



Pittsfield Village Condominium Association
Board of Directors Meeting
Wednesday, September 24, 2025

Minutes

Board Members Present: Ellen Johnson, David Brassfield, Jessica Lehr, John Sprentall, Linda Ross.

- Board Members Absent:
- Kramer-Triad Management Staff Present: Linda Martin, Tracy Vincent
- Community Members Present: Kyler Melmoth, Brian Rice, Dawn Schoelle, Ryan Pustay/Staff, Fariba Taraji

1. Call to Order

Call to order at 6:03 pm by Ellen Johnson

2. Approve Agenda

Table Unfinished Business Items A, B, and D. Add "Ring cams" to Unfinished Business.

Motion to approve as amended was made by Jessica and seconded by Linda. Motion passed.

3. Open Forum

OSI / A2 Zero – Jordan Larson

1. Home Energy Audit

- Number of PV units assessed for this report was 8. We can learn a lot by reviewing a handful of units.
- Jordan reviewed the HEA report with the board (report handed out) focusing on Insulation and Air sealing.
 - Attic insulation in the units tested was "decent" and would not be an immediate priority.
 - The units audited needed air sealing work. This includes sealing windows and adding insulation to the basement.
 - Transition to electric appliances from natural gas is necessary to meet the carbon neutral goals for Ann Arbor. This depends on the ability to upgrade our electrical panels.

2. DTE weatherization

- Jordan is confirming with DTE whether there are enough big ticket items from our HEA Summary for the program to make sense. Attic insulation is one of the more expensive parts of the DTE weatherization and ours is middling but decent. Our units need work on basements/crawl spaces and air sealing. Need to determine if PV qualifies for the program.
- Next step is for DTE to send out their contractor to inspect a few units. They prefer to use their own contractor but may be willing to contract with a PV preferred contractor for the work.
- Jordan provided an example survey form to collect income data from residents.
 - Example form to collect data for PV to apply to qualify for this program. DTE needs the address, # persons in household, and estimated income for each unit. Recommended that we provide income ranges instead of asking residents to enter an amount. Jordan will follow

- up with DTE on the best way to do this as the income levels to qualify are different based on the number of people residing in the unit.
 - 51% of the community must meet the income qualification for this program so we need 216 units to qualify.
 - DTE wants residents to submit the survey and not the owners of the unit for rental units.
 - OSI recommends that the Association or a third party hold the data since they are subject to FOIA requests.
 - We should add that this program is voluntary.
 - Survey edits discussed.
 - Board intends to have legal review survey and process once this is further along
- 3. Kyler Melmoth/ OSI has been working on a flyer that will be distributed to the PV community.
 - QR code to A2 Engage – updates, interaction, feedback.
 - Collaboration celebration date TBD
 - QR code will take you to the survey discussed above.
 - Leave the Leaves initiative (once website changes are made)
 - Tree walk
 - Sustainable Energy
 - Clothing Swap
 - Home Energy Advisor and available rebates
- 4. Proposed Website Changes – handout and discussion. Jessica asked for feedback on the text. Board will review and provide edits to Jessica. Jessica is asking for administrative rights to our website. Staff (Tracy) to get that from Tim Clarkson so she can make these changes.
 - Summary of changes
 - Links tab will be updated to be a Sustainability Tab (links moved under General Information)
 - Sections of Sustainability (in addition to overview page) will be
 - Sustainability and Water Management Statement
 - PV / OSI collaboration
 - What can I do?
 - Recommendation is that our PV website be the home of more permanent (not likely to change) content. The A2Engage site that OSI is planning to create can be a place to host more frequently changing content. Once that is up and running, the PV website will link to it.
- 5. Push the survey to the community – priority #1 – late October/early November is our goal. Goal to make content changes to the website: October 15th.
- 6. Jessica is asking for Website changes feedback before next Wednesday, October 1st.
- 7. Are there any costs to the Association? Possibly. Ellen suggests a pre-note/notification of a survey coming (also that door knocking is coming), then follow up with the survey (mailing to those who don't submit electronically). This means postal and printing costs. Discussion. Facebook, link on the website, etc. use all the communication avenues. Ellen will send the survey to the rest of the Board – she will try for October 3. Jordan will assist with developing “income ranges/categories”.

4. Approve Previous Meeting Minutes – August 27, 2025

Edited minutes were sent via email. John motioned to accept the corrected minutes; Linda seconded. Motion passes.

5. Committee Reports

- a. Landscape Committee, Theresa Moore



- Working group meeting notes were submitted to the Board tonight.
- Window box contest winners were chosen. Gift cards will be purchased for the 3 winners.
- American Elm Memorial: Cider and Donuts will be October 12- 5pm
- City of Ann Arbor Grant Program for Tree Maintenance and Planting: Pittsfield is being considered. This is not official yet - would tie into our OSI collaboration. Could be an opportunity to plant large trees. We are being considered as a potential first collaborator. Discussion.
- Pittsfield has 2 potential "Champion Trees" through the City of Ann Arbor. More to come on this the next time we have opportunity to submit champion trees.

b. M&M Committee, Lisa Lemble
September minutes included in board packet.

c. Go Doc Committee, Ellen Johnson – no meeting in September.

