Webisode 57DHXZC November 4 2025 The loophole that could give clean heat a boost under Trump

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1 United States Each state gets a blueprint to speed up heat pump adoption A new report offers more than 50 useful strategies for states to help residents replace fossil fuel burning furnaces and water heaters with cleaner heat pumps Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Canary Media September 24 2025 HVAC equipment on the side of a red brick building with a white door A heat pump in Hudson New York States are ramping up efforts to get residents to switch from fossil fuel fired heating systems to all electric heat pumps Now they have got a big new tool kit to pull from Last week the interagency nonprofit Northeast States for Coordinated Air Use Management or NESCAUM released an 80 page action plan laying out key strategies to turbocharge heat pump deployment Individual states are already putting many of these tactics to the test California Colorado Maine Maryland Massachusetts New Jersey New York Oregon Rhode Island and the District of Columbia together committed to ambitious heat pump adoption goals last year Washington state joined the pact last week Their targets By 2030 heat pumps will make up 65 percent of the sales of residential heating air conditioning and water heating equipment By 2040 that percentage is to climb to 90 percent The goals are essential for addressing

climate change Buildings are directly responsible for 13 percent of US carbon emissions in part due to the fossil fuels burned on site to heat indoor air and water All electric heat pumps can do those jobs running on clean power The NESCAUM action plan comes as the Trump administration clings tenaciously to fossil fuels In recent months the federal government has rolled back energy efficiency standards for appliances imposed chaotic tariffs that are raising costs for consumers and put an early expiration date on the 2 thousand dollars federal tax credit that helps homeowners afford heat pumps Despite these headwinds the report shows that states are still finding creative ways to move forward said the policy and program director for NESCAUM HVAC heat pumps are routinely two to four times as efficient as gas furnaces capable of heating and cooling interiors using the same physics that refrigerators employ to chill your cucumbers Heat pump water heaters work the same way and are three to five times as efficient as gas water heaters By eschewing fossil fuels these technologies improve air quality and typically save people money over the long term even if on average they cost significantly more up front than conventional heating systems At least one startup though is trying to change that Dandelion Energy drilling a borehole for a geothermal heat pump at a New York state home in the autumn of 2024 Canary Media Daily Heat pumps are slowly catching on In the US the units outsold gas furnaces by their biggest ever margin last year but their share of the market is still modest Citing data from the Air Conditioning Heating and Refrigeration Institute a trade association in 2021 heat pumps accounted for about 25 percent of the combined shipments of gas furnaces heat pumps and air conditioners the three largest reported HVAC categories In 2024 they had risen to about 32 percent No matter how you look at it there are still a lot of gas furnaces being sold there are still a lot of one way central air conditioners being sold all of which could really become heat pumps Produced in consultation with state agencies environmental justice organizations and technical and policy experts the NESCAUM report lays out a diverse set of more than 50 strategies both carrots and sticks covering equity and workforce investments obligations to reduce carbon building standards and utility regulation A wide range of decision makers often in collaboration can pull these levers from utility regulators to offices of governor state legislatures and energy environment labor and economic development agencies Here are six recommendations from the report that stand out Make heat pumps more accessible to lower income and renter households A number of barriers need to be overcome to make heat pumps available to these groups who often struggle to afford the appliances or lack the autonomy to install them For example contractors cannot put heat pumps in homes with hazards like mold lead asbestos and rotten beams but the process to address these problems can itself cost tens of thousands of dollars The Philadelphia Built to Last program coordinates aid to carry out these necessary pre electrification repairs On the other side of the country California is launching a program this fall to install heat pumps in qualifying low and moderate income homes for free Notably owners of low income multifamily buildings can also use the program to upgrade heating systems of their tenants but they must agree to keep rent from increasing more than 3 percent per year for up to 10 years after the project Set an electric standard for all for new buildings States have the ability to establish the minimum health safety and energy standards that developers must adhere to New York recently became the first state to require that most new buildings be electric only making heat pumps the default heating appliances The rules withstood a legal challenge in July and take effect on Dec 31 Use building performance standards to encourage heat pumps in existing structures Such standards require building owners to meet specific annual limits on energy use or carbon emissions and bring them down over time or face

penalties Several states and cities have already developed these rules Maryland for one stipulates that owners of most edifices 35 thousand dollars square feet or greater must report their CO2 emissions starting this year hit standards by 2030 and fully ditch fossil fueled appliances by 2040 Leverage emissions rules that improve air quality and protect public health For example in 2023 the San Francisco Bay Area air district home to more than 7 million people set landmark rules requiring that new residential water and space heaters do not spew health harming nitrogen oxides starting in 2027 and 2029 respectively Heat pumps fit the bill Switching to the tech nationwide could avert more than 2600 premature deaths annually according to electrification advocacy nonprofit Rewiring America Push utilities to deliver clean heat States can require utilities to slash emissions and electrify buildings For example in 2021 Colorado adopted a first in the nation clean heat law doing just that Lawmakers also mandated that utilities file their implementation plans for approval In 2024 regulators greenlit a 440 million dollars proposal from Xcel Energy the largest utility in the state which included electrifying 200 thousand homes with heat pumps by 2030 Maryland is developing a similar standard Reform electricity rates so that they incentivize zero emissions heating Households with heat pumps tend to use more electricity than other customers which means they pay disproportionately for fixed costs to maintain the grid on their energy bills Utilities can correct that imbalance with adjusted rates For example Massachusetts has required its three major electric utilities to offer discounted winter electricity rates to households with heat pumps The commissioner of the state Department of Energy Resources said she expects the new rates to save heat pump owners on average 540 dollars per year Levin of NESCAUM stressed that the report is a menu not a recipe Each state will need to consider its own goals and constraints to pick the approaches that fit it best she added Still I see heat pump electricity rates as one of the areas that is most promising The Massachusetts reforms are really going to change their customer economics to make it more attractive to switch to a heat pump When done right rate design also avoids the need for states to find new funding You are not raising costs on anybody you are only reducing costs At a time when households are seeing energy prices rise faster than inflation the tactic could have widespread political appeal she noted NESCAUM plans to check back in with states and report out on their progress each year The cool thing about our work is that we bring states together to learn from one another she added Part of making this transition happen more rapidly is lifting up the things that are really working well

