

Commonwealth of Massachusetts  
**DEPARTMENT OF HOUSING &  
COMMUNITY DEVELOPMENT**

Charles D. Baker, Governor ◆ Karyn E. Polito, Lieutenant Governor ◆ Janelle Chan, Undersecretary

## **Public Housing Notice 2020-02**

To: Local Housing Authority Executive Directors

From: Ben Stone, Associate Director, Division of Public Housing

Subject: FY21&22 Sustainability Initiative Program Updates

Date: January 29, 2020

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The purpose of this Public Housing Notice (PHN) is to provide all Local Housing Authorities (LHAs) updated information about important changes to the Sustainability program:

1. Policy Goals: Meet the Sustainability Goals of the Commonwealth
2. Policy Change: DHCD will no longer approve capital funding for replacement of delivered fuel-fired equipment<sup>1</sup>
3. Sustainability Award Priorities for Fiscal Years (FYs) 2021 and 2022
  - a. Replacement of Oil-Fired Furnaces
  - b. Attic Insulation Improvements
  - c. Motivation
  - d. Process
4. Increased Sustainability Award Cap to \$150,000 per project
5. Updated HAFIS Energy Reporting System
6. Other Recommendations

### **1. Policy Goals: Meet the Sustainability Goals of the Commonwealth**

DHCD will adopt a more proactive approach in response to the increasing urgency of the climate crisis, the Baker-Polito Administration's goal of net-zero carbon emissions from Massachusetts by 2050 and the Global Warming Solutions Act goal of an 80% reduction in emissions by 2050. This will begin with our two award priorities for FY21- replacing oil-fired furnaces with cleaner technology, and proactively insulating attics to R-49. DHCD is adopting this proactive policy to achieve three main goals: reduced greenhouse gas (GHG) emissions, improved climate-change resiliency, and improved indoor air quality. As always, these programs are subject to funding availability. Additionally, we will continue our traditional "small award" process and increase the cap for sustainability funding for LHA-requested projects to \$150,000.

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<sup>1</sup> This refers to propane and heating oil

## 2. Policy Change: DHCD Aims to Phase Out Deliverable-Fuel Equipment

Equipment fueled by propane or heating oil (fuel oil, biodiesel, etc.) will be given special attention if an LHA wishes to replace it with similar equipment using DHCD capital funding of any kind, including formula funding. DHCD will investigate whether the equipment may be replaced with electrified equipment in a practical way, rather than in-kind with deliverable-fuels. Where practical, DHCD will suggest the replacement of said equipment with electrified equipment, paid for either through the LEAN initiative or using DHCD Sustainability funding. If you have a failing deliverable fuel-fired furnace, please contact DHCD's Sustainability Program Developer, Greg Abbe (gregory.abbe@mass.gov).

## 3. Sustainability Award Priorities for FY21 & 22

### ***a. DHCD Will Begin Proactively Replacing Heating Oil-Fired Furnaces***

Using CPS data, DHCD has identified ~255 oil-fired furnaces across 27 LHAs whose equipment is scheduled to reach the end of useful life before 2025. DHCD will begin contacting the LHAs and RCATs from the targeted list, and offer them the opportunity to add multiple projects to their next CIP that will replace their furnaces with whole-house ducted heat pumps. **These improvements will be paid for using Sustainability funds.** In addition to replacing furnaces, CIPs may also include new DHW supply, removing oil tanks, cleaning ductwork, and electric panel upgrades as needed.

For each project, DHCD will also evaluate the facility for opportunities to improve building insulation so that the replacement technology can be sized most efficiently.

Please find the target improvement list attached separately with this PHN.