6. Kramer-Triad Report

- Manager Report submitted in the Board Packet
- 14 sales year to date
- Bill backs for August: 8
- Total work orders 107
- Linda to track unplanned expenses and provide to Kendra when back from leave so it can be updated into the management report. Only unplanned expense we can recall so far is the water lines.

7. Continuing Business

- Ring Doorbell Discussion: John wants to change the language in notes we have on the subject. John will gather all the history on this subject and discuss at a future meeting.

8. New Business

9. Adjourn to Executive Session at 8:06 pm.

10. Next Meeting: October 22, 2025

Pittsfield Village & Ann Arbor Home Energy Advisor

Summary Report – September 19, 2025

Home Energy Advisor

Ann Arbor - A²ZERO

Email: advisor@a2zerohea.org

Phone: 734-290-6643

Web: a2zerohea.org



Summary of Data Sample

Total # of Units Assessed: 8

Summary of **Assessments & Units**:

Unit ID	Assessment Type (On-Site Assessment [OSA]			
	Assessment Date	Virtual Assessment [VA])	Listed Square Footage	Number of Bedrooms
a	5/29/2024	OSA	614	1
b	7/11/2024	VA	695	2
c	8/28/2024	OSA	699	2
d	9/11/2024	OSA	614	1
e	9/19/2024	OSA	699	2
f	10/24/2024	OSA	695	2
g	10/25/2024	VA	699	2
h	5/8/2025	OSA	699	2

Summary of **Envelope Details**:

Unit ID	Insulation					
	Basement		Crawlspace Type	Crawlspace		
	Walls	Basment Rim Joists		Walls	Crawlspace Rim Joists	Under-Floor Cavities
a	R-0	R-0	Unvented - Unconditioned Crawl	R-0	R-0	R-0
b	R-0	R-0	Unvented - Unconditioned Crawl	R-0	R-0	R-14
c	R-0	R-14	Conditioned Crawl	R-9.6	R-9.6	R-0
d	R-0	R-3	Unvented - Unconditioned Crawl	R-0	R-0	R-0
e	R-0	R-0	Vented - Year Round	R-0	R-0	R-0
f	R-0	R-0	Conditioned Crawl	R-8	R-5	R-0
g	R-0	R-0	Unvented - Unconditioned Crawl	R-0	R-0	R-14
h	R-0	R-0	Vented - Year Round	R-0	R-0	R-0

Unit ID	Insulation	
	Exterior Walls	Attic
a	R-0	R-24
b	R-0	R-26
c	R-10.5	R-20
d	R-11.9	R-20
e	R-13	R-29
f	R-10.5	R-29
g	R-0	R-25
h	R-10.5	R-29

Unit ID	<u>Air Leakage</u>	
	NACH	ACH50
a	1.12	20.72
b	1.68*	27.63*
c	0.69	12.74
d	0.77	14.28
e	2.06	33.96
f	0.64	11.84
g	1.99*	36.78*
h	1.84	30.29
	*Virtual Assessments - these values inferred by software, not measured	

Summary of **Major Equipment**:

Unit ID	<u>Domestic Hot Water</u>		Model Year	<u>Furnace</u>		<u>AC</u>	
	Age	Type		Type	AFUE	Model Year	SEER
a	6-10 years	Natural Gas, Tank Water Heater	2007	Natural Gas	82	2007	14.5
b	16-20 years	Natural Gas, Tank Water Heater	2007	Natural Gas	80	2007	13
c	0-5 years	Natural Gas, Tank Water Heater	2015	Natural Gas	82	2018	13
d	6-10 years	Natural Gas, Tank Water Heater	2012	Natural Gas	95	2012	13
e	16-20 years	Natural Gas, Tank Water Heater	2008	Natural Gas	80	2007	14.5
f	0-5 years	Natural Gas, Tank Water Heater	2010	Natural Gas	95	2010	13
g	6-10 years	Natural Gas, Tank Water Heater	2013	Natural Gas	95	2013	13
h	6-10 years	Natural Gas, Tank Water Heater	2017	Natural Gas	96	2017	13

Summary of **Minor Equipment / Appliances**:

Unit ID	Stove	Washer	Dryer
a	Natural Gas	Top Load	Natural Gas
b	Electric	Top Load, ENERGY STAR	Electric
c	Natural Gas	Top Load	Electric
d	Natural Gas	Top Load	Natural Gas
e	Natural Gas	Top Load	Electric
f	Natural Gas	Top Load	Natural Gas
g	Electric	Top Load, ENERGY STAR	Natural Gas
h	Natural Gas	Top Load	-

Summary of Recommendations

Key Improvements

Before getting to the comprehensive list and details below, here are the highest priority recommendations summarized on one page.