2 United States The loophole that could give clean heat a boost under Trump Canary Media The OBBBA killed tax credits for heat pumps but kept them for commercially leased geothermal and thermal storage systems a path to keep home heat rolling The loophole that could give clean heat a boost under Trump RAWSEP Key excerpt The same law the OBBBA allows installers of geothermal heat pumps and systems that store thermal energy for later use to earn tax credits for years to come Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Canary Media November 3 2025 Dandelion Energy drilling a borehole for a geothermal heat pump at a New York state home in the autumn of 2024 The Trump mega law will soon slam the door on tax credits for homeowners who want to install heat pumps or make other energy efficiency improvements But there is still one way to tap federal assistance for cleaner heating The same law allows installers of geothermal heat pumps and systems that store thermal energy for later use to earn tax credits for years to come Though individuals cannot tap the incentives directly companies that retain ownership of the systems can lease them to customers at a

cost that reflects the federal discount of 30 percent to 50 percent Already some companies are adapting to the new state of play Installers that did not previously have a leasing business are pivoting to take advantage of the incentives For firms that already deploy thermal energy storage systems in multifamily buildings via commercial partners the transition is especially straightforward It is a rare and under the radar bright spot for home electrification in the One Big Beautiful Bill Act OBBBA The law is otherwise expected to slow down the shift from fossil fueled buildings to heat pumps which improve air quality and can save consumers money on top of reducing carbon emissions But the pathway available to companies that lease geothermal and other clean heat systems could help soften the blow Geothermal heat pump companies adapt to new landscape Take Dandelion Energy a startup specializing in home geothermal heat pumps that pull warmth from the ground rather than the air Already the firm has launched a leasing structure to take advantage of the changes If anything the new law has made the Dandelion approach to earning tax credits simpler said the CEO That is because the Google X spinout has in the past few years focused on working with large scale new homebuilders where we do hundreds even thousands of homes in new projects like its sizable partnership with homebuilder Lennar in Colorado Homebuilders did not have a clear way to capture the value of geothermal heat pumps under the Section 25D tax credit program that is going away at the end of this year Yates explained That tax credit was for households not for companies that build homes with the eligible technology But under the Dandelion new leasing structure homebuilders can capture the baseline 30 percent tax credit plus 10 percent added under domestic content provisions that the Dandelion US built systems qualify for That enables them to save thousands of dollars up front In many states we are seeing this lease as a real tipping point where geothermal becomes less expensive than the status quo for the builders The changes in the OBBBA also solved a key problem for third party ownership of geothermal heat pumps Under previous tax code language those systems were considered limited use property meaning that the commercial owner could not repossess them if the leaseholder failed to make payments which complicated leasing structures But the Geothermal Exchange Organization a geothermal heat pump trade group successfully lobbied to change that language with the OBBBA Now leased geothermal systems can enjoy the same tax credits that have helped boost larger projects such as geothermal district heating networks which supply ground source heat to buildings campuses or entire neighborhoods The Dandelion leasing partner is Upstream Lease a division of Carbon Solutions Group which has previously specialized in monetizing tax credits for distributed energy systems like rooftop solar Third party lease and power purchase agreements make up roughly half of the US residential rooftop solar market to date and remain available at least in a truncated form under the OBBBA An attorney with law firm Norton Rose Fulbright and an expert on clean energy tax equity said his firm is working on geothermal heat pump leasing and tax credit monetization strategies similar to those undertaken by Dandelion and Upstream though he declined to name the companies involved They are looking at retaining ownership just like the solar rooftop companies do and then packaging large groups of heat pumps and arranging tax equity as a way of monetizing the tax benefits Companies can continue to claim geothermal heat pump tax credits for projects that start as late as 2034 As for the cost to homeowners the typical payments add up to 150 to 200 dollars per year a tiny amount compared to typical rooftop solar lease payments that can be as much every month And the superefficient nature of ground source geothermal can cut the energy bills of a home by 500 to 900 dollars per year or two to four times as much as they are paying for a system that can last decades How buildings can access tax

credits for thermal energy storage The other class of household heating and cooling equipment that received a reprieve from Republicans in the OBBBA is thermal energy storage systems The term typically describes large scale systems that use energy to generate heat or cold which is stored for later use a class of technologies that range from industrial scale heat batteries to massive chilled liquid networks connected to multiple buildings But homes and apartments can also benefit from smaller scale versions of these systems which are eligible for full tax credits until 2033 and then for gradually reduced tax credits through 2035 under the OBBBA For one founder and the chief revenue officer of Harvest Thermal that opens up opportunities Her company makes the Harvest Pod a device that uses a heat pump to warm both water and air and also stores that heated water for later use That allows households to use electricity when it is cheap and plentiful to heat water which can be tapped later when power prices are higher Under the OBBBA devices that can store enough energy to heat and cool a building for at least one hour qualify for tax credits Of course those tax credits are also only available to companies not consumers under Section 48E of the tax code But lease structures for household heating ventilation and air conditioning systems are relatively common If they are willing to lease the HVAC equipment then the leaseholder captures the tax credit and it flows through to making the lease payment lower than it would otherwise be For single family homes that is something we are actively working on to get it in place in 2026 Multifamily buildings are even better suited to capture tax credits for third party owned thermal storage systems since the owners of properties are stand ins for commercial leaseholders In fact Harvest Thermal has already seen some of its devices capture the 48E tax credit in a multifamily project in Truckee California a mountain town where efficient electric heating with storage can make a significant dent in energy costs This project would not have happened without the tax credits said the cofounder of Future Fit Partners the company that managed the installation of eight Harvest Pods in a 72 unit low income housing site in Truckee The owner of the building was able to reimburse 40 percent of the project cost through tax credits including the 30 percent base credit and a 10 percent adder available for projects in energy communities that have historically relied on fossil fuel extraction and production A multifamily building in Truckee California with Harvest Thermal storage capable hybrid water and air heat pumps This multifamily building in Truckee California has secured federal tax credits for the Harvest Thermal hybrid water and air heat pumps it has installed Future Fit Partners The challenge with these large scale projects is that companies might not have enough tax liability to capture the full value of the tax credits for the various projects they are doing Some firms are dealing with this constraint via a financial tactic called transferability which lets them sell those tax credits to a bigger entity for cash In the case of the Truckee project for example the building owner sold its credits to a financial partner that wanted to offset its tax bills Not all property owners are prepared to handle the legal and accounting tasks of turning tax credits into project finance however Those that fall into this bucket can turn to the commercial entities that aim to facilitate this process Take Kelvin a New York City based startup that has partnered with Clear Gen an energy infrastructure investor owned by real estate giant CBRE Investment Management to structure some of its first tax credit transactions The startup makes a device called the Cozy that fits over radiators that heat a lot of older buildings captures the warmth they generate and lets it out into rooms over time using software controls We are putting insulated radiator covers over 300 pounds of cast iron When you heat that up it is actually an extraordinarily large thermal battery said the Kelvin CEO That makes the Cozy eligible for tax credits under the OBBBA as long as it is owned by a third party Kelvin already offers its Cozy to building owners

on a subscription basis just like solar finance But Clear Gen is helping it expand the scale of these kinds of agreements They have very large buyers of tax credits that they work with The startup has also monetized credits for a New York City project with the help of Giraffe one of a growing number of companies that help owners of tax credit eligible projects find buyers for the incentives Identifying ways to turn the theoretical value of tax credits into real world project financing is not simple But it is important to expand the market for these technologies to households and buildings that would otherwise struggle to afford them This is first of all a way for multifamily properties low income and high income to benefit But it is also a way for the business model to evolve