### ***b. DHCD Will Begin Proactively Insulating Attics to R-49***

Using data from the Facility Condition Assessment currently underway, DHCD has identified 16 LHAs (so far) whose developments have less than R-49 insulation in their attics, but greater than R-25. LEAN will not consistently fund the improvement of insulation if the existing level is greater than R-25, despite this being far below the code level of R-49. DHCD will begin contacting the LHAs and RCATs from the targeted list, and offer them the opportunity to add multiple projects to their next CIP that will improve the attic insulation to R-49, and air-seal the attic to prevent leaks from conditioned space. **These improvements will be paid for using Sustainability funds.** In addition to improving insulation and air-sealing, CIPs may also include the installation of new bath fans and kitchen range hoods (where either none exist, or current ones do not vent to the exterior), as well as upgrading electric panels where needed.

### ***c. Motivation***

There are four main reasons for this policy shift and investment priorities:

### **Decreasing Greenhouse Gas (GHG) Emissions**

- Replacing oil-fired furnaces reduces GHG emissions (one estimate is a reduction in emissions of 57% over 20 years)
  - This does not take into account the expected “greening” of the grid, as the share of renewable sources increases in compliance with the Global Warming Solutions Act
- Improving the insulation and air-sealing of attics reduces energy consumption related to heating and cooling, which also reduces GHG emissions
- Reducing GHG emissions mitigates climate change, and helps Massachusetts achieve its statewide sustainability goals as outlined in the Global Warming Solutions Act: a 25% reduction in annual statewide emissions by 2020 compared to 1990 levels, and an 80% reduction by 2050

### **Improved Resiliency to Climate Change-Exacerbated Weather Disruptions**

- Increasing insulation and air-sealing in a building helps that building retain its temperature better during power outages
  - As climate change-induced storms cause more frequent power outages, keeping tenants comfortable and safe in their homes is increasingly important
- Adding a heat pump in place of oil furnaces adds air conditioning, which is increasingly important as climate change results in hotter summer weather. Keeping tenants cool helps prevent heat-related health problems

### **Improved Indoor Air Quality**

- Adding bath fans and kitchen range hoods improves indoor air quality by ventilating cooking fumes and bathroom moisture out of the building
- There are many reasons why this is important:
  - A Harvard T.H. Chan School of Public Health Research Summary<sup>2</sup> states: “One meta-analysis observed that children living in homes with everyday gas cooking have a 42% increased risk of current asthma, a 24% risk of lifetime asthma, and a 32% increased risk of having both current and lifetime asthma.”<sup>3</sup>
  - For homes without cooking gas, exhaust fans are still important: “Besides the specific chemical compounds, UFPs are also a health concern. One study observed indoor air concentrations of UFPs increased by a factor of 10 during cooking periods.<sup>4</sup> The small size of these particles allows them to penetrate deep into the respiratory system or even be transferred into the bloodstream through lung alveoli. Such exposure to particles can cause long-term adverse health effects such as cardiovascular disease, DNA damage, and can exacerbate attacks or wheezing among people with asthma.”<sup>5,6,7</sup>
- Replacing oil furnaces with heat pumps means that during the summer, the air conditioning provided by the heat pump will help remove moisture from indoor air. This helps prevent mold growth and other negative health effects.

<sup>2</sup> <https://buildingevidence.forhealth.org/research-summary/cooking-emissions/>

<sup>3</sup> Lin, W., Brunekreef, B. & Gehring, U. Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children. *Int. J. Epidemiol.* 42, 1724–1737 (2013)

<sup>4</sup> Wallace, L. A., Emmerich, S. J. & Howard-Reed, C. Source Strengths of Ultrafine and Fine Particles Due to Cooking with a Gas Stove. *Environ. Sci. Technol.* 38, 2304–2311 (2004)

<sup>5</sup> Brook, R. D. Cardiovascular effects of air pollution. *Clin. Sci. (Lond.)* 115, 175–87 (2008).

<sup>6</sup> Rim, D., Wallace, L., Nabinger, S. & Persily, A. Reduction of exposure to ultrafine particles by kitchen exhaust hoods: The effects of exhaust flow rates, particle size, and burner position. *Sci. Total Environ.* 432, 350–356 (2012).