Health & Safety

- **Cooking Safety** – Spread awareness about health and safety concerns of using gas stoves and ovens and see articles below. Electric induction cooktops and electric ovens help address these concerns.
- **Water Heaters** – Standard gas water heaters have a chance of spilling exhaust air with carbon monoxide back into a living space. Electric Heat Pump Water Heaters eliminate this concern and improve efficiency.
- **Moisture** – Crawlspace can be a source of moisture and air quality issues with mold and smells. Insulating and encapsulating crawlspaces addresses this issue and improves energy efficiency.

Energy Efficiency

- **Insulation** – Crawlspace insulation is the biggest opportunity for energy savings in units where it is missing. Basement rim joists are a big opportunity as well. Attics could go from decent to very good. Walls can be improved for those willing to do the retrofit “drill and fill” process.
- **Air Sealing** – Many of the above insulation jobs will improve air sealing but also keep in mind opportunities for sealing around window and doors, as well as at electrical outlets and attic and crawl space access points, or anywhere where drafts (moving air) are detected.

Electrification

- **Space Heating / HVAC** – A furnace & AC combo can be replaced by a cold climate air source heat pump which provides all heating and cooling efficiently using only electricity.
- **Water Heating** – Heat Pump Water Heaters can replace standard gas water heaters, improving efficiency, reducing gas usage, and eliminating health concerns related to exhaust air and carbon monoxide.
- **Cooking** – Gas cooktops can be replaced with induction cooktops, which come in various configurations (stove + oven combo, “drop-in” counter stovetop, plug-in with 1 or 2 burners, etc.).
- **Clothes Drying** – Gas clothes dryers can be replaced with heat pump clothes dryers which come as standalone dryers or in a washer-dryer combo unit.

Renewables

- **Solar** – For those willing and able to do the necessary roof reinforcement and pursue solar on their own, keep in mind that installing before the end of 2025 gets you access to the outgoing Federal Tax Credit (30%). Consider reaching out to Solarize to join a bulk buy for a group discount.
- **Sustainable Energy Utility (SEU)** – Otherwise, and especially at the community level, stay in touch with the SEU which is starting to plan first its first service offerings. Eventually, SEU projects will include residential installations for solar, batteries, and geothermal systems.

Overall Summary

Below we provide a thorough list of considerations regarding the decarbonization of Pittsfield Village. Generally, decarbonization means the reduction of fossil-based energy consumption through three methods: efficiency (doing the same or more with less), electrification (switching systems from natural gas to electricity), and renewable energy (e.g. solar, wind, geothermal).

While the list below includes all the measures that you *might* consider doing at some point in time (whether that's now, in 5 years, 10 years, etc.), it is worth highlighting a few of the key measures that seem to be highest priority for the immediate future. In the efficiency category, this includes air sealing and insulation, particularly in crawlspaces and basements. Most attics seem to be decent, but could certainly be improved, and while it appears that many walls lack insulation, this is a more complicated project that involves “drilling and filling” each wall cavity. It can be advantageous to bundle projects together when involving contractors. In addition to these larger weatherization jobs, a few smaller air sealing projects could go a long way and are relatively cheap and easy. Rebates are available from the City of Ann Arbor and DTE to help support air sealing and insulation. Most windows appear to be in good working order, and generally we recommend making incremental improvements for as long as possible until full window replacement is truly needed.

In the category of electrification, the biggest opportunities we focus on are space heating and water heating. All units assessed had natural gas furnaces and water heaters which can be replaced with heat pumps and heat pump water heaters respectively. Gas stoves / ovens and clothes dryers are also opportunities to electrify. Since these appliances are the responsibility of the residents, provide education on electrification and encourage residents to plan ahead to be prepared for these upgrades at or near equipment end of life. Encourage residents to ask contractors about heat pumps and to check out the [Heat Pump Concierge](#) tool, which offers a quick and easy way to get quotes and see incentives all in one place, making it a great place to start. Residents can also reach out directly to our recommended [HVAC companies](#) to talk about heat pump system options and pricing. Make sure to consider all applicable incentives from [state rebates](#), [city rebates](#), and [Federal Tax Credits](#)¹, noting that residents can “stack” or “braid” incentives. In some cases, combining state and city rebates can make heat pumps the most affordable option to install. Feel free to reach out for follow-up support on incentives as eligibility and availability is a shifting landscape. In addition to asking contractors about ducted heat pump systems, some units might inquire about mini-splits (or ductless heat pumps). Water heating is a simpler home system to “fuel switch” (from gas to electric), and many of the current water heaters are near end of life. Heat pump water heaters “steal” free heat from surrounding space and would work well in the typically open basements of Pittsfield Village. These also qualify for multiple price-reducing incentives, including [rebates from Ann Arbor](#) (for \$1,000 or \$2,000 depending on income), and the [Federal Tax Credit](#)² (of 30% up to \$1,200).

For renewables, it has been noted that the Pittsfield Village roofs need reinforcement before mounting solar panels. Residents who are able to complete this additional step and move forward with solar are

¹ The Residential Clean Energy and Efficiency Tax Credits are on their way out and will only apply to projects that are completed and operational by the end of 2025.

