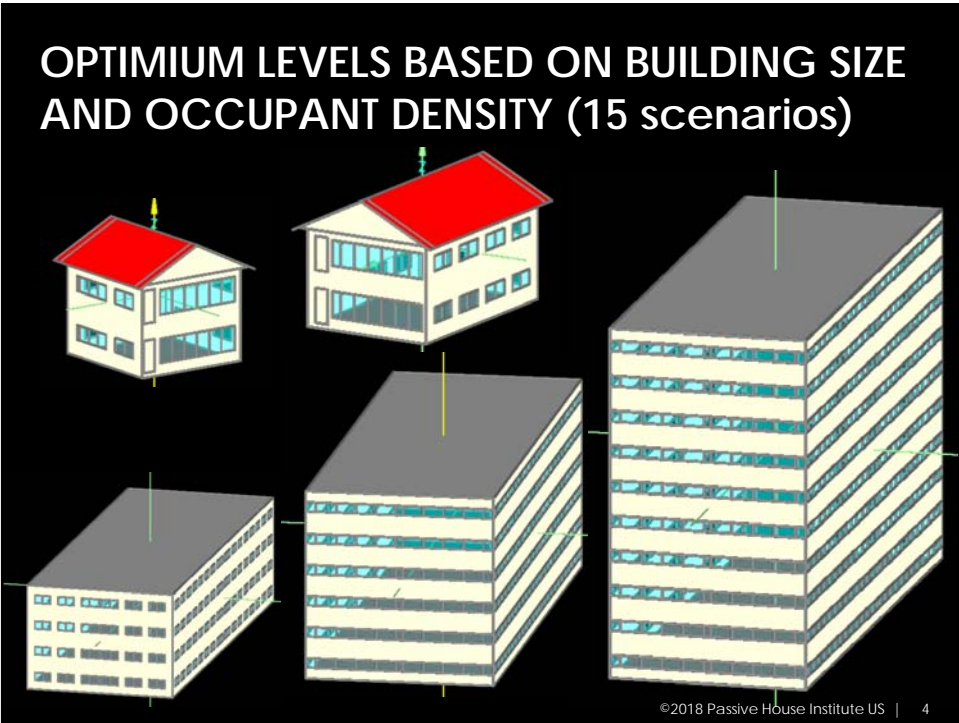
Why certify? It shares the knowledge:

- Of how to do this
- That anything is happening
- QAQC peace of mind

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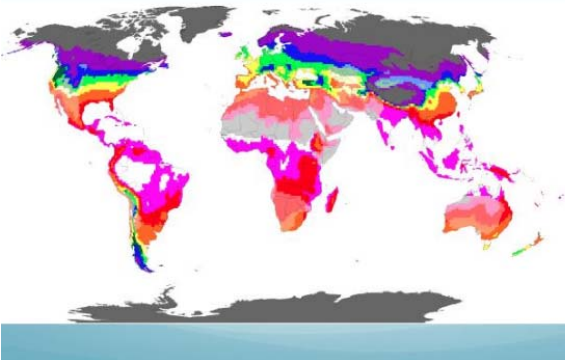


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Global Climate Zones – ASHRAE Standard 169-2013

Key Parameters:

- Heating/Cooling Degree days using Max/Min daily temperatures
- Annual precipitation



Standard 169-20xx Climate Zones

- Zone 0A Extremely Hot Humid
- Zone 0B Extremely Hot Dry
- Zone 1A Very Hot Humid
- Zone 1B Very Hot Dry
- Zone 2A Hot Humid
- Zone 2B Hot Dry
- Zone 3A Warm Humid
- Zone 3B Warm Dry
- Zone 3C Warm Marine
- Zone 4A Mixed Humid
- Zone 4B Mixed Dry
- Zone 4C Mixed Marine
- Zone 5A Cool Humid
- Zone 5B Cool Dry
- Zone 5C Cool Marine
- Zone 6A Cold Humid
- Zone 6B Cold Dry
- Zone 7 Very Cold
- Zone 8 Subarctic/Arctic