<sup>7</sup> Weichenthal, S., Dufresne, A. & Infante-Rivard, C. Indoor ultrafine particles and childhood asthma: exploring a potential public health concern. *Indoor Air* 17, 81–91 (2007).

#### **d. Implementation Process**

First, it should be noted that projects directed under these two new policies do not count towards the new \$150,000 Sustainability Award cap.

Shortly after this PHN is released, the Sustainability Program Developer will invite certain housing authorities on the Targeted Improvement Lists (TIL) to create appropriate projects in CPS. Each LHA, RCAT, or other CIP preparer on the list(s) should go through the Flowcharts (Exhibits A & B), and add the appropriate projects to CPS. Please note that the TIL for insulation improvements will change over time as more data from the FCA comes in. If an LHA is not on a TIL, but feels they should be, please let the Sustainability Program Developer know. Each quarter, along with the FISH Report Request from DHCD, the Sustainability Program Developer will send a reminder to LHAs of their presence on the TIL, and remind them to create projects accordingly. When the LHA, RCAT, or other CIP preparer creates the CIP, they should group the appropriate SUST CPS projects into one CIMS project, and request SUST funding to cover the costs. Once the CIP is reviewed by DHCD staff, the Sustainability Program Developer will confirm the presence of appropriate SUST projects. If the projects are missing, the LHA will need to do a CIP revision and add said projects.

**It should be noted that, as always, these programs are subject to funding availability, and not all developments on the TIL will immediately receive funded projects!**

### **4. Increase Cap for Regular Sustainability Awards**

In addition to these new targeted awards, LHAs may still request sustainability funding for indoor air quality, tree replacement, and energy & water conservation projects using the Sustainability Application. The award process will remain as it has been the last few years, but with an increased cap of \$150,000 per year. The LHA should submit an application either with their CIP or directly to the Sustainability Program Developer. Further details may be found on DHCD's Sustainability website: <https://www.mass.gov/service-details/public-housing-sustainability-resilience-and-healthy-building-environments>

### **5. Updated HAFIS Energy Reporting System**

#### **A Long Overdue Facelift**

Beginning with the January 2020 monthly utility data report, LHAs will notice the HAFIS Energy Portal has been updated in a number of helpful ways. These improvements are mostly cosmetic, allowing LHAs to more quickly and accurately input their monthly energy reports. Please see PHN 2020-03, immediately following this, for more details.

### **6. General Sustainability Recommendations**

**Replace other greenhouse gas emitting equipment with electric** whenever possible. When replacing gas fired furnace, or other gas equipment, replace with whole house heat pumps or other electrically supplied equipment. This equipment is also eligible for sustainability funding if not covered by LEAN.

**Use building product which have healthy building product declarations** whenever possible. This will significantly reduce the exposure of residents to unhealthy toxic chemicals found in many building materials. A good source for product selection can be found on the mindful materials webpage at <https://mindfulmaterials.origin.build/#/materials>

**Apply for funding through the Municipal Vulnerability Preparedness (MVP) program.** MVP communities now have the ability to apply for climate change resiliency projects for subsidized housing. Discuss with your local government what is available for your developments and help them to apply for your LHA. <https://www.mass.gov/service-details/mvp-program-information>

**Take climate change resiliency into account** whenever possible in project design. DHCD is completing an engagement with New Ecology Inc. to assess the vulnerability of the state-funded housing portfolio to climate change and make recommendations for prioritized investments and incorporating resiliency concerns into capital planning. While guidance on this topic will be released in the coming months, in the mean-time LHAs should consider common-sense measures to protect buildings and residents, such as ensuring HVAC equipment is elevated at least two feet above base flood elevation.