² “

encouraged to do so, making use of the [Solarize](#) program and taking into account the advantageous Federal Tax Incentive of 30% on renewables with no cap, ending after this year. Otherwise, the community should consider opportunities for districted geothermal networks and keep in touch with Ann Arbor's [Sustainable Energy Utility](#) which is in its early stages and prepared to offer its first services to subscribers in the next 12-24 months.

Health & Safety

Cooking Safety

Assessed units had both gas and electric cooking. Those with gas cooking should be made aware of the [health and safety concerns around gas stoves](#) and encouraged to consider switching to induction and / or installing [proper ventilation](#), which exhausts air to the outside. Even those with electric cooking should consider ventilation so that smoke and particulate matter are removed from the living space, improving air quality. Education can be provided on best practices for cooking like controlling heat and opening windows for ventilation. Keep in mind that those not ready to fully swap out a stove and oven can partially electrify their cooking with plug-in appliances.



Permanent "drop-in" Induction Cooktop



Plug-In (two-burner) Induction Cooktop

Air Quality

None of the units we assessed were even close to being so airtight that fresh air ventilation is a concern. Major air quality concerns like asbestos and mold were not identified. Make sure that air filters in central air systems are replaced regularly.



Air Filter (at Central Air Blower)

Moisture

While we did not identify any major moisture issues, it's worth noting that bathrooms do not seem to have exhaust fans installed by default. This is something worth keeping an eye on and providing education about. Additionally, basement moisture should be monitored and if issues arise, resources should be provided on solutions ranging from plug-in humidifiers (on the small and cheap end) to foundation drainage systems (on the permanent and expensive end).

Smoke & Carbon Monoxide

Make sure that smoke and carbon monoxide detectors are installed in the correct locations according to manufacturer instructions (typically one per floor) and serviced for regular testing and battery replacement.

Energy Efficiency

Air Sealing

Air sealing was a high-priority recommendation for every unit we assessed. There are a few larger air sealing opportunities (crawl spaces, basement rim joists, and attics), and a number of smaller opportunities which cumulatively would offer substantial energy savings and comfort improvements.

Larger Opportunities:

- **Crawl Spaces** – A mix of crawlspace types were identified in our assessments. Some are intentionally vented to the outside while others are sealed. Those vented to the outside would ideally have an air seal and insulation barrier on the living floor underside, while those that are sealed to the outside should have a barrier on the inside of the foundation walls. In both cases, insulation goes hand in hand with air sealing and should be pursued together. For any homes not able to pursue full crawlspace treatment due to cost, sealing off any connection points between the crawlspace and living space is a worthwhile intermediary measure. Note that some of the units with vented crawlspaces had the worst air leakage results from our blower door tests.
- **Attic Air Sealing** – Ideally, attics are air sealed before insulation is added. This was likely not done in the Pittsfield Village attics before the standard blown cellulose was installed. However, in an ideal case, any connection between the unconditioned attic and the living space would be sealed, including top plates, electrical and plumbing penetrations, and recessed light fixtures. Since the Pittsfield Village attics already have blown cellulose, this project is a bit more complicated. A contractor might typically vacuum existing insulation (likely to be disposed), seal the abovementioned locations, and then install new insulation on top of the newly sealed attic floor (likely with blown cellulose again). A dedicated contractor, however, might be willing to rake aside existing insulation to find the locations that need sealing and then spread the insulation back into place when done. This method is more involved and would require the participation of a thorough and committed contractor. If neither of the above options are possible, or practical (after speaking with contractors about pricing), adding more cellulose on top of the existing cellulose is still

recommended ([see below](#)). Cellulose blocks air travel better than blown fiberglass, so it is still a preferred method of attic insulation.



Attic Air Sealing

- **Basement Rim Joists** – This is an accessible opportunity for significant air sealing. While some units have added rim joist treatments on their own (typically fiberglass batt), rim joist treatment was not completed in most units. The best and most effective method is spray foam which air seals and insulates in one go. A licensed insulation company is typically needed for this method (although a DIY product is available for those with more advanced skills). Some slightly less effective but still worthwhile approaches to consider include sealing penetrations and seams with caulk or canned foam and then adding batt insulation or rigid foam board cut to size ([see below](#)).