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PHIUS+ 2018 Space Conditioning Criteria Estimator

ASHRAE Climate Zone 5B

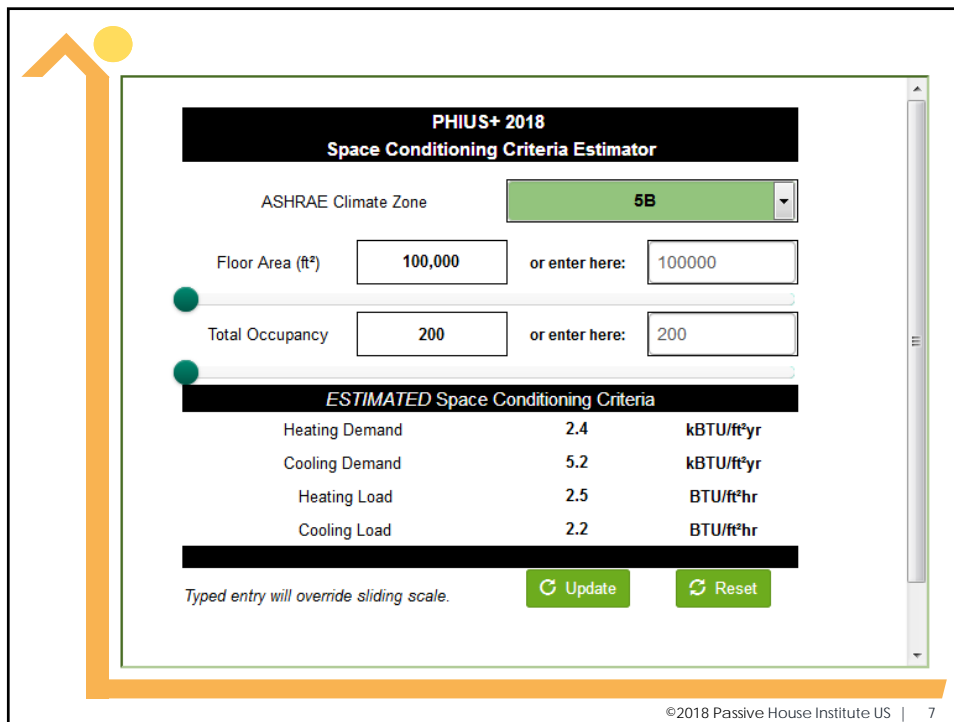
Floor Area (ft²) 2,500 or enter here: 2500

Total Occupancy 4 or enter here: 4

ESTIMATED Space Conditioning Criteria		
Heating Demand	8.2	kBTU/ft ² yr
Cooling Demand	6.8	kBTU/ft ² yr
Heating Load	5.8	BTU/ft ² hr
Cooling Load	4.1	BTU/ft ² hr

Typed entry will override sliding scale. Update Reset

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The image shows a software interface for the PHIUS+ 2018 Space Conditioning Criteria Estimator. The interface is contained within a window with a yellow arrow graphic on the left side. At the top, the title "PHIUS+ 2018 Space Conditioning Criteria Estimator" is displayed in a black box. Below the title, there are input fields for "ASHRAE Climate Zone" (set to 5B), "Floor Area (ft²)" (set to 100,000), and "Total Occupancy" (set to 200). Each input field has a corresponding "or enter here:" text box. Below the input fields, a section titled "ESTIMATED Space Conditioning Criteria" displays a table of results. At the bottom of the interface, there are "Update" and "Reset" buttons, and a note stating "Typed entry will override sliding scale." The footer of the window contains the copyright information "©2018 Passive House Institute US | 7".

ESTIMATED Space Conditioning Criteria		
Heating Demand	2.4	kBTU/ft²yr
Cooling Demand	5.2	kBTU/ft²yr
Heating Load	2.5	BTU/ft²hr
Cooling Load	2.2	BTU/ft²hr