3 United States The Cool Down The switch of one homeowner from oil to heat pumps really turned up the heat on their savings Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization AI Overview The switch from oil to heat pumps for one homeowner has turned up the heat on their utility savings with many homeowners reporting significant annual reductions in heating and cooling costs This is due to the superior energy efficiency of heat pumps compared to oil furnaces which can lead to savings of 1 thousand dollars to 3 thousand dollars or more in the first year notes this MSN article and this CNET article Other benefits include lower maintenance more stable bills and reduced carbon emissions according to SumZero Energy Systems and QuitCarbon Financial benefits Significant cost savings Heat pumps are much more energy efficient than oil furnaces which can lead to substantial savings on energy bills Some homeowners have reported saving nearly 3 thousand dollars in a single year according to this MSN article Reduced maintenance and oil delivery costs Switching to a heat pump eliminates the costs associated with oil deliveries and tank maintenance Payback period The upfront cost of a heat pump can be offset by savings over time with the system potentially paying for itself in a few years especially with available rebates and incentives Stable utility bills A stable electric based system can offer more predictable bills especially when compared to the fluctuating costs of heating oil Performance and comfort High efficiency Heat pumps can generate 3 to 4 units of heat for every unit of energy used far exceeding the efficiency of oil furnaces Year round comfort Heat pumps provide both heating and cooling ensuring consistent comfort regardless of the season Quieter operation Many homeowners find heat pumps to be quieter than traditional furnaces Environmental impact Lower carbon footprint Heat pumps are an electric based system which can significantly reduce the carbon emissions of a homeowner compared to using a fossil fuel like oil Cleaner air quality Heat pumps can improve the air quality of a home by eliminating the combustion process associated with oil furnaces

United States Why Your Electrical Panel Might Not be Ready for a Heat Pump CNET RAWSEP View Upgrading your electrical panel may be necessary if you choose a heat pump to heat and cool your home From the article headline Heat pumps are energy efficient and reduce emissions we turned to experts to determine if one will work in your home The capacity of your electrical service may limit your options when it comes to heating and cooling solutions Many older homes only power 100 amps or so said the CEO of Move Concierge That is not quite enough Why Your Electrical Panel Might Not be Ready for a Heat Pump Heat pumps are energy efficient and reduce emissions we turned to experts to determine if one will work in your home Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization CNET November 2 2025 Getting a heat pump might help you on your electric bill but it could also leave you

with a big bill to an electrician if you need a new panel or better electric service As energy costs continue to climb and extreme weather conditions caused by climate change push homeowners toward cleaner and more efficient heating and cooling solutions heat pumps have emerged as a compelling alternative to traditional HVAC systems Sales of these efficient devices doubled between 2015 and 2020 and continue to climb even outselling furnaces in 2023 according to the American Council for an Energy Efficient Economy More than 17 point 5 million American households now rely on heat pumps for year round comfort industry studies show While heat pumps can slash heating costs by more than 1 thousand dollars per year compared to electric resistance heating and reduce cooling expenses by 30 percent versus standard air conditioners making the switch is not always as simple as a direct replacement One crucial factor that many homeowners overlook is whether their existing electrical panel can handle the additional load Before joining the heat pump revolution to help both your pocketbook and the planet it is essential to understand the electrical requirements and potential upgrades needed to power these energy saving systems Why your electrical service and electric panel limit your options You will need to make sure that a heat pump is compatible with the electric panel in your home The electrical service and panel of your home determine the total power available to your home at any given moment The service which brings electricity from the utility company has a maximum capacity For most homes that capacity is 100 to 200 amps Your electrical panel then distributes this power through individual circuit breakers each designed to handle a specific maximum load to prevent overheating and fire hazards The capacity of your electrical service may limit your options when it comes to heating and cooling solutions Many older homes only power 100 amps or so said the CEO of Move Concierge That is not quite enough power to operate the heat pump and everything else in the home that uses electricity What happens when you try to draw more electricity from your service than capacity allows? You get a power outage Think of the scene in A Christmas Story where the dad finds an open plug for the Leg Lamp but he is plugged too many things into the outlet said the founder and CEO at My Electric Home Just because there was a space open to plug in something does not mean that the system is not at capacity Run multiple high draw appliances simultaneously for example an electric dryer oven air conditioner and electric vehicle charger and you may approach or exceed the capacity of your system This can trip circuit breakers or in a whole house scenario cause the main breaker to shut off power entirely Your electric panel can limit you in another way too There can be a physical limitation with no open breaker spaces in the panel which could prevent you from adding a heat pump without rewiring the circuits Just because there was a space open to plug in something does not mean that the system is not at capacity Do you have the capacity to add a heat pump? Once you have made sure you have got the capacity for a heat pump you can proceed with getting one installed The first step in determining if you can add a heat pump is to examine the capacity of your electrical panel Check the main breaker which should have a breaker rating listed This will typically appear on or near the large switch on the panel The most common ratings for modern homes are 100 or 150 or 200 amps Additionally you will want to check how many physical breaker spaces are available on your panel You will ideally want two open spots next to each other If you have two open spots but they are not side by side do not fret Sometimes an electrician can rearrange the circuits to make room he explained Why two breaker spaces? A heat pump usually requires a dedicated 240 volt circuit and a double pole breaker rated between 20 and 60 amps depending on the unit is size To properly assess your capacity consider all your existing major electrical loads A licensed electrician can perform a load calculation to see if

your current service can handle the additional load of a heat pump A professional can help to evaluate the total electrical usage patterns of your home and determine whether you need a panel upgrade or a service upgrade from your utility company to support the addition of a heat pump What options do you have? If the electrical panel of your home does not have the capacity to support the load of a heat pump you may be able to upgrade to a 200 amp panel This will typically cost between 1 thousand and 3 thousand dollars For homes with older or smaller electrical panels investing in a smart panel like those offered by SPAN could help facilitate a heat pump These energy management systems allow 100 amp or 150 amp homes to support new electric loads without the need for expensive feeder wire upgrades Basically the software of a panel can regulate the loads and power shed or temporarily turn off circuits based on set priorities enabling households to become fully electric without upgrading to 200 amp service It could also help cut as much as 10 percent off your electricity bill per the Department of Energy While smart panels are more expensive upfront costing 2 thousand to 5 thousand dollars they could save homeowners thousands of dollars in avoided panel upgrades and infrastructure costs This makes them an attractive option for those looking to incorporate energy efficient technology like heat pumps while keeping overall project costs manageable If this proves cost prohibitive an expert suggests looking into a less electricity intensive heat pump typically one with a smaller capacity like a 240 volt 15 amps option Heat pumps like this require less power for the coil but have a slower recovery rate for hot water These types of models are often considered plug in which do not require load calculations or significant electrical work However because of the lower capacity these models are typically less suited for high demand households or colder climates where inlet water temperatures are lower Using this model typically requires planning hot water usage throughout the day since recovery can take 3 to 6 hours or even longer in colder conditions You need power to operate the heat pump and everything else in the home that uses electricity

4 California Mandatory Wood Burning Ban In Effect For Residents Of The South Coast Air Basin Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization KHTS Radio wood burning device is prohibited at any time on No Burn Days The No Burn rule prohibits burning wood as well as manufactured fire logs such as Smoke from wood burning can cause health problems Particles in wood smoke also known as fine particulate matter or PM 2 POINT 5 can get deep into the lungs November 4 No Burn Day Declared for SCV by South Coast AQMD SCV News com wood burning device is prohibited during the mandatory wood burning ban The no burn rule prohibits burning wood as well as manufactured fire logs