Basement Rim Joists (untreated)



Basement Rim Joists (treated with spray foam)

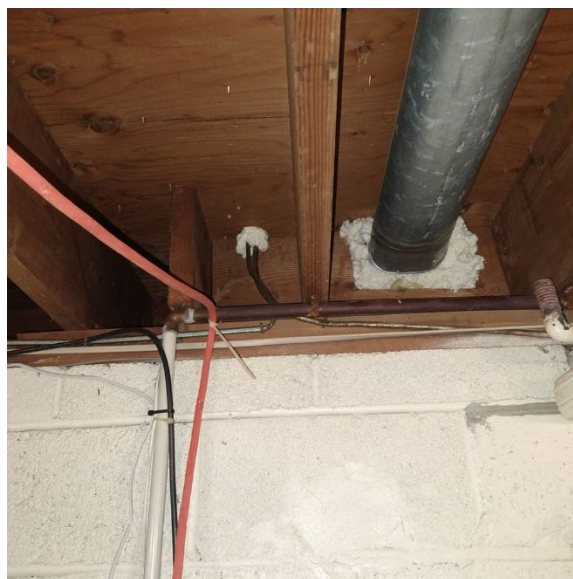
Smaller Opportunities:

- **Window Caulking** – Windows have many seams around them through which air can pass. If these seams are not well sealed (at window units and trim pieces), they can easily have caulk applied to them to block air travel.



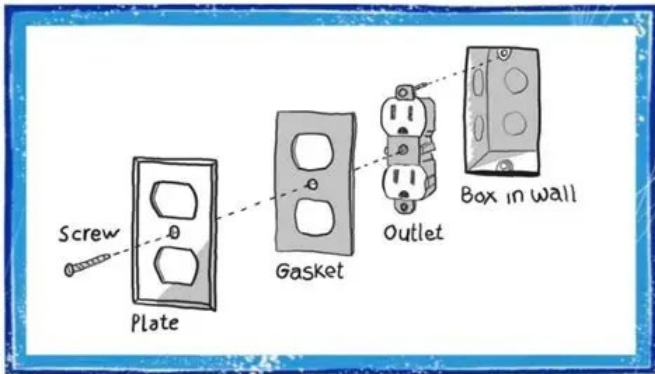
Caulking Window Seams

- **Weatherstripping** – The edges where windows and doors close are an important air sealing location. In most cases, weatherstripping (or gasket) can be upgraded to make sure that these operable openings seal as tightly as possible.
- **Recessed Light Fixtures** – Where present, recessed light fixtures that are connected with the attic can be sealed, ideally from above. Note that these treatments must be fire-rated.
- **Basement Penetrations** – Anywhere that something passes from outside to inside is a possible leakage point. Typically, this includes mechanical items that pass through the basement rim joist, like furnace air intake and air exhaust (PVC pipes), AC refrigerant lines, gas and electric lines mains, and laundry exhausts. These penetrations can be sealed with canned foam (Great Stuff) or caulk.



Basement Rim Joist Penetrations (sealed with canned foam)

- **Electrical Outlets and Boxes** – Any electrical outlets and switches located on exterior walls can be a point of cold air infiltration. Pre-made foam gaskets can easily be installed on the back side of these plates.

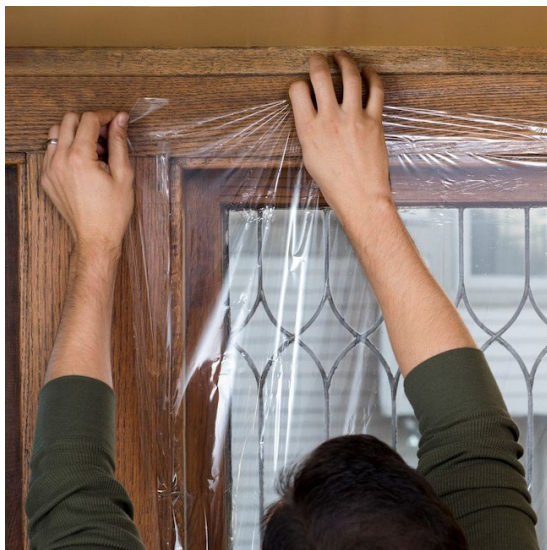


Electrical Outlet Foam Gasket



Electrical Outlet Foam Gasket

- **Window Film Kits** – Temporary window film kits ([see below](#)) improve windows by offering an extra layer of insulation and reducing air travel through the overall window assembly.



Window Film Kit Install (1)



Window Film Kit Install (2)

- **Attic Access Hatches** – Each unit has a small attic access hatch door. Since attics are unconditioned (generally matching the outdoor temperature), these are important locations to seal and insulate. The easiest way to air seal an attic hatch is to add adhesive foam gasket strip around the perimeter of the door or the trim upon which it sits. Attic hatch covers should also be insulated ([see below](#)).



Attic Hatch Door Seal

Insulation

- **Crawl Spaces** – Many crawl spaces could benefit from insulation and air sealing treatment. The preferred method is converting crawlspaces to be “conditioned”, meaning that any vents to the outside are sealed and the air and thermal barrier is located on the inside of the foundation walls. There are a few types of insulation that can be applied to the walls (and rim joists) and typically a moisture barrier is laid down on the dirt floor of the crawlspace. Foundation companies and insulation companies can offer this service, improving both energy efficiency and moisture issues. An alternate approach is to keep a crawl space vented to the outside, either year-round or seasonally, and insulate the underside of the living space floor. Doing this with fiberglass is common but tends to degrade sooner since gravity and moisture cause fiberglass batts to come apart and fall down. Insulation companies can also apply a two-part spray foam to the floor underside, if this offers a more accessible price point than full crawl space encapsulation.



