

June 2022

## 1a. Benchmarking PH Programs & Policies

This is an overview of the existing policies in place that were designed to accelerate Passive House adoption across the U.S. They are based on the input received at an informal gathering convened by PHN on **November 6, 2020**, where we gathered representatives from across North America to share information regarding policies in place in their specific regions. *(This report was updated in April, 2022 to include new measures and incentives.)*

### Purpose

PHN convened this roundtable gathering as the first step in developing a coordinated policy action plan to scale widespread Passive House adoption across the US. Our goal for this first meeting was to:

1. Find out from NAPHN Chapters and allies where they were in their policy efforts: What policies and programs were already in place? What's in the pipeline? And what's over the horizon? What goals should be pursued?
2. What defining principles are underlying these efforts?

We agreed to:

3. Collate this information to serve and establish a baseline for greater future coordination and progress toward mutually agreed goals and underlying principles.
4. To form an action plan to develop common principles, goals and strategy.
5. To draft the next steps to implement and execute a Strategic Policy Action Plan.

### Regional Reports

#### New York:

- **State-led:**
  - NYSERDA Workforce Training and Development Grant program (2014-2016) offered up to 50% off CPHD and CPHT training programs to all NYS residents who took training via PHI and PHIUS trainers
  - PHPP has not been approved - applied 6 years ago
    - The Dept of State has issues with this model.
  - Currently progressing a proposal to idea Develop a PH Check which extracts information from PHPP and populates a new reporting tool that conforms with NYS Energy Code

- NYSERDA's Buildings of Excellence Incentive Program: <https://www.nyserda.ny.gov/All-Programs/multifamily-buildings-of-excellence>
  - NY State program offering \$40million via a competition for project teams to design low energy buildings.
  - Up to \$1million awards have predominantly been awarded to Passive House projects.
- **City-led:**
  - [Local Law 31 in New York City, 2016](#): Requires city-owned capital projects to consume less energy than similar existing building types
    - Limits source EUI to 38 kBtu/sf/yr for new buildings and 42 kBtu/sf/yr for existing building alterations -OR- the more stringent of 50% of ASHRAE 90.1-2013 or 50% of the median source EUI for similar occupancy building (benchmarking data).
    - Not PH, but the source EUI requirements are based on PH.
  - [Local Law 32 in New York City, 2018](#):
    - Requires LEED and other standards for city-funded capital projects
    - Removed PH section out of statute
  - [Local Law 97](#): Sets GHG emissions reduction requirements for buildings over 25K sf that steps down over time, with significant financial penalties for owners whose buildings don't comply. New projects meeting Passive House targets have been shown to comply with the 2030 targets, spurring uptake.
  - **City-owned pilot projects**: NYC released an RFP for new city block of affordable housing that required Passive House certification as part of the RFP.

## Pacific Northwest:

### [Prepared Report](#)

- Current codes in Washington updated 2018, Mechanical Code and Energy Code for multifamily buildings
  - Mechanical ventilation
  - Airtightness test
    - State council added a “grace zone”
- PH listed as a compliance path in residential code
  - PH certifier submits statement about standard
- In the pipeline-
  - Electrification codes in Washington
    - Seattle, pending upcoming City Council approval, favors heat pumps
  - Renovations-Washington Clean Buildings Act, starting July 2021
- PHnw's next steps:
  - Continue working with Shift Zero in Washington -38 organizations in alliance