5 Colorado Inside the Colorado factory where AtmosZero is electrifying steam Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Canary Media Daily The result should be more savings for more people Factoring in the discounts Switchbox estimates roughly two thirds of households switching to heat pumps would see lower bills with average monthly savings of 90 dollars The lower cost of operation should make heat pumps a feasible financial choice for more residents This will just put wind in the sails of the heat pump market Proponents of heat pump rates say the lower prices are not being subsidized by other customers Instead the new approach is a right sizing of currently inflated winter rates The delivery portion of a utility bill pays for the poles wires transformers and other infrastructure

needed to well deliver power The rate is determined roughly by adding up these costs and dividing the total by the number of kilowatt hours the utility expects customers to use That number plus an allowed rate of return for the utility becomes the final rate The grid infrastructure is built to handle moments of peak demand typically those hottest of summer days on which millions of air conditioners turn on at once In the winter demand usually reaches no more than 80 percent of the highest summer levels meaning plenty of capacity is left unused In other words the grid already has the room to accommodate winter demand from heat pumps so no expensive upgrades are required Therefore it would be unfair to ask the heat pump owner to pay more when they are not adding more cost supporters say And while the lower rates can save consumers money they should not cut into the revenue of utilities as the increased use of electricity offsets the decreased price per kilowatt hour We could see heat pump rates as leveling the playing field said the state policy manager for electrification advocacy group Rewiring America Lower rates this winter may be just the beginning for Massachusetts residents The state energy department in January asked utility regulators to mandate even steeper discounts ranging from 12 cents to 17 cents per kilowatt hour for the heating season starting in November 2026 With these much deeper cuts 82 percent of households switching to heat pumps would end up paying less for winter heating with a median annual savings of 687 dollars according to the Switchbox analysis Seasonal heat pump rates are not meant to be a long term strategy The logic underpinning the rates only holds so long as peak demand happens in the summer and the New England grid is expected to shift to a winter peaking system in the 2030s By then though utilities should have rolled out advanced meters that will allow more sophisticated and nuanced rate structures to replace current models We will be able to be way more accurate about heat pump usage

6 Illinois Geneva residents press council to pursue ordinance restricting outdoor wood burning Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Citizen Portal AI The council said it is researching whether to draft an ordinance that would prohibit wood burning from fireplaces and furnaces in some circumstances Definitions Brush means tr ee trunks logs limbs branches and twigs 2021 IFC 104 point 1 Landscape waste means flower s gr ass and grass clippings leaves pine needles roots shrubbery clippings weeds and any other significant accumulation of small landscape waste materials 2021 IFC 104 point 1 Open burning The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber Open burning does not include road flares smudge pots and similar devices associated with safety or occupational uses typically considered open flames recreational fires or use of portable outdoor fireplaces For the purpose of this definition a chamber shall be regarded as enclosed when during the time combustion occurs only apertures ducts stacks flues or chimneys necessary to provide combustion air and permit the escape of exhaust gas are open 2021 IFC Ch 2 Processed wood means natural wood to which is added glue and other adhesives paint polyurethane stain varnish or other such materials or which is treated with chemicals or other substances to change the character of the wood Processed wood includes but is not limited to furniture particle board plywood pressure treated lumber and similar wood materials 2021 IFC 104 point 1 Combustible combustibles and structures include but are not limited to homes garages sheds playhouses wood decks wood fences trees bushes and other items 2021 IFC 104 point 1 Recreational fire An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator outdoor fireplace portable outdoor fireplace

barbeque grill or barbeque pit and has a total fuel area of 3 feet 914 mm or less in diameter and 2 feet 610 mm or less in height for pleasure religious ceremonial cooking warmth or similar purposes 2021 IFC Ch 2 A Self-contained outdoor burning device means a freestanding or stationary apparatus that contains a burn chamber that prevents the products and emissions from combustion from immediately entering the ambient air by use of a chimney flue baffle screen grill hood or other similar device 2021 IFC 104 point 1 Violations Any person adjudicated of a violating the Burning Regulation Code shall receive a fine of not less than fifty dollars 50 dollars nor more than seven hundred fifty dollars 750 dollars for any one offense Who Do I Contact for More Information? Geneva Illinois Fire Department

7 Massachusetts Boston is piloting window heat pumps in public housing Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization AI Overview Boston is racing to decarbonize its public housing by 2030 Boston is piloting window heat pumps a new technology that provides both heating and cooling in its affordable and public housing units such as Hassan Apartments The project is designed to quickly decarbonize housing provide modern air conditioning to vulnerable residents during heat waves and offers a cheaper retrofit option compared to traditional central systems The pilot is also expected to reduce energy costs and emissions for residents What it is The project involves installing modern compact window heat pumps that provide heating and cooling to individual apartments Pilot location The initial pilot is taking place at Hassan Apartments a public housing community for seniors and people with disabilities Goals The project aims to reduce carbon emissions provide much needed air conditioning during summer heat waves and improve resident comfort and health Benefits This is a faster and less expensive way to retrofit older buildings compared to large centralized systems with an estimated retrofit cost of around 5450 dollars per unit compared to 40 thousand dollars for some other systems Technology The units are made by a company called Gradient and are designed to be easily installed in windows plugging into a standard outlet and offer room by room control

8 Massachusetts heat pump owners are about to get cheaper electricity The innovative winter heat pump rates of Massachusetts go into effect this weekend and should make the tech more accessible Deeper discounts could come next year Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Canary Media October 30 2025 Two people next to a house installing HVAC equipment Massachusetts aims to deploy heat pumps in 500 thousand dollars homes between 2020 and 2030 Massachusetts heat pump owners will spend less to stay warm this winter thanks to an innovative policy going into effect this weekend The three investor owned electric utilities of Massachusetts the Eversource National Grid and Unitil are all offering lower winter rates to the roughly 100 thousand dollars households with electric heat pumps starting on November 1 and running through April It really is what matters to people it reduces the cost of running a heat pump said the executive director of the Green Energy Consumers Alliance who is replacing his own gas fueled heating system with heat pumps this week Massachusetts is the first state in which all the major utilities are offering these savings The rates ranging from 4 point 3 cents to 7 point 5 cents per kilowatt hour lower than the standard winter price could trim from 70 to 140 dollars per month off the average bill utilities estimate The lower rate applies to all electricity used by participating homes during the winter months Households that received heat pump rebates from state energy efficiency program Mass Save since 2019 will be automatically enrolled

in the new rate Residents who installed heat pumps earlier or did not work with Mass Save can contact their utility to receive the lower rate Massachusetts like other states with ambitious climate goals and cold winters has made heat pump adoption a key part of its decarbonization strategy Today more than half the homes in the state use natural gas heating and another 25 percent burn heating oil or propane More than 90 thousand dollars homes installed heat pumps from January 2021 to July 2024 but annual adoption rates will need to double over the next five years if the state is to hit its goal of getting the systems into 500 thousand dollars homes between 2020 and 2030 The cost of installing and operating heat pumps has traditionally been a major barrier preventing people from making the switch particularly in Massachusetts where electric rates are among the highest in the country Under current default rates just 45 percent of households that transition to air source heat pumps the most common version of the appliance would save money on heating each month according to a study from climate policy think tank Switchbox Seasonal heat pump rates change that calculation Eligible customers will be charged a lower rate on the delivery portion of their bill while power supply rates will remain the same That means that customers who buy power from a third party supplier or through a municipal community choice program can still participate Photo of an industrial heat pump with an air source heat exchanger at New Belgium its wiring carried by a metal support