Conditioned and Encapsulated Crawl Space

- **Attic** – Attic insulation is generally decent (think B or B+) but could be made better (think A or A+). Increasing thickness of blown cellulose throughout is a relatively easy and accessible way to reduce heat loss for all units. Make sure to ask contractors about the feasibility of air sealing ([see above](#)) before adding more insulation. Additionally, all attic hatch doors should have a sealed perimeter ([see above](#)) and insulation attached to the backside.



Insulated and Sealed Attic Hatch Door

- **Walls** – Wall insulation can be hard to assess without intrusive exploration, however it appears that wall insulation was not standard in the construction of these units. Some residents have done retrofit insulation on their own, but many have not. For any wall cavities that are completely missing insulation, it is a worthwhile consideration to treat these walls. This entails drilling holes at each cavity (every 16 inches between studs) and filling the wall with dense-packed insulation, typically cellulose. This can be done from the inside or outside but requires patching and painting after the fact. As such, if siding replacement is ever a consideration, pulling the old siding off makes for a great opportunity to complete this project in a smoother manner. Since retrofit wall insulation is a little more involved, it is a lower priority suggestion after crawlspace and basement treatments.



“Drill & Fill” Wall Insulation (Interior)



“Drill & Fill” Wall Insulation (Exterior)

- **Rim Joists** – This is a major opportunity for meaningful air sealing ([see above](#)) and insulation. Professional two-part spray foam is the most effective method, but other options exist, the easiest and most common being fiberglass batt. If spray foam is not the method used, make sure to air seal before adding insulation.

- **Basement Walls** – Insulating basement walls is often a less critical measure since these walls mostly lie below grade, but in cases where walls are fully bare and easily accessible, it is a measure worth considering – this is something to explore with insulation companies.



Basement Wall Insulation (Foam Board)



Basement Wall Insulation (Studs with Cavity Insulation, to be drywalled)

Windows

Temporary Improvements & Partial Upgrades:

- **Film Kits** – These cheap plastic kits are quite effective for reducing heat loss through windows in winter. Installation is a relatively easy project which can be DIY-friendly. If applied and removed carefully, these kits can be reused for multiple winters (see images above under “Air Sealing”).
- **Window Treatments** – For people who have issues staying cool and comfortable in summer, solar films and solar screens are available to reduce the heat gain coming in through windows exposed to direct sunlight.
- **Window Coverings** – For winter (when we use the most energy towards heat) certain window shades are much more effective than others at keeping heat in. These include thermal curtains and cellular (“honeycomb”) blinds.



Thermal Curtains



Cellular (“Honeycomb”) Blinds

- **Storm Panes** – Adding interior or exterior storm panes significantly helps reduce heat loss. These can be removed during summer and stored. Local fabricators [Indow Window](#) and [InnerGlass Window Systems](#) can make these custom to window openings.
- **Replacing Panes** – For residents who have old double panes with leaky seals, it is worth considering replacing just the panes, as opposed to the whole window unit. Local company [Wolverine Glass](#) can provide this service, measuring the ones needing replacement and swapping in just the sandwich of double pane glass with spacers and a fresh seal. The better sealed double pane is more effective at reducing heat travel and preventing issues of condensation between panes.

Window Replacement:

- Most windows assessed appeared to be in decent shape. Before pursuing replacement, consider some of the approaches listed above. If replacement is necessary or desired path, consider higher performance windows (ENERGY STAR). Seek lower U-values first (for winter performance) and lower SHGC values second (for summer performance). If triple-pane windows are within budget, these offer the highest energy performance. In order of best to worst energy efficiency for frame material, consider fiberglass, then vinyl, then wood, then metal. Importantly, go with a trusted contractor as installation quality is critical for reducing heat loss around the edges of windows.

Other / Behavior

- **Thermostat Schedules & Setpoints** – Consider offering education or assistance on programming thermostat schedules. This is an easy and free way to only use heating and cooling when it is needed and automatically have systems adjust based on daily and weekly routines.
- **Window Operation** – A surprising number of people leave windows partially or fully open when using their HVAC. This leads to direct air leakage to the outside and wasted energy. The community might consider providing education on this and possibly sending someone around to ensure that windows are fully closed and latched, especially at the start of winter. This task can be physically challenging for some residents.
- **Domestic Hot Water** – Standard gas water heaters with storage tanks are running all year long, keeping some 50 gallons of water at a constant high temperature. As such, incremental improvements can save meaningful energy over time. Foam pipe wrap is cheap and can easily be applied to exposed hot water piping to reduce heat loss. This in turn can allow the temperature setting to be turned down while still providing the same temperature water from fixtures. Hot water coming from the furthest fixture should be 120°F, hot enough to prevent bacteria but no hotter than needed.