- Perhaps redo building challenge -2018 goal for 20 Passive House or Net Zero buildings in 2020 by Dec 31, 2020, currently at 12
- Additional Thoughts (post-meeting) from Mike
  - “In our Pacific Northwest region, but specifically Washington state, we have been effective in nominating and getting members or allies onto the voting boards. I am an example of that strategic process. Before I became president of PHnw, Tim Weyand and Zack Semke from PHnw and AIA Washington nominated me to fill an open seat on the state energy code Technical Advisory Group (TAG). Since 2018 I represent all architects in the state of Washington and cast a vote in proposal hearings for or against an energy code change proposal moving forward. The TAG is the first of three hurdles a proposal must clear and is the highest/hardest one to clear.
  - With our PHnw co-founding involvement with Shift Zero <https://link.edgepilot.com/s/b9273e7a/FDgJ75FA7k6wwXCOFL0F9g?u=https://shiftzero.org/> we look to source someone from one of our 38 organizations to fill as many open seats as we can with representatives who have similar goals for a zero carbon built environment. On our energy code TAG there are several building/design representative seats and we try to nominate folks for the mechanical engineer, electrical engineer, lighting designer, building commissioning, energy modeler, manufacturer/supplier, commercial contractor, and public at-large seats. We have not been successful in every case but now tend to have seven consistent votes when voting attendance ranges from 12 to 16 at meetings and a simple majority passes or defeats proposals.
  - I’ve also attached the Zero Net Carbon Policy Toolkit that Shift Zero developed to help jurisdictions to incentivize multiple third-party certifications and at what levels to prioritize. It has helped get Passive House into the conversation with a few jurisdictions and added to their incentive list where before we couldn’t even get in the door, since we have to compete directly with long existing Living Building, LEED, and Built Green incentives in our area. This has been a positive small step, but for most jurisdictions finding or generating the pool of money for incentives is difficult so it seems bonuses for height or more area will be the most likely path, especially now that even more places are funding strapped from the pandemic.
  - I will also note that the Shift Zero policy tool kit sent is due for an update as the comparative LEED and LBC rating systems have changed with new versions. Update was scheduled for October release but not out yet. Might learn more on status at a meeting later this month.
    - [Shift Zero Toolkit Summary](#)
    - [Shift Zero Toolkit”](#)
    - [Shift Zero Toolkit + BB edits”](#)

## Massachusetts:

### [Prepared Report](#)

### [Additional Memos](#)

- [Mass Save Passive House Subsidy Program](#) initiated 2 years ago. This includes:
  - Professional training subsidy (redeemable upon certification completion for PHI and PHIUS CPHC/D certifications.)
  - Feasibility study coverage up to \$5,000.
  - Energy modeling subsidy
  - Certification and post-occupancy performance bonus
  - Summary document:  
[https://www.masssave.com/-/media/Files/PDFs/Save/Residential/New\\_Construction\\_Passive\\_House\\_Brochure.pdf?la=en&hash=4F892945BE0A3FEB29F6D8D63F7DD0324B437267](https://www.masssave.com/-/media/Files/PDFs/Save/Residential/New_Construction_Passive_House_Brochure.pdf?la=en&hash=4F892945BE0A3FEB29F6D8D63F7DD0324B437267)
  - Looking to expand to include tradesperson trainings at community colleges for PH retrofit
  - Proposing a specific rebate program for central electric heating systems - aimed at trying to defray the operating costs for at least five years.
- [MA Stretch Code](#) included Passive House (PHIUS and PHI) as alternatives Pushing for a Net Zero Stretch Code Change -
  - Easy Commercial Code that picks up smaller commercial buildings at 5,000 sq ft and pushes them to net zero
  - Easy residential code - picks up the residential buildings that the commercial code does not cover
  - Submitting that in May
- Gas bans: these were passed at the city council level but were shot down at Attorney General's office
- Towns and cities are working to find ways to incentivize Passive House through zoning initiatives. It remains to be seen whether these will stand at the state level.

## California:

### [Prepared Report](#)

- Past 2 years - focus on getting traction at the state level
  - Public utilities commission, CA energy commission, code-related jurisdictions
  - ASHRAE 140 review of the PHPP completed.
    - PHCA Collaborated with NYPH, PHI and PH Canada
- Commissioned and completed PHI-approved climate data for all 16 climate zones of CA - precursor to state wide modeling and analysis
- [Low-Rise Multi-family Reach Code study](#) - Codes & Standards - CA Energy Commission

- Analysis of how PH can be incorporated into CA energy code
  - Reach Code (Stretch Code) - individual jurisdictions can adopt their own code, but they have options of what to use.
  - Proved that PH is useful, but no jurisdiction was interested in the document. They were offered simpler and easier options.
- CPUC funded Study, looking at PHI as a code alternative for 2022-becoming a possible compliance path for next code cycle.
  - PHPP doesn't align with structure and outputs required by California's Energy Code.
- Pipe line for the future
  - Current efforts are regional
  - Different organizations and board members, builders, different funding sources, different jurisdictions doing inspiring things but not on the state level.
- Work contributing to baseline codes:
  - focusing on air-tightness testing for residential buildings
  - Not setting limits for infiltration yet
- Challenges with trying to integrate PH into conventional policy frameworks don't appear to be productive. (Title-24 code framework is developed in siloed, isolated component workshops and doesn't accommodate the PH integrated approach.)
- Progress being made with direct outreach to local city or regional entities (3CRen, Monterey Green Blg Council.)
- Incentives for a PH-aligned MF building have been put in place by the City of Monterey.