9 Massachusetts Residential Electric Seasonal Heat Pump Rates Mass dot gov heat pump rebate or had a heat pump installed through Mass Save programs since January 1 2019 If you qualify for auto enrollment your electric utility Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization AI Overview Starting November 1 2025 Massachusetts offers new seasonal electric rates for residential heat pump customers through Eversource National Grid and Unitil according to Mass gov This discounted rate is available for eligible customers who use heat pumps for home heating and applies to the electricity delivery charges from November 1 through April 30 helping to lower winter energy costs Customers who installed a heat pump through Mass Save may be automatically enrolled but should contact their utility to confirm Key details What it is A new discounted delivery rate for residential electric customers who use heat pumps for heating How it works The reduced rate applies to your entire electricity usage during the winter months November 1 to April 30 not just the heat pump portion Purpose To lower energy costs during the winter heating season and encourage heat pump adoption Who is eligible Residential customers who heat their homes with a heat pump including those in the low income discount program How to enroll Contact your electric utility Eversource National Grid or Unitil If you installed a heat pump through Mass Save you may be automatically enrolled but should call to confirm It is recommended to enroll by September 30 to ensure the discount takes effect on November 1 2025

10 Ohio Geneva residents press council to pursue ordinance restricting outdoor wood burning February 25 2025 City of Geneva Ashtabula Ohio Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization This article was created by AI summarizing key points discussed Geneva residents press council to pursue ordinance restricting outdoor wood burning A resident of 407 West Main told the Geneva City Council during the citizen comment period that smoke from an outdoor wood burning by a neighbor represented a health hazard a health problem and a fire risk to nearby structures Collin said she has

raised the issue multiple times over the past year and asked for an update on what the city is doing It is a health hazard a health problem It is a safety issue I have got an old carriage house that is within 15 feet It could easily carry sparks out to set my carriage or my house on fire I worry about that all the time she said The council said it is researching whether to draft an ordinance that would prohibit wood burning from fireplaces and furnaces in some circumstances Council President title recorded in transcript as Mister President said the city solicitor has contacted the health department and the zoning inspector and that staff are collecting language from other communities that have restrictions We are looking at trying to put it in an ordinance that would prohibit wood burning fireplaces furnaces the council president said Council members and staff said the city also will ask the Ohio Environmental Protection Agency and the local health department to evaluate air quality at specific addresses if residents request it The council noted that some existing installations may be covered by grandfathering and that any enforcement or mitigation tied to air quality rules would likely involve public health authorities City staff said the solicitor or finance director could prepare draft ordinance language after research is complete No draft ordinance was introduced and no formal vote took place council members described the current step as research and interagency consultation Collin told the council she hoped for answers at the next meeting council members said they intend to report back after further conversations with the solicitor and health officials The city did not provide a timetable for drafting or introducing legislation during the meeting and council members cautioned that some older installations might be grandfathered and therefore beyond the scope of an ordinance Ending The council recorded the complaint and described a process of legal review and health department consultation no formal ordinance was proposed or voted on during the meeting

11 Oregon Multnomah County The US Forest Service has for decades ignored recommendations from its own scientists to monitor toxic wood smoke firefighters are exposed to and limit shifts when air is unsafe Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Facebook Wildfire smoke is wood smoke and unfortunately wood smoke from home heating in Multnomah County accounts f mult co us Wood Smoke Pollution AI Overview Forest Service reverses decades long ban on protective masks The US Forest Service has ignored recommendations from its own scientists to monitor the toxic smoke wildfire firefighters are exposed to and to limit shifts when the air is unsafe This has led to firefighters getting sick and dying from cancer and other illnesses due to long term exposure to harmful smoke particles Ignored health warnings For decades the Forest Service ignored recommendations to track the amount of toxic smoke its crews breathe which can contain particles so small they can enter the bloodstream Unsafe working conditions The agency was also advised to limit firefighting shifts when air quality became extremely hazardous but did not do so for a long time Health consequences This failure to protect firefighters from harmful smoke has been linked to a rise in sickness and premature deaths among them including cancer and lung disease Recent policy change Following a series of reports and mounting evidence of the health impacts the Forest Service reversed a long standing ban in September 2025 allowing firefighters to use N95 masks for protection against smoke particles

12 Wisconsin Milwaukee Homeowners look to heat pumps for savings and warmth as federal energy incentives expire Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Milwaukee Independent

Heat pumps are also cleaner than systems powered by natural gas options even if the electricity used to power heat pumps is primarily generated from New York Homeowners look to heat pumps for savings and warmth as federal energy incentives expire Posted by Reporter November 1 2025 Federal incentives for home energy improvements are running out at the end of the year so it is decision time for anyone who has been thinking about a heat pump The right decision can depend on where you live how much you have to spend and how deeply you want to cut emissions But the payoff can be significant A man was spending about 6700 dollars annually to heat and cool his house about 30 miles north of New York City He was eager to bring down his costs and shelled out 13 thousand dollars for a ground source heat pump that was made more affordable by significant state and utility incentives His monthly energy use plunged by two thirds He installed solar panels at the same time to offset the rest and his heating and cooling bills fell to virtually nothing About seven years after installing the system he has recovered what it cost to install the system HEAT PUMPS 101 The simplest way to understand a heat pump is that it uses electricity to gather heat from one place and move it to another Heat exchangers compressors and refrigerants are part of the system That is how it can work not just for heating but for cooling in summer a heat pump can pull warm air from a house and push it outside That is also the secret to how heat pumps can be more efficient than conventional heating technologies which have to generate heat before they can distribute the heat It takes a lot less energy to simply transfer heat according to the International Energy Agency A decade ago heat pumps could struggle when it got really hot or really cold outside But advances in technology mean that heat pumps in 2025 can keep homes cool even in triple digit temperatures and warm even when it is well below zero There are two main types of heat pumps air source and ground source Air source heat pumps work with the air around the heat pump Ground source heat pumps also known as geothermal use pipes that circulate liquid underground to either gather or discharge heat Air source pumps cost less to install and require less space since there is no need to run underground pipes But operating costs are higher than ground source pumps They are most effective in more moderate climates Ground source pumps cost more up front and installing hundreds of feet of underground piping can be disruptive to lawns and gardens But they are more efficient and cost effective in the long run because underground temperatures are far more constant than air temperatures They are seeing the ground temperature of about 50 degrees not the outside air temp So that is where they really dominate on efficiency payback energy bills peak demand on the grid all of those things said the senior technical lead for the Building Decarbonization Coalition a nonprofit that advocates for green energy use in buildings instead of fossil fuels The executive director of the coalition noted that a heat pump costs more than a gas furnace or central air conditioner but can do the work of both Drilling for the underground piping that a ground source pump requires can add around 10 thousand dollars to the project The US Department of Energy estimates that the added installation costs are recouped within 5 to 10 years thanks to the higher efficiency HEAT PUMPS ARE CLEANEST Heat pumps are also cleaner than systems powered by natural gas options even if the electricity used to power heat pumps is primarily generated from coal That is because heat pumps are three to five times more efficient The National Renewable Energy Laboratory found that almost everywhere in the United States switching to a heat pump reduces emissions The biggest improvement happens in states with milder weather and with more clean energy options like wind and solar to provide the electricity If you live in Southern California that is probably amazing It is probably five times better than a gas furnace on efficiency If you live in North Dakota maybe it is only two times better because it is

cold in winter and that diminishes the performance TECHNICIAN AVAILABILITY THE OLDEST TECH STILL WINS Heat pumps have outsold furnaces since 2021 They outsold by their biggest margin last year As heat pumps have gotten more common most HVAC professionals can install one because the technology is not that different It is the ground source heat pump installers that are more difficult to find It is far less availability of contractors And so supply and demand usually you do not have a lot of options to get bids and be able to negotiate price down There are maps that show geothermal installers nearby That is disrupting what has been a status quo for 75 years It is just not what they have installed time and time again in their region