Pipe Wrap Insulation



Water Heater – Temperature Control Knob



Water Heater – Temperature Control Knob

- **Time of Use Electricity Rates** – For residents experiencing high electrical bills, education can be provided that electricity consumed during “peak hours” (generally 3-7 pm on weekdays) is more expensive than other times of the day and week. Certain tasks like laundry and dishwashing can be shifted earlier or later to save money and reduce the load on the grid. This is true for default DTE electric plans, however alternative plans are available to DTE customers with different timing and pricing structures.
- **Smart Power Strips** – This is a cheap and easy way to reduce “phantom loads” that certain equipment like computers and TVs draw, even while they are not being used.



Smart Power Strips

- **Light Bulbs** – Most people have replaced old inefficient bulbs with newer, more efficient LEDs or CFLs. However, some old incandescent bulbs are still out there, and fluorescent tube lights are still commonly found in basement light fixtures. Both can be replaced with LEDs, the most efficient type which now comes in virtually any shape and size. Make sure that fluorescent tubes are disposed of safely as they contain mercury.



Incandescent Bulb



LED Bulbs

Electrification & Appliances

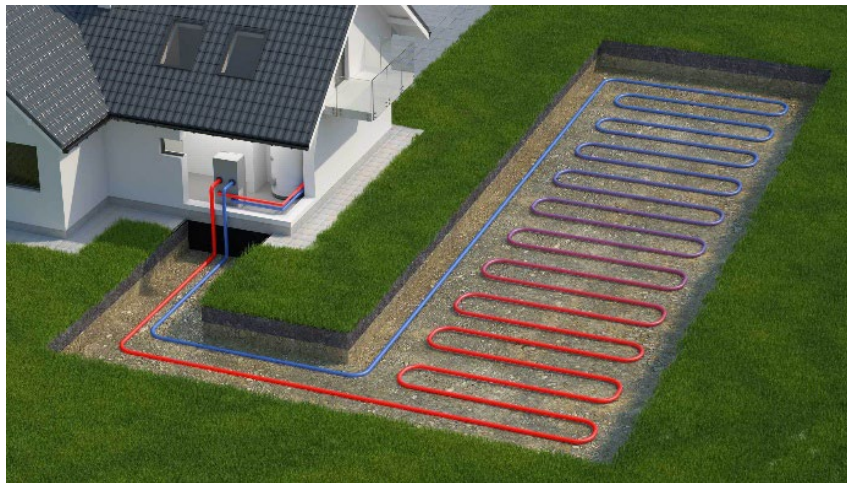
Space Heating

- **Furnaces** – While furnaces vary widely in age, encourage people to keep a close eye on any equipment that is more than 10 years old. At that age and beyond, yearly checkups are a good idea to catch common issues and anticipate when end of life is expected and replacement warranted. Furnaces can last anywhere from 10-30 years, but on average, about 15 years of useful life is expected. For replacement options, consider (in this order) cold climate air source heat pumps, geothermal systems, dual-fuel systems, and higher efficiency furnaces. If the decision is made to simply replace old furnaces with new ones, make sure to seek the highest efficiency option (highest AFUE) and consider “modulating” furnaces which can work at any speed to provide efficient and smooth comfort.
- **Air Source Heat Pumps (ASHP)** – ASHPs offer highly efficient all-electric heating and cooling by working like a standard air conditioner with reversible refrigerant flow, exchanging heat with the outdoor air. ASHP heating is more efficient than even the best gas furnace because heat pumps “steal” free heat from outside air, even when it is cold outside, instead of *generating* heat from a fuel source. A properly sized cold-climate heat pump can keep these reasonably sized units comfortable through a Michigan winter, especially once weatherization (insulation and air sealing) is completed (see “Air Sealing” and “Insulation” sections above). Factors to consider include upfront costs (meaningful incentives apply) and operating costs (typically heating bills with heat pumps are higher due to the current pricing of electricity compared to gas, but this may change in time). Note too that options exist for both ducted (central) and ductless (mini-split) heat pumps, and both types qualify for [Ann Arbor Home Energy Rebates](#), given efficiency criteria are met.



Cold-Climate Air Source Heat Pumps

- **Geothermal (Ground Source Heat Pumps)** – There may be an opportunity in the future to collaborate with [Ann Arbor's Sustainable Energy Utility \(SEU\)](#) on a district geothermal heating and cooling system. These systems require a more involved installation with in-ground drilling, but they operate with a higher efficiency than any alternative.



Geothermal Heat Pump System

- **Dual Fuel Systems** – While the all-electric systems mentioned above (Air Source Heat Pumps and Geothermal) are preferred for their efficiency and ability to run on clean renewable energy, dual fuel systems are sometimes chosen as an intermediate compromise approach. Dual fuel systems include both a gas furnace and an electric heat pump. The heat pump provides all of the cooling and some of the heating, while the furnace still provides some heat, firing on when outdoor temperatures drop below a certain threshold (typically 30° or 35° F). These systems are favored by those who want to keep heating bills lower by avoiding the use of electricity during the coldest times. If none of the all-electric options above seem viable, ask contractors about the pros and cons of dual fuel systems for these units, noting again however that dual fuel systems with heat pumps do not qualify for the [Ann Arbor Home Energy Rebates](#).