## **New Jersey:**

- The energy policy in NJ is driven by the BPU, the state energy plan public review took place in 9/2019 and the plan has been issued with implementation policy for it scheduled to be issued in 7/1/2021
  - [New Jersey Clean Energy Program Updates](#)
- Affordable housing has some passive house options implemented into it, both PHI and PHIUS are mentioned, but the implementation documents make the path to PHI seem difficult
  - Doing a lot of outreach to help ease this path
  - when reaching out to the people in charge, they said that the PH was much more of an expense and their goal was AFFORDABLE housing
  - set up a meeting with them to present different projects in PA and NY showing that it is quite perfect for affordable housing
- Incentive plans for single family, small structures
- Individual municipalities usually interested, but will revert to standard-don't want to stand out as a place where it is hard to build
  - State level policies should be more of the focus to help ease this strain on individual municipalities

## Minnesota:

- **Minneapolis Sustainable Homes Policy:**
  - Financial support of affordable single family certified Passive House homes in Minneapolis; I believe the policy was ratified in 2020 and offers \$5M. I cannot find much on it online as the city has made a new website but here is one link:  
[https://lims.minneapolismn.gov/Download/RCA/15500/Sustainability%20Policy%20-%201%20to%203%20units\\_Final.pdf](https://lims.minneapolismn.gov/Download/RCA/15500/Sustainability%20Policy%20-%201%20to%203%20units_Final.pdf) (There are some issues and weird content in this document that differ from the original version.)
  - Minneapolis offers a resource page on their website:  
<https://www2.minneapolismn.gov/government/programs-initiatives/climate/buildings-energy/passive-house-standard/>
- **Minnesota Housing: Housing Tax Credit** - offers points for PHI projects, found in their self-scoring worksheet: [2022-2023 Self-Scoring Worksheet](#)
- **Green Communities Overlay** - reference to PH in the Green Communities Overlay Guide from 2020, which is in place for all affordable housing in the state: [https://www.mnhousing.gov/get/MHFA\\_247757](https://www.mnhousing.gov/get/MHFA_247757)

## Pennsylvania:

- **State-funded Tax Credits:** PHFA low income housing tax credit program for affordable housing, includes [extra financing incentive points](#) for projects pursuing Passive House.
- **City-leadership:** City of Pittsburgh has legislation in place that requires all city buildings must reach <https://pittsburghpa.gov/press-releases/press-releases/3274> (new and existing.) Language supports PH as a way to reach zero energy ready, but does not require certification.
- **Finance Incentives:** [C-PACE financing program in PA](#). It doesn't call out Passive House, per se, but to max out on financing, PH approaches ensure projects utilize the depth of energy efficiency measures to max out financing.
- **Integration into other programs:** National Green Building Standard (NGBS) considering adding Passive House to their program.

## Colorado:

- The City of Denver listed Passive House as an alternate compliance path for their Green Code in an updated voted on in late 2019. This was part of their 80x50 Climate Action Plan that targets 80% building energy reduction by 2050.

[\(https://naphnetwork.org/news/denver-city-council-lists-passive-house-certification-as-compliance-path/\)](https://naphnetwork.org/news/denver-city-council-lists-passive-house-certification-as-compliance-path/)

- Xcel Energy - a Colorado utility provider - announced a significant one-time rebate incentive for certified Passive House projects as part of the Marshall Fire recovery support program. This significant rebate of \$37,500 is double that offered for other certification programs and sends a clear message to the local community.  
[https://www.xcelenergy.com/staticfiles/xe-responsive/Outages/MarshallFireRebuildRebatesIS\\_web%20approved.pdf](https://www.xcelenergy.com/staticfiles/xe-responsive/Outages/MarshallFireRebuildRebatesIS_web%20approved.pdf)

## **Maine:**

- Policy managed by Efficiency Maine - kept focus on heat pumps driven by cost savings.
- Mostly PH uptake driven by local advocates and practitioners - phMAINE.
- Efficiency Maine now offers 3% incentive per unit for affordable housing
- In 2020 Legislature allowed a Stretch Code that municipalities can adopt IECC 2021. (Base code is IECC 2015.) Maine code can't be out more than 2 cycles of sync with IECC base code. New stretch code then becomes redefined.
- phMAINE is asking for new requirements that include post-construction monitoring for all projects that receive ARPA funds.