13 Wisconsin Plymouth council expands code to regulate detached outdoor heating systems Citizen Portal AI Alder Hildebrand noted the ordinance will not affect properly permitted wood burning fireplaces or appliances that are already in place Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization AI Overview The City of Plymouth Wisconsin is expanding its zoning code to include regulations for detached outdoor heating systems This measure which was discussed by the Committee of the Whole in October 2024 will require a recommendation from the Plan Commission before it can be approved by the City Council The expansion of the code is a zoning update specifically related to Section 13 1 75f of the ordinance Action The City of Plymouth is expanding its zoning code Purpose To regulate detached outdoor heating systems Process The ordinance expansion requires a recommendation from the Plan Commission followed by approval from the City Council Relevant section The update specifically concerns Section 13 1 75f of the Plymouth city ordinance

14 Canada Quebec Montreal RAWSEP Key Excerpt Some boroughs such as Plateau Mont Royal have brought in by laws that ban new businesses from burning wood Indeed several new bagel bakeries operate successfully with electric or natural gas ovens Owners of two of the most iconic bagel shops in Montreal have told The Gazette in the past that changing the source of heat used in cooking would not affect the taste or texture of their products In fact St Viateur Bagel has long used hybrid or natural gas ovens to bake bagels in factories outside of the city core and clients do not notice a difference the owner said Hazel Field hopes the MMC will opt for a bylaw that phases out wood burning all together We all know filters do not work she said The only solution is to subsidize the switch to cleaner fuels None of these places would move out of Montreal and as the owners have said nobody would be able to taste the difference From the article headline Bagels pizza and chicken Critics say Projet Montréal did not live up to promises on wood smoke Montreal Gazette Residents of central Montreal where most of the 100 or so wood burning businesses on the Island are concentrated are still breathing in the fine particulates Bagels pizza and chicken Critics say Projet Montréal did not live up to promises on wood smoke Those who are responsible for protecting the health and wellbeing of Montrealers have failed in their duty ignoring the conclusions of the public health experts of Montreal Hazel Field wrote this in a complaint to the ombudsman of the city of Montreal Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization Montreal Gazette October 31 2025 Photo of Hazel Field foreground with fellow Plateau Mont Royal residents as seen on December 20 2021 They were among many who expected the Valérie Plante administration to act on her previous pledges to do something about businesses with toxic smoke coming out of chimneys Montreal Gazette For decades Hazel Field has been begging city

politicians to do something about the plumes of toxic smoke chugging up from the chimneys of the wood burning businesses near her Plateau Mont Royal home Every election campaign candidates promise to enforce rules about filters or impose a switch to cleaner fuels and yet the bagel bakeries pizzerias and grilled chicken joints are still burning wood or charcoal Residents of central Montreal where most of the 100 or so wood burning businesses on the Montreal Island are concentrated are still breathing in the fine particles that public health authorities say make people sick and shorten lives Those who are responsible for protecting the health and wellbeing of Montrealers have failed in their duty ignoring the conclusions of the public health experts of Montreal Hazel Field wrote in a February complaint to the ombudsman of Montreal Plateau resident Roxanne Khamsi an award winning health and science journalist has recently joined those pushing for action Khamsi has had to take her three year old son to the ER in respiratory distress 14 times during one 12 month period She cannot help but wonder if the smoke billowing out the chimneys of the chicken grill houses near her home is at least partially responsible When you are a parent driving your child to the hospital at 2 a m and they are in the back seat struggling to breathe you want to take any possible action to protect their health and that includes asking local politicians to step up and do what it takes to improve the air quality that we are living in Khamsi says nobody wants to see any of the iconic businesses of Montreal shut down and she is convinced it does not have to come to that But like Field she argues it is up to the city to ensure businesses operate without endangering the health of those around them The city has long ago acknowledged that people living near these wood burning establishments have an increased risk of developing respiratory illnesses such as asthma COPD and lung cancer A 2019 report by the Montreal public health department urged the city to adopt air pollution regulations specific to these establishments noting the negative health impacts are significant for people living within 500 meters of a wood burning business A mix of smoke and vapor exits the chimney at Fairmount Bagel Neighbors say the filtration device used at Fairmount where ovens burn 24 hours a day breaks down regularly a claim the owner of Fairmount denies City stalls on regulations to reduce harmful pollution from businesses that cook over wood fire and charcoal Hot out of the oven Mile End residents have been complaining about air pollution for years Bagels taste just as good whether cooked in wood fired electric or gas ovens says the owner of Saint Viateur While Montreal has regulated residential wood burning commercial wood burning is arguably more dangerous for those who live near these businesses A report produced by the Montreal Metropolitan Community MMC environment committee last year noted that a single wood fired oven emits on average annually more fine particles than 100 residential fireplaces causing significant local impact on air quality It goes on to note that most of the businesses that burn wood or charcoal are located in neighborhoods of moderate to high density Their emissions have a major impact because of their proximity to citizens The plume of contaminants can for example drift directly toward the balcony of a home Projet Montréal promised during the past two election campaigns to bring in a bylaw to curb emissions from commercial wood burners Instead the matter was punted to the regional council the MMC where a standing committee has been studying a draft bylaw for the whole island since 2019 The draft bylaw would have imposed the use of filters to reduce by at least 85 per cent emissions of fine particles from wood burning businesses Critics argue filters have been famously ineffective since the island does not have nearly enough inspectors to ensure filters are properly installed and regularly maintained A true solution they argue would be to impose a deadline and then offer financial help to businesses to convert to natural gas or electric ovens and grills The

environment committee completed its report on wood burning in Greater Montreal this summer Some boroughs such as Plateau Mont Royal have brought in by laws that ban new businesses from burning wood Indeed several new bagel bakeries operate successfully with electric or natural gas ovens But that regulation does little to reduce the existing pollution problem Owners of two of the most iconic bagel shops in Montreal have told The Gazette in the past that changing the source of heat used in cooking would not affect the taste or texture of their products In fact St Viateur Bagel has long used hybrid or natural gas ovens to bake bagels in factories outside of the city core and clients do not notice a difference the owner said Field hopes the MMC will opt for a bylaw that phases out wood burning all together We all know filters do not work she said The only solution is to subsidize the switch to cleaner fuels None of these places would move out of Montreal and as the owners have said nobody would be able to taste the difference Wood heating is strictly regulated in Montreal A small number of businesses still use wood fired ovens which remain essential to the operations of some of the iconic establishments of Montreal Given the limited number of these businesses we favor supporting the transition to new cooking methods rather than a complete ban A Projet Montréal administration will continue to lead by example in decarbonizing buildings and improving air quality notably by prohibiting combustion heating in new buildings Air pollution from commercial enterprises that use wood fired ovens or charcoal is an environmental and public health priority Pollution coming from wood or coal burning is particularly harmful especially for people living near these businesses It is clearly within municipal jurisdiction and requires decisive and coherent action and we commit to taking such action Concretely we propose to adopt a clear municipal bylaw that will require all businesses that use wood and charcoal as fuel for cooking to progressively transition to other less polluting methods such as electricity and natural gas in a precise and specified time frame This bylaw will be accompanied by support for businesses to facilitate this transition through targeted subsidies technical advice and support programs for the adoption of clean technologies