Water Heating

- **Existing Equipment** – All of the assessed units had standard natural gas tank storage water heaters. On average, these units are due for replacement at the 10 to 12-year mark.
- **Heat Pump Water Heaters** – Our preferred replacement option is the heat pump water heater. These units are all-electric and achieve a higher efficiency by “stealing” heat from the surrounding air (in the same way that heat pumps for space heating do). Since water heaters at Pittsfield Village are located within basements that are typically spacious and sometimes partially conditioned (kept at a comfortable temperature), this option should work well in most units. For a standard heat pump water heater, a 220V electrical line must be run from the panel, however lower voltage units exist which can plug into a standard 110V outlet. These lower power units work well for smaller households that have less intensive hot water needs. Incentives exist from [Ann Arbor Rebates](#) and the [Federal Tax Credit](#)³ to reduce the cost of purchasing and installing a heat pump water heater.



Heat Pump Water Heaters

- **Tankless (‘On-Demand’) Water Heaters** – Tankless (or “On-Demand”) water heaters exist in both electric and gas options. While these units save energy by skipping the job of keeping a tank of water hot 24/7, Ann Arbor’s slightly corrosive water can sometimes create issues for these units. Do some research and talk to mechanical companies about this specific issue before moving forward.

Other

- **Cooking** – While some units have electric cooking, most appear to have gas. These residents should be made aware that [health and safety concerns exist around gas cooking](#) and incentives exist (from [Ann Arbor Rebates](#)) to replace gas stoves with electric induction cooktops.

³ The Residential Clean Energy and Efficiency Tax Credits are on their way out and will only apply to projects that are completed and operational by the end of 2025.

- **Clothes Drying** – The split between gas dryers and electric dryers appears to be even. Heat pump clothes dryers are our preferred recommendation as a way to electrify and improve efficiency. Like all heat pump technology, these units achieve higher efficiency by “stealing” heat from the surrounding air. Individuals can switch to a heat pump clothes dryer by choice, again with a [rebate from the city](#).



Heat Pump Clothes Dryer

Renewables & Resilience

Solar

While the Pittsfield Village roofs apparently require reinforcement before installation, solar panels are still possible here, and exposed roof spaces with simple architecture tend to offer good generation potential. Additionally, any exposed outdoor space may be considered for solar arrays. As a larger community, there is potential for bulk buys and discounts. The Federal Tax Credit of 30% will be gone after 2025 but the local [Solarize](#) program will still be around and will still enable meaningful bulk discounts. Otherwise encourage residents to engage with the forthcoming [Sustainable Energy Utility \(SEU\)](#) for possible projects down the road.



Rooftop Solar

Battery Storage

If solar is installed on-site, it is worth considering battery storage to add resilience during outages and maximize the amount of self-generated electricity that can be used on-site; in times where your solar arrays are generating more energy than what is being used, this excess can be stored in batteries rather than sent back to the grid. Solar contractors can provide more information on battery installation and pricing.



In-Home Battery Storage

Geothermal

Geothermal heating and cooling systems are a source of renewable energy as they exchange energy with the ground below the surface, which maintains a moderate temperature year-round. Consider possible collaboration opportunities with the [Sustainable Energy Utility \(SEU\)](#) for district geothermal systems. While geothermal systems have a high upfront cost, they offer the best operating efficiency and tend to make the most sense where space is available and larger systems can be installed for multiple units or buildings.

Conclusion

A wide array of opportunities exists for decarbonizing the Pittsfield Village community. Switching systems from gas to electric offers reduced health and safety concerns, especially in the area of cooking and water heaters, and especially where ventilation is not present. In the way of energy efficiency (primarily insulation and air sealing), the biggest opportunities exist at crawl spaces and basement rim joists. Wall and attic insulation are opportunities worth considering as well, along with general air sealing and proper maintenance of windows and doors. Explore eligibility for income-qualified rebates from the DTE Multifamily program. Regarding major equipment (HVAC, water heating), the main message is to plan ahead to anticipate equipment failure and start reaching out to contractors early to explore electric options; in some cases, preparatory steps like electrical work and duct modifications are needed to ensure a quick and smooth swap out, which is critical when major systems go out. While many of the measures above represent meaningful financial investments, remember incentives exist from multiple sources ([Ann Arbor](#), [Michigan](#), [Federal Tax Credit](#)⁴, [DTE](#)) to reduce upfront costs and most of these measures will reduce energy bills, saving money over time. Remember our [shortlist of recommended contractors](#) for HVAC and weatherization work, and use the [Heat Pump Concierge tool](#) for a user-friendly option. Keep in mind that our [program website](#) has further information and links on recommended projects, contractors, and incentives. And feel free to reach out to us anytime for further discussion via email or phone.

Home Energy Advisor

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⁴ The Residential Clean Energy and Efficiency Tax Credits are on their way out and will only apply to projects that are completed and operational by the end of 2025.