**If you have any questions about anything in this PHN, please contact the Sustainability Program Developer, Greg Abbe, at [gregory.abbe@mass.gov](mailto:gregory.abbe@mass.gov) or 617-573-1244**

Exhibit A: Flowchart for Oil Furnace Replacement- CPS Project Guide

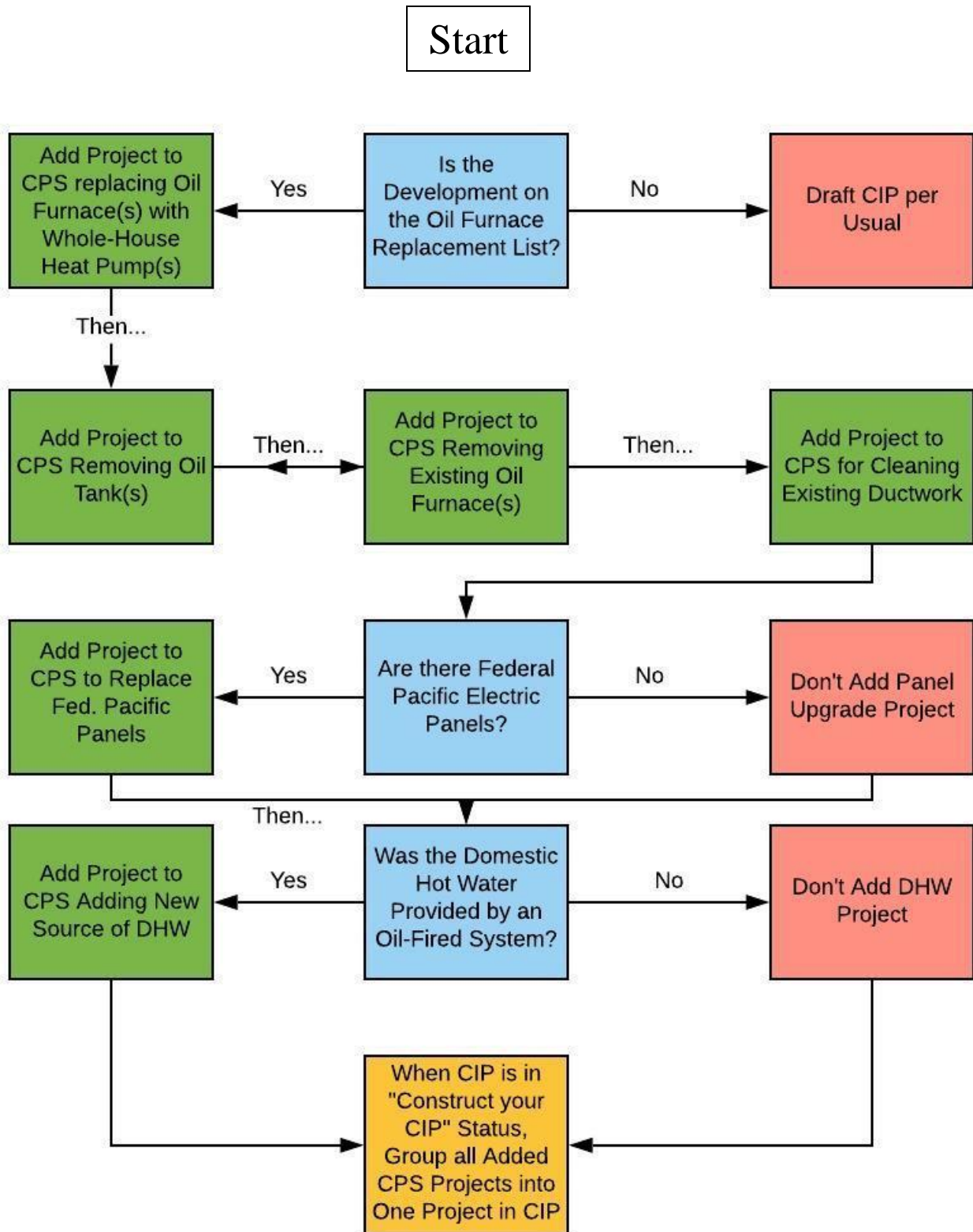


Exhibit B: Flowchart for Insulation Upgrade- CPS Project Guide