15 United Kingdom HVAC tech easily refutes common claim about superefficient heat pumps Not at all worth installing Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization The Cool Down A UK HVAC pro pulled the old switcheroo on a report claiming that heat pumps are not efficient enough to be worth the buy TCD November 4 2025 Check one choice on this survey! Do you think all new homes should use heat pump technology? Choice 1 Definitely Choice 2 Let each state decide Choice 3 Let homeowners decide Choice 4 No way Click your choice to see results and speak your mind From the article excerpt A UK HVAC pro said he pulled the old switcheroo on a report he said was claiming that heat pumps are not efficient enough to be worth the buy The counterpoint is that heat pumps are up to five times more efficient than gas boilers according to the International Energy Agency since they move heat between the outside and inside rather than create it In the United States they can cut your electricity use for heating by up to 75 percent the Department of Energy notes The report from Catapult org which Chapman included in the description is actually a paper that generally agrees with his position stating that after one heating season 85 percent of participants either had already or were likely to recommend a heat pump to a friend or family One of the key takeaways is that the heat pumps have largely operated with good efficiencies and provided the desired heat output and occupant comfort throughout the year It is true that heat pump users can save massively on their heating and cooling bills but it is worth noting that most large firms work with local installers and trained staff so any heat pump

installation from a credible verified company providing a warranty on the labor in addition to the hardware should be trustworthy Thanks to superior modern tech many heat pumps are functional in nearly any climate including places with frigid winters Mitsubishi can help you find a unit at the best possible price based on your specific needs More than half of a the power consumption of a home is for heating and cooling US government tax rebates of up to 2 thousand dollars are still available too but only if the heat pump is bought by December 31 2025 according to NPR By efficiently using electricity the units also limit heat trapping air pollution from dirty fuels The gases are linked to a range of health ailments including dementia asthma and even cancer per the World Health Organization YouTube users were on board and encouraged Chapman to keep singing the high praises of how efficient heat pumps especially modern ones using the latest refrigerant tech

16 Europe Tackle wood burning to improve the air quality of Europe study finds RAWSEP View An illustrative example from Sarajevo in Bosnia and Herzegovina Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization The Guardian October 31 2025 AI Overview The phrase OP was also worst in winter when wood burning originates from recent discussions and news articles about an air quality study where OP stands for oxidative potential of air pollution The context is that in several European cities including Sarajevo air pollution is particularly toxic in winter due to the combination of weather conditions and significant emissions from residential wood burning for heat The study highlights that focusing just on the quantity of pollution particulate matter might not be enough the toxicity oxidative potential increases substantially with wood burning From the article excerpt Places with the most toxic air were generally in valleys where local pollution struggles to disperse OP was also worst in winter when wood burning Researchers measure toxicity of air samples across continent to advise on efficient policies to reduce harm Tackle wood burning and road traffic to improve the air quality of Europe study finds Researchers measured toxicity of air samples across continent to advise on efficient policies to reduce harm The Guardian October 31 2025 An international study published in the journal Nature has found cutting pollution from road traffic and wood burning may be the most effective way to reduce the harm from air pollution across Europe Rather than just looking at the amount of particle pollution in the air the research team looked at its toxicity by measuring the way air pollution samples depleted the natural defenses in our lungs To do this they collected more than 11 thousand dollars pollution samples on filters and placed them one by one into artificial samples of the fluid that lines our lungs This measurement is called oxidative potential OP A Doctor from Imperial College London who was not part of the study explained Measuring OP allows us to identify the sources of particle pollution that are potentially most damaging to our health This can guide more efficient and targeted policies to reduce the health burden of air pollution The researchers measured the OP of air pollution particles collected from 43 different locations in six countries A Doctor from the Institute for Research and Development at Université Grenoble Alpes said Once we reached more than 10 thousand dollars samples in my laboratory I thought that was a good number for statistical power to start thinking about trends Given previous French campaigns I also had a feeling that OP would help us to discriminate between different types of polluted environments but would that be the case at EU scale? They found that the toxicity of particle pollution was not the same everywhere For the same amount of particle pollution some places had much greater OP than others Air breathed close to roads was about three times more toxic than that collected in rural areas Places with the most toxic air were generally in

valleys where local pollution struggles to disperse OP was also worst in winter when wood burning added to the pollution mixture Silhouettes of people and monkeys walk past India Gate amid smoggy conditions in Delhi this week India trials Delhi cloud seeding to clean air in the most polluted city in the world Sarajevo in Bosnia and Herzegovina was one city where all of these factors came together A Doctor at the Paul Scherrer Institute Switzerland said High OP values in Sarajevo are due to unrestricted burning mainly wood for heating and an old vehicle fleet During the cold winter months air pollution gets trapped in the Sarajevo valley leading to some of the globally highest particle pollution and the greatest European OP values in our study

17 India Cloud seeding Why the Delhi artificial rain experiment to tackle toxic air failed BBC News BBC Over the past two weeks the Delhi Air Quality Index AQI which measures the level of PM 2 POINT 5 or fine particulate matter in the air that can clog human lungs RAWSEP key excerpt Artificial rain only provides temporary relief and pollution levels would rise again once the rain stopped This video explains the overall reason for the failure of the experiment Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization AI Overview The Delhi cloud seeding experiment failed because the clouds lacked the necessary moisture content at least 50 percent and atmospheric conditions were not conducive to rainfall Experts noted that cloud seeding can only encourage existing moisture to condense into rain and cannot create rain from dry air The air was also stagnant and moisture was being pulled away by distant storms making the experiment ineffective This video explains why the cloud seeding experiment failed CNN News18 from India YouTube Video October 30 2025 Reasons for failure Low moisture content The most significant reason for the failure was the extremely low moisture content in the clouds measured at around 15 20 percent A successful experiment requires a minimum of 40 50 percent moisture Lack of existing moisture Cloud seeding relies on existing water vapor in the clouds If there is not enough moisture the process cannot create rain Unsuitable atmospheric conditions At the time of the experiment atmospheric conditions were not suitable Two storms in the Arabian Sea and the Bay of Bengal were pulling moisture into those regions leading to a drier Delhi Stagnant air The experiment was conducted during a period of stagnant air which is a poor environment for rainfall Not a long term solution Experts also point out that even if the experiment had worked it would not be a permanent solution for the air pollution problem in Delhi Artificial rain only provides temporary relief and pollution levels would rise again once the rain stopped This video explains the overall reason for the failure of the experiment of cloud seeding RAWSEP interjects to cut air pollution from sources that include pollution from indoor residential wood burning and solid fuel crop burning in India