## **National (General & PHN-specific)**

### Prepared Report

- Policy Resources
  - 2019 Policy Resource Guide
  - How to present to policymakers- slide decks for chapters/members for PER and electrification presentations
  - Training Subsidy program templates
  - Direct policy support in various regions, Denver & Minneapolis
  - Connection with PHI, move certification processes forward
- How can this roundtable group grow and affect policy change
  - How can we learn from each other, advise, share resources in a cohesive and expansive way?
    - National Policymaker summit proposed Jan 21
- NAPHN making International contributions with iPHA, IPCC
  - Expanding testing for PH through HVI
  - Want to publish a guide for Building Decarbonization, examining building emissions, related policies, etc.
- Currently scaling up outreach, support to chapters, allies, affiliates, etc.
  - PER factors sheet being created
  - Scholarship for various trainings
- Moving forward -

- Need to expand reach to staffers in certain key cities that influence their areas
- Create an alternative compliance path for PHPP, or create a translator tool for some cities/ states.
- PH does not fit current code systems, we need to push policymakers to use models that more accurately predict energy consumption
  - Look beyond PH to look at a more complete picture of occupant health

## British Columbia

### State-led efforts & incentives:

- **Reach Code restructuring:** [B.C. Energy Step Code \(2016\)](#) replaced previous reach code structure and created a stepped structure, with clearly defined tiers, for local municipalities to select their preferred starting points. It added a new Thermal Energy Design Intensity target (TEDI) to each step, with dates by which jurisdictions would be required to comply. Passive House was clearly identified as one of two to step end goals.
- **Manufacturer support:** [BC Fenestration Certification Subsidy](#); initiated in 2016 to provide financial recovery for BC window manufacturers to develop new window systems that met one of two criteria; Energy Star Most Efficient, or Passive House (PHI.) The program supported 7 BC manufacturers in developing 6 Passive House and 6 Energy Star Most Efficient new window systems.
- **Workforce Training:** state programs to subsidize Passive House trainings were established and funded, including [rebates offered directly to design](#) and [trade professionals](#).

### City-led programs and incentives:

- [City of Vancouver Green Buildings Policy for Rezonings](#) (amended 2014) initiated a green rezoning policy to increase the number of third-party certified green buildings in Vancouver. It laid out a map to transform the local construction market. While this did not explicitly identify Passive House as a requirement, it appropriated Passive House performance targets and metrics that clearly referenced the standard.
- [City of Vancouver's Zero Emissions Building Plan \(2016\)](#) laid out four action strategies to require the majority of new buildings in Vancouver to have no operational greenhouse gas emissions by 2025 and that all new buildings have no greenhouse gas emissions by 2030. This resulted in the [City of Vancouver developing Passive House stand-alone zoning benefits and incentives](#) for projects seeking PH certification.
- [City-owned pilot projects](#) requiring Passive House certification, 200+ staff employees taking Passive House training and the creation of a staff-led Passive House Planning department.



## Rest of Canada

- Ottawa: The Climate Change Master Plan is a framework for how Ottawa will mitigate and adapt to climate change over the next three decades, aiming to transition to a clean, renewable, and resilient city by 2050. It sets guiding principles, goals, greenhouse gas emission reduction targets, and priority actions for the next five years (2020-2025). It aligns itself with the Intergovernmental Panel on Climate Change (IPCC) to set reduction goals of 68% by 2030 and 100% by 2050. [Download](#)
- Windsor: Windsor's Corporate Climate Action Plan focuses on continued energy efficient building retrofits, increasing efficiency in new building design, and integrating infrastructure that supports energy efficient buildings. [Download](#)
- Whitby: The Whitby Green Standard aims to reduce greenhouse gas emissions in the region by 80% by 2050. This will include encouraging and investing in energy-efficient retrofits and new development. [Download](#)