18 India RAWSEP View An automotive manufacturer puts air filters in cars Sealed Cars become a relatively safe haven against the air pollution all around Asia From Wikipedia MG Motor is an automotive manufacturer owned by SAIC Motor a Chinese state owned carmaker based in Shanghai It uses the British MG marque founded in Oxford United Kingdom in 1924 MG vehicles are designed and developed by SAIC and manufacturing mainly takes place at the SAIC plants in China Additionally SAIC produces MG vehicles in Thailand India Indonesia and Taiwan for their respective regional markets From the article headline India Gloster All MG Motor Cars To Now Get PM 2 POINT 5 Air Filter As Standard Comet EV Hector Gloster And More Times Now PM 2 POINT 5 refers to microscopic particles smaller than 2 point 5 microns so tiny that they can get deep into your lungs when you breathe

them in Pollution concerns? All MG cars to now come equipped with PM 2 POINT 5 filter Details explained MSN JSW MG Motor India has equipped all its models with advanced PM 2 POINT 5 air filters or purifiers to combat poor winter air quality MG Cars Now Get PM 2 POINT 5 Filters Across Range Amid Pollution Concerns NDTV JSW MG Motor India on Thursday said all its vehicles now feature PM 2 POINT 5 air filters or purifiers designed to help improve in cabin air quality MG Motor Expands PM 2 POINT 5 Air Filters Across All Models Amid Rising Festive Season Pollution ACKO Drive PM 2 POINT 5 refers to fine particulate matter smaller than 2 point 5 microns These particles can bypass the nose and throat and reach the lungs causing illness Homeowner astonished after appliance upgrade slashed their utility bills by 3000 dollars

19 India PM 2 POINT 5 pollution caused over 17 lakh deaths in India in 2022 fossil fuels caused nearly half Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates a 501C3 nonprofit organization CNBC TV18 Human caused PM 2 POINT 5 pollution was responsible for more than 17 lakh deaths in India in 2022 — up by 38 percent since 2010 — with use of fossil fuels the India Air Pollution Crisis 1 point 72 Million Deaths Linked to PM 2 POINT 5 Exposure Says Lancet Report The Logical Indian PM 2 POINT 5 refers to fine particulate matter less than 2 point 5 micrometers in diameter India Air Pollution Crisis PM 2 POINT 5 Kills 1 point 7 million in India Costs 9 point 5 percent of GDP Down To Earth PM 2 POINT 5 not only killed 1 point 7 million people in India during 2022 but also caused financial losses to the tune of 9 point 5 percent of the Gross Domestic Product GDP of India Lancet Heat

20 China Yonsei University Study Finds Air Pollution Sharply Raises Workplace Accident Risk Morningstar PM 2 POINT 5 and safety liability accidents Their results show that doubling PM 2 POINT 5 concentrations is associated with a 2 point 6 fold increase in accident

Google Headlines United States Heat pumps have bright future expert says Facilities Dive Heat pumps have bright future expert says Installation training remains a challenge — alongside pushback from the fossil fuel industry and old Yahoo Although adoption is growing thanks to the role of heat pumps in improving building efficiency and reducing emissions fewer than 15 percent of US United States Homeowner astonished after appliance upgrade slashed their utility bills by 3 thousand dollars The Cool Down Thanks to the Inflation Reduction Act homeowners can get up to 2 thousand dollars in federal tax credits and local rebates toward the cost of a heat pump United States Homeowner in disbelief after calculations reveal shocking price of high tech water heater The Cool Down One Redditor shared how they calculated significant savings from switching to a heat pump water heater United States A Hypothetical PM 2 POINT 5 Intervention for the Risk of Hospitalization for Cardiovascular Diseases JAMA Network PM 2 POINT 5 indicates ambient particulate matter with an aerodynamic diameter of 2 point 5 micrometer or less In addition to the aforementioned time varying covariates United States New survey highlights which US government incentive could spark a wave of home renovations The Cool Down Marketing efforts should focus on simplifying rebate processes and United States Smart heat pumps could take pressure off the grid and cut bills Tech Xplore Heat pumps could play a significant role in stabilizing United States electricity supply by providing demand flexibility according to research by United States The government will give you up to 840 dollars to ditch your gas stove The Cool Down Induction stoves however are three times more efficient than gas and cook food faster by heating pots

and pans directly If you qualify the rebate California Air quality alert in place for Southern California Monday Fresno Bee The No Burn rule bans burning wood pellets and manufactured fire logs in any indoor or outdoor wood burning device Particles in smoke can get United States Time is running out to snag the 2 thousand dollars tax credit for a new water heater The Cool Down There is been a lot of buzz about heat pump water heaters because of their potential energy bill savings and the limited time federal incentives News Break Energy Star certified electric heat pump water heaters may also be eligible for a Home Efficiency Rebate of up to 8 thousand dollars or a Home Electrification and United States You can still claim up to 2 thousand dollars from the government when you swap out your old water heater The Cool Down Federal tax incentives for upgrading to a heat pump water heater are available through the end of 2025 rebate Simply fill out and submit an News Break rebate Simply fill out and submit an TCD readers who have already upgraded to a heat pump water heater are sharing their positive experiences California This government program is giving homeowners 11500 dollars to upgrade their HVAC systems MSN The new rebate program in California is giving homeowners a cool Do you think all new homes should use heat pump technology? Definitely California Sacramento Air quality alert for Southern California until early Wednesday Sacramento Bee The No Burn rule bans burning wood pellets and manufactured fire logs in any indoor or outdoor wood burning device Particles in smoke can get Sacramento County wood burning restrictions begin November 1 FOX40 News Similar to wildfire smoke wood smoke contains tiny toxic particles that can enter the bloodstream when inhaled posing serious health risks California San Francisco Volumes ASME International Mechanical Engineering Congress and Exposition ASME Digital Collection Heat Pump and Refrigeration Systems Design Analysis and Applications November 1995 San Francisco California USA California Santa Clarita AQMD announces rebates to replace gas appliances Santa Clarita Valley Signal heating systems with a qualified heat pump quickly due concern about a reliance on electricity in a city where power outages have been a problem Nevada Northern Nevada public health to enforce burn code starting Nov 1 to curb emissions This Is Reno This Is Reno Northern Nevada Public Health will enforce the Burn Code to reduce air emissions from wood burning devices Updates on usage restrictions will be Utah This heat pump uses energy efficient technology to keep your home comfortable Fox 13 News Daikin is one of the most trusted HVAC brands in the world with a strong local network of certified Utah installers The Daikin FIT Cold Climate Heat United Kingdom Yorkshire Warning after indoor wood burners found to have potentially serious health risk Yorkshire Post Is your wood burner harming your lungs? Pollution from log burning stoves has been linked to